

# PROGRAMME

## Central European Conference ECOpole'16

WEDNESDAY, 5<sup>th</sup> October 2016

17.00 - RECEPTION

19.00 **Maria and Witold WACŁAWEK** (*University of Opole, Opole, PL*): Welcoming Conference participants

18.00-22.00 SUPPER

19.05–20.20 **Tadeusz Pabisiak** guitar recital

THURSDAY, 6<sup>th</sup> October 2016

7.00-8.50 BREAKFAST

9.00-13.00 SECTION SI

9.00-13.00 Posters of POSTER SESSION P1 are available for examination and discussion

9.00-11.15 PLENARY SESSION S1

9.00-9.05 **Maria and Witold WACŁAWEK** (*University of Opole, Opole, PL*): Opening of the Conference

9.05-9.50 **Miroslav ČERNÍK** (*Faculty of Mechatronics, Informatics and Interdisciplinary Studies & the Institute for Nanomaterials, Advanced Technologies and Innovation, Technical University of Liberec, Liberec, CZ*): NANOFIBERS BASED ON NATURAL PRODUCTS AND THEIR APPLICATION FOR REMOVAL OF CONTAMINANTS

9.50-10.35 **Manfred SAGER** (*Austrian Agency for Health and Food Safety, Vienna, AT*) : PLATINUM, PALLADIUM AND OTHER METALS IN URBAN DUST SAMPLES

10.35-10.55 **T. OLSZOWSKI<sup>1</sup>, Z. ZIEMBIK<sup>2</sup>** (1) *Chair of Thermal Engineering and Industrial Facilities, Opole University of Technology, Opole, PL*; 2) *Chair of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): AN ALTERNATIVE CONCEPTION OF PM<sub>10</sub> BELOW-CLOUD SCAVENGING PARAMETERIZATION

10.55-11.15 **T. TÕNUTARE<sup>1</sup>, M. JÜRGENS<sup>1</sup>, L. SZAJDAK<sup>2</sup>, L. SOOBİK<sup>3</sup>, K. KREBSTEIN<sup>1</sup>, T. KAART<sup>1</sup>, R. KÕLLI<sup>1</sup>** (1) *Estonian University of Life Sciences, Tartu, EE* 2) *Institute for Agricultural and Forest Environment, Polish Academy of Sciences, Poznan, PL*; 3) *University of Tartu, College of Foreign Languages and Cultures, Department of*

*English Studies, Tartu, EE*): ABOUT TESTING AND REGULATION OF ARABLE SOILS' PHOSPHORUS STATUS

### 11.20 Conference photo

### 11.30-11.50 COFFEE AND TEA BREAK

### 11.30-13.00 POSTER SESSION P1

**A. Adamiec, L. Przywara, K. Grübel** (*Faculty of Materials, Civil and Environmental Engineering, University of Bielsko-Biala, Bielsko-Biala, PL*): COD FRACTIONS CHANGES OF MUNICIPAL SEWAGE DURING ANAEROBIC TREATMENT

**M. Černík<sup>1</sup>, J. Nosek<sup>1</sup>, S. Waclawek<sup>1</sup>, D.W. Elliott<sup>2</sup>, J. Filip<sup>3</sup>, R.Zbořil<sup>3</sup>** (1) *Centre for Nanomaterials, Advanced Technologies and Innovations, Technical University of Liberec, Liberec, CZ*; 2) *Geosyntec Consultants, Ewing, NJ, USA*; 3) *Regional Centre of Advanced Technologies and Materials, Palacký University in Olomouc, Olomouc, CZ*): ELECTRIC-FIELD ENHANCED MIGRATION AND REACTIVITY OF nZVI: IMPLICATIONS FOR GROUNDWATER TREATMENT TECHNOLOGIES

**A. Chrzan, M. Marko-Worłowska, G. Wątor, T. Łaciak, R. Kozik** (*Institute of Biology, Pedagogical University of Krakow, Krakow, PL*): SUITABILITY OF PINE BARK AND TOPSOIL FOR EVALUATION OF CHOSEN POLLUTIONS CAUSED BY INDUSTRY AND TRANSPORT

**R. Cichowicz<sup>1</sup>, G. Wielgościński<sup>2</sup>** (1) *Faculty of Civil and Environmental Engineering and Architecture, Lodz University of Technology, Łódź, PL*; 2) *Faculty of Process and Environmental Engineering, Lodz University of Technology, Łódź, PL*): ANALYSIS OF THE CONCENTRATION LEVELS OF CARBON DIOXIDE ON AN UNIVERSITY CAMPUS

**M. Dudziak** (*Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*): INFLUENCE OF THE AQUATIC ENVIRONMENT CONDITIONS ON THE DECOMPOSITION OF BISPHENOL A

**L. Dąbrowska, A. Ogrodnik** (*Department of Chemistry, Water and Wastewater Technology, Faculty of Infrastructure and Environmental, Czestochowa University of Technology, Czestochowa, PL*): THM PRECURSORS REMOVAL FROM SURFACE WATER IN THE COAGULATION PROCESS

**M. Dłużewski<sup>1</sup>, R. Kozłowski<sup>2</sup>, A. Szczucińska<sup>3</sup>** (1) *Department of Geomorphology, Faculty of Geography and Regional Studies, University of Warsaw, Warszawa, PL*; 2) *Department of Environmental Protection and Modelling, Jan Kochanowski University in Kielce, Kielce, PL*; 3) *Department of Hydrometry, Faculty of Geography and Geological Sciences, Adam Mickiewicz University in Poznań, Poznań, PL*): POTENTIAL USE OF ALLUVIAL GROUNDWATER FOR IRRIGATION IN ARID ZONES – THE EXAMPLE OF MHAMID OASIS (S MOROCCO)

**S. Hoffman** (*Department of Chemistry, Water and Wastewater Technology, Faculty of Infrastructure and Environment, Czestochowa University of Technology, Czestochowa, PL*): CHANGES OF THE LEVEL OF AIR POLLUTANTS CONCENTRATION IN SILESIA VOIVODESHIP

**D. Janecki<sup>1</sup>, A. Gąszczak<sup>2</sup>, G. Bartelmus<sup>2</sup>** (1) *Department of Process Engineering, University of Opole, Opole, PL*; 2) *Institute of Chemical Engineering, Polish Academy of Sciences, Gliwice, PL*): MODELLING OF THE PROCESS OF PURIFICATION OF AIR

FROM VOLATILE ORGANIC COMPOUNDS (VOCS) IN A TRICKLE-BED BIOREACTOR (TBB)

**R. Jasiński** (*Faculty of Infrastructure and Environment, Czestochowa University of Technology, Czestochowa, PL*): MODELLING OF DAILY PROFILES OF SO<sub>2</sub> CONCENTRATION USING ASSOCIATION RULES

**M. A. Józwiak<sup>1</sup>, M. Józwiak<sup>2</sup>** (1) *I<sup>st</sup> Academic High School in Kielce, PL*, 2) *The Jan Kochanowski University in Kielce, Department of Environment Protection and Modeling, PL*): POSSIBILITIES OF LICHEN USING IN ENVIRONMENT BIOINDICATION

**M. Józwiak, R. Kozłowski** (*Department of Environment Protection and Modeling, The Jan Kochanowski University in Kielce, PL*): DEPOSITION OF HEAVY METALS IN THE CENTRAL PART OF ŚWIĘTOKRZYSKIE MOUNTAINS

**B. Karwowska** (*Faculty of Infrastructure and Environment, Czestochowa University of Technology, Czestochowa, PL*): CHANGES IN HEAVY METALS CHEMICAL FORMS IN SEWAGE SLUDGE AFTER CITRIC ACID EXTRACTION

**K. Kipigroch** (*Faculty of Infrastructure and Environment, Czestochowa University of Technology, Czestochowa, PL*): SORPTION OF NICKEL(II) AND LEAD(II) IONS WITH THE USE OF ALGAE

**T. Kuzmina<sup>1</sup>, Y. Danko<sup>2</sup>, G. Łagód<sup>3</sup>, V. Pliashchnik<sup>4</sup>, M. Iwanek<sup>3</sup>, R. Babko<sup>5</sup>** (1) *Sumy State University, Sumy, UA*; 2) *Sumy Makarenko State Pedagogical University, Sumy, UA*; 3) *Lublin University of Technology, Lublin, PL*; 4) *Uzhhorod National University, Uzhhorod, UA*; 5) *Schmalhausen Institute of Zoology NAS of Ukraine, Kiev, UA*): COMPARATIVE ANALYSIS OF CILIATE ASSEMBLAGES IN ACTIVATED SLUDGE OF BARDENPHO AND CLASSIC AEROTANK TECHNOLOGY

**Ż. Kłostowska<sup>1,2</sup>, G. Kusza<sup>3</sup>, D. Zarzecznańska<sup>1</sup>, A. Bielicka-Gieldoń<sup>1</sup>, L. Łęczyński<sup>2</sup>, T. Ossowski<sup>1</sup>, W. Dominika<sup>4</sup>** (1) *Department of Analytical Chemistry, University of Gdańsk, Gdańsk, PL*; 2) *Department of Oceanography and Geography, University of Gdańsk, Gdynia, PL*; 3) *Department of Land Protection, University of Opole, Opole, PL*; 4) *National Marine Fisheries Research Institute, Gdynia, PL*): FREQUENCY DEPENDENCE OF MAGNETIC SUSCEPTIBILITY AS A QUALITATIVE PARAMETER IN THE ASSESSMENT OF THE SURFACE MARINE AND HARBOR SEDIMENTS POLLUTION (SOUTHERN BALTIC)

**A. Musz-Pomorska, B. Kowalska, M. K. Widomski** (*Lublin University of Technology, Lublin, PL*): COMPARATIVE ANALYSIS OF ORGANIC COMPOUNDS MIGRATING FROM HDPE PIPES TO WATER

**K. Odrzywolska, L. Przywara, M. Kuglarz, K. Grübel** (*Faculty of Materials, Civil and Environmental Engineering, University of Bielsko-Biala, Bielsko-Biala, PL*): IMPACT OF HYBRID DISINTEGRATION ON THERMOPHILIC DIGESTION OF ACTIVATED SLUDGE

**T. Olszowski** (*Chair of Thermal Engineering and Industrial Facilities, Opole University of Technology, Opole, PL*): THE INFLUENCE OF PRECIPITATION STRUCTURE ON THE PM<sub>10</sub> REMOVAL EFFICIENCY

**T. Olszowski** (*Chair of Thermal Engineering and Industrial Facilities, Opole University of Technology, Opole, PL*): STATISTICAL APPROACH IN THE ASSESSMENT OF PM<sub>10</sub> ENRICHMENT OF CLOSE-TO-GROUND ATMOSPHERE

**M. Orłowska-Szostak** (*Faculty of Civil and Environmental Engineering, Gdansk University of Technology, Gdańsk, PL*): THE USE OF THE COMPUTER MODELLING OF FLOWS IN WATER SUPPLY SYSTEM FOR THE IMPROVEMENT OF WORK OF EXEMPLARY SYSTEM FROM HYDRAULIC AND WATER QUALITY POINT OF VIEW

**V. Pliashchnik<sup>1</sup>, G. Łagód<sup>2</sup>, M. K. Widomski<sup>2</sup>, T. Kuzmina<sup>3</sup>** (1) *Uzhhorod National University, Uzhhorod, UA; 2) Lublin University of Technology, Lublin, PL; 3) Sumy State University, Sumy, UA*): THE DIVERSITY OF CILIATED PROTOZOA IN THE DEVICES OF THE WASTEWATER TREATMENT PLANT IN UZHGOROD

**M. Rajfur** (*Independent Chair of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): ASSESSMENT OF THE POSSIBILITY TO USE DECIDUOUS TREES BARK AS BIOMONITOR OF HEAVY METALS AIR POLLUTION

**A. Rosińska, K. Rakocz** (*The Department of Chemistry, Water and Sewage Technology, The Faculty of Engineering and Environment, Czestochowa University of Technology, Czestochowa, PL*): SHARE OF CARBOXYLIC ACIDS IN BIODEGRADABLE AND ASSIMILABLE ORGANIC MATTER DURING DISINFECTION OF WATER

**A. Salata, L. Dąbek, Ł. Bąk** (*Faculty of Environmental, Geomatic and Energy Engineering, Kielce University of Technology, Kielce, PL*): THE EVALUATION OF HEAVY METAL POLLUTION IN SEDIMENTS OF STORMWATER SYSTEM BY USING GEOACCUMULATION INDEX AND ENRICHMENT FACTOR

**A. Salata, R. Stoińska** (*Faculty of Environmental, Geomatic and Energy Engineering, Kielce University of Technology, Kielce, PL*): DYNAMICS OF CHANGES IN MICROBIOLOGICAL COMPOSITION OF SEDIMENTS BEING STORAGE

**E. Sparczyńska** (*Czestochowa University of Technology, Czestochowa, PL*): PHOSPHORUS REMOVAL FROM REJECT WATER WITH COAGULANTS CONTAINING IRON SALTS

**E. Ślodyczk, D. Suszanowicz** (*Chair of Process Engineering, University of Opole, Opole, PL*): OPTIMIZATION OF CARBON DIOXIDE CONCENTRATION IN THE DIDACTIC ROOMS BY THE REGULATION OF VENTILATION SYSTEM

**I. Zawieja** (*Faculty of Infrastructure and Environment, Czestochowa University of Technology, Czestochowa, PL*): THE IMPACT OF EXCESS SLUDGE DISINTEGRATION ON THE CHANGES OF TOTAL ORGANIC CARBON (TOC) VALUES

### **13.00-14.30 LUNCH**

**13.30-19.00** Posters of POSTER SESSION P2 are available for examination and discussion

### **14.30-19.00 SECTION SII**

#### **14.30-16.20 PLENARY SESSION S2**

14.30-15.15 **Andrzej G. CHMIELEWSKI** (*Institute of Nuclear Chemistry and Technology, Warszawa, PL*): „ENERGIEWENDE” – AN EXAMPLE FOR THE OTHER COUNTRIES OR WAGNER’S LEGEND OF 21<sup>ST</sup> CENTURY?

**15.15-15.35 A. ZAREMBA<sup>1</sup>, T. RODZIEWICZ<sup>2</sup>, M. WACŁAWEK<sup>2</sup>** (1) *Czestochowa University of Technology, Czestochowa, PL; 2) Opole University, Opole, PL*): PHOTOVOLTAICS: SOLAR ENERGY RESOURCES AND THE POSSIBILITY OF THEIR USE

**15.35-16.20 Zbigniew A. SZYDŁO** (*Highgate School, London, UK*): FARADAY (1791-1867) THE EDUCATOR

## 16.20-16.50 COFFEE AND TEA BREAK

## 16.30-18.00 POSTER SESSION P2

**G. Jarosław, Ł. Bąk, A. Salata** (*Kielce University of Technology, Kielce, PL*): CHARACTERISTICS OF PHYSICOCHEMICAL PROPERTIES OF THE BOTTOM SEDIMENTS REJOW RESERVOIR

**A. Kalinichenko<sup>1,2</sup>, V. Havrysh<sup>3</sup>, V. Perebyinis<sup>4</sup>** (1) *University of Opole, Opole, PL*; 2) *Poltava State Agrarian Academy, Poltava, UA*; 3) *Mykolayiv National Agrarian University, Mykolayiv, UA*; 4) *Poltava University of Economics and Trade, Poltava, UA*): EVALUATION OF BIOGAS PRODUCTION AND USAGE POTENTIAL

**B. Kaźmierczak<sup>1</sup>, K. Wartalska<sup>1</sup>, M. Wdowikowski<sup>2</sup>, O. Ledvinka<sup>3</sup>** (1) *Wrocław University of Science and Technology, Wrocław, PL*; 2) *Institute of Meteorology and Water Management National Research Institute, Wrocław, PL*; 3) *Czech Hydrometeorological Institute, Praha, CZ*): THE EFFECT OF CLIMATE CHANGE ON URBAN DRAINAGE SYSTEMS

**S. Kordana, K. Pochwat, D. Słyś** (*Department of Infrastructure and Sustainable Development, Faculty of Civil and Environmental Engineering and Architecture, Rzeszów University of Technology, Rzeszów, PL*): RATIONALITY ASSESSMENT OF DRAIN WATER HEAT RECOVERY SYSTEM APPLICATION USING SWOT ANALYSIS

**G. Kosior<sup>1</sup>, A. Dolhańczuk-Śródka<sup>2</sup>, Z. Ziembik<sup>2</sup>** (1) *Wrocław University PL*, 2) *University of Opole PL*): THE USE OF MOSSES PLEUROZIUM SCHREBERI (BRID.) MITT. AS BIOINDICATORS OF RADIONUCLIDE CONTAMINATION IN INDUSTRIAL AREAS OF UPPER SILESIA

**Ł. Kręcidło, T. Krzyśko-Łupicka, M. Kręcidło** (*Chair of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): INFLUENCE OF DISINFECTANT SOLUTION CONTAINING PERACETIC ACID ON BIOMASS GROWTH OF A TRICHODERMA VIRIDAE ENVIRONMENTAL STRAIN

**J. Latosińska** (*Kielce University of Technology, Kielce, PL*): THE SYNTHESIS OF ZEOLITES FROM SEWAGE SLUDGE ASH

**M. Malinowski, K. Młodnicki, M. Łukasiewicz** (*Institute of Agricultural Engineering and Computer Science, Department of Technical Infrastructure and Eco-power engineering, University of Agriculture in Krakow, Kraków, PL*): IMPACT OF SELECTED SOCIO-ECONOMIC FACTORS ON MORPHOLOGICAL COMPOSITION AND ACCUMULATION OF SEGREGATED WASTE IN RURAL AREAS

**T. Mederski, A. Gawdzik** (*Independent Department of Process Engineering, University of Opole, PL*): WASTE RECYCLING OF CAR WINDOW GLASSES AND CONSTRUCTION WINDOW GLASSES WITH PVB

**T. Mederski<sup>1</sup>, M. Rybotycki<sup>1</sup>, A. Dolhańczuk-Śródka<sup>2</sup>** (1) *Independent Department of Process Engineering, University of Opole, PL*; 2) *Independent Chair of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): ENERGY MANAGEMENT IN COMPANY AS AN EFFECTIVE TOOL FOR ENVIRONMENTAL PROTECTION - PRACTICAL EXPERIENCE

**B.B. Nyakuma<sup>1</sup>, A. Magdziarz<sup>2</sup>, S. Werle<sup>3</sup>**, (1) *Centre of Hydrogen Energy, Institute of Future Energy, Universiti Teknologi Malaysia, MY*; 2) *Faculty of Metals Engineering and Industrial Computer Science, AGH University of Science and Technology, Kraków, PL*; 3) *Silesian University of Technology, Gliwice, PL*): PHYSICOCHEMICAL, THERMAL AND KINETIC CHARACTERISTIC OF SEWAGE SLUDGE AS A FUEL

**B.B. Nyakuma<sup>1</sup>, A. Magdziarz<sup>2</sup>, S. Werle<sup>3</sup>**, (1) *Centre of Hydrogen Energy, Institute of Future Energy, Universiti Teknologi Malaysia, MY*; 2) *Faculty of Metals Engineering and Industrial Computer Science, AGH University of Science and Technology, Kraków, PL*; 3)

*Silesian University of Technology, Gliwice, PL): CURRENT STATUS, CHALLENGES AND PROSPECTS OF SEWAGE SLUDGE VALORIZATION FOR CLEAN ENERGY GENERATION IN POLAND*

**A. Ociepa-Kubicka<sup>1</sup>, T. Nitkiewicz<sup>1</sup>, B. Karamon<sup>2</sup>** (1) *Faculty of Management, Czestochowa University of Technology, Częstochowa, PL;* 2) *LESAFFRE POLSKA S.A., Wolczyn, PL): ECOLOGICAL ACTIONS OF COMPANY IN THE RANGE OF ENERGY GENERATION FROM BIOMASS*

**K.B. Pochwat, D. Słyś** (*Department of Infrastructure and Sustainable Development, Faculty of Civil and Environmental Engineering and Architecture, Rzeszów University of Technology, Rzeszów, PL): VERIFICATION OF THEORETICAL MODEL OF FUNCTIONING OF INSTALLATION OF RETENTION FACILITIES USING CFD SOFTWARE*

**P. Ratuszny** (*Independent Department of Process Engineering, University of Opole, PL): CHANGE IN DENSITY OF PARTICULATE BEDS UNDER THE ACTION OF PRESSURE*

**P. Ratuszny, S. Gajda** (*Independent Department of Process Engineering, University of Opole, PL): USING GRANULAR BEDS IN STORING THERMAL ENERGY*

**T. Rodziewicz<sup>1</sup>, A. Zaremba<sup>2</sup>, M. Waclawek<sup>1</sup>** (1) *University of Opole, Opole, PL;* 2) *Czestochowa University of Technology, Częstochowa, PL): THE EFFECT OF SPECTRUM DISTRIBUTION ON THE PERFORMANCE OF PV MODULES*

**T. Rodziewicz<sup>1</sup>, A. Zaremba<sup>2</sup>, M. Waclawek<sup>1</sup>** (1) *University of Opole, Opole, PL;* 2) *Czestochowa University of Technology, Częstochowa, PL): MODELLING OF MODULE MADE OF SPHERICAL CELLS WORK. IMPACT OF POSITION*

**A. Stec, D. Słyś** (*Department of Infrastructure and Sustainable Development, The Faculty of Civil, Environmental Engineering and Architecture, Rzeszow University of Technology, Rzeszów, PL): THE ANALYSIS OF THE POSSIBILITY OF USE RAINWATER HARVESTING SYSTEM WITHIN CAMPUS AREA IN POLAND*

**D. Słyś<sup>1</sup>, A. Stec<sup>1</sup>, J. Dziopak<sup>1</sup>, M. Zelenáková<sup>2</sup>, J. Hypiak<sup>1</sup>** (1) *Department of Infrastructure and Sustainable Development, The Faculty of Civil, Environmental Engineering and Architecture, Rzeszow University of Technology, Rzeszów, PL;* 2) *Technical University of Košice, Faculty of Civil Engineering, Institute of Environmental Engineering, Košice, SK): HYDRODYNAMIC ANALYSIS OF MODERNIZATION VARIANTS OF URBAN SEWAGE SYSTEM*

**S. Tarnawa<sup>1</sup>, J. Makuchowska-Fryc<sup>2</sup>** (1) *Municipal Department in Polanica-Zdrój, Polanica-Zdrój, PL;* 2) *Independent Department of Process Engineering, University of Opole, Opole, PL): MAINTENANCE OF THE FORMER MUNICIPAL LANDFILL IN POLANICA-ZDRÓJ*

**R. Wardzyńska, B. Załęska-Chróst** (*Department of Chemistry, Faculty of Environmental Management and Agriculture, University of Warmia and Mazury, Olsztyn, PL): EXCESS AND DEFICIENCY OF THE COAGULANT IN THE COAGULATION PROCESS-COMPUTER SIMULATION*

**S. Werle<sup>1</sup>, Ł. Ziółkowski<sup>1</sup>, M. Pogrzeba<sup>2</sup>, J. Krzyżak<sup>2</sup>, I. Ratman-Kłosińska<sup>2</sup>, D. Burnete<sup>3</sup>** (1) *Institute of Thermal Technology, Silesian University of Technology, Gliwice, PL;* 2) *Institute for Ecology of Industrial Areas, Silesian University of Technology, Katowice, PL;* 3) *Institutul de Studii si Proiectări Energetice, Bucharest, RO): PHYSICO-CHEMICAL PROPERTIES OF THE SOLID AND LIQUID WASTE PRODUCTS FROM THE HEAVY METAL CONTAMINATED ENERGY CROPS GASIFICATION PROCESS*

**S. Wierzba, M. Majnusz** (*Department of Biotechnology and Molecular Biology, University of Opole, Opole, PL): THE USE OF AGRI-FOOD INDUSTRY WASTE FOR THE PRODUCTION OF *Yarrowia lipolytica* YEAST BIOMASS*

**S. Wierzba, T. Korbecki** (*Department of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): BIOSORPTION OF CR (III) FROM AQUEOUS SOLUTION BY ACTIVATED SLUDGE

**J. Wyczarska-Kokot** (*Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*): ANALYSIS OF THE POSSIBILITY OF WASHINGS DISCHARGE FROM THE SWIMMING POOL TO THE RIVER

**B. Załęska-Chróst, R. Wardzyńska** (*Department of Chemistry, Faculty of Environmental Management and Agriculture University of Warmia and Mazury, Olsztyn, PL*): SLUDGE AGGREGATES OBTAINED DURING ELECTROCOAGULATION IN A RECIRCULATION SYSTEM

**18.00-19.30 Excursion – Geothermal heating system in Aquapark Zakopane**

**20.00 CONFERENCE DINNER**

## **FRIDAY, 7<sup>th</sup> October 2016**

**6.30-7.50 BREAKFAST**

**8.00-13.00 Posters of POSTER SESSION P3 are available for examination and discussion**

**8.00-13.00 SECTION SIII**

**8.00-11.00 PLENARY SESSION S3**

**8.00-8.45 Rajender S. VARMA<sup>1,2</sup>** (*1) Cincinnati, Ohio, USA and 2) Regional Centre of Advanced Technologies and Materials, Palacky University, Olomouc, CZ*): GREENER ROUTES TO ORGANICS AND NANOMATERIALS: SUSTAINABLE APPLICATIONS OF MAGNETIC NANOCATALYSTS AND MODIFIED GRAPHITIC CARBON NITRIDES IN CATALYSIS AND ENVIRONMENTAL REMEDIATION

**8.45-9.30 Ágnes BÁLINT** (*Institute of Environmental Engineering, Óbuda University, Budapest, HU*): HEAVY METAL POLLUTION CAUSED BY HEAVY INDUSTRY IN HUNGARY

**9.40-10.00 K. KAMIŃSKI<sup>1</sup>, W. KAMIŃSKI<sup>1</sup>, T. MIZERSKI<sup>2</sup>** (*1) Faculty of Process and Environmental Engineering, Lodz University of Technology Łódź, PL; 2) Zakład Wodociągów i Kanalizacji Sp. z o.o. [ Ltd.], Łódź, PL*): APPLICATION OF ARTIFICIAL NEURAL NETWORKS TO THE ASSESSMENT OF TECHNICAL CONDITION OF WATER SUPPLY SYSTEMS

**10.00-10.20 M. KUTYŁOWSKA** (*Faculty of Environmental Engineering, Wrocław University of Science and Technology, Wrocław, PL*): PREDICTION OF WATER CONDUITS FAILURE RATE – COMPARISON OF RBF-SVM AND RBF-ANN METHODS

**10.20-10.40 A. KWIECIŃSKA, S. STELMACH, JAN FIGA, M. CHRUBASIK** (*Institute for Chemical Processing of Coal, Zabrze, PL*): COKE OVEN WASTEWATER – FORMATION, TREATMENT AND UTILIZATION METHODS – A REVIEW

**10.40-11.00 M. JANAS, A. ZAWADZKA, G. ROGACKI** (*Faculty of Process and Environmental Engineering, Lodz University of Technology, Łódź, PL*): SUPERCRITICAL WATER HEAT EXCHANGE AS A CRUCIAL ELEMENT OF THE THERMOHYDROLYSIS PROCESS

**11.00-11.30 COFFEE AND TEA BREAK**

**11.30-13.00 POSTER SESSION P3**

**E. Adamek, W. Baran, M. Cholewiński, B. Pelczar, I. Lipska** (*Medical University of Silesia in Katowice, Katowice, PL*): THE STUDY ON THE EFFECT OF PHOTOCATALYTIC PROCESS INHIBITORS ON DEGRADATION OF THE SELECTED SULFA-DRUGS

**E. Adamek, W. Baran, R. Adamczyk, A. Szymkiewicz, J. Wilk, I. Lipska** (*Medical University of Silesia in Katowice, Katowice, PL*): THE USE OF PLATELETS TESTS TO ASSESS THE EFFECT OF ANTI-INFECTIVES ON THE SELECTED BIOGENOSIS

**W. Baran, E. Adamek, A. Szymkiewicz, J. Wilk, I. Lipska** (*Medical University of Silesia in Katowice, Katowice, PL*): THE DYNAMICS OF TYLOSIN BIODEGRADATION AND IDENTIFICATION OF PRODUCTS

**W. Baran, E. Adamek, R. Adamczyk, M. Cholewiński, J. Wilk, A. Szymkiewicz, I. Lipska** (*Medical University of Silesia in Katowice, Katowice, PL*): THE ASSESSMENT OF THE TREATMENT EFFICIENCY OF WASTEWATER CONTAINING HIGH CONCENTRATION OF ANTI-INFECTIVES

**R. Biczak<sup>1</sup>, B. Pawłowska<sup>1</sup>, J. Feder-Kubis<sup>2</sup>** (1) *Institute of Chemistry, Environment Protection and Biotechnology, Jan Długosz University, Częstochowa, PL*; 2) *Faculty of Chemistry, Wrocław University of Technology, Wrocław, PL*): THE EFFECT OF IONIC LIQUIDS WITH (–)-MENTHOL DERIVATIVE CONTAINING A CHLORIDE ANION ON SELECTED WEED SPECIES

**K. Cybulska, S. M. Oraibi, B. Jakubowska** (*Department of Microbiology and Biotechnology of Environment, Western Pomeranian University of Technology in Szczecin, Szczecin, PL*): PRESENCE OF BACTERIA ENTEROBACTERIACEAE IN VARIOUS OF POULTRY WASTES

**I. Deska, M. Mrowiec, E. Ociepa** (*Institute of Environmental Engineering, Technical University of Częstochowa, Częstochowa, PL*): INFLUENCE OF THE SUPERABSORBENT POLYMERS AMENDMENT ON THE RETENTION CAPACITY OF GREEN ROOFS

**K. Grata** (*Department of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): SENSITIVITY OF *Fusarium solani* ISOLATED FROM ASPARAGUS ON ESSENTIAL OILS

**R. Kozłowski<sup>1</sup>, R. Kruszyk<sup>2</sup>** (1) *Department of Environmental Protection and Modelling, Jan Kochanowski University in Kielce, Kielce, Poland*; 2) *Institute of Geoecology and Geoinformation, Adam Mickiewicz University in Poznań, PL*): STUDY ON ATMOSPHERIC DEPOSITION AND CANOPY LEACHING IN TWO PINE STANDS (WEST POMERANIA, ŚWIĘTOKRZYSKIE MOUNTAINS)

**T. Krzyśko-Łupicka, M. Mysiek, Ł. Kręciło** (*Chair of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): ENVIRONMENTAL DISSEMINATION OF RESISTANCE AMONG *Escherichia coli* ISOLATES



**K. Mokra<sup>1</sup>, A. Kuźmińska-Surowaniec<sup>1</sup>, K. Woźniak<sup>2</sup>, J. Michałowicz<sup>1</sup>** (1) *Department of Environmental Pollution Biophysics, Faculty of Biology and Environmental Protection, University of Łódź, Łódź, PL;* 2) *Department of Molecular Genetics, Faculty of Biology and Environmental Protection, University of Łódź, Łódź, PL*): EVALUATION OF THE EFFECT OF BISPHENOL S ON DNA DAMAGE IN HUMAN PERIPHERAL BLOOD MONONUCLEAR CELLS

**M. Nabrdalik** (*Department of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): PRODUCTION AND OPTIMIZATION OF EXOCELLULAR LIPASES PRODUCED BY *PROTEUS MIRABILIS*

**M. Nabrdalik, E. Moliszewska** (*Department of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): APPLICATION OF ANTAGONISTIC PROPERTIES OF *PANTOEA AGGLOMERANS* AGAINST *RHIZOCTONIA SOLANI*

**K. Nagrodzka, Moliszewska E., K. Grata, M. Nabrdalik** (*Department of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): BIOLOGICAL CONTROL OF *Rhizoctonia solani* AG 2-2IIIB BY *Bacillus subtilis* METABOLITES

**S. M. Oraibi, K. Cybulska** (*Department of Microbiology and Biotechnology of Environment, Western Pomeranian University of Technology in Szczecin, Szczecin, PL*): DRUG RESISTANCE OF *E.COLI* ISOLATES FROM THE AIR IN THE POULTRY POST-SLAUGHTER WASTES MANAGEMENT FACILITIES

**B. Pawłowska<sup>1</sup>, A. Telesiński<sup>2</sup>, M. Płatkowski<sup>2</sup>, M. Stręk<sup>2</sup>, M. Śnioszek<sup>2</sup>, R. Biczak<sup>2</sup>** (1) *Institute of Chemistry, Environment Protection and Biotechnology, Jan Długosz University, Częstochowa, PL;* 2) *Faculty of Environmental Management and Agriculture, Department of Plant Physiology and Biochemistry, West Pomeranian University of Technology in Szczecin, Szczecin, PL*): TOXICITY OF IMIDAZOLIUM IONIC LIQUIDS WITH THE ANION CONTAINING FLUORINE FOR SOME WEED SPECIES

**B. Pieczykolan, I. Płonka, K. Barbusiński** (*Silesian University of Technology, Faculty of Energy and Environmental Engineering, Gliwice, PL*): DISCOLORATION OF SOLUTIONS CONTAINING ACID GREEN 16 USING MODIFICATION OF FENTON'S REAGENT WITH SODIUM PERCARBONATE

**I. Płonka, B. Pieczykolan, K. Barbusiński** (*Silesian University of Technology, Faculty of Energy and Environmental Engineering, Gliwice, PL*): DISCOLORATION OF SOLUTIONS CONTAINING ACID GREEN 16 USING MODIFICATION OF FENTON'S REAGENT WITH CALCIUM PEROXIDE

**L. Sabliy<sup>1</sup>, S. Konontsev<sup>1</sup>, J. Grochowska<sup>2</sup>, M. K. Widomski<sup>3</sup>, G. Łagód<sup>3</sup>** (1) *National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", Kyiv, UA;* 2) *National University of Water Management and Nature Resources Use, Rivne, UA;* 3) *Lublin University of Technology, Lublin, PL*): EFFICIENCY OF NITROGEN REMOVAL BY *LEMNA MINOR* AND *WOLFFIA ARRHIZA* DURING TREATMENT OF WATER FROM RECIRCULATION SYSTEMS IN FISH FARMS

**M. Sporek<sup>1</sup>, T. Ciesielczuk<sup>2</sup>** (1) *Independent Chair of Biotechnology and Molecular Biology, University of Opole, PL* 2) *Independent Department of Land Protection, University of Opole, PL*): BIOMASS OF SPRING BARLEY (*Hordeum vulgare* L.) IN RELATION TO FERTILISING

**L.W. Szajdak<sup>1</sup>, R. Kölli<sup>2</sup>, W. Gaca<sup>1</sup>, T. Meysner<sup>1</sup>, K. Styła<sup>1</sup>, M. Szczepański<sup>1</sup>, T. Tonutare<sup>2</sup>** (1) *Institute for Agricultural and Forest Environment, Polish Academy of Sciences, Poznań, PL;* 2) *Department of Soil Science and Agrochemistry, Institute of Agricultural and Environmental Sciences, Estonian University of Life Sciences, Tartu, EE*): REMOVAL OF NON-POINT POLLUTION IN AGRICULTURAL LANDSCAPE

**A. Świercz<sup>1</sup>, E. Zajęcka<sup>2</sup>** (1) *Chair of Environmental Protection and Modelling*, 2) *Institute of Biology, Jan Kochanowski University in Kielce, Kielce, PL*): ASSESSMENT OF HEAVY METAL CONCENTRATIONS IN THE SOILS OF INDUSTRIAL SITES ON THE EXAMPLE OF THE CITIES OF SKARZYSKO-KAMIENNA AND KIELCE

**A. Świercz<sup>1</sup>, E. Zajęcka<sup>2</sup>** (1) *Chair of Environmental Protection and Modelling*, 2) *Institute of Biology, Jan Kochanowski University in Kielce, Kielce, PL*): ASSESSMENT OF THE DEGREE OF CONTAMINATION OF SOILS WITH SELECTED CHEMICAL ELEMENTS ON THE EXAMPLE OF THE CITY OF SKARZYSKO-KAMIENNA

**M.K. Widomski<sup>1</sup>, W. Stępniewski<sup>1</sup>, R. Horn<sup>2</sup>** (1)*Faculty of Environmental Engineering, Lublin University of Technology, Lublin, PL*; 2) *Institute for Plant Nutrition and Soil Science, CAU Kiel, Kiel, DE*): ASSESSMENT OF SEEPAGE THROUGH MUNICIPAL LANDFILL CLAY LINERS AFTER CYCLIC DRYING AND REWETTING

**M. Widłak, M. Dańczuk, W. Nowak** (*Kielce University of Technology, Kielce, PL*): THE CONTENT OF SELECTED POLLUTANTS IN THE GREEN AREAS OF THE KIELCE UNIVERSITY OF TECHNOLOGY

**E. Wiśniowska, M. Włodarczyk-Makula, R. Nowak** (*Department of Chemistry, Water and Wastewater Technology, Częstochowa University of Technology, Częstochowa, PL*): TRENDS IN REGULATIONS CONCERNING PERMISSIBLE MICROPOLLUTANTS CONCENTRATIONS IN SEWAGE SLUDGE AND ORGANIC FERTILIZERS USED IN AGRICULTURE

**P. Wolski** (*Institute of Environmental Engineering, Faculty of Infrastructure and Environment, Czestochowa University of Technology, Częstochowa, PL*): THE IMPACT OF THE INITIAL DISINTEGRATION ON THE RHEOLOGICAL PARAMETERS OF SUBMITTED FERMENTATION SEWAGE SLUDGE

**I. Zimoch, A. Kuśnierski** (*Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*): IMPACT OF AGRICULTURAL ACTIVITIES ON THE MICROBIOLOGICAL QUALITY OF UNDERGROUND WATER RESOURCES

**I. Zimoch, J. Paciej** (*Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*): SPATIAL ANALYSIS OF WATER QUALITY CHANGES IN WATER SUPPLY SYSTEMS AS A TOOL OF RISK MANAGEMENT OF HUMAN HEALTH

**I. Zimoch, M. Dudziak** (*Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*): EVALUATION OF TOXICITY OF WATER AND WATER-PIPE DEPOSITS IN RURAL WATER SUPPLY SYSTEMS

**I. Zimoch<sup>1</sup>, E. Łobos<sup>2</sup>** (1) *Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*; 2) *Institute of Mathematics, Silesian University of Technology, Gliwice, PL* ): THE MODELING OF TRIHALOMETHANES CONCENTRATION IN WATERPIPE NETWORK BASED ON DIFFERENT EQUATIONS OF REGRESSION

**13.00-14.30 LUNCH**

**13.30-19.00 Posters of POSTER SESSION P4 are available for examination and discussion**

**14.30-17.15 Session S4: FORUM OF YOUNG SCIENTISTS (FYS)**

**14.30-14.45 M. KANIEWSKI, E. KLEM-MARCINIAK, M. HUCULAK-MĄCZKA, J. HOFFMANN** (*Department of Technology and Chemical Processes, Faculty of Chemistry,*

*Wroclaw University of Technology, Wroclaw, PL*): STUDY OF THERMAL STABILITY OF AMMONIUM NITRATE AND POTASSIUM CHLORIDE MIXTURES

**14.45-15.00 D. MADEJ, W. BARAN, E. ADAMEK, I. LIPSKA** (*Medical University of Silesia in Katowice, Katowice, PL*): ECOTOXICITY STUDIES OF E-LIQUIDS FOR E-CIGARETTES

**15.00-15.15 O. NAMIECIŃSKA, G. WIELGOSIŃSKI, R. CICHOWICZ** (*Faculty of Process and Environmental Engineering, Lodz University of Technology, Łódź, PL*): MODELING OF FLUE GASES DRY DESULPHURIZATION

**15.15-15.30 G. OŁOŚ, O. ZHUK** (*Chair of Biotechnology and Molecular Biology, Faculty of Natural Sciences and Technology, University of Opole, Opole, PL*): COMPARISON OF SELECTED PARAMETERS OF ACUTE TOXICITY OF AMMONIUM IONS ON HYDROBIONTS

**15.30-15.45 D. POPLAWSKI, M. HUCULAK-MĄCZKA, K. HOFFMANN, J. HOFFMANN** (*Department of Chemical Technology and Processes, Wroclaw University of Technology, Wroclaw, PL*): ANALYSIS OF THE KINETICS OF COMPLEX REACTIONS ON THE EXAMPLE OF THE DECOMPOSITION OF AMMONIUM NITRATE

**15.45-16.00 K. RAJCZYKOWSKI, K. LOSKA** (*Institute of Water and Wastewater Engineering, Faculty of Energy and Environmental Engineering, Silesian University of Technology, Gliwice, PL*): CADMIUM AND NICKEL ADSORPTION FROM AQUEOUS SOLUTIONS BY USING VERMICULITE AS AN ADSORBENT

**16.00-16.15 A. ROMBEL-BRYZEK, M. RAJFUR, O. ZHUK** (*Chair of Biotechnology and Molecular Biology, Faculty of Natural Sciences and Technology, University of Opole, Opole, PL*): THE IMPACT OF COPPER IONS ON OXIDATIVE STRESS IN CRESS SEED *LEPIDIUM SATIVUM*

**16.15-16.30 A. SZULECKA, M. BOGACKI** (*Department of Environmental Management and Protection, AGH University of Science and Technology, Krakow, PL*): EVALUATION OF AVAILABLE METEOROLOGICAL DATABASES FOR THE IMPROVEMENT OF THE SHORT-TERM SIMULATIONS USING THE WRF-ARW MODELLING SYSTEM OVER THE SOUTH-WESTERN PART OF POLAND

**16.30-16.45 E. TOMCZAK, M. BLUS, M. TYLMAN** (*Faculty of Process and Environmental Engineering, Lodz University of Technology, Łódź, PL*): INFLUENCE OF PREPARATION METHOD ON STABILITY AND PERMEABILITY OF GRAPHENE OXIDE MEMBRANES

**16.45-17.00 J. WIŚNIEWSKI<sup>1</sup>, G. WIELGOSIŃSKI<sup>2</sup>, R. CICHOWICZ<sup>2</sup>** (1) *Group Wastewater Treatment Plant Lodz Co. Ltd. Lodz, PL*; 2) *Faculty of Process and Environmental Engineering, Lodz University of Technology, Łódź, PL*): ANALYSIS OF THE FUNCTIONING OF THE FLUE GASES PURIFICATION SYSTEM IN SEWAGE SLUDGE INCINERATION PLANT IN GROUP WASTEWATER TREATMENT PLANT IN LODZ

**17.00-17.15 M. ZIELIŃSKA<sup>1</sup>, A. KŁOS<sup>1</sup>, Z. BOCHENEK<sup>2</sup>, J. W. BJERKE<sup>3</sup>, H. TØMMERVIK<sup>3</sup>, B. ZAGAJEWSKI<sup>4</sup>, D. ZIÓLKOWSKI<sup>2</sup>, M. RAJFUR<sup>1</sup>, A. DOŁHAŃCZUK-ŚRÓDKA<sup>1</sup>, Z. ZIEMBIK<sup>1</sup>** (1) *Independent Chair of Biotechnology and Molecular Biology, University of Opole, Opole, PL*; 2) *Institute of Geodesy and Cartography, Warsaw, PL*; 3) *Norwegian Institute for Nature Research, Tromsø, NO*; 4) *Warsaw University, Department of Geoinformatics and Remote Sensing, Warsaw, PL*): CONTAMINATION OF THE FOREST AREAS OF SOUTHERN AND NORTH EASTERN POLAND WITH HEAVY METALS

**17.15-17.45 COFFEE AND TEA BREAK**

## 17.30-19.00 FORUM OF YOUNG SCIENTISTS (FYS); POSTER SESSION P4

**E. Burdzik-Niemiec, M. Dudziak** (*Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*): ULTRAFILTRATION USING MEMBRANES MODIFIED WITH NANOMATERIALS AND CLASSIC NANOFILTRATION FOR THE SEPARATION OF MICROPOLLUTANTS

**E. Chłopińska, D. Szaniawska** (*Transport Engineering Institute, Maritime University of Szczecin, Szczecin, PL*): HAZARD IDENTIFICATION IN RELATION TO THE ENVIRONMENT FOR THE LNG SUPPLY CHAIN

**M. Dudziak, E. Kudlek, G. Kamińska, J. Bohdziewicz** (*Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*): TOXICOLOGICAL TESTING TO EVALUATE EFFECT OF XENOBIOTICS CONCENTRATION ON BIOLOGICAL ACTIVITY OF DIFFERENT ORGANISMS

**P. Godyń, Z. Ziembik, A. Dolhańczuk-Śródka** (*University of Opole, Opole, PL*): SEASONAL CHANGES IN THE CONCENTRATIONS OF GAMMA ISOTOPES IN SOIL OF THE FOREST AREAS OF THE KARKONOSZE MOUNTAINS

**K. Grata, A. Rombel-Bryzek** (*Department of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): ANTAGONISTIC PROPERTIES OF *Bacillus subtilis* BS-2 AND MINT ESSENTIAL OIL AGAINST *Botrytis cinerea*

**D. Jerz, M. Rajfur, A. Klos** (*Independent Chair of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): USE OF MOSSES AND LICHENS IN EVALUATION OF SEASONAL CHANGES IN HEAVY METALS CONCENTRATION IN FOREST AREAS

**G. Kamińska, M. Dudziak, J. Bohdziewicz, E. Kudlek** (*Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*): REMOVAL AND FATE OF PAHs DURING MECHANICAL-BIOLOGICAL WASTEWATER TREATMENT

**E. Klem-Marciniak, D. Popławski, M. Porwoł, J. Pająk, K. Hoffmann** (*Department of Chemical Technology and Processes, Wrocław University of Technology, Wrocław, PL*): BREEDING OF THE ACTIVATED SLUDGE HAVING PROPERTIES WHICH ENABLE IT IS USAGE IN STUDIES ON BIODEGRADATION OF FERTILIZER CHELATES

**E. Klem-Marciniak, K. Hoffmann, M. Kaniewski, J. Hoffmann** (*Department of Chemical Technology and Processes, Wrocław University of Technology, Wrocław, PL*): PHYSICAL AND CHEMICAL PROPERTIES SELECTED FERTILIZER CHELATES

**R. Kozłowski<sup>1</sup>, M. Szwed<sup>1, 2</sup>, J. Przybylska<sup>2</sup>** (1) *Department of Environmental Protection and Modelling, Jan Kochanowski University in Kielce, Kielce, PL*; 2) *Institute of Geography, Jan Kochanowski University in Kielce, Kielce, PL*): PHYSICOCHEMICAL PROPERTIES OF SNOW IN THE CONDITIONS OF ANTHROPOGENIC IMPACT IN THE CITY OF KIELCE IN JANUARY 2016

**R. Kozłowski<sup>1</sup>, J. Przybylska<sup>2</sup>, M. Szwed<sup>1, 2</sup>** (1) *Department of Environmental Protection and Modelling, Jan Kochanowski University in Kielce, Kielce, PL*; 2) *Institute of Geography, Jan Kochanowski University in Kielce, Kielce, PL*): PHYSICOCHEMICAL PROPERTIES OF WATER FROM SMALL UPLAND RIVERS WITH DIVERSE STRUCTURE OF LAND USE IN CATCHMENT AREA ON THE BASIS OF SELECTED STREAMS IN THE ŚWIĘTOKRZYSKIE MOUNTAINS

**E. Kudlek, M. Dudziak, G. Kamińska, J. Bohdziewicz** (*Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*): STUDY OF TOXICOLOGICAL EFFECT OF PHOTOCATALYSTS

**W. Kędzia, K. Merc, E. Ociepa** (*Faculty of Infrastructure and Environment, Czestochowa University of Technology, Czestochowa, PL*): ACTIVE MONITORING OF THE PUMPING SYSTEM AT THE ZWIK SP. Z O.O. MYSZKOW

**J. Loskot<sup>1</sup>, M. Smolík<sup>1</sup>, V. Štěpánek<sup>1,3</sup>, L. Hyšplerová<sup>1</sup>, L. Trnková<sup>2</sup>, Jan Kříž<sup>1</sup>** (*1) Faculty of Science, University of Hradec Králové, Hradec Králové, CZ; 2) EMPLA Hradec Králové, Hradec Králové, CZ; 3) Coal power plant Chvaletice, CZ*): MODELING AND BIOMONITORING OF MERCURY EMISSIONS FROM LARGE SOLID FUEL COMBUSTION IN THE CZECH-POLISH BORDER REGION

**E. Łaskawiec, M. Dudziak, J. Wyczarska-Kokot** (*Institute of Water and Wastewater Engineering, Silesian University of Technology, Gliwice, PL*): EVALUATION OF THE POSSIBILITY FOR RECYCLING SWIMMING POOL BACK WASHING WATER

**D. Madej, W. Baran, E. Adamek, A. Szymkiewicz, J. Wilk, M. Cholewiński** (*Medical University of Silesia in Katowice, Katowice, PL*): OZONOLYSIS OF SULFA-DRUGS IN AN AQUATIC ENVIRONMENT

**M. Marciniak, A. Kłos, M. Rajfur** (*Chair of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): INFLUENCE OF EXPOSURE METHOD ON ACCUMULATION OF HEAVY METALS IN LICHENS AND MOSSES

**K. Merc, W. Kędzia, E. Ociepa** (*Faculty of Infrastructure and Environment, Czestochowa University of Technology, Czestochowa, PL*): ANALYSIS OF CONSUMPTION AND LOSSES MAINS WATER BASED ON INDICATORS RECOMMENDED BY IWA

**S. Miodoński, M. Muszyński-Huhajło, K. Rucka** (*Faculty of Environmental Engineering, Wroclaw University of Technology, Wroclaw, PL*): IMPACT OF NITRIFICATION RATE TEST PROCEDURE ON RESULTS IN ACTIVATED SLUDGE TESTS

**J. Muszyńska, M. Sikorski, J. Gawdzik** (*Faculty of Environmental, Geomatic and Energy Engineering, Kielce University of Technology, Kielce, PL*): THE IMPACT OF RELATION  $FE/H_2O_2$  ON THE COMPOSITION OF LEACHATE AFTER TREATMENT BY FENTON'S METHOD

**M. Muszyński-Huhajło, K. Janiak** (*Faculty of Environmental Engineering, Wroclaw University of Technology, Wroclaw, PL*): ACCURATE OXYGEN TRANSFER EFFICIENCY MEASUREMENTS BY OFF-GAS METHOD – TANK COVERAGE DILEMMA

**G. Ołoś** (*Chair of Biotechnology and Molecular Biology, Faculty of Natural Sciences and Technology, University of Opole, Opole, PL*): THE IMPACT OF HUMAN PRESENCE ON THE CHOICE OF NEST SITES IN THE URBAN POPULATION NIGHTINGALE *Luscinia megarhynchos* IN OPOLE

**A. Pacia, A. Dolhańczuk-Śródka, Z. Ziembik** (*Independent Chair of Biotechnology and Molecular Biology, University of Opole, PL*): INVESTIGATION EDCS (ENDOCRINE-DISRUPTING COMPOUNDS) POLLUTION COMING FROM COSMETICS AND EVERYDAY OBJECTS

**I. Pietkun-Greber** (*Independent Department of Process Engineering, University of Opole, Opole, PL*): HYDROGEN DAMAGE NON-ALLOY CONSTRUCTION STEEL S235JR

**I. Pietkun-Greber, M. Wiener** (*Independent Department of Process Engineering, University of Opole, Opole, PL*): INFLUENCE OF CATHODIC POLARIZATION RESISTANCE CORROSION OF DC01 STEEL

**A. Szaniszló<sup>1</sup>, R. Pecze<sup>2</sup>, H.E.A.F. Bayoumi<sup>1</sup>, Á. Bálint<sup>1</sup>** (*1)Óbuda University, Institute of Environmental Engineering, Budapest, HU; 2)Szent István University, Gödöllő, HU*): EXAMINATION THE HEAVY METAL CONTAMINATION OF THE BUDAPEST MUNICIPAL WASTE INCINERATOR AND THE INTRODUCTORY SECTION OF M3 MOTORWAY IN BUDAPEST

**E. Szczyrba, A. Szczotka, G. Bartelmus** (*Institute of Chemical Engineering Polish Academy of Sciences, Gliwice, PL*): MODELLING OF AEROBIC BIODEGRADATION OF PHENOL BY *Stenotrophomonas maltophilia* KB2 STRAIN

**P. Świsłowski<sup>1</sup>, M. Marciniak<sup>2</sup>, M. Rajfur<sup>2</sup>** (1)*Independent Chair of Environmental Engineering, University of Opole, Opole, PL*; 2) *Chair of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): SORPTION OF COPPER AND ZINC BY *HOTTONIA PALUSTRIS* L.

**P. Świsłowski<sup>1</sup>, M. Rajfur<sup>2</sup>, A. Klos<sup>2</sup>** (1)*Independent Chair of Environmental Engineering, University of Opole, Opole, PL*; 2) *Chair of Biotechnology and Molecular Biology, University of Opole, Opole, PL*): THE INFLUENCE OF CONDITIONS OF THE BIOMONITORING STUDY USING MOSSES ON ITS RESULTS

**E. Tomczak, A. Zielińska** (*Faculty of Process and Environmental Engineering, Lodz University of Technology, Łódź, PL*): THE SEWAGE SYSTEM REHABILITATION USING TRENCHLESS TECHNOLOGIES ON THE CHOSEN EXAMPLE

**18.55 Announcement of Verdicts of Award by the Jury for the Best Oral and Poster Presentations of FYS**

**19.00 Maria and Witold WACŁAWEK** (*University of Opole, Opole, PL*): **Closing of the Conference**

**19.30 GRILLED DINNER**

**SATURDAY, 8<sup>th</sup> October 2016**

**7.00-8.50 BREAKFAST**

**9.00-13.00 EXCURSION.** Excursion on foot in Chochółów - a visit to the hut near the village of Witów with tasting of cheeses and liqueur.

**9.00 Departure to Chochółów**

**12.30-14.00 LUNCH**