

# **5<sup>th</sup> INTERNATIONAL CONFERENCE OF ECOSYSTEMS**

**TIRANA \_ ALBANIA, June 05 - 08, 2015**



## **ABSTRACT BOOK**

**Essays on Ecosystem and Environmental Research**



**ISBN: 978-9928-4248-2-2**

**ICE-2015  
Tirana, ALBANIA**

ISBN 978-9928-4248-2-2



9 789928 424822 >

**Organized by:**

IJEES International journal of ecosystems and ecology science, Environment and Health Association, Tirana, Albania, JIEAS Journal of International Environmental Application & Science, Selçuk University, Turkey, Polytechnic University of Torino, Italy, Earth Science System Interdisciplinary Center (ESSIC), University of Maryland College Park, MD, USA, Yuzuncu Yil University Van Turkey, Department of Energy, Polytechnic University of Tirana, cooperation with Ministry of Environment and Ministry of Education and Sport, Albania, June 05-08, 2015

**ABSTRACT BOOK****Essays on Ecosystems and Environmental Research****Editors:**

**Prof. Hysen Mankolli, Albania, Prof. Sukru Dursun, Turkey,  
Prof. Massimo Zuchetti, Italy, Prof. Cezar Kongoli, USA**

**Support**

**ISBN: 978-9928-4248-2-2**

**Tirana, ALBANIA, June 05-08, 2015**

**International Conference of Ecosystems ICE2015*****Scientific Editors:***

Prof. Sukru Dursun, Turkey, Prof. Hysen Mankolli, Albania  
Prof. Massimo Zuchetti, Italy, Prof. Cezar Kongoli, USA

***Design and technical Support:***

Prof. Hysen Mankolli, Albania  
Prof. Sukru Dursun, Turkey

***Published with support of:***

Health and Environment Association, Tirana, Albania  
Journal of International Environmental Application Science (JIEAS), Turkey  
International Journal of Ecosystems and Ecology Science (IJEES), Albania (USA)

***Web site:***

<https://sites.google.com/site/envhealthassociation/international-conference-of-ecosystems-tirana-albania-june-2015>

<https://sites.google.com/site/envhealthassociation/international-conference-of-ecosystems-tirana-albania-june-2015/abstract-book-ice2015>

***Publisher***

Printed in Health and Environment Association, Tirana Albania

***Disclaimer:***

This book contains original authors abstract that reviewed and accepted by the ICE conference Scientific Committee, Tirana, Albania

***Conference Coordinator***

Prof. dr. Hysen Mankolli,

E-mail: [iceconference2015@gmail.com](mailto:iceconference2015@gmail.com); [hysenmankolli@yahoo.com](mailto:hysenmankolli@yahoo.com); [mjedisishendeti@yahoo.com](mailto:mjedisishendeti@yahoo.com);

**ISBN: 978-9928-4248-2-2**

**Note: All Rights Reserved Copyright by © EHA, JIEAS, IJEES & ICE2015**  
(the first author is responsible for the accuracy of the abstract)

**Honor Committee, ICE conference, Tirana, Albania**

Mrs. Lindita Nikolla, Minister of Education and Sport, Albania  
 Mr. Lefter Koka, Minister of Environment, Albania  
 Prof. Dr. Peyami BATTAL, Rector, Yüzüncü Yıl University, Turkey  
 Prof. Dr. Fatos Harizaj, Rector, Agricultural University of Tirana, Albania  
 Prof. Dr. Jorgo Kacani, Rector, University Polytechnic of Tirana, Albania  
 Prof. Dr. Handan Kamyş, Dean of Engineering Faculty, Selcuk University  
 Prof. Dr. Vjollca Ibro, Eco-fysiologist, Agricultural University of Tirana, Albania  
 Prof. Dr. Mirela Lika Cekani, Biologist, University of Tirana, Albania  
 Prof. Dr. Aleko Miho, Biologist, University of Tirana, Albania  
 Prof. Dr. Ilirjan Malollari, Academic, University of Tirana, Albania

**International Scientific Committee**

Prof. Massimo Zuchetti, Italy  
 Prof. Sukru Dursun, Turkey  
 Prof. Cezar Kongoli, USA  
 Dr. Robert J. Kuligowski, USA  
 Prof. Zoran Sapurik, Macedonia  
 Prof. Nicola Senesi, Italy  
 Prof. Veselin Alexandrov, Bulgaria  
 Prof. Adem Bekteshi, Albania  
 Prof. Metin Guru, Turkey  
 Prof. F.K. Vosniakos, Greece  
 Dr. Djana Bejko Latifi, Albania  
 Prof. Ibraim Dincer, Canada  
 Prof. Erol Pehlivan, Turkey  
 Ass.Prof.Dr. Altin Dori, Albania  
 Ass.Prof.Dr. Sevda Ocak, Turkey  
 Prof. Elda Marku, Albania  
 Prof. Ilir Kristo, Albania  
 Prof. Roberto Mancinelli, Italy  
 Prof. Vath Tabaku, Albania  
 Prof. Vladimir Pesic, Montenegro  
 Dr. Mariana Golumbeanu, Rumania  
 Prof. Hysen Mankolli, Albania  
 Prof. Mirela Lika Cekani, Albania  
 Prof. Alban Ibraliu, Albania  
 Prof. Shukru Fetahu, Kosovo  
 Prof. Marija Kraljevic-Balalic, Serbia  
 Prof. Huseyin Toros, Turkey  
 Prof. Renata Kongoli, Albania  
 Prof. Violeta Vidacek-Hains, Croatia  
 Prof. Stojmir Stojanovski, Macedonia  
 Dr. Dijana Blažeković Dimovska, Macedonia

Dr. Can Ozgur Colpan, Canada  
 Dr. Olivia Cioboiu, Rumania  
 Prof. Naser Peci, Kosovo  
 Prof. Ilir Kapaj, Albania  
 Prof. Mitko Karadelev, Macedonia  
 Prof. Albina Colella, Italy  
 Prof. Adelaida Andoni, Albania  
 Prof. Ferdinand Bego, Albania  
 Prof. Anila Mesi Dizdari, Albania  
 Prof. Hüseyin Kurt, Turkey  
 Prof. as. Kastriot Korro, Albania  
 Dr. Elton Rogozi, Albania  
 Prof. Antonis K. Kokkinakis, Greece  
 Ass.Prof. Ditika Kopluku, Albania  
 Prof. Slavoljub Mijovic, Montenegro

**International Organizing Committee**

Prof. Hysen Mankolli, Albania  
 Prof. Sukru Dursun, Turkey  
 Prof. Massimo Zuchetti, Italy  
 Prof. Cezar Kongoli, USA  
 Prof. Erol Pehlivan, Turkey  
 Ass. Prof. Sevda Ocak, Turkey  
 M.sc. Silvamina Alshabani, Albania  
 M.sc. Elison Rrota, Albania  
 Dr. Fatma Kunt, Turkey  
 Dr. Agim Asllani, Kosovo  
 Msc. Ilir Topi, Albania  
 Dr. Flora Merko, Albania

---

**Universities and Scientific Institutes contributors and partners in International Conference of Ecosystems:**

Agricultural University of Tirana, Albania;  
 Agriculture Amadu Bello University, Alingo College of Agriculture, Gambia;  
 Celal Bayar University, Sciences and Arts Faculty, Department of Chemistry, 45030, Muradiye, Manisa-Turkey;  
 Department of Energy, Polytechnic University of Tirana, Albania;  
 Department of Environmental Engineering, Cumhuriyet University, Turkey;  
 Ege University Faculty of Agriculture, Department of Horticulture, Izmir, Turkey;  
 Environment and Health Association, Tirana, Albania,  
 Faculty of Natural Sciences and Mathematics, University of Montenegro;  
 Faculty of Natural Sciences, University of Tirana, Albania;  
 Faculty of Natural Sciences, "A. Xhuvani" University, Elbasan, Albania;  
 Food Safety and Veterinary Institute, Tirana, Albania;  
 Gaziosmanpaşa University Faculty of Agriculture, Department of Horticulture, Tokat, Turkey;  
 Hydrobiological Institute, Naum Ohridski, Ohrid, Macedonia;  
 Institute of Biodiversity and Ecosystem Research – BAS, Bulgaria;  
 Institute of Ecology and Geography, Chisinau, Moldova;  
 Institute of Ecology and Geography, Ecobioindication and radioecology Laboratory, Chisinau, Republic of Moldova;  
 Institute of Public Health, Tirana, Albania;  
 International of Journal of Ecosystems & Ecology Science IC, IF and indexed;  
 Istanbul Technical University, Istanbul, Turkey,  
 J.H. Cerilles State College – Research Center Mati, San Miguel, Zamboanga del Sur, Philippines  
 Journal of International Environmental Application Science IC, IF and indexed;  
 Journal of The Faculty of Engineering and Architecture of Gazi, IC, IF and indexed;  
 Medical University of Tirana, Albania;  
 Ministry of Education and Sport, Albania;  
 Ministry of Environment and Physical Planning Skopje, Macedonia;  
 Ministry of Environment, Albania;  
 NOAA Center for Climate and Weather Prediction (NCCWP), College Park, MD, USA;  
 NOAA-CREST, City College of New York, New York, USA;  
 Polytechnic University of Tirana, Albania;  
 Public University of Prizren "Ukshin Hoti", Kosovo;  
 Selçuk University, Konya, Turkey;  
 University "Eqerem Çabej", Gjirokastra, Albania;  
 University "Fan S. Noli", Korca, Albania;  
 University "L.Gurakuqi" Shkoder Albania;  
 University American College, Skopje, Macedonia;  
 University of Basilicata, Department of Science, Italy;  
 University of Maryland, Earth Science System Interdisciplinary Center (ESSIC), College Park, MD, USA;  
 University of Montenegro, Faculty of Civil Engineering, Montenegro;  
 University of Montenegro, Faculty of Tourism and Hotel Management Kotor, Montenegro;  
 University of Prishtina, Faculty of Agriculture and Veterinary, Prishtina, Kosova.  
 University of Prishtina, Kosovo;  
 University of Mitrovica, Faculty of Geosciences, Kosovo;  
 University Polytechnic of Torino, DENERG Torino, Italy;  
 University St. Cyril and Methodius, Faculty of Natural Sciences, Skopje, Macedonia;  
 University St. Kliment Ohridski, Bitola, Macedonia;  
 University "Ismail Qemali" of Vlora, Albania;  
 Yuzuncu Yil University Van Turkey;

---

**CONTENT OF ABSTRACTS**

Nr	Title	Author's	Location
001	HOSPITAL MEDICAL WASTE MANAGEMENT	Sukru Dursun	Turkey
002	SATELLITE-BASED ESTIMATION OF HYDROLOGIC COMPONENTS – APPLICATION TO SNOW AND PRECIPITATION	Cezar Kongoli <sup>1,2</sup> , Sean Helfrich <sup>3</sup> , Robert J. Kuligowski <sup>2</sup>	USA
003	DAMAGE TO MAN AND ENVIRONMENT OF TEAR GAS CS	Massimo Zucchetti	Italy
005	ENVIRONMENT AND THE RIGHT TO INFORMATION	Ervin Karamuço	Albania
006	EVOLUTION OF EUROPEAN NORMATIVE FOR REGULATION OF POLLUTING EMISSIONS FROM INTERNAL COMBUSTION ENGINES	Altin Dorri, Andonaq Londo	Albania
007	LIVESTOCK FARMS-RELATED NH <sub>3</sub> , CH <sub>4</sub> , PM EMISSIONS IN EDREMIT DISTRICT AND VAN CITY, TURKEY	Sevda OCAK <sup>1</sup> , Turgut AYGÜN <sup>2</sup> , Ozan Devrim YAY <sup>3</sup>	Turkey
008	OPTIMIZATION WITH RESPONSE SURFACE METHODOLOGY OF BIOSORPTION CONDITIONS AND REMOVAL OF Cr(III) IONS FROM AQUEOUS SOLUTIONS USING <i>LENTINUS TIGRINUS</i> FUNGI AS BIOSORBENT	Yusuf Uzun <sup>1</sup> , Yusuf Keskeç <sup>2</sup> , Tuba Erşen Dudu <sup>2</sup> , Tekin Şahan <sup>2</sup> , Nahit Aktaş <sup>2</sup>	Turkey
009	OPTIMIZATION OF Cr(VI) BIOSORPTION CONDITIONS FROM AQUEOUS SOLUTIONS BY <i>POLYPORUS SQUAMOSUS</i> FUNGI AS BIOSORBENT WITH RESPONSE SURFACE METHODOLOGY	Ahmet Kazankaya <sup>1</sup> , Tuba Erşen Dudu <sup>2</sup> , Yusuf Keskeç <sup>2</sup> , Tekin Şahan <sup>2</sup> , Yusuf Uzun <sup>3</sup> , Nahit Aktaş <sup>2</sup>	Turkey
010	ORGANIC AGRICULTURE- CASE STUDY AGRICULTURE REGION TURKEY	<sup>1</sup> Gina Raluca Kerkmann, <sup>2</sup> Hysen Mankolli	Turkey
011	ECHINOCOCCUS GRANULOSUS INVESTIGATION OF INTERFERENCE ON THE SIDE EFFECTS OF ENVIRONMENTAL HEALTH	Gülüm SARGİN <sup>1</sup> , Nuran Bazencir Görentaş <sup>1</sup> , Nurhayat Atasoy <sup>2</sup> , Ufuk Mercan Yücel <sup>3</sup>	Turkey
012	SOME PARAMETERS AND LEVELS OF ARSENIC IN WATER PROVINCE OF VAN	<sup>1</sup> Ali Rıza KUL, <sup>1</sup> Canan DEMİR <sup>1</sup> , <sup>2</sup> Halit DEMİR	Turkey
013	STATISTICAL MODELING FOR COBALT IONS ADSORPTION ON NATURAL ADSORBANCE SUBSTANCE	<sup>1</sup> Ali Rıza Kul, <sup>2</sup> Siddik Keskin, <sup>1</sup> Canan Demir, <sup>3</sup> Salih Alkan	Turkey
015	THE NATURAL DISASTERS OF EARTHQUAKES ON THE ECOLOGICAL EFFECTS OF VAN TOWN AND THE LAKE VAN BASIN	Yaşar SUBAŞI DİREK <sup>1</sup>	Turkey
016	KARASU RIVER / VAN WATERS DETERMINATION OF MANGANESE LEVELS	Sema Kaptanoğlu <sup>1</sup> , Nurhayat Atasoy <sup>2</sup> , Ahmet Bakır <sup>2</sup>	Turkey
017	LAGENARIA SICERARI FRUIT LEAD OBTAINED BY ACTIVATED CARBON SHELL OF HEAVY METALS FROM AQUEOUS REMOVAL	Ali Rıza Kul <sup>1</sup> , Senol Kubilay <sup>2</sup> , Nilüfer Çirriğ Selçuk <sup>3</sup> , Halime Yıldız <sup>1</sup> , Ali Savran <sup>2</sup>	Turkey
019	EXTRACTION OF ESSENTIAL OIL FROM ALBANIAN CHAMOMILE PLANT BY WATER DISTILLATION METHOD AND ITS CHARACTERIZATION BY FTIR SPECTROSCOPY	<sup>1</sup> Adelaida Andoni*, <sup>1</sup> Jonida Salihila, <sup>2</sup> Fatos Ylli, <sup>2</sup> Alda Osmëni, <sup>1</sup> Krenaida Taraj, <sup>1</sup> Armand Çomo	Albania
020	LEVEL OF SOME ORGANIC POLLUTANTS IN WATER SAMPLES OF KARAVASTA LAGOON	Anida Dukaj <sup>1</sup> , Aurel Nuro <sup>1</sup> , Bilal Shkurta <sup>2</sup>	Albania
021	THE COMMAND OF IROBOT CREATE USING VISUAL BASIC .NET	Genti Progri, Petrika Marango	Albania
022	REMOVAL OF CR(VI) BY ACTIVATED CARBON FROM SEEDS OF <i>STYRAX OFFICINALIS</i> L.	Hatice Kar <sup>1</sup> , Erol Pehlivan* <sup>2</sup>	Turkey
023	STUDY OF SOME QUALITY INDICATORS OF WHEAT WITH STANDART METHODS	Lirim Bekteshi	Albania
024	COMPARISON OF ANALYSIS ON SOLID WASTE AND EFFLUENT WATER MANAGEMENT BETWEEN DIYARBAKIR AND BATMAN DISTRICT	Nilgün ONURSAL <sup>1</sup> , Ali Rıza KUL <sup>2</sup> , Deylem Onursal <sup>3</sup>	Turkey
025	VOLUMETRIC METHOD OF DETERMINING ANIONIC DETERGENT (AD) IN SURFACE WATER SAMPLES	Enkela Noçka <sup>1</sup> , Ilva Gjika <sup>2</sup> , Dafina Karaj <sup>3</sup>	Albania
026	THE STUDY OF RELATION OF ABSORBANCE WITH TIME AND OPTIMIZATION OF MEASUREMENT CONDITIONS	Enkela Noçka <sup>1*</sup> , Ilva Gjika <sup>2</sup>	Albania

027	THE STUDY OF STABILIZING EFFECT OF POLYVINIL ALCOHOL IN ABSORBANCE OF ANIONIC DETERGENT SOLUTIONS	Enkela Noçka <sup>1*</sup> , Ilva Gjika <sup>2</sup>	Albania
028	COMPLICATIONS OF HYPERTENSIVE CRISIS	Klodeta Muçaj <sup>1</sup> , Irida Pano <sup>1</sup> , Orgeta Dervishi <sup>1</sup> , Migena Gega <sup>1</sup>	Albania
029	EDUCATION AND SUSTAINABLE DEVELOPMENT	Eda Bezhani	Albania
030	DETERMINING THE OPTIMAL STRUCTURE, AN IMPORTANT ASPECT IN THE PLANNING OF SCIENTIFIC AGRICULTURAL PRODUCTION	Majlinda Belegu, Parashqevi Rrapo	Albania
031	MICROBIAL CONTAMINATION OF SEAWATER FROM THREE MAJOR BEACHES IN VLORA, ALBANIA	<sup>1*</sup> Klodjana Bofe, <sup>2</sup> Margarita Hysko, <sup>3</sup> Besim Agolli	Albania
032	RISK FACTORS FOR DIABETIC RETINOPATHY	Orgeta Dervishi <sup>1</sup> , Klodeta Muçaj <sup>1</sup> , Migena Gega <sup>1</sup> , Vilma Mema <sup>2</sup>	Albania
033	DETERMINATION OF SOME VOLATILE ORGANIC COMPOUNDS THROUGH BIOINDICATORS USING GC/FID TECHNIQUE IN TIRANA CITY.	Valbona Hoxha (Plaku) <sup>1</sup> , Aurel Nuro <sup>2</sup> , Kozeta VASO <sup>2</sup> , Edlira TAKO <sup>1</sup>	Albania
034	THE EFFECTS OF ANтропоGENIC NUTRIENTS AND HARMFUL ALGAE IN COASTAL WATERS	Emine Erdem Yürür, Hilal Aydın, Serdar Uzar	Turkey
035	INTERNATIONAL PROGNOSTIC SCORING SYSTEM (IPSS) IN ALBANIAN PATIENTS WITH MYELODYSPLASTIC SYNDROMES	Dorina Roko <sup>1</sup> , Anila Babameto-Laku <sup>1</sup> , Adela Perolla <sup>2</sup> , Donjeta Bali <sup>2</sup> , Aida Dama <sup>3</sup>	Albania
036	BIOCLIMATIC ASPECTS IN SOME REGIONS OF KOSOVO	Agim Asllani	Kosovo
037	CLIMATE CLASSIFICATION OF KOSOVO AND TRENDS OF CLIMATE INDICATOR	Agim Asllani	Kosovo
038	DETERMINATION OF ASCORBIC ACID DURING DIFFERENT STORAGE CONDITIONS IN FRUITS COMPOTES	Marsela Çomo <sup>1*</sup> , Rozana Troja <sup>2</sup> , Majlinda Terpo <sup>1</sup>	Tirana
039	DEVELOPMENT AND EVALUATION OF BALLICA CAVE (TOKAT, TURKEY) FOR ALTERNATIVE TOURISM	Kübra Yazici <sup>1</sup> , Bahriye Gülgün <sup>2</sup> , Şükrü Dursun <sup>3</sup> , Hysen Mankolli <sup>4</sup>	Turkey
040	HAEMATOLOGICAL PARAMETERS OF FERAL PIGEON (COLUMBA LIVIA), LIVING IN THE COURTYARD OF FERRONICKEL SMELTER IN DRENAS	<sup>1</sup> Albana Plakiqi Milaimi, <sup>1</sup> Qerim Selimi, <sup>2</sup> Artan Trebicka, <sup>3</sup> Astrit Milaimi	Kosovo
041	EFFECTS OF HEAVY METALS ON ENVIRONMENT AND CANCER	<sup>1</sup> Halit Demir, <sup>2</sup> Numan Bildirici, <sup>3</sup> Ali Rıza Kul, <sup>3</sup> Canan Demir	Turkey
042	INTEGRATED BIOMARKER RESPONSE (IBR) AS A USEFUL TOOL TO ASSESS WATER QUALITY: SITNICA RIVER-A CASE STUDY	Aliko Valbona <sup>1</sup> , Qirjo Mihallaq <sup>1</sup> , Morina Valon <sup>2</sup> , Sula Eldores <sup>1</sup>	Albania
043	PREVALENCE OF OVERWEIGHT AND OBESITY AMONG STUDENTS OF THE UNIVERSITY OF GJIROKASTRA, ALBANIA.	Majlinda Terpo <sup>1</sup> , Romeo Mano <sup>2</sup> , Maria Agolli <sup>1</sup> , Aferdita Kristidhi <sup>3</sup> , Yllka Bilushi <sup>4</sup> , Marsela Çomo <sup>1</sup>	Albania
044	SPECTROPHOTOMETRIC DETERMINATION OF CAFFEINE IN DIFFERENT COMMERCIALY AND NATURAL TEA SAMPLES AVAILABLE IN ALBANIAN MARKET	Loreta Vallja, Sonila Duka, Alma Shehu	Albania
045	DETERMINATION OF ESSENTIAL OIL COMPOSITION OF ORIGANUM VULGARE POPULATIONS OF ALBANIA	Jonida Salihila <sup>1</sup> , Aurel Nuro <sup>1</sup> , Aida Dervishi <sup>2</sup> , Dhimitër Peçi <sup>3</sup> , Elda Marku <sup>1</sup>	Albania
046	EFFECT OF DIFFERENT LEAD (Pb (NO <sub>3</sub> ) <sub>2</sub> ) DOSE APPLIED ON <i>Atriplex nitens</i> Schkuhr. THE SEEDLING GROWTH	Sukru Dursun <sup>1</sup> , Ramazan Acar <sup>2</sup>	Turkey
047	TOLERANCE OF 1103P AND KOBER 5BB ANTIPHYLOXERIC ROOTSTOCKS TO SODIUM CHLORIDE CONCENTRATION IN THE SOIL	Fatbardha Shpati <sup>1</sup> , Lush Susaj <sup>2*</sup> , Elisabeta Susaj <sup>3</sup>	Albania
048	EFFECTS OF FRUIT THINNING METHOD ON FRUIT QUALITY INDICATORS OF "GOLDEN DELICIOUS" APPLE CULTIVAR, UNDER GJAKOVA'S CLIMATE CONDITIONS	Gjokë Gj. Duhanaj <sup>1</sup> , Lush Susaj <sup>2*</sup> , Nikollaq Roshanji <sup>3</sup> , Elisabeta Susaj <sup>4</sup>	Kosovo
050	PRIONS: A NEW CONCEPTUAL FRAMEWORK	Neila Bajrami	Albania
051	SOME ANATOMICAL CHARACTERS OF STEM IN DIFFERENT POPULATION OF BROMUS INERMIS	Enver Sherifi <sup>1</sup> , Naser Shabani <sup>2</sup> , Arsim Bytyqi <sup>3</sup>	Kosovo
052	PUBLIC AWARENESS AND HAUSHOLD SEPARATE WASTE COLLECTION: A CASE STUDY IN	Zoran Sapuric <sup>1</sup> , Filip Ivanovski <sup>1</sup>	Macedonia



MACEDONIA			
053	EXTRACTION OF ESSENTIAL OILS FROM <i>SALVIA OFFICINALIS</i> L. LEAVES WITH DIFFERENT EXTRACTING METHODS	Aida Dama <sup>1</sup> , Krenaida Taraj <sup>1,2</sup> , Lorena Ciko <sup>2</sup> , Adelaida Andoni <sup>2</sup>	Albania
054	RODENTOLOGICAL SURVEY ON RODENTS' HABITAT AND THE RISK FACTORS OF HFRS THEY REPRESENT IN KALA E DODES AREA	Elton Rogozi, Luljeta Alla, Eugena Tomini, Majlinda Kota (Dhimolea), Silva Bino	Albania
055	SUSTAINABLE COASTAL TOURISM FOR THE PRISTINE AREA OF KALLM, DURRES	Ledita Mezini	Albania
056	VASCULAR FLORA OF BADOVC WITH THE SURROUNDINGS-REPUBLIC OF KOSOVO	Elez Krasniqi, Albana Beqolli-Gashi, Ferat Rexhepi	Kosovo
057	VASCULAR FLORA OF THE CARRALLUKA MEADOWS-REPUBLIC OF KOSOVO	Elez Krasniqi, Fadil Millaku, Liridon Thaqi, Aziz Avdiu, Hazbije Krasniqi	Kosovo
058	INTESTINAL PARASITE AMONG PRIMARY SCHOOL CHILDREN	Petrit Biberaj, Migena Gega, Indrit Bimi	Albania
059	GRASS CARP ( <i>Ctenopharyngodon idella</i> ), BIGHEAD CARP ( <i>Hypophthalmichthys nobilis</i> ) AND EUROPEAN CATFISH ( <i>Silurus glanis</i> ) PRODUCTION IN CYPRINID FISH FARMS IN PELAGONIA (BITOLA, MACEDONIA)	Dijana Blažeković Dimovska <sup>1</sup> , Aleksandar Cvetković <sup>2</sup> , Stojmir Stojanovsk <sup>3</sup>	Macedonia
060	COASTAL DYNAMICS AND LITHOLOGIC IMPACTS ON COASTAL GEOMORPHOLOGY OF THE LAKE VAN	Gül Şen	Turkey
061	THE EFFECT OF EARTHQUAKES ON MARINE ECOSYSTEMS IN ADRIATIC SEA	Adisa Daberdini <sup>1</sup> , Elton Rogozi <sup>2</sup> , Rrapo Ormeni <sup>3</sup>	Albania
062	IDENTIFICATION OF THE REPRODUCTION SEASON OF OTTERS ( <i>LUTRA LUTRA</i> ) IN THE DRINOS RIVER	Etleva Hysaj <sup>1</sup> , Gligor Paspali <sup>1</sup> , Ferdinand Bego <sup>2</sup>	Albania
063	STATISTICAL MODELING OF COPPER IONS ABSORPTION ON VAN PUMICE	<sup>1</sup> Canan Demir <sup>2</sup> Siddik Keskin, <sup>1</sup> Ali Rıza Kul, <sup>3</sup> Salih Alkan	Turkey
064	STIMULTANIOUS DETERMINATION OF ORGANCHLORINATED PESTICIDES AND PCB IN VEGETABLE OIL SAMPLES OF ALBANIAN MARKET	Oljana Pine <sup>1)</sup> , Aurel Nuro <sup>1)</sup> , Elda Marku <sup>1)</sup> , Vlora Gashi <sup>2)</sup>	Albania
065	MICROBIOLOGICAL PARAMETERS IN ISHMI RIVER	Hajrije Dibra <sup>1</sup> , Margarita Hysko <sup>2</sup>	Albania
066	POLLUTION AND DETERMINATION OF HEAVY METALS IN POTATO SAMPLES NEAR THE KEK AREA IN KOSOVO	Kaltrina Jusufi <sup>1</sup> , Majlinda Vasjari <sup>2</sup> , Trajçe Stafilov <sup>3</sup> , Bardha Korça <sup>1</sup>	Kosovo
067	USİNG DIATOMİTE AS PADDİNG MATERIAL İN WATER PROOFİNG MEMBRANES	Hilmi Kisa <sup>1</sup> , Erol Pehlivan <sup>*2</sup>	Turkey
068	BIOMONITORING OF ATMOSPHERIC DEPOSITION OF HEAVY METALS USING MOSS FROM THREE REGIONS IN ALBANIA	Ilva Gjijkaj <sup>1</sup> , Majlinda Vasjari <sup>2</sup> , Majlinda Terpo <sup>3</sup>	Albania
069	BIOMONITORING OF ARSENIC AIR POLLUTION	Ilva Gjijkaj <sup>1</sup> , Majlinda Vasjari <sup>2</sup> , Majlinda Terpo <sup>3</sup>	Albania
070	GENUS <i>VERONICA</i> (PLANTAGINACEAE) TAXA AND CHOROLOGY İN TURKEY	<sup>1</sup> Fazlı ÖZTÜRK, <sup>1</sup> Cihat ÖLÇÜCÜ	Turkey
071	FLOW CYTOMETRY IMMUNOPHENOTYPING AND DIFFERENTIAL DIAGNOSIS OF HAIRY CELL LEUKEMIA	Valentina Semanaj, Teuta Curaj, Gene Sulcebe	Albania
072	MAMMAL PREY İN THE PELLETS OF LITTLE OWL, ATHENE NOCTUA. DATA FROM THE ANTIGONE COMMUNE, GJİROKASTËR, ALBANIA	Gligor Paspali <sup>1</sup> , Etleva Hysaj <sup>1</sup> , Ferdinand Bego <sup>2</sup>	Albania
074	TAXONOMIC STUDY OF THE ORDER ODONATA İN KORÇA REGION	Shkëmbi Enilda <sup>1</sup> , Paparisto Anila <sup>1</sup> , Mulla Noila <sup>1</sup> , Halimi Eltjon <sup>1</sup> , Qirinxhi Xhuliana <sup>2</sup>	Albania
075	ANALYSIS OF THE ADSORPTION ISOTHERM AND KINETIC COBALT PUMICE	Salih ALKAN <sup>1</sup> , Ali Rıza KUL <sup>2</sup> , Sevda OCAK <sup>3</sup> , Veysel BENEK <sup>4</sup>	Turkey
076	COPPER REMOVAL FROM WATER WASTE WITH NATURAL PUMICE	Ali Rıza KUL <sup>1</sup> , Salih ALKAN <sup>2</sup> <i>Sevda OCAK</i> <sup>3</sup> , Ahmet SELÇUK <sup>4</sup> , Veysel BENEK <sup>5</sup>	Turkey
077	ANALYZED İN TERMS OF CONCENTRATION OF SOME HEAVY METALS İN DEĞİRMENDERE AND ENGİL (VAN) STREAM İN THE SEASONAL VARIATIONS	<u>Sema KAPTANOĞLU</u> <sup>1</sup> , Ahmet BAKIR <sup>2</sup> , Ali Rıza KUL <sup>1</sup>	Turkey
078	EXAMINATION OF THE AMOUNT OF THE MONTHLY İRON CONCENTRATIONS İN VAN PROVINCE BENDİMAHI STREAM	<u>Sema KAPTANOĞLU</u> <sup>1</sup> , Ahmet BAKIR <sup>2</sup>	Turkey
079	THE TELLUS PROJECT, A STUDY OF SEISMIC PRECURSORS	L. Nicolì, S. Biffi, L. Caccia, M. Cavallucci, D. Gullà, G. Lupo, M. Martini, G. Massimiani, <u>M. Zucchetti</u>	Italy
080	DETERMINE OF CONCENTRATION OF THE IODINE İN	Enkeleda KADIU*, Jolanda Hyskaj, Entela	Albania

	THE SALT IN SOME DISTRICTS OF ALBANIA	Bushi*	
081	RESULTS OF ANALYSIS FROM DEA MODEL IN MEASURING AND IMPROVING THE EFFICIENCY OF LIVESTOCK FARMS IN THE REGIONS OF ALBANIA	Mariana Nikolla <sup>1</sup> , Silvana Mustafaj <sup>1</sup> , Elfrida Dishmema <sup>1</sup> , Jona Mulliri <sup>2</sup> , Eris Zeqo <sup>2</sup> , Blerta Kristo <sup>2</sup>	Albania
082	COMPARISON OF VAN CENTER BEFORE AND AFTER EARTHQUAKE AIR GAMMA RADIATION DOSE RATE MEASUREMENT	Tahir ÇAKIR <sup>1</sup> , Ali Rıza KUL <sup>2</sup> , M.Ali KOÇMEN <sup>3</sup>	Turkey
083	ANALYSING THE SPATIAL DISTRIBUTION OF SOME AGRICULTURAL CROPS IN VAN PROVINCE-TURKEY FROM 2002 TO 2014	Bulut Sarğın <sup>1</sup> , Siyami Karaca <sup>2</sup> , Pınar Aslantaş <sup>3</sup>	Turkey
084	BIOMONITORING OF URBAN AIR POLLUTION IN TIRANA USING THE MOSS BAG TECHNIQUE	Ilva Gjokaj <sup>1</sup> , Majlinda Vasjari <sup>2</sup> , Majlinda Terpo <sup>3</sup>	Albania
085	GEOCHEMICAL NORMALISATION METHOD IN BIOMONITORING OF HEAVY METAL AIR POLLUTION	Ilva Gjokaj <sup>1</sup> , Majlinda Vasjari <sup>2</sup> , Majlinda Terpo <sup>3</sup>	Albania
086	REMOVAL OF ZINC IONS FROM AQUEOUS SOLUTIONS USING ACTIVATED CARBON	Ali Rıza KUL <sup>1</sup> , Şenol KUBİLAY <sup>2</sup> , Nurhayat ATASOY <sup>2</sup> , Sema KAPTANOĞLU <sup>1</sup> , Nilüfer Çirig SELÇUK <sup>2</sup> , Mustafa Utku ÇOLAK <sup>2</sup>	Turkey
087	ECONOMIC EFFICIENCY ON PRODUCTION OF THE VINE IN KOSOVO	Isuf Lushi	Kosovo
089	MICRO GREENHOUSE CULTIVATION	Zeynal Boynukara <sup>1</sup> , Numan Bildirici <sup>2</sup> , Suzan Karagöz <sup>3</sup> , Sema Sancak <sup>4</sup>	Turkey
090	THE FINANCIAL CRISIS IN EAST ASIA: MAINTAINING TRUST AND ADDRESSING THE CAUSES ARE ESSENTIAL FACTORS IN OVERCOMING CRISIS	Teuta Ismaili-Muharremi	Kosovo
091	BEHAVIOUR OF SOME APPLE CULTIVARS ON PAJAM 2 ROOTSTOCK IN DIBRA REGION	Telat Spahiu*, Fadil Thomaj**, Endrit Kullaj**	Albania
092	INVESTIGATION OF ISOTHERM PARAMETERS OF PAINT ADSORPTION ON ACTIVE CARBON	Ahmet SELÇUK <sup>1</sup> , Ali Ender KUYUCU <sup>2</sup> , Ali Rıza KUL <sup>2</sup> , Gülen ÖNAL <sup>1</sup>	Turkey
093	STUDY OF THERMODYNAMIC PARAMETERS OF DYE ADSORPTION ON NATURAL AND COMMERCIAL CLAY	Ahmet SELÇUK <sup>1</sup> , Gülen ÖNAL <sup>1</sup> , Ali Ender KUYUCU <sup>2</sup> , Ali Rıza KUL <sup>2</sup>	Turkey
094	INVESTIGATION OF THERMODYNAMIC PARAMETERS OF DYE ADSORPTION ONTO ACTIVE CARBON	Ali Ender KUYUCU <sup>2</sup> , Ahmet SELÇUK <sup>1</sup> , Ali Rıza KUL <sup>2</sup> , Gülen ÖNAL <sup>1</sup>	Turkey
095	THE INVESTIGATION OF ISOTHERM PARAMETERS OF DYE ADSORPTION ON NATURAL CLAY AND COMMERCIAL CLAY	Ahmet SELÇUK <sup>1</sup> , Gülen ÖNAL <sup>1</sup> , Ali Rıza KUL <sup>2</sup> , Ali Ender KUYUCU <sup>2</sup>	Turkey
096	OCCUPATIONAL CONTACT DERMATITIS	Desantila Tahiraj <sup>1</sup> , Ermira Vasili <sup>2</sup>	Albania
097	MANAGEMENT OF ACUTE MYOCARDIAL INFARCTION	Edi Smajlaj <sup>1</sup> , Sabit Brokaj <sup>2</sup>	Albania
098	RESULTS OF BREAST SCREENING MAMOGRAPHY	Agim Dokaj <sup>1</sup> , Arsen Hoxha <sup>1</sup> , Tahir Hysa <sup>2</sup>	Albania
099	INFECTIOUS DISEASES IN HOSPITALIZED CHILDREN	Floreta Korumi <sup>1</sup> , Gjeorgjina Kuli-Lito <sup>1</sup> , Raida Petrela <sup>1</sup> , Hamide Hoxha <sup>1</sup> , Eli Kallfa <sup>1</sup>	Albania
100	THE DIAGNOSIS OF THYROID NODULES	Lulezim Lekaj <sup>1</sup> , Edmond Çeliku <sup>2</sup>	Albania
101	DETERMINATION OF PAH AND BTEX LEVELS IN WATER AND SEDIMENT SAMPLES OF PATOKU LAGOON	Sidita Mançe, Elda Marku, Aurel Nuro, Bledar Murtaj	Albania
102	THE PREVALENCE OF RISK FACTORS IN PATIENTS WITH COPD IN THE DISTRICT OF TIRANA, 2005-2011	Entela Nako <sup>1</sup> , Laureta Malushi <sup>2</sup> , Enver Roshi <sup>3</sup>	Albania
103	ECONOMIC THEORY OF LAND, LAND USE AND LAND MARKET, PROBLEMS AND POLICIES OF THEIR DEVELOPMENT IN ALBANIA	Flora Merko <sup>1</sup> , Henrieta Themelko <sup>2</sup> , Stilian Apostoli <sup>2</sup> , Alvina Çoku <sup>3</sup> , Eralda Shore <sup>4</sup>	Albania
104	HEAVY METAL LEVELS IN RAINWATER AND SNOW WATER IN VAN	Nurhayat ATASOY <sup>1</sup> , Ufuk Mercan YÜCEL <sup>2</sup> , Ali Rıza Kul <sup>3</sup> , Sema KAPTANOĞLU <sup>3</sup> , Serkan Korkmaz <sup>1</sup>	Turkey
105	THE EFFECT OF EMIGRATION IN POPULATION STRUCTURE, CBR, IN NATURAL INCREASE OF POPULATION OF KOPLIK	Ermira Hoxhaj <sup>1*</sup> , Zyri Bajrami <sup>1,2</sup>	Albania
106	IN-VITRO FERTILIZATION AND MATURATION OF BALKAN WATER FROG ( <i>Pelophylax kurtmuelleri</i> , Gayda, 1940) – A CASE STUDY IN REPRODUCTIVE AMPHIBIAN BIOTECHNOLOGY	Blerta Turani <sup>1</sup> , Valbona Aliko <sup>1</sup> , Drushku Jona <sup>1</sup>	Albania

107	OBESITY, AN ABNORMAL CONDITION OF THE ORGANISM WITH MULTIDIMENSIONAL NEGATIVE IMPACTS, THE DISEASE OF THE CENTURY, BUT DESCRIBED SINCE THE ANTIQUITY	M. Agolli <sup>1</sup> , M. Terpo <sup>2</sup> , Dh. Terpo <sup>3</sup> , E. Meçi <sup>2</sup> , A. Kristidhi <sup>2</sup> , Y. Bilushi <sup>4</sup>	Albania
109	APPLICATION OF ARTIFICIAL NEURAL NETWORK IN ENVIRONMENTAL ENGINEERING PROBLEMS	Zeynep Cansu Ozturk, Fatma Kunt, Sukru Dursun	Turkey
110	GREEN LABORATORIES APPLICATION	Sinan UYANIK, Ayşe CEBE	Turkey
111	GOAL PROGRAMMING AS A METHOD FOR PLANNING OF PRODUCTION IN FARMS	Brunilda Baraku, Edmira Shahu, Jona Mulliri, Amelia Ahmeti	Albania
114	THE DETERMINATE OF THE SERUM MARKERS FOR LIVER CANCER THROUGH ELISA AND CHEMILUMINESCENCE IMMUNOASSAY	Petrit Gecaj <sup>1</sup> , Fatime Kullolli <sup>1</sup> , Qazim Lataj <sup>2</sup> , Mirela Lika <sup>2</sup>	Albania
115	GEOGENIC IMPACT IN THE CONCENTRATION OF SOME SPECIFIC HEAVY METALS IN SOILS IN THE BASIN OF FUSHË KOSOVO	Behxhet Shala <sup>1*</sup> , Naser Peci <sup>1</sup> , Flurije Sheremeti-Kabashi <sup>1</sup> , Gani Maliqi <sup>1</sup>	Kosovo
116	SPATIAL DISTRIBUTION OF SELECTED ELEMENTS IN STREAM SEDIMENTS OF KOSOVA BASIN	Naser Peci <sup>1</sup> , Behxhet Shala <sup>1</sup> , Flurije Sheremeti <sup>1</sup>	Kosovo
117	DETERMINATION OF HETEROISIS AND HETEROBELTIOSIS FOR PLANT HEIGHT AND SPIKE WEIGHT OF F1 GENERATION IN BREAD WHEAT	Shukri Fetahu <sup>1</sup> , Sali Aliu <sup>1</sup> , Imer Rusinovci <sup>1</sup> , Dukagjin Zeka <sup>1</sup> , Qëndrim Shabani <sup>1</sup> , Hans - Peter Kaul <sup>2</sup> , Fetah Elezi <sup>3</sup>	Kosovo
119	UPDATE OF BASIC HEATING DESIGN PARAMETERS FOR ALBANIA	Dritan Profka <sup>1</sup> , Mirel Miço <sup>1</sup> , Alfred Lako <sup>1</sup>	Albania
120	STUDY OF TROPHIC STATE INDICATORS IN WATER OF TIRANA ARTIFICIAL LAKE, ALBANIA	Arvjola Hoda <sup>1</sup> , Alma Shehu <sup>2*</sup> , Besnik Baraj <sup>2</sup>	Albania
121	DATA ABOUT EUROPEAN POND TURTLES, <i>EMYS ORBICULARIS</i> (LINNAEUS, 1758) IN VLORA BAY, ALBANIA	Enerit Saçdanaku <sup>1</sup> , Idriz Haxhiu <sup>2</sup>	Albania
122	THE INFLUENCE OF UREA PLASMA UREALYTICUM IN PETERM BIRTH	Teuta Bare, Nikita Manoku	Albania
123	SEVERITY OF DIARRHEA AMONG HOSPITALIZED CHILDREN	Bashkim Neza <sup>1</sup> , Eli Foto <sup>1</sup> , Gjeorgjina Kuli-Lito <sup>1</sup> , Ferit Zavalani, Majlinda Kota-Dhimolea <sup>2</sup> , Raida Petrela <sup>1</sup> , Hamide Bregu <sup>1</sup>	Albania
124	MEASLES OUTBREAK IN DISTRICT OF SHKODRA	Alma Robo <sup>1</sup> , Artan Simaku <sup>1</sup> , Erida, Nelaj <sup>1</sup> , Eugena Tomini <sup>1</sup> , Silva Bino <sup>1</sup>	Albania
125	VOLTAMETRIC DETERMINATION OF CATECHOL IN COFFEE DRINKING USING CARBON PASTE BIOSENSOR MODIFIED WITH BANANA TISSUE	Nevila Broli, Majlinda Vasjari	Albania
126	BUILDING FAÇADE MATERIALS AND THEIR ECOLOGICAL IMPACT - COMPARATIVE ANALYSIS OF URBAN LEVEL REFERRING TO RAPID DEVELOPMENT CONSTRUCTION IN ALBANIA	Denisa Hajnaj <sup>1</sup> , Leka Gedeshi <sup>2</sup> , Alketa Grepcka <sup>2</sup>	Albania
127	EFFECT OF LAYERS HOUSING SYSTEMS ON EGG PRODUCTION AND QUALITY	Sadik Maloku <sup>1</sup> , Naim Kicaj <sup>1</sup> , Arben Musliu <sup>2</sup> , Mentor Thaqi <sup>2</sup>	Kosovo
128	EFFECT OF SULPHUR DIOXIDE ON YIELD OF CROPS	Etleva Beliu <sup>1*</sup> , Shpetim Leka	Albania
129	ANALYSES OF <i>HELICOBACTER PYLORI</i> ON THE BLOOD FISH SPECIES FROM SITNICA, LEPENCI AND LUMBARDHI I PRIZRENT RIVER (KOSOVO)	Ferizi Rrahman <sup>1</sup> , Puto Klementina <sup>2</sup> , Maxhuni Qenan <sup>3</sup> , Cakaj Fatmir <sup>4</sup> , Hashani Zeqir <sup>5</sup>	Kosovo
130	ANALYSIS OF HEAVY METALS INHIBITION/TOXICITY ON METHANOGENIC ACTIVITY IN UPFLOW ANAEROBIC SLUDGE BLANKET REACTOR	Fatih Şevki Erkuş <sup>1</sup> , Ahmet Yüceer <sup>2</sup> , Ayşe Erkuş <sup>3</sup>	Turkey
131	THE EXAMINATION OF PARACETAMOL AND DICLOFENAC REMOVAL IN ACTIVATED SLUDGE SYSTEMS UNDER DIFFERENT OPERATING CONDITIONS	Ayşe Erkuş <sup>1</sup> , Mesut Başbüyük <sup>2</sup> , Fatih Şevki Erkuş <sup>3</sup>	Turkey
132	HYDROLOGY AND WATER CHEMISTRY OF LAKE BURDUR, SOUTH-WEST ANATOLIA, TURKEY	Erkan DİŞLİ	Turkey
133	MULTI-SENSOR ANALYSIS OF EXTREME RAIN-ON-SNOW EVENTS	Hysen Mankolli	USA, Albania
134	POSITIVE AND NEGATIVE EFFECTS OF NITRATE AND NITRITE ON HUMAN HEALTH AND ENVIRONMENT	Fadim YEMİŞ <sup>a*</sup> and Nilgün YENİL <sup>a</sup>	Turkey
135	SENTHETIC AND NATURAL PESTICIDES	Fadim YEMİŞ <sup>a</sup> and Nilgün YENİL <sup>a*</sup>	Turkey
136	OPTIMIZATION WITH RESPONSE SURFACE METHODOLOGY OF Co(II) BIOSORPTION	Tekin Şahan <sup>1</sup> , Tuba Erşen Dudu <sup>1</sup> , Yusuf Keskeç <sup>1</sup> , Yusuf Uzun <sup>2</sup> , Nahit Aktaş <sup>1</sup>	Turkey

	CONDITIONS FROM AQUEOUS SOLUTIONS BY LENTINUS TIGRINUS FUNGI AS A LOW-COST BIOSORBENT		
137	OPTIMIZATION WITH RESPONSE SURFACE METHODOLOGY OF Hg(II) BIOSORPTION CONDITIONS FROM AQUEOUS SOLUTIONS BY <i>POLYPORUS SQUAMOSUS</i> FUNGI AS BIOSORBENT	Tuba Erşen Dudu <sup>1</sup> , Yusuf Keskeç <sup>1</sup> , Tekin Şahan <sup>1</sup> , Yusuf Uzun <sup>2</sup> , Nahit Aktaş <sup>1</sup> ,	Turkey
138	USED SOME MODELLING APPLICATIONS IN AIR POLLUTION ESTIMATES	Fatma Kunt, Zeynep Cansu Ozturk, Sukru Dursun	Turkey
139	STATISTICAL ANALYSIS OF HEALTH REACTION TO AIR POLLUTION	Luella Prifti, Erjola Cenaj, Shpetim Shehu	Albania
140	A STUDY TO THE RELATION BETWEEN HELICOBACTER PYLORI INFECTION AND IRON DEFICIENCY ANEMIA	Ermela Kopaçi (Selimi) <sup>1</sup> , Tefta Rexha <sup>2</sup>	Albania
141	MEDICAL EXPOSURES BY RADIOLOGICAL EXAMINATION IN REGIONAL HOSPITAL OF GJIRKASTER CITY ALBANIA	Antuela Sinani <sup>1</sup> , Kostandin Dollani <sup>2</sup>	Albania
142	MONITORING OF SOME QUALITATIVE AND QUANTITATIVE INDICATORS IN BIODIESEL USED AS FUEL IN ROAD TRANSPORT IN ALBANIA. DURING FEBRUARY 2014 - FEBRUARY 2015	Mirela Belshaku (Sulaj) <sup>1*</sup> , Agim Malja <sup>2</sup>	Albania
143	DETERMINATION OF PHENOLIC COMPOUNDS IN GROUNDWATER BY SPECTROPHOTOMETRY	Loreta Vallja, Sonila Duka, Alma Shehu, Alqi Çullaj	Albania
144	THE IMPACT OF ELEMENTS OF WOOD MATERIAL IN THE ENERGY BALANCE OF THE BUILDING	Firdus Haveraj	Albania
145	THE PROBLEMS OF RENEWABLE ENERGIES IN ALBANIA	Elena Bebi <sup>1</sup> , Jorgaq Kaçani <sup>2</sup>	Albania
146	EFFECT OF ENVIRONMENTAL FACTORS ON PRODUCTION PICKLING CUCUMBER IN TUZLA CANTON	Sead NOČAJEVIĆ <sup>1*</sup> , Said KARIĆ <sup>2</sup> , Sabina BEGIĆ <sup>1</sup> , Edin BRIGIĆ <sup>1</sup>	Bosnia and Herzegovina
147	THE NEW TERRITORIAL DIVISION OF ALBANIA AND ITS SUSTAINABLE DEVELOPMENT	Diana Shehu <sup>1</sup> , Edlira Ndreko <sup>2</sup> , Nehat Çollaku <sup>3</sup>	Albania
149	HOSPITAL WASTE MANAGEMENT, AN IMPORTANT FACTOR FOR ENVIRONMENTAL PROTECTION. RESEARCH CONDUCTED IN VLORA REGIONAL HOSPITAL (2013-2014)	Y. Bilushi <sup>*1,2</sup> , M. Agolli <sup>3</sup> , M. Terpo <sup>3</sup> , F. Kamberi <sup>1</sup>	Albania
150	AN ASSESSMENT OF THE QUALITY OF VARIOUS BOTTLED MINERAL WATER MARKED IN TIRANA (ALBANIA) DURING 20014	Sonila Duka*, Loreta Vallja, Alma Shehu	Albania
151	BIOAEROSOLS IN INDOOR ENVIRONMENTS	Sevda OCAK <sup>1</sup> , Yusuf UZUN <sup>2</sup>	Turkey
152	HEAVY METALS LEVELS IN INDOOR ENVIRONMENT	Sevda OCAK <sup>1</sup> , Ali Rıza KUL <sup>2</sup>	Turkey
153	ECHINOCOCCUS GRANULOSUS INVESTIGATION OF INTERFERENCE ON THE SIDE EFFECTS OF ENVIRONMENTAL HEALTH	Gülüm SARGİN <sup>1</sup> , Nuran Bazencir Görentaş <sup>1</sup> , <u>Nurhayat Atasoy</u> <sup>2</sup> , Ufuk Mercan Yücel <sup>3</sup>	Turkey
154	DEVELOPING AN ALGORITHM IN SPEECH RECOGNITION SYSTEM IN LABVIEW	Saimir Tola <sup>1</sup> , Ligor Nikolla <sup>2</sup>	Albania
156	PLANT GROWTH REGULATORS AND THEIR EFFECTS ON VITAL	Fadim YEMİŞ <sup>a</sup> , Nilgün YENİL <sup>a*</sup> and Umut ŞEN <sup>a</sup>	Turkey
157	WASTE VEGETABLE OILS AND THE VALUE OF THEIR RECOVERING	Nilgün YENİL <sup>a*</sup> , Fadim YEMİŞ <sup>a</sup> and Umut ŞEN <sup>a</sup>	Turkey
158	<i>PEGANUM HARMALA L.</i> AND IT' S SIGNIFICANT EFFECTS ON ENVIRONMENT	Deniz VURAL <sup>a</sup> , Nilgün YENİL <sup>a*</sup> , and Volkan ATEŞ <sup>a</sup>	Turkey
159	ACID RAINS AND GREENHOUSE EFFECTS	Nilgün YENİL <sup>a*</sup> , Fadim YEMİŞ <sup>a</sup> and Deniz VURAL <sup>a</sup>	Turkey
160	SOIL POLLUTION IN THE ENVIRONMENT CREATED BY DEVELOPING TECHNOLOGY AND BIOLOGICAL MEASURES IN SOIL POLLUTION	Bahriye Gülgün <sup>1*</sup> , Melda Köse <sup>1</sup> , Kübra Yazıcı <sup>2</sup> , Sukru Dursun <sup>3</sup> , Funda Ünal Ankaya <sup>4</sup> , Hasan Köse <sup>4</sup>	Turkey
161	ASSESSMENT OF AIR QUALITY IN KUCOVA DUE TO HEALTH DISTURBANCE	Jonida Leshi <sup>1*</sup> , Margarita Hysko <sup>2</sup>	Albania
162	ROBUST SPEECH RECOGNITION IN NOISY CONDITION, AND THE IMPLEMENTATION OF GAMMATONE FILTERS.	Saimir Tola <sup>1</sup> , Ligor Nikolla <sup>2</sup>	Albania
163	INVESTIGATION OF RADIOCHEMICAL PURITY OF <sup>99m</sup> Tc-DMSA RADIOPHARMACEUTICAL BY DIFFERENT CHROMATOGRAPHIC METHODS	Brunilda Daci <sup>1</sup> , Florinda Cfaraku <sup>1</sup> , Skender Malja <sup>1</sup> , Mirela Alushllari <sup>1</sup>	Albania

164	EFFECTS OF MODIFIED ATMOSPHERE PACKAGING DURING STORAGE ON SOME CHEMICAL AND BIOCHEMICAL PROPERTIES OF ZEBRA CHERRY AND MINI BEZELYE MINIATURE TOMATOES GROWN IN OPEN FIELD AT BITLIS ECOLOGICAL CONDITIONS	Şeyda Çavuşoğlu <sup>1</sup> , Faruk Kardaş <sup>2</sup> , Fuat Eser <sup>1</sup> , Merve Otag <sup>1</sup>	Turkey
165	THE CHANGE OF CHEMICAL-PHYSICAL PARAMETERS OF GJANICA RIVER, UNDER THE INFLUENCE OF HEAVY INDUSTRY	Lumturi Hoxha <sup>1</sup> , Spiro Drushku <sup>2</sup> , Ismet Beqiraj <sup>2</sup>	Italy
166	USE OF KOSOVO BENTONITE FOR RECYCLING WASTE MOTOR OILS	Valdet Teneqja <sup>1</sup> , Spiro Drushku <sup>2</sup>	Kosovo
167	PASSIVE SOLAR ENERGY COST AND POLLUTION 0	Esat Sadiku, Agim Asllani, Ermira Xhunga	Kosovo
168	C. ALBICANS GENITAL INFECTIONS IN MALES AND FEMALES, IN DURRES, ALBANIA	Anisa Liti <sup>1</sup> , Margarita Hysko <sup>2</sup>	Albania
169	THE EFFECT OF THERMAL STRESS EXPOSURE ON THE HEMOLYMPH GLUCOSE LEVEL IN CRABS ( <i>CARCINUS ESTUARIS</i> )	Marsilda Qyli <sup>1*</sup> , Valbona Aliko <sup>1</sup>	Albania
171	PALYNOLOGICAL STUDY OF FOUR GENRES OF BETULACEAE FAMILY IN ELBASANI TOWN, ALBANIA	<sup>1,3</sup> Admir Jançe, <sup>2</sup> Gëzim Kapidani, <sup>3</sup> Blerina Pupuleku, <sup>3</sup> Nikoleta Kallajxhiu, <sup>3</sup> Anxhela Dauti	Albania
172	THE EFFECT OF TREATMENT WITH NaCl SOLUTIONS ON BENDING STRENGTH OF SILVER FIR ( <i>Abies alba</i> Mill.) AND PINE ( <i>Pinus nigra</i> Arn.) WOOD	Arian Kapidani <sup>1</sup>	Albania
173	THE EFFECT OF FINGERS TIPS POSITIONING ON BENDING STRENGTH OF FINGER JOINT CONNECTION	Besnik Habipi <sup>1</sup> , Holta Çota <sup>1</sup> , Agron Kodra <sup>1</sup>	Albania
174	APPLICATIONS OF WHITE-ROT FUNGI FOR WASTEWATER TREATMENT IN TEXTILE INDUSTRY	Eda Ondul <sup>1</sup> Nadir Dizge <sup>2</sup>	Turkey
175	PRODUCTION OF ETHANOL BY FERMENTATION OF CORNSTARCH	Eda Ondul <sup>1</sup> , Nadir Dizge <sup>2</sup>	Turkey
176	CREATING HUMAN LANDSCAPES IN LAKE SHORES - THE CASE OF SHKODRA LAKE	Nevila Dibra, Bresena Kopliku	Albania
177	DETERMINATION OF WATER QUALITY INDEX (WQI) FOR EVALUATION OF WATER QUALITY AND POLLUTION STATUS OF ERZENI AND ISHMI RIVER	Raimonda Totoni (Lilo) <sup>1</sup> , Edlira Baraj <sup>1</sup> , Figali Hila <sup>2</sup> , Vanela Gjeci <sup>2</sup>	Albania
178	POTENTIAL ESTIMATION AND GHG REDUCTION OF A WIND POWER SYSTEM IN ALBANIAN SOUTH COAST	Eduart Serdari <sup>1</sup> , Pëllumb Berberi <sup>1</sup> , Ilber Puci <sup>2</sup> , Miranda Halili <sup>2</sup>	Albania
180	MACROZOOBENTHOS COMPOSITION OF TWO BULGARIAN RESERVOIRS ACCORDING TO SOME ENVIRONMENTAL PARAMETERS	Galia Georgieva <sup>*</sup> , Yordan Uzunov	Bulgaria
181	PHYTOREHABILITATION OF THE CONTAMINATED AREA FROM HYDROCARBURE AND HEAVY METAL	Alma Shehu <sup>1</sup> , Alfred Mullaj <sup>2</sup> , Seit Shallari <sup>3</sup>	Albania
182	MORPHOLOGICAL CHARACTERISATION OF OREGANO SPECIES ( <i>ORIGANUM VULGARE</i> L) OF SOUTHERN ALBANIA	Dhimitër Peçi <sup>1</sup> , Alfred Mullaj <sup>1</sup> , Aurel Nuro <sup>2</sup> , Hairi Ismaili <sup>3</sup> , Aida Dervishi <sup>4</sup>	Albania
183	PHENOTYPIC VARIATION OF WILD POPULATIONS OF MOUNTAIN TEA ( <i>SIDERITIS RAESERI</i> Boiss. et Heldr.) IN THREE MAIN AREAS OF DISTRIBUTION IN ALBANIA	Dhimitër Peçi <sup>1</sup> , Alfred Mullaj <sup>1</sup> , Aurel Nuro <sup>2</sup> , Hairi Ismaili <sup>3</sup> , Aida Dervishi <sup>4</sup>	Albania
184	METHOMYL ADSORPTION FROM ACTIVATED CLAYS	Erinda Prifti <sup>1</sup> , Kledi Xhaxhiu <sup>2</sup> , Elmira Mehmeti <sup>3</sup> , Dafina Karaj <sup>4</sup>	Albania
185	DATA INDICATOR PLANTS IN ELBASAN DISTRICT	Griserda TOPI	Albania
186	OCULAR INVOLVEMENT IN PATIENTS WITH ANKYLOSING SPONDYLITIS	Enida Xhaferi <sup>1</sup> , Teuta Backa Cico <sup>2</sup> , Artur Zoto <sup>2</sup> , Fatbardha Lamaj <sup>3</sup> , Klerida Shehu <sup>1</sup>	Albania
187	CARDIAC MANIFESTATIONS IN PATIENTS WITH ANKYLOSING SPONDYLITIS	Enida Xhaferi <sup>1</sup> , Teuta Backa Cico <sup>2</sup> , Artur Zoto <sup>2</sup> , Fatbardha Lamaj <sup>3</sup> , Klerida Shehu <sup>1</sup>	Albania
188	ASSESSMENT OF MINERAL AND HEAVY METAL CONTENT IN SOME TISSUES OF <i>SQUALIUS ORIENTALIS</i> (NORDMANN, 1840) FROM ÇAT DAM LAKE, ADIYAMAN-TURKEY	Mahmut DAĞLI	Turkey
189	MODIFIED CTAB METHOD FOR GENOMIC DNA ISOLATION FROM HERBARIUM SPECIMENS OF MEDICINAL PLANTS	Aida Dervishi <sup>1</sup> , Gledian Caka <sup>1</sup> , Aurel Nuro <sup>2</sup> , Dhimitër Peçi <sup>3</sup>	Albania
190	SRAP BASED GENETIC ANALYSIS OF SOME	Aida Dervishi <sup>1</sup> , Halit Sulovari <sup>2</sup> , Dorian Bode <sup>2</sup>	Albania

	<i>MEDICAGO SATIVA</i> L. CULTIVATED IN ALBANIA	Gledian Caka <sup>1</sup> , Asllan Celami <sup>3</sup> , Aurel Nuro <sup>4</sup> , Dhimitër Peçi <sup>5</sup>	
191	GENETIC RELATIONSHIP AMONG ECOTYPES OF LOCAL ALBANIAN ALFALFA	Aida Dervishi <sup>1</sup> , Halit Sulovari <sup>2</sup> , Doriana Bode <sup>2</sup> , Asllan Celami <sup>3</sup> , Gledian Caka <sup>1</sup> , Aurel Nuro <sup>4</sup> , Dhimitër Peçi <sup>5</sup>	Albania
192	NEW OPPORTUNITY FOR USING SOME ORGANIC WASTES AND MANURES FOR ENERGY PROFIT IN ALBANIA	Petrit Kotori <sup>1</sup> , Ilirjan Malollari <sup>2</sup>	Albania
193	APPLICABLE METHOD ON THE PROPER USE OF SOME WASTES FOR BIOGAS PROFIT AND ENVIRONMENTAL IMPROVEMENT	Ilirjan Malollari <sup>1</sup> , Petrit Kotori <sup>2</sup> , Hasime Manaj <sup>1</sup>	Albania
194	CYTO- AND GENOTOXIC ACTIVITY OF PESTICIDE CYPERMEX PLUS 550 EC ON <i>Allium cepa</i> L.	Anila Dizdari*, Ditika Kopliku	Albania
195	THRESHOLD DOSE OF CYTOGENETIC TOXICITY OF DICLOPHOP-METHYL IN <i>Vicia faba</i> SEEDLINGS	Didika Kopliku*, Anila Dizdari	Albania
196	STATE OF ART IDENTIFICATION AND MONITORING METHODS FOR ELECTRIC LOADS IN COMMERCIAL AND RESIDENTIAL BUILDINGS	Aulon Shabani <sup>3</sup> , Orion Zavalani, Denis Panxhi	Albania
197	BIODIESEL PRODUCTION FROM WASTE COOKING OILS	Armela Mazreku <sup>1*</sup> , Ismet Beqiraj <sup>1</sup>	Albania
198	EARLY DIAGNOSTICATION OF PREGNANCY IN COWS THROUGH PROGESTERON TEST	<sup>1</sup> Blerta Mehmedi, <sup>2</sup> Taulant Kastrati, <sup>3</sup> Luigj Turmalaj	Kosovo
199	PHYSICAL AND CHEMICAL CHARACTERISTICS OF CRUDE OIL OF PATOS – MARINZE, ALBANIA	<sup>1*</sup> Xhaklina Cani, <sup>1</sup> Ismet Beqiraj	Albania
200	CHARACTERIZATION OF KOSOVO FLY ASH, SOME FAVORABLE OPPORTUNITIES FOR ITS USE IN THE FUTURE	Goraj E <sup>1</sup> , Qemallaj R <sup>2</sup>	Albania
201	MONITORING OF SOME HEAVY METAL LEVELS IN CONTAMINATED SEDIMENTS USING AS INDICATORS OF POLLUTION IN AQUATIC ENVIRONMENTS	Ardian Rugova <sup>1</sup> , Tahir Arbnesi <sup>2</sup> , Ilirjan Malollari <sup>3</sup>	Kosovo
202	WASTEWATER CHARACTERISTICS BEFORE AND AFTER THE TREATMENT PROCESS OF WASTEWATER PLANT IN SKENDERAJ	Faruk Hajrizi <sup>1*</sup> , Shefqet Rashani <sup>2</sup> , Spiro Drushku <sup>3</sup> , Rasim Veseli <sup>4</sup> , Shehide Kaqkini-Hajrizi <sup>5</sup> , Sadete Hajrizi <sup>6</sup>	Kosovo
203	CONTRIBUTION TO ENVIRONMENT BY UNIVERSITY THIRD MISSION ACTIVITY	Aida Spahiu <sup>1</sup> , Lindita Dhano <sup>2</sup> , Orion Zavalani <sup>1</sup>	Albania
204	FORMER MILITARY BUILDINGS IN ALBANIA : A KEY-ISSUE FOR BAT PROTECTION	Philippe Théou <sup>1</sup>	Albania
205	BAT RESEARCH IN THE PRESPA LAKES NATIONAL PARK	Philippe Théou <sup>1</sup>	Albania

---

---

## ABSTRACTS

### 001 HOSPITAL MEDICAL WASTE MANAGEMENT

**Sukru Dursun**

Environmental Engineering Department, Engineering Faculty, Selcuk University, Konya, TURKEY;

Email: [sdursun@selcuk.edu.tr](mailto:sdursun@selcuk.edu.tr)

#### ABSTRACT

Any unwanted residual material which cannot be discharged directly, or after suitable treatment can be discharged in the atmosphere or to a receiving water source, or used for landfill is waste. In recent century, the generation and processing of solid waste material has become an increasing environmental problem in most of the countries. Solid waste treatment prior to lanfilling reduces or even avoids environmental damage and recycling prior to waste treatment very important issue. Policy makers have recognized the benefits of recycling and are increasingly willing to foster it through new waste legislation and directives. Some of the waste types must be separated before contaminated with hazardous materials. Medical wastes are also good organised to reduce the amount of contaminated waste and save the recyclable waste. A modern hospitals are complex multidisciplinary system which consumes thousands of items for delivery of medical care and is part of physical environment. All products consumed in hospitals have some unusable left over. This wastes are great threat to ecological balance by polluting environment. Infectious waste are all those substances which cannot be resterilised or reused within or brought into patient care The dynamic environment has made solid waste planning more difficult and has highlighted the fact that the state solid waste management plan must also be a dynamic document. It is anticipated that the plan will need to be updated prior to the minimum mandate of every five years. The type and composition of the solid waste generated by individual states can vary greatly. This variation is a function of several factors including climatic conditions, population characteristics, type of industries and businesses located within the state, landownership, culture, and others. This research will describe the types and quantities of solid waste generated within hospital. Reliable estimates of the this waste being generated is a crucial component of any solid waste plan. These projections determine the expected life of facilities, future operation costs and revenues, and ultimately the selection of the integrated solid waste management system to be used.

**Keywords:** Hospital, Medical Waste, Waste Management, Lanfill, Environment

### 002 SATELLITE-BASED ESTIMATION OF HYDROLOGIC COMPONENTS – APPLICATION TO SNOW AND PRECIPITATION

**Cezar Kongoli<sup>1,2</sup>, Sean Helfrich<sup>2</sup>, Robert J. Kuligowski<sup>2</sup>,**

<sup>1</sup>Earth Science System Interdisciplinary Center (ESSIC), University of Maryland College Park, MD, USA;

<sup>2</sup>National Oceanic and Atmospheric Administration (NOAA), National Environmental Satellite Data and Information Service (NESDIS), NOAA Center for Climate and Weather Prediction (NCCWP), College Park, MD, USA;

E-mail: [Cezar.Kongoli@noaa.gov](mailto:Cezar.Kongoli@noaa.gov); [Sean.Helfrich@noaa.gov](mailto:Sean.Helfrich@noaa.gov); [Bob.Kuligowski@noaa.gov](mailto:Bob.Kuligowski@noaa.gov);

#### ABSTRACT

The objective of this paper is to present most recent satellite-based methods for the estimation of snow and

---

precipitation being applied at NOAA, with special emphasis on regional applications for the retrieval of snow cover (extent and depth) and precipitation (rain and snowfall rate). A new operational snow depth estimation method based on optimal interpolation of satellite and in-situ measured snow depth will be presented. The method is being applied within NOAA's Interactive Multi-Sensor Snow and Ice Mapping System (IMS) providing 4-km resolution snow depth estimates over the Northern Hemisphere twice daily. Unique to the production is the application of snow depth estimates generated interactively from the analyst that are ingested into the objective analysis. For rain and snowfall estimations, NOAA's satellite products based on current geostationary and polar-orbiting satellites will also be presented with example applications to major weather events.

**Key words:** Satellite Remote Sensing, Snow Depth, Rain, Snowfall

**003 DAMAGE TO MAN AND ENVIRONMENT OF TEAR GAS CS**

**Massimo Zucchetti**

Polytechnic University of Torino, Italy;

Email: [massimo.zucchetti@polito.it](mailto:massimo.zucchetti@polito.it)

**ABSTRACT**

The chemical compound CS gas (ortho-chloro-benzylidene-malonitrile), repeatedly used by police forces against population in Italy (Val di Susa 2011-2015 and Genoa 2001), is chemically synthesized by reacting two chemicals compounds: 2-chlorobenzaldehyde and malonitrile. CS gas is part of the equipment of the Italian police force since 1991. It is said by many parties that the CS gas would be virtually harmless. However, due to its composition, its properties are stinging and corrosive, as it is Chlorine, and toxic, carcinogenic and mutagenic, such as polycyclic aromatic hydrocarbons. Although classified as a non-lethal weapon to control the riots, CS has proven to have many toxic effects. In addition to dangerously damage the lungs, the CS can seriously harm the heart and liver. The potential damage to internal organs, as well as gastrointestinal symptoms, was evidenced by accidental exposures reported in literature. The immediate effects of the gas on humans occur in low concentrations and depend on the irritating action to the skin and mucous membranes. The first target organs are represented by eyes: intense tearing due to irritation of the mucous membrane, blepharospasm, conjunctivitis, periorbital edema, burning, and pain. In addition, this gas causes an increase in intraocular pressure and may onset acute glaucoma in susceptible individuals. Respiratory apparatus: the most common effects are represented by irritation of the upper airways that are manifested clinically as nasal congestion and runny nose. But the irritating effects may extend distally and cause laryngitis, tracheitis, bronchial irritation and cough with copious phlegm. In severe cases laryngitis may result in laryngospasm and irritation of the lower airways may result in a very severe ARDS (Acute Respiratory Distress Syndrome). In the medical literature numerous cases of prolonged cough and breathing difficulties for several months are also reported. Skin: contact of the gas with the skin causes burning sensation that usually subsides quickly but the contamination of the clothes can prolong the effects and, in case of prolonged exposure, can lead to real burns. Gastrointestinal Tract: effects usually stem from the contamination of food and beverage, and depend on the irritation of the mucous membranes and lead to symptoms such as nausea, vomiting, loss of appetite, diarrhea, and abdominal pain. More serious effects such as acute liver disease (hepatitis) have also been reported occasionally. According to Amnesty International, after exposure in Genoa 2001, in June 2002, many persons have filed a formal complaint, accompanied by medical reports, claiming to suffer long-term effects (damage to lungs, throat and skin) due to exposure to gas CS. Similar reports are available from other exposed people in Valsusa 2011-2015. Finally, there is evidence from recent studies of carcinogenic and mutagenic effects of CS. They identify the mechanism that underlies the toxic action of CS, namely the formation of cyanides. The carcinogenic mechanism of CS is not based on the interaction of the compound with DNA, but directly on the apparatus of mitotic cells, causing chromosomal aberrations. Exposure to CS leads to abnormal chromosomes and the formation of free radicals. The carcinogenic effect is therefore even without DNA damage, directly altering the rate of mitosis of cells. Being shown that exposure to CS may cause alterations in the



---

chromosomes, this could result in genetic damage. In conclusion, the claim that the CS is not toxic and it is not a carcinogen are based on studies dating back 30 years ago, outdated and/or supplemented now by more recent studies that have identified the mechanism by which the CS is not only toxic, but carcinogenic. The use of CS gas by police forces for riot control should therefore be abandoned.

**Key words:** chemical compound CS, gas, damage

**004 THE ENVIRONMENTAL IMPACTS OF OIL PRODUCTION ON LAND AND SEA**

<sup>1</sup>Massimo V. Civita, <sup>2</sup>Albina Colella

<sup>1</sup>Politecnico di Torino, Italy;

<sup>2</sup>Dipartimento di Scienze, Università della Basilicata, Italy;

Email: [mcivita@fastwebnet.it](mailto:mcivita@fastwebnet.it); [albina.colella@unibas.it](mailto:albina.colella@unibas.it)

**ABSTRACT**

The widespread use of petroleum is causing serious environmental problems in fragile ecosystems, that are increasingly targeted by oil companies often stirring controversies with local populations on issues related to health and environmental consequences. Although oil activities - are frequently located near homes, hospitals and other community resources, and - oil production and transportation can disrupt human population and animal and fish life, we realized that both populations and most of the decision-makers ignore many of the environmental and social impacts of the oil production and consumption. Whereas the case of political benefits of increased production and control over oil has been clearly articulated, the environmental, health and social costs of increased oil flows are largely absent from government policy deliberations and from public discourse. Clearly, there are very real trade-offs resulting from increased oil production and consumption. But how well do policy makers and the public understand the costs of such commitment to oil? What data are available to evaluate the impacts of oil production and consumption at the different stages in the oil life cycle? For this reason we decided to realize an organized and documented synthesis of the various impacts of petroleum activities on land and sea, and to describe the environmental, health and social impacts of oil and gas extraction, transport and refining. Our analysis was based on data collected everywhere in the world, and clearly shows that oil adverse impacts spread out everywhere oil flows, but they affect disproportionately poor communities.

**Key words:** environmental impacts, oil production, land, sea

**005 ENVIRONMENT AND THE RIGHT TO INFORMATION**

**Ervin Karamuço**

State University "Aleksandër Moisiu", Faculty of Law and Political Science, Department of Law, Durres, Albania;

Email: [ekaramuco@yahoo.com](mailto:ekaramuco@yahoo.com)

**ABSTRACT**

According to Albanian Constitution, the right to information is guaranteed and everyone has the right to be informed about the status of the environment and its protection. The right, in compliance with law, to obtain information about the activity of state institution and of persons who exercise state functions is also guaranteed. The aim of this paper is to deeply analyses and identifies the efforts of Albanian authorities to implement this constitutional right in relation with other international obligations about environment protection and right to be informed in this field. Following the ratification of the Aarhus Convention, Albanian has taken other

---

responsibilities which require also legal and administrative measures for implementation. In the light of new law adopted last September 2014 “On Right to Information” new rules has taken place, which are much more positive in accomplishing this constitutional right and with much engaged activity for public authorities. This paper also analyzes the activity of state bodies that have jurisdiction to control the implementation of the law on the right to information. This is all about aiming to clarify the current level of respecting this constitutional right, which occupies an important part of our endeavors to increase the quality of life in our country through legal and administrative procedures.

**Keywords:** Right to information, Albanian Constitutional, Aarhus Convention, Environment Information.

**006 EVOLUTION OF EUROPEAN NORMATIVE FOR REGULATION OF POLLUTING EMISSIONS FROM INTERNAL COMBUSTION ENGINES**

**Altin Dorri, Andonaq Londo**

Polytechnic University of Tirana, Sheshi “Nënë Tereza”, Nr. 4, Tirana, Albania;

Email: [adorri@fim.edu.al](mailto:adorri@fim.edu.al)

**ABSTRACT**

This paper aims to give an overview regarding to the development of normative on polluting emissions from internal combustion engines in Europe and some highlight to their future development. In addition to legal limits for the harmful substances emissions, it also discusses the requirements for fuels which need to be met according to Euro 5 and 6, as well as the CO<sub>2</sub> emission, which as a greenhouse gas is treated by the Kyoto Protocol. In order to achieve these limits and normative from engine manufacturers considerable progress has been made through three main ways: first by the use of more quality fuels; second by improving the combustion process inside the engine and third by implementing of cleaning techniques (after treatment of combustion gases). Since European countries import the majority of fuel they are trying to move more and more toward alternative fuels, so bringing more restrictive regulation for the polluting emissions. These regulations imply vehicle manufacturers, fuel manufacturers, politics, legislations and of course pressure of green activists.

**Keywords:** European normative, polluting emissions, IC engine, fuel.

**007 LIVESTOCK FARMS-RELATED NH<sub>3</sub>, CH<sub>4</sub>, PM EMISSIONS IN EDREMIT DISTRICT AND VAN CITY, TURKEY**

**Sevda OCAK<sup>1</sup>, Turgut AYGÜN<sup>2</sup>, Ozan Devrim YAY<sup>3</sup>**

<sup>1</sup>Yüzüncü Yıl University Engineering Architecture Faculty, Environmental Engineering Department, 65080, Van, Turkey;

<sup>2</sup>Yüzüncü Yıl University Agricultural Faculty, Department of Animal Sciences, 65080, Van, Turkey;

<sup>3</sup>Anadolu University, Engineering Faculty, Environmental Engineering Department, 26555 Eskisehir Turkey;

E-mail: [sevdaocaktr@gmail.com](mailto:sevdaocaktr@gmail.com); [sevdaocak@yyu.edu.tr](mailto:sevdaocak@yyu.edu.tr);

**ABSTRACT**

Livestock production is increasingly regarded as a source of solid, liquid and gaseous emissions which can be both a nuisance and environmentally harmful. There are millions of workers in livestock building around the world and the buildings include countless poultry, cattle, sheep, goats, horses etc. Poor air quality inside and outside the buildings represents a particular threat to the resident animals and associated humans including workers, their family members, veterinarians, neighboring individuals. The environments of buildings have

higher concentrations of contaminants and greater portions of biological content. Ammonia (NH<sub>3</sub>), methane (CH<sub>4</sub>) and particulate matters (PM<sub>10</sub>, PM<sub>2.5</sub>, TSP) are important air pollutants released from these buildings. Ammonia emissions depend on a large number of factors such as the content of feed, housing system of animal, climatic conditions (e.g. temperature) in building and storage system, etc. Methane emissions from animal husbandry have originated from enteric fermentation and the animal waste management. Emissions of PM are released from housed and free-range animals. PM is a complex mixture of liquid and solid materials, including grain, animal dander, hair, urine, excrements, and microorganisms. In this study, NH<sub>3</sub>, CH<sub>4</sub> and PM levels have been estimated using the EMEP/CORINAIR methodology together with revised IPCC guidelines for both Van city period of 2011-2014 and Edremit district of Van city in 2014. The emission flux is predicted about 6,45kt/year, 30,15kt/year, 1,2kt/year, 0,94kt/year, 0,38kt/year, 1,45kt/year for NH<sub>3</sub>, CH<sub>4</sub>(enteric fermentation), CH<sub>4</sub> (manure management), PM<sub>10</sub>, PM<sub>2.5</sub>, TSP, respectively in 2014 for Van city. Geographical analysis concerning distribution of animals and subsequent air pollutants is performed for Edremit district in Van, Turkey. Removal systems are appraised to decrease PM level both inside and outside of livestock farms.

**Key words:** Livestock, Emission inventory, Ammonia, Methane, Particulate matter, Removal systems

**008 OPTIMIZATION WITH RESPONSE SURFACE METHODOLOGY OF BIOSORPTION CONDITIONS AND REMOVAL OF Cr(III) IONS FROM AQUEOUS SOLUTIONS USING *LENTINUS TIGRINUS* FUNGI AS BIOSORBENT**

**Yusuf Uzun<sup>1</sup>, Yusuf Keskeç<sup>2</sup>, Tuba Erşen Dudu<sup>2</sup>, Tekin Şahan<sup>2</sup>, Nahit Aktaş<sup>2</sup>**

<sup>1</sup>Yuzuncu Yil University, Faculty of Pharmacy, Department of Professional Pharmaceutical Sciences, 65080 Van-Turkey;

<sup>2</sup>Yuzuncu Yil University, Faculty of Engineering and Architecture, Department of Chemical Engineering, 65080 Van-Turkey;

E-mail: [yusufuzun2004@yahoo.com](mailto:yusufuzun2004@yahoo.com)

**ABSTRACT**

Owing to the scientific and technological advancement, resident nature of toxic metals and their continuous use in day to day life, toxic metal contamination is a serious problem that threatens human health [1-2]. Chromium (Cr) is a important species of heavy metal originated from various industrial activities such as leather tanning, dye, mining, iron sheet cleaning, textile dying, cement industries and electroplating industries [3]. Biosorption has significant advantages according to the conventional methods: it does not produce other dangerous products (not polluting), it can be strongly selective and efficient and consequently profitable for the treatment of large volumes of wastewater containing low pollutant concentrations [4]. In this study, it was emphasized various aspects of Cr(III) biosorption with Central Composite Design (CCD) methodology using *lentinus tigrinus fungus* as an alternative biosorbent. Firstly, the *lentinus tigrinus fungus* was powdered and riddle under of 150 µm and stored in the desiccators. Then, efficiency onto Cr(III) biosorption of different parameters such as the pH, initial Cr(III) concentration (C<sub>0</sub>, mg/L), temperature (°C) and time (min) were determined through CCD. All experiments were carried out in batch system using 250 mL flasks containing 100 mL solution and with magnetic stirrer. The Cr(III) concentrations remaining in filtration solutions after adsorption were analyzed by using a Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES). As a result, the optimum conditions were obtained by CCD in response surface methodology (RSM). The results were confirmed with experiments.

**Key words:** Biosorption, chromium (III), response surface methodology.

**009 OPTIMIZATION OF Cr(VI) BIOSORPTION CONDITIONS FROM AQUEOUS SOLUTIONS BY *POLYPORUS SQUAMOSUS* FUNGI AS BIOSORBENT WITH RESPONSE SURFACE METHODOLOGY**

**Ahmet Kazankaya<sup>1</sup>, Tuba Erşen Dudu<sup>2</sup>, Yusuf Keskeç<sup>2</sup>, Tekin Şahan<sup>2</sup>, Yusuf Uzun<sup>3</sup>, Nahit Aktaş<sup>2</sup>**

<sup>1</sup>Yuzuncu Yil University, [Faculty of Agriculture](#), Department of Horticulture, 65080 Van-Turkey;

<sup>2</sup>Yuzuncu Yil University, [Faculty of Engineering and Architecture](#), Department of Chemical Engineering, 65080 Van-Turkey;

<sup>3</sup>Yuzuncu Yil University, Faculty of Pharmacy, Department of Professional Pharmaceutical Sciences, 65080 Van-Turkey;

E-mail: [akazankaya@hotmail.com](mailto:akazankaya@hotmail.com)

#### ABSTRACT

Optimization is a method using for determining the best solution in terms of certain quality criteria, optimum conditions and the performance of the designed system. The optimization of the biosorption process aims at finding the specific conditions such as environmental and/or design parameters for the best possible response, efficiency or removal [1]. Response surface methodology (RSM) is a widely used optimization methods for rational experimental design and process optimization in biosorption research [2]. In this work, the optimization of chromium(VI) (Cr(VI)) biosorption conditions onto natural polyporus squamosus fungus was determined using central composite design (CCD) in RSM. In the aqueous environment, Cr(VI) is known to be more toxic than Cr(III) [3]. Firstly, the polyporus squamosus fungus was powdered and stored in the desiccator. Specific surface area was determined using Brunauer-Emmett-Teller (BET) Surface Area Analysis. Then, effect of pH, initial Cr(VI) concentration ( $C_0$ ), temperature ( $^{\circ}C$ ) and time (min) onto biosorption of Cr(VI) were determined through CCD. All experiments were carried out in batch system using 250 mL flasks containing 100 mL solution and with magnetic stirrer. The Cr(VI) concentrations remaining in filtration solutions after adsorption were analyzed by using a UV visible spectrometric method at 540 nm. As a result, the optimum conditions were calculated with quadratic model. The results were confirmed with experiments.

**Key words:** Biosorption, chromium, optimization, polyporus squamosus, response surface methodology.

#### 010 ORGANIC AGRICULTURE- CASE STUDY AGRI REGION TURKEY

**<sup>1</sup>Gina Raluca Kerkmann, <sup>2</sup>Hysen Mankolli**

<sup>1</sup>Lecturer, PhD., I. Çeçen University, Faculty of Arts and Science, Biology Department;

<sup>2</sup>Scientific Consultant at Earth Science System Interdisciplinary Center (ESSIC), University of Maryland College Park, MD, USA;

Email: [grkerkmann@agri.edu.tr](mailto:grkerkmann@agri.edu.tr); [hysenmankolli@yahoo.com](mailto:hysenmankolli@yahoo.com);

#### Abstract

The present paper renders some aspects related to organic agriculture in Turkey — generally and specific aspects about some villages of Agri region particularly. The paper also includes the interpretation of the statistical data (for 2013) regarding the main agricultural surfaces from nine villages situated at 1,640 meter altitude in Agri region (Arakonak, Ahmetbey, Aslangazi, Badılı, Aşağıküpüran, Ağıbaşı, Anakaya, Baloluk, Akbulgur). In these villages, the citizens' number is low, ranging between 77 and 1,339 inhabitants; we mention that the agricultural surfaces are also reduced (between 22,067 and 5089,601 ha). For each village, there is a detailed description of the agricultural surfaces according to the main crops (cereals, beet, onion), as well as of adjacent plots cultivated with vegetables or the total number of domestic animals. All the data used in the present paper are interesting, new and original. The paper makes reference to the results regarding the soil analysis for heavy metals made in 2013 in the Central Laboratory of Ibrahim Çeçen University.

**Keywords:** organic agriculture, Agri region (Turkey), arable surfaces

**011 ECHINOCOCCUS GRANULOSUS INVESTIGATION OF INTERFERENCE ON THE SIDE EFFECTS OF ENVIRONMENTAL HEALTH****Gülüm SARGİN<sup>1</sup>, Nuran Bazencir Görentaş<sup>1</sup>, Nurhayat Atasoy<sup>2</sup>, Ufuk Mercan Yücel<sup>3</sup>**

1Yuzuncu Yıl University of Health Services Vocational High School, Van-TURKEY;

2 Yuzuncu Yıl University of Science Department of Chemistry, Van-TURKEY;

3Yuzuncu Yıl, University of Veterinary Medicine Department of Pharmacology, Van-TURKEY;

Email: [nuratasoy@yyu.edu.tr](mailto:nuratasoy@yyu.edu.tr)**ABSTRACT**

Is also a very important public health problem in our country in a very important zoonotic disease with hydatid cyst of Echinococcus granulosus hygiene factors, which in many parts of the world do not apply enough of. Terms of .Çevr to determine the frequency of infection. Between regions or between countries is an important factor in the spread of infection is uncontrolled animal movement. Slaughterhouses, to conform to the conditions of animal slaughter and meat offal of the door waiting for the dog is atılmamasıgerekl. .even In sacrifice an animal in the garden of this issue is the same. For this deep pit Echinococcus granulosus kullanılmalıdır.ins transmitted until 4 ways ;. 1.infes contaminate food or water in the stool, 2.infes in the soil or in the hands of children playing in the sand at the playground contaminate eggs take orally, 3 parasite possibility of contamination of eggs of the dog's hair at work because it was too high to be caressed the hair and allows the transmission of such dog to be taken from the washing of the hands to the mouth. 4. Eggs contain mixing powder with dog feces or respiratory ilebulaş mouth again is prevented by cutting the olur.bulaş this 4 way. In a study with albendazole by the World Health Organization, 12 month follow-up patients, 30% cysts were lost, that degenerated cysts 30-50% and a reduction in size, 20-40% 's has been reported that remained stable or deteriorated unchanged cyst. Wall thin, small cysts, non-infected, non-related biliary vesekond have proven to respond better to chemotherapy of ovarian cysts. In primary liver and lung hydatid disease in patients with cystic multiple of two or more organs, reduce recurrence after surgery and reduces the benzimidazole compounds of pressure inside soften cysts cysts used in medical therapy to facilitate and simplify cyst removal.If after .Protoskoleks and cyst viability and reducing the risk of recurrence of hydatid cyst of the azaltır.cerrahi removed during medical treatment only if the spread or rupture in biliary tract surgery is appropriate, if any. The studies Centenary University Medical Center Dursun Odabaş number of patients between Chest Diseases section of the protocol books examining the 2009-2013 year are designated as 473. The biggest risk group in which contact with infected dogs were allowed free movement without interference struggle and sheep, goats, cows, such as dealing with animal husbandry. . Therefore, the control of dogs and livestock diseases (especially sheep) is aimed to break between cycles control primarily of stray dogs in the control study, to block access to offal and community-based educational applications should be made

**Key words:** Hydatid disease, zoonosis, dogs, Echinococcus granulosus, offal**012 SOME PARAMETERS AND LEVELS OF ARSENİC İN WATER PROVINCE OF VAN****<sup>1</sup>Ali Rıza KUL, <sup>1</sup>Canan DEMİR<sup>1</sup>, <sup>2</sup>Halit DEMİR**<sup>1</sup>Yuzuncu Yıl University, Vocational School of Health Care, Van-TURKEY;<sup>2</sup>Yuzuncu Yıl University, Faculty of Science, Department of Chemistry, Van-TURKEY;Email: [alirizakul@yyu.edu.tr](mailto:alirizakul@yyu.edu.tr); [canantasin@gmail.com](mailto:canantasin@gmail.com); [halitdemir@yyu.edu.tr](mailto:halitdemir@yyu.edu.tr);**ABSTRACT**

Aim: In this study, in Van province network of drinking, arsenic network, turbidity, color, odor, taste, conductivity, pH, ammonia, nitrite and E.coli analysis were performed. Heavy metals can generally be involved

in various water sources. Van drinking water network, carries the distinction of being the most important water source for Van province. Defined as physical pollution sludge, clay, sand, foreign substances such as water-insoluble solid particles are introduced into the supply water, and also results in a change in smell, taste and the color of the water. Material ve Methods: Water samples have been taken around the water network of Van, turbidity, color, odor, taste, conductivity, pH, ammonia, nitrite and E.coli analysis were performed. Results: Van potable main water turbidity, color, smell and taste parameters were obtained in normal level. Conductivity, pH, ammonia, nitrite, total coliform and E. coli levels are consistent with the literature values. Arsenic levels which is a heavy metal, were found higher than the values reported in the literature. Conclusion: Arsenic has a very strong toxic effects. In addition, there is a risk of damaging human health. Particularly, high arsenic levels can cause cancer and many diseases in human metabolism.

**Key words:** Arsenic; Heavy Metals; Van; Drinking Water.

### 013 STATISTICAL MODELING FOR COBALT IONS ADSORPTION ON NATURAL ADSORBANCE SUBSTANCE

<sup>1</sup>Ali Rıza Kul, <sup>2</sup>Sıddık Keskin, <sup>1</sup>Canan Demir, <sup>3</sup>Salih Alkan

<sup>1</sup>Yuzuncu Yıl University, Vocational School of Health Care, Van-TURKEY;

<sup>2</sup>Yuzuncu Yıl University, Faculty of Medicine, Department of Biostatistics, Van- TURKEY;

<sup>3</sup>Ordu University, Faculty of Art and Science, Department of Chemistry, Ordu- TURKEY;

Email: [alirizakul@yyu.edu.tr](mailto:alirizakul@yyu.edu.tr); [salihalkan@odu.edu.tr](mailto:salihalkan@odu.edu.tr); [skeskin@yyu.edu.tr](mailto:skeskin@yyu.edu.tr); [canantasin@gmail.com](mailto:canantasin@gmail.com)

#### ABSTRACT

Aim: Heavy metals can be spread into the environment from various sources. Cobalt has important usage areas, such as industrial, strategic, and military. The aim of this study is to statistical modeling of cobalt ions adsorption on natural adsorbance. Material and Method: Van Pumice was used for determination of cobalt ions adsorption level. Modeling, depending on time, was performed to determine for cobalt ions adsorption level at fixed pH 5 for various concentration and temperatures in Van pumice. All adsorption measurements were performed with the Thermo Scientific brand ICE spectrometer model 300 Series. Statistical Analysis: One-way analysis of variance was used for comparison to various temperatures and concentration levels. Tukey's multiple comparison test was also performed to determine different groups. Logarithmic, Quadratic, Qubic and Logistic as well as Linear models were used to determine adsorbed cobalt ions amount at different temperature levels and concentration. Results: Differences between various time levels were found statistically significant; however, there were no significant differences between temperature levels. R<sup>2</sup> values of the models ranged from 64% to 99%. In addition, cubic model had higher R<sup>2</sup> values for each concentration and temperature levels. Conclusion: It was recorded that amount of cobalt ions concentration has been increased in the solution. In addition, Cobalt ions adsorption level increased with extending of contacting duration by Van Pumice. Adsorption also increased linearly with mixing duration and this increase was ready in the first minutes and then stabilized. In general, the performance of all models was found considerable and statistically significant to determine amount of cobalt ions adsorption. Furthermore, it can be stated that cubic model exhibited the best performance.

**Key words:** Co, adsorption, logarithmic, logistic models

### 015 THE NATURAL DİSASTERS OF EARTHQUAKES ON THE ECOLOGİCAL EFFECTS OF VAN TOWN AND THE LAKE VAN BASİN

Yaşar SUBAŞI DİREK<sup>1</sup>

<sup>1</sup>Yüzüncü Yıl University, Engineering and Architectural Faculty, Van, Turkey;

E-mail: [yasarsu2000@gmail.com](mailto:yasarsu2000@gmail.com); [yasarsu@yyu.edu.tr](mailto:yasarsu@yyu.edu.tr);

### ABSTRACT

Living city and urban community, can become a time can't stand living in every way that is unexpectedly disasters, especially earthquakes. This is the nearest example took place in October 2011, in Van, Turkey. First, housing, health, education and other sights after was heard after the first shock of the earthquake needs. These needs with the first tents, prefabricated, container, located after the last permanent concrete structures was performed. Demolition began the destruction of the structure given the decision of hundreds of normal life started to pass. After this, both the container and the tent city behind the remaining areas, as well as the demolished building areas and demolition waste in places where environmental pollution issues continued to increase. All of this began to disrupt the ecological structure of the city of Van, and the Van Lake basin. In this study, attention will be paid to the General conditions as before the earthquake, earthquake process benchmark, and then in the city of Van, in the buildings, urban spaces, living areas and Lake Van basin. Then brought the problems of this process will be determined separately, together with the cause. The situations covered in evaluated benchmark-related issues and environmental ecology effects. As a result, there will be recommendations that natural disasters, particularly earthquakes, urban and ecological structure in the smallest possible damage to the environment and does not distort too much work-related planning.

**Key words:** Earthquake, the Lake Van basin, Ecological balance

### 016 KARASU RIVER / VAN WATERS DETERMINATION OF MANGANESE LEVELS

Sema Kaptanoğlu<sup>1</sup>, Nurhayat Atasoy<sup>2</sup>, Ahmet Bakır<sup>2</sup>.

<sup>1</sup>Yuzuncu Yil University, Van Health Services Junior Technical College, Van, TURKIYE;

<sup>2</sup>Yuzuncu Yil University, Chemistry Department, Science Faculty, Van, TURKIYE;

Email: [nurhayatatasoy@ymail.com](mailto:nurhayatatasoy@ymail.com)

### ABSTRACT

Rapidly increasing world population, urbanization, industrialization, the use of fertilizers and pesticides commonly used in agriculture has led to contamination of drinking water supplies limited. Developing technologies on the agenda every day with new pollution factors and heavy metals, which is located in the first row. Rapidly developing industrial innovations of the major causes of heavy metal pollution in the waters come. Heavy metal groups of organisms pass through the earth and groundwater dissolves the accumulation of atmospheric effects threaten to live life. Because groundwater is the major source of drinking water is necessary to protect these watersheds. Mainly due to industrial development are quickly exposed to groundwater contamination. In addition, our country water pollution control regulations technical rules notified in heavy metal amounts are expressed in maximum allowable units in irrigation waters. In this study we have taken at monthly intervals from water samples taken in the Karasu Stream water samples were performed ICP-OES' measurements. In some months Manganese of heavy metal has no found, in some months in 0.004141 mg/L to 0.01267 mg/L, respectively. Studies in terms of heavy metal pollution should be continued, and the involvement of living organisms must be investigated.

**Key Words:** Karasu River, Water Pollution, Adsorption, Water, Manganese

### 017 LAGENARIA SICERARI FRUIT LEAD OBTAINED BY ACTIVATED CARBON SHELL OF HEAVY METALS FROM AQUEOUS REMOVAL

Ali Rıza Kul<sup>1</sup>, Şenol Kubilay<sup>2</sup>, Nilüfer Çirığ Selçuk<sup>3</sup>, Halime Yıldız<sup>1</sup>, Ali Savran<sup>2</sup>

<sup>1</sup>Yuzuncu Yil University, Van Health Services Junior Technical College, Van, Türkiye;

<sup>2</sup>Yuzuncu Yil University, Department of Chemistry, Science Faculty, Van, Türkiye ;

<sup>3</sup>Yuzuncu Yil University, Department of Biology, Science Faculty, Van, Türkiye;

Email: [senolkubilay@yyu.edu.tr](mailto:senolkubilay@yyu.edu.tr)

## ABSTRACT

According to established and widely accepted social and economic parameters in the whole world, a prerequisite for economic growth, using more resources to produce and to consume more. Live better so as to meet the desire to bring the consumption habits, initially thought to be an endless supply of natural resources, and was presented to literally plunder the service of humanity. In response during production and material waste that occurs after consumption, have been left at random regardless of whether damage to the ecological balance of nature. However, this approach is that each stage of production and consumption caused by solid wastes in the liquid and gas, up to now has created a global environmental crisis. Increasing population, industrialization, and almost every country in the world, regardless of the accelerating consumption of natural resources, depending on their level of development has revealed pollution phenomenon. Natural or synthetic, activated carbon can be produced from any carbonaceous starting materials which are readily available to be economical or a raw material should preferably be found. Powder, granule, the production of activated carbon fiber or shaped form commonly used raw wood, coconut shell, are vegetable-based ingredients and charred coal types with fossil-based or biodegradable materials such as fruit seeds. In this study, *Lagenaria sicerari* A (Molina) Standl. (Syn: *L.vulgaris* Ser.) were used actively as a result of the chemical activation of the active carbon. The Cucurbitaceae family, is a perennial climbing type of Ser.cins of *Lagenaria*. Plants that fruit in a variety of sizes and shapes, gourd, bottle gourd, called Gourd. *Lagenaria* fruit sicerari lead ions activated carbon derived from waste is estimated that about from 70% to 78% environments than out. Hundredth minutes after rapidly adsorbed and activated carbon at different temperatures and heavy metal lead in concentration the first time are estimated to reach equilibrium.

**Key words:** Activated carbon, Environmental pollution, Lead, Adsorption, Equilibrium

## 019 EXTRACTION OF ESSENTIAL OIL FROM ALBANIAN CHAMOMILE PLANT BY WATER DISTILLATION METHOD AND ITS CHARACTERIZATION BY FTIR SPECTROSCOPY

<sup>1</sup>Adelaida Andoni\*, <sup>1</sup>Jonida Salihila, <sup>2</sup>Fatos Ylli, <sup>2</sup>Alda Osmëni, <sup>1</sup>Krenaida Taraj, <sup>1</sup>Armand Çomo

<sup>1</sup>Department of Chemistry, Faculty of Natural Sciences, Blv. "Zog I", 1001, University of Tirana, Tirana, Albania;

<sup>2</sup>Institute of Applied Nuclear Physics, P.O. Box 85, University of Tirana, Tirana, Albania;

\*E-mail: [adelaida.andoni@fshn.edu.al](mailto:adelaida.andoni@fshn.edu.al); [adelaida.andoni@unitir.edu.al](mailto:adelaida.andoni@unitir.edu.al)

## ABSTRACT

Albania is rich in biological and ecological diversity and it is mentioned for its natural bio-resources such as medicinal and cosmetic plants. Albania is as well a considerable producer of wild herbs and spices, including sage, raspberry, oregano, and chamomile. It is well known that the extraction of bio-organic compounds from herbs can be performed by water distillation method. The latter is a special type of distillation for temperature sensitive substances such as natural aromatic compounds. Additionally, it is an environmentally friendly method. Oil extracts of chamomile plant obtained by water distillation were characterized by FTIR spectroscopy. Analyses by IR spectroscopy technique indicated presence of matricine (chamazulene) and dicycloether.

**Key words:** Chamomile, essential oil, water-distillation, FT-IR spectroscopy.

## 020 LEVEL OF SOME ORGANIC POLLUTANTS IN WATER SAMPLES OF KARAVASTA LAGOON



Anida Dukaj<sup>1</sup>, Aurel Nuro<sup>1</sup>, Bilal Shkurtaj<sup>2</sup>

<sup>1</sup>University of Tirana, Faculty of Natural Sciences, Department of Chemistry, Albania;

<sup>2</sup>University of Vlora "Ismail Qemali", Faculty of Education, Department of of Natural Sciences, Albania;

E-mail: [anidaduka@hotmail.com](mailto:anidaduka@hotmail.com)

#### ABSTRACT

In this paper are presented concentrations of BTEX, PAH, organochlorinated pesticides and polychlorinated biphenyls (PCB) in water samples of Karavasta Lagoons. Water sample were taken in May September 2014 in nine different stations of lagoon. Headspace solid phase micro extraction (HS-SPME) technique was used to trace BTEX in water samples. For isolation of PAHs, organochlorinated pesticides and PCBs liquid-liquid extraction (assisted with hexane as extraction solvent) were used. 1 L water samples were taken for each stations of Patoku Lagoon. Clean-up procedure was performed in an "open" florisil column. The analysis of BTEX and PAHs in water samples was performed by gas chromatography technique using flame ionization detector (GC/FID). Injections of BTEX were done in Head-Space mode using polydimethyl siloxane fiber. 1 ul extract in hexane (extracting solvent) were injected for PAHs analyses. VF-1ms capillary column (30m x 0.25mm x 0.25um) was used for separation of BTEX and PAH compounds. Analysis of organochlorinated pesticides and PCBs were realized in HP 6890 Series II, gas chromatograph equipped with  $\mu$ ECD detector. For separation of organochlorinated pesticides and PCB markers was used Rtx-5 capillary column (30m x 0.32mm x 0.25 $\mu$ m). The organochlorine pesticides as: HCHs ( $\alpha$ -,  $\beta$ -,  $\gamma$ - and  $\delta$ -isomers) and the DDT-related chemicals ( $o,p$ -DDE,  $p,p$ -DDE,  $p,p$ -DDD,  $p,p$ -DDT), Heptachlors, Aldrines and Mirex, were detected. Analyzes of PCBs was based on the determination of the seven PCB markers. Relatively high concentrations of BTEX and more volatile PAH compounds were detected in water samples of water samples of Karavasta Lagoon. The highest level of organochlorine pollutants was found to the sample taken in station which was located in the cannels of the lagoon. The main origin of organochlorine pesticides could be as result of their previous uses in agricultural areas near the lagoon. The use of Lindane in recent years under the legal commercial names was not excluded. PCB 28 was found for all samples in higher level. This fact confirms atmospheric origin of these compounds in the ecosystem.

**Keywords:** PAH; BTEX; Organochlorinated pesticides, PCBs, Gas Chromatography; Water analyze; Karavasta Lagoon

#### 021 THE COMMAND OF IROBOT CREATE USING VISUAL BASIC .NET

Genti Proгри, Petrika Marango

"A. Xhuvani" University Elbasan, Phisic, Control Systems Engineering, Albania;  
Polytechnic University of Tirana, Albania;

Email: [progri2003@yahoo.com](mailto:progri2003@yahoo.com)

#### ABSTRACT

The purpose of this paper, is to provide some information on how to direct the robot Roomba Model 4400 (iRobot Create). Material will show how the command of the robot can be accomplished using serial port commands library built for this purpose. The purpose of this paper is to show how programmers in Visual Studio 2010 (Visual Basic. Net), use the command library to build specific programs that control the robot using the .NET System.IO.Ports library.

**Key words:** serial port, programmers, NET System. IO. Ports library

**022 REMOVAL OF Cr(VI) BY ACTIVATED CARBON FROM SEEDS OF *STYRAX OFFICINALIS L.*****Hatice Kar<sup>1</sup>, Erol Pehlivan\*<sup>2</sup>**<sup>1</sup>Selcuk University, Graduate School of Natural and Applied Science, Campus, Konya-Turkey;<sup>\*2</sup>Department of Chemical Engineering, Selcuk University, Campus, Konya-Turkey;Email: [erolpehlivan@gmail.com](mailto:erolpehlivan@gmail.com)**ABSTRACT**

In this study, the preparation and characterization of a new activated carbon (SAC) from the pyrolytic char of *Styrax officinalis L.* seed have been researched. This plant is a member of the Styracaceae family and obtained from a shrub found in Central America, Mexico and the Mediterranean region including West and South Anatolia. The seeds were treated with KOH at mid-impregnation stage for activation then applied to thermal treatment for 4 hours. A series of adsorption parameters such as initial pH of solution, initial Cr(VI) concentration, contact time, agitation speed, adsorbent dose and temperature were applied in a batch system to establish optimum operating condition. The adsorbent capacity for toxic hexavalent chromium ions, (Cr(VI)) was investigated from aqueous solutions. The adsorption of Cr(VI) ions onto SAC was highly depend on pH, initial Cr(VI) concentration and adsorbent dose. The adsorption isotherm models were applied to analyze the adsorption equilibrium data. Langmuir isotherm provided the best correlation for the adsorption of Cr(VI) ions onto SAC. The pseudo-first-order, pseudo-second-order and intraparticle diffusion kinetic models were applied to the adsorption equilibrium data to determine the kinetic model most effectively explaining for adsorption kinetic. The adsorption kinetic was coordinated with the pseudo-second-order kinetic model in point of the high value of correlation constant. The values of thermodynamic parameters ( $\Delta H$ ,  $\Delta S$  and  $\Delta G$ ) calculated from the known equations indicated that the adsorption was feasible, spontaneous and endothermic in nature. SAC adsorption capacity was found equal to some commercial activated carbons and also better than the various other adsorbents reported in literature with respect to the removal capacity of Cr(VI) ions from aqueous solutions at the similar conditions.

**Keywords:** Activated carbon; adsorption; Cr(VI); KOH activation, adsorption kinetic**023 STUDY OF SOME QUALITY INDICATORS OF WHEAT WITH STANDART METHODS****Lirim Bekteshi**

Faculty of Natural Science, Department of Chemistry, University of Elbasan, Albania;

e-mail: [lirimbekteshi@ymail.com](mailto:lirimbekteshi@ymail.com)**ABSTRACT**

Wheat and flour products are one of the main products of food for the population in Albania. For this reason, the study of wheat quality indicators takes a special importance. In this study were evaluated some main physical and chemical parameters of wheat in different areas of the country. Where analyzed 14 samples taken in areas of Korca, Elbasan and Myzeqe, which are areas where produced the largest amount of wheat in Albania. In this work, some physical-chemical parameters are determined (physical indicators as hectolitic mass and thousand kernal weight, chemical indicators which are analyze were humidity, ash, acidity, gluten content). After analysis, was carried out a comparative assessment of the wheat quality depending on the climatic conditions of the study areas. Finally we can say that the quality of wheat produced in these areas was in accordance with the Albanian standard.

**Key word:** Wheat, flour, humidity, hectolitic mass.

**024 COMPARISON OF ANALYSIS ON SOLID WASTE AND EFFLUENT WATER MANAGEMENT BETWEEN DIYARBAKIR AND BATMAN DISTRICT****Nilgün ONURSAL<sup>1</sup>, Ali Rıza KUL<sup>2</sup>, Devlem Onursal<sup>3</sup>**<sup>1</sup>Siirt University Faculty of Education Elementary Section, Siirt, Turkey;<sup>2</sup>Yüzüncü Yıl University Faculty of Vocational School of Health Services, Van, Turkey;<sup>3</sup>Clark University Undergraduate Student, MA-USA;Email: [nilgun.onursal@gmail.com](mailto:nilgun.onursal@gmail.com); [alirizakul@yyu.edu.tr](mailto:alirizakul@yyu.edu.tr); [onursaldevlem@gmail.com](mailto:onursaldevlem@gmail.com)**ABSTRACT**

Diyarbakir with a population of about 1,607,437, is the second largest city in Turkey's south-eastern Anatolia region. Batman became a city in 1957 after the discovery of oil deposits starting in the 1940s which resulted in the Batı Raman Oil field, now the largest oil field in south-eastern Anatolia region & Turkey. The oil field caused a rapid and on-going population growth in Batman after its foundation. This paper, "Comparison of Analysis on Solid Waste and Effluent Water Management" applies to two of the largest cities in the south-eastern Anatolia region. Solid waste in general is a variety of different types of waste which includes household waste, medical waste, hazardous waste, industrial waste and construction waste. In large districts such as Diyarbakir and Batman some of the sorts of the wastes mentioned above are formed in huge quantities. This therefore means that if the wastes are collected from the source recycling would be possible. It is quite important to collect, transfer and store the wastes properly because a failure to do so will cause health and environmental problems both in short and long term. In this paper for both of the districts we have conducted research that analyzes how the wastes are collected from the source, what kind of procedures are used to transfer and the type of storage that is used for the wastes. Also, if any of these steps are not operated according to the international and national standards, what are the reasons and how might they be fixed? Apart from collection, transfer and storage of the wastes, it is as much as important to raise a public awareness of how to reduce the amount of waste that is produced and make it more efficient for municipality to manage the wastes. Considering that the education level in the south-eastern Anatolia region is not as high as some of the other regions of Turkey, the response of the public regarding the mentioned subjects is quite important to be observed and improved. Otherwise environmental pollution will be inevitable. Effluent water is result of activities that include water such as washing, bathing, industrial use of water, rainfalls and etc. Considering that water famine is a rising issue currently, it is potentially a lethal issue that needs to be handled very well. Sewage treatment is possible in different ways which are chemical, biological and physical treatment. If contaminants are dismissed on a high aperture, then it is possible to re-use the water. If the level of contaminants are not reduced enough then only water will be ready for disposal. The result of the bioassay (Biological Assessment) experiment will show if the water is ready to be re-used since the experiments are conducted to measure the effects of a substance on a living organism and are essential in the monitoring environmental pollutants. Both Batman and Diyarbakir have sewage treatment centers and we will display their efficiency, the producers and systems that are used in them according to our collected data. The centers are in control of the municipalities and we will reveal our analysis on whether or not the centers are operated to clean the water to an acceptable degree. If not, what municipalities can do to clean the water to an acceptable degree? Also, the possibilities of improvement gaps will be mentioned and explained for both of the facilities.

**Key words:** Batman, Diyarbakir, Solid Waste, Effluent Water, Sewage Treatment, Household Waste, Medical Waste, Waste Transfer, Waste Collection, Waste Storage, Bioassay.

**025 VOLUMETRIC METHOD OF DETERMINING ANIONIC DETERGENT (AD) IN SURFACE WATER SAMPLES****Enkela Noçka<sup>1</sup>, Ilva Gjika<sup>2</sup>, Dafina Karaj<sup>3</sup>**<sup>1,2,3</sup> Department of General and Inorganic Chemistry, Faculty of Mathematical and Physical Engineering,

---

Polytechnic University of Tirana, Albania

E-mail: [akarroci@yahoo.com](mailto:akarroci@yahoo.com)

### ABSTRACT

For determining the contents of AD in high levels (0.2-2.5 mg per sample) are used different volumetric method. It is very useful the two phase titration of AD with detergent cautions and vice versa, in the organic solvents with water system in the presence of indicator like basic-acids. The commonly used indicators are blumethylene (BM) and Bengal pink but also are recommended other indicators. Can be titled AD mmol 0:05 to 0:15 with the yellow dimethyl septonex as indicator. Until equivalent point system is a red-colored emulsion, near its emulsion separation occurs in two layers and layers of chloroform remains red. Titration continued over the red color to yellow organic phase. This method can used for detergent analyze in surface waters. Turbidimetric measurements (photometric) are performed with UV-VIS spectrophotometer, in a wavelength of 700nm. After we have made the calibration curve measurements were done in waters of Lana River, Tirana. We have seen that in all cases the concentration of AD in waters of Lana are approximately equal from 3.55 to 3.88 mg/liter SDS. This is a very high value, but justified for this sample, as we know Lana's water are spilled a significant part of urban liquid waste in Tirana.

**Keywords:** Water analyze, AD, acid-base titration, surface water.

### 026 THE STUDY OF RELATION OF ABSORBANCE WITH TIME AND OPTIMIZATION OF MEASUREMENT CONDITIONS

Enkela Noçka<sup>1\*</sup>, Ilva Gjikaj<sup>2</sup>

<sup>1\*,2</sup> Polytechnic University of Tirana, General and Inorganic Chemistry Department, Albania;

E-mail: [akarroci@yahoo.com](mailto:akarroci@yahoo.com)

### ABSTRACT

The aim of our work is determination of the content of several tension-active substances in polluted waters, having as prior object the AD. This method has high flexibility and accuracy. In the following of our work in the session of the Analytical Chemistry we have made experiments for the implementation of some simple and quick methods to determine AD in polluted waters. A special attention was paid to the determination of total concentration of AD in marine waters, because the main part of the water discharges end up in sea. The experiments performed previously confirmed they have been made a better optimization of the measurement conditions ( EV concentration, time measurement, etc.) recommended from the literature, and that some analytical parameters of the method could be improved (especially sensitivity of method). Prior to showing the results of the experimental work we have present some data that have been used in all of our experiments.

**Key words:** absorbance, time, optimization, conditions

### 027 THE STUDY OF STABILIZING EFFECT OF POLYVINIL ALCOHOL IN ABSORBANCE OF ANIONIC DETERGENT SOLUTIONS

Enkela Noçka<sup>1\*</sup>, Ilva Gjikaj<sup>2</sup>

<sup>1\*,2</sup> Polytechnic University of Tirana, General and Inorganic Chemistry Department, Albania;

E-mail: [akarroci@yahoo.com](mailto:akarroci@yahoo.com)

### ABSTRACT

---

The wide use both domestic and industrial of AD has brought their increase in concentration on the environment. So, the development of quick, sensitive and selective methods for the determination of AD is considered an important analytical problem. The methods used for the determination of AD can be divided into two major groups: 1- Methods for the determination of the total content of AD. These methods are mainly used for the evaluation of the environmental pollution; 2- Methods for the determination of the specific components of AD. They are mainly new and expensive methods as GC-MS, HPLC, IR-Spectroscopy, ionic chromatography, etc., and they are used mainly in scientific research. We are interested in the first group of methods, in particular in those that use common analytical techniques, as UV-VIS spectroscopy, SAA and electro analytical techniques, ion-selective potentiometry, etc. The difficulty of determination of AD in environmental samples is due to the wide range of the concentrations, insufficient selectivity and sensitivity of the analytical procedures and the lack of the standard samples.

**Key words:** effect, polyvinil alcohol, absorbance, anionic detergent, solutions

## 028 COMPLICATIONS OF HYPERTENSIVE CRISIS

Klodeta Muçaj<sup>1</sup>, Irida Pano<sup>1</sup>, Orgeta Dervishi<sup>1</sup>, Migena Gega<sup>1</sup>

<sup>1</sup>Faculty of Medical Technical Sciences, Tirana, Albania

E-mail: [k.mucaj@yahoo.com](mailto:k.mucaj@yahoo.com)

### ABSTRACT

The aim of the study is to describe the frequency and pattern of complications of hypertension. This is a prospective study including 225 patients who presented with hypertensive crisis in the emergency room of University Hospital Center "Mother Teresa" Tirana during the year 2014. All patients over 18 years of age who presented to the emergency department with a hypertensive crisis were included in the study. The mean age of patients was 62.4 ( $\pm 13.1$ ) years. 59% of patients were males and 41% females. Out of 225 patients, 32 (14%) had severe hypertension and 29 (13%) met criteria for hypertensive emergency. A majority of these patients 25/29 (85%) had more than one emergency. The most common forms of emergencies seen in this study were hypertensive retinopathy 51 (62.2%) followed by hypertensive encephalopathy 41(50%) and the least common was hypertensive stroke 18 (22%) as illustrated in table 1 and 2. All patients who presented with severe hypertension with acute blurred vision (within 24 hours of admission) underwent fundoscopy where- by 22% had mild retinopathy, 43% moderate retinopathy and 35.3% had severe retinopathy. Hypertensive crisis is a clinical entity associated with high morbidity in the emergency room. Adequate control of blood pressure is crucial to prevent permanent damage to organs.

**Key words:** crisis, hypertension, emergency, complication

## 029 EDUCATION AND SUSTAINABLE DEVELOPMENT

Eda Bezhani

Univesitety of "Aleksandër Moisiu" Durrës, Faculty of Business, Albania;

Email: [edabezhani82@gmail.com](mailto:edabezhani82@gmail.com)

### ABSTRACT

By noticing that some of the key objectives of higher education aim to create sustainable mechanisms of quality assurance in higher education institutions, in accordance with European standards; a unified and standardized in teaching, as well as a contemporary innovation scientific research and competitive in the European higher

---

education area should be created; the higher education should be imposed on solid financial base by creating the possibility for the use of the legitimate sources of funding and by creating the possibility of supporting the strategic priorities for the national development through scientific research. This will be implemented through Horizon 2020 program, which will be a multidisciplinary cooperation opportunities in the fields of scientific research. International cooperation plays an important role in this program. Horizon 2020 responds to the economic crisis by investing in future growth and jobs. As we know that sustainable development means integration or development in such a way that the sectors benefit a greater degree of possible across borders and between generations.

**Keywords:** Sustainable development, research, innovation, economic development.

**030 DETERMINING THE OPTIMAL STRUCTURE, AN IMPORTANT ASPECT IN THE PLANNING OF SCIENTIFIC AGRICULTURAL PRODUCTION**

**Majlinda Belegu, Parashqevi Rrapo**

Department of Mathematics and Informatics, Agricultural University of Tirana, Albania;

Email: [majlindabelegu@yahoo.com](mailto:majlindabelegu@yahoo.com)

**ABSTRACT**

Albania is an agricultural country, where about 50% of the population lives in rural areas. Sustainable development of agricultural and livestock farms in particular requires the optimization of production and at the same time continuous analysis of economic and technical factors influencing. This study analyzes the economic impact of three dietary components (wet food, dry food and concentrate) used for milk production, the average weight of calves at birth and quantity of manure. The study was conducted in Lushnje district. The main purpose of this paper is the use of modern methods in economic analysis of use of resources in a farming complex. Are analyzed and processed data feeding phases (1-up in 150 days lactation, 2-over 150 days lactation and 3- period of drying), milk production, average weight of calves at birth and amount of manure for a period of 9 years. The study used the method of approximations by means of Bernstein's polynomials to solve restrictive systems, and Cobb-Douglas production functions to analyze the influence of three dietary ingredients in these three outputs. This study confirms that balanced nutrition is a major factor in increasing economic efficiency of farms. Another important conclusion of this study is that maximum revenue and profit maximization farm reached at the same point on the expansion path where the cost is minimal. It appears that the most appropriate structure of the ration to provide an average yield of 6438.485778 kg milk / lactation (305 days), should be as follows: 27.99 kg of wet food; 11.75 kg of dry food and 28.7 kg of concentrate per day. In this case the average weight of calves at birth will be 46.60218826 kg while the amount of manure will be 9766.059293 kg.

**Keywords:** optimal structure, milk production, nutrition, Bernstein's polynomial approximation, the food ration.

**031 MICROBIAL CONTAMINATION OF SEAWATER FROM THREE MAJOR BEACHES IN VLORA, ALBANIA**

<sup>1\*</sup>Klodjana Bofe, <sup>2</sup>Margarita Hysko, <sup>3</sup>Besim Agolli

<sup>1</sup>Department of Biology, Faculty of Natural Sciences, University of Tirana, Albania;

<sup>2</sup>University of Tirana, Tirana, Albania;

<sup>3</sup>Institute of Public Health, Tirana, Albania;

E-mail: [klodjana.bofe@gmail.com](mailto:klodjana.bofe@gmail.com); [hysko\\_m@hotmail.com](mailto:hysko_m@hotmail.com); [besimagolli@gmail.com](mailto:besimagolli@gmail.com)

**ABSTRACT**

The presence of faecal contamination in samples of seawater collected from three major beaches in Vlora: (Plazhi i Ri, Akademia e Marinës, Plazhi i Vjetër, Kabinat), was evaluated during the period of January 2014 to August 2014. Samples were evaluated for faecal coliforms (FC) and faecal streptococci (FS). Statistical analysis of the results demonstrated higher concentrations of faecal coliforms and faecal streptococci during summer. Akademia e Marinës beach had the highest incidence of faecal indicators (FC and FS), respectively 100% of samples, followed by Plazhi i Ri (27.3% and 45.5%), while Plazhi i Vjetër, Kabinat was in compliance with the Guidelines. The high concentrations of faecal indicators during summer indicate that there is a health risk to bathers, especially the beach to Marine Academy which is highly polluted. Preventive measures such as education campaigns and some management actions, as seawater and beach quality monitoring and assessment are important precautionary measures.

**Key words:** faecal contamination, seawater, faecal indicators, Vlora beaches, preventive measures.

**032 RISK FACTORS FOR DIABETIC RETINOPATHY**

**Orgeta Dervishi<sup>1</sup>, Klodeta Muçaj<sup>1</sup>, Migena Gega<sup>1</sup>, Vilma Mema<sup>2</sup>**

<sup>1</sup>Faculty of Medical Technical Sciences, Tirana, Albania

<sup>2</sup>University Hospital Center "Mother Theresa" Tirana, Albania

E-mail: [orgetadervishi@live.com](mailto:orgetadervishi@live.com)

**ABSTRACT**

Diabetic retinopathy (DR) is one of the foremost frequent causes of blindness world-wide. The World Health Organisation under its initiative for 2020 aims to control eye diseases, and diabetic retinopathy is one among them.

This is a cross-sectional study including 134 patients with diabetes mellitus (DM) referred for examination at the eye clinic at university hospital centre "Mother Teresa" in Tirana during the year 2014. A total of 134 patients were included. Of these, 61% were males and 39% females yielding a gender ratio of 1.6:1. The ages ranged between 39 and 85 years, with a mean age of 61.3 (SD 13.1). The overall prevalence of any retinopathy was 35.0% (95% CI 28.2–43.4), the overall prevalence of macular edema was 5.7% (95% CI, 3.2–9.9), and the overall prevalence of vision-threatening retinopathy was 9.0% (95% CI, 5.8–13.8). Compared with men, women had significantly higher proportions with more severe diabetic retinopathy, moderate (13% vs. 5%) and severe (4% vs. 0.3%) nonproliferative retinopathy, proliferative retinopathy (8% vs. 3%), and vision-threatening retinopathy (15% vs. 4%). In multiple logistic regression, independent risk factors for any retinopathy were longer diabetes duration (odds ratio OR, 1.3; 95% CI, 1.07–1.9, per year increase), higher hemoglobin A1c (OR, 1.4; 95% CI, 1.10–1.67, per % increase), hypertension (OR, 2.2; 95% CI, 1.5–4.1), and higher pulse pressure (OR, 1.3, 95% CI, 1.20–1.76, per 10-mmHg increase); Female gender was not an independent risk factor for diabetic retinopathy after adjusting for metabolic and socioeconomic risk factors.

**Key words:** retinopathy, diabetes, patient, hypertension

**033 DETERMINATION OF SOME VOLATILE ORGANIC COMPOUNDS THROUGH BIOINDICATORS USING GC/FID TECHNIQUE IN TIRANA CITY.**

**Valbona Hoxha (Plaku)<sup>1</sup>, Aurel Nuro<sup>2</sup>, Kozeta VASO<sup>2</sup>, Edlira TAKO<sup>1</sup>**

<sup>1</sup>Polytechnic University of Tirana, General and Inorganic Chemistry Department, Albania;

<sup>2</sup>Tirana University, Faculty of Natural Sciences, Chemistry Department, Albania;

E-mail: [bonahoxha@gmail.com](mailto:bonahoxha@gmail.com)

**ABSTRACT**

The article represents some data about concentration of some volatile organic pollutants in air in Tirana city. Mosses (*Hypnum cupressiforme*) and leaves of different trees (*Pinus Nigra*) were collected, in nine stations near the main street of Tirana, in November 2013, for determination of airborne for some VOC levels. This study proves that these bio indicators were suitable in the monitoring of the different classes of organic pollutants such as volatile organic compounds (VOC), organochlorinated pesticides, polychlorinated biphenyls (PCB), dioxins and polycyclic aromatic hydrocarbons (PAH), etc. Monocyclic volatile pollutants such as benzene, toluene, ethylbenzene and xylene (collectively known as BTEX), halogenated alkanes, chlorinated methane, and chlorobenzenes were analyzed in nine samples. Analyses of organic pollutants in air samples are limited for many laboratories because of the lack of materials for sampling of air samples. Another limitation is that data obtained from air samples represent of-the-moment data because of vertical and horizontal air current, temperature, humidity, etc. The quantitative analysis of VOC was performed by the gas chromatography method using a flame ionization detector (FID). The column used was a VF-1ms capillary column (30m x 0.33mm x 0.25µm). Benzene and Chlorobenzenes were found in the higher concentrations than other volatile compounds.

**Keywords:** VOC, Moss samples, leaves of trees, Flame ionization detector, Gas Chromatography

**034 THE EFFECTS OF ANTROPOGENIC NUTRIENTS AND HARMFUL ALGAE IN COASTAL WATERS**

**Emine Erdem Yürür, Hilal Aydın, Serdar Uzar**

Celal Bayar University, Faculty of Art and Science, Department of Biology, 45140 Manisa/TURKEY

E- mail: [ehyurur@gmail.com](mailto:ehyurur@gmail.com); [ehyurur@gmail.com](mailto:ehyurur@gmail.com);

**ABSTRACT**

Some phytoplanktonic species are considered “harmful” however impacting human and animal health through the production of a variety of potent natural biotoxins and by causing economic losses through their negative impacts on human uses of ecosystem services. Harmful species are present within most phytoplankton classes but a distinction should be made between the impacts caused by high versus low biomass HABs. Harmful algal blooms (HABs) are thought to be increasing in coastal waters worldwide. Anthropogenic nutrient enrichment has been proposed as a principal causative factor of this increase and eutrophication. Farmed fish may also be killed by the smothering of gills due to phytoplankton mucus production or from gill abrasion by spines on the cell walls of some phytoplankters. In contrast, low biomass HABs (a few hundred to thousands of cells/L) threaten human health (and the health of other animals) as a result of the biotoxins produced by these phytoplankters being concentrated by filter feeding shellfish and other organisms that may subsequently be ingested by humans or transferred through the marine food web. Humans may also be exposed to and affected by biotoxin-contaminated water and aerosols. While a link between anthropogenic nutrient enrichment predates the enrichment of eutrophic coastal waters, clearly demonstrating that anthropogenically-caused enrichment is not a prerequisite for their occurrence. A lack of evidence of widespread significant adverse health impacts from anthropogenic nutrient generated HABs, although this may be partly due to a lack of human-animal health and HAB monitoring.

**Key words:** Phytoplankton, Harmful Algal Blooms(HABs), Biotoxins, Eutrophication.

**035 INTERNATIONAL PROGNOSTIC SCORING SYSTEM (IPSS) IN ALBANIAN PATIENTS WITH MYELOYDYSPLASTIC SYNDROMES**

**Dorina Roko<sup>1</sup>, Anila Babameto-Laku<sup>1</sup>, Adela Perolla<sup>2</sup>, Donjeta Bali<sup>2</sup>, Aida Dama<sup>3</sup>**



E-mail: [dorinaroko@yahoo.com](mailto:dorinaroko@yahoo.com)

<sup>1</sup> Service of Medical Genetic, University Hospital Center “Mother Teresa”, Faculty of Medicine, Tirana, Albania;

<sup>2</sup> Oncohaematologic Service, University Hospital Center “Mother Teresa”, Faculty of Medicine, Tirana, Albania;

<sup>3</sup> “Albanian University”, Tirana, Albania;

## ABSTRACT

Myelodysplastic syndromes (MDS) are a group of disorders caused by poorly formed or dysfunctional blood cells. Cytogenetic evaluation in MDS is a very important step not only to confirm the diagnosis but it is invaluable in defining the classification, prognosis and the risk of progression to the acute myeloid leukemia (AML). The objective of this study is to apply conventional cytogenetic analysis in MDS patients in order to improve the prognostic evaluation for these patients. We report on 46 patients, all diagnosed at the Haematological Service of University Hospital Center “Mother Teresa” with myelodysplastic syndrome. Full cytogenetic analysis were performed by classical cytogenetic techniques according to the International System for Human Cytogenetic Nomenclature (ISCN, 2009) used for diagnostic and prognostic purpose. Our cytogenetic evaluation on 46 MDS patients revealed rare cytogenetic findings. Among these, 21 or 45% of patients showed no karyotype anomalies and 25 patients showed structural aberration. 14 (30, 4%) of them had 1 chromosomal abnormality, 8 patients (17, 3%) had 2 chromosomal abnormalities, and 3 patients (6, 5%) had 3 chromosomal abnormalities. Karyotype abnormalities such as deletion of 17p, deletion of 5q and deletion of 7q were the most frequent and occurred in 10,8% of the cases. Applying the cytogenetic part of the IPSS (The International Prognostic Scoring System) 27 patients (58%) had a good risk, 15 patients (32%) had a poor risk, and 4 patients (8, 6%) had an intermediate risk in prognostic schemes for MDS patients. Our study proves that cytogenetics is still the gold standard of genetic diagnosis in MDS.

**Key words:** Myelodysplastic syndromes, karyotype, International prognostic scoring system.

## 036 BIOCLIMATIC ASPECTS IN SOME REGIONS OF KOSOVO

**Agim Asllani**

“Zenel Hajdini” High School, Gjilan, Kosovo;

Email: [agim\\_asllani@hotmail.com](mailto:agim_asllani@hotmail.com)

## ABSTRACT

From the perspective bioclimatic according to the variant bioclimatic EMBERGER, approximate climatic zones based on the values of "Q" are Pristina and Gjilan with values from 66.6-68.4. Generally these regions have similarities bioclimatic and placed in areas with humid bioclimatic variant belonging to the values of "Q" from 60 to 90 and the height above sea level of 600-700 m. The values of "Q" results in the area of Peja 105.3 and the area of Ferizaj 95.5, values that prioritize these areas in more humid bioclimatic variant which fluctuates in the Q values from 90-150. This study provides practical possibility eco zone assessment, regardless of geographic reach areas are approximate, they present the different features bioclimatic options, features which should be used to plant rajonizuar according to biological characteristics and climatic requirements.

**Key words:** bio climate, evaluation, region, Kosovo

## 037 CLIMATE CLASSIFICATION OF KOSOVO AND TRENDS OF CLIMATE INDICATOR

**Agim Asllani**

“Zenel Hajdini” High School, Gjilan, Kosovo;

Email: [agim\\_asllani@hotmail.com](mailto:agim_asllani@hotmail.com)

**ABSTRACT**

Bioclimatic studies are focused in the evaluation of real values and climatic indicators such as temperatures, precipitation, air humidity etc. Through the analysis of these values we are able to give the tendencies of further climatic changes in the study area. A study area may be an ecosystem, a micro ecosystem, a region, or a climatic area. Even the study that is presented is based on the real analysis of the values of climatic elements in several regions of Kosovo. The methodology used is based on the receipt of yearlong values for each study area and on their elaboration with the bioclimatic theory Rivas.S.Martines. Later is carried out the analysis for each climatic element. The object of this study has been to give a presentation of the bioclimatic situation in several regions of Kosovo by classifying them. The presentation of the tendencies of values for each element taken in study for the 30 year period. The analysis of meteorological indicators as part of climatic changes in the regions of Kosovo.

**Key words:** Evaluation, indicator climatic, classification, Kosovo

**038 DETERMINATION OF ASCORBIC ACID DURING DIFFERENT STORAGE CONDITIONS IN FRUITS COMPOTES**

**Marsela Çomo<sup>1\*</sup>, Rozana Troja<sup>2</sup>, Majlinda Terpo<sup>1</sup>**

<sup>1</sup>Department of Chemistry, University “Eqrem Cabej”, Gjirokastra, Albania;

<sup>2</sup>Department of Industrial Chemistry, Faculty of Natural Sciences, University of Tirana, Albania;

E-mail: [marsela\\_omo@yahoo.com](mailto:marsela_omo@yahoo.com)

**ABSTRACT**

Ascorbic acid is readily oxidized and lost during storage of compotes at different rates depending on the conditions of storage. The objective of this paper was to determine the amount of ascorbic acid lost in apple and peach compote applying different storage conditions method, room light and dark conditions. It is clearly a big difference between room light and dark storage conditions in ascorbic acid loss in both apple and peach compote. Losses of ascorbic acid in room light conditions (the total) for apple sample is 65.9% and in dark conditions 53.6%. While for peach compote in room light condition the loss is 67.9%, while in dark is 44.4%. It is therefore suggested that fruits compote should be stored in dark conditions, so in tins to reduce the percentage of ascorbic acid losses.

**Keywords:** fruit compote, storage conditions, ascorbic acid loss

**039 DEVELOPMENT AND EVALUATION OF BALLICA CAVE (TOKAT, TURKEY) FOR ALTERNATIVE TOURISM**

**Kübra Yazici<sup>1</sup> Bahriye Gülgün<sup>2</sup> Şükrü Dursun<sup>3</sup> Hysen Mankolli<sup>4</sup>**

<sup>1</sup>Gaziosmanpaşa University Faculty of Agriculture, Department of Horticulture, 60100, Taşlıçiftlik, Tokat, Turkey;

<sup>2</sup>Ege University Faculty of Agriculture, Department of Horticulture, 35100 Bornova, Izmir, Turkey,

<sup>3</sup>Selcuk University, Faculty of Engineering, 42031 Konya, Turkey;

<sup>4</sup>Environment and Health Association Tirana Albania;

Email: [k-yazici-karaman@hotmail.com](mailto:k-yazici-karaman@hotmail.com); [bahriye.gulgun@hotmail.com](mailto:bahriye.gulgun@hotmail.com);  
[sdursun@selcuk.edu.tr](mailto:sdursun@selcuk.edu.tr); [hysenmankolli@yahoo.com](mailto:hysenmankolli@yahoo.com);

#### ABSTRACT

About 3.4 million years Ballica cave has located in Tokat of Turkey. With the geological structure and formation of special importance Ballica cave is occurred with connected to each other and parallel elongation with the introduction eight halls in the cave stalactites. Stalagmites, columns and travertine shapes and karst are located in attractive tourist elements. In this study, natural resources were determined in both the Ballica Cave and the ones located nearby. In addition the region associating with this resources were analyzed by SWOT analysis. it was concluded that it should be handled together with all other protection focused alternative tourism activities and that the area should be planned as a whole by forming tour routes, the necessity of holistic planning and recommendations are presented. Moreover recreation areas should be increased and highways should be expanded in Ballica cave.

**Keys words:** Tokat, Cave Tourism, Sustainable Development, SWOT Analysis, Ballica Cave

#### 040 HAEMATOLOGICAL PARAMETERS OF FERAL PIGEON (*COLUMBA LIVIA*), LIVING IN THE COURTYARD OF FERRONICKEL SMELTER IN DRENAS

<sup>1</sup>Albana Plakiqi Milaimi, <sup>1</sup>Qerim Selimi, <sup>2</sup>Artan Trebicka, <sup>3</sup>Astrit Milaimi

<sup>1</sup>Department of Biology, University of Prishtina, P.O.Box 10.000 Prishtinë, Republic of Kosovo;

<sup>2</sup>The Department of Biology, Faculty of Natural Sciences, University of Tirana, Albania;

<sup>3</sup>Primary and lower secondary school "Haziz Tola", Prizren, Republic of Kosovo;

Email: [aplakiqi@ymail.com](mailto:aplakiqi@ymail.com)

#### ABSTRACT

This study was undertaken to evaluate the effects of FerroNickel smelter in Haematological parameters such as Erythrocytes (R.B.C.), Leukocytes (W.B.C.), Haemoglobin (Hb) and Hematocrit (Htc) in Feral pigeon (*Columba livia*). In addition to that, specimens of Feral pigeon (20 birds, males and females), were collected in FerroNickel smelter courtyard, the same specimens were collected in Lubizhdë village as well (non-contaminated area-control group) to assess the effects of the air pollution on the pigeons Erythrocytes (R.B.C.) and Leukocytes (W.B.C.) count, Haemoglobin concentration and Hematocrit value. R.B.C. count in Drenas group was higher, compared to pigeons of control group, but there is not a statistically significant difference between the input groups; for R.B.C. (P = 0.52). W.B.C.count was significantly higher (P = 0.007). Also, Hematocrit value (P=0.1) was higher compared to control group. Haemoglobin concentration in the blood was significantly lower compared to control group, (P = 0.004).

**Keywords:** Air Pollutants; Pigeon; Hematology; Blood; Heavy metal.

#### 041 EFFECTS OF HEAVY METALS ON ENVIRONMENT AND CANCER

<sup>1</sup>Halit Demir, <sup>2</sup>Numan Bildirici, <sup>3</sup>Ali Rıza Kul, <sup>3</sup>Canan Demir

<sup>1</sup>Yuzuncu Yil University, Faculty of Science, Department of Chemistry, Van-TURKEY;

<sup>2</sup>Yuzuncu Yil University, Vocational School of Gevas, Van-TURKEY;

<sup>3</sup>Yuzuncu Yil University, Vocational School of Health Care, Van-TURKEY;

Email: [halitdemir@yyu.edu.tr](mailto:halitdemir@yyu.edu.tr); [numanbildirici@yyu.edu.tr](mailto:numanbildirici@yyu.edu.tr); [canantasin@gmail.com](mailto:canantasin@gmail.com); [alirizakul@yyu.edu.tr](mailto:alirizakul@yyu.edu.tr);

**ABSTRACT:**

Aim: In this study, we investigated the effects of heavy metals on the environment and cancer. Heavy metals, industrial waste and acid rain can interfere with ground and surface water resources. Among the most important reasons for spreading of environmental heavy metals are; industrial activities, incinerators such as cement production, iron, steel industry, thermal power plants, glass production, waste and sewage sludge. Spreading the heavy metals in land resulted in to reach to people through food chain and powdery aerosol were inhaled from air. Generally, heavy metals are transmitted to humans via drinking water from contaminated industrial wastewater. In the literatures, it was indicated that heavy metals cause the increase of many cancers. Environmental factors and smoking has been shown to play an important role in the etiology of several cancers. Smoking and environmental factors stimulates the production of oxygen free radicals and oxidative stress in the body and thus, initiate cancer development. The production of antioxidants more or less concentration of normal level in body causes to damage DNA resulting in carcinogenesis. The relationship between many cancer types and heavy metals is reported in several studies. Lead, cadmium, and arsenic among the heavy metals has been reported to be associated with different types of cancer. Disruption balance between micro and macroelements usually causes an increase in cancer development. In the literature, cadmium, lead, chromium and cobalt treated individuals suffered increased stomach, liver, prostate, bladder, oesophagus, lung, kidney, head, neck and breast cancers compared to the healthy control group Results: Consequently, heavy metals can lead to the formation of cancer by entering the human body. In addition, heavy metals accumulate in the body may cause effective development of many types of cancers.

**Key words:** Some Cancer; Heavy Metals; Environmental Pollution

**042 INTEGRATED BIOMARKER RESPONSE (IBR) AS A USEFUL TOOL TO ASSESS WATER QUALITY: SITNICA RIVER-A CASE STUDY**

**Aliko Valbona<sup>1</sup>, Qirjo Mihallaq<sup>1</sup>, Morina Valon<sup>2</sup>, Sula Eldores<sup>1</sup>**

<sup>1</sup>Tirana University, Faculty of natural Sciences, Department of Biology, Tirana, Albania;

<sup>2</sup>Prishtina University, Faculty of Geosciences and technology, Mitrovica, Kosovo;

Email: [valbona.aliko@fshn.edu.al](mailto:valbona.aliko@fshn.edu.al)

**ABSTRACT**

Aquatic ecosystems in areas with intense industrial activity are subject to heavy metals contamination, which may compromise the health of the fish. To assess the water quality and the possible effects of heavy metals on fish, a method that combines different biomarker responses named "integrated biomarker response" (IBR) was applied using the biological alterations in the carp fish *Cyprinus carpio*. Fish were collected *in situ* at three sites along Sitnica River (Kosovo) that runs in an heavy industrial area and near by river source, considered as a reference site. The following alterations were observed in fish: increased activity of hepatic alanine transaminase (ALT) and aspartate transaminase (AST); increased activity of glutathione-S-transferase (GST) and catalase (CAT) and increase in the content of reduced glutathione (GSH) in blood, increased blood glucose concentration (GLU) and total protein content (TP), alteration in liver histostructure, increased in the frequency of micronuclei (MN) and nuclear abnormalities (ENA) in erythrocytes. The battery of biomarkers used in this study highlighted two sites as the most affected, as the animals at these sites showed greater variations in biological responses. Thus IBR, as an indicator of environmental stress, appears to be a useful tool for scientists in assessing ecological risk.

**Key words:** Integrated biomarker response, Sitnica River, *Cyprinus carpio*, ecological risk assessment

**043 PREVALENCE OF OVERWEIGHT AND OBESITY AMONG STUDENTS OF THE UNIVERSITY OF GJIROKASTRA, ALBANIA.**

Majlinda Terpo<sup>1</sup>, Romeo Mano<sup>2</sup>, Maria Agolli<sup>1</sup>, Aferdita Kristidhi<sup>3</sup>, Yllka Bilushi<sup>4</sup>, Marsela Çomo<sup>1</sup>

<sup>1</sup>Biochemistry Department, Faculty of Natural Sciences, University "Eqrem Çabej", Gjirokastra, Albania;

<sup>2</sup>Department of Mathematics & Computer Sciences, Faculty of Natural Sciences, University of Gjirokastra, Albania;

<sup>3</sup>Regional hospital "Omer Nishani", Gjirokater, Albania;

<sup>4</sup>Public Health Faculty. University of Vlora., Albania;

Email: [mterpo@yahoo.com](mailto:mterpo@yahoo.com)

#### ABSTRACT

Overweight and obesity are global health problems. The aim of the study is to estimate the prevalence of overweight and obesity among students. The study was conducted in the university "Eqrem Cabej", Gjirokaster, Albania, during the period from 25 October to 15 December 2014. There were 168 university students in the study, with mean age of 19.7 years. Weight and Height were recorded, and body mass index (BMI) was calculated for each student. Statistical analyses were performed using the Statistical Package for Social Sciences software (version 21.0) to determine overweight and obesity among students and to categorize eating habits. The present study showed that 16% of the study sample from university students in Gjirokaster, Albania, were overweight i.e. their body mass index (BMI) was  $25 < \text{BMI} < 30 \text{ kg/m}^2$ , and 3% of the university students were obese i.e. their body mass index (BMI) was more than or equal to  $30 \text{ kg/m}^2$ .

**Key words:** overweight, obesity, university student, Albania.

#### 044 SPECTROPHOTOMETRIC DETERMINATION OF CAFFEINE IN DIFFERENT COMMERCIALY AND NATURAL TEA SAMPLES AVAILABLE IN ALBANIAN MARKET

Loreta Vallja, Sonila Duka, Alma Shehu

Department of Chemistry, Faculty of Natural Sciences, University of Tirana

E-mail: [loretavallja@yahoo.com](mailto:loretavallja@yahoo.com)

#### ABSTRACT

Caffeine is a naturally occurring alkaloid which is found in the leaves, seeds or fruits of over 63 plants species worldwide. The most common sources of caffeine are coffee, cocoa beans, cola nuts and tea leaves and the worldwide consumption of products derived from these natural materials, means that caffeine is one of the most popular and commonly consumed drugs in the world. Caffeine's popularity stems mainly from the fact that it is a pharmacologically active substance and a mild central nervous system stimulant.

This study was carried out to determine the content of caffeine in different brands of commercially and natural tea samples available in Albanian market. Quantitative analysis of caffeine from thirteen brands of tea samples was performed by UV spectrophotometric method, using carbon tetrachloride as the extracting solvent. Results showed that the highest content of caffeine was found in black and green tea samples.

**Keywords:** Caffeine, tea, extraction, UV spectrophotometry

#### 045 DETERMINATION OF ESSENTIAL OIL COMPOSITION OF ORIGANUM VULGARE POPULATIONS OF ALBANIA

Jonida Salihila<sup>1</sup>, Aurel Nuro<sup>1</sup>, Aida Dervishi<sup>2</sup>, Dhimitër Peçi<sup>3</sup>, Elda Marku<sup>1</sup>

<sup>1</sup>Tirana University, Faculty of Natural Sciences, Chemistry Department, Albania;

<sup>1</sup>Tirana University, Faculty of Natural Sciences, Biotechnology Department, Albania;

<sup>1</sup>Tirana University, Faculty of Natural Sciences, Flora & Fauna Research Centre, Albania;

E-mail: [aurel.nuro@fshn.edu.al](mailto:aurel.nuro@fshn.edu.al); [jonida.s@hotmail.it](mailto:jonida.s@hotmail.it) ;

## ABSTRACT

Oregano herbs are spread almost in all Albania areas. The essential oil of *Origanum vulgare L.* was analyzed from population of South, South-East and Central Albania. The oregano herbs were sampling in June-September, 2014. The *Origanum vulgare* species plays a primary role among culinary herbs in world trade. The use of oregano herbs as a medicinal plant is attributed to the biological properties of p-Cymene and Carvacrol. Recent findings report the antimicrobial, fungicidal and antioxidant properties of oregano based on the presence of Carvacrol. Most of commercial oregano comes from wild populations of the Mediterranean region. The air dried plant samples were subjected to European Pharmacopoeia apparatus (Clevenger type) for 6 hours to obtain oregano oil. The chemical composition of the essential oils was analyzed using GC/FID technique. The oil of each oregano sample was injected in a Varian 450 GC. VF-1ms capillary column (30 m x 0.33 mm x 0.25 um) were used for separation of compounds. Carvacrol and Thymol were identified as main constituents and all analyzed essential oils of Oregano samples from South of Albania.

**Keywords:** *Origanum vulgare*, Essential oils, Carvacrol, Thymol, GC/FID

### 046 EFFECT OF DIFFERENT LEAD (Pb (NO<sub>3</sub>)<sub>2</sub>) DOSE APPLIED ON *Atriplex nitens* Schkuhr., THE SEEDLING GROWTH

Sukru Dursun<sup>1</sup>, Ramazan Acar<sup>2</sup>

<sup>1</sup>Selcuk University, Engineering Faculty, Environ. Engineering Dept., Konya-Turkey;

<sup>2</sup>Selcuk University, Agriculture Faculty, Dept. of Agronomy, Konya-Turkey;

Email: [sdursun@selcuk.edu.tr](mailto:sdursun@selcuk.edu.tr); [racar@selcuk.edu.tr](mailto:racar@selcuk.edu.tr);

## ABSTRACT

Toxicity research was carried out at Selcuk University Faculty of Engineering in Environmental Engineering laboratory in 2012. *Atriplex nitens* plant seeds used in this study were obtained in the same year from around Konya city. In this study, different doses (0.016 g, 0.16 g, 1.6 g, 3.2 g and 6.4 g) lead (Pb (NO<sub>3</sub>)<sub>2</sub>) is used and the effect on seedling growth of *Atriplex nitens* was determined. For this purpose, number of leaves, stem and root length, stem, leaves, plant fresh and dry weight were investigated. Lowest handle length is 6.91 cm (0.16 g), root length 3.44 cm (6.4 g) and Total number of leaves/plant 5.60 (6.4 g) were identified.

**Keywords:** *Atriplex nitens*, Lead (Pb), Plant seedling, growth, toxicity

### 047 TOLERANCE OF 1103P AND KOBER 5BB ANTIPHYLOXERIC ROOTSTOCKS TO SODIUM CHLORIDE CONCENTRATION IN THE SOIL

Fatbardha Shpati<sup>1</sup>, Lush Susaj<sup>2\*</sup>, Elisabeta Susaj<sup>3</sup>

<sup>1</sup>Agricultural University of Tirana, Department of Horticulture, Kodër Kamëz 1029, Tirana, Albania;

<sup>2\*</sup>Agricultural University of Tirana, Department of Horticulture, Kodër Kamëz 1029, Tirana, Albania;

<sup>3</sup>University "Fan S. Noli", Faculty of Agriculture, Korçë, Albania;

Email: [shpati\\_bardha@hotmail.com](mailto:shpati_bardha@hotmail.com); [lsusaj63@hotmail.com](mailto:lsusaj63@hotmail.com); [susaje2003@yahoo.com](mailto:susaje2003@yahoo.com);

## ABSTRACT

The study of resistance and tolerance of the antiphyllloxeric rootstocks 1103P and Kober 5BB to sodium chloride was carried out during 2014, at the Experimental Base of the Agricultural University of Tirana. One year old cuttings of both rootstocks were collected from a private nursery. Six concentrations (treatments) of NaCl [control (normal water), 2000, 4000, 6000, 8000, and 10000 ppm] with five pots with 2 cuttings each for replication, for each rootstock, were used. There were accounted and evaluated the number of survived plants and the degree of shriveling and necrosis of leaves and shoots of all treatments for both rootstocks. There was observed that, with the increase of NaCl concentration, the degree of shriveling and necrosis of leaves and shoots was significantly increased and the number of survived plants was decreased for both rootstocks. The lowest number of survived plants was observed for Kober 5BB treated with 10000 ppm NaCl (25%), while the highest number was observed for control and 2000 ppm NaCl. The total number of survived saplings for all treatments was 100% for 1103P, while for Kober 5BB it was 62.8%, with a difference of 37.2%, because of specific rootstock's metabolism characters and genotype. Based on the OIV Code 402 (evaluation levels 1-9), rootstock Kober 5BB was shown to be more sensitive and less resistant to sodium chloride concentration compare to 1103P. The observed results were statistically confirmed by Anova ( $p \leq 0.05$ ) ( $F = 48.52291 > F_{crit} = 3.072467$  and  $P\text{-value} = 1.28E-09 < \alpha = 0.05$ ).

**Key words:** 1103P, Kober 5 BB, resistance, rootstock, sodium chloride (NaCl) concentration, tolerance.

**048 EFFECTS OF FRUIT THINNING METHOD ON FRUIT QUALITY INDICATORS OF “GOLDEN DELICIOUS” APPLE CULTIVAR, UNDER GJAKOVA’S CLIMATE CONDITIONS**

**Gjokë Gj. Duhanaj<sup>1</sup>, Lush Susaj<sup>2\*</sup>, Nikollaq Roshanji<sup>3</sup>, Elisabeta Susaj<sup>4</sup>**

<sup>1</sup>Radulloc, Klinë, Republic of Kosovo;

<sup>2\*</sup>Agricultural University of Tirana, Faculty of Agriculture and Environment, Department of Horticulture, Kodër Kamëz, 1029, Tirana, Albania;

<sup>3</sup>University “Fan S. Noli”, Faculty of Agriculture, Department of Horticulture, Korçë, Albania;

<sup>4</sup>University “Fan S. Noli”, Faculty of Agriculture, Department of Crop Production, Korçë, Albania;

E-mail: [gjokduhanaj@gmail.com](mailto:gjokduhanaj@gmail.com); [lsusaj63@hotmail.com](mailto:lsusaj63@hotmail.com); [nikoro60@yahoo.com](mailto:nikoro60@yahoo.com); [susaje2003@yahoo.com](mailto:susaje2003@yahoo.com)

**ABSTRACT**

The study on effects of fruit thinning method on quality indicators of “Golden Delicious” apples, trained on slender spindle and improved pyramidal shapes, was carried out during 2013, in Skivjan, Gjakova, in the South-Western part of Kosovo. Two different fruit thinning methods (hand thinning and chemical thinning using a combination of Carbaryl 1000 ppm + NAA 40 ppm, with 1200 L ha<sup>-1</sup> spraying solution) and two replications, with 10 apple trees for each variant on each replication for each system shape, were used. Fruit thinning was carried out 15 days after bloom, when fruit diameter was 10-12 mm. At the harvest time, there were measured, evaluated, accounted and compared several quality indicators, such as fruit firmness (kg/cm<sup>2</sup>), fruit color (H<sup>o</sup>), pH of juice, total soluble solids content (Brix), dry matter content (%), total acidity and malic acid content (% per 100 ml), and were counted the mean values for each thinning method. Observed results showed that thinning method (hand and chemical) significantly affected the fruit quality indicators of “Golden Delicious” apple cultivar, of training systems, slender spindle and improved pyramidal shapes. Hand thinning showed more colored fruits, higher SSC, higher DMC, and lower TA/MA, compared to chemical thinning (CB + NAA). The observed results were statistically confirmed by Anova ( $p \leq 0.05$ ).

**Key words:** Carbaryl, chemical thinning, fruit quality indicators, “Golden Delicious”, hand thinning, Naphthalene Acetic Acid (NAA).

**050 PRIONS: A NEW CONCEPTUAL FRAMEWORK**

**Neila Bajrami**

University of Medicine, Tirana, Albania;

Email: [neilabajrami@gmail.com](mailto:neilabajrami@gmail.com);

#### ABSTRACT

In our study, we have approached the bimodular gene model, which is a genetic model. The memory structure of the genetic model is the prion protein gene PRNP, whereas the other is the epigenetic model, whose memory structure is a molecular chaperon. Prion-protein related diseases manifest themselves when changes occur in the PRNP gene and in the molecular chaperon/s. In this case the conditions of the living organism and its behavior are the products of gene information and the molecular chaperone. The conversion of PrP<sup>C</sup> to its isoform PrP<sup>Sc</sup>, is in the center of the study of prion proteins. It is important to highlight the fact that the function of prion proteins, like any other biological function, is led by structures that contain information.

**Key words:** Prion, prion proteins, molecular chaperone, bimodular model, PRNP.

#### 051 SOME ANATOMICAL CHARACTERS OF STEM IN DIFFERENT POPULATION OF BROMUS INERMIS

Enver Sherifi<sup>1</sup>, Naser Shabani<sup>2</sup>, Arsim Bytyqi<sup>3</sup>

<sup>1</sup>Faculty of Natural Science of Prishtin, Kosovo;

<sup>2</sup>International University of Struga. Macedonia;

<sup>3</sup>University of Ljubljana, Slovenia;

E-mail: [e\\_sherifi@yahoo.com](mailto:e_sherifi@yahoo.com)

#### ABSTRACT

Resistance of plants has a great importance in cultivation and more dependent on the anatomic construction stem and leaf. *Bromus inermis* (smooth brome) is a perennial plant. Seeds remain viable for 2-10 years. *B. inermis* can spread by rhizomes and seed dispersed by wind. Seeds can be dispersed by ants and birds. *Bromus inermis* occurs on roadsides, riverbanks, edges of fields, prairies, woods and pastures. It prefers sandy soils to salty ones (Sather, 1987). *B. inermis* needs well aerated soils with a pH from 5.5-8. *B. inermis* is not tolerant of anaerobic, calcareous, or salty conditions, but can tolerate temperatures as low as negative 38 degrees Celsius (ANHP, 2004). It is also very drought tolerant which can be attributed to its deeply penetrating root system (Sather, 1987). *B. inermis* is not shade tolerant, and seed production, number of shoots and rhizomes, and dry weight of plant decreases when *B. inermis* does not receive sufficient sunlight. *B. inermis* is planted to increase forage or to reduce erosion after fire (Grace *et al*, 2002). Smooth brome is used as hay, pasture, or silage for livestock, as it is high in protein. It works well in a cropping system with alfalfa or other legumes. *B. inermis*' massive root system makes it a very effective erosion control. There are investigated some anatomic characters of stem and leaf, those organs are playing very important role on the yield production. On the cross section of stem and leaf 10 individuals to three locations are analyzed: number of stomas, number vascular bundles, number of sclerenchymal cell rows, thickness of mechanic tissue. Achieved results shows that those parameters have varied subject to the populations and internodes position on the stem and leaf.

**Key words:** stem, leaf, vascular bundles, sclerenchymal cell rows, number of stomas, internodes

#### 052 PUBLIC AWARENES AND HAUSHOLD SEPARATE WASTE COLLECTION: A CASE STUDY IN MACEDONIA

Zoran Sapuric<sup>1</sup>, Filip Ivanovski<sup>1</sup>



<sup>1</sup>University American College, Skopje, Macedonia,

Email: [sapurik@uacs.edu.mk](mailto:sapurik@uacs.edu.mk); [sazoran@hotmail.com](mailto:sazoran@hotmail.com)

### ABSTRACT

Separate waste collection is an important element of sustainable waste management. Separate waste collection provides the preconditions for environmentally friendly performing of waste operations. This collection could significantly contribute to increasing of recycling and other types of waste recovery. It could enhance faster meeting of the national targets for recycling and handling with the problems caused by waste generation in Macedonia. Besides the numerous attempts and pilot projects still there is not placed a developed system of households separate collection of different categories of waste. At the first place this involves the collection of plastics, glass, metals, wood, paper, cardboard, biodegradable waste and other waste categories.. This situation contributes to the low level of waste recycling. There are many factors which could improve the households separate waste collection. One of the most important factors is strengthening of the public awareness and personal responsibility of the citizens. Increasing of public awareness will produce a base for the improvement of household separate waste collection. The measures and activities for establishing separate waste collection from the households should be more effective. The main goal of this paper is to research the relations between public awareness and household separate waste collection. Also papers aims to find the most effective communication channels for increasing awareness about the need of separate collection. Within the activities of the preparation of this paper a research was conducted with appropriate questionnaires among 600 respondents. The paper also makes efforts to initiate further researching and to give some recommendations.

**Key words:** Separate collection, waste, public awareness, households, citizens.

### 053 EXTRACTION OF ESSENTIAL OILS FROM *SALVIA OFFICINALIS L.* LEAVES WITH DIFFERENT EXTRACTING METHODS

Aida Dama<sup>1</sup>, Krenaida Taraj<sup>1,2</sup>, Lorena Ciko<sup>2</sup>, Adelaida Andoni<sup>2</sup>

<sup>1</sup>Albanian university, Faculty of medicinal sciences, Pharmacology Department, Albania;

<sup>2</sup>University of Tirana, Faculty of Natural Sciences, Chemistry Department, Albania;

Email: [aida.dama@hotmail.it](mailto:aida.dama@hotmail.it); [adelaida.andoni@fshn.edu.al](mailto:adelaida.andoni@fshn.edu.al); [krenaida.taraj@fshn.edu.al](mailto:krenaida.taraj@fshn.edu.al);

### ABSTRACT

*Salvia officinalis L.* is well known as an aromatic and medicinal plant in Albania. Several studies suggest that *Salvia officinalis L.*, in addition to treating minor common illnesses, might potentially provide novel natural treatments for the relief or cure of many serious and life-threatening diseases such as depression, dementia, obesity, diabetes, lupus, heart disease, cancer or antibacterial treatments. The most common methods used for obtaining extracts of essential oils are water distillation, distillation with organic solvents such as hexane, ethanol, methanol and extraction with liquid CO<sub>2</sub> under pressure as well. The extracts fractions obtained by these methods are of interest especially in the fields of pharmacology, cosmetic, medicine, food chemistry etc. In this study the extraction of essential oil from *Salvia officinalis L.* is carried out by using an organic solvent (hexane) and liquid CO<sub>2</sub> solvent under pressure at 40°C. The essential oil extracts are analyzed by thin layer chromatography. The amount of essential oil and the overall yield obtained by hexane distillation method is lower than that obtained by CO<sub>2</sub> extraction method. These findings demonstrated that the amount of *S. Officinalis* oils obtained by CO<sub>2</sub> extraction method is optimal, making that suitable for a possible use in pharmaceutical purposes.

**Key words:** *Salvia officinalis L.*, essential oil, CO<sub>2</sub> extraction, hexane extraction, thin layer chromatography

### 054 RODENTOLOGICAL SURVEY ON RODENTS' HABITAT AND THE RISK FACTORS OF HFRS

**THEY REPRESENT IN KALA E DODES AREA****Elton Rogozi, Luljeta Alla, Eugena Tomini, Majlinda Kota (Dhimolea), Silva Bino**

Control of Infectious Diseases Department, Institute of Public Health, Str. "Aleksander Moisiu", No. 80, Tirana, Albania;

E-mail: [eltonrogozi@yahoo.com](mailto:eltonrogozi@yahoo.com); [erogoz@hotmail.com](mailto:erogoz@hotmail.com)

**ABSTRACT**

Rodents are the main reservoirs of Hantaviruses in Albania. The viruses belonging to this family cause hemorrhagic fever with renal syndrome (HFRS) in human. Previous cases of human HFRS have occurred in our country almost every year. The presence of *Apodemus flavicollis* in our country is abundant, and positive cases of Dob/Bel of *A. flavicollis* have been observed. We evaluated the rodents' habitat structure of the areas, the ground texture and composition, as well as the possibility of the infection presence. The ground of all this territory was composed by very sloped rocky and limestone. The habitat structure of rodents was classified as per latitude in: alpine and subalpine areas with herbaceous vegetation, the shrubs of juniper (*Juniperus communis* and *Juniperus oxycedrus*), dog-rose (*Rosa canina*), blackberry etc; below these habitats we found the isolated pine forest composed mainly by the black pine (*Pinus nigra*); lawn and clearings, which were somehow isolated like mosaics between forest; kitchen garden and arable lands, to and close to human settlements planted of beans, alfalfa, corn, etc. Stony village houses, livestock shelters and granaries were some other habitats for commensal rodents, as well as the wild ones. From the habitat structure and composition, we conclude that this area can be populated by species of rodents like the yellow necked mouse *A. flavicollis*, long-tailed field mouse *A. sylvaticus*, broad-toothed field mouse *A. mystacinus*. Habitats like clearings and lawns can be populated by the different species of voles and moles. Human inhabited areas can be populated by species of commensal rodents like *R. rattus* (black rat), *M. domesticus*, *M. musculus* (house mouse). Previous studies have shown that *A. flavicollis* have resulted positive for Dob/Bel virus in the close villages of Llasen, Pilafe and Brezhdan, 15-20Km far from this area. As a conclusion we can say that there are potential habitats in this region for the presence of large rodent's species, and the possibility of finding rodent infected is high; so there is an increased risk for human HFRS cases.

**Key words:** Rodents, habitat structure, HFRS risk, Dobrava virus, Kalaja e Dodes.

**055 SUSTAINABLE COASTAL TOURISM FOR THE PRISTINE AREA OF KALLM, DURRES****Ledita Mezini**

Polytechnic University of Tirana, Faculty of Architecture and Urban Design, Tirana, Albania;

Email: [ledita\\_mezini@yahoo.com](mailto:ledita_mezini@yahoo.com)

**ABSTRACT**

Kallm is a virgin and wild area in the heart of the dense, compact urban city of Durres. With its cultural heritage, the beautiful cost, the topography, history and archeological treasures it offers great opportunity for tourism profits. Although the benefits in the economic field the development of tourism industry in the pristine area of Kallm, will bring major impacts to the environment and its resources. The basic question is: how can this area be transformed from a poor and undeveloped zone to a tourism potential without destroying the landscape and the seascape? The present study is an attempt to highlight the resources of the area, the impacts of tourism on the environment and to represents some possible types of tourism which the different stakeholder may consider while projecting the future of Kallm. The topic of the paper is to understand and to explore the best scenarios, to discover the resources that the area offers, the influences that spatial implications may create on the coastal landscape and the types of tourism that could be developed with the minimum impact to the

---

natural environment. The notions of sustainable coastal tourism, cultural tourism, rural tourism, agro tourism, ecotourism, recreational tourism, marine tourism are the concepts which form the back bone of the research study. It is largely based on secondary information. Because the area is almost un-build and quite unexplored the effects of tourism industry in the area cannot be measurable or investigated. Interviews, readings, analyses, case studies etc. were collected and evaluated to understand better the topic.

**Keywords:** Coastal tourism, impacts, natural resources, landscapes, environment.

**056 VASCULAR FLORA OF BADOVC WITH THE SURROUNDINGS-REPUBLIC OF KOSOVO**

**Elez Krasniqi, Albana Beqolli-Gashi, Ferat Rexhepi**

University of Pristina “Hasan Prishtina”, Faculty of Natural Sciences and Mathematics, Department of Biology, Str. “Nëna Terezë” n.n., 10 000 Prishtinë, Republic of Kosovo;

E-mail: [elez.krasniqi@uni-pr.edu](mailto:elez.krasniqi@uni-pr.edu)

**ABSTRACT**

Hilly to mountainous area of the Republic of Kosovo represents the area of interest for the flora and vegetation research. Within this area found that as the Badovci locality once was inhabited, while is located in the southeastern part of Prishtina. Vascular flora of Badovc with the surroundings is researched during 2013, and was supplemented until 2014. The pedology of researched area is made up of: Loamy deluvium, Typical rendzina on serpentine, Typical ranker on sandstone, Reddish-brown leached soil on reddish sediments and Shallow brown soil on flysch. Researched area is located in the hilly-mountain area with pronounced inclination and extends at an altitude of 610 m to about 900 m. The climate is continental, the annual average of air temperature is about 10 °C, while the annual average of rainfall is more than 600 mm. Researched space as a whole, in phytocenological terms is represented by forests, shrubs and also dry pastures and rocky places, that belong to classes: *Quercus-Fagetea* and *Festuco-Brometea*. Although we have continuous anthropogenic action (mining operations), we have concluded also a rich diversity of vascular flora dominated by the *Magnoliophyta*, respectively *Hemicriptophyta*. Considerable number of these species are nutritious, medical and aromatic as well as honey plant species. During this research are also found Balkan endemic plant species as natural heritage values of Kosovo as: *Centaurea kosaninii*, *Potentilla visianii* and *Stachys scardica*.

**Key words:** Badovc, Vascular flora, Endemic plants, Anthropogenic factor, Kosovo.

**057 VASCULAR FLORA OF THE CARRALLUKA MEADOWS-REPUBLIC OF KOSOVO**

**Elez Krasniqi, Fadil Millaku, Liridon Thaqi, Aziz Avdiu, Hazbije Krasniqi**

University of Pristina “Hasan Prishtina”, Faculty of Natural Sciences and Mathematics, Department of Biology Str. “Nëna Terezë” n.n., 10 000 Prishtinë, Republic of Kosovo;

E-mail: [elez\\_krasniqi@uni-pr.edu](mailto:elez_krasniqi@uni-pr.edu)

**ABSTRACT**

Meadow ecosystems as natural terrestrial ecosystems are important in the context of phytodiversity of the Republic of Kosovo. Vascular flora of the Carralluka meadows is researched during 2013 (supplemented 2014). These meadows in Kosovo have extension mostly along the lowland river valleys and their branches hanging averages about 500-600 m above sea level. Up to date research in these ecosystems have proved the presence of significant numbers of species of the vascular flora. Floristic value of these meadows it raises the presence of forage, medical and aromatic plants and also honey plant species. Researched area-meadows in Carrallukë (515-560 m) is located on the western Kosovo respectively on the Llapusha region, Malisheva

Municipality. These meadows are situated along the valley which runs from near the Tërpeza village and continues around the Carralluka village until near the Mirusha village. In the pedological aspect these meadows have extension on the Aluvial-deluvial loamy soil. The climate is continental with average annual temperature of about 10 °C. Researched zone is in the area with average rainfall of 600 to 800 mm. In the phytocenological aspect these meadows belong to order *Trifolio-Hordetalia* respectively to the alliance *Trifolion resupinati* and to order *Brometalia erecti* respectively to the alliance *Bromion erecti*. Although the anthropogenic action is evident in continuity, because this area is preserved as a whole, are identified more than 100 plant species of vascular flora. Results expressed in areal and floristic spectrum present the dominance of species from Eurasian floral element respectively by dominance of Hemicriptophyta.

**Key words:** Flora, Meadow ecosystems, Anthropogenic factor, Carrallukë, Kosovo.

## 058 INTestinal PARASITE AMONG PRIMARY SCHOOL CHILDREN

**Petrit Biberaj, Migena Gega, Indrit Bimi**

Faculty of Medical Technical Sciences of Medical University of Tirana, Albania;

E-mail: [pbiberaj@gmail.com](mailto:pbiberaj@gmail.com)

### ABSTRACT

Intestinal parasites cause significant morbidity and mortality throughout the world, particularly in undeveloped countries and in persons with comorbidities. These parasites consume nutrients from the children they infect, thus aggravating malnutrition and retarding physical development. They also destroy the tissues and organs in which they live. They cause abdominal pain, diarrhoea, intestinal obstruction, anaemia, ulcers and various other health problems. The aim of the study was to determine the frequency of intestinal parasites among elementary school children. A total of 438 fecal specimens were collected from primary school children in district of Tirana during the year 2014 and examined by formalin-ether sedimentation technique. The overall infection rate of intestinal parasite was 39.8% (males, 45.3%; females, 36.2%). The infection rate of intestinal helminths by the species were as follows: *Entamoeba histolytica* 48%, followed by *Gardia lamblia* 29.4%, *Ascaris lumbricoids* 7.5%, *Hymenolipis nana* 5.2%, *Trichurus trichura* 3.3%, *Taenia saginata* 2.5%, *Shistosoma mansoni* 0.6%. More than two different kinds of parasites were found in 13.8% of the stool samples. Also found that, the prevalence is higher in rural than urban areas (OR=5.3 95%CI 3.41- 7.11), and decreased with increased mother educational level. No effect was found for gender or family member. All the children received adequate treatment. Re-infection is quite frequent within a relatively short period of time. The long-term key preventive interventions are the basic requirements to break the intestinal worm transmission routes and life cycles such as provision and use of safe and adequate water supply, improvement of environmental sanitation and practicing good sanitation and hygiene habits.

**Key words:** intestine, parasites, children, school, sanitation

## 059 GRASS CARP (*Ctenopharyngodon idella*), BIGHEAD CARP (*Hypophthalmichthys nobilis*) AND EUROPEAN CATFISH (*Silurus glanis*) PRODUCTION IN CYPRINID FISH FARMS IN PELAGONIA (BITOLA, MACEDONIA)

**Dijana Blažeković Dimovska<sup>1</sup>, Aleksandar Cvetković<sup>2</sup>, Stojmir Stojanovski<sup>3</sup>**

<sup>1</sup>University “St. Kliment Ohridski”, Faculty of Biotechnical Sciences, Bitola, Macedonia;

<sup>2</sup>University “St. Cyril and Methodius”, Faculty of Veterinary Medicine, Skopje, Macedonia;

<sup>3</sup>Hydrobiological Institute, Ohrid, Macedonia;

E-mail: [dijanablazekovic@yahoo.com](mailto:dijanablazekovic@yahoo.com); [acvetkovikj@gmail.com](mailto:acvetkovikj@gmail.com); [stojstoi@gmail.com](mailto:stojstoi@gmail.com);

**ABSTRACT**

Cyprinid fish farming in Pelagonia (Bitola, Macedonia) takes place in two largest fish farms in this region: Bel Kamen – Žabeni with an area of 170 ha and Bukri with an area of 55 ha. The most common fish that are grown here are those from the family Cyprinidae, such as common carp, grass carp, bighead carp, silver carp etc. Beside them, one of the fish that is also grown in these farms is european catfish. The aim of this study was to determine the production of grass carp (*Ctenopharyngodon idella*), bighead carp (*Hypophthalmichthys nobilis*) and european catfish (*Silurus glanis*) in cyprinid fish farms in Pelagonia (Bitola, Macedonia) in a period of three years. In order to investigate it, analyses of fish production were made in the two largest cyprinid fish farms in Pelagonia that are located in its south-eastern part. Investigations were carried out in a period of three years, from 2011 to 2013. Grass carp, bighead carp and european catfish production in fish farm Bel Kamen - Žabeni is more than double (46826 kg) compared with the fish farm Bukri (17404 kg). This situation is normal because of different ambient conditions and difference in fish farm capacity (ha).

**Key words:** grass carp (*Ctenopharyngodon idella*), bighead carp (*Hypophthalmichthys nobilis*), european catfish (*Silurus glanis*), cyprinid fish farms

**060 COASTAL DYNAMICS AND LITHOLOGIC IMPACTS ON COASTAL GEOMORPHOLOGY OF THE LAKE VAN**

Gül Şen

Yuzuncu Yil University, Institution of Applied Sciences, Department of Geological Engineering, Zeve Campus, 65080, Van, Turkey;

Email: [geoenggulsen@gmail.com](mailto:geoenggulsen@gmail.com), [gul.sen@yyu.edu.tr](mailto:gul.sen@yyu.edu.tr);

**ABSTRACT**

The Lake Van is the biggest soda lake in the world with its 607 km<sup>3</sup> volume, 3755 km<sup>2</sup> area, 451 m maximum water depth and 1640 m surface elevation. The purpose of this study is to present an overview of the Lake Van coastal area extending for 130 km NE-SW direction for a coastal length of 430 km on the eastern Anatolian plateau, Turkey. Office studies are based on the different scales of studied area's geological maps, satellite images, aerial photographs, seismic analysis profiles and literature. Field studies was carried out in two stages. Firstly, eastern and northern region of the Lake Van coastal area was studied, and hence predominantly sedimentary rocks and the presence of a small amount of ophiolitic and volcanic rocks had been observed. In the western and southern region of the Lake Van, the presence of low concentrations of sedimentary rocks with the dominance of volcanic and metamorphic rocks had been identified. The Lake Van basin is formed under the influence of active tectonics of the eastern Anatolian plateau. Tectonic movements have impacts on geomorphological structures which were located by utilizing the GPS datas. To determine the coastal dynamics impact on coastal morphology, the dominant wave and current directions, abrasion-accumulation processes and water level fluctuation depending on climate changes were established. As a result, in the eastern and northern coasts, the dynamics are active on the coastal configurations, while in the western and southern coasts, the coastal morphology is determined by the lithology. Geo-environmental units such as beaches, deltas, lagoons, salt marshes, splits and etc. were identified and mapped.

**Key words:** Lake Van, Lithologic characteristics, Coastal dynamics, Geo-environmental units

**061 THE EFFECT OF EARTHQUAKES ON MARINE ECOSYSTEMS IN ADRIATIC SEA**

Adisa Daberdini<sup>1</sup>, Elton Rogozi<sup>2</sup>, Rrapo Ormeni<sup>3</sup>

<sup>1</sup>Polytechnic University of Tirana, Sheshi Nene Tereza, Tirana, Albania;

<sup>2</sup>Institute of Public Health, Str. Aleksander Moisiu, Nr. 80, Tirana, Albania;

<sup>3</sup>Institute of Geosciences, Energy, Water and Environment, UPT, Tirana, Albania;

E-mail: [adisadaberdini@hotmail.com](mailto:adisadaberdini@hotmail.com); [adisa.daberdini@gmail.com](mailto:adisa.daberdini@gmail.com);

## ABSTRACT

Tsunamis are one of the most destructive natural hazards that affect the coastal areas. Its waves are capable of destroying the objects on the coast and re-shaping the coastal geography, geomorphology and ecosystem. These waves have unusually long-wavelength in excess of 100kms, generated in the open sea and transformed into a train catastrophic oscillations on the sea surface close to coastal zones. This study represents a simple model for the changes calculation that coastal structure of the Adriatic Sea may undergoes by a tsunami impact in the maritime dimension. The study has been carried out based on the coastal structure of Adriatic Sea, in the subsequent studies, that how this structure will affect on the tsunami wave. After the tsunami wave, the coastal structure undergoes some changes, and these changes will directly affect in the marine ecosystem. The sediment structure of Adriatic Sea is formulated based on a previous approaching model built by Bruce E. Jaffe and Guy Gelfenbuam, 2007. This calculation model is approached based on the Adriatic Sea structure. The difference on the deposit granule size has more impact on the tsunami wave speed, rather than its thickness. The result of this study shows how to built an approximate model for the structuring that the Adriatic Sea coast may undergoes by the seismic activity, which in some cases may develop tsunami with marine dimension. The Physical structure may damaged by the force of the wave itself, physical removal of flora and fauna and increased sediment load which could kill sediment sensitive species and sea grasses by smothering. Chemical changes may included saltwater intrusion, eutrophication (enrichment) of the water resulting from increased runoff, raw sewage and decomposition of flora and fauna. Non biodegradable waste such as plastics may contribute to a buildup in marine debris.

**Key words:** Tsunami, Sedimentation, Deposits, Effect, Marine Ecosystem, Adriatic Sea.

## 062 IDENTIFICATION OF THE REPRODUCTION SEASON OF OTTERS (*LUTRA LUTRA*) IN THE DRINOS RIVER

Etleva Hysaj<sup>1</sup>, Gligor Paspali<sup>1</sup>, Ferdinand Bego<sup>2</sup>

<sup>1</sup> Department of Biology and Chemistry, University “Eqrem Çabej”, Gjirokastra, Albania;

<sup>2</sup> Department of Biology, Faculty of Natural Sciences, University of Tirana, Albania;

E-mail: [hysaj\\_etleva@yahoo.com](mailto:hysaj_etleva@yahoo.com)

## ABSTRACT

Identification of the reproduction season of the otter along the Drinos river has been the objective of our study in the two years period (October 2010-October 2012). The Drinos river section Virua-Andon Poçi (10km) was selected as study area, as it provides the optimal combination of the environmental factors relevant to the reproduction of otters. For the identification of the reproduction season of otters we used the following indicators or parameters: changes in the territorial marking intensity (measured as number of sprainting points, of spraints, of jelly secretions/200m), changes in the activity along the river banks, and first sight of the cub's footprints following its mother while hunting. The highest values of the marking intensity were identified in April-May (in average, number of sprainting points/200m = 1.62, number of spraints/200m = 4.48, number of secretions/200m = 0.72), indicating so an increase of the otter's marking intensity in this period in comparison with other months or seasons. In addition, in the same period a high territorial marking activity along the river banks were observed. First sight of cub's footprints in the middle of October 2011, is another key indicator for the identification of the start of reproduction season of otters. Based on these indications we conclude that the start of reproduction season for otters in the Drinos river coincides with the bimonthly period April-May. Our results confirm that in the Drinos river the otter reproduction is characterised by a single reproduction season, and reflects the seasonality of the environmental conditions in the Drinos as a typical Mediterranean river.

**Key words:** Otter, reproduction season, Drinos river, Albania

**063 STATISTICAL MODELING OF COPPER IONS ABSORPTION ON VAN PUMICE**

**<sup>1</sup>Canan Demir <sup>2</sup>Siddık Keskin, <sup>1</sup>Ali Rıza Kul, <sup>3</sup>Salih Alkan**

<sup>1</sup>Yuzuncu Yil University, Vocational School of Health Care, Van-TURKEY;

<sup>2</sup>Yuzuncu Yil University, Faculty of Medicine, Department of Biostatistics, Van- TURKEY;

<sup>3</sup>Ordu University, Faculty of Art and Science, Department of Chemistry, Ordu- TURKEY;

E-mail: [canantasin@gmail.com](mailto:canantasin@gmail.com); [salihalkan@odu.edu.tr](mailto:salihalkan@odu.edu.tr); [alirizakul@yyu.edu.tr](mailto:alirizakul@yyu.edu.tr); [skeskin@yyu.edu.tr](mailto:skeskin@yyu.edu.tr);

**ABSTRACT**

Aim: Copper (Cu) is an element which is essential for the living. In addition, copper is also one of the first metals used by humans and occurs naturally in nature. The aim of this study is to statistical modeling of copper ions adsorption on Van Pumice. Material and Method: Van Pumice was used as absorbance substance for copper ions adsorption. Modeling, depending on time, was performed to determine for copper ions adsorption level at fixed pH 5 for various concentration and temperatures on Van pumice. All adsorption measurements were performed with the Thermo Scientific brand ICE spectrometer model 300 Series. Statistical Analysis: One-way analysis of variance was used for comparison to various temperatures and concentration levels. Tukey's multiple comparison test was also performed to determine different groups. Logarithmic, quadratic, Qubic and logistic as well as linear models were used to determine adsorbed cooper ions amount at different temperature levels and concentration. Results: Differences between various time levels were found statistically significant; however, there were no significant differences between temperature levels. R<sup>2</sup> values of the models ranged from 56% to 99%. In addition, cubic model had higher R<sup>2</sup> values for each concentration and temperature levels. Conclusion: Copper ions concentrations have been increased in the solution. In addition, it was observed that copper ions adsorption level increased with extending of contacting duration by Van Pumice. In addition, adsorption also increased linearly with mixture duration and this increase was ready in the first minutes and then stabilized. In general, the performance of all models was found considerable and statistically significant to determine amount of copper ions adsorption. Furthermore, it can be stated that cubic model exhibited the best performance.

**Key words:** Cu, adsorption, logarithmic, logistic, modeling

**064 STIMULTANIOUS DETERMINATION OF ORGANCHLORINATED PESTICIDES AND PCB IN VEGETABLE OIL SAMPLES OF ALBANIAN MARKET**

**Oljana Pine<sup>1</sup>, Aurel Nuro<sup>1</sup>, Elda Marku<sup>1</sup>, Vlora Gashi<sup>2</sup>**

<sup>1</sup>Tirana University, Faculty of Natural Sciences, Chemistry Department, Albania;

<sup>2</sup>Institute of Agriculture and Food, Peja, Kosovo;

E-mail: [ola\\_pine@hotmail.com](mailto:ola_pine@hotmail.com)

**ABSTRACT**

This study examines the levels of organochlorinated pesticides and polychlorinated biphenyls in vegetable oil samples collected in Albanian markets. Organochlorine pesticides are the first class of compounds introduced in agricultural and civil uses to counteract noxious insects and insect-born disease. The modern history of pesticides dates back to World War II when for the first time the insecticidal properties of DDT were recognized. In general they are lipophilic compounds with noticeable chemical and environmental stability. PCBs were used widely as transformer oil because of their stability and physical-chemical properties. The same

properties are the reason that PCBs were reported to found everywhere in environmental and food samples. Ultrasonic bath extraction assisted with n-Hexane mixture and two clean-up steps have been used for analytical treatment of samples. The quantitative analysis of organochlorinated pesticides and PCBs were performed by the gas chromatography method with electron capture detector (GC-ECD). Cyclopentadiene chlorinated pesticides and less chlorinated PCB congeners were found in higher concentrations in all samples. The levels of contaminants observed for the vegetable oil samples could be because of their before use for agricultural purposes, industrialization data or don't management of waste repositories of pesticides for the corresponding regions.

**Key words:** Organochlorinated pesticides, PCBs, vegetable oil gas chromatography

## 065 MICROBIOLOGICAL PARAMETERS IN ISHMI RIVER

Hajrije Dibra<sup>1</sup>, Margarita Hysko<sup>2</sup>

<sup>1,2</sup>Tirana University, Faculty of Natural Sciences, Albania;

Email: [rinadibra@hotmail.com](mailto:rinadibra@hotmail.com)

### ABSTRACT

Tirana and Lana Rivers are both emissary of Ishim River, so the accumulation is more evident in the water of Ishim river. Also a lot of private industrial economies are discharging industrial wastes in the rivers "Ishim", "Gjola" and "Zeza". It is made a specific and detailed study with the focus of microbiological monitoring, in order to evaluate the real conditions of Ishim River. There are assessed *Total Choliphormes* and *Heterotrophes*, that are the most fundamental indicators for the fecal pollution by waste waters. For the determination of *Total Choliphormes* we used MPN method and for the *Heterotrophes* the planting method. We took samples in 7 (seven) stations that are presented in the map. All data are elaborated in a statistical way and presented by graphics and tables. Dates describe the microbiological situation of Ishim River. Ishim River is one of the most polluted in Albania. The article gives a contribute in the assessment of water rivers pollution by the anthropogenic factor and in the microbiological quality of waters in Ishim River with two branches "Gjola" and "Zeza" in Fushe-Kruja Region.

**Key Words:** indicators, pollution, waste waters, MPN, microbiological quality.

## 066 POLLUTION AND DETERMINATION OF HEAVY METALS IN POTATO SAMPLES NEAR THE KEK AREA IN KOSOVO

Kaltrina Jusufi<sup>1</sup>, Majlinda Vasjari<sup>2</sup>, Trajče Stafilov<sup>3</sup>, Bardha Korça<sup>1</sup>

<sup>1</sup>University of Prishtina "Hasan Prishtina", Faculty of Natural Sciences and Mathematics, Department of Chemistry, str. "Nëna Tereze" nr. 5, 10000 Prishtina, Kosovo;

<sup>2</sup>University of Tirana, Department of Chemistry, Faculty of Natural Sciences, Tirana, Albania;

<sup>3</sup>Institute of Chemistry, Faculty of Natural Sciences and Mathematics, Ss. Cyril and Methodius University, Arhimedova 5, 1000 Skopje, Republic of Macedonia;

E-mail: [kaltrinajusufi@gmail.com](mailto:kaltrinajusufi@gmail.com)

### ABSTRACT

Heavy metals are potential environment contaminants with the ability of triggering human health complications. A form of manifestation of this occurs when they are found in large amounts in foods which are commonly consumed by humans. The concentration of heavy metals in foods is of enormous interest to study, because of their toxic nature and the consequences of their entering the food chain. The reason behind this



study was the determination of heavy metals in food, particularly in potatoes which cultivated in areas around the coal-fueled power plants in Kosovo. The presence of heavy metals in the potato samples collected was analyzed using the inductively coupled plasma-atomic emission spectrometry (ICP-OES), after the microwave digestion of samples with HNO<sub>3</sub> and H<sub>2</sub>O<sub>2</sub>. Thirty potato samples were taken throughout the studied zones, in locations scattered around the area affected by coal pollution. The results in this study clearly indicated that heavy metals are dispersed in the surrounding areas of Kosovo's only two power plants and were transported by wind into the proximity of the agricultural lands. The obtained outcomes led to the conclusion that the agricultural soils which were used for potato cultivation around the power plants areas are slightly polluted due to the coal-fired plants.

**Keywords:** heavy metals, potatoes, ICP/OES

## 067 USING DIATOMITE AS PADDING MATERIAL IN WATER PROOFING MEMBRANES

Hilmi Kısa<sup>1</sup>, Erol Pehlivan<sup>\*2</sup>

<sup>1</sup>Selçuk University, Graduate School of Natural and Applied Science, Campus, Konya, Turkey;

<sup>\*2</sup>Department of Chemical Engineering, Selçuk University, Campus, 42071 Konya Turkey;

Email: [erolpehlivan@gmail.com](mailto:erolpehlivan@gmail.com)

### ABSTRACT

Water entering into insulating membranes causes a threat to their structure in terms of their strength. Water entering the building structure disturbs the system. Corrosion of the carrier portion is considered as important and it causes a decrease of the load carrying capacity. Water in the structure of building integrity of concrete, freezes in winter, and it evaporates in summer and leads to formation of cracks in the concrete. Water enters the concrete skeleton leads to the formation of some organic materials, mold and fungi which are dangerous for the human health. In this research, two types of water resistance membranes were compared according to their performance. The membranes can be produced with diatomite and calcite. Diatomite is a building material which has a higher chemical stability and is lighter than calcite. It will be more advantages over conventional calcite because it has a high strength and melting temperature as 1430 °C. After artificial aging, waterproofing resistance against chemicals was tried in the experimental tests. Diatomite provided a lighter weight to the membrane module. The 3 mm thickness of the membrane has lower mass (35 kg) compared to calcite membrane (39 kg). After the chemical resistance against water resistance test, the diatomite-filled prototype sample yielded a higher water resistance to the pressure of 60 kPa. However, the calcite-filled prototype yielded until 20 kPa water resistance and lost its waterproofing properties in low pressures values. This is because the calcite can expose to hydrochloric acid, sulfuric acid, acetic acid, and nitric acids which used in the production of membrane and they enter the micro pores of calcite and changes its properties. This is why membrane made by diatomite instead of calcite. The pressure-strength has increased by adding diatomite to the structure. Water resistance test after artificial extensibility resulted in significant differences in two prototype membrane modules.

**Key words:** Diatomite, filler material, waterproofing membrane

## 068 BIOMONITORING OF ATMOSPHERIC DEPOSITION OF HEAVY METALS USING MOSS FROM THREE REGIONS IN ALBANIA

Ilva Gjika<sup>1</sup>, Majlinda Vasjari<sup>2</sup>, Majlinda Terpo<sup>3</sup>

<sup>1</sup>Chemistry Department, Faculty of Mathematical Engineering and Physical Engineering, Polytechnic University of Tirana, Albania;

<sup>2</sup>Chemistry Department, Faculty of Natural Sciences, University of Tirana, Albania;

<sup>3</sup>Biochemistry Department, Faculty of Natural Sciences, University "Eqrem Çabej", Gjirokastra, Albania;

Email: [ilva\\_gjika@yahoo.com](mailto:ilva_gjika@yahoo.com);

#### ABSTRACT

The insidious accumulation of heavy metals over large areas and long periods, resulting in slow damage to living organisms, necessitates careful monitoring of the input, movements and effects of such pollutants. Mosses have demonstrated the ability to absorb and accumulate atmospheric pollutants in tissue, so the moss biomonitoring technique was applied to air pollution studies in our country. Samples of terrestrial mosses *Hypnum cupressiforme* were collected at 13 sites during October-September 2010 following the the guidelines of the UNECE ICP Vegetation. The elements like aluminium, lead, zinc, copper and cadmium were analysed by ICP-AES technique. Geographical distribution maps of the elements over the sampled territory were constructed using GIS technology. The most contaminated sites with heavy metals resulted those with high road traffic, high population density and in the vicinity of different residential and industrial activities.

**Key words:** air pollution, biomonitor, moss, heavy metals, ICP-AES.

#### 069 BIOMONITORING OF ARSENIC AIR POLLUTION

Ilva Gjika<sup>1</sup>, Majlinda Vasjari<sup>2</sup>, Majlinda Terpo<sup>3</sup>

<sup>1</sup>Chemistry Department, Faculty of Mathematical Engineering and Physical Engineering, Polytechnic University of Tirana, Albania;

<sup>2</sup>Chemistry Department, Faculty of Natural Sciences, University of Tirana, Albania;

<sup>3</sup>Biochemistry Department, Faculty of Natural Sciences, University "Eqrem Çabej", Gjirokastra, Albania;

Email: [ilva\\_gjika@yahoo.com](mailto:ilva_gjika@yahoo.com);

#### ABSTRACT

Arsenic and many of its compounds are especially potent poisons. Releases of arsenic to the environment from anthropogenic sources far exceed those from natural sources. Monitoring of trace element air pollution using bioindicators is a more economical alternative than direct ambient air measurements and especially relevant for monitoring large areas. The selection of moss species and sampling was carried out according to the guidelines of the UNECE ICP Vegetation. The moss *Hypnum cupressiforme* was collected during September-October 2010 at 13 localities in Albania. The content of arsenic and other elements were determined by ICP-AES technique. The arsenic content varies from 0.08 mg/kg to 0.68 mg/kg. The highest values were found in Milot, Manez and Kruje areas. Geographical distribution maps of the elements were constructed using GIS technology.

**Key words:** air pollution, biomonitor, moss, arsenic, ICP-AES.

#### 070 GENUS *VERONICA* (PLANTAGINACEAE) TAXA AND CHOROLOGY IN TURKEY

<sup>1</sup>Fazlı ÖZTÜRK, <sup>1</sup>Cihat ÖLÇÜCÜ

<sup>1</sup>Department of Biology, Faculty of Sciences, Yüzüncü Yıl University, Van (TURKEY)

Email: [fazlioz@yahoo.com](mailto:fazlioz@yahoo.com)

#### ABSTRACT

This study was carried out between 2011-2014. The aim of the study was to determine *Veronica* taxa and their chorology in Turkey. In this study, belonging to taxa of Genus *Veronica* has been given distribution with

---

chorology in Turkey. As a result of studies 102 taxa were determined. 33 of these taxa are infraspecific. 39 taxa of the identified are endemic for Turkey. With this study, Distribution the areas in Turkey of taxa of determination has been shown by the grid square system.

**Key words:** Turkey , Genus *Veronica* , Distribution, Chorology

**071 FLOW CYTOMETRY IMMUNOPHENOTYPING AND DIFFERENTIAL DIAGNOSIS OF HAIRY CELL LEUKEMIA**

**Valentina Semanaj, Teuta Curaj, Genc Sulcebe.**

Laboratory of Immunology and Histocompatibility, University Hospital Center "Mother Teresa", Tirana, Albania;

E-mail: [vsemanaj@yahoo.com](mailto:vsemanaj@yahoo.com)

**ABSTRACT**

Hairy cell leukemia (HCL) is an uncommon mature B-cell lymphoproliferative disorder. The disease has distinct clinical features, morphology, histopathology, and immunophenotype. The neoplastic cells in this disease express a variety of pan-B markers, such as CD19, CD20, and CD22 and, are positive with FMC7 but negative with McAb's against CD5 and CD23. Coexpression of CD103, CD11c, and CD25 is considered unique for HCL and is often used as an absolute criterion for establishing the diagnosis of HCL. The applied methodology is a four color flow cytometry multiparametric immunophenotyping technique using EDTA boon marrow or blood samples taken from 197 patients diagnosed with Chronic lymphoproliferatedesorders. The following fluorescent stained monoclonal antibodies were used: CD3, CD4, CD5, CD8, CD11c, CD19, CD20, CD23, CD25, CD103, FMC7, and kappa/lambda light chains. From all the 197 patients tested, 144 of them (73,09 %) resulted with CLL, 36(18,2%)patients NHL, and 17(8,6%) case resulted with HCL. In this group, the age of the patients ranged from 47 to 70 years (mean: 60.6 years). 12 (70.5%) of them were males and 5 (29,4%) females, rate 2,4:1. The cell marker positivity results observed on the abnormal cell populations of all the patients with HCL were: CD19 (100%), CD20 (100%),CD103(100%), VLm (100%), CD11c(94,1%), CD25(70,6%).Cell marker profile (CD11c+ CD25+CD103+) resulted high specificity in HCL patients ( $p=0,0001$ ). HCL-variant resulted in 4case. Immunophenotyping is an essential tool for the diagnosis of HCL, for distinguishing them from other B-cell malignancies , for monitoring and assessing response to therapy.

**Keywords:** Hairy cell leukemia;immunophenotyping;flow cytometry;monoclonal antibodies.

**072 MAMMAL PREY IN THE PELLETS OF LITTLE OWL, ATHENE NOCTUA. DATA FROM THE ANTIGONE COMMUNE, GJIROKASTËR, ALBANIA**

**Gligor Paspali<sup>1</sup>, Etleva Hysaj<sup>1</sup>, Ferdinand Bego<sup>2</sup>**

<sup>1</sup>Department of Biology and Chemistry, University "Eqrem Çabej", Gjirokastra, Albania;

<sup>2</sup>Department of Biology, Faculty of Natural Sciences, University of Tirana, Albania;

Email: [gpaspali@yahoo.com](mailto:gpaspali@yahoo.com);

**ABSTRACT**

The little owl, *Athene noctua*, is a small nocturnal bird of prey that based on our studies is less common than the barn owl *Tyto alba* in the southern region of Albania. In some stations the little owl is sympatric with *T.alba*. In this study we for the first time provide more complete data on the mammal prey content in the little owl diet though analysis of 290 pellets collected in some stations within the territory of Antigone commune during a three years period (2011-2014). Pellets are collected in all seasons, although the majority of them

belong to winter time. From the analysis of the pellets some 170 mammal prey items were identified. Mammal diet of the little owl is largely dominated by rodents (93%), while insectivores (Soricomorpha) provides a small contribution to the mammal prey of the little owl (only 7%). The Thomas' vole *Microtus thomasi* is the most preferable type of prey for the little owl with about 68% of the total mammal prey. Other small mammals, such as *Suncus etruscus* and *Neomys anomalus*, already identified in the pellets of the *T. alba* in the southern region of Albania are not part of the little owl diet.

**Key words:** pellets, *Athene noctua*, small mammals, Antigone, Gjirokastrë.

#### 074 TAXONOMIC STUDY OF THE ORDER ODONATA IN KORÇA REGION

Shkëmbi Enilda<sup>1</sup>, Papparisto Anila<sup>1</sup>, Mulla Noila<sup>1</sup>, Halimi Eltjon<sup>1</sup>, Qirinxi Xhuliana<sup>2</sup>

<sup>1</sup>University of Tirana, Faculty of Natural Science, Department of Biology, Albania;

<sup>2</sup>University Fan S Noli, Faculty of Natural and Human Sciences, Department of Nursing, Albania;

Email: [enilda07@gmail.com](mailto:enilda07@gmail.com)

#### ABSTRACT

The purpose of this paper is to provide a contribution to the recognition and identification of the biodiversity of the order Odonata, the class Insecta, in Korça region. This is done in order to complement the data on entomofauna in Albania. This study was conducted in 2013. The collection of the material was performed within 22 days of expeditions in 11 stations. Each station has been visited 2 times. Expeditions were conducted near areas with rivers, reservoirs, lakes, during 9<sup>00</sup>-13<sup>00</sup>. According to the analysis of the collected data, 16 species, 11 genus and 7 families of the order Odonata are designated. The most represented is suborder Zygoptera with 9 species, and suborder Anisoptera represented by 7 species. Family Coenagrionidae and Libellulidae are families represented, both with 3 genus and five species. Of the 11 stations in the study, Boboshtica is the station with the largest number of species, that is 9. In this paper were reported 9 new species of Odonata order for the region of Korça. New species are: *Lestes barbarus* Fabricius, 1798; *Enallagma cyathigerum* Charpentier, 1840; *Ischnura pumilio* Charpentier, 1825; *Orthetrum albistylum* Selys, 1848; *Orthetrum brunneum* Fonscolombe, 1837; *Crocothemis erythroea* Brulle, 1832 and *Sympetrum depressiusculum* Selys, 1841; *Sympetrum sanguineum* Müller, 1764; *Anax imperator* Leach, 1815.

**Key words:** Odonata, Korça, variety, new records

#### 075 ANALYSIS OF THE ADSORPTION ISOTHERM AND KINETIC COBALT PUMICE

Salih ALKAN<sup>1</sup>, Ali Rıza KUL<sup>2</sup>, Sevda OCAK<sup>3</sup> Veysel BENEK<sup>4</sup>

<sup>1</sup>Ordu University, Department of Chemistry, 52000 Ordu, Turkey;

<sup>2</sup>Yuzuncu Yıl University, Vocational School of Health Care, 65080, Van, Turkey;

<sup>3</sup>Yuzuncu Yıl University, Engineering-Architecture Faculty, Environmental Engineering Department, 65080 Van, Turkey;

<sup>4</sup>Yuzuncu Yıl University Department of Chemistry, 65080 Van, Turkey;

Email: [sevdaocak@yyu.edu.tr](mailto:sevdaocak@yyu.edu.tr)

#### ABSTRACT

Pumice is the result of volcanic rocks formed that consist of porous and spongy resistant to chemical and physical factors are porous glassy volcanic rocks. Pumice's heat and sound insulation is quite high due to the porosity very much. It's hardness is 5-6 on the Mohs scale. There is no crystal water in its structure. Chemical composition; 60-70% SiO<sub>2</sub>, 13-15% Al<sub>2</sub>O<sub>3</sub>, Fe<sub>2</sub>O<sub>3</sub> 1-4%, 1-2% CaO, MgO 1-2%, 2-5% Na<sub>2</sub>O, K<sub>2</sub>O in trace

amounts is 3-4% TiO<sub>2</sub>, SO<sub>3</sub> and Cl contains. In fact, the definition of heavy metal is used for larger metals according to the concentration of physical properties are much than 5 g/cm<sup>3</sup>. Located in the lead in this group, cadmium, chromium, iron, cobalt, copper, nickel, mercury and zinc especially more than sixty metal by nature, earth usually carbonate, oxide, silicate and sulfide as are found in stable compounds or as silicates. Result of inhalation of cobalt in the form of airborne dust and skin contact, cobalt poisoning can be occurred. Getting powdered cobalt dissolves in the blood and mixes urine. Although it remains definitive evidence that the cobalt and cobalt compounds cause cancer in humans, cobalt compounds tend to pose a risk and are treated as a carcinogenic substance. Cobalt-containing implants inserted in the formation of tumors were found. In experiments conducted on animals, cobalt metal, has proved to cause cancer of the soluble cobalt compound. Adsorption is a separation process that often occurs in the surface phase atoms in the solution medium, based on the transfer of ions or molecules to an adsorbent surface. Adsorption, stems from lack offset the forces between molecules adsorbed to the surface. Adsorption phenomena occur spontaneously because of constant temperature and constant pressure, enthalpy, ie adsorption enthalpy released during the adsorption is always negative sign. In this study, Van Pumice is made with CoCl<sub>2</sub>. Physicochemical effects were investigated at pH 5. In this study, the adsorption behavior between working at different temperatures and concentrations of heavy metals and pH 5 Van Pumice is investigated.

**Key Words:** Heavy metal, adsorption, isotherms, Van pumice, Thermodynamics

## 076 COPPER REMOVAL FROM WATER WASTE WITH NATURAL PUMICE

Ali Rıza KUL<sup>1</sup>, Salih ALKAN<sup>2</sup> *Sevda OCAK*<sup>3</sup>, Ahmet SELÇUK<sup>4</sup>, Veysel BENEK<sup>5</sup>

<sup>1</sup>Yuzuncu Yil University, Vocational School of Health Care,65080, Van, Turkey;

<sup>2</sup>Ordu University, Department of Chemistry,52000 Ordu, Turkey;

<sup>3</sup>Yuzuncu Yil University, Engineering-Architecture Faculty, Environmental Engineering Department, 65080 Van, Turkey;

<sup>4</sup>Yuzuncu Yil University, Faculty of Education, Van, Turkey;

<sup>5</sup>Yuzuncu Yil University Department of Chemistry, 65080 Van, Turkey;

Email: [sevdaocak@yyu.edu.tr](mailto:sevdaocak@yyu.edu.tr);

### ABSTRACT

Pumice or pumice name comes from the Italian. Is named differently in different languages. In French, "Ponce", to which medium grained in English, "Pumice", naturally with the fine-grained "pumicite" is called. In German, the coarser the "Bimste the" small grained "pumice" is called. Turkish as the "tuff", "Köpüktaş" and "Topuktaş" is known by such names (Çevikbaş ve İlgün, 1997). During the formation of gas in the body, because the body is to leave sudden and abrupt cooling, contains numerous pores to micro to macro scale. Pores between general (especially micro-pores) is disconnected space. Pores in Pumice, often not linked. Contained in the pores, each glass is sealed by a membrane from the other. Because of these properties is a good adsorbent pumice (Bardakçı ve Çiçek, 2005; Tözüm, 2009). Copper is an element necessary for organisms. Copper is one of the atmospheric conditions are not material in metallic gray, BC Is known since 5000 years and, where has the Latin name of the first to Cyprus. The plant and its effect on living organisms Copper, depends on the chemical form and the size of living. Small and simple structure is the basic structural components for large living creatures feature to mark poison. Acute Cu poisoning is rarely observed. In general, food and beverages ingested as a result of Cu containing oxidized copper metallic containers or intentionally interfere with Cu salts poisoning occurs, and in this case "Bakır çalığı" of known as (Kartal ve ark. 2004; Dağhan, 2011). Pumice is used as Van adsorbent. Van Pumice chemical treatment composition used in this study are given in the table 1.

Table 1. The Components of Pumice used as adsorbent Chemical

Van Pumices	SiO <sub>2</sub>	Al <sub>2</sub> O <sub>3</sub>	Fe <sub>2</sub> O <sub>3</sub>	CaO	MgO	K <sub>2</sub> O	Na <sub>2</sub> O	SO <sub>3</sub>	Loss on Ignition
	69.00	14.65	2.51	1.11	0.55	3.520	2.48	0.40	4.76

This study was conducted with natural pumice and  $\text{CuCl}_2$ . physicochemical effects were investigated at pH 5. Working at different temperatures and concentrations and pH 5 in the adsorption behavior between natural pumice with heavy metals were analyzed. The copper ions is calculated to eliminate the natural pumice.

**Key Words:** Copper, Environmental Pollution, adsorption isotherm, Thermodynamics, Water

**077 ANALYZED IN TERMS OF CONCENTRATION OF SOME HEAVY METALS IN DEĞİRMENDERE AND ENGİL (VAN) STREAM IN THE SEASONAL VARIATIONS**

**Sema KAPTANOĞLU<sup>1</sup>, Ahmet BAKIR<sup>2</sup>, Ali Rıza KUL<sup>1</sup>**

<sup>1</sup>Yuzuncu Yıl University, Van Health Services Junior Technical College, Van, TURKEY;

<sup>2</sup>Yuzuncu Yıl University, Chemistry Department, Science Faculty, Van, TURKEY;

Email: [yasarsema@hotmail.com](mailto:yasarsema@hotmail.com)

**ABSTRACT**

Water pollution which one of the most important issues in environmental problems both artificially created by humans in the natural aquatic environment and is known to lead to significant problems real. Moreover, the quality of surface waters is often adversely affected by the industrial centers and population growth. In addition, the characteristics of specifically may be differ. Nowadays, a very large increase in the amount of over-intensive industrial development, population growth and results were observed pollutants. Taking these contaminants necessarily be given to the direct and indirect nature has led to a rapid deterioration of the balance of nature. In addition, in the event of migration to cities, industrialization began moving again, and this situation has led to rapid and irregular urbanization. In our country, the factors affecting water pollution can be classified as industrialization, urbanization, population growth, pesticides and chemical fertilizers. Negative effects on the environment of the industry are much more than other factors. Water pollution by effluents of industrial organization, and also indirectly connected to the water pollution caused by excessive pollution on soil and vegetation and is known to lead to the destruction of nature. In addition, the event began with the industrialization of urban migration movements and this again leads to rapid and irregular construction. As one of the most important layer of our planet to sustain the lives of people first need to use water resources in a clean way. Even though the protection of water resources it can cause many diseases and epidemics. We meet our daily water needs must always protect river dams with the help of resources. Especially be given to the aquatic environment of pollutants as the last stop and the environment in human life will adversely affecting the physicochemical and to cause change in the biological, the interests and concerns of the issue throughout the world has led to a rapid increase with each passing day. People of certain chemicals, and in particular the public health problems occur if exposure to heavy metals is increasing day by day. Heavy metals such as Hg, Pb, Cd, Co are a few of the toxic metals. In this study, analysis of water samples Değirmendere and Engil taken in different time periods of stream when the concentration of heavy metals in some months, very little has been found to be higher in some months. It can be found in the results of the analysis of some heavy metal concentrations cannot be measured in different months. For example, the concentration of iron ions was found in some month but cannot found some month. Manganese ions were observed as a result of our work is almost never been encountered in both water samples. Amount of heavy metals contained in samples ranged depending on the seasonal transformations. Because we live heavy metal pollution threatens the life we believe that this important work periodically repeated. We believe that this study is very important because of the heavy metal pollution threatens our life that we do periodically repeated.

**Key words:** Water pollution, Heavy metals, Environment, Water, Life

**078 EXAMINATION OF THE AMOUNT OF THE MONTHLY IRON CONCENTRATIONS IN VAN PROVINCE BENDIMAHI STREAM**

**Sema KAPTANOĞLU<sup>1</sup>, Ahmet BAKIR<sup>2</sup>**

<sup>1</sup>Yuzuncu Yil University, Van Health Services Junior Technical College, Van, Turkey;

<sup>2</sup>Yuzuncu Yil University, Chemistry Department, Science Faculty, Van, Turkey;

Email: [yasarsema@hotmail.com](mailto:yasarsema@hotmail.com)

**ABSTRACT**

In the effluents from various industrial activities found sometimes trace amounts of metals sometimes in high concentrations. With domestic and industrial waste waters, it is estimated that up to one million different pollutants into natural waters. The most important group, even those agents that may be harmful trace amounts of heavy metals called as Sb, Ag, As, Ba, Cd, Cr, Cu, Pb, Mn, Hg, Ni, S, T, U, V, Zn. Specific trace metals (Fe, Mn, Cu, Co, Zn, Mo, Se) in metalloenzymes are coupled with a specific protein that executes a single catalytic function and acts as a cofactor in many enzyme systems. Some of the metals referred to are required for normal physiological functions of organisms in trace amounts. In recent years in our country rapid population and industrialization has also brought with it the rapid consumption and environmental pollution reaches the large size of the country's resources available. Environment which has consist of three essentials elements such as air, soil and water is polluted day by day. Water environment, drinking water and potable water supply, recreation purposes to meet the needs of the user and increased protein has an important area. Such multi-purpose use with contamination of water resources constitutes a major environmental problem. In our study samples taken at monthly intervals from the water minerals from Bendimahir Stream were measured by ICP-OES. In some months there was no measurable amount of iron levels. In some months 0,3655 mg/L, 0,01464 mg/L and 0,006584 mg/L were determined. One of the parameters that needs to be under the control of heavy metal pollution. One of the important parameters that cause environmental pollution is heavy metal working must be accelerated.

**Key Words:** Bendimahi Stream, Water Pollution, Adsorption, Water, Iron

**079 THE TELLUS PROJECT, A STUDY OF SEISMIC PRECURSORS**

**L. Nicolì, S. Biffi, L. Caccia, M. Cavallucci, D. Gullà, G. Lupo, M. Martini, G. Massimiani, M. Zucchetti**

iARESP – International Association for Research Seismic Precursors Via Miraflores, 11/A – 67100 L'Aquila, Italy;

Email: [info@iaresp.it](mailto:info@iaresp.it); [massimo.zucchetti@polito.it](mailto:massimo.zucchetti@polito.it);

**ABSTRACT**

The Tellus project is aimed to study, on the basis of data detected from the ground, what happens during the phase preceding an earthquake, and subsequent correlation with available data received from space thanks to satellites capable of measuring electromagnetic and thermal fields. The Tellus Project consists of multidisciplinary stations suitable for the measurement of chemical, electromagnetic, meteorological and physical parameters on Earth. In particular, the study focuses on the measurements of radon emissions on limited areas in the presence of various measuring stations (Local Area Network). After collecting data for at least 12 months, it will be possible to identify and measure the background emission of the seasonal alterations - dependent on climatic factors - of which the most relevant is the change of atmospheric pressure at ground level. The stations are all located in a special structure placed about 3 meters below ground level. Each station will also include a triaxial seismometer for the detection and identification of parameters of earthquakes with a magnitude close to zero. The measurement of environmental parameters, in particular temperature, pressure and humidity is also part of the station. An external antenna, for the monitoring of the electrical component of the electromagnetic field in the bands ELF and VLF, is part of the equipment as well. It is thus constituted a "Local Network" that will ensure the monitoring of an area of approximately 600 km<sup>2</sup>, in which about 14 stations will

be set up. Through the data of the Local Network, it will be compiled a database that will gather and record all the seismic events. For the most important earthquakes, it will proceed to the verification of the correct location of the epicenter and the determination of focal mechanism that generated it. The measurements of radon emissions will be also collected in a specific database that will automatically be updated every hour, counting data based on registered alpha decays from radon. A specific software (AAD) will be able to detect and communicate to the central hall any detected seismic anomalies. The choice of the parameters that are input to the software are the result of a research activity conducted in the previous four years: they will be modified, customized and updated for each Local Network, based upon the collected data, or whenever a new factor requiring the model update will be necessary. The local multidisciplinary networks will be part of the "Seismic Network Arachne Tellus" (SNAT) that will handle all the data of each Local Network. Our scientific investigation has set as its ultimate goal the identification of parameters considered "seismic precursors". The combination of data could provide a broad geophysicist framework, able to improve the current understanding of the physics of earthquakes and their processes of preparation, detectable from ground and from space.

**Key words:** Local Network, specific software, parameters, climatic factors

**080 DETERMINE OF CONCENTRATION OF THE IODINE IN THE SALT IN SOME DISTRICTS OF ALBANIA**

**Enkeleda KADIU\*, Jolanda Hyskaj, Entela Bushi\***

\* Department of Health and Environment, Institute of Public Health, Tirana, Albania;

Email: [ledakadiu@hotmail.com](mailto:ledakadiu@hotmail.com)

**ABSTRACT**

To determine the iodine concentration in the salt for human consumption. The principal aim is to do the identification and reduction of resources, which allow movement of the salt market without iodine, in order to achieve to the consumer iodized salt within the standards of the country. The iodometric titration method is used to analyze 204 samples of the salt. The iodine content of iodized salt samples is measured using a Standard iodometric titration prescribed by DeMaeyer, Lowenstein and Tilly (WHO, Geneva 1979). Iodine is liberated using sulfuric acid. The free iodine is titrated with sodium thiosulphate, using starch as an indicator. The samples are collected in the districts: Berat, Diber, Durres, Elbasan, Fier, Korce, Kruje, Kukes, Kucove, Lushnje, Pogradec, Vlore. The national mean and median iodine concentration of the salt were 29.6 mg/kg. The minimum value encountered was 0 mg iodine / kg salt, while the maximum value 68.8 mg iodine / kg salt (or ppm). It should be noted that median overall sample, and in every district in particular is within the normal value appropriate iodization of salt for human consumption ( $\geq 20$  mg iodine / kg salt). The analysis of levels of iodine in samples collected showed that 81.4% of samples had  $\geq 20$  ppm iodine content ( according to parameters set by law), while 18.6% had no iodine or iodine content below 20 ppm.

**Keywords:** Sodium chloride, iodine use, salt, Albania, iodometric titration

**081 RESULTS OF ANALYSIS FROM DEA MODEL IN MEASURING AND IMPROVING THE EFFICIENCY OF LIVESTOCK FARMS IN THE REGIONS OF ALBANIA**

**Mariana Nikolla<sup>1\*</sup>, Silvana Mustafaj<sup>1</sup>, Elfrida Dishmema<sup>1</sup>, Jona Mulliri<sup>2</sup>, Eris Zeqo<sup>2</sup>, Blerta Kristo<sup>2</sup>**

<sup>1</sup>Agriculture University of Tirana, Mathematics & Computer Science Department, Tirana, Albania;

<sup>2</sup>Aleksandër Moisiu University, Computer Science Department, Durrës, Albania;

<sup>2</sup>Polytechnic University of Tirana, Faculty of Mathematical Engineering and Physical Engineering, Tirana, Albania;

\*E-mail: [mariana\\_nikolla@live.com](mailto:mariana_nikolla@live.com)



**ABSTRACT**

In this study it is shown how to use a mathematical model to measure and improve the efficiency of livestock farms. The study refers to data collected from dairy farms of 12 regions of Albania in respect of incomes and expenses for processed dairy products in 2012. This analysis gave the answer to the question: what are efficient and inefficient farms under DEA model? (nonparametric model based on linear programming). Some of the results of the analysis are: Korca, Gjirokastra, Shkodra and Kukes result in 100% efficiency of DEA, while other regions are inefficient. The results of less efficient regions are: Lezha 24%, 28% Fier, Tirana 37.6% and Vlora 37.7%. In inefficient farms for processed dairy products, the DEA model shows the best possible weights use of inputs (food, veterinary services, medications, transportation, and others) in order to improve the DEA efficiency. The allocation of quantities of the inputs identified by the use of the model provides a minimum of the same income from livestock products but with less expenses. These and other conclusions are illustrated with pictures, which give a clear picture of the study conducted.

**Key Words:** Mathematics model, efficiency, DEA model, livestock products, regions of Albania.

**082 COMPARISON OF VAN CENTER BEFORE AND AFTER EARTHQUAKE AIR GAMMA RADIATION DOSE RATE MEASUREMENT**

**Tahir ÇAKIR<sup>1</sup>, Ali Rıza KUL<sup>2</sup>, M.Ali KOÇMEN<sup>3</sup>**

<sup>1</sup>Yuzuncu Yil University, Medical Faculty Department of Radiation Oncology, Van- TURKEY;

<sup>2</sup>Yuzuncu Yil University, Science Faculty Department of Physical Chemistry, Van- TURKEY;

<sup>3</sup>Turkish Atomic Energy Authority, Department of Radiation Health and Safety, Ankara-TURKEY;

Email: [tahircakir@yyu.edu.tr](mailto:tahircakir@yyu.edu.tr); [alirizakul@yyu.edu.tr](mailto:alirizakul@yyu.edu.tr); [mali.kocmen@taek.gov.tr](mailto:mali.kocmen@taek.gov.tr);

**ABSTRACT**

In Van region there was a great earthquake in 23th October 2011 which is 7.2-magnitude. In this study we aimed to show that if there is a change of air dose rate before and after the earthquake therefore we analyzed the levels of natural radioactivity which is recorded by TAEA (Turkish Atomic Energy Authority) monthly in Van city center between January 2011 and February 2014. The air dose rate data was recorded by a portable gamma detector which has online open access and is settled by TAEA in Van, recorded data was used by the permission of the TAEA. In addition to gamma radiation of terrestrial cosmic radiation has also contributed in the results of air dose rate. The large part of the environmental gamma radiation is consisted of the natural radionuclides in the soil and rocks like <sup>40</sup>K, <sup>238</sup>U and <sup>232</sup>Th, while the small part has the origin of cosmic radiation space. In Van city the results of average gamma air dose rate in 2011 was 85 nSv/h and the same result was found in 2012 therefore no significant difference were found between 2011 and 2012. The average air dose rate in 2013 and 2014 was 140 nSv/h (Figure 1). It is higher than 2011 and 2012 when we analyzed for each year but there was no difference in 2013 and 2014 when we analyzed monthly. We believe that the high dose value in 2013 and 2014 is caused by the recently occurred aftershocks which broke the surface and this leads to contamination of air with radioactive gases. In this case, the environmental radioactivity level in Van region has to redefine after the earthquake.

**Key words:** environmental radioactivity level, gamma radiation, earthquake, region

**083 ANALYSING THE SPATIAL DISTRIBUTION OF SOME AGRICULTURAL CROPS IN VAN PROVINCE-TURKEY FROM 2002 TO 2014**

**Bulut Sarğın<sup>1</sup>, Siyami Karaca<sup>2</sup>, Pınar Aslantaş<sup>3</sup>**

<sup>1</sup>Yuzuncu Yil University, Faculty of Agriculture, Biosystem Engineering Department, Van, TURKEY:

<sup>2</sup>Yuzuncu Yil University, Faculty of Agriculture, Soil science and plant nutrition Department, Van, TURKEY;

<sup>3</sup>Yuzuncu Yil University, Faculty of Agriculture, Landscape Architecture Department, Van, TURKEY;

Email: [umutbulut65@hotmail.com](mailto:umutbulut65@hotmail.com); [s.karaca@yyu.edu.tr](mailto:s.karaca@yyu.edu.tr); [pinarbostan@yyu.edu.tr](mailto:pinarbostan@yyu.edu.tr);

#### ABSTRACT

Van province is located in Turkey, between 42' 40° and 44' 30° East longitudes and between 37' 43° and 39' 26° North latitudes. Van province's territory (19,069 km<sup>2</sup>) covers 2.5% of Turkey's land area. Van province consists of 17% agricultural area, 67% meadows and pastures, and 1% of the forest land area. Considering crops grown in Van province, forage crops cultivation is the most with a rate of 28.10% of the total area. It is followed with cereals with a rate of 27.23%. Moreover, fallow land with a rate of 30.79% is very important in the province. The amount of unused arable land has also an important place, with a rate of 11.82%. The production quantities of agricultural products and land sizes of Van province were investigated from 2002 to 2014. The purpose of this study was to scientifically analyze agricultural products of Van province (alfalfa, sainfoin, wheat and barley) and to help out the emergence more effective and accurate projects for the development of agriculture and agro-based industries in the province. Extensive research was carried out in the preparation of study and statistical data were collected from institutions that have relevant information and data to the subject. The data obtained after this phase were analyzed by spatial kriging method and estimation maps have been mapped for each period observed. The obtained results were expressed in tables and figures. This study is important to reveal different patterns of agricultural products according to years in Van province.

**Key words:** Agricultural production, Spatial Kriging, Van

#### 084 BIOMONITORING OF URBAN AIR POLLUTION IN TIRANA USING THE MOSS BAG TECHNIQUE

Ilva Gjika<sup>1</sup>, Majlinda Vasjari<sup>2</sup>, Majlinda Terpo<sup>3</sup>

<sup>1</sup>Chemistry Department, Faculty of Mathematical Engineering and Physical Engineering, Polytechnic University of Tirana, Albania;

<sup>2</sup>Chemistry Department, Faculty of Natural Sciences, University of Tirana, Albania;

<sup>3</sup>Biochemistry Department, Faculty of Natural Sciences, University "Eqrem Çabej", Gjirokastra, Albania;

Email: [ilva\\_gjika@yahoo.com](mailto:ilva_gjika@yahoo.com);

#### ABSTRACT

This study is focused on the evaluation of the heavy metal air pollution of urban area of Tirana, Albania using mosses as biomonitors. Based on the fact that mosses obtain most of their nutrients directly from rain water and from the deposition of air-borne particulate material, the concentration of heavy metals in them directly reflects the air quality. In polluted urban areas where mosses are often absent the moss bag technique is used for air pollution survey. *Pseudoscleropodium purum* moss samples were collected during September-October 2010 at rural areas isolated from urban and industrial centers and then transplanted at seven monitoring sites located in Tirana for a period of five months. The concentrations of Zn, Fe, Mn were determined by flame AAS, the concentrations of K, Na were determined by flame AES and the concentrations of Cu, Cd, Pb were determined by graphite furnace AAS. Cluster Analysis of elements was used to define different pollution sources.

**Key words:** air pollution, biomonitor, moss bag, heavy metals, AAS, AES, Cluster analysis.

#### 085 GEOCHEMICAL NORMALISATION METHOD IN BIOMONITORING OF HEAVY METAL AIR POLLUTION

Ilva Gjika<sup>1</sup>, Majlinda Vasjari<sup>2</sup>, Majlinda Terpo<sup>3</sup>

<sup>1</sup>Chemistry Department, Faculty of Mathematical Engineering and Physical Engineering, Polytechnic University of Tirana, Albania;

<sup>2</sup>Chemistry Department, Faculty of Natural Sciences, University of Tirana, Albania;

<sup>3</sup>Biochemistry Department, Faculty of Natural Sciences, University "Eqrem Çabej", Gjirokastra, Albania;

Email: [ilva\\_gjika@yahoo.com](mailto:ilva_gjika@yahoo.com);

#### ABSTRACT

A biomonitoring survey involving the moss *Hypnum cupressiforme* was carried out in three regions of Albania (Tirane, Durres and Lezhe) to evaluate the atmospheric deposition of trace elements. Moss samples were collected at 13 sites during October-September 2010, following the guidelines of UNECE ICP Vegetation. The content of elements in moss samples were determined using the ICP-AES technique. In order to differentiate between the natural and anthropogenic origin of trace elements, the data obtained from chemical analysis were normalised to element Li as a typical element of earth crust. With the data obtained from chemical analysis and the data after the normalisation to Li, the Descriptive Statistic were performed and the chart of elements were constructed. After the normalisation it was seen that the elements like Cr, Ni, Cu, Pb, Cd show anthropogenic origin.

**Key words:** air pollution, biomonitor, moss, trace element, normalisation, ICP-AES.

#### 086 REMOVAL OF ZINC IONS FROM AQUEOUS SOLUTIONS USING ACTIVATED CARBON

Ali Rıza KUL<sup>1</sup>, Senol KUBİLAY<sup>2</sup>, Nurhayat ATASOY<sup>2</sup>, Sema KAPTANOĞLU<sup>1</sup>, Nilüfer Çiriğ SELÇUK<sup>2</sup>, Mustafa Utku ÇOLAK<sup>2</sup>

<sup>1</sup>Yuzuncu Yıl University, Van Health Services Junior Technical College, Van, TURKEY;

<sup>2</sup>Yuzuncu Yıl University, Chemistry Department, Science Faculty, Van, TURKEY;

Email: [senolkubilay@yyu.edu.tr](mailto:senolkubilay@yyu.edu.tr)

#### ABSTRACT

As it known, water is one of the main factors of the living conditions of all living things. Water pollution in generally, organic, inorganic, can be defined as biological or radioactive material into the water. Agricultural activities as a result of pollution can be said of industrialization and urban centers. The amount of water used in industry statistics show that more than other areas. The sea of toxic industrial waste into rivers and lakes of water leads to significant contamination. In recent years, the development of art in liquidation takes water to combat this problem. 300-2000 m<sup>2</sup>/g with a surface area and carbon derived activated carbon can be produced from almost any material, large internal surface area and the organic and inorganic substances in the gas and liquid phases of different diameters it has the porosity is greater adsorption capacity. Multipurpose adsorbent can be controlled distribution and size of the pores in the structure. Therefore, as the adsorption gas from water treatment find extensive use in many applications as adsorbent. Receiving unwanted substances in liquid and gas and chemical purification of the most important fields of application. It also is used as a catalyst or catalyst support. Natural or synthetic, activated carbon can be produced from any carbonaceous starting materials which are readily available to be economical or a raw material should preferably be found. Powders, granules, production of activated carbon in fiber or shaped form most commonly used raw wood, coconut shell, are vegetable substances and carbonized or degradable with coal types of fossil-based materials such as fruit seeds. The surface area is determined by the size and distribution of pores; starting material is closely related to the conditions of carbonization and activation. We made this study Lagenariasicerari fruit waste is first chemically modified after activation in inert atmosphere obtained by burning zinc ions of the activated carbon was calculated to eliminate the range of about from 82% to %88. After different temperature activated carbon and zinc heavy metals in concentration first time in the ninetieth minute has been shown to rapidly and reaches

equilibrium adsorbed. Also adsorption isotherms and thermodynamic parameters were calculated. This study was attempted to be worked in neutral pH environments at different pH values.

**Keywords:** Activated carbon, Environmental pollution, Lead, Adsorption equilibrium

## 087 ECONOMIC EFFICIENCY ON PRODUCTION OF THE VINE IN KOSOVO

**Isuf Lushi**

Public University of Prizren “Ukshin Hoti”, Kosovo;

Email: [isuf.lushi@uni-prizren.com](mailto:isuf.lushi@uni-prizren.com)

### ABSTRACT

Vine is known as the agro-culture product that is gained by the processing of the grape, which has of nutrition, protection and heals values for the people. The aim of this paper is to research the relevant factors which impact on the development of the vine sector in Kosovo. In general the factors that deeply impact on the economical effects at the production industry of the vines are multi-dimensional, like: sort of the adequate varieties for vine, educational factors of the production, grape vine feeding, checking of the sickness and the damagers, marketing, data record, equipment for storage of the vine, etc. For the raise of the vine production benefit are required to have reduced fixed expenses for the production unit (labor force, facilities); Enhancement of the nutrition base by the quality aspect and the production costs; improvement of the grape cultivators for white and red vines; Vertical integration of the vines and findings of the new alternatives of the incomes that will impact on the profit raise which is also the aim of each business. Setting of the human capacities in order to develop the sector and involvement of the advisory services regarding enforcement of the innovations and best practices in production, professional education and training of the new staff in the area of Oenology.

**Key-words:** Vine, production, varietetes, economic evaluation

## 089 MICRO GREENHOUSE CULTIVATION

**Zeynal Boynukara<sup>1</sup>, Numan Bildirici<sup>2</sup>, Suzan Karagöz<sup>3</sup>, Sema Sancak<sup>4</sup>**

<sup>1</sup>Yüzüncü Yıl University, Faculty of Education Primary Education Bl. VAN, Turkey;

<sup>2</sup>Yüzüncü Yıl University, Gevaş Vocational High School VAN, Turkey;

<sup>3</sup>Yüzüncü Yıl University, Environmental Problems Research Center VAN, Turkey;

<sup>4</sup>Yüzüncü Yıl University, Research and Application Center for Women’s Studies VAN, Turkey;

Email: [bzeynel@yahoo.com](mailto:bzeynel@yahoo.com)

### ABSTRACT

Considering our world where population increases geometrically and food requirements increase arithmetically it is inevitable that alternative agriculture should be done. And this indicates that micro greenhouse cultivation will take place inevitably in our life in the future. Especially, as single agriculture is done in the east, producers and housewives spend most of their time away. This problem will be removed substantially thanks to the greenhouses that will be established. The beginning of greenhouse vegetable gardening in the western cities of Turkey dates back to 30-35 years ago. Establishing of greenhouse management started in Antalya and Mersin which are most suitable in terms of climate. Actually, although plant growing in greenhouses is done all around Turkey, it is obvious that for providing suitable environmental conditions for plants, and factor like economy, transportation and marketing restrict greenhouse management. Greenhouse fields in the East and South East. When technical precautions like decreasing heating expenses and taking benefit from solar power with geothermal resources like hot water, boiling water and vapor being used in accordance with the same purpose, will

---

contributed to enlarging the fields of greenhouse managements. Out of all that stuff, considering Van city example. Although climate and soil are suitable for micro greenhouse cultivation, there are reasons for greenhouses' being scarcely any is conspicuous that society has a bias that climate is not suitable for greenhousing. On the contrary, it was reported in a study that when annual sunshine duration is taken as annual average hourly, South east ranks first with 8.191 hours and East ranks fourth with 7.693 hours.

**Key words:** micro greenhouse, cultivation, climate

**090 THE FINANCIAL CRISIS IN EAST ASIA: MAINTAINING TRUST AND ADDRESSING THE CAUSES ARE ESSENTIAL FACTORS IN OVERCOMING CRISIS**

**Teuta Ismaili-Muharremi**

Senior Statistician at Central Bank of the Republic of Kosovo;  
PhD candidate at the Doctoral School - European University of Tirana, Albania;

Email: [teuta\\_i78@hotmail.com](mailto:teuta_i78@hotmail.com);

**ABSTRACT**

This paper aims to look at the literature about main causes of the financial crisis in East Asia in 1997-1998, with special focus on identifying the most important lessons from this crisis, which could serve as a tool for preventing similar crises in the future. The research literature proves that the menu of crisis' causes is more or less standard, but due to different appetites and ways of their consumption at local, regional and global crisis are manifested with different content, scope and consequences. Finally, in a more pronounced than in any other crisis until then, the crisis in East Asia highlights the importance of adequate diagnostics of causes of the crisis and therefore undertaking actions to firstly maintain trust between actors involved as a precondition for defeating each crisis.

**Keywords:** financial crisis, the movement of capital, East Asia, the International Monetary Fund

**091 BEHAVIOUR OF SOME APPLE CULTIVARS ON PAJAM 2 ROOTSTOCK IN DIBRA REGION**

**Telat Spahiu\*, Fadil Thomaj\*\*, Endrit Kullaj\*\***

\*ADAD, Dibra; \*\*Agricultural University of Tirana, Department of Horticulture and Landscape Architecture, Albania;

Email: [fadil\\_thomaj@hotmail.com](mailto:fadil_thomaj@hotmail.com)

**ABSTRACT**

Progressive dissemination of new apple rootstocks in Europe and broader has made immediate the study of their behaviour under certain pedological and climatic conditions as well as their combination with certain cultivars. The present research was conducted in Dibra region aiming at studying Pajam 2 apple rootstock on vegetative and reproductive characteristics of cvs. 'Red Chief', 'Granny Smith', 'Golden Delicious' and 'Starking'. The experimental plot was planted in 2011 with distances 3.5 x 1.5m. During three consecutive years (2011 – 2013), at the end of the vegetative growth, we measured the volume of the canopy, trunk circumference at 20 cm above the grafting point, elements of the canopy architecture, yield and production efficiency. Data show that trees of cv. 'Red Chief' had the highest volume of the canopy and trunk and those of cv. 'Starking' the lowest values, although the latest achieved the highest efficiency (kg/cm<sup>2</sup> of trunk circumference). The highest yield was collected from trees of cv. 'Granny Smith' while the efficiency was almost similar to 'Starking'. Significant changes have been found in the elements of canopy architecture, with cv. 'Golden Delicious' had highest percentages of vegetative shoots.

**Key words:** apple, cultivars, pajam 2 rootstock, region

**092 INVESTIGATION OF ISOTHERM PARAMETERS OF PAINT ADSORPTION ON ACTIVE CARBON**

**Ahmet SELÇUK<sup>1</sup>, Ali Ender KUYUCU<sup>2</sup>, Ali Rıza KUL<sup>2</sup>, Gülen ÖNAL<sup>1</sup>**

<sup>1</sup> Yuzuncu Yil University, Faculty of Educational Van, TURKEY;

<sup>2</sup> Yuzuncu Yil University Faculty of Sciences, Van, TURKEY;

E-mail : [aselcuk@yyu.edu.tr](mailto:aselcuk@yyu.edu.tr)

**ABSTRACT**

It is environmentally, technically and commercially important to purify aqueous media which are polluted by dyes. Conventional biological and chemical refinement technologies are used in drain water treatment. Even if the utilization of adsorbents for increasing the quality of treated water is already known, due to an abrupt increase in number of pollutants and pollution doses the need for new treatment technologies and reusable adsorbents has increased. It is known for a long time that active carbon adsorbs colourants and heavy metals and thus, it has been being used as adsorbent to get rid of these pollutants from water recently. In this study, the capacity of active carbon in removal of colourant was investigated. Zivzik pomegranate from Siirt district of TURKEY was used as active carbon and it was prepared with  $ZnCl_2$  by chemical activation. Since measurement of surface area determines amount of colourant it can remove, surface area was measured by BET and removals of Methylene Blue and Crystal Violet were investigated. In our study, adsorptions to active carbon at 45°C for the colourants of Methylene Blue and Crystal Violet were evaluated for four different initial colourant concentrations of 200, 400, 600 and 800 mg/L graphically and isotherm parameters of Langmuir, Freundlich, Temkin ve D-R were investigated. It was found in, this study, that adsorption of both colourants obey to Langmuir isothermal model.

**Key words:** Active carbon, Colourant, Adsorption, Isotherm

**093 STUDY OF THERMODYNAMIC PARAMATERS OF DYE ADSORPTION ON NATURAL AND COMMERCIAL CLAY**

**Ahmet SELÇUK<sup>1</sup>, Gülen ÖNAL<sup>1</sup>, Ali Ender KUYUCU<sup>2</sup>, Ali Rıza KUL<sup>2</sup>**

<sup>1</sup>Yuzuncu Yil University, Faculty of Educational Van, TURKEY;

<sup>2</sup>Yuzuncu Yil University Faculty of Sciences, Van, TURKEY;

E-mail : [aselcuk@yyu.edu.tr](mailto:aselcuk@yyu.edu.tr)

**ABSTRACT**

The wastewater of textile industry, emitted into the environment at different pH, consists of a wide range of organic materials, heavy metals, dissolved salts, coloring, blur and and require first degree treatment. It has long been known that clays have adsorbed dyestuffs and heavy metals and therefore clays have been used for the removal of pollutants as adsorbents in recent years. Clays can be accessible easily and cheaply, therefore their use for the removal of dyestuff is economically attractive. In this study the capacity of clays used for the removal of dyestuff has been investigated. As clay, the natural clay taken from Derik province of Mardin city (Turkey) and samples of montmorillonite clay taken from southern Clay Products Company have been used and a dyestuff Methylene Blue removal has been studied. BET analysis for the determination of pore dimensions of clays and XRF analysis for the determination of materials found in the composition have been used in our study. The adsorption of dyestuff Methylene Blue, which is used in our study, on natural clay and

commercial clay has been evaluated graphically for 50 mg/L initial dyestuff concentration at three different temperatures of 25° C, 35° C and 45° C and their thermodynamic parameters have been investigated.

**Key Words:** Dye, Adsorption, Clay, Thermodynamic , Parameter

**094 INVESTIGATION OF THERMODYNAMIC PARAMETERS OF DYE ADSORPTION ONTO ACTIVE CARBON**

**Ali Ender KUYUCU<sup>2</sup>, Ahmet SELÇUK<sup>1</sup>, Ali Rıza KUL<sup>2</sup>, Gülen ÖNAL<sup>1</sup>**

<sup>1</sup>Yuzuncu Yıl University, Faculty of Educational Van, TURKEY;

<sup>2</sup>Yuzuncu Yıl University Faculty of Sciences, Van, TURKEY;

E-mail : [ali.ender@hotmail.com](mailto:ali.ender@hotmail.com);

**ABSTRACT**

Reactive and acid colourants are two important classes of textile dyes. Cheap, easy-to- use and non-pollutant new treatment methods have been gaining importance for removal of colourants from drain water since the physical and chemical technics such as adsorption, coagulation-flocculation, filtration, oxidation, ozonization, electrochemical claeaning are expansive and have high investment and operating costs, also, they produce new pollutions. Active carbon is a material which is frequently used for removal of colourants from environment owing to its properties like having vide surface area, containing micro, meso and macro pores. In this study, Zivzik pomegranate from Siirt district of TURKEY was used as active carbon and it was prepared with ZnCl<sub>2</sub> by chemical activation. Since measurement of surface area determines amount of colourant it can remove, surface area was measured by BET and removals of Methylene Blue and Crystal Violet were investigated. In our study, adsorptions to active carbon at three different temperatures of 25°C, 35°C and 45°C for the colourants of Methylene Blue and Crystal Violet were evaluated as a function of initial colourant concentration of 800 mg/L graphically and thermodynamical parameters were investigated. As a result, it was found that adsorption process is endothermic and occurs spontaneously (i.e. a physical process).

**Key words:** Active carbon, Colourant, Adsorption, Thermodynamic

**095 THE INVESTIGATION OF ISOTHERM PARAMETERS OF DYE ADSORPTION ON NATURAL CLAY AND COMMERCIAL CLAY**

**Ahmet SELÇUK<sup>1</sup>, Gülen ÖNAL<sup>1</sup>, Ali Rıza KUL<sup>2</sup>, Ali Ender KUYUCU<sup>2</sup>**

<sup>1</sup>Yuzuncu Yıl University, Faculty of Educational Van, TURKEY;

<sup>2</sup>Yuzuncu Yıl University Faculty of Sciences, Van, TURKEY;

E-mail : [aselcuk@yyu.edu.tr](mailto:aselcuk@yyu.edu.tr)

**ABSTRACT**

Dyestuffs vary according to the industrial branch and industrial activity that they are used for. The most extensively used area of colorant pigments are textile, paper, leather, rubber, medicine, food, cosmetics and dye industry. If rapid development of, especially, textile industry in our country is considered, of treatment of the colored waste water is quite important in terms of environment and human health. It has long been known that clays adsorb dyestuffs and heavy metals and therefore the use of clays as adsorbents for removal of contaminants has become important in recent years. In this study, the possibility of the use of clays for the removal of dyestuff was investigated. Clays can be accessible easily and cheaply therefore their use for the removal of dyestuff is economically attractive. Thus, two types of adsorbents have been used in this study. In this study, the adsorption capacity of dyestuff methylene blue on the natural clay taken from Derik province of

---

Mardin city (Turkey) and clay samples of montmorillonite clay taken from Southern clay Products Company has been investigated. The measurement of surface area can determine amount of dyestuff that can be adsorbed, so the surface area of clays have been measured with a instrument called BET. The adsorption of dyestuff methylene Blue, in our study, on natural clay and commercial clay has been evaluated graphically at 25°C for seven different initial concentrations as 50, 100, 150, 200, 250, 300 and 350 mg/L, and Langmuir, Freundlich and Scatchard isotherm models have been investigated. It has been concluded that removal of dye stuff is more suitable to Freundlich isotherm model.

**Key words:** Dye, Clay, Adsorption, Isotherm

## 096 OCCUPATIONAL CONTACT DERMATITIS

Desantila Tahiraj<sup>1</sup>, Ermira Vasili<sup>2</sup>

<sup>1</sup>Regional Hospital of Elbasan, Albania;

<sup>2</sup>University Hospital Center "Mother Theresa" Tirana, Albania;

E-mail: [desantilatahiraj@gmail.com](mailto:desantilatahiraj@gmail.com);

### ABSTRACT

Occupational dermatoses are abnormalities of the skin induced or aggravated by the work environment. The most commonly encountered occupational dermatoses is the contact dermatitis which is an inflammation caused by chemical substances found in the work place that come in direct contact with the skin. Occupational skin disease are classified into four major categories of potentially hazardous exposures which are: mechanical, physical, chemical, and biological factor. The aim of the study was to give an epidemiological overview of occupational skin diseases in Elbasani district. This is a prospective study, of 932 patients presenting to the Dermatologic Clinic in Elbasan district, over the period 2010-2012. The mean age of patients was 40.2±13.2 years old (range 20 – 64). More affected by contact dermatitis were females with (60%) cases compared to men (40%) of total cases. The ratio women/men was 1.5:1. The most common occupational disease was irritant contact dermatitis (46.7%) patients, allergic in (45.4%), photoallergic in (4.3%) and contact urticaria in (3.6%) patients. Building materials (27%), plants (26%), and cosmetic (12%) were the most frequent etiological factors. The area most affected were the hands (52%), legs (16%) and the face (13%). Contact dermatitis is a frequent occupational dermatoses in our patient population. Irritant contact dermatitis is more common than allergic contact dermatitis. Health educational programs for workers at risk and use of protective equipments during work are necessary for preventing and reducing the disease.

**Keywords:** contact dermatitis, occupational, epidemiology, irritant

## 097 MANAGEMENT OF ACUTE MYOCARDIAL INFARCTION

Edi Smajlaj<sup>1</sup>, Sabit Brokaj<sup>2</sup>

<sup>1</sup>Regional Hospital, of Shkodra, Albania;

<sup>2</sup>University Hospital Centre "Mother Theresa", Tirana,Albania;

E-mail: [edismaj@hotmail.com](mailto:edismaj@hotmail.com);

### ABSTRACT

The treatment of acute myocardial infarction (AMI) is a rapidly evolving field with significant advances in the past two decades. It is still largely dependent on thrombolysis for primary management of acute myocardial infarction. The aim of this retrospective study was to present current data on the presentation, management, and outcomes of acute ST-segment-elevation myocardial infarction (STEMI) over the period 2010-2013 of 107



patients admitted at regional hospital of Shkodra district, Albania.. Median interval between symptom onset and hospital presentation was 72 min (mean 243 min). Thrombolysis was performed in 81% of patients. The most common single reason for not performing thrombolysis was delayed presentation. Median door-to-needle time was 71 min (mean, 103 min). Only 17.2% of patients received thrombolysis within 30 min, and none underwent primary PCI. Over 98% of patients received aspirin, clopidogrel, and a statin on admission. Intravenous and oral beta blockers were rarely used. Follow-up data were available for 97.1% of patients at 1 year. One-year mortality rate was 6.3%. Coronary intervention was performed in only 8.2% of patients post infarction. Late presentation to hospital remains a critical factor in thrombolysis of STEMI patients in hospital. Optimal management of myocardial infarction in the subacute period focuses on improving the discharge planning process, implementing therapies early to prevent recurrent myocardial infarction, and avoiding hospital readmission. First-contact physicians should receive further training on effective thrombolysis, and there is an urgent need to explore the ways in which PCI and post-infarction interventions can be incorporated into treatment protocols.

**Keywords:** ST-segment-elevation myocardial infarction; management, thrombolysis

## 098 RESULTS OF BREAST SCREENING MAMMOGRAPHY

**Agim Dokaj<sup>1</sup>, Arsen Hoxha<sup>1</sup>, Tahir Hysa<sup>2</sup>**

<sup>1</sup>Regional Hospital of Shkodra, Albania

<sup>2</sup>University Hospital Centre "Mother Theresa", Tirana, Albania

E-mail: [a\\_dokaj@yahoo.com](mailto:a_dokaj@yahoo.com)

### ABSTRACT

Mammography can detect cancer early when it's most treatable and can be treated less invasively - which not only save lives, but helps preserve quality of life. The aim of this study was to describe the abnormal findings of a breast in women included in a screening program. This is a prospective study. Participants were recruited to the study by a general publicity campaign and through family doctors. A total of 1500 asymptomatic women presenting for screening mammography at regional hospital in Shkodra over the year 2012 were included in the study. Women were eligible if they were aged 40-59, had no mammography in the previous 12 months, had no history of breast cancer, and were not pregnant. Two specialist radiologists with a long experience in reading mammography participated in image interpretation. The type of mammographic abnormality detected was recorded for all women. The most frequent abnormal findings were duct ectasia (6.5%), cystic formations (3.4%) fibroadenoma (3.3%), axillary adenopathy (2.9) Ca mammae 2.2% (95%CI ) intra mammalian lymph nodes (1.7%), atypical microcalcifications (0.1%) and retraction (0.1%). Ultrasound detected 35 (2.3%) cases of mastitis. A lot of breast cancers are detected early by breast screening. All women of every age should remain breast aware, to know how breasts and nipples normally look and feel, and any changes that occur before and after periods. Education, early diagnosis, and clinical care should be provided to women to ensure that as many breast tumours as possible are diagnosed at or less than 2 cm.

**Key words:** breast, microcalcifications, cancer, screening

## 099 INFECTIOUS DISEASES IN HOSPITALIZED CHILDREN

**Floreta Korumi<sup>1</sup>, Gjeorgjina Kuli-Lito<sup>1</sup>, Raida Petrela<sup>1</sup>, Hamide Hoxha<sup>1</sup>, Eli Kallfa<sup>1</sup>**

Pediatric Hospital, University Hospital Centre "Mother Teresa" Tirana, Albania;

E-mail: [korumifloreta@yahoo.com](mailto:korumifloreta@yahoo.com);

### ABSTRACT

Despite the remarkable progress in their treatment and prevention, infectious diseases remain a major cause of death and debility around the world. We planned this study to determine the epidemiologic features of infectious diseases in children (0 to 13 years) admitted to the University Hospital Centre (UHC) "Mother Teresa" in Tirana, Albania. In this prospective descriptive study the data were collected from medical records of patients with infectious diseases admitted to the UHC "Mother Teresa" in Tirana during the year 2014 (January through December). The medical records of the patients were reviewed and a questionnaire was used to obtain information about age, gender, district of patient's residence, final diagnosis, incidence of death and length of hospital stay. 1815 children were admitted to the pediatric hospital during the study period with an infectious disease's diagnosis. The mean age of the patients with infectious diseases was 2.29 years (range, 7 days-12 years). The most frequent diagnosis were viral infections 796 (44%), bronchopneumonia 227 (13%) and gastroenteritis 154 (8%). Mortality rate of infectious diseases was 0.3%. This study confirms the continuing importance of pediatric infectious diseases in Albania especially pneumonia and gastroenteritis. The incidence of acute diarrhoeal diseases has not decreased in Albania during the last decade. Improvement of hygienic conditions of water supply is important to reduce the incidence of diarrhoeal disease. The pneumococcal and Haemophilus influenzae vaccines are already included in the national vaccination scheme. Maybe is time to consider the rotavirus vaccine too.

**Key words:** infectious diseases, hospitalized children.

## 100 THE DIAGNOSIS OF THYROID NODULES

Lulezim Lekaj<sup>1</sup>, Edmond Çeliku<sup>2</sup>

<sup>1</sup>Regional Hospital, of Shkodra, Albania;

<sup>2</sup>University Hospital Centre "Mother Theresa", Tirana, Albania;

E-mail: [lulezimlekaj@yahoo.com](mailto:lulezimlekaj@yahoo.com)

### ABSTRACT

Thyroid nodules are a common clinical problem, and differentiated thyroid cancer is becoming increasingly important. The objective of this study was to determine if the Fine-needle aspiration biopsy (FNAB) is a reliable method in the diagnosis and surgical treatment of nodular disease and cancer of the thyroid gland. This is a prospective study of 124 consecutive patients treated surgically for thyroid nodules at Regional Hospital, of Shkodra, Albania over the period 2010-2013. There were (22%) males and (78%) females, with a mean age of 46.3 years old with a range 18-75 years old). The female-to-male ratio was 3.5/1. The mean history period was 4.4 years and the mean duration of hospitalization was 7.9 days. The reason for surgery was presence of mechanical complications (12%), hyperthyroidism (15%), solitary nodules (52%) and suspected cancer (21%). Patients' age was 41.3±9.6 year with benign nodules, and 46±13 year with malignant lesions (p<0.01). The frequencies of pathologic lesions were: multinodular goiter, 61.2%; thyroid cancer, 29.7%; thyroid adenoma, 6.5%; and thyroiditis, 1.9%. There was no relationship between being multinodular or single nodule and malignancy. The success of FNAB in detecting lesions that proved malignant on histological examination was significant (p<0.051). Fine-needle aspiration biopsy (FNAB) is the gold-standard diagnostic investigation and enables the number of surgical operations to be reduced.

**Keywords:** thyroid nodules, diagnosis, biopsy, radiology, images

## 101 DETERMINATION OF PAH AND BTEX LEVELS IN WATER AND SEDIMENT SAMPLES OF PATOKU LAGOON

Sidita Mançe, Elda Marku, Aurel Nuro, Bledar Murtaj

Tirana University, Faculty of Natural Sciences, Chemistry Department, Albania;

E-mail: [siditamance@hotmail.com](mailto:siditamance@hotmail.com)

### ABSTRACT

This study presented data about concentrations of BTEX (benzene, toluene, ethylbenzene and o-, m-, p-xylenes) and PAHs (poly aromatic hydrocarbons) in water and sediment samples of Patoku Lagoon. Fifteen water samples were taken in different stations of lagoon and six samples in Mati river in November 2014. Headspace solid phase micro extraction (HS-SPME) technique was used to trace BTEX in both, water and sediment samples. For isolation of PAHs in water samples liquid-liquid extraction (assisted with hexane as extraction solvent) were used. 1 L water samples were taken for each stations of Patoku Lagoon. 10 g dry sediment samples were used for the determination of BTEX and PAH in sediment samples assisted by ultrasonic bath. The qualitative and quantitative analysis of BTEX and PAHs in water and sediment samples was performed by gas chromatography technique using flame ionization detector (GC/FID). Injections of BTEX were done in Head-Space mode using polydimethyl siloxane fiber. 1 ul extract in hexane (extracting solvent) were injected for PAHs analyses. VF-1ms capillary column (30m x 0.25mm x 0.25um) was used for separation of BTEX and PAH compounds. Relatively high concentrations of BTEX and more volatile PAH compounds were detected in water and sediment samples of Patoku Lagoon. The presence of volatile organic pollutants could be mostly of automobilist transport near the lagoon, water currents and discharge of industrial wastes in Mati River.

**Keywords:** PAH; BTEX; HS-SPME; GC/FID; Water analyze; Sediment samples; Patoku Lagoon

### 102 THE PREVALENCE OF RISK FACTORS IN PATIENTS WITH COPD IN THE DISTRICT OF TIRANA, 2005-2011

Entela Nako<sup>1</sup>, Laureta Malushi<sup>2</sup>, Enver Roshi<sup>3</sup>

<sup>1</sup>Health Center- Dispensary for Pulmonary Diseases, Tirana, Albania;

<sup>2</sup>Pharmaceutical Company 'KRKA', Tirana, Albania;

<sup>3</sup>Medical University of Tirana, Albania;

E-mail: [nako.entela@yahoo.com](mailto:nako.entela@yahoo.com)

### ABSTRACT

Chronic obstructive pulmonary disease (COPD) is a major public health problem, especially in developing countries. It is a chronic inflammatory condition of the airways associated with episodes of acute worsening of symptoms called irritation. This study was conducted to assess the prevalence of risk factors in patients with COPD in the district of Tirana. This is a case-control study, conducted in Dispensary of Tirana district during the period January 2012 - December 2013. The study included 511 outpatients diagnosed with COPD from Tirana district and a control group of individuals without COPD. The mean age of patients in the study was 67.1 ( $\pm$  9.1) years, with a range from 39 to 82 years. In the study predominate male patients (65%), agegroup  $\geq$  60vjeç (71.5%), residing in the city (74%) with a low socioeconomic status (68.6%). Most patients were retired (60%). Independent risk for COPD, the corresponding prevalence were found: smoking (83.8%), cigarette consumption 18.1-45 pack-year (36.4%) and  $>$  45 pack-year (32.8%), exposure to smoking at home (41.6%) heating with wood (34.6%), exposure to toxic fumes at work (21.9%). The ratio FEV1 / FVC%  $<$ 75% is a significant predictor of COPD. Prevention of risk factors should involve reducing exposure to tobacco smoke, occupational exposure to dust, harmful gases and vapors in the work area, reducing air pollution and external.

**Keywords:** COPD, risk factor, smoking, exposure

### 103 ECONOMIC THEORY OF LAND, LAND USE AND LAND MARKET, PROBLEMS AND POLICIES OF THEIR DEVELOPMENT IN ALBANIA

**Flora Merko<sup>1</sup> Henrieta Themelko<sup>2</sup>, Stilian Apostoli<sup>2</sup>, Alvina Çoku<sup>3</sup>, Eralda Shore<sup>4</sup>**

<sup>1</sup>University "Aleksander Moisiu", Durrës, Albania;

<sup>2</sup>Agricultural University of Tirana, Albania;

<sup>3</sup>Communications Specialist and Office Assistant at Protik, Albania;

<sup>4</sup>Administrator at "DATALOGIC" LTD, Albania;

E-mail: [floramerko@yahoo.it](mailto:floramerko@yahoo.it)

#### **ABSTRACT**

Land has been incorporated in economic theories in various ways and its role is surveyed, both from a conceptual and historical perspective. Originally, land used by agriculture was the main motivation for an economic treatment of land. This was gradually extended with various other land use categories. Attention for environmental and resource problems has stimulated new perspectives on land and conceptualizations of it in economic analysis. The paper will focus only on the area of agricultural land that in Albania occupies about 24% of the total land area. Planning policies for land use have their specificity and conditioned by the type of ownership over it. The problems that land reform is currently facing, are related with resolution of identified conflicts about land ownership, which extending geography is concentrated more on the suburb of large urban centers, also in the coastal zone. The land distribution process created a large number of farms, but with limited area. Soil fertility, distance from the village, distance from the road, irrigation facilities, were some of the criteria taken into consideration during the process of land distribution. In 1991 the agricultural land has resulted in 100% state owned. Land privatization brought a lot of changes in its mode of administration and represents the most radical reform in the transformation of the right of ownership, the state-owned land to private land, marks a major achievement for the Albanian economy. In the conditions of our country, the development of the land market, especially the sale and purchase of agricultural land as a component of the whole market economy, gets a special significance. But, in addition to positivity in the development and dynamics of this market in our country, there are some obstacles and difficulties of socio-economic and institutional character. As above, focusing on agricultural land, the purpose of the study is to treat its sustainable management as a main component of sustainable agricultural development; consolidation of the rights on ownership of agricultural land through the verification of the mode of giving the property titles given throughout the period of land privatization; improving land management policies in line with the types of ownership, mode and more effective models for land consolidation and expansion of farm size for protection of agricultural land damage caused by natural and human factors; the current policies of the state on the land market, the effectiveness of their implementation, as well as recommendations for possible and perspective improvements on economic policy related to the land market in Albania.

**Key words:** economic theory, agricultural land, privatization of land, sale and purchase of land, sustainable management, economic policy of land market.

#### **104 HEAVY METAL LEVELS IN RAINWATER AND SNOW WATER IN VAN**

**Nurhayat ATASOY<sup>1</sup>, Ufuk Mercan YÜCEL<sup>2</sup>, Ali Rıza Kul<sup>3</sup>, Sema KAPTANOĞLU<sup>3</sup>, Serkan Korkmaz<sup>1</sup>**

<sup>1</sup>Yuzuncu Yil University, Chemistry Department, Science Faculty, Van, Turkey;

<sup>2</sup>Yüzüncü Yil University, Faculty of Veterinary Medicine, Pharmacology and Toxicology MD, Van, Turkey;

<sup>3</sup>Yuzuncu Yil University, Van Health Services Junior Technical College, Van, Turkey;

Email: [nuratasoy@yyu.edu.tr](mailto:nuratasoy@yyu.edu.tr)

#### **ABSTRACT**

One of intense complex problems between human and geological environment is air pollution. Migrations from

country side to urban areas and population of cities have been rapidly increased with growing industry since 1950s. Rapid population increase, unplanned urbanization, fuel consumption, industrial plants, motor vehicles have been caused to the air pollution. %0.01-3 of particles in the air consists of very toxic elements for health. In addition to the inhaled particles, important amount of metallic particles intake to the body from water and soil contaminated by rain and snow water. All kind of metals beyond certain limits show toxic effects on human health. In this study, to determine heavy metal levels in rain and snow water; aluminum, cadmium, chromium, manganese, nickel, lead, zinc and copper levels of water samples that collected from central station during 12-month period in Van were analyzed. Sampling station was set up in Van city center location. Samples collected from this sampling station between April 2013 and April 2014. Collected samples analyzed with ICP-OES device for heavy metals. According to the analysis results, mean heavy metal concentrations of rainwater were determined as Al: 0,0121, Cd: 0,0045, Cr: 0,0043, Mn: 0,0087, Ni: 0,0115, Pb: 0,0018, Zn: 0,1663, Cu: 0,0065 mg/l and determined in snow water as Al: 0,0081, Cd: 0,0042, Cr: 0,0032, Mn: 0,0076, Ni: 0,0085, Pb: 0,0022, Zn: 0,1175, Cu: 0,0024 mg/l. Although heavy metal levels in rainwater are higher than snow water heavy metal levels in obtained results, heavy metal levels are not threatening human health.

**Key words:** Heavy Metal, Environmental Pollution, ICP-OES, Rainwater, Snow Water

### 105 THE EFFECT OF EMIGRATION IN POPULATION STRUCTURE, CBR, IN NATURAL INCREASE OF POPULATION OF KOPLIK

Ermira Hoxhaj<sup>1\*</sup> Zyri Bajrami<sup>1,2</sup>

<sup>1</sup>Department of Biology – Chemistry, University of Shkodra, Shkodra, Albania;

<sup>2</sup>Department of Biology, University of Tirana, Bulevardi Zogu I, Tirana, Albania;

\*E-mail: [hoxhajermira@mail.com](mailto:hoxhajermira@mail.com); [zyribajrami@yahoo.com](mailto:zyribajrami@yahoo.com);

#### ABSTRACT

This study is done in the Koplik Municipality. It is built a database for 20000 inhabitants of Koplik Municipality, where it is included the year of birth, the year of marriage and the year of death. From this database are taken data, that are used to build the population pyramid. It is concluded, a rapid increase of age of population. The mean age of population has increased from 27.79±19.75 in 1990 year to 35.13±20.83 in 2013 year. The natural increase has obvious decrease for period, 1990-1999, (KPRN= 1,754±0.202) to period 2000-2013 (KPRN = 0.642±0.842). All that has concluded in negative natural increase -1.76 in 2013 year, and also in 2014 year. The main factor that has caused this situation, it is a drastic change of CBR, that is obvious in period 1990-1999 (CBR= 23.272±2.5), compared with the period 2000-2013 (CBR=12.824±4.94), concluded with drastic increase about 2.7, in 2013 year. The decrease of CBR, is especially caused from decrease number of female and male in reproduction age, caused mainly from emigration, associated from decrease in TFR-value (3.2845±0.328, in period 1990-1999 to 2.884714±0.589 in period 2000-2013), in conditions of almost constant mortality (5.617995±1.82 in period 1990-2000 to 5.276±1.476 in period 2000-2013). The reduction of % individuals in reproduction age, is a direct result of mass emigration of new generation 15-20 years old especially, after 1997 year and ongoing. The negative effect in family structure, is result of the fact that most of emigrants are male, that has caused not balanced sex-ratio, the last few years, about 0.99 for all population, and 0.89 for reproduction age 20-40 years old. The reduction of population has reduced the density of population and expected to have positive impact in environment.

**Key words:** Koplik city, population pyramid, CBR, negative natural increase.

### 106 IN-VITRO FERTILIZATION AND MATURATION OF BALKAN WATER FROG (*Pelophylax kurtmuelleri*, Gayda, 1940) – A CASE STUDY IN REPRODUCTIVE AMPHIBIAN BIOTECHNOLOGY

Blerta Turani<sup>1</sup>, Valbona Aliko<sup>1</sup>, Drushku Jona<sup>1</sup>

Department of Biology, Faculty of Natural Sciences, University of Tirana,

E-mail: [blertaturani@yahoo.com](mailto:blertaturani@yahoo.com)

### ABSTRACT

The process of in-vitro fertilization enables the formation of new organisms under laboratory conditions. In this way becomes possible the insurance of livelihood continuity of vulnerable organisms, recently considered as such are also amphibians. Frogs have been the most favorite organisms for the study of reproduction and development biology due to their manipulation in the lab. This study aimed the application for the first time in our country of in-vitro fertilization technique (IVF) in one of the threatened frog species (Balkan water frog, *Pelophylax kurtmuelleri*). The objective of this study is the stabilization of the fertilization technique and in-vitro maturation in ranidian frogs. The average productivity of in-vitro fertilization technique performed in the laboratory was 27%. This performance is higher compared with the performance of similar techniques applied by other labs. The fertilization of eggs through the technique of direct spray with the extract of macerated testicles increases significantly the productivity of the technique. This technique provides the opportunity for in-situ conservation of amphibians.

**Keywords:** In-vitro fertilization, in-vitro maturation, Balkan water frog, eggs, average yield.

### 107 OBESITY, AN ABNORMAL CONDITION OF THE ORGANISM WITH MULTIDIMENSIONAL NEGATIVE IMPACTS, THE DISEASE OF THE CENTURY, BUT DESCRIBED SINCE THE ANTIQUITY

M. Agolli<sup>1</sup>, M. Terpo<sup>2</sup>, Dh. Terpo<sup>3</sup>, E. Meçi<sup>2</sup>, A. Kristidhi<sup>2</sup>, Y. Bilushi<sup>4</sup>

<sup>1</sup>University "Eqrem Çabej", Gjirokastra, Albania;

<sup>2</sup>University of Tirana, Albania;

<sup>3</sup>Regional hospital "Omer Nishani", Gjirokater, Albania;

<sup>4</sup>Public Health Faculty. University of Vlora., Albania;

E-mail: [agollimaria@yahoo.com](mailto:agollimaria@yahoo.com)

### ABSTRACT

The concept about obesity has changed from time to time; the thing that has not changed is the abnormality of an overweight and obese organism towards a normal one. The spreading, nowadays in the world has a remarkable epidemic character for all the ages, with a bursting tendency in the childhood and adolescence. In Albania, the overweight and obesity is problematic to the early ages. The overweight and obesity are related with the following factors: Genetic factor (inheritance); Environmental factor; Nutrition; Physical activity; Abuse in treatment and medication; The identification, processing and comparison of the data for the children 2-6 years old (Albanians, Greek minority, Rome and Vlachs ethno-cultural communities) in the region of Gjirokastra, Albania. The percentage of the overweight and obesity in the region of Gjirokastra for the four cultures is a worrying issue. There are changes between the ethnicities and sexes. We can say that a common mental model is clearly evident on regard to the style of living, information from the environment and a badly suited behavior influenced by the market economy

**Key words:** obesity, organism, impacts, antiquity, Albania

### 109 APPLICATION OF ARTIFICIAL NEURAL NETWORK IN ENVIRONMENTAL ENGINEERING PROBLEMS

Zeynep Cansu Ozturk, Fatma Kunt, Sukru Dursun

---

Selcuk University, Faculty of Engineering, Environmental Engineering Department, Konya – Turkey;

E-mail: zcozturk@selcuk.edu.tr, fatmakunt@selcuk.edu.tr sdursun@selcuk.edu.tr

### ABSTRACT

Artificial Neural Network (ANN) is a very powerful tool for creating complex nonlinear relationships between output and input datasets. Processes which are hard to explain with widely used physical equations are described by ANN models very efficiently. An extensive network includes neuron-like elements which interact with irreversible sets of connections. This extensive network is the main working field of ANN proceeds. There are many areas and disciplines using ANN models. Besides, ANN was used in environmental engineering on a large scale. In this paper literature review of ANN models used in environmental engineering will be processed and the main applications of ANN in this field will be examined. The previous studies of ANN related to environmental engineering have consisted of practices such as prediction of wastewater treatment plant performance, simulation of industrial wastewater treatment plant, simultaneous quantification of CO<sub>2</sub> and CH<sub>4</sub> gases in humid air, development of underground infrastructure model, development of water treatment disinfection kinetics model, identification of unknown air pollution sources, water quality management, prediction of BOD demand, prediction of optimal alum dosages, estimation of global solar radiation, renewable energy systems applications and development of rainfall runoff models. In this study, applications of ANN in environmental engineering subject were compared to reduce the problems.

**Keywords:** Environmental engineering, artificial neural network, modelling, air pollution, water, wastewater

## 110 GREEN LABORATORIES APPLICATION

**Sinan UYANIK, Ayşe CEBE**

Harran University, Environmental Engineering Department, Şanlıurfa, Turkey

E-mail: suyanik@harran.edu.tr; aysecebe1@gmail.com

### ABSTRACT

Green chemistry is the design of chemical products and processes that reduce or eliminate the use or generation of hazardous substances. Green chemistry applies across the life cycle of a chemical product, including its design, manufacture, use, and ultimate disposal. Green chemistry is also known as sustainable chemistry. Universities and environmental protection agencies have begun to use the concept of “Green Laboratory” by using the concept of green chemistry in recent years. In this research, Green Laboratory Applications in the world will be introduced and an evaluation form will be created to allow laboratories in Turkey to achieve Green Laboratory Certification. The limits will also be determined to enable the relevant laboratories to reach the Green Laboratory Standards. Thus, it was aimed that serious steps would be taken towards protecting the environment through Green Laboratory Applications in order to prevent environmental pollutions generated by the laboratories.

**Keywords:** Green chemistry, Green laboratory certification, Standard, Evaluation form,

## 111 GOAL PROGRAMMING AS A METHOD FOR PLANNING OF PRODUCTION IN FARMS

**Brunilda Baraku, Edmira Shahu, Jona Mulliri, Amelia Ahmeti**

Agricultural University of Tirana, Albania

Email: [bjjini@ubt.edu.al](mailto:bjjini@ubt.edu.al)

**ABSTRACT**

Production programming in an agricultural farm with mathematical methods aims mapping available factors of production and analyzes planning of production in the farm in order to achieve the optimal economical results (profit, income) and optimal estimation of the available factors of production (increase of the employment rate, the use of agriculture mechanics, etc.). In this article, there will be introduced a method to get the optimal production plan of a farm and optimal distribution of available factors of production using the models with multiple criteria. The model which will be used is goal programming. The application of the model will be implemented in eight agricultural farms. By applying the method of the goal programming, we aim to study the role of programming of agriculture production factors and to introduce a method to suggest better organization of agricultural production for these farms. We intent to show that utilization of some goals in the decision-making process should lead to better solutions regarding to production planning in farms.

**Key words:** goal programming, production plan, available factors

**114 THE DETERMINATE OF THE SERUM MARKERS FOR LIVER CANCER THROUGH ELISA AND CHEMILUMINESCENCE IMMUNOASSAY**

**Petrit Gecaj<sup>1</sup>, Fatime Kullolli<sup>1</sup>, Qazim Lataj<sup>2</sup>, Mirela Lika<sup>2</sup>**

<sup>1</sup>Klinika Orthodhokse “Ungjillëzimi”, Rruga “Dibrës”, (Nr. 159) ND. 110 H7, Tirana, Albania;

<sup>2</sup>Tirana University, Faculty of Natural Sciences, Department of Biology, Bulevardi “Zog I”, Tirana, Albania;

E-mail: [gecay.petrit@yahoo.com](mailto:gecay.petrit@yahoo.com)

**ABSTRACT**

To evaluate the detection method of ELISA and Enhanced Chemiluminescence Immunoassay (ECLIA) in use to determine serum hyaluronate acid (HA), laminin (LN), type IV collagen (IV-C) and type III procollagen (PC III). METHODS: 253 patients with chronic hepatitis B were determined the four liver fibrosis serum markers with both the ECLIA and ELISA, and then compared with pathology results separately. RESULTS: Both the detection results of ELISA and ECLIA can reflect that the patient's liver fibrosis from hepatitis to liver cirrhosis aggravated gradually. Compared with ELISA, the results of ECLIA and pathology have a better correlation. CONCLUSIONS: The detection of four liver fibrosis serum markers by ECLIA could indicate the better the response of the state of live fibrosis.

**Key words:** serum markers, chemiluminescence, immunoassay

**115 GEOGENIC IMPACT IN THE CONCENTRATION OF SOME SPECIFIC HEAVY METALS IN SOILS IN THE BASIN OF FUSHË KOSOVA**

**Behxhet Shala<sup>1\*</sup>, Naser Peci<sup>1</sup>, Flurije Sheremeti-Kabashi<sup>1</sup>, Gani Maliqi<sup>1</sup>**

<sup>1</sup>University of Mitrovica “Isa Boletini”, Faculty of Geoscience, MIP, 40000 Mitrovica - Kosovo

Email: [behxhet.shala@umib.net](mailto:behxhet.shala@umib.net)

**ABSTRACT**

In some recent researches of soils in Kosovo have been identified higher concentrations of some heavy metals. The purpose of this paper is to research the possibility of geogenic impact on the concentration of some specific heavy metals. The study has included geochemical analysis of stream sediments of Fushë Kosovo drainage



basin, as representative of geogenic background, and analysis of certain areas of soil in the alluvial plain of Fushë Kosovo basin. In order to investigate the content and relationship selected heavy metals (As, Cr, Cu, Hg, Mn, Ni, Pb, Zn) in stream sediment and soil are used statistical analysis including univariate statistical methods (descriptive statistics) and multivariate statistical analysis (correlation matrices). Besides the statistical analysis, in the assessment were included geological and anthropogenic aspects of certain areas. It is estimated that elevated concentrations of Ni and Cr in the soils are most likely from geogenic origin. An approximate value of the mean and median of Arsenic in the soil are in ranges of normal concentration and indicates a geogenic origin. This also applies for Hg and Mn. Interesting anomaly appears to Cu, where the averages as well as median in soil and sediment up to 2 m depth resulted with higher values than the average and median in the stream sediment. The values of Pb and Zn in soil are in range of normal concentration, while in areas of anthropogenic impact (Mitrovica with the surroundings) they reach values up to three times higher.

**Key words:** geogenic, origin, heavy metals, soil, Kosovo basin.

#### 116 SPATIAL DISTRIBUTION OF SELECTED ELEMENTS IN STREAM SEDIMENTS OF KOSOVA BASIN

Naser Peci<sup>1</sup>, Behxhet Shala<sup>1</sup>, Flurije Sheremeti<sup>1</sup>

<sup>1</sup>University of Mitrovica “Isa Boletini”, Faculty of Geosciences, Mitrovicë, Kosovo;

Email: [naser.peci@umib.net](mailto:naser.peci@umib.net)

#### ABSTRACT

Geochemical sampling methods are methods which involve collecting and analyzing various types of geological materials (such as soils, stream sediments and rocks) or certain biological materials (such as plants). Stream sediment geochemistry can be used to quantify natural geochemical baselines and anthropogenic effects. For stream sediment, pan concentrate, and in some cases soil samples, the procedure is often to plot all the values on a map, determine an arbitrary or statistical threshold and highlight the anomalous values. Kosovo Basin is the largest basin in Kosovo covering an area of 1400 km<sup>2</sup>. The soils in this basin are used mainly for agriculture. Surficial geochemical data are important for solving problems in mineral resources, geology, agriculture, forestry, waste disposal, and environmental health. This study examined the spatial distribution of the following metals in stream sediments: arsenic (As), chromium (Cr), copper (Cu), mercury (Hg), manganese (Mn), nickel (Ni), lead (Pb) and zinc (Zn) are included because of their influence on availability of heavy metals to stream water or their potential use in interpreting the distribution of heavy metals. Most metal concentrations can be spatially related to the regional geology, structural trends, or the local effects of individual rock units. For each selected element was created a set of maps (combination of point map, contour map, 3D wire frame map and 3D surface map). Results obtained using these techniques show some anomalies for selected elements in various parts of study area.

**Key words:** stream sediment, selected elements, statistical analysis, spatial distribution

#### 117 DETERMINATION OF HETEROSIS AND HETEROBELTIOSIS FOR PLANT HEIGHT AND SPIKE WEIGHT OF F1 GENERATION IN BREAD WHEAT

Shukri Fetahu<sup>1</sup>, Sali Aliu<sup>1</sup>, Imer Rusinovci<sup>1</sup>, Dukagjin Zeka<sup>1</sup>, Qëndrim Shabani<sup>1</sup>, Hans - Peter Kaul<sup>2</sup>, Fetah Elezi<sup>3</sup>

<sup>1</sup>University of Prishtina “Hasan Prishtina”, Faculty of Agriculture and Veterinary, Kosovo;

<sup>2</sup>University of Natural Resources and Life Sciences, Vienna, Austria;

<sup>3</sup>Agricultural University of Tirana- Faculty of Agriculture and Environment, Tirana Albania;

E-mail: shfetahu@hotmail.com; shukri.fetahu@uni-pr.edu;

**ABSTRACT**

The aim of research was to determinate direction and level of inheritance from parents into the F1 generation, in order to create desired genotypes and phenotypes for particular purposes, such as bread wheat and food production. In the programs of breeding and development of new wheat genotypes, the most important stage is pre-breeding and selection of parents involved in the crossbreeding, to obtain F1 generation. Heterosis to the mid-parent (HtMP) and heterobeltiosis to the better-parent (HtBP), were estimated into the 20 crosses between wheat cultivars and genotypes, where were obtained 10 new genotype in F1 generation. Parents and F1 generation were, evaluated under experimental field conditions, using randomized complete block design (RCBD) in three replications, field trial was: FT= (20-Parents + 10-Genotype-F1 x 3-Replications x 2-Parameters) = 180 results. Differences were determined according to "ANOVA" for parents and F1 generation, at level of LSDp = 0.05 and 0.01. The maximum positive and negative significant heterosis (HtMP), was recorded for plant high (PH) in F1 genotypes: K-10 (27.31 %) and K-2 (-16.75%), and for spike weight (SW) in genotypes: K-8 (56, 70%) and K-2 (-29, 51%). The maximum positive and negative significant heterobeltiosis (HtBP), was recorded for PH in F1 genotypes: K-6 (8.72%) and K-2 (-34, 05%), and for SW in genotypes: K-8 (55.10%) and K-2 (-53.39%). With appropriate selection of parents, it is possible to develop F1 wheat genotypes possessing distinct superiority values over the mid-parent and better parent.

**Key words:** Heterosis, heterobeltiosis, parents, spike, plant, F1-generation.

**119 UPDATE OF BASIC HEATING DESIGN PARAMETERS FOR ALBANIA**

**Dritan Profka<sup>1</sup>, Mirel Miço<sup>1</sup>, Alfred Lako<sup>1</sup>**

<sup>1</sup>Polytechnic University of Tirana, Faculty of Civil Engineering, Department of Environmental Engineering, Tirana-Albania;

E-mail: [dprofka@yahoo.com](mailto:dprofka@yahoo.com), [mmico818@hotmail.com](mailto:mmico818@hotmail.com), [alfredlako@yahoo.com](mailto:alfredlako@yahoo.com)

**ABSTRACT**

This study aims to update of basic heating design parameters such as Heating Degree Days (HDD), design outside temperature, limit volumetric losses coefficients with transmission as well as the determination of the optimal thickness of thermoinsulation for residential buildings. The climatic areas of the Albanian territory according to the HDD are presented in six different areas. The study determines the optimal thickness of thermoinsulation for residential buildings with different shape factors (S/V) varying from 0.2-0.9, for which the thermal losses are calculated, placing those buildings in different climatic data as per the limit values of HDD areas proposed. It is considered as the optimal thickness of thermoinsulation the one which fulfils the criteria of limit volumetric losses coefficients with transmission from the buildings, checked with the annual specific thermal energy demand (kWh/m<sup>2</sup>), as well as with the economical parameters of NPV (Net Present Value), IRR (Internal Rate of Return), and PBP (Pay-Back Period) of the investment for thermoinsulation.

**Key words:** HDD, volumetric losses coefficients, building shape factor, climatic zones, thermoinsulation.

**120 STUDY OF TROPHIC STATE INDICATORS IN WATER OF TIRANA ARTIFICIAL LAKE, ALBANIA**

**Arvjola Hodaj<sup>1</sup>, Alma Shehu<sup>2\*</sup>, Besnik Baraj<sup>2</sup>**

<sup>1</sup>Department of Chemistry, Faculty of Natural Sciences, University of Tirana, Tirana, Albania;

<sup>2</sup>Faculty of Pharmacy, Catholic University "Our Lady of Good Counsel", Tirana, Albania;

\*E-mail: [almashehu2010@yahoo.com](mailto:almashehu2010@yahoo.com)

**ABSTRACT**

The trophic state of a freshwater ecosystem reflects its environmental quality. This is why several trophic indicators have been developed for such water bodies based on chemical, physical and biological parameters. In accordance to the above, the present study is an attempt to assess the trophic condition of the artificial lake in Tirana through the investigation of the physicochemical parameters along with the biotic indicators. The magnitude and management implications of spatial variability in trophic state metrics was simulated by measuring mean values of dissolved phosphorus, ammonium, nitrate and nitrite nitrogen and chlorophyll a,b,c, during the period winter-spring of 2013 and detecting trends in these variables in Tirana Lake water. Results emphasize the need for long-term data to fulfill lake management needs and suggest that ordinary lake monitoring typically will not detect trends in individual lakes.

**Keywords:** Trophic state, Chlorophyll, a,b,c, Artificial Lake of Tirana.

**121 DATA ABOUT EUROPEAN POND TURTLES, *EMYS ORBICULARIS* (LINNAEUS, 1758) IN VLORA BAY, ALBANIA**

**Enerit Saçdanaku<sup>1</sup>, Idriz Haxhiu<sup>2</sup>**

<sup>1</sup>Department of Biology, University of "Ismail Qemali" Vloera. L.Pavarsia 9400 Vlore - Albania

<sup>2</sup>Head of Albanian Herpetological Albanian Society (HAS) Rr. Myslym Shyri, P.10, Sh. 1, Ap. 3, 1001 Tirana Albania.

E-mail: [eneriti@gmail.com](mailto:eneriti@gmail.com); [idriz\\_haxhiu@yahoo.com](mailto:idriz_haxhiu@yahoo.com);

**ABSTRACT**

This study gives some important data about European Pond Turtles *Emys orbicularis* in the area of Vlora Bay. The study was carried out between April 2013 and October 2014. Two main different habitats, freshwater channels (five channels in different area) and ponds or swamps (two ponds in different area) were monitored within the study period (April 2013 – October 2014). A total of 74 individuals of *E. orbicularis* were captured and studied using different methodologies, where 2 of the individuals were found dead and 18 individuals of *E. orbicularis* were recaptured for the first and some for the second time. Curved Carapace Length (CCL), Curved Carapace Width (CCW), Plastron Length (PL), Plastron width (PW) and body size were measured for each individual of *E. orbicularis* and were statistically analyzed. Each individual of *E. orbicularis* was marked by notching the carapace (marginal scutes). Sex was determined by secondary sexual characteristics (e.g., plastral concavity, length of tail) and resulted that 47 were females (64.3%), 17 males (23.3%), 9 juveniles (12.4%). All captured turtles were separated in different size – classes based on their carapace length (CCL).

**Key words:** *Emys orbicularis*, female, juvenile, male, population, size – classes.

**122 THE INFLUENCE OF UREAPLASMA UREALYTICUM IN PETERM BIRTH**

**Teuta Bare, Nikita Manoku**

Obstetric Gynecologic Hospital "Queen Geraldine", Tirana – Albania;

E-mail: [teutabare@gmail.com](mailto:teutabare@gmail.com)

**ABSTRACT**

*Ureaplasma urealyticum* frequently colonizes the lower genital tract of pregnant women, without apparent adverse cone. Recent studies have confirmed its association with pelvic inflammatory disease and adverse

pregnancy outcomes. The aim of this study was to determine the prevalence of maternal colonisation by genital mycoplasmas and ureaplasmas during pregnancy and to assess its association with preterm delivery. The study was conducted at Obstetric Gynecologic Hospital "Queen Geraldine" in Tirana between 2013-2014. The cervical swabs of 150 pregnant women 10-16 weeks of pregnancy who were monitored for preterm delivery (35 weeks) were cultured for Mycoplasma hominis and Ureaplasma urealyticum. Clinical details and perinatal outcomes were documented and compared between women who tested positive and negative for genital mycoplasmas. Positive cervical culture for genital mycoplasmas were found in 49 (33%) women. A significant association was found between colonisation with M.hominis, U. urealyticum, and labour outcome. A subsequent preterm labor occurred in 20 U. urealyticum-positive women (40.8%), compared with 9 (8.9%) U. urealyticum-negative women ( $p < 0.001$ ). U. urealyticum-positive women also had a higher prevalence of preterm labor in a prior pregnancy (28.6%) than did the negative women (5.9%) ( $p < 0.01$ ). Genital mycoplasmas were found more frequently in group with preterm delivery as compared to women who delivered at term and its presence at lower genital tract at early pregnancy was a risk factor of preterm delivery. Screening for genital mycoplasmas early in pregnancy and following treatment may reduce the rate of preterm deliveries in high - risk patients.

**Key words:** Ureaplasma urealyticum, pregnancy, preterm birth

### 123 SEVERITY OF DIARRHEA AMONG HOSPITALIZED CHILDREN

**Bashkim Neza<sup>1</sup>, Eli Foto<sup>1</sup>, Gjeorgjina Kuli-Lito<sup>1</sup>, Ferit Zavalani, Majlinda Kota-Dhimolea<sup>2</sup>, Raida Petrela<sup>1</sup>, Hamide Bregu<sup>1</sup>**

<sup>1</sup>University Hospital Centre "Mother Theresa", Tirana

<sup>2</sup>Institute of Public Health, Tirana

E-mail: [nezabashkim@gmail.com](mailto:nezabashkim@gmail.com);

#### ABSTRACT

Diarrheal diseases are a great public health problem that leads to morbidity and mortality of infants and children particularly in developing countries and even in developed countries. The aim of this study was to assess the severity and type of dehydration in children with diarrhea who were admitted hospital. This is a retrospective study. A total of 345 cases of acute diarrhea mainly in children below 5 years of age admitted at tertiary care Pediatric hospital in University Center "Mother Theresa" over the period 2011-2013 were included in the study. Medical history, diarrhea symptoms, treatment prior to hospitalization and demographics were obtained from medical records. Dehydration degree was assessed and all patients were treated with intravenous fluids. 345 (99%) of children had a moderate dehydration whereas 3 (1%) children who were unable to drink/swallow had a severe dehydration. Upon admission, 137 (39.7%) patients had isotonic dehydration, 201 (58.3%) hypotonic and 6 (5%) had mild hypertonic dehydration. The mean Na value upon admission was 133.7 ( $\pm 5.4$ ) mmol/ whereas with hydration the mean value increased to 136.8 ( $\pm 3.2$ ) mmol/l ( $p < 0.01$ ). Also, other blood chemistry parameters  $Cl_2$ , asotemia and creatinine were restored to normal values as well as the weight of patients. The management of dehydration, its prevention and it is very important in the management of diarrheal diseases, irrespective of etiology.

**Key words:** diarrhea, severity, children, dehydration, fluids

### 124 MEASLES OUTBREAK IN DISTRICT OF SHKODRA

**Alma Robo<sup>1</sup>, Artan Simaku<sup>1</sup>, Erida, Nelaj<sup>1</sup>, Eugena Tomini<sup>1</sup>, Silva Bino<sup>1</sup>**

<sup>1</sup>Institute of Public Health, Tirana, Albania

Email: [alma.robogmail.com](mailto:alma.robogmail.com);

**ABSTRACT**

Measles reporting is mandatory in Albania. Despite the very high immunization coverage for MMR a measles outbreak was reported by district epidemiologist to national public health institute in September 2006. Epidemiological investigation was carried out to identify sources of infection, transmission routes, and epidemiological features of this epidemic. Epidemiological and clinical data were obtained from the infectious diseases surveillance systems and field epidemiological investigations. The diagnosis was established by clinical signs, confirmed by serologic results. Sera samples from all the suspected cases were tested for Measles IgM by ELISA and molecular genotyping of virus by the regional reference laboratory. The outbreak started on September 2006 and ended in February 2007. According to the case definition 36 cases were found of which 26 (72%) tested positive for Measles IgM antibodies. 10 (38%) were females and 16 (62%) male. The median age was 4 years (range: three months to 12 years). Median serial interval was 2 days. Most of the patients had Koplik spots, coryza and conjunctivitis. 15 (58%) cases were unvaccinated. All patients recovered and no fatal cases. Genotype B3 was responsible for this outbreak and was imported by an Italian nun who cared for the children. Pockets of low vaccine coverage individuals, Roma and children from remote rural communities facilitated the measles infection to spread. Communities with low vaccine coverage represent a more serious public health threat than do sporadic susceptible individuals. Supplemental immunization campaigns were conducted in affected communities. The successful elimination of measles requires additional efforts to immunize low vaccine coverage population subgroups, including hard-to-reach individuals.

**Keywords:** measles, outbreak, children, vaccination

**125 VOLTAMETRIC DETERMINATION OF CATECHOL IN COFFEE DRINKING USING CARBON PASTE BIOSENSOR MODIFIED WITH BANANA TISSUE**

**Nevila Broli, Majlinda Vasjari**

Department of Chemistry, Faculty of Natural Sciences, University of Tirana, Albania

E- mail: [nevilabroli@yahoo.com](mailto:nevilabroli@yahoo.com)

**ABSTRACT**

Carbon paste electrode modified with fresh banana tissue using square wave voltammetry for determination of catechol was developed. The banana crude tissue acts as a source of polyphenol oxidase enzyme which catalyzes the oxidation of catechol (as chlorogenic acid monomer in coffee) to the corresponding *o*-quinone, which is electrochemically reduced back to this substance at +0.32 V vs. Ag/AgCl. Compared with a bare carbon electrode, the modified electrode exhibits catalytic effect on the electrochemical redox of catechol. The analytical parameters were optimized. Under optimized working conditions the catechol concentration was linear in the range of  $1.27 \times 10^{-5}$  to  $14.3 \times 10^{-5}$  mol/L with a detection limit of  $9.08 \times 10^{-7}$  mol/L. Further, the performance of the proposed method has been validated in terms of linearity ( $R^2=0.9975$ ), sensitivity ( $S=5.63 \times 10^{-6}$   $\mu$ A/mol/L and reproducibility (RSD < 4.0%, n = 4). The biosensor was applied for the determination of catechol in coffee sample. The recovery of catechol from coffee samples ranged from 72 to 112%.

**Keywords:** Coffee, carbon paste biosensor, crude tissue, PPO enzyme, catechol, square wave voltammetry.

**126 BUILDING FAÇADE MATERIALS AND THEIR ECOLOGICAL IMPACT - COMPARATIVE ANALYSIS OF URBAN LEVEL REFERRING TO RAPID DEVELOPMENT CONSTRUCTION IN ALBANIA**

**Denisa Hajnaj<sup>1</sup>, Leka Gedeshi<sup>2</sup>, Alketa Grepcka<sup>2</sup>**

<sup>1</sup>Agricultural University of Tirana, Faculty of Forestry Sciences, Albania;

<sup>2</sup>Agricultural University of Tirana, Faculty of Forestry Sciences, Albania;

<sup>3</sup>Agricultural University of Tirana, Faculty of Forestry Sciences, Albania;

E mail: [deni\\_hel@yahoo.com](mailto:deni_hel@yahoo.com); [agrepcka@gmail.com](mailto:agrepcka@gmail.com); [lekagedeshi@hotmail.com](mailto:lekagedeshi@hotmail.com);

## ABSTRACT

Surveys in recent decades on materials applied in buildings indicate clearly for sustainable materials as a long term solution. Initially applying these materials in suburban areas with specific climatic conditions and for temporary use buildings. Nowadays we find ourselves in front of applications of sustainable materials also for polluted urban areas. Sustainable materials applied in residential buildings, multi-storey buildings, commercial buildings, and not only but also in urban areas as a cover of urban spaces, urban connections etc. Wood and greenery are dominating building facades of recent decades in the world. But which is the situation that characterizes material choices in building constructions for the last two decades in our country? What is currently happening with the selection of materials in building construction and building facades in our capital city as a metropolitan one? Multi-storey buildings before the 90s speak clearly for the massive use of brick as a constructive material and facades materials. While buildings after the 90s clearly represent the “concrete structure’s phase” without forgetting alucoband panels, marble tiles and glass surfaces applications. In some other cases studies reconstruction and restoration phases observe a deviations from sustainable materials such as wood and green patterns previously used in building facades. In another survey, projects planned for the coming decades present the use of sustainable materials but not in considerable percentage. While in comparison with contemporary applications it is insufficient because any development and every building must be part of sustainable design with sustainable materials and sustainable technologies.

**Keywords:** sustainable materials, building facades, concrete, polluted urban areas

## 127 EFFECT OF LAYERS HOUSING SYSTEMS ON EGG PRODUCTION AND QUALITY

Sadik Maloku<sup>1</sup>, Naim Kicaj<sup>1</sup>, Arben Musliu<sup>2</sup>, Mentor Thaqi<sup>2</sup>

<sup>1</sup>Agricultural University of Tirana, Albania

<sup>2</sup>University of Prishtina – Agricultural and Veterinary Faculty, Kosovo;

Email: [mentor.thaqi@uni-pr.edu](mailto:mentor.thaqi@uni-pr.edu);

## ABSTRACT

The aim of the study was to evaluate the influences of egg production at commercial free range and conventional battery cages on egg production and quality, mortality and feed conversion ratio per egg. Two groups of 600 ISA Brown commercial layers were reared in commercial free range and battery cages during the laying period of 48 weeks, in 2014/2015. The results showed that for the whole production period the layers kept in conventional cages showed an average egg laying capacity of 92.5 % or 337.6 eggs per hen, egg weight of 65.5 g, the mortality of 8.7 % and feed conversion ratio per egg was 152.5 g. Dirty eggs and broken eggs were 1.7 % The average egg wholesaled price was €0.07. The layers reared in the free range system were characterized with the lowest egg production of 81.5 % or 297.5 eggs per hen, egg weight of 58.3 g, the mortality was lower 5.3 % and feed conversion ratio per egg was 158.5 g. Dirty eggs and broken eggs were more frequent in free range birds, with 3.8 %. The average egg wholesaled price was €0.12. From the presented parameters, egg production and food efficiency were higher at commercial free range system. However, the egg production in the free range system showed higher profitability compared to conventional battery cages.

**Key words:** layers, free range, battery cages, egg production and quality, feed conversion ratio

## 128 EFFECT OF SULPHUR DIOXIDE ON YIELD OF CROPS

**Etleva Beliu<sup>1\*</sup>, Shpetim Leka**

Polytechnic University of Tirana, Departement of Mathematical Engineering and Physical Engineering, Tirana-Albania;

\*Email: [etlevallagami@yahoo.com](mailto:etlevallagami@yahoo.com)

#### ABSTRACT

The aim of this study is to analyse the relationship between sulfur dioxide (SO<sub>2</sub>) expose and the yield of crops. During the study, three experimental sites are selected - two in an industrial area, Ballsh-Marinza and Sheqishte, and one in not industrial area, Vlosh. They are not far from each other and are all located in the southern region of Albania, in Fier. The two first sites are considered to be exposed to SO<sub>2</sub> and the last is considered to be protected from SO<sub>2</sub>. The data of the yields of eight plants- wheat, maize, potato, vegetables, bean, fruits, olive and lucerne- at these sites are tested and are compared by multivariate statistical method. The yields of plants exposed to SO<sub>2</sub> averaged 11% less than those of plants not exposed to SO<sub>2</sub>. Furthermore, these data of the yields were analyzed by regression methods using distance of house from oil-well, type of chess-pool and remains, and level of taking care of yields, as independent variable. Multivariable regress model indicates that only about one half of the reduction may be attributed to the exposure to SO<sub>2</sub>, the remainder being attributed to differences in other factors at those sites.

**Keywords:** yield of crops , distance of house from oil-well, effect of SO<sub>2</sub>

#### 129 ANALYSES OF *HELICOBACTER PYLORI* ON THE BLOOD FISH SPECIES FROM SITNICA, LEPENCI AND LUMBARDHI I PRIZRENIT RIVER (KOSOVO)

**Ferizi Rrahman<sup>1</sup>, Puto Klementina<sup>2</sup>, Maxhuni Qenan<sup>3</sup>, Cakaj Fatmir<sup>4</sup>, Hashani Zeqir<sup>5</sup>**

<sup>1</sup> University of Pristina, Faculty of Medicine, Pristina, Kosova;

<sup>2</sup> University of Tirana, Faculty of Natural Sciences, Department of Biotechnology, Tirana, Albania;

<sup>3</sup> University of Pristina, Faculty of Agriculture and Veterinary, Pristina, Kosova;

<sup>4</sup> Iliria College, Faculty of Medical Sciences, Pristina, Kosova;

<sup>5</sup> University of Tirana, Faculty of Mathematics and Natural Sciences, Tirana, Albania;

E-mail: [rrahman.ferizi@uni-pr.edu](mailto:rrahman.ferizi@uni-pr.edu); [tina\\_kora@yahoo.com](mailto:tina_kora@yahoo.com)

#### ABSTRACT

The aim objective of this study was to determine and identify *Helicobacter pylori* obtained from sample fish species in some Kosovo rivers. Fish samples were collected during period March-October 2013-2014 applying the electrofishing method alongside Sitnica, Lepenci and Lumbardhi i Prizrenit rivers. In addition, the bacteriological analyses include on the following fish species: *Salmo trutta m. Fario*, *Squalius cephalus*, *Rutilus rutilus* and *Carassius gibelio*. Analyses of *Helicobacter Pylori* species was conducted according with Anti-*H.pylori* antibody was determined by Enzyme-linked immunosorbent assay - ELISA, (*Cobas Core, Roche*). *Helicobacter pylori* was analyzed from 45 fishes as resulted showing that did not find from the same fishes. The analyses from different sources indicate that distribution of *Helicobacter Pylori* in the blood of fish is not present. Also these results could have been impacted from the presence of heavy metals such as Cadmium (Cd) and Plumb (Pb). It is worth mentioning that these values were a bit higher that allowed standards according to the World Health Organization (WHO). However they did not show a critical impact in the quality of water in the above-mentioned rivers. As we know, variability of *Helicobacter pylori* reflected for research, risk human consumption, and public health.

**Keywords:** Fish, river pollution, *Helicobacter pylori*, Anti-*H. pylori* antibody.

**130 ANALYSIS OF HEAVY METALS INHIBITION/TOXICITY ON METHANOGENIC ACTIVITY IN UPFLOW ANAEROBIC SLUDGE BLANKET REACTOR****Fatih Şevki Erkuş<sup>1</sup>, Ahmet Yüceer<sup>2</sup>, Ayşe Erkuş<sup>3</sup>**<sup>1</sup>Yüzüncü Yıl University, Agriculture Faculty, Biosystems Engineering Department, 65080 Van-TURKEY;<sup>2</sup>Çukurova University, Engineering and Architecture Faculty, Environmental Engineering Department, 01030 Adana- TURKEY;<sup>3</sup>Yüzüncü Yıl University, Engineering and Architecture Faculty, Environmental Engineering Department, 65080 Van-TURKEY;Email: [fatiherkus@gmail.com](mailto:fatiherkus@gmail.com);**ABSTRACT**

Heavy metals are inhibitory and toxic under certain conditions on methane-producing anaerobic granular sludge depending on their concentrations. The objective of this study was to investigate the inhibitory and toxic effects of Cu(II), Pb(II), Zn (II), Cr (VI), Ni(II), Cd(II) ions on the anaerobic activity, for a range of concentrations between 0.125 and 2 mM. Seven laboratory-scale upflow anaerobic sludge blanket (UASB) reactors were fed with synthetic wastewater at organic loadings from 2.0 to 4.5 kg COD/m<sup>3</sup>d to compare digester performance with flows containing heavy metals (one for control and others are tests). The inhibitory/toxic effects of heavy metal ions on the anaerobic activity were analyzed by measurements of methane production rate and COD removal. The employed biomass was the sludge of the industrial UASB reactor treating wastewater from the beer industry. The experimental results proved highest biomass sensitivity for copper, higher for nickel and chromium and much slighter for zinc, cadmium and lead. IC<sub>50</sub> (inhibitory concentrations) values for the individual heavy metals were found to be in the following order: Cu (most toxic; 62 mgL<sup>-1</sup>)>Ni (127 mgL<sup>-1</sup>)>Cr (138 mgL<sup>-1</sup>)>Zn (153 mgL<sup>-1</sup>)>Cd (333 mgL<sup>-1</sup>)>Pb (513 mgL<sup>-1</sup>).

**Keywords:** UASB, Heavy Metal, Inhibition/Toxicity, Methane Production, COD Removal**131 THE EXAMINATION OF PARACETAMOL AND DICLOFENAC REMOVAL IN ACTIVATED SLUDGE SYSTEMS UNDER DIFFERENT OPERATING CONDITIONS****Ayşe Erkuş<sup>1</sup> Mesut Başbüyük<sup>2</sup> Fatih Şevki Erkuş<sup>3</sup>**<sup>1</sup>Yüzüncü Yıl University, Engineering and Architecture Faculty, Environmental Engineering Department, 65080 Van-TURKEY;<sup>2</sup>Çukurova University, Engineering and Architecture Faculty, Environmental, Engineering Department, 01030 Adana- TURKEY;<sup>3</sup>Yüzüncü Yıl University, Agriculture Faculty, Biosystems Engineering Department, 65080 Van-TURKEY;Email: [ayseeerkus@yyu.edu.tr](mailto:ayseeerkus@yyu.edu.tr);**ABSTRACT**

Pharmaceutical compounds are widely used to maintain human and animal health worldwide. After human consumption pharmaceutical compounds in the urban aquatic environment reach to the wastewater facilities and eventually find their way to the surface waters. Aim of this study was to determine the effects of various sludge retention times (SRT) and hydraulic retention times (HRT) using lab-scale continuous stirred tank reactor (CSTR) for the removal of diclofenac and paracetamol in activated sludge. In order to find out removal rates of these pharmaceutical compounds, activated sludge reactor were operated at different sludge retention times (SRT: 10,20,30 days) and different hydraulic retention times (HRT: 12 and 24 hours). The highest removal rates were obtained under 30 days of SRT and 24 hours of HRT operating conditions. Maximum



---

removal of 95% was observed for paracetamol and 44% for diclofenac. The operational implementation of SRT and HRT has been shown to increase the removal efficiency of pharmaceutical compounds.

**Key words:** Pharmaceutical Compounds, Solid Retention Time, Hydraulic Retention Time, Biological Removal.

**132 HYDROLOGY AND WATER CHEMISTRY OF LAKE BURDUR, SOUTH-WEST ANATOLIA, TURKEY**

**Erkan DİŞLİ**

Yüzüncü Yıl University, Faculty of Engineering-Architecture, Environmental Engineering Department, Zeve Campus, Van, TURKEY,

Email: [edisli@hotmail.com](mailto:edisli@hotmail.com);

**ABSTRACT**

Lake Burdur is a closed-basin, alkaline, saline lake, at 847 m above sea level in south-west Anatolia, Turkey, divided between the provinces of Burdur to the south and Isparta to the north. Lake Burdur lies in an isolated closed basin entirely surrounded by the Burdur Lake basin, which exerts a very strong influence on the hydrology and sedimentology of the lake. The 1671.025 km<sup>2</sup> surface-water drainage basin containing Lake Burdur, as defined by topographic maps, is long and narrow. The lake is situated along the west-central boundary of the basin, and is about 30 km long by 7 km wide. When the lake surface is at an elevation of 843.40 m above sea level, it covers an area of nearly 155.666 km<sup>2</sup>, with an average depth of 53.83 m and a maximum depth of 60.92 m. The main resources that feed the lake are rainfalls, rivers and underground water resources. Among the important water resources that feed the lake are Bozçay, Suludere, Keçiborlu Deresi and Asar Dere. The main reason for the decrease in the water level of Burdur Lake is the dams and ponds constructed on the rivers that feed the lake since 1970. The pH values for Lake Burdur ranged from a minimum of 9.1 to a maximum of 9.13 with the mean of 9.116  $\mu$ S/cm respectively. The electrical conductivity (EC) values in Lake Burdur ranged from 32160 to 33770 mg/L, with an average 32863.3 mg/l, in the groundwater ranged from 607 to 6200 mg/L, with an average of 2786.3 mg/l. The values of Ca<sup>2+</sup> and Mg<sup>2+</sup> varied from 10.7 to 62 mg/l and 646 to 5880 mg/l with an average value of 32.53 and 2737.67 mg/l in lake water samples collected from various sites. The values of Na<sup>+</sup> and K<sup>+</sup> varied from 3630 to 7530 mg/l and 95.3 to 636 mg/l with an average value of 6301.7 and 285.1 mg/l in lake water samples. The values of HCO<sub>3</sub><sup>-</sup> and Cl<sup>-</sup> and ranged from 952 to 1330 mg/l and 904 to 6960 mg/l with an average value of 1177.5 and 5647.3 mg/l. The values of SO<sub>4</sub><sup>2-</sup> reported for lake water samples varied between 1800-14300 mg/l with an average value of 11450 mg/l. Similarly, the value of CO<sub>3</sub><sup>-</sup> varied from 390 to 636 mg/l with an average value of 561 mg/l.

**Keywords:** Burdur Lake, water chemistry, hydrology, water level

**133 MULTI-SENSOR ANALYSIS OF EXTREME RAIN-ON-SNOW EVENTS**

**Hysen Mankolli**

Environment and Health Association Tirana Albania; Scientific Consultant at Earth Science System Interdisciplinary Center (ESSIC), University of Maryland College Park, MD, USA;

Email : [hysenmankolli@yahoo.com](mailto:hysenmankolli@yahoo.com)

**ABSTRACT**

Rain-on-snow events are an important hydro-climatic feature of mid-to-high latitude environments and mountainous regions worldwide. Episodes of significant winter rain atop snow on the ground have triggered

hazardous flooding with its attendant environmental and human impacts. For instance, in high latitudes such as the Arctic, although sporadic and poorly documented, these events have significant environmental implications. For instance, rain on snow has been associated with the development of a strong layer of ice that prevents reindeer, caribou, and other ungulates from reaching food on the ground, leading to death of wildlife on a massive scale. The projected increase in precipitation and warming in the higher latitudes and mountain environments are likely to increase the recurrence of these events in the future. Detection and monitoring of rain-on-snow events through remote sensing measurements is challenging since rainy conditions hamper the surface features to be monitored from space along with the rain producing event. Microwave remote sensing observations could help monitor surface features at low frequency channels while rainy conditions persist. However, this is complicated by the occurrence of melting snow on the ground caused by rain on snow which can go undetected and by strong atmospheric scattering effects on these channels. The main goal of this study is to analyze significant rain-on snow events through in-situ and remote sensing data as precursor for improved automated space-based algorithms.

*Acknowledgements: The University Maryland and NOAA project Support analysis product multi-sensor events, 2015.*

**Key words:** rain, snow, hydro-climatic factor, multi sensor

### 134 POSITIVE AND NEGATIVE EFFECTS OF NITRATE AND NITRITE ON HUMAN HEALTH AND ENVIRONMENT

Fadim YEMİŞ<sup>a\*</sup> and Nilgün YENİL<sup>a</sup>

<sup>a</sup>Celal Bayar University, Sciences and Arts Faculty, Department of Chemistry, 45030, Muradiye, Manisa-Turkey;

\*E-mail: [fadimyemis@hotmail.com](mailto:fadimyemis@hotmail.com)

#### ABSTRACT

Nitrate and nitrite, present in soils, waters, foods, and physiological systems, are undesired food additives because of their adverse effects on human health. Vegetables and waters provide over 85% of the average daily nitrate intake in human nutrition. Nitrate and nitrite salts have been used for centuries in the manufacture of some specific cheeses, in curing and preserving of meats and fishes. The use of nitrite in many applications such as food preservation, fertilizers, detergent, wood pulp, dye, and synthetic fiber industries has caused by serious pollution problems. Nitrate ions do not show direct toxic effects. However, the nitrate is reduced to nitrite by bacteria in human body. The occurred nitrite also turns into methemoglobin by interaction with hemoglobin. In this case, Fe<sup>+2</sup> in hemoglobin by oxidation turns into Fe<sup>+3</sup> and so the blood's oxygen-carrying task is prevented. The second toxic effect of nitrite is the formation of N-nitroso compounds. When nitrite reacts with secondary amines that are being in human body, N-nitroso compounds occur. N-nitroso compounds are known to be toxic, teratogenic, mutagenic and carcinogenic. The maximum amount of nitrite in foods, foodstuff, natural and industrial waters must be strictly regulated by laws. Because it is a toxic substance that is allowed to be consumed by humans.

**Key words:** Food additives, nitrate and nitrite, N-nitroso compounds and methemoglobin.

### 135 SENTHETIC AND NATURAL PESTICIDES

Fadim YEMİŞ<sup>a</sup> and Nilgün YENİL<sup>a\*</sup>

<sup>a</sup>Celal Bayar University, Sciences and Arts Faculty, Department of Chemistry, 45030, Muradiye, Manisa-Turkey;

\*E-mail: [nilgun.yenil@cbu.edu.tr](mailto:nilgun.yenil@cbu.edu.tr)

**ABSTRACT**

Owing to increasing population, the effective usage of agricultural areas are getting more important in order to ensure of nutrients. For this purpose, pesticides are used in production of crops as chemicals and/or mixture solution of them that kill pests and block harmful organisms. Besides these beneficial features of pesticides, they have some harmful effects on to human and environment. The pesticides are firstly mixed with air and soil by spraying to the plant surface in fields, gardens and parks. After that they can easily be mixed with water by rains. In this way, the pesticide residues are reached to the plants by this water. Plant roots receive hazardous pesticides from water over again by their absorption. The living beings are exposed to the pesticide pollutants in ecosystems since they consume the plants species and water containing pesticides residues. Therefore, the used pesticides should only be effected on target materials but their usage must be safely for living beings. Additionally, the residues of pesticides should be easily transformed into the non-toxic materials. To protect our planetary natural materials should be used instead of pesticides for this kind of purposes. For example; garlic, carob, lavender, thyme and dill should be used as the natural pesticides. We hope that the use of chemicals in farming will be decreased when emphasis on health is increased. And it will be turned to healthy production to get high quality, healthy and having good nutritional value vegetables without any chemical residues.

**Key words:** Pesticides, natural pesticides, agrochemicals, lavender and garlic.

**136 OPTIMIZATION WITH RESPONSE SURFACE METHODOLOGY OF Co(II) BIOSORPTION CONDITIONS FROM AQUEOUS SOLUTIONS BY LENTINUS TIGRINUS FUNGI AS A LOW-COST BIOSORBENT**

**Tekin Şahan<sup>1</sup>, Tuba Erşen Dudu<sup>1</sup>, Yusuf Keskeç<sup>1</sup>, Yusuf Uzun<sup>2</sup>, Nahit Aktaş<sup>1</sup>**

<sup>1</sup>Yuzuncu Yil University, Faculty of Engineering and Architecture, Department of Chemical Engineering, 65080 Van-Turkey;

<sup>2</sup>Yuzuncu Yil University, Faculty of Pharmacy, Department of Professional Pharmaceutical Sciences, 65080 Van-Turkey;

E-mail: [tsahan@gmail.com](mailto:tsahan@gmail.com)

**ABSTRACT**

Microorganisms by ability of a large part of metabolic adaptability have shown resistance to different heavy metals including cobalt, nickel, copper, chromium and many of them have the potential to removal metal ions from aqueous solution. Both living and non-living biological biomass can use as effective metal collector, but use of dead biomass is favored since it is easy to handle, processes are growth independent and possess no harm while using pathogenic strains [1]. Consequently, biosorption is a popular technique that utilizes living/non-living biological materials for the removal of heavy metals. Among the most promising biomaterials studied, fungus are found to be very efficient, economical [1-2]. In this study, biosorption of cobalt (II) (Co(II)) was investigated because cobalt causes both neurotoxicological disorders and genotoxicity in people [1,3]. We reports the optimization of Co(II) biosorption conditions with Central Composite Design (CCD) methodology using lentinus tigrinus fungus as an alternative biosorbent. Firstly, the lentinus tigrinus fungus was powdered and riddle under of 150 µm and stored in the desiccators. Then, effective parameters influencing the Co(II) biosorption were determined as the pH, initial Co(II) concentration (Co, mg/L), temperature (°C) and time (min). All experiments were carried out in batch system using 250 mL flasks containing 100 mL solution and with magnetic stirrer. The Co(II) concentrations remaining in filtration solutions after adsorption were analyzed by using a Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES). As a result, the optimum conditions were obtained by CCD in response surface methodology (RSM). The results were confirmed with experiments.

**Key words:** Biosorption, cobalt, optimization, lentinus tigrinus, response surface methodology

**137 OPTIMIZATION WITH RESPONSE SURFACE METHODOLOGY OF Hg(II) BIOSORPTION CONDITIONS FROM AQUEOUS SOLUTIONS BY *POLYPORUS SQUAMOSUS* FUNGI AS BIOSORBENT****Tuba Ersen Dudu<sup>1</sup>, Yusuf Keskeç<sup>1</sup>, Tekin Şahan<sup>1</sup>, Yusuf Uzun<sup>2</sup>, Nahit Aktaş<sup>1</sup>,**<sup>1</sup>Yuzuncu Yil University, Faculty of Engineering and Architecture, Department of Chemical Engineering, 65080 Van-Turkey<sup>2</sup>Yuzuncu Yil University, Faculty of Pharmacy, Department of Professional Pharmaceutical Sciences, 65080 Van-TurkeyEmail: [tuba\\_ersen@hotmail.com](mailto:tuba_ersen@hotmail.com)**ABSTRACT**

The pollution of water by heavy metal ions and organic pollutants is cause increasing in the environmental problem [1]. Specially, heavy metal ions widely occur in waste water from industries such as mining, metal plating, electronics. In the literature, different methods have been performed for removal of heavy metal, but, among these methods, adsorption and biosorption is generally considered to be a simple, relatively low cost, easiness of operation and effective method in removing heavy metal from wastewater [2]. In this work, central composite design (CCD) in response surface methodology (RSM) was successfully applied to optimize the adsorption conditions of mercury(II) (Hg(II)) ions onto natural *polyporus squamosus* fungus as a biosorbent. Firstly, the *polyporus squamosus* fungi was powdered and stored in the desiccator. Specific surface area was determined using Brunauer-Emmett-Teller (BET) Surface Area Analysis. Then, the most important parameters affecting biosorption of Hg(II) were determined as pH, initial Hg(II) concentration ( $C_0$ ), temperature ( $^{\circ}T$ ) and contact time (min). All experiments were carried out in batch system using 250 mL flasks containing 100 mL solution and with magnetic stirrer. The Hg(II) concentrations remaining in filtration solutions after adsorption were analyzed by using a Inductively Coupled Plasma Optical Emission Spectrometry (ICP-OES). As a result, the optimum conditions were found to be 5.30, 47.39 mg/L, 20 $^{\circ}C$  and 254.9 min for pH,  $C_0$ ,  $^{\circ}T$  and time, respectively. Under this optimum conditions, the maksimum biosorbed amount was calculated as 3.54 mg/g. This result was confirmed with experiments.

**Key words:** Biosorption, mercury, optimization, polyporus squamosus, response surface methodology.**138 USED SOME MODELLING APPLICATIONS IN AIR POLLUTION ESTIMATES****Fatma Kunt, Zeynep Cansu Ozturk, Sukru Dursun**

Selcuk University, Faculty of Engineering, Environmental Engineering Department, Konya – Turkey

E-mail: [fatmakunt@selcuk.edu.tr](mailto:fatmakunt@selcuk.edu.tr); [zcozturk@selcuk.edu.tr](mailto:zcozturk@selcuk.edu.tr); [sdursun@selcuk.edu.tr](mailto:sdursun@selcuk.edu.tr);**ABSTRACT**

Air Pollution, airborne sulphur dioxide (SO<sub>2</sub>), particulate matter (PM), nitrogen oxides (NO<sub>x</sub>) and ozone (O<sub>3</sub>) of pollutants in the environment and is defined as level will have a negative impact on human health. These pollution disrupt natural processes in the atmosphere and affect public health and comfort. In the developing world, industry and human population growth poses a risk in terms of environmental pollution. Therefore it is important to estimate air pollution and measures taken in advance. Some modelling applications used for this purpose include the commonly used Artificial Neural Networks and Adaptive Neuro-Fuzzy Inference System models. In this study; compared different modelling programmes with some gases which cause air pollution were estimated. The results were compared and try to select the most suitable modelling programme.

**Keywords:** Air pollution, modelling, ANN, ANFIS, ATDL.

### 139 STATISTICAL ANALYSIS OF HEALTH REACTION TO AIR POLLUTION

**Luella Prifti, Erjola Cenaj, Shpetim Shehu**

Polytechnic University of Tirana, Faculty of Mathematical Engineering and Physical Engineering,, Department of Mathematical Engineering and Physical Engineering, Tirana, Albania;

Email: [luella\\_p@yahoo.com](mailto:luella_p@yahoo.com);

#### ABSTRACT

This paper describes the statistical analysis of the effects that the air pollution has in human health. A sample of individuals resident in a polluted area in Tirana, Albania is analyzed with the aim to define if the perception of air pollution in the residents is the same. The sample of individuals is divided in five age groups. The Pearson's chi-squared test is used. The result shows that at significance level of the test less than 0,05 there are differences in perception of air pollution among the five age groups of individuals. As conclusion, individuals of different ages have different perception of air pollution. It is important to understand the public perception of air quality because it will be critical for successful citizen involvement in the future initiatives regarding new technologies implementation.

**Key words:** statistical analysis, air pollution

### 140 A STUDY TO THE RELATION BETWEEN HELICOBACTER PYLORI INFECTION AND IRON DEFICIENCY ANEMIA

**Ermela Kopaçi (Selimi)<sup>1</sup>, Tefta Rexha<sup>2</sup>**

<sup>1</sup>Farmatech shpk, Rruga Barrikadave, pallati Galeria e Tiranës, Albania;

<sup>2</sup>Tirana university, Faculty of Natyral Sciences, Biology Department, Bulevardi“Zog I“, Tirana,Albania;

Email: [ermelaselimi@gmail.com](mailto:ermelaselimi@gmail.com)

#### ABSTRACT

Anemia is a pathology of the blood found in about 25% of world population. This anormality leads to a decrease of red blood cells or a decrease of hemoglobin in the blood. A lot of studies suggest for a relation between *Helicobacter pylori* infection and the iron deficiency anemia. Aim : A study to the possible relation between the *Helicobacter pylori* infection and iron deficiency anemia. Material and methods: In this retrospective study, by period of time 2010-2013, 200 individuals,who submitted at a private hospital center,are taken to this study. To diagnose the inflamatory changes of gastric mucosa and the presence of *Helicobacter pylori*, it is used the invasive method of endoscopy. The zones where biopsies are taken are cardia, antrum, corpus, fundus and pylorus. The taken biopsy is stained by themodifiedGiemsa stain method.Hemoglobin is meassured from the venous blood samples by electrophoresis in wavelength 540nm. Results: The relation between *Helicobacter pylori* and iron deficiency anemia resulted to be true ( $\chi^2_{(8)} = 81,304$ ;  $p < 0,0005$ ), 109 individes (74,6%) from 146 anemic individes, had low levels of hemoglobin and were infected by *Helicobacter pylori*. The relation between anemia and age-groups resulted statistically nonsignificant ( $\chi^2_{(6)} = 7.036$ ;  $p = 0.318$ ). The relation between anemia and gastritis resulted statistically reliable ( $\chi^2_{(8)} = 39,47$ ;  $p < 0,0005$ ), 136 individes(93,1%) from 146 anemic individuals suffering from gastritis. Conclusion: *Helicobacter pylori* infection may play an important role in iron deficiency and iron deficiency anemia.

**Key words:** Iron deficiency anemia, *Helicobacter pylori*, hemoglobin.

---

**141 MEDICAL EXPOSURES BY RADIOLOGICAL EXAMINATION IN REGIONAL HOSPITAL OF GJIROKASTER CITY ALBANIA****Antuela Sinani<sup>1</sup>, Kostandin Dollani<sup>2</sup>**<sup>1</sup>Gjirokaster Univerisity, Gjirokaster, Albania;<sup>2</sup>Radiation Protection Institution, Tirana, Albania;E-mail: [asinani@uoj.edu.al](mailto:asinani@uoj.edu.al)**ABSTRACT**

Radiological examinations nowadays provide a significant benefit in the field of the health care. The question of such examinations is to balance their benefits to the risk associated intending to the reduction of the patient dose. This study aims to assess the patient dose by radiological examinations performed in regional hospital of Gjirokastra city for the most frequent radiological examinations performed in this hospital. The TLD-100 Harshaw cards were used for this purposes calibrated in SSDL. Entrance Surface Dose (ESD) was measured as the basic dosimetric quantities for the patient dose. This quantity was measured and averaged for ten patient doses for each examination. The obtained values for mentioned examinations generally were in accordance with IAEA guidance levels for medical exposures. The measuring of the radiological examinations doses will contribute for development and improvement of the national radiation protection program for medical exposures.

**Key words:** medical exposure, radiological examination, surface entrance dose, guidance level.

**142 MONITORING OF SOME QUALITATIVE AND QUANTITATIVE INDICATORS IN BIODIESEL USED AS FUEL IN ROAD TRANSPORT IN ALBANIA, DURING FEBRUARY 2014 - FEBRUARY 2015****Mirela Belshaku (Sulaj)<sup>1\*</sup>, Agim Malja<sup>2</sup>**<sup>1</sup>General Directorate of Albanian Customs, Albania<sup>2</sup> Department of Industrial and Environmental Chemistry, Faculty of Natural Sciences, University of Tirana, Tirana, Albania<sup>1\*</sup>E-mail: [m\\_belshaku@dogana.gov.al](mailto:m_belshaku@dogana.gov.al)**ABSTRACT**

As a result of continued growth of the number of road transport vehicles, in recent years is given priority the use of biofuels in this sector. The purpose of their use, unless the use of alternative energy sources (renewable energy) is the reduction of pollution caused by the use of fossil fuels in vehicles, especially pollution from CO<sub>2</sub>, which is in the minimum quantity in biofuel. EU as one of the manufacturers and the biggest consumers of biofuels in road transport, with about 56% of the world's total production of biodiesel in 2008 and its consumption level in this area by about 67%, by some regulations has promote the production and marketing of biofuels in its territory. In our country following the work to protect the environment through the reduction of harmful emissions released in the transport sector, as well as ensuring optimal efficiency of engine work, are make legal arrangements for the production and use of biofuels in accordance with European Standards. A special importance except the quality of biofuels used in road transport is also dedicated to increasing the quantity in the market, which for 2015 onwards is determined not to be less than 10%. For the period under consideration, the amount of imported biodiesel B100 runs at about 48 365 tons and the amount of biodiesel blended in mineral oil derivatives, produced in the country is 32 525 tons. The purpose of this paper is the identification and comparison with European Standards of some analytical indicators in pure imported biodiesel

---

or mixture thereof for a period of time.

**Keywords:** Biodiesel, biofuel, environmental pollution, FAME, Standard

**143 DETERMINATION OF PHENOLIC COMPOUNDS IN GROUNDWATER BY SPECTROPHOTOMETRY**

**Loreta Vallja, Sonila Duka, Alma Shehu, Alqi Çullaj**

Department of Chemistry, Faculty of Natural Sciences, University of Tirana, Albania

E-mail: [loretavallja@yahoo.com](mailto:loretavallja@yahoo.com)

**ABSTRACT**

Phenolic compounds are among the most important contaminants present in the environment. Although they can be originated naturally due to the degradation of humic substances, tannins and lignins, many industrial processes, including production of drugs, textiles, dyes, pesticides and paper, are the main sources of these compounds in the environment. As a result of these applications, they are found in soils and sediments and this often leads to ground water contamination. Owing to their high toxicity and persistence in the environment, both, the US Environmental Protection Agency (EPA) and the European Union have included some of them in their lists of priority pollutants. The present study was intended to determine total phenolic compounds content in groundwater of selected wells in the oil-field of Patos-Marinza area using three spectrophotometric methods: direct spectrophotometric method, chloroform extraction method and ion-exchange spectrophotometry method. Results indicated that the groundwater samples showed high levels of phenol relative to the maximum allowed limit reported by the Environmental Protection Agency (EPA) and the World Health Organization (WHO).

**Keywords:** phenol; spectrophotometry; groundwater

**144 THE IMPACT OF WOODEN CONSTRUCTION ELEMENTS IN THE ENERGY BALANCE OF THE WOODEN BUILDING IN ALBANIA**

**Firdus Haveraj**

Agricultural University of Tirana, Faculty of Forest Sciences, Tirana, Albania;

Email: [firdushaveraj@gmail.com](mailto:firdushaveraj@gmail.com)

**ABSTRACT**

Thermal insulation is rated as one of the most effective interventions to reduce energy requirements for heating and cooling according to numerous studies in the energy sector in general and in the housing sector in particular, due to the reduction of heat transmission coefficient of construction elements. The study aimed to assess the impact of wooden walls and windows in energy balance, in order to ensure energy efficiency in the wooden building. The project was based on the identification of typical types of walls of wooden houses mostly used in Albania. It was conducted for a typical wooden building in the climatic area of Tirana, for three types of walls and three types of wooden windows. Heat transfer coefficients of the walls and windows were assessed by Knauf Insulation 1.2 program. The impact of nine (9) typical combinations of three (3) types of walls with three (3) types of windows was assessed by the influence of relevant heat transfer coefficients in thermal balance of the annual demand for heating and cooling, generated by the program Casanova version 3.3.08. The thermal impact of the windows is also estimated by energy-flow diagram. It was concluded that these combinations between walls and wooden windows were in compliance with the requirements by 80 - 110 kWh/(m<sup>2</sup> year), set by the "National Strategy for the Conservation of Energy in buildings 2015".

---

**Keywords:** energy balance, wooden wall, wooden window, thermal performance

**145 THE PROBLEMS OF RENEWABLE ENERGIES IN ALBANIA**

**Elena Bebi<sup>1</sup>, Jorgaq Kaçani<sup>2</sup>**

<sup>1</sup>Polytechnic University of Tirana, The Production and Managing Department, Tirana – Albania;

<sup>2</sup>Polytechnic University of Tirana, Rectorate, Tirana – Albania;

Email: [ebebi@fim.edu.al](mailto:ebebi@fim.edu.al); [jorgaqkacani@yahoo.com](mailto:jorgaqkacani@yahoo.com)

**ABSTRACT**

The perceived changes in climate around the world are due to global warming which is caused from “greenhouse” gases that are emitted in the atmosphere as a result of uncontrolled human activity. The majority of CO<sub>2</sub> emissions in the world come from fuel-burning power plants, as well as the sector of industry and transport. Therefore the efficient usage of renewable energy is an ambitious project for many countries, including Albania. Although in Albania, hydropower already provides over 98% of electrical energy and 30% of the total primary resources, the usage of other forms of renewable energy is crucial as it provides higher stability in the energy sector, making it non-dependent upon a single resource and it improves the security of energy supply. It would also decrease imports and the government deficit, while increasing local and foreign investment rates and thus providing more job opportunities in the country. Although the Albanian government has adopted laws that encourage and support the development of renewable forms of energy, there are still many problems in the renewable energy sectors, including hydropower plants. These problems involve mainly legal and regulatory issues that remain unresolved, limitations in project sponsorship, limited experience of local engineers, lack of data and appropriate standards for evaluating the data as well as problems in the market for electrical equipment. Like elsewhere in the world, solutions to these problems are being framed under the amelioration of supporting financial schemes and the improving grid access conditions for renewable electricity.

**Keywords:** Renewable energy, electrical energy, legal and regulatory issues, hydropower, engineering experience.

**146 EFFECT OF ENVIRONMENTAL FACTORS ON PRODUCTION PICKLING CUCMBER IN TUZLA CANTON**

**Sead NOĆAJEVIĆ<sup>1\*</sup>, Said KARIĆ<sup>2</sup>, Sabina BEGIĆ<sup>1</sup>, Edin BRIGIĆ<sup>1</sup>**

<sup>1</sup>Univerzitet in Tuzla, Bosnia and Herzegovina;

<sup>2</sup>Ministry of Agriculture, Water and Forestry Tuzla Canton, Bosnia and Herzegovina;

Email: [sead.n\\_63@hotmail.com](mailto:sead.n_63@hotmail.com)

**ABSTRACT**

The past decade in the production of pickling cucumber in Tuzla Canton increased both in actual yields, and by land underlying the plantations. Previous studies and enforced in the said area, and focused on the production of gherkins were comprehensive and in different occasions are emphasized, making clear many characteristics of production and the reasons for its success. This paper focuses on the impact of cultivation factors on the production of pickling cucumber in Tuzla canton, but without thematic working interest and secondary parameters that are part of the following pickling cucumber production as well as the practical production details that are zapažani the production itself, and that influenced to improve not only the yield of plantations, but also to improve the health status of the plants themselves. Ferhatović et al. (2010). Cucumber as toploljubiva and heliophilous plant, requires favorable environmental conditions. In order to obtain complete



---

information about production and agro-ecological conditions in which it took place was carried out monitoring of the same. The data suggest that the weathering of the study sites is relatively favorable for vegetation requirements pickling cucumber, and thus is largely realized and the impact on fruiting plants. From the data obtained it can be concluded that just weathering and, of whose benefits will depend on the height and yield at the end of the very economic viability of the Tuzla Canton extremely important vegetable production.

**Keywords:** gherkin, agro-ecological conditions, the effect of yield

**147 THE NEW TERRITORIAL DIVISION OF ALBANIA AND ITS SUSTAINABLE DEVELOPMENT**

**Diana Shehu<sup>1</sup>, Edlira Ndreko<sup>2</sup>, Nehat Çollaku<sup>3</sup>,**

<sup>1</sup>Faculty of Economy & Agribusiness, Agricultural University of Tirana, Albania;

<sup>2</sup>Faculty of Education and Philology, University "Fan.S. Noli" Korça, Albania;

<sup>3</sup>Agricultural University of Tirana, Albania;

Email: [esidial@yahoo.com](mailto:esidial@yahoo.com)

**ABSTRACT**

One of the challenges of Albanian society today is European integration. In this context an important issue is agricultural development, because it is still one of the most important branches of economic life, where about 49 % of the population lives in rural areas and agricultural production taxes to about 23% of GDP. (Gross Domestic Product). So, it is made the necessity of sustainable development of the country and particularly of the agriculture. During these 25 years Agricultural development have had a number of problems which made the necessity of a new administrative territorial division of the country, The main problem was the problem of land which constitutes the stalemate of the Albanian economy. The study will analyze the main indicators of sustainable development. The new territorial-administrative division, the benefits that will bring it to sustainable development of the country will analyse, too. In this context will be analyzed and the risks that has this new territorial division. Conclusions and recommendations will be drawn at the end of the study connected with strategies and policies to be followed for the future.

**Key words:** Sustainable Development, new territorial administrative division

**149 HOSPITAL WASTE MANAGEMENT, AN IMPORTANT FACTOR FOR ENVIRONMENTAL PROTECTION. RESEARCH CONDUCTED IN VLORA REGIONAL HOSPITAL (2013-2014)**

**Y. Bilushi\*<sup>1,2</sup>, M.Agolli<sup>3</sup>, M.Terpo<sup>3</sup>, F.Kamberi<sup>1</sup>**

<sup>1</sup>University of Vlora, Albania. Public Health Care Faculty, Albania;

<sup>2</sup>Research Institute of Science & Technology, USA;

<sup>3</sup>University of Gjirokastra, Albania;

Email: [ybilushi@risat.org](mailto:ybilushi@risat.org);

**ABSTRACT**

Health institutions are frequented by people of different age, gender, nationality or religious background. The hospital institutions inevitably produce a considerable amount of hospital waste during their daily activity while performing the treatment of health problems, the diagnosis of sick patients. Hospital waste becomes a source for the spread of nosocomial infections, putting the health of patients and medical personnel in danger. <sup>[6]</sup> The main purpose of this article is the implementation of methods of hospital waste management from the staff of the Regional Hospital in Vlora, in order to establish and implement adequate policies for the medical staff, to

---

optimize the management of medical waste and to prevent the spread of nosocomial infections. Our objective is to understand the connection between the methods of medical waste management and the spread of nosocomial infection to the nursing staff of the Regional Hospital of Vlora. The study is transversal, descriptivo-analytic and quantitative. The sample of this study consists of 121 nursing staff members of Vlora Regional Hospital, during the period March 2013 to June 2014. The data collection was conducted through distribution of a self-administered questionnaire while the statistical data analysis was performed on SPSS 17.0 statistical software. From this study were excluded the primary care nursing staff. Our findings conclude that there is a statistically significant relation between the administration of hospital waste and the incidence of nosocomial infection, the P-value is 0.000. Statistically significant relation exists between the administration of sharp hospital waste and the spread of infection, P-value is 0.000. Furthermore the common residues are dumped in the proper containers by 76% of the nursing staff and the anatomical remnants are thrown in proper the containers by 64.5% of the staff. Based on our findings We concluded that that there is a statistically significant link between the administration of sharp medical waste and infectious waste, and the incidence of nosocomial infection. Most of hospital waste appears to be managed within the appropriate parameters.

**Key words:** Management, environment, hospital waste, nursing staff, pollution.

**150 AN ASSESSMENT OF THE QUALITY OF VARIOUS BOTTLED MINERAL WATER MARKED IN TIRANA (ALBANIA) DURING 20014**

**Sonila Duka\*, Loreta Vallja, Alma Shehu**

Department of Chemistry, Faculty of Natural Sciences, Tirana University, Albania;

\*E-mail: [soniladuka@hotmail.com](mailto:soniladuka@hotmail.com)

Due to the growing demand for bottled water a study was undertaken to determine the quality of different brands. The periodical analysis of bottled drinking water is very essential to ensure that the water is safe and can be consumed by humans. Seventeen brands of domestic bottles water (Alpin, Akull, Spring, Tepelena, Lajthiza, Kristal, Dukat, Fontana, Trebeshina, Selita, Qafshtama, Tirana, Kond, Acqua Panna, Acqua Vera, Evian, Vikos) were collected during the first semi quarter of the year 2014 from the supermarkets and food stores in Tirana city, Albania. The objective of this study was to compare the accuracy of the concentration of minerals contents mentioned at the manufacturer labels of the different of different bottled drinking water. As well as to compare the chemical composition of such bottled water with drinking water standard of EC and WHO. In conclusion, this study showed that the concentration of all analyzed elements in bottled water were within the WHO concentration guidelines and below the maximum contaminant levels (MCL) established by the US EPA, (2004).

**Key words:** assessment, quality, bottled water, water quality, WHO.

**151 BIOAEROSOLS IN INDOOR ENVIRONMENTS**

**Sevda OCAK<sup>1</sup>, Yusuf UZUN<sup>2</sup>**

<sup>1</sup>Yüzüncü Yıl University Engineering Architecture Faculty, Environmental Engineering Department, 65080, Van, Turkey;

<sup>2</sup>Yuzuncu Yil University, Faculty of Pharmacy, Department of Pharmaceutical Botany, 65080 Van, Turkiye;

E-mail: [sevdaocak@yyu.edu.tr](mailto:sevdaocak@yyu.edu.tr)

**ABSTRACT**

In general, people spend at least 80% of their time in various indoor places. Even though indoor air pollutants are present at trace concentrations, the potential threat to human health cannot be noticed after long-term exposure in indoor environments. Poor indoor air quality has been shown to have adverse impact on human health. Some of measurement indoor air pollutants can be listed as carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), formaldehyde (HCHO), total volatile organic compounds (TVOCs), total bacteria counts (TBC), total fungi counts (TFC), particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>), ozone (O<sub>3</sub>). Sources of indoor air pollutants may be brought about by contaminated outdoor air, air conditioning of office equipment, human activity, building components and furnishings, and other accidental events. Particulate matter frequently couples with compounds of biological origins creating bioaerosols that may range in aerodynamic diameter from 0.01 and 100µm. Indoor air contains a complex mixture of bioaerosols and non-biological particles. Non-biological particles is present in atmosphere such as dust, tobacco smoke, and cooking-generated particles. Bioaerosols is present atmosphere in form of pollens, fungal spores, bacteria, viruses, and any fragments from plants and animals. The size scale ranges from about 15-400 nm for viruses, through 0.3-10µm for bacteria to 1-100 µm for fungal spores, pollen and plant debris. Bioaerosols have been studied in numerous different regions and settings; schools, child care centers, markets, animal feed industry, animal sheds, food grain warehouse, bakery, library, food processing units, hospitals, kindergartens, senior care centres and nursing centres, social welfare houses and offices. This study reviews the sources, effects and control methods for bioaerosols indoor environments.

**Key words:** Indoor air quality, Air pollutants, Bioaerosols

## 152 HEAVY METALS LEVELS IN INDOOR ENVIRONMENT

Sevda OCAK<sup>1</sup>, Ali Rıza KUL<sup>2</sup>

<sup>1</sup>Yuzuncu Yıl University, Engineering- Architecture Faculty, Environmental Engineering Department, 65080 Van, Turkiye;

<sup>2</sup>Yuzuncu Yıl University, Vocational School of Health Care,65080, Van, Turkiye;

E-mail:[sevdaocak@yyu.edu.tr](mailto:sevdaocak@yyu.edu.tr),

### ABSTRACT

Indoor concentration of trace heavy metals depends on their concentrations in outdoor air and surrounding soil and dust. Various industrial activities, such as mining, metal smelting, and the burning of coal in power plants, emit these metals or their compounds to the ambient air. They settle slowly and deposit in the surrounding soil or water. Although most ventilation systems in homes and buildings employ filters to remove dust particles from outdoor air before circulating it indoors, a significant amount of trace metals can be carried into homes by soil attached to shoes or dust particles that attach to clothes. Indoor sources include old lead- and latex-based paints, domestic water supplies, smoke from the burning wood, and tobacco smoke. Health hazards associated with trace levels of heavy metals, especially lead, mercury, cadmium, and chromium are well documented. Lead is a neurotoxin and can cause impaired metabolism, reading disorders, delay in early childhood development, and neurobehavioral problems. Although the indoor lead concentration level may not be high enough to cause brain damage to adults, it can be lethargy, headaches, and a loss of appetite. Mercury is generally a sensory irritant. The lungs and skin can absorb mercury vapor rather quickly, which can cause skin burns, irritation in mouth, rash, excessive perspiration, partial loss of hearing, and kidney damage by destroying cells in the tubular system. Cadmium, once inhaled, tends to deposit in the kidneys and liver. It can severely damage capillaries in the kidneys and will interact with nutrients in the liver. This study reviews the sources, levels, effects and control methods for heavy metals in indoor environments.

**Key words:** Indoor air pollution, Outdoor air pollution, Air pollutants, Heavy metals, Control methods

## 153 ECHINOCOCCUS GRANULOSUS INVESTIGATION OF INTERFERENCE ON THE SIDE EFFECTS OF ENVIRONMENTAL HEALTH

**Gülüm SARGİN<sup>1</sup>, Nuran Bazencir Görentaş<sup>1</sup>, Nurhayat Atasoy<sup>2</sup>, Ufuk Mercan Yücel<sup>3</sup>**

<sup>1</sup>Yuzuncu Yıl University of Health Services Vocational High School, Van-TURKEY;

<sup>2</sup>Yuzuncu Yıl University of Science Department of Chemistry, Van-TURKEY;

<sup>3</sup>Yuzuncu Yıl, University of Veterinary Medicine Department of Pharmacology, Van-TURKEY;

E-mail: [nuratasoy@yyu.edu.tr](mailto:nuratasoy@yyu.edu.tr)

#### **ABSTRACT**

Is also a very important public health problem in our country in a very important zoonotic disease with hydatid cyst of Echinococcus granulosus hygiene factors, which in many parts of the world do not apply enough of. Terms of .Çevr to determine the frequency of infection. Between regions or between countries is an important factor in the spread of infection is uncontrolled animal movement. Slaughterhouses, to conform to the conditions of animal slaughter and meat offal of the door waiting for the dog is atılmamasıgerekl.even In sacrifice an animal in the garden of this issue is the same. For this deep pit Echinococcus granulosus kullanılmalıdır.ins transmitted until 4 ways: 1..infes contaminate food or water in the stool; 2..infes in the soil or in the hands of children playing in the sand at the playground contaminate eggs take orally; 3.parasite possibility of contamination of eggs of the dog's hair at work because it was too high to be caressed the hair and allows the transmission of such dog to be taken from the washing of the hands to the mouth; 4. Eggs contain mixing powder with dog feces or respiratory ilebulaş mouth again is prevented by cutting the olur.bulaş this 4 way; In a study with albendazole by the World Health Organization, 12 month follow-up patients, 30% cysts were lost, that degenerated cysts 30-50% and a reduction in size, 20-40% 's has been reported that remained stable or deteriorated unchanged cyst. Wall thin, small cysts, non-infected, non-related biliary vesekond have proven to respond better to chemotherapy of ovarian cysts. In primary liver and lung hydatid disease in patients with cystic multiple of two or more organs, reduce recurrence after surgery and reduces the benzimidazole compounds of pressure inside soften cysts cysts used in medical therapy to facilitate and simplify cyst removal.If after . Protoskoleks and cyst viability and reducing the risk of recurrence of hydatid cyst of the azaltır.cerrahi removed during medical treatment only if the spread or rupture in biliary tract surgery is appropriate, if any. The studies Centenary University Medical Center Dursun Odabaş number of patients between Chest Diseases section of the protocol books examining the 2009-2013 year are designated as 473. The biggest risk group in which contact with infected dogs were allowed free movement without interference struggle and sheep, goats, cows, such as dealing with animal husbandry. Therefore, the control of dogs and livestock diseases (especially sheep) is aimed to break between cycles control primarily of stray dogs in the control study, to block access to offal and community-based educational applications should be made.

**Key words:** Hydatid disease, zoonosis, dogs, Echinococcus granulosus, offal

#### **154 DEVELOPING AN ALGORITHM IN SPEECH RECOGNITION SYSTEM IN LABVIEW**

**Saimir Tola<sup>1</sup>, Ligor Nikolla<sup>2</sup>**

Polytechnic University of Tirana, Tirana Albania

E-mail: [saimir\\_tola@yahoo.com](mailto:saimir_tola@yahoo.com)

#### **Abstract**

The purpose of this paper is to build an algorithm of speech recognition system in Labview. In this paper we will design a system of voice recognition and test it by using the microphone to record the speaking words. After recording the word the words will become signals, information which will be sampled and stored in Labview. We will use filters to clear the signals from noise and then after running the algorithm we will have all the properties and the parameters of the signals. In the end we will see if the algorithm works well for the

basic speech recognition.

**Key words:** Algorithm, Speech recognition, Labview, Filter, Program, Simulation.

## 156 PLANT GROWTH REGULATORS AND THEIR EFFECTS ON VITAL

Fadim YEMİŞ<sup>a</sup>, Nilgün YENİL<sup>a\*</sup> and Umut ŞEN<sup>a</sup>

<sup>a</sup>Celal Bayar University, Sciences and Arts Faculty, Department of Chemistry, 45030, Muradiye, Manisa-Turkey;

\*E-mail: [nilgun.yenil@cbu.edu.tr](mailto:nilgun.yenil@cbu.edu.tr);

### ABSTRACT

Plant growth regulators are used with various purposes in plant cultivation. The regulators are important in processes such as rooting and budding of plants furthermore the formation and maturation of fruits. As depending on concentration of some regulators and period of implementation of them the regulators can promote growth or not. Otherwise their concentration and application time can slow down growth *vice versa*. Plant growth regulators are obtained both naturally and artificially. Natural growth regulators, finding in plants bodies, are called hormone. However, they are not within the plant body, chemical substances acting as hormone are called synthetic growth regulators. There are not enough studies about the effects of the regulators on human health. Untimely and excessive using of the regulators is caused to destroy the shape and taste of plants that have more regulator residues. It is known that there are few studies for some of the regulators that make disorders of nervous system, behavioral and genetic on humans. It can be seen that sudden death and reproductive defects in living organisms. It is also known that some acute effects of the regulators are available by direct contacting with skin and eyes.

**Key words:** Natural regulators, synthetic regulators and herbal hormones.

## 157 WASTE VEGETABLE OILS AND THE VALUE OF THEIR RECOVERING

Nilgün YENİL<sup>a\*</sup>, Fadim YEMİŞ<sup>a</sup> and Umut ŞEN<sup>a</sup>

<sup>a</sup>Celal Bayar University, Sciences and Arts Faculty, Department of Chemistry, 45030, Muradiye, Manisa-Turkey;

\* E-mail: [nilgun.yenil@cbu.edu.tr](mailto:nilgun.yenil@cbu.edu.tr);

### ABSTRACT

Vegetable oils are obtained from olive, sunflower, corn, cotton, soybean, canola and safflower that they have oleaginous seeds. The waste vegetable oils are formed from refining industrial oils, used frying oils and exceeded expiration date oils. These kind of wastes have eco-toxic properties and they are hazardous materials for environment. The waste vegetable oils, poured to the sewage with household contaminants and released in to the open area uncontrollably, are very dangerous. Since, these waste oils caused by blocking the sewer systems, pollution of groundwater, increasing the pollution of domestic wastes and the cost of purification facilities. For this reason, waste vegetable oils should have been converted to the new modified products such as stearin, soap and bio-diesel for recovering of them. In this manner, the environment and human health can be protected from the hazardous effects of vegetable waste oils.

**Key words:** Waste vegetable oil, bio-diesel, canola, cotton and sunflower.

## 158 PEGANUM HARMALA L. AND IT' S SIGNIFICANT EFFECTS ON ENVIRONMENT

**Deniz VURAL<sup>a</sup>, Nilgün YENİL<sup>a\*</sup>, and Volkan ATEŞ<sup>a</sup>**

<sup>a</sup>Celal Bayar University, Sciences and Arts Faculty, Department of Chemistry, 45030, Muradiye, Manisa-Turkey

\*E-mail: [nilgun.yenil@cbu.edu.tr](mailto:nilgun.yenil@cbu.edu.tr);

#### **ABSTRACT**

The plant called as *Peganum harmala L.* is represented by a single species of the zygophyllaceae family. It is widespread in the world especially South Europe, North Africa, Southwest Asia, South Tibet and all regions of Turkey. The *Peganum harmala L.* is approximately 30-50 cm in height and is perennial herbaceous steppe plant that is blossomed with greenish white color between in May and August. It can be encountered in sandy and stony places, frequently. The seeds of plant, known among the people as harmala, is slightly bitter taste and heavy odor. The seeds and roots of plant small amount of alkaloids, 4-7%. These alkaloids are harmine, harmaline, harmol, harmalol, tetrahydroharmine, vasisine, vasisinon and peganine in the various parts of plant. It is known that the plants fruits and seeds have diuretic, digester, antipyretic, spasmodic effects as well as hypnotic and hallucinogenic properties. Also, it can be used as a stimulant for contractions of the uterus as well as antimicrobial and antitumor agents in medicine. Plants leaves are very useful effects for rheumatism, asthma, malaria, hysteria and hiccup. Additionally, their leaves have very narcotic effect on neural systems. Obtaining results from the researches show that harmala is be able to trap some metals like calcium, potassium, zinc, magnesium, strontium, iron, nickel and copper. Due to their destruction capabilities on chemical contaminants, it contributes to environment and living beings. Owing to their reddish and black dye properties of its seeds, roots and oils can also be used various industrial areas.

**Key words:** *Peganum harmala L.*, harmaline, chemical contaminants and metals.

### **159 ACID RAINS AND GREENHOUSE EFFECTS**

**Nilgün YENİL<sup>a\*</sup>, Fadim YEMİŞ<sup>a</sup> and Deniz VURAL<sup>a</sup>**

<sup>a</sup>Celal Bayar University, Sciences and Arts Faculty, Department of Chemistry, 45030, Muradiye, Manisa-Turkey

\*E-mail: [nilgun.yenil@cbu.edu.tr](mailto:nilgun.yenil@cbu.edu.tr);

#### **ABSTRACT**

The biggest causes of environmental pollution in our era are rapidly growing population and industrialization. Overuse and misuse of natural resources cause to destruction and pollution of nature. Consequently, all creatures are damaged by these contaminants. The use of fossil fuels such as oil, natural gas and coal in homes, vehicles and factories increases environmental pollution. Gases such as carbon dioxide, methane, ozone, nitrogen oxides and chlorofluorocarbons by burning fossil fuels are spread to the environment. The gases, emitted to the environment, are causing more both acid rains and Earth's warming. The effect that leads to more warming of Earth is called the greenhouse effect. The accumulated gas layers of air neither prevent the reaching of sun's rays on the earth nor distribution of heat rising from the ground. As a result, climate changes are occurred owing to heating up and cooling down of earth not in time. Acid rains also reduce the pH levels of ground water and soil. Besides it carries out to the deep of soil various metals such as calcium, minerals magnesium and aluminum. This situation makes difficulties for the survival of fishes and plants. Briefly, acid rains and the greenhouse effects disrupt the balance of nature.

**Key words:** Greenhouse, acid rains, fossil fuels.

**160 SOIL POLLUTION IN THE ENVIRONMENT CREATED BY DEVELOPING TECHNOLOGY AND BIOLOGICAL MEASURES IN SOIL POLLUTION****Bahriye Gülgün<sup>1\*</sup>, Melda Köse<sup>1</sup>, Kübra Yazıcı<sup>2</sup>, Sukru Dursun<sup>3</sup>, Funda Ünal Ankaya<sup>4</sup>, Hasan Köse<sup>4</sup>**<sup>1</sup>Ege University Faculty of Agriculture, Department of Horticulture, 35100 Bornova, Izmir, Turkey;<sup>2</sup>Gaziosmanpaşa University Faculty of Agriculture, Department of Horticulture, 60100, Taşlıçiftlik, Tokat, Turkey;<sup>3</sup>Selcuk University, Faculty of Engineering, 42031 Konya, Turkey;<sup>4</sup>Celal Bayar University, Alaşehir Vocational School, Head of the Dept. of Park and Garden Plants Landscape and Ornamental Plants Program, 45600 Alaşehir/Manisa, Turkey;Email; [bahriye.gulgun@hotmail.com](mailto:bahriye.gulgun@hotmail.com); [k-yazici-karaman@hotmail.com](mailto:k-yazici-karaman@hotmail.com); [sdursun@selcuk.edu.tr](mailto:sdursun@selcuk.edu.tr)**ABSTRACT**

With the transition to modern agriculture and the acceleration of industrialization since the beginning of the 20th century, and the effect of the rapidly increasing world population, natural resources and ecosystems have been largely destroyed and polluted. As a result, soil pollution has also started to come up as an environmental problem. Soil pollution affects all living organisms, and seriously threatens us, i.e. human beings, who form the last link in the food chain. Today, creating public awareness on such a significant issue, making legal regulations and conducting scientific studies is of more importance than ever before. This study aims to define the reasons for soil pollution and provide information on biological measures.

**Keywords:** Landscape, Biological Restoration, Soil, Heavy Metal, Environment**161 ASSESSMENT OF AIR QUALITY IN KUCOVA DUE TO HEALTH DISTURBANCE****Jonida Leshi<sup>\*1</sup>, Margarita Hysko<sup>2</sup>**<sup>\*1</sup>Regional Environmental Agency, Berat, Albania;<sup>2</sup> Faculty of Natural Sciences, Tirana, Albania;Email: [jonida.leshi@akm.gov.al](mailto:jonida.leshi@akm.gov.al)**ABSTRACT**

Kucova is a municipality in lower-central Albania. The total population is 31,262 (2011 census), in a total area of 160.23 km<sup>2</sup>. The aim of the article is to assess the air quality parameters of Kucova city due to health problems and environmental issues coming from industrial activities developed in this area. The monitoring study was conducted 22-30 December 2014. The monitoring station was established in the center of the city and coordinates between 40°48'18.33 N and 19°54'40.36 E. The station analyzed parameters such as: pm 10, SO<sub>2</sub>, NO<sub>2</sub>, CO, O<sub>3</sub> and Benzenes etc. NO<sub>2</sub> and O<sub>3</sub> discharges were analyzed every 30 min whereas SO<sub>2</sub> was registered every 5 min. PM 10 measurement was based in the gravimetric method and were compared to the EU directives of the air quality. Referred to the results of the analyses it is concluded that air quality compared to the EU Directives were relatively good. PM values surpassed the referred values most of the days whereas NO<sub>2</sub> and Benzenes parameters were variable due to industrial activity of drilling petroleum. It is strongly recommended to keep periodic monitoring air quality evidence especially during summer season, also take precautions to minimize the pollution sources applying pro environmental technologies.

**Keywords:** Kucova, air quality, health problems, environmental issues.**162 ROBUST SPEECH RECOGNITION IN NOISY CONDITION, AND THE IMPLEMENTATION OF GAMMATONE FILTERS.**

Saimir Tola<sup>1</sup>, Ligor Nikolla<sup>2</sup>

Polytechnic University of Tirana, Tirana Albania

E-mail: [saimir\\_tola@yahoo.com](mailto:saimir_tola@yahoo.com)

#### ABSTRACT

In this paper we will show the implementation of Gammatone Filter in a noisy environment, and we will compare the results with MFCC and the PLP features. We will apply directly the set of Gammatone filters on speech signals in the time domain.

**Key words:** feature extraction, Gammatone filter, Robust Speech Recognition.

#### 163 INVESTIGATION OF RADIOCHEMICAL PURITY OF <sup>99m</sup>Tc-DMSA RADIO PHARMACEUTICAL BY DIFFERENT CHROMATOGRAPHIC METHODS

Brunilda Daci<sup>1</sup>, Florinda Cfarku<sup>1</sup>, Skender Malja<sup>1</sup>, Mirela Alushllari<sup>1</sup>

<sup>1</sup>Institute of Applied Nuclear Physics, Tirana University, Tirana, Albania;

Email: [brunilda.daci@gmail.com](mailto:brunilda.daci@gmail.com);

#### ABSTRACT

<sup>99m</sup>Tc-DMSA is a radiopharmaceutical widely used in nuclear medicine for the renal scan (diagnostic imaging that evaluate function, dimensions, form and position of kidneys and also damage in kidneys because of different infection), renal function of two kidneys, renal ectopic infarction, hypertension, multicystic kidneys, etc. All of these usages have created the need for a rapid and accurate technique to check the radiochemical purity of <sup>99m</sup>Tc-DMSA before administration to the patients. The conventional ITLC (Instant Thin Layer Chromatography) method tends to show relatively higher level of free pertechnetate, which could be significant. The main objective of this study is to replace ITLC method with a simpler alternative one because of ITLC-SG papers are very expensive. PC method is a rapid, inexpensive and chemically reliable process that may be used in any nuclear medicine department to determine labeling efficiency. A comparative evaluation of different systems is accomplished using different chromatographic papers (Whatmman S&S 2698C, Whatmman S&S 2598a, Whatmman No. 31 ET Chr), as stationary phases and eluents (Acetone, NaCl 0.9%, Acetonitrile 50%, MEK, Alcohol absolute, Ethyl acetate: MEK 3:2, Sodium acetate 13.6%), as mobile phases. The results show that the PC method, for some of the above mentioned systems, can replace ITLC methods (expensive methods) to control radiochemical purity of <sup>99m</sup>Tc-DMSA.

**Key words:** Radiopharmaceuticals, radiochemical purity, diagnostic, technetium.

#### 164 EFFECTS OF MODIFIED ATMOSPHERE PACKAGING DURING STORAGE ON SOME CHEMICAL AND BIOCHEMICAL PROPERTIES OF ZEBRA CHERRY AND MINI BEZELYE MINIATURE TOMATOES GROWN IN OPEN FIELD AT BITLIS ECOLOGICAL CONDITIONS

Şeyda Çavuşoğlu<sup>1</sup>, Faruk Kardaş<sup>2</sup>, Fuat Eser<sup>1</sup>, Merve Otag<sup>1</sup>

<sup>1</sup>Yuzuncu Yil University, Faculty of Agriculture, Department of Horticulture, 65080 Van-Turkey;

<sup>2</sup>Erzincan University, Faculty of Education Department of Elementary Science Teacher Education, 24000 Erzincan-Turkey;

Email: [scavusoglu@yyu.edu.tr](mailto:scavusoglu@yyu.edu.tr)



**ABSTRACT**

In recent years, there are growing interest and demand for miniature vegetables. Therefore, this study aimed to investigate the effects of modified atmosphere packaging (MAP) on storage time and fruit quality parameters of Zerba cherry and Mini Bezelye miniature tomatoes grown in open field at Bitlis ecological conditions. Red miniature tomato fruits grown in Adilcevaz town of Bitlis province were harvested in full maturation stage and were placed into plastic fruit bowl as 100 grams immediately after harvest and were covered with stretch film. Tomato fruits were stored at 5 °C and relative humidity of 90 ±5 % for 28 days. During the storage, weight loss, the average fruit weight and volume, pH, titrable acidity (TA), soluble solid content (SSC), total phenolic and antioxidant contents, and color (L \*, a, b, C \* and H ) values were determined within 7 days intervals. Consequently, at the end of storage, while Zebra mini tomato had the lowest weight loss, and the highest amounts of pH, soluble solids (brix<sup>o</sup>), total phenolic (mg / 100 g), average fruit weight (g) and volume, Cherry tomato had the highest titrable acidity, antioxidants and color values (L \*, a \*, b \* C and H). Results from this trial have shown that both Zebra and Cherry tomatoes could be successfully stored for 28 days in a MAP packaging.

**Key words:** Antioxidants, MAP, Phenolics, Storage, Tomato,

**165 THE CHANGE OF CHEMICAL-PHYSICAL PARAMETERS OF GJANICA RIVER, UNDER THE INFLUENCE OF HEAVY INDUSTRY**

**Lumturi Hoxha<sup>1</sup>, Spiro Drushku<sup>2</sup>, Ismet Beqiraj<sup>2</sup>**

<sup>1</sup>Step Impianti S.r.l. Italy;

<sup>2</sup>University of Tirana, Faculty of Science, Industrial Chemical Department Tirana-Albania;

Email: [lumturi.hoxha@yahoo.com](mailto:lumturi.hoxha@yahoo.com);

**ABSTRACT**

A river is a body of fresh water flowing from an upland source to a lake, wetland, to another river or sea, fed by the water sources such as ground water springs and tributary streams. Rivers are important sources of water for households, agriculture and industry, recreational activities such as angling, boating and walking. They also support a diverse flora and fauna. constructing artificial waterways and irrigation works, and building dams for water supply and hydroelectric power generation. Rivers also receive effluent from sewage treatment works and industry, and diffuse pollution from agriculture and transport. All these activities can have an impact on water quality. Pollution is very harmful to humans, animals and water life. The effects can be catastrophic, depending on the kind of chemicals, concentrations of the pollutants and where there are polluted. Factories sometimes are releasing toxic chemicals into rivers. Industrial pollution is indeed highly problematic. Gjanica is the most polluted river of Albania. River without life. Our study analyze how change the physical chemical parameters of the river such as pH, oil and grease, temperature, chemical oxygen demand (COD), biologic oxygen demand (BOD), dissolved oxygen (DO) total suspended solids but also suggests technological solution for the prevention of pollution and its possible rehabilitation.

**Keywords:** river, pollution, physical - chemical parameters, technology, solution, prevention.

**166 USE OF KOSOVO BENTONITE FOR RECYCLING WASTE MOTOR OILS**

**Valdet Teneqja<sup>1</sup>, Spiro Drushku<sup>2</sup>**

<sup>1</sup>Laboratory "Ex Fis LABS" sh.p.k. Kosovo;

<sup>2</sup>University of Tirana, Faculty of Natural Sciences, Tirana, Albania;

Email: [teneqjavaldet@gmail.com](mailto:teneqjavaldet@gmail.com)

**ABSTRAKT**

The purpose of this publication is to handle recycling used motor oils with activated bentonite of Republic of Kosovo in the presence of acetic acid. This relates to the production of oils generated small-scale and industrial to make it a safe practice ecologically, healthy and that generates a quality product. Also, experimentation showed the results comparable to some of the conventional methods. This means that recycled oils can be turned into products that will be reused as base oils or as fuel in car engines, or engines of industrial machinery. The characteristics on the quality of this course regenerated with these chemical agents indicate that this product is in conformity with the allowed values of quality indicators of petroleum liquid fuels described in International Standards and Administrative Instruction of Kosovo. Physico-chemical properties of bentonite used and the characteristics of new chemical component did not affect the basic derivative components, harming or alienating, but on the contrary their effect is shown that they have the ability to regenerate motor oils. Therefore this method has shown that the basic components of various derivatives are stored or are affected very little by preserving their consistency. Comparisons with other methods of recycling showed that recycled oil produced with this method of treatment is comparable to those recycled from other conventional methods.

**Keywords:** recycling of used oils; acetic acid; activated bentonite; motor oils.

**167 PASSIVE SOLAR ENERGY COST AND POLLUTION 0**

**Esat Sadiku<sup>1</sup>, Agim Asllani<sup>2</sup>, Ermira Xhunga<sup>3</sup>**

<sup>1</sup>Independent engineer Gjilan, Kosovo;

<sup>2</sup>“Zenel Hajdini” High School, Gjilan, Kosovo;

<sup>3</sup>Polytechnic University of Tirana, Albania;

Email: [e.sadiku@live.com](mailto:e.sadiku@live.com);

**ABSTRACT**

Current consumption for water heating in Kosovo is about 668 GWh / year. The total demand is around 1.338 GWh/ year. Current consumption is limited about 15 days / person which corresponds to the energy requirements of year 318 kWh /person. Requirements maximum is 30 days / person which corresponds to an annual energy of 637 kWh / person. Where the average number of members in a household is 6 people. Currently, the demand for energy for water heating is covered by, fuel wood and electricity. In rural areas, the demand for energy water heating is covered with wood. While in urban areas, the demand for energy, is mainly for water heating by electricity. Number of total households in Kosovo is about 320,000 participating with about 33% of total energy. Sanitary hot water: In the summer: (90-100%); In winter: (15-25%); Spring-Autumn: (50-75%); Average savings: (55-70)%. From the effective management of energy Kosovo will be no enough energy for the entire calendar year. Also, may export about 20% of energy produced.

**Key words:** solar energy, cost, pollution

**168 C. ALBICANS GENITAL INFECTIONS IN MALES AND FEMALES, IN DURRES, ALBANIA**

**Anisa Liti<sup>1</sup>, Margarita Hysko<sup>2</sup>**

<sup>1</sup>Department of Medicine, Professional Studies Faculty, Aleksandër Moisiu University, Durrës, Albania;

<sup>2</sup>Department of Biology, Natural Sciences Faculty, Tirana University, Albania;

E-mail: [anisa.liti@yahoo.com](mailto:anisa.liti@yahoo.com);

**ABSTRACT**

*Candida albicans* is a commensal and opportunistic fungus of the genital tract of healthy individuals. *C. albicans* is dimorphic; it switches between growth as a budding yeast form and a filamentous hyphal or pseudohyphal form. Dimorphism is thought to contribute to *Candida's* virulence. To achieve disease status, a fungus must be in its tissue invasive form (pseudohyphae) and obtain a quantitative representation within the genital flora equalling or exceeding  $10^6$  colony-forming units per milliliter of genital fluid. In our study, we have analyzed 2142 biological samples, from genital tract. It has resulted that 450 out of 2142 were diagnosed with genital infections caused by *C. albicans*. In our study has resulted that females are more affected by *C. albicans* genital infections than males. It has resulted that *C. albicans* genital infections are more common in summer and autumn. It has resulted that the age group most affected by *C. albicans* genital infections is the one between 11 to 30 years old.

**Keywords:** *Candida albicans*, dimorphism, *Candida's* virulence, *C. albicans* genital infections.

**169 THE EFFECT OF THERMAL STRESS EXPOSURE ON THE HEMOLYMPH GLUCOSE LEVEL IN CRABS ( *CARCINUS ESTUARIS* )**

Marsilda Qyli<sup>1\*</sup>, Valbona Aliko<sup>1</sup>

<sup>1</sup>Department of Biology, Faculty of Natural Sciences, Tirana University, Bld. "Zogu I", Tirana, Albania;

\*E-mail: [qylimarsilda@yahoo.com](mailto:qylimarsilda@yahoo.com); [valbona.aliko@yahoo.com](mailto:valbona.aliko@yahoo.com);

**ABSTRACT**

Organisms in natural habitats must frequently respond to changes in their environments through various physiological mechanisms. One of them is hyperglycemia which is a typical response of many aquatic animals to different aquatic factors. The mechanism of hormone release in crab *Carcinus estuaries* is the central objective of this study. Two groups divided into normal and Eystalk-ablated animals, composed of 6 animals were exposed to different value of temperature for 2 hours and it was observed that the glucose level changes in normal animals change the glucose level according to the temperature. From the experimental results is shown that the normal temperature for animals is near to 22.6°C. That's why exposure of both: intact and Eystalk-ablated animals to this temperature doesn't cause any significant effect. It causes a slightly increase of glucose level into intact crabs ( $F=0.375$ ,  $df=1$ ,  $10$ ,  $p=0.573$  so  $p>0.05$ ) while into the eystalk-ablated animals a slightly decrease, ( $F=1.143$ ,  $df=1$ ,  $10$ ,  $p=0.345$  so  $p>0.05$ ). While the exposure of animals to the temperature 32°C, causes a drastically increase of the glucose level in normal animals ( $F=52.46$ ,  $df=1$ ,  $10$ ,  $p=0.000$  pra  $p<0.05$ ) and a non significant decrease to eystalk-ablated animals ( $F=4.17$ ,  $df=1$ ,  $10$ ,  $p=0.055$  so  $p>0.05$ ). When animals were exposed to the temperature 4°C, the glucose level of intact animals is drastically increased, ( $F=18.06$ ,  $df=1$ ,  $10$ ,  $p=0.002$  so  $p<0.05$ ) while into the eystalk-ablated animals, the glucose level undergoes to a non significant slightly decrease. ( $F=3.35$ ,  $df=1$ ,  $10$ ,  $p=0.97$  so  $p>0.05$ ).

**Key words:** *Carcinus estuaris*, temperature, eystalk, crustacean hyperglycemic hormone(CHH), glucose.

**171 PALYNOLOGICAL STUDY OF FOUR GENRES OF BETULACEAE FAMILY IN ELBASANI TOWN, ALBANIA**

<sup>1,3</sup> Admir Jançe, <sup>2</sup>Gëzim Kapidani, <sup>3</sup>Blerina Pupuleku, <sup>3</sup>Nikoleta Kallajxhiu, <sup>3</sup>Anxhela Dauti

<sup>1</sup>“Albanian University”, Tirana, Albania;

<sup>2</sup>Tirana University, Tiranë, Albania;

<sup>3</sup>University”Aleksander Xhuvani” Elbasan, Albania;

\* E-mail: [adi\\_jance@yahoo.it](mailto:adi_jance@yahoo.it);

**ABSTRACT**

A lot of biological studies have been realized in this region during two last decades' periods. Palynological data are reported in the present study, obtained in depositions of last XX centuries (last historic period of New Holocene, last Quaternary), from representative stations of Elbasani, important and ancient town in the central Albania. This study provides some palynological data about the dispersion of *Alnus*, *Ostrya*, *Carpinus* and *Corylus* representatives of Betulaceae Family during Holocene period in the area where is situated Elbasani town. The aim of this paper is to present the correlation between the depth and dispersion of four genres on different periods of time. For this purpose we took about 16 sediment, every 25 cm from the surface up to 4 m depth, through a dry drilling sonde, 110 mm and 130 mm diameter. Palynological data for these genres were provided for the first time in the Albania's palynological literature. Observations, counting and photos of palynomorphs it was carried on using light microscopes, magnification up to 1000x. According to the analyses of these samples we found out several interesting data that showed clearly the correlation between the depth and number of spores and pollens for these four genres.

**Key words:** Palynological, New Holocene-Quaternary, Elbasani town, spore, pollen, Betulaceae Family.

**172 THE EFFECT OF TREATMENT WITH NaCl SOLUTIONS ON BENDING STRENGTH OF SILVER FIR (*Abies alba* Mill.) AND PINE (*Pinus nigra* Arn.) WOOD**

**Arian Kapidani<sup>1</sup>**

<sup>1</sup>Agricultural University of Tirana, Department of Wood Industry, Tirana - Albania

E-mail: [ariankapidani@hotmail.com](mailto:ariankapidani@hotmail.com);

**ABSTRACT**

A study was carried out to evaluate the influence of treatment with different concentration NaCl solutions on bending strength of silver fir (*Abies alba* Mill.) and pine (*Pinus nigra* Arn.) wood. The study was based on mechanical tests performed according to norms ISO 3133. There were tested 96 samples for each species. The samples were sawn from boards produced from fir and pine logs originated from central Albania. 72 samples from each species were treated for 72 hours in NaCl solutions, respectively 24 in 10% concentrations, 24 in 20% and the last batch in 30% concentration. After weight percent gain (WPG) was calculated, the treated and non treated samples were dried and conditioned and then tested by means of mechanical testing machine. WPG of treated fir in solution of 10% concentration resulted 6.09%, of 20% resulted 4.33% and of 30% respectively 5.39%. The static bending strength of non treated fir resulted 85 N/mm<sup>2</sup>, while for treated wood in 10%, 20% and 30% NaCl solutions resulted respectively 32.87%, 14.42% and 17.39% higher. With regard to pine wood, WPG resulted 9.32% for 10% concentration, 3.15% for 20% and 4.02% for 30% concentration. The static bending strength of non treated pine resulted 89 N/mm<sup>2</sup>, while for treated wood in 10%, 20% and 30% NaCl concentrations resulted respectively 1.93%, 10.67% and 4.27% higher than non treated wood. It seems that treatment of coniferous woods in NaCl solutions affects positively on their mechanical properties.

**Key words:** wood, static bending strength, NaCl solutions.

**173 THE EFFECT OF FINGERS TIPS POSITIONING ON BENDING STRENGTH OF FINGER JOINT CONNECTION**

**Besnik Habipi<sup>1</sup>, Holta Çota<sup>1</sup>, Agron Kodra<sup>1</sup>**

<sup>1</sup>Agricultural University of Tirana, Department of Wood Industry, Tirana – Albania;

E-mail: [besnikhabipi@hotmail.com](mailto:besnikhabipi@hotmail.com);

**ABSTRACT**

In a finger joint connection, tips of fingers are positioned in a line oriented vertically regarding to edges of wood pieces. In this research, the effect of two slope positions of fingers tips, on bending strength of poplar (*Populus alba* L.) and silver fir (*Abies alba* Mill.) finger joint connection, bonded with polyvinyl adhesive, was studied. Modulus of rupture (MOR) and Modulus of elasticity (MOE) of joints with fingers tips lined vertically with strips edges, and 10° and 20°, referring to the first one direction, were measured, according to norms ISO/CD 13061-3 and ISO/CD 13061-4. 24 samples for each type of joints, with dimensions 20x20x320 mm, were conditioned and tested by means of mechanical testing machine. For poplar wood, the MOR of vertical fingers tips positioning resulted 31 N/mm<sup>2</sup>, while of 10° and 20° slope positioning resulted respectively 5% and 2% higher. MOE resulted respectively 9637 N/mm<sup>2</sup>, 9244 and 9623 N/mm<sup>2</sup>. For fir wood, the MOR of vertical fingers tips positioning resulted 35 N/mm<sup>2</sup>, while of 10° and 20° slope positioning resulted respectively 4% and 2% higher. MOE resulted respectively 12057 N/mm<sup>2</sup>, 10676 and 11753 N/mm<sup>2</sup>. The research results obtained were discussed in order to analyze and evaluate the slope positioning of fingers tips regarding to its utilization potentials.

**Key words:** finger joint, fingers tips positioning, bending strength.

**174 APPLICATIONS OF WHITE-ROT FUNGI FOR WASTEWATER TREATMENT IN TEXTILE INDUSTRY**

Eda Ondul<sup>1</sup> Nadir Dizge<sup>2</sup>

<sup>1</sup>Yuzuncu Yil University, Department of Food Engineering, 65080 Van, Turkey;

<sup>2</sup>Mersin University, Department of Environmental Engineering, 33343 Mersin, Turkey;

E-mail: [edaondul@yyu.edu.tr](mailto:edaondul@yyu.edu.tr)

**ABSTRACT**

Wastewaters from textile dyeing are significant source of environmental pollution. These wastewaters contain various pollutants such as color and non-biodegradable organic compounds etc. Today, color removal from dyestuff effluent is one of the most important environmental problems facing the textile industry. In recent years, a number of fungi, in particular white-rot fungi have been shown to be important in the degradation of a wide range of pollutants because many of synthetic dyes are resistant to microbial degradation and are not easily removed in conventional wastewater treatment plants. White-rot fungi have been found to decolorize/degrade a variety of synthetic dyes such as water soluble reactive dyes, mainly azo dyes, but also anthraquinone, formazan and phthalocyanine dyes are used extensively in the textile, dyestuff industries, paper printing, color photography and as additives in petroleum products. The ligninolytic fungi that cause white rot of wood have become the object of increasing attention from researchers in the hazardous waste field. Lignocelluloses are degraded by many microorganisms and, particularly with high efficiencies by white rot fungi. These fungi exhibit an oxidative enzymatic system and a lignolytic extracellular system, and consequently are the most efficient for lignin degradation. White rot fungi including *Phanerochaete chrysosporium*, *Ceriporia lacerata*, *Cyathus stercoreus*, *Ceriporiopsis subvermispora*, *Pycnoporus cinnabarinus* and *Pleurotus ostreatus* have been studied for the degradation of different lignocellulosic biomasses showing high delignification efficiencies.

**Key words:** White-rot fungi, pollution, microbial degradation.

**175 PRODUCTION OF ETHANOL BY FERMENTATION OF CORNSTARCH**

**Eda Ondul<sup>1</sup>, Nadir Dizge<sup>2</sup>**

<sup>1</sup>Yuzuncu Yil University, Department of Food Engineering, 65080 Van, Turkey;

<sup>2</sup>Mersin University, Department of Environmental Engineering, 33343 Mersin, Turkey;

E-mail: [edaondul@yyu.edu.tr](mailto:edaondul@yyu.edu.tr)

#### **ABSTRACT**

Long term economic and environmental concerns have resulted in a great amount of research on renewable sources of liquid fuels such as ethanol and biodiesel to replace fossil fuels. Greenhouse gases from burning fossil fuels have major consequences for climate change. Biofuels, such as ethanol and biodiesel, are considered to serve not only as agents of greenhouse gas reduction but also as a means to secure an energy supply that is local, renewable and independent of a financially volatile and potentially unreliable oil market. Ethanol is produced from different constituents of the raw materials. Feedstock can be conveniently classified into three categories: sucrose-based (e.g. sugar cane, sugar beet, sweet sorghum and fruits), starch-based (e.g. corn (maize) grain, milo, wheat, rice, potatoes, cassava, sweet potatoes and barley), and lignocellulosic biomass (e.g. wood, straw and grasses). Currently, focus is on ethanol production from crops including corn, wheat, sorghum, sugar cane, as well as abundant agricultural wastes, which may in practice prove more sustainable compared to agricultural products. They may also be less expensive in comparison to conventional agricultural feedstock or purpose grown crops. The Renewable Fuels Standard focused on the classical production of ethanol by fermentation of cornstarch. This was driven by its long commercial history and its ready availability as a renewable resource that could reduce dependence on fossil fuels. It also sizably produced less greenhouse gases when burned. The dry milling process is commonly used in the fermentation of cornstarch.

**Keywords:** Ethanol, cornstarch, fermentation, crops

#### **176 CREATING HUMAN LANDSCAPES IN LAKE SHORES - THE CASE OF SHKODRA LAKE**

**Nevila Dibra, Bresena Koplaku**

University of Shkodra "Luigi Gurakuqi " Department of Geography, Square "2 April ", Shkodra, Albania;

E-mail: [nevdibra@hotmail.com](mailto:nevdibra@hotmail.com),; [bresena@yahoo.com](mailto:bresena@yahoo.com)

#### **ABSTRACT**

Lakes have always been suitable environments for the development of settlements, especially urban ones, and a permanent source of welfare for human life. Depending on their geographical position, origin, orographic qualities and their water quality, lakes have contributed to the economic and territorial development of lakeshore settlements. Otherwise, human activity has affect the natural environment, due to the settlements development and exploitation of constituent lake's elements for benefits. Based on typical lakes position, accessibility, level of their human use, the local or regional communities, in their strategies for development or territorial planning tend to define the lake shores as natural landscapes, recreational or economic landscapes; this choice provides the perspective on lakeshore environment. Such an analysis, in the case of Shkodra Lake (albanian part) presents the actual development and the perspective of human use of the shores. It is about the lake shore extending near an urban settlement and that, therefore reflect the trends of development of this settlement, an integral part of which it is. But, like most of the lakes in the world, even the shores of Shkodra Lake represent different natural landscapes, and therefore also different economic development or humanized landscapes; while its western shores reflect almost a continuation of urban environment, or an expansion tendency of this environment, the lower eastern shore present the soft and rural landscape, according to the living community activities. Thus, territorial development differs dependence on physical qualities or economic activities of lakeshore areas.

**Key words:** lakeshore areas, economic activity, natural and human landscape

**177 DETERMINATION OF WATER QUALITY INDEX (WQI) FOR EVALUATION OF WATER QUALITY AND POLLUTION STATUS OF ERZENI AND ISHMI RIVER**

**Raimonda Totoni (Lilo)<sup>1</sup>, Edlira Baraj<sup>1</sup>, Figali Hila<sup>2</sup>, Vanela Gjeci<sup>2</sup>**

<sup>1</sup>Department of Chemistry, FIMIF, Polytechnic University of Tirana, Albania;

<sup>2</sup>Albanian Environmental Agency, Tirana, Albania;

E-mail: [rtotoni@gmail.com](mailto:rtotoni@gmail.com)

**ABSTRACT**

The present paper aims to evaluate the water quality and the pollution status of Erzeni and Ishmi Rivers, based on Water Quality Index (WQI). The study was conducted during 2014, covering all seasons. The water samples were collected in 10 points, of which 7 sampling points in Ishmi River and 3 sampling points in Erzeni River. Physicochemical parameters, such as : pH, temperature, conductivity, dissolved oxygen (DO), total suspended solids (TSS), chemical oxygen demand (COD), biological oxygen demand (BOD5), ammonium, nitrite, nitrate and total phosphorus, have been monitored and considered for WQI calculations. Based on the mean values of WQI calculated, the water quality of Erzeni River is “good” in first 2 sampling points (Er1 and Er2) and “medium” in the last one (Er3). The obtained results on WQI for Ishmi River indicate the sequence of monitoring stations L2<Ish3<Ish1<T2<Ish2<L1<T1, where in first 4 points the water can be classified as of “bad” quality. The water quality in sampling points Ish2 and L1 can be considered as of “medium” and in sampling point T1 of “good” quality. The lowest WQI value was calculated for Ishmi River (42.3) and the highest value resulted for Erzeni River (84.6). These results indicate that Erzeni River has a better water quality compared with Ishmi River, which appears to be much more polluted.

**Key words:** Water Quality Index, physicochemical parameters, water pollution

**178 POTENTIAL ESTIMATION AND GHG REDUCTION OF A WIND POWER SYSTEM IN ALBANIAN SOUTH COAST**

**Eduart Serdari<sup>1</sup>, Pëllumb Berberi<sup>1</sup>, Ilber Puci<sup>2</sup>, Miranda Halili<sup>2</sup>**

<sup>1</sup>Polytechnic University of Tirana, Physics Engineering Department, Tirana, Albania;

<sup>2</sup>University of Vlora “Ismail Qemali”, Electrical Engineering Department, Vlora, Albania;

Email: [eduartserdari@ymail.com](mailto:eduartserdari@ymail.com)

**ABSTRACT**

Wind energy is one of the most environmental friendly form energy. In recent years, the demand for electricity in Albania is growing rapidly. The region of Albanian south coast, thanks to its geographical position, has a good potential of the wind energy sources. The aim of this paper is to determine the wind energy potential as a clean energy for electricity generation in Albanian south coast. A technical and cost-effective assessment of electricity generation from a 1 kW off-grid wind turbine is carried out. Wind turbine is added to the base case 7 kW diesel generator/battery system. The wind energy potential and environment impact in two sites (Vlora and Saranda) in different heights are analyzed. The analyses are based on the RETScreen International Clean Energy Project Analysis Software and NASA related location databases. Results show that the capacity factor varies between 19.2%-20.8%. The total initial costs of investment are \$5500. Simple payback and equity payback varies between 3-4 years. The net annual GHG emission reduction varies between 2.1-2.3 tCO<sub>2</sub> per year. Costs, financial and emission analysis of proposed wind energy system show significant results for investment in this region.

---

**Keywords:** Clean energy, wind energy, economic impact, GHG reduction, RETScreen.

**180 MACROZOOBENTHOS COMPOSITION OF TWO BULGARIAN RESERVOIRS ACCORDING TO SOME ENVIRONMENTAL PARAMETERS**

**Galia Georgieva\***, Yordan Uzunov

Institute of Biodiversity and Ecosystem Research – BAS, Bulgaria;

\*E-mail: [galya.georgieva@iber.bas.bg](mailto:galya.georgieva@iber.bas.bg)

**ABSTRACT**

The reservoirs Ovcharitsa and Byal Kladenets are part of the complex used to supply and recirculate waters for additional cooling for the coal/steam electric power station Maritsa Iztok II in South-Eastern Bulgaria. The water from Byal Kladenets reservoir is directly used for cooling and its average temperature is higher than the temperature in the Ovcharitsa reservoir during the whole year. The objective of this study was to present the difference in the macrozoobenthos communities in the two hydrological connected reservoirs, according to some environmental parameters. The survey was based on samples taken in four occasions between April and August of 2013. Qualitative samples of benthic macroinvertebrates were taken according to the standard method ISO 9391:1995 and EN 27828:1994. The species composition, monthly distribution pattern and abundance of the macrozoobenthos were measured. A total of 37 bottom invertebrates taxa in the Ovcharitsa reservoir and 31 taxa in the Byal Kladenets reservoir were established, 37 of them identified to a species level. The most abundant was class Oligochaeta, followed by Chironomidae (Diptera) and Bivalvia. In nearly the same taxonomic composition, the results showed that the abundance and biomass in the cooler Ovcharitsa reservoir were several times higher than in the hotter Byal Kladenets reservoir. The highest values were measured in April in the Ovcharitsa reservoir, whereas during the same period the abundance and biomass in the Byal Kladenets reservoir were the lowest. This confirms the role of the thermal factor for the much more intensive metabolism in the Byal Kladenets reservoir.

**Key words:** macrozoobenthos, bulgarian reservoirs, environmental parameters

**181 PHYTOREHABILITATION OF THE CONTAMINATED AREA FROM HYDROCARBURE AND HEAVY METAL**

**Alma Shehu<sup>1</sup>, Alfred Mullai<sup>2</sup>, Seit Shallari<sup>3</sup>,**

<sup>1</sup>Agricultural University of Tirana, Agro Environment & Ecology Department, Tirana-Albania

email: [shehu.alma@gmail.com](mailto:shehu.alma@gmail.com)

Oil industry activities have influenced environmental pollution in general showing direct impacts on ecosystems and living creatures. Soil performs various important and complex functions such as filtering, buffering, storing and transforming system, thus protecting the global ecosystem from negative effects of different contaminants. Biological process depends on the movement of micro elements and energy transformations. The ecosystems supply with the majority of food elements for fauna is provided through the surface layer of the earth. The present study aims “to identify and assess the environmental situation in Patos-Marinza industrial area as well as the environmental risk related to environment users. The study basic hypothesis is: “Patos-Marinza oil industry environment is polluted by hydrocarbons with impacts on the flora, fauna and man health”. The objectives of this study are: the identification of environmental aspects of oil pollution on flora and fauna of the area under study”. Plants may accumulate trace elements, in particular heavy metals, in their tissues, thanks to their large capacities to adapt to the different edaphic features of the environment. Therefore, plants are the intermediate reservoirs through which the trace elements moves from the



---

earth and partially from water and air towards humans and animals.

**Key words:** soil, phytorehabilitation, heavy metals, hydrocarbons, food chain.

**182 MORPHOLOGICAL CHARACTERISATION OF OREGANO SPECIES (*ORIGANUM VULGARE L*) OF SOUTHERN ALBANIA**

**Dhimitër Peçi<sup>1</sup>, Alfred Mullaj<sup>1</sup>, Aurel Nuro<sup>2</sup>, Hairi Ismaili<sup>3</sup>, Aida Dervishi<sup>4</sup>**

<sup>1</sup>National Center of Flora and Fauna, Faculty of Natural Sciences, Tirana University, Albania;

<sup>2</sup>Department of Chemistry, Faculty of Natural Sciences, Tirana University, Albania;

<sup>3</sup>Gene Bank, Genetic Resources Centre, Agriculture University of Tirana, Albania;

<sup>4</sup>Department of Biotechnology, Faculty of Natural Sciences, Tirana University, Albania;

E-mail: [dh\\_peci@yahoo.com](mailto:dh_peci@yahoo.com)

**ABSTRACT**

Evaluation of morphological diversity and in situ conservation of autochthonous ecotypes of *Origanum vulgare L.*, was done in five areas of its origin in Southern Albania. The study aimed the assessment of Oregano morphological diversity in order to identify and conserve the promising material to be used in future breeding programs. In this investigation, 28 quantitative and qualitative characters (plant and peduncles length, average number of inflorescence per stem, bract, second internodes length, calyx and corolla colour, petiole length, etc.) were evaluated. The results identified 18 different ecotypes in the five foci of origin. The Tukey-Kramer analysis showed great diversity of quantitative traits for Oregano genotypes (Lsd. Hsd. Alpha-0,05). Principal Component Analysis (PCA) explained about 77.3 % of variation related to eight main morphological characters from a total of twenty-eight, in the first three principal components. Hierarchical Clustering Method clustered the 18 populations into two main groups with the distance from 1.3 to 6.9. The first group consisted of three ecotypes (17%) and the second group included 15 populations divided into two sub clusters (83 %). Statistical analysis showed great diversity between *Origanum vulgare L.* ecotypes grown in wild in Southern Albania, as well as high diversity richness of the region.

**Key words:** *Origanum vulgare L.*, Diversity, Medicinal plants, Morphological characterisation

**183 PHENOTYPIC VARIATION OF WILD POPULATIONS OF MOUNTAIN TEA (*SIDERITIS RAESERI Boiss. et Heldr.*) IN THREE MAIN AREAS OF DISTRIBUTION IN ALBANIA**

**Dhimitër Peçi<sup>1</sup>, Alfred Mullaj<sup>1</sup>, Aurel Nuro<sup>2</sup>, Hairi Ismaili<sup>3</sup>, Aida Dervishi<sup>4</sup>**

<sup>1</sup>National Center of Flora and Fauna, Faculty of Natural Sciences, Tirana University, Albania;

<sup>2</sup>Department of Chemistry, Faculty of Natural Sciences, Tirana University, Albania;

<sup>3</sup>Gene Bank, Agriculture University of Tirana, Albania;

<sup>4</sup>Department of Biotechnology, Faculty of Natural Sciences, Tirana University, Albania;

E-mail: [dh\\_peci@yahoo.com](mailto:dh_peci@yahoo.com)

**ABSTRACT**

Mountain tea (*Sideritis raeseri Boiss. et Heldr.*), which is one of the most economically important medicinal plant of Labiatae family in Albania, widely used as tea and in folk medicine, has become one of the most threatened species due to its over collection and destructive harvesting techniques. According to IUCN categories it is classified as EN (A1C). Morphological variability of six populations of *Sideritis raeseri* collected in three main area of its distribution Nëmërçka, Gramozi, Dhëmbeli Mountains, was assessed based on quantitative traits, the features of habitats were also recorded and five plant associations were identified. The

---

significant morphological differences between *Sideritis raeseri* populations were investigated in correlation with their area of distribution. The results indicated that considerable morphologic variation existed between the six populations. Twelve variables were grouped by principal component analysis (PCA) into three principal components that explain 94 % of the total variability among populations. The plant length, length of basal leaves, basal leaves width and bract lengths were the most variable characters. Pairwise comparison of the plant length among six populations showed that variation of plant length among *Sideritis raeseri* populations was associated with their distribution area (Tukey-Kramer HSD test  $p < 0,05$ ). The unweighted pair group method with arithmetic mean dendrogram clustered populations into two main groups mainly according to their geographical area of distribution.

**Keywords:** Labiatae, morphology, *Sideritis raeseri*, IUCN categories, variability, Albania

#### 184 METHOMYL ADSORPTION FROM ACTIVATED CLAYS

Erinda Prifti<sup>1</sup>, Kledi Xhaxhiu<sup>2</sup>, Elmira Mehmeti<sup>3</sup>, Dafina Karaj<sup>4</sup>

<sup>1</sup>Advantage Dental sh.p.k, Albania;

<sup>2</sup>Department of Chemistry, Faculty of Natural Science, University of Tirana, Tirana- Albania;

<sup>3</sup>Food Safety and Veterinary Institute, Tirana, Albania;

<sup>4</sup>Department of Chemistry, Faculty of Mathematical and Physical Engineering, University of Polytechnic of Tirana. Tirana, Albania;

Email: [prifti.erinda@gmail.com](mailto:prifti.erinda@gmail.com)

#### ABSTRACT

This study explored and described the adsorptive process of organic nitrogen in commercial methomyl pesticide on Currila Albanian clay (41°19'16.29"N; 19°25'51.92"E) activated with hydrochloric acid HCl (10%, 20%, 30%) and with sulfuric acid H<sub>2</sub>SO<sub>4</sub> (10%, 20%, 30%). In this study was conducted the comparison of adsorptive properties of methomyl on activated Currila clay with Currila natural clay. Also was conducted the comparison of adsorption of methomyl on activated Currila clay with Alarupi 1 clay activated with hydrochloric acid HCl 10% and sulfuric acid H<sub>2</sub>SO<sub>4</sub> 10%. The methomyl concentration in each case was 0.400 mg/ml. The study was performed at 12°C. The intervals time of contact was 24h, 48h, 72h. The Currila clay activated with hydrochloric acid HCl absorbs methomyl better than the Currila natural clay. Increasing of acid concentration impact doesn't affect a lot the adsorptive property. The activated Currila clay with sulfuric acid H<sub>2</sub>SO<sub>4</sub> presents much better adsorptive properties than Currila clay activated with hydrochloric acid HCl. In the interval of 24h methomyl amount adsorbed from clay of Curriles in HCl (10%) was 0.72 mg/g (1g clay) while for clay of Alarupit 1 activated with HCl (10%) for the same interval was 1.418 mg/g.

**Key words:** adsorptive, activated clay

#### 185 DATA INDICATOR PLANTS IN ELBASAN DISTRICT

Griserda Topi

University "Aleksandër Xhuvani", Elbasan, Albania;

E-mail: [griserda.topi@gmail.com](mailto:griserda.topi@gmail.com)

#### ABSTRACT

Elbasan is characterized by a diversity of climate and land conditions which are reflected in the diversity of flora and vegetation of the basin. Study of vegetation for the District of Elbasan was analyzed based on the values of ecological indicators (light, temperature, climate, humidity, soil pH, salinity). Floristic wealth varies

---

according to several factors and the diversity of ecological conditions is the most important. Moving from lower areas to higher areas the number of species increases significantly. Adaptive ways of plants have evolved depending on various environmental conditions such as high and low temperatures, the changes of water quantity in land, scarcity of nutrients, etc (Mitrushi I., 1966). The object of this study is the flora and vegetation of natural environments for the District of Elbasan, which includes three vegetation zones (areas of forest and Mediterranean scrub, areas of oak and beech area ). Also another object of the study is plant diversity, plants with plant associations, species composition of flora with its values and characteristics of scientific practice (Thomollari Z., Naqellari P., Cake A., Mali S., 2001). The results obtained are important to make a correlation between environmental changes, their impact on land and aquatic ecosystems, especially on the vegetation of the area and the use of effective bioindicators to determine the environmental conditions.

**Keywords:** vegetation, flora, District of Elbasan, environment, bioindicator.

### 186 OCULAR INVOLVEMENT IN PATIENTS WITH ANKYLOSING SPONDYLITIS

**Enida Xhaferi<sup>1</sup>, Teuta Backa Cico<sup>2</sup>, Artur Zoto<sup>2</sup>, Fatbardha Lamaj<sup>3</sup>, Klerida Shehu<sup>1</sup>**

<sup>1</sup>University of Medicine/Faculty of Medical Technical Sciences, Tirana, Albania;

<sup>2</sup>University Hospital Center “Mother Theresa”, Rheumatology Clinic, Tirana, Albania;

<sup>3</sup>Intermedica Laboratory, Tirana, Albania;

Email; [enida\\_xhaferi@yahoo.com](mailto:enida_xhaferi@yahoo.com);

#### ABSTRACT

Ankylosing spondylitis is a chronic inflammatory disease pertaining to the group commonly labeled spondylarthritides, a heterogeneous cluster of disorders characterized by enthesial and synovial involvement of both axial and peripheral skeleton. Inflammation in AS usually starts at the sacroiliac joints at early stages and may involve the axial skeleton at later stages of the disease. Extra-articular manifestations are not uncommon and patients with AS may also suffer from: acute anterior uveitis, conduction abnormalities and neurological complications due to fractures. This study aims to present prevalence of ocular involvement in a group of patients with AS. This is a retrospective study of the charts of 100 patients, diagnosed with AS based upon the modified New York diagnostic criteria. Trained rheumatologists diagnosed these patients by examining them physically; reviewing their x-rays in order to assess the presence of sacroiliac arthritis, bamboo spine and syndesmophytes. All relevant biochemical and immunological tests have been ordered and evaluated. Trained ophthalmologists examined unilateral eye pain and redness, photophobia and increased lachrymation and all other ocular symptoms. There were 79 (87%) men and 11 (12%) women in the group with a gender ratio 7.19. The mean age of patients was  $(34.35 \pm 10.56)$  and disease duration  $(9.02 \pm 7.20)$ . In total there were 12 cases with acute anterior uveitis (12%) in this group of patients. Ocular involvement is a common extra-articular involvement in patients with AS. Acute anterior uveitis typically presents with unilateral eye pain and redness, photophobia and increased lachrymation and the disorder tends to reoccur sometimes in the contra-lateral eye. Patients with AS should undergo routine ophthalmologic examinations because if the eye is left untreated or if treatment is delayed, posterior synechiae and glaucoma may develop.

**Key words:** ocular involvement, patients, ankylosing spondylitis

### 187 CARDIAC MANIFESTATIONS IN PATIENTS WITH ANKYLOSING SPONDYLITIS

**Enida Xhaferi<sup>1</sup>, Teuta Backa Cico<sup>2</sup>, Artur Zoto<sup>2</sup>, Fatbardha Lamaj<sup>3</sup>, Klerida Shehu<sup>1</sup>**

<sup>1</sup>University of Medicine/Faculty of Medical Technical Sciences, Tirana, Albania;

<sup>2</sup>University Hospital Center “Mother Theresa”, Rheumatology Clinic, Tirana, Albania;

<sup>3</sup>Intermedica Laboratory, Tirana, Albania;

Email: [enida\\_xhaferi@yahoo.com](mailto:enida_xhaferi@yahoo.com);

### ABSTRACT

Cardiac involvement in ankylosing spondylitis may be clinically quiet or may cause considerable problems. Some of the most common cardiovascular manifestations observed in AS are: valvular disease, conduction disturbances and congestive heart failure due to decreased ventricular function. This study aims to determine the prevalence of cardiac disorders in AS patients with high disease activity. This is a cross sectional study of 42 patients diagnosed with ankylosing spondylitis. All patients received complete physical examination with a heart and lung auscultation and an electro-cardiogram (ECG) to identify conduction disturbances and echocardiography to identify structural disorders. The study included 38 men and 4 women, with a gender ratio of 9.5. The average age of onset was  $23 \pm 7$  years. In the majority of cases the disease followed axial involvement first (low back pain and/or buttock). The extra-articular manifestations were present in 52% of cases. 8 patients showed cardiovascular involvement 2 patients showed aortic regurgitation (23% of patients). Five patients had mitral regurgitation. Two patients had left anterior hemiblock and one had atrial fibrillation, one patient presented an array of pulmonary insufficiency. The average time of onset of cardiac involvement was  $9 \pm 4$  years. Cardiac involvement in ankylosing spondylitis is seen more frequently in men, especially in the old cases. The most common disorders are valvular disorders (aortic, mitral and tricuspid insufficiency) and conduction disturbances (left anterior hemiblock, right bundle branch block, sinus bradycardia, and atrial fibrillation). Patients with AS should be screened routinely with echocardiography and electrocardiography because cardiac complications can be life-threatening.

**Key words:** cardiac manifestations, patients, ankylosing spondylitis

### 188 ASSESSMENT OF MINERAL AND HEAVY METAL CONTENT IN SOME TISSUES OF *SQUALIUS ORIENTALIS* (NORDMANN, 1840) FROM ÇAT DAM LAKE, ADIYAMAN-TURKEY

**Mahmut DAĞLI**

Inonu University, Surgu Vocational School, Fisheries Department, Malatya-TURKEY;

Email: [mahmut.dagli@inonu.edu.tr](mailto:mahmut.dagli@inonu.edu.tr);

### ABSTRACT

In this study, it was aimed to determine concentrations of mineral (Ca, Mg, Na, K) and metals such as Al, Mn, Fe, Ni, Li, B, Cu, Zn, Cd, Pb in liver, muscle and gill tissues of *Squalius orientalis* (Nordmann, 1840) from Çat Dam Lake, Adiyaman-Turkey. A microwave digestion system was used to prepare the samples for analysis. Element concentrations was determined by Inductively Coupled Plasma Optical Emission Spectrometry (**ICP-OES**). As highest mineral levels in all tissues of the fish K and Na, respectively. The metal content in the muscle, liver and kidney were determined to have the following decreasing sequence: Al > B > Zn > Li > Fe > Bi, Fe > Zn > Al > B > Li > Cu, Zn > Fe > Al > B > Li > Bi, respectively. Mn, Cd and Pb weren't in all tissues as under detection limit. These results show that the concentrations are below the limits for fish proposed by Turkish Food Codex, FAO/WHO and EC, and safe within the limits for human consumption in the edible parts of fish in the region.

**Keywords:** Mineral, Heavy metals, Çat Dam Lake, *Squalius orientalis*, ICP-OES.

### 189 MODIFIED CTAB METHOD FOR GENOMIC DNA ISOLATION FROM HERBARIUM SPECIMENS OF MEDICINAL PLANTS

**Aida Dervishi<sup>1</sup>, Gledian Caka<sup>1</sup>, Aurel Nuro<sup>2</sup>, Dhimitër Peçi<sup>3</sup>**

<sup>1</sup>Department of Biotechnology, Faculty of Natural Sciences, Tirana University, Albania:

<sup>2</sup>Department of Chemistry, Faculty of Natural Sciences, Tirana University, Albania;

<sup>3</sup>National Center of Flora and Fauna, Faculty of Natural Sciences, Tirana University, Albania;

E-mail: [aida.dervishi@fshn.edu.al](mailto:aida.dervishi@fshn.edu.al)

## ABSTRACT

It is known that due to the high amount of secondary metabolites found in medicinal plants, the isolation of a pure DNA is a crucial step in the success of subsequent PCR amplification. The preservation conditions of these medicinal plants in herbarium have a negative impact on the quality and purity of DNA isolated from herbarium specimens. This study reports an efficient protocol for the isolation of genomic DNA from herbarium dry tissues of endangered medicinal and aromatic plants of Lamiaceae family. The modified protocol was compared to two previously published protocols of medicinal plant DNA isolation. The differences in DNA yields and its purity among three protocols were analysed via ANOVA. The DNA yield obtained with our protocol varied from 24 to 42 ng DNA g<sup>-1</sup> of dry leaf tissue. The absorbance ratio A260/A280 was in range of 1.78 to 1.92, revealing lack of contaminants. The DNA provided by our modified protocol was successfully amplified by one RAPD marker (OPAE10) yielding scorable fragments indicating that this DNA was free of contaminants that interfere its amplification. It is suitable to be used in genetic diversity or phylogeographic studies of threatened medicinal plants as *Sideritis raeseri* and *Origanum vulgare* L. especially using their herbarium specimens up to six months.

**Key words:** DNA isolation, CTAB, herbarium specimens, medicinal plant

## 190 SRAP BASED GENETIC ANALYSIS OF SOME *MEDICAGO SATIVA* L. CULTIVATED IN ALBANIA

Aida Dervishi<sup>1</sup>, Halit Sulovari<sup>2</sup>, Doriana Bode<sup>2</sup>, Gledian Caka<sup>1</sup>, Asllan Celami<sup>3</sup>, Aurel Nuro<sup>4</sup>, Dhimitër Peçi<sup>5</sup>

<sup>1</sup>Department of Biotechnology, Faculty of Natural Sciences, Tirana University, Albania;

<sup>2</sup>Gene Bank, Genetic Resources Centre, Agriculture University of Tirana, Albania;

<sup>3</sup>Agriculture Technologies Transfer Centre, Fushë Krujë, Albania;

<sup>4</sup>Department of Chemistry, Faculty of Natural Sciences, Tirana University, Albania

<sup>5</sup>National Center of Flora and Fauna, Faculty of Natural Sciences, Tirana University, Albania;

E-mail: [aida.dervishi@fshn.edu.al](mailto:aida.dervishi@fshn.edu.al)

## ABSTRACT

*Medicago sativa* L. is an important forage crop in Albania with high level of economical value. Sequence related amplified polymorphism (SRAP) markers are used for the first time in this study to determine genetic diversity and relationship among alfalfa cultivated in Albania. Ten *Medicago sativa* L. cultivars were analysed by 4 SRAP primer pair combinations. A total of 195 bands were obtained from SRAP analysis, being all polymorphic. The number of polymorphic bands amplified per primer combination ranged from 12 to 104 with an average of 48.7 bands. The analysis based on Dice's similarity coefficient showed that the similarity values among alfalfa cultivars ranged from 1.56% to 69% with an average of 45.8%. All genotypes were clearly distinguished in the dendrogram constructed based on Neighbour Joining (NJ), by clustering into four groups. The most genetically distant resulted cultivars 'ESHFN2', 'Morava' and 'Kardinal', while the other seven cultivars were comprised in the fourth group sharing 57.4% of similarity between them. SRAP markers proved to be useful for studying diversity and relationships among alfalfa, they discriminated all the analysed cultivars. The information on considerable genetic diversity revealed between ten *Medicago sativa* L. cultivars in this study will provide useful additional information to be used in further breeding programs.

**Key words:** molecular characterisation, SRAP, *Medicago sativa*, similarity

**191 GENETIC DIVERSITY AMONG ECOTYPES OF LOCAL ALBANIAN VARIETY OF ALFALFA 'TOMIN' BY AFLP MARKERS**

**Aida Dervishi<sup>1</sup>, Halit Sulovari<sup>2</sup>, Doriana Bode<sup>2</sup>, Asllan Celami<sup>3</sup>, Gledian Caka<sup>1</sup>, Aurel Nuro<sup>4</sup>, Dhimitër Peçi<sup>5</sup>**

<sup>1</sup>Department of Biotechnology, Faculty of Natural Sciences, Tirana University, Albania;

<sup>2</sup>Gene Bank, Genetic Resources Centre, Agriculture University of Tirana, Albania;

<sup>3</sup>Agriculture Technologies Transfer Centre, Fushë Krujë, Albania;

<sup>4</sup>Department of Chemistry, Faculty of Natural Sciences, Tirana University, Albania;

<sup>5</sup>National Center of Flora and Fauna, Faculty of Natural Sciences, Tirana University, Albania;

E-mail: [aida.dervishi@fshn.edu.al](mailto:aida.dervishi@fshn.edu.al)

**ABSTRACT**

Alfalfa (*Medicago sativa* L.) is widely grown legume through the world, as well as in Albania. The last two decades, in Albania have been introduced many new cultivars but the native Albanian old variety of alfalfa 'Tomin' is still being cultivated in large scale due to its superior characteristics and adaptability to dry conditions. Based on morphological characterisation and agronomical traits variations among ecotypes of the native variety Tomin have been identified. The objective of this study was to investigate the genetic diversity and the level of differentiation among four ecotypes of Tomin by using AFLP technique. Analysis was carried out using twelve combinations of primers. The total of 645 bands were scored, 599 (92.8%) fragments were polymorphic with an average of 49.9 polymorphic bands per primer. The genetic dissimilarity among 'Tomin' ecotypes ranged from 38% to 84% with an average dissimilarity of 62 %. Unweighted pair group method of arithmetic means (UPGMA) based on Dice's similarity coefficients was used for hierarchical grouping. The ecotype of 'Tomin' from Gjirokastra was the most differentiated from the other ecotypes, with a dissimilarity value of 84% while the other three ecotypes grouped together in a cluster sharing dissimilarity of 43%. The results suggested the existence of great diversity within the four ecotypes of native variety of alfalfa. The identification of genetic variation among Tomin ecotypes existing in Albania is especially valuable for the preservation and utilisation of these germplasm resources.

**Key words:** genetic diversity, ecotype, Tomin, alfalfa, Albania

**192 NEW OPPORTUNITY FOR USING SOME ORGANIC WASTES AND MANURES FOR ENERGY PROFIT IN ALBANIA**

**Petrit Kotori<sup>1</sup>, Ilirjan Malollari<sup>2</sup>**

<sup>1</sup>University "Ismail Qemali" Vlora, Albania;

<sup>2</sup>Department of Industrial Chemistry, University of Tirana, Albania;

Email: [Petrit\\_kotori@yahoo.it](mailto:Petrit_kotori@yahoo.it); [ilir.malo@gmail.com](mailto:ilir.malo@gmail.com);

**ABSTRACT**

Recycling and reusing of organic wastes has been recently a new trend for research and development in our academic community. In this directions are also running different stakeholders and policy makers by establishing the relevant Albanian legislation. We are conscious that alternative methods of disintegration of waste using such methods like composting or burning, does not resolve permanently the accumulation of waste, since that they themselves leave a certain residue. Residues on their part, being collected from different sectors of economy as agriculture, forestry, veterinary activity, food processing, and municipal activity, may be considered as a feedstock entering a bioreactor in which involving the activity of a number of specialized micro

---

organisms, can be produced a mixture of gases (Biogas) composed mainly of methane (55-65%) and carbon dioxide (35-45%) and also a mixture of liquid (which carries a high value of mineral nutrient elements like nitrogen, phosphorus, etc.. Recently, are being used systems which also allow the reuse of waste not only for the energy profit, but also for other different destinations such as: Fertilization of plants due to its high content of nutrient elements like nitrogen and phosphorus; Reducing CH<sub>4</sub> from the surface of the land from the vegetation that minimizes the development of microbial cultures to oxidize the methane. Doing so, it will be solved the problem of pollution and on the other hand also it is obtained bio energy. Biogas production from organic wastes represents a new opportunity for gaining renewable energy and so it is necessary strategies to be established in order to face relevant problems. We intended by this study to make evidence of practical sources of organic wastes and their treatment possibility in South-West region of Albania. At a certain point these represent a potential source of biogas which can be transformed into a cost effective renewable energy. Except being efficient not for energy production, it is also suitable for environmental protection, and biomass waste elimination.

**Keywords:** organic wastes, biological reactor; bio energy; energy production.

**193 APPLICABLE METHOD ON THE PROPER USE OF SOME WASTES FOR BIOGAS PROFIT AND ENVIRONMENTAL IMPROVEMENT**

**Iilirjan Malollari<sup>1</sup>, Petrit Kotori<sup>2</sup>, Hasime Manaj<sup>1</sup>**

<sup>1</sup>Faculty of Natural Sciences, University of Tirana, Albania;

<sup>2</sup>University "Ismail Qemali" Vlora, Albania;

Email: [iilir.malo@gmail.com](mailto:iilir.malo@gmail.com); [Petrit\\_kotori@yahoo.it](mailto:Petrit_kotori@yahoo.it);

**ABSTRACT**

In this study our challenge was to find tracks of research, which brings availability of some important skills such as: environmental analysis, ability for making choice of suitable way of waste treatment and operative conditions, in order to profit energy and avoiding of environmental problems encountered. The contribution of our research and experimentation has been connected and focused on the usage of the recently advanced thermo chemical and biotechnological procedures becoming a new trend in our everyday's activity. During this work we were able to analyze waste materials to be used, such as agricultural wastes after harvesting, forestry residues and animal manures in order to create a data bank on the environmental especially focused waste management, increase awareness of the people living around the industrial plants cultivation areas and propose a cost-effective technique and reliable technology for their treatment, in order to recovery properties of wastes, suitable for energy recovery serving directly as a compensation for the whole community of the area. Specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, will signal the need for corrective action. Different organic wastes represent a potential source of energy which can be transformed on a renewable energy source. Also, the benefit of this energy from waste should be considered in three plans: Production of energy; Protection of environment; Elimination of waste biomass.

**Keywords:** agro-industrial wastes, operational parameters, optimization strategy, waste treatment

**194 CYTO- AND GENOTOXIC ACTIVITY OF PESTICIDE CYPERMEX PLUS 550 EC ON *Allium cepa* L.**

**Anila Dizdari\*, Ditika Koplaku**

University of Shkodra "Luigj Gurakuqi,, Faculty of Natural Sciences, Department of Biology and Chemistry, Shkodër, Albania

---

\*E mail: [aniladizdari@yahoo.it](mailto:aniladizdari@yahoo.it)

### ABSTRACT

The impact of pesticides on crop production is undoubtedly profitable, but their residues are a common and widespread cause of soil, water and air pollution, especially in developing countries as Albania. Remaining available into the environment, pesticides can be locally and globally dangerous for ecosystems. Many studies using different bioassays have demonstrated their strong cyto- and genotoxic effects. The present study aimed to evaluate the short-term cyto- and genotoxic activity of the insecticide cypermex plus 550 EC (Chloropyrifos 50% + Cypermethrin 5% EC) on a crop plant and bioassay as *Allium cepa* L. The roots of onion bulbs were exposed for 48 h to three doses, representing  $\frac{1}{4}$ ,  $\frac{1}{2}$  and  $EC_{50}$  concentrations of the pesticide. The following microscopic parameters: mitotic and phase indexes, micronuclei formation and chromosomal aberration frequency and types were evaluated and compared. The results showed obvious pesticide concentration-dependence. Mitotic index substantially decreased at the highest applied concentration, while accumulation of dividing cells in prophase stage started being significant since at  $\frac{1}{2} EC_{50}$  of cypermex plus. Abnormal dividing cell and interphase micronucleated cell frequencies were considerably increased, as well. Physiological and clastogenic types of chromosomal aberrations, as: bridges, multipolarity, laggard chromosomes and c-anaphase, were observed in all concentrations. These current data showed that cypermex plus insecticide (commonly used for decades in Albanian agriculture) can potentially induce cyto/genotoxic effect (even mutagenic and clastogenic impact) on crops and non target organisms, ultimately damaging biota and human health.

**Key words:** insekticides, cypermex plus 550 EC, *Allium cepa* L. assay, cytotoxicity, genotoxicity

### 195 THRESHOLD DOSE OF CYTOGENETIC TOXICITY OF DICLOPHOP-METHYL IN *Vicia faba* SEEDLINGS

Ditika Koplaku\*, Anila Dizdari

University of Shkodra "Luigj Gurakuqi", Faculty of Natural Sciences, Department of Biology and Chemistry, Shkodër, Albania;

\*E mail: [ditika\\_koplaku@yahoo.com](mailto:ditika_koplaku@yahoo.com)

### ABSTRACT

Pesticides pollution issues are becoming increasingly common all over the world. The current study was aimed to assess the threshold dose of cytogenetic toxicity of diclophop-methyl in *Vicia faba*. Seedling roots were exposed for 24 h to three experimental doses of the herbicide, representing  $\frac{1}{4}$ ,  $\frac{1}{2}$  and  $EC_{50}$  concentration solutions. Phytotoxicity was determined through the reduction of root length and mitotic index of root meristem, while genotoxicity inducement was evaluated by scoring the interphase nuclear volume and frequencies of micronuclei and chromosome aberrations in root cells. The results showed notable changes in a concentration-dependence manner. Chromosome aberrations mostly consisted of: stickiness, c-mitosis, c-anaphase, fragment and bridges, multipolarity and laggard chromosomes. Such studies have a peculiar value, because they help to solve in short-term the problem of using the pesticides at such doses, on which they keep their proper function, but have insignificant cyto/genotoxic effects. This investigation also highlighted the capability of *V. faba* assay in recognizing, monitoring and even predicting metal pollution and stress in the environment through multiple toxicity endpoints.

**Key words:** herbicides, diclophop-methyl, *Vicia faba* L. test,  $EC_{50}$ , cytogenotoxicity

### 196 STATE OF ART IDENTIFICATION AND MONITORING METHODS FOR ELECTRIC LOADS IN COMMERCIAL AND RESIDENTIAL BUILDINGS

Aulon Shabani\*, Orion Zavalani, Denis Panxhi



---

Polytechnic University of Tirana, Sheshi “Nënë Tereza”, Nr. 4, Tirana, Albania;

\*Email: [aulonshabani@yahoo.com](mailto:aulonshabani@yahoo.com)

### ABSTRACT

In Albania, the share of residential load in electricity consumption is at level of 53%, almost double of the worldwide average of 27%. The main consumption rate in residential sector comes from space heating/cooling systems, water heaters and cooking and lighting. Improving energy efficiency by monitoring household electrical consumption is of significant importance with the climate change concerns of the present time. A solution for the electrical consumption management problem is the use of a nonintrusive appliance load monitoring (NIALM) system. This system captures the signals from the aggregate consumption, extracts the features from these signals and classifies the extracted features in order to identify the switched-on appliances. This paper gives a state-of-the-art review of monitoring and identification methods for electric loads in commercial and residential buildings, compares their applicability and accuracy on different kinds of loads, and updates possible direction for future research.

**Key word:** Energy efficiency, Load characterization, Nonintrusive load monitoring

### 197 BIODIESEL PRODUCTION FROM WASTE COOKING OILS

Armela Mazrreku<sup>1\*</sup>, Ismet Beqiraj<sup>1</sup>

<sup>1\*</sup>University of Tirana, Faculty of Natural Sciences, Industrial and Environmental Chemistry Department, Tirana, Albania;

<sup>1\*</sup>E-mail: [armelamazreku@hotmail.com](mailto:armelamazreku@hotmail.com)

### ABSTRACT

The nearest future of energetic sources with fossil origin is their drain. The diversification need of new energetic sources is an emergency need for the present and the near future. Renewable sources of energy are a potent and safe alternative, they intend to be complementary with each-other, and in this context biomass works like rechargeable battery. One of the alternatives that has gain ground are fuel oils with 100 % plant origin, with in this study is dealt Biodiesel. The purpose of this project is producing bio-fuels, and specifically biodiesel by using renewable energetic sources, and appreciation of their qualitative aspect, environmental and economical compared with fossil diesel. In this project will represent the realization of biodiesel production from waste cooking oils. The sample of oils used for analyse were taken from oils used in restaurants. The method used is transesterification with basic catalyst.

**Key words:** bioenergy, biodiesel, waste cooking oils, transesterification, basic catalyst

### 198 EARLY DIAGNOSTICATION OF PREGNANCY IN COWS THROUGH PROGESTERON TEST

<sup>1</sup>Blerta Mehmedi, <sup>2</sup>Taulant Kastrati, <sup>3</sup>Luigj Turmalaj

<sup>1</sup>Biotechnology Department in Zootechny, University of Pristina, Agricultural and Veterinary Faculty, Republic of Kosovo ;

<sup>2</sup>Veterinary Ambulance, Doctoring, Kosovo;

<sup>3</sup>Faculty of Veterinary Medicine, Albania;

Email: [Blerta.mehmedi@uni-pr.edu](mailto:Blerta.mehmedi@uni-pr.edu)

**ABSTRACT**

Pregnancy diagnostics in cows in day 21 after artificial insemination is a huge help for the farmers. This because the female cows not pregnant, can be again inseminated. 350 cows were chosen for the study. Milk samples have been taken from the animals in day 21 after artificial insemination to diagnosis the pregnancy. The results were compared to those of rectal palpation in day 75 after artificial insemination. From 350 cows, 130 resulted non-pregnant, based in the result taken from the P4Rapid test (Ridgeway Science UK). Diagnosis of non-pregnancy was 100% accurate. The pregnancy diagnosis through P4 Rapid test was a valid method to improve the productive management in farms. Parkinson and others [4] say that, during the sexual cycle, progesterone levels reach the maximal value 13-14 days after estrus; when the cow is pregnant, progesterone levels grow in continuous way until day 21 after fertilization. Maybe, the accurate method to see the reproductive activity and that of the yellow body is the determination of the progesterone levels in milk or blood. Determination of the progesterone levels in milk or serum between day 18 and 24 after artificial insemination is a immunologic method, a transverse way to determinate the pregnancy diagnosis in some animals, including cows [3,6].

**Key words:** pregnancy, progesterone, artificial insemination, milk, cows

**199 PHYSICAL AND CHEMICAL CHARACTERISTICS OF CRUDE OIL OF PATOS – MARINZE, ALBANIA**

**<sup>1\*</sup> Xhaklina Cani, <sup>1</sup> Ismet Beqiraj**

<sup>1\*</sup>University of Tirana, Faculty of Natural Sciences, Industrial and Environmental Chemistry Department, Tirana, Albania;

\*E-mail: [xhaklina.cani@yahoo.com](mailto:xhaklina.cani@yahoo.com);

**ABSTRACT**

Crude oil quality plays an important role in its treatment processes in refineries and in article product deriving from it. To identify the behavior of crude oil is necessary that its physical – chemical properties be measured continue. In this paper, considering the importance of crude oil qualitative indicators testing, is obtained the study of Patos-Marinza area, area in the city of Fier. During the study it was concluded that crude oil of Patos-Marinza area, which occupies the major production of crude oil in the country, is classified as heavy oil with a density lower than 20 °API. Also during the study it was concluded that the oil of this area has a high viscosity, high water content, chlorides and a low content of sediment. The purpose of this paper is to present a summary of physical-chemical characteristics of crude oil, in this area, which induce environmental and technological consequences.

**Keyword:** crude oil, physical – chemical properties, density, viscosity, water content, sediment, chloride content.

**200 CHARACTERIZATION OF KOSOVO FLY ASH, SOME FAVORABLE OPPORTUNITIES FOR ITS USE IN THE FUTURE**

**Goraj E<sup>1</sup>, Qemallaj R<sup>2</sup>**

<sup>1\*</sup>University of Tirana, Faculty of Natural Sciences, Industrial Chemistry Department, Tirana, Albania;

<sup>2</sup>Material Science Engineering, Polytechnic University of Tirana, Albania;

Email: [esmerina.goraj@fshn.edu.al](mailto:esmerina.goraj@fshn.edu.al)

**ABSTRACT**

---

The high quantity of fly ash generated by Power Plants is a serious worldwide problem. Numerous researchers provide ideas and continue research to find the best possible ways to manage this by-product. Kosovo meets the same difficulties as there is a wide use of Power Plants producing high amounts of fly ash. Its characteristics depend on several factors and therefore the fields of application are different. In general, it is essential to be featured each fly ash taken in study. There is a great difference between fly ashes. Factors affecting their properties are mainly the type of coal burning, combustion technology, type of collectors etc. The main purpose of this work is to determine physical and chemical properties of Kosovo fly ash like: pH, organic carbon content, surface area, and chemical composition. The sample was taken in Power Plant Kosovo A, few kilometers from Pristina. From the results obtained, fly ash is likely to be used in construction industry, agriculture and other fields. The high degree of fineness and its high surface makes desirable the possibility of its use as adsorbent. In further studies, it will be shown its effectiveness in these areas, especially using it as adsorbent in removing pesticides from waste water.

**Keywords:** fly ash, surface area, chemical composition, resource material, adsorbent.

**201 MONITORING OF SOME HEAVY METAL LEVELS IN CONTAMINATED SEDIMENTS USING AS INDICATORS OF POLLUTION IN AQUATIC ENVIRONMENTS**

**Ardian Rugova<sup>1</sup>, Tahir Arbneshi<sup>2</sup>, Ilirjan Malollari<sup>3</sup>**

<sup>1</sup>Kosovo Medicines Agency, Prishtina, Kosovo;

<sup>2</sup>University of Pristina, Kosovo,;

<sup>3</sup>University of Tirana, Albania;

Email: [ilir.malo@gmail.com](mailto:ilir.malo@gmail.com)

**ABSTRACT**

Sediments may provide the substrate for organisms and through interaction with the overlying waters play an essential role in the aquatic ecosystem. Contaminated sediments are crucial indicators of pollution in aquatic environments and can be defined as soils, sand, organic matter, or minerals accumulated at the bottom of a water body. The aim of this study was to monitor heavy metal levels of lead, cadmium, copper and zinc in sediment samples of Sitnica River. To determine the concentration level, and the source of pollution of heavy metals the sediment samples were chemically analyzed. The sediment samples were collected at six sites of the Sitnica River between Lipjan and Mitrovica, and the study (monitoring) was done during year 2013. The concentration of heavy metals was determined using AAS and ICP-OS. Many of the sediments in rivers have been contaminated by pollutants. These pollutants are directly discharged by industrial plants and municipal sewage treatment plants, others come from polluted runoff in urban and agricultural areas, and some are the result of historical contamination.

The concentrations level of heavy metals generally decreases as Sitnica river flows downstream, while significant increase of metals content was observed as the river flows upper stream within the influenced industrial zone of Obiliq. Unlike, the lead and cadmium level which were recorded with a higher value concentration in 2013, the concentrations of copper and zinc were lower at most sites in comparison to other previous year's measurements (1981-1985). The high level of lead and cadmium may be due to activity of the Thermal Power Plant of Kosovo situated close to district of Sitnica River.

**Key words:** Sediment, heavy metals, AAS, ICP-OS.

**202 WASTEWATER CHARACTERISTICS BEFORE AND AFTER THE TREATMENT PROCESS OF WASTEWATER PLANT IN SKENDERAJ**

**Faruk Hajrizi<sup>1\*</sup>, Shefqet Rashani<sup>2</sup>, Spiro Drushku<sup>3</sup>, Rasim Veseli<sup>4</sup>, Shehide Kaqkini-Hajrizi<sup>5</sup>, Sadete Hajrizi<sup>6</sup>**

- <sup>1</sup>Regional Water Company Mitrovica, Kosovo;  
<sup>2</sup>Faculty of Geosciences and Technology Mitrovica, Kosovo;  
<sup>3</sup>Faculty of Natural Sciences-Tirana, Albania;  
<sup>4</sup>Municipality of Mitrovica, Kosovo;  
<sup>5</sup>Nestlé Suisse S.A, Kosovo;  
<sup>6</sup>Municipality of Mitrovica, Kosovo;

Email: [farukhajrizi@gmail.com](mailto:farukhajrizi@gmail.com)

## ABSTRACT

Current trends of population growth and deterioration of fresh water resources, is expected to create significant environmental challenges. Experts have predicted that 2/3 of the world population will suffer from extreme lack of fresh water by 2025. This alarming situation calls for effective means in terms of waste water treatment, construction of cost-effective systems of water reuse made as tools facilitating the situation. Major problems with the selection of systems for wastewater treatment are the characteristics of these wastewaters which are analyzed during the evaluation, design often during the prametrat assumed ndotutura water remains constant. Change in the standard of living, availability of water and change the industrial activities are some factors that can significantly change the characteristics of the wastewater and possibly affect their treatment of existing systems. This study was conducted by analyzing experimental data during 2014 to assess the treatment of wastewater at the treatment plant wastewater in Skenderaj which is the first operational plant in the Republic of Kosovo. Characteristics of the study in this paper includes pH, BOD, COD, TP, TN, TSS, etc.. Composite samples were collected before and after trajtiminit in plant and analyzed for selected parameters according to standard methods. According to reports the main quality parameters of wastewater are within the boundaries of treatment designed to impiantitit drip filters, in some cases not reached optimum cleaning wastewater for some parameters. Removal of some mterieve biological nutrient is found to be a potential problem for the Plant. It is recommended that the process should be modified operational terms so that discharged water karkateristikat conform to restrictive environmental limits.

**Keywords:** biological nutrient removal, Wastewater treatment, Trickling filters, wastewater characteristics

## 203 CONTRIBUTION TO ENVIRONMENT BY UNIVERSITY THIRD MISSION ACTIVITY

**Aida Spahiu<sup>1</sup>, Lindita Dharmo<sup>2</sup>, Orion Zavalani<sup>1</sup>**

- <sup>1</sup>Polytechnic University of Tirana, Automation Department, Tirana-Albania;  
<sup>2</sup>Polytechnic University of Tirana, Electro-technique Department, Tirana, Albania;

Email: [aida.spahiu@fie.upt.al](mailto:aida.spahiu@fie.upt.al)

## ABSTRACT

Equipping the students with tools and methods, which allows for self-training and professional advancement while performing their job, is considered as a part of engineering education at Polytechnic University of Tirana for finding themselves and become useful to the society. Faculty of Electrical Engineering at Polytechnic University of Tirana has included in the study programs of first and second cycle the compulsory competence regarding the Sustainability and Social Commitment, in frame of environmental and social changes in Albania. Electrical Drives is one of the courses in curriculum of Electrical Engineer, Industrial Automation direction that has a lot of elements of Engineering Education for Sustainable Development. The paper aims to show that the lecturer-student-stakeholders cooperation and interaction is the major key in developing the new engineering education system. Academic staff members frequently take significant roles in Engineering Education for Sustainable Development, as advisers in student-led projects and diploma thesis. Paper will share the results of Electrical Drive course project made by the students of Master of Science of Electrical Engineering in

---

Industrial Automation direction about energy savings, environmental protection and services quality by using of energy efficient electrical drives. The paper shows through study cases that the use of efficient electrical drives in industry, water and services sector will bring the reduction of energy consumption from 20% - 37%, reduction of CO<sub>2</sub> emission and improvement of financial situation of enterprises. Involvement of students in energy efficiency activity can bring a potential contribution to the environment and society.

**Keywords:** energy savings, environment, electric drive, third mission

**204 FORMER MILITARY BUILDINGS IN ALBANIA : A KEY-ISSUE FOR BAT PROTECTION**

**Philippe Théou<sup>1</sup>**

<sup>1</sup>Department of Biology, Faculty of Natural Sciences, University of Tirana, Tirana, Albania

e-mail: [p.theou@gmail.com](mailto:p.theou@gmail.com)

**ABSTRACT**

There are in Albania thousand of military constructions built since the middle age to control the land of this small balkanic country. From the Gjirokaster Castle to the communist bunkers spread everywhere in the country, these fortifications are playing a key-role in the bat ecology, being used for maternity colonies, as hibernation sites, or as feeding areas. We are presenting here the results of the first ever monitoring on fortification-dwelling bats in Albania, which has been implemented during the last two years. This monitoring has been based on site visits, use of batdetectors and use of nets. 10 species have been identified in the frame of this study, and their use of the buildings have been specifically described. This monitoring gave also an overview of the actual situation in a conservation point of view, underlining several issues that are facing these buildings, as illegal destruction or conflicts between human use and bats activities. We are giving here some practical indications in order to promote sustainable use of these sites, and to protect the bat species using it.

**Key words :** Bat ; Albania, Roost, Monitoring

**205 BAT RESEARCH IN THE PRESPA LAKES NATIONAL PARK**

**Philippe Théou<sup>1</sup>**

<sup>1</sup>Department of Biology, Faculty of Natural Sciences, University of Tirana, Tirana, Albania,

E-mail:[p.theou@gmail.com](mailto:p.theou@gmail.com)

**ABSTRACT**

Since 2004, expeditions on bats have been done in the area of Prespa Lakes, mainly in Greek side. Following these expeditions, collaboration between Greek, Macedonian and Albanian experts has been established, and an action plan has been finalized in 2011. In the frame of this action plan, and in order to increase the knowledge on bats in the Albanian sides of the lakes, a PhD started in 2012 at the University of Tirana and we are presenting here the main results of this study. During this PhD, the first monitoring for the Albanian side has been setup and data have been collected between September 2012 to February 2015. Visit of caves and former military buildings have been realised during the four seasons in order to identify the main movement of bats within the area. The number of stations known as used by bats in the Albanian side, increases from 8 to 45. New important maternity colonies and hibernacula sites have been discovered and monitored. Moreover, in collaboration with Greek and Macedonian experts, the movements of species during the year at the lakes scale have been better understood, helping the managers of the different protected areas of the region, which are also

concerned by a UNESCO transboundary biosphere reserve.

**Key words:** Bat, Monitoring, Albania, Prespa