

11TH CONFERENCE ON INTERDISCIPLINARY PROBLEMS
IN ENVIRONMENTAL PROTECTION AND ENGINEERING



water | air | energy

**EKO
DOK**

CONFERENCE PROGRAMME



8-10 APRIL 2019, POLANICA-ZDRÓJ

Monday 8 April 2019	<p align="center">Session I Hall 01</p> <p align="center">Chair: Prof. Katarzyna Piekarska Prof. Andrzej Kotowski</p>	Monday 8 April 2019	<p align="center">Session II Hall 01</p> <p align="center">Chair: Prof. Jan Danielewicz Prof. Leszek Kuchar</p>
10:00–10:10	 	12:00–12:10	
10:10–10:20		12:10–12:20	
10:20–10:30	 <p align="center">BE SURE. BUILD SURE.</p>	12:20–12:30	
10:30–10:45	<p align="center">Michał Mańczak</p> <p align="center">O poradnikach Imhoffa: Taschenbuch der Stadtentwässerung 1907–2018</p>	12:30–12:45	<p align="center">Stanisław Miodoński, Mateusz Muszyński-Huhajło, Bartosz Zięba, Krzysztof Ratkiewicz, Dominika Kołbuc and Magdalena Łagocka</p> <p align="center">Fast start-up of Anammox process with hydrazine addition</p>
10:45–11:00	<p align="center">Leszek Kuchar, Ewa Broszkiewicz-Suwaj, Sławomir Iwanski and Leszek Jelonek</p> <p align="center">Comparison of daily flows simulated for the year 2060 on the Kaczawa River for various scenarios of climate change by simple time series analysis</p>	12:45–13:00	<p align="center">Zhanna Govorova and Alexey Andrianov</p> <p align="center">The use of pulsed flushing to improve the efficiency of polymer floating media filters</p>
11:00–11:15	<p align="center">Jacek Dziubek</p> <p align="center">PPP as an alternative source of financing investments in environmental protection</p>	13:00–13:15	<p align="center">Anna Janda and Tadeusz Marcinkowski</p> <p align="center">Cemetery waste management in Poland. A case study for Wrocław city</p>
11:15–11:30	<p align="center">Sebastian Niestępski, Monika Harnisz, Ewa Korzeniewska and Adriana Osińska</p> <p align="center">Isolation of anaerobic bacteria of the Bacteroides fragilis group from environmental samples</p>	13:15–13:30	<p align="center">Yurii Rybachuk and Andrzej Jodłowski</p> <p align="center">Mathematical model of dissolved air flotation (DAF) based on impulse conservation law</p>
11:30–11:45	<p align="center">Marcin Pawnuke and Izabela Sówka</p> <p align="center">Application of mathematical modelling in evaluation of odour nuisance from selected waste management plant</p>	13:30–13:45	<p align="center">Katarzyna Mikuła, Dawid Skrzypczak, Bartosz Ligas and Anna Witek-Krowiak</p> <p align="center">Preparation of hydrogel composites using various crosslinking agents</p>

Monday
8 April 2019

Session III Hall 01

Chair:
Prof. Andrzej Kotowski
Prof. Leszek Kuchar

Session IV Hall 02

Chair:
Prof. Jan Danielewicz
PhD Piotr Jadwiszczak

15:15–15:30



15:30–15:45

Dorota Holc, Alina Pruss,
Małgorzata Komorowska-Kaufman, Beata Mądrecka
and Zefiryn Cybulski

The sorption of organic compounds from water during
technological start-up of carbon filters

Bartłomiej Ciapała and Mirosław Janowski

Geothermal power based ULTDH for cooling
and heating purposes

15:45–16:00

Krzysztof Słowik, Marcin Stec, Tomasz Iluk,
Andrzej Czaplicki and Mateusz Kochel

Reduction of chloride emission by thickening
of metallurgical wastewater

Dina Czajczyńska, Krzysztof M. Czajka,
Renata Krzyżyńska and Hussam Jouhara

Experimental analysis of waste tyres as a sustainable
source of energy

16:00–16:15

Alexey Andrianov and Zhanna Govorova

Study of various organophosphonate additives as
calcium carbonate inhibitors for reverse osmosis

Paulina Grelich, Marta Moszczyńska, Grzegorz Stańczyk
and Krystian Szczerbak

Regional strategy of energy and CO₂ emissions
management - base study on the example
of Gliwice region

16:15–16:30

Anna Lempart, Edyta Kudlek and Mariusz Dudziak

Evaluation of different methods supporting swimming
pool water disinfection in the aspect of removing
organic micropollutants

Michał Kaczmarczyk

Methodology and impact categories of environmental
life cycle assessment in geothermal energy sector

16:30–16:45

Anna Młyńska, Michał Zielina
and Andrzej Bielski

Contamination of drinking water soon after cement
mortar lining renovation depending
on the disinfectant doses

Paulina Kanaś, Andrzej Jedlikowski and Sergey Anisimov

The influence of geometrical parameters on heat and
mass transfer processes and effectiveness of rotary heat
exchanger operating under high speed rotor conditions

16:45–17:00

Farizal, Nadya Amalin and Amar Rachman

A new funding scheme for municipal
solid waste management

Adam Piasecki, Jakub Jurasz and Alexander Kies

Comparison of measurements and reanalysis data on
wind speed and irradiation from the energy generation
perspective - analysis for several locations in Poland

Monday
8 April 2019

Session V (poster session)

Hall 03

Chair:

PhD Jacek Lamperski

Prof. Justyna Rybak

17:30–19:00

<p>Jacek Potorski, Izabela Koniuszewska, Małgorzata Czatkwowska and Monika Harnisz</p> <p>Drug resistance in airborne bacteria isolated from waste management and wastewater treatment plants in Olsztyn</p>	<p>Natalia Czaplicka and Donata Konopacka-Łyskawa</p> <p>Studies on the utilization of post-distillation liquid from Solvay process to carbon dioxide capture and storage</p>
<p>Katarzyna Nocoń and Wioletta Rogula-Kozłowska</p> <p>Speciation of arsenic: a case study of PM1 in Zabrze</p>	<p>Agnieszka Grzelka, Elżbieta Romanik and Urszula Miller</p> <p>Odour nuisance assessment of the food industry wastewater treatment plant</p>
<p>Agnieszka Chmielewska</p> <p>Monthly model of hot water consumption</p>	<p>Artur Kopczyński</p> <p>Active torque distribution strategy for electric vehicle independent axle drive</p>
<p>Monika Puchlik</p> <p>Constructed wetlands aided with bio-preparation to neutralize wastewater from a small fruit and vegetable processing plant with high load pollutants</p>	<p>Mirela Wolf-Baca and Agata Siedlecka</p> <p>Detection of pathogenic bacteria in hot tap water using the qPCR method - preliminary research</p>
<p>Artur Kopczyński and Paweł Roszczyk</p> <p>Power distribution in multimotor (AWD) powertrain of electric vehicle</p>	<p>Krzysztof Rogowski and Martin O.L. Hansen</p> <p>URANS and ACM for determining the aerodynamic performance of vertical-axis wind turbine</p>
<p>Mirian Kalabegishvili, Levan Klimiashvili, David Gurgenidze and Adam Ujma</p> <p>Assessment of the Ortachala HPP low head dam abutment deformation and seepage regime</p>	<p>Ewelina Krawczak and Agata Zdyb</p> <p>The influence of the dye adsorption time on the DSSC performance</p>
<p>Viktor Koval, Inesa Mikhno, Gabriela Hajduga and Krzysztof Gaska</p> <p>Economic efficiency of biogas generation from food product waste</p>	<p>Małgorzata Czatkwowska, Monika Harnisz, Ewa Korzeniewska and Izabela Koniuszewska</p> <p>Prevalence of antibiotic resistance genes during methane fermentation of sewage sludge</p>

Monday
8 April 2019

Session V (poster session)

Hall 03

Chair:

PhD Jacek Lamperski

Prof. Justyna Rybak

17:30–19:00

<p>Jacek Pielecha, Jerzy Merkisz, Remigiusz Jasinski, Karolina Kurtyka and Kinga Skobieć</p> <p>Cold start emissions of passenger cars in Real Driving Emissions tests</p>	<p>Katarzyna Rucka, Anna Solipiwo-Pieścik and Małgorzata Wolska</p> <p>Effectiveness of humic substance removal during the coagulation process</p>
<p>Adriana Osińska, Ewa Korzeniewska, Monika Harnisz, Sebastian Niestępski and Piotr Jachimowicz</p> <p>The occurrence of antibiotic-resistant bacteria, including Escherichia coli, in municipal wastewater and river water</p>	<p>Sebastian Englart and Andrzej Jedlikowski</p> <p>The influence of different water efficiency rating of taps and mixers on energy and water consumption in buildings</p>
<p>Wojciech Kołodyński, Katarzyna Piekarska and Daniel Strub</p> <p>Preliminary assessment ecotoxicity of selected scents compounds using Microtox assay</p>	<p>Maciej Gis, Mateusz Bednarski and Piotr Orliński</p> <p>Energy analysis of charging infrastructure for electric vehicles on the TEN-T road network</p>
<p>Magdalena Zajda and Urszula Aleksander-Kwaterczak</p> <p>Wastewater treatment methods from the confectionery industry-overview</p>	<p>Krzysztof Wolski</p> <p>Seasonal changes in hydraulic flow conditions in overgrown lowland river</p>
<p>Mateusz Firkowski, Kamil Urbanowicz and Huan-Feng Duan</p> <p>Simulation of unsteady flow in viscoelastic pipe</p>	<p>Jolanta Fieducik</p> <p>The use of solar radiation for generating heat in a solar air collector in northern Poland</p>
<p>Jakub Lasocki and Karol Boguszewsk</p> <p>Environmental effects of driving style: impact on fuel consumption</p>	<p>Paweł Gil</p> <p>Performance of special type heat sink with an integrated synthetic jet actuator</p>
<p>Joanna Struk-Sokołowska, Piotr Ofman and Sevgi Demirel</p> <p>Artificial neural network (ANN) approach for modeling of selected biogenic compounds in a mixture of treated municipal and dairy wastewater</p>	

Tuesday
9 April 2019

Session VI (poster session)

Hall 03

Chair:

PhD Piotr Jadwiszczak

PhD Jakub Jurasz

10:00–11:30

<p>Anna Jurga, Joanna Kuźma, Kamil Janiak and Tobias Niederwieser</p> <p>Experiment design to investigate the possibility of using grey water in aeroponic cultivation of various crops for future long-term space missions</p>	<p>Gabriela Hajduga, Agnieszka Generowicz and Małgorzata Kryłów</p> <p>Human health risk assessment of heavy metals in road dust collected in Cracow</p>
<p>Marek Wasilewski and Lakhbir Singh Brar</p> <p>Investigations of the flow field inside a square cyclone separator using DPIV and CFD</p>	<p>Natalia Józwiak-Lipińska</p> <p>Influence of climate screens on heat load in greenhouses</p>
<p>Edyta Łaskawiec, Mariusz Dudziak and Joanna Wyczarska-Kokot</p> <p>Evaluation of the effect of body fluid analogs on the parameters of nanofiltration during the purification of swimming pool water</p>	<p>Katarzyny Sobczyńskiej-Wójcik and Małgorzata Rafałowska</p> <p>Seasonal variability of water flow in the catchment of rural areas on the example of the stream Sętań and its tributaries</p>
<p>Małgorzata Rafałowska and Katarzyna Sobczyńska-Wójcik</p> <p>The impact of intensive agricultural production on chloride concentration in drainage and surface water</p>	<p>Adam Piasecki, Agnieszka Pilarska and Radosław Golba</p> <p>Forecasting water consumption in towns of different size</p>
<p>Edyta Dudkiewicz and Marta Laska</p> <p>Inequality of water consumption for hygienic and sanitary purposes in production halls</p>	<p>Anna Pacak, Aleksandra Cichoń, Demis Pandelidis and Sergey Anisimov</p> <p>Analysis of the multi-stage desiccant cooling system performance in Wrocław (Poland)</p>
<p>Urszula Miller, Izabela Sówka and Waldemar Adamiak</p> <p>The effect of betaine on the removal of toluene by biofiltration</p>	<p>Łukasz Kokurewicz, Mateusz Muszyński-Huhajło, Stanisław Miodoński and Maciej Leoniak</p> <p>Critical analysis of decay rate measurement methodology</p>
<p>Wojciech Cepiński and Paweł Szałański</p> <p>Increasing the efficiency of split type air conditioners/heat pumps by using ventilating exhaust air</p>	<p>Ewelina Stefanowicz and Małgorzata Szulgowska-Zgrzywa</p> <p>Energy balancing in ground heat exchanger for heat pump systems – a case study with simulations</p>

Tuesday
9 April 2019

Session VI (poster session)

Hall 03

Chair:



PhD Piotr Jadwiszczak

PhD Jakub Jurasz

10:00–11:30

<p>Joanna Gwoździej-Mazur and Kamil Świętochowski</p> <p>Failure frequency of water supply networks in the Podlaskie voivodeship</p>	<p>Elżbieta Romanik, Yaroslav Bezyk, Marcin Pawnuk, Urszula Miller and Agnieszka Grzelka</p> <p>Influence of the variability of the odour emission rate on its impact range: a case study of the selected industrial source</p>
<p>Jakub Jurasz, Pietro E. Campana, Hailong Li, Jinyue Yan and Wandong Zheng</p> <p>Cost optimal weekly dispatch of heat pump/electric boiler/thermal storage in residential building</p>	<p>Agnieszka Zajac</p> <p>The use of slotted - displacement ceiling diffuser in rooms with stationary workplaces with computer equipment</p>
<p>Izabela Koniuszewska, Ewa Korzeniewska, Monika Harnisz, adn Małgorzata Czatzkowska</p> <p>Occurrence of antibiotic resistance genes during biogas production from manure</p>	<p>Joanna Wyczarska-Kokot, Anna Lempart and Marta Marciniak</p> <p>Research and evaluation of the water quality in the outdoor swimming pools</p>
<p>Magdalena Jurasz and Jerzy Mikulik</p> <p>Energy self-consumption from PV systems: estimations for two office buildings in Krakow (Poland)</p>	<p>Kamil Banaszekiewicz and Marek Badura</p> <p>Experimental investigation on the application of recycled tires polymer fibers as a BTEX removal material</p>
<p>Adam Ujma and Nina Umnyakova</p> <p>Thermal Efficiency of the Building Envelope with the Air Layer and Reflective Coatings</p>	<p>Jerzy Merkisz, Dawid Gallas, Maciej Siedlecki, Natalia Szymlet and Barbara Sokolnicka</p> <p>Exhaust emissions of an LPG powered vehicle in real operating conditions</p>
<p>Barbara Sokolnicka, Paweł Fuć, Maciej Siedlecki, Natalia Szymlet and Tomasz Dębowski</p> <p>Impact of a particulate filter in the exhaust system of engine with direct gasoline injection on the particle mass and number emission on a dynamic engine dynamometer</p>	<p>Izabela Ryniec</p> <p>Assessment of heavy metals content in bottom sediments of the Sząbruk retention reservoir</p>
<p>Małgorzata Pośpiech and Michał Starke</p> <p>Micropropagation of <i>Veratrum lobelianum</i> – somatic embryogenesis and organogenesis</p>	

Tuesday
9 April 2019

		Session VII Hall 01 Chair: Prof. Jan Danielewicz Prof. Katarzyna Piekarska	Session VIII Hall 02 Chair: Prof. Justyna Rybak Prof. Jacek Wiśniewski
12:00–12:15			
12:15–12:30	Małgorzata Wesołowska and Marta Laska Thermomodernisation of buildings with the utilization of green walls	Maciej Ziulkiewicz, Michał Górecki, Anna Fortuniak, Aneta Walas and Rafał Grulke 24-hour nutrient mass balance of small storage reservoir included in municipal rainwater drainage system	
12:30–12:45	Andrey Rymarov Energy saving in the formation of covered courtyards	Tomasz Bagrowicz, Maciej Ziulkiewicz and Janusz Mazur The load of heavy metals leaching from grassland in central Ner River valley	
12:45–13:00	Maciej Knapik The influence of pipe diameter selection on operating costs of heating installation in the context of the anticipated increase in electricity prices	Grzegorz Dumieński, Agnieszka Mruklik, Andrzej Tiukało and Magdalena Michalik The comparative analysis of the municipalities in the Nysa Kłodzka catchment according to the features determining their adaptability to the flood hazard	
13:00–13:15	Robert Cichowicz and Artur Stelęgowski Daily variability of air pollution in locations of different population density	Aneta Łukaszek-Chmielewska, Martin Girard, Olga Stawarz, Barbara Piotrowska, Karol Wojtkowski and Krzysztof Isajenko Measurements of natural radioactivity in soil samples collected in the Kampinoski National Park	
13:15–13:30	Jakub Kajurek, Artur Rusowicz and Andrzej Grzebielec Design and simulation of a small capacity thermoacoustic refrigerator	Maria Skrętowicz and Joanna Świeściak Assessment of the impact of the traffic situation in urban area on the amount of volatile organic compounds getting into the cabin of the car on the road	
13:30–13:45	Andrzej Szczurek, Monika Maciejewska and Zaneta Zajiczek Univariate and multivariate DMS calibration for a single analyte	Witold Marańda Analysis of self-consumption of energy from grid-connected photovoltaic system for various load scenarios with short-term buffering	
13:45–14:00	Ewa Badowska and Dawid Bandzierz The analysis of petroleum hydrocarbons in soils deriving from areas of various development	Izabela Sówka, Alicja Nych, Dominik Kobus, Yaroslav Bezyk and Maciej Zathej Analysis of exposure of inhabitants of Polish cities to air pollution with particulate matters with application of statistical and geostatistical tools	

Wednesday
10 April 2019

Session IX (poster session)

Hall 03

Chair:

PhD Joanna Gwoździej-Mazur

PhD Joanna Struk-Sokołowska

10:00–11:30

<p>Kinga Ligaj, Marcin K. Widomski and Anna Musz-Pomorska</p> <p>Minor pressure losses for different connections of PP-R and PEX-Al-PEX installation pipes</p>	<p>Anna Musz-Pomorska i inni</p> <p>Modeling chlorine distribution in water supply system utilizing empirically determined chlorine decay rate</p>
<p>Anna Kwarciak-Kozłowska, Renata Włodarczyk and Katarzyna Wystalska</p> <p>Biochar compared with activated granular carbon for landfill leachate treatment</p>	<p>Krzysztof Piechurski and Małgorzata Szulgowska-Zgrzywa</p> <p>Quasi-dynamic model of the energy efficiency for an air-to-water heat pump</p>
<p>Milena Gospodarek, Piotr Rybarczyk, Anna Brillowska-Dąbrowska and Jacek Gębicki</p> <p>The use of various species of fungi in biofiltration of air contaminated with odorous volatile organic compounds</p>	<p>Aleksandra Cichoń, Anna Pacak, Demis Pandelidis and Sergey Anisimov</p> <p>Application of the counter- and cross-flow indirect evaporative cooler for heat recovery under different climate conditions</p>
<p>Edyta Słupek, Karolina Kucharska and Jacek Gębicki</p> <p>Application of matrices sensor for dark fermentation course analysis</p>	<p>Jakub Żywiec and Barbara Tchórzewska-Cieślak</p> <p>Seasonality analysis of water losses in selected collective water supply system</p>
<p>Remigiusz Jasiński</p> <p>Estimation of particles emissions from a jet engine in real flight</p>	<p>Tomasz Binkowski</p> <p>Photovoltaic inverter control using programmable logic device</p>
<p>Maciej Siedlecki, Paweł Fuć, Natalia Szymlet, Barbara Sokolnicka, Łukasz Rymaniak and Michał Dobrzyński</p> <p>Exhaust emissions from a EURO 6c compliant PC vehicle in real operating conditions</p>	<p>Nataliia Fialko, Raisa Navrodska, Malgorzata Ulewicz, Georgii Gnedash, Sergii Alioshko and Svitlana Shevcuk</p> <p>Environmental aspects of heat recovery systems of boiler plants</p>
<p>Justyna Gołębiowska and Agnieszka Żelazna</p> <p>Experimental investigation of thermoelectric cooling system with heat recovery</p>	<p>Raisa Navrodska, Nataliia Fialko, Georgii Presich, Georgii Gnedash, Sergii Alioshko and Svitlana Shevcuk</p> <p>Reducing nitrogen oxide emissions in boilers at moistening of blowing air in heat recovery systems</p>

Wednesday
10 April 2019

Session IX (poster session)

Hall 03

Chair:

PhD Joanna Gwoździej-Mazur

PhD Joanna Struk-Sokołowska

10:00–11:30	<p>Magdalena Łój-Pilch, Anita Zakrzewska and Ewa Zielewicz</p> <p>Risk assessment in municipal wastewater treatment plants</p>	<p>Marlena Wiktorska and Sławomir Szymczyk</p> <p>Role of flow-through lakes in reducing pollutants outgoing from rural areas</p>
	<p>Paweł Zajac, Szymon Haladyn and Stanisław Kwasniowski</p> <p>Concept of reducing harmful emissions by road transport vehicles in the tourist route Karpacz-Jelenia Góra</p>	<p>Anna Lis and Nadiia Spodyniuk</p> <p>The quality of the microclimate in educational buildings subjected to thermal modernization</p>
	<p>Izabela Zimoch and Ewelina Bartkiewicz</p> <p>Risk analysis associated with secondary water pollution in selected agglomerations of the Silesian Voivodship</p>	<p>Dmitriy Titkov</p> <p>The Model of energy efficiency transportation of thermal and electric energy in the underground heat collector</p>
	<p>Artur Bieniek, Łukasz Mika and Jan Kuchmacz</p> <p>Analysis of operating conditions of a cooling installation with carbon dioxide</p>	<p>Michał Rejdak, Agata Czardybon, Karina Ignasiak and Jolanta Robak</p> <p>Utilization of waste forest biomass: pelletization studies of torrefied sawmill wood chips</p>
	<p>Jaruwan Chutrtong and Kunyanuth Kularbphettong</p> <p>Study on optimal conditions of lemongrass extraction</p>	<p>Piotr Lijewski, Natalia Szymlet, Łukasz Rymaniak, Barbara Sokolnicka and Andrzej Domowicz</p> <p>The impact of operating conditions on exhaust emissions for a two-wheeled urban vehicle</p>
	<p>Jacek Pielecha, Karolina Kurtyka and Kinga Skobiej</p> <p>Optimization of exhaust emissions for Euro 6 category vehicles with gasoline engines in RDE tests</p>	<p>Edyta Słupek, Karolina Kucharska and Jacek Gębicki</p> <p>Application of matrices sensor for dark fermentation course analysis</p>

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Wednesday 10 April 2019</p>	<p style="text-align: center;">Session X Hall 01</p> <p style="text-align: center;">Chair: PhD Jacek Dziubek PhD Jakub Jurasz</p>	<p style="text-align: center;">Session XI Hall 02</p> <p style="text-align: center;">Chair: PhD Stanisław Miodoński PhD Joanna Struk-Sokołowska</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">12:00–12:15</p>	<p>Magdalena Wołowicz, Alina Pruss, Małgorzata Komorowska-Kaufman, Iwona Lasocka-Gomuła, Grzegorz Rzepa and Tomasz Bajda</p> <p>The properties of sludge formed as a result of coagulation of backwash water from filters removing iron and manganese from groundwater</p>	<p>Magdalena Wróbel, Agnieszka Stojanowska, Martyna Nosarzewska, Radosław Rutkowski and Justyna Rybak</p> <p>The impact of chemical contaminants on biocenosis (ecotoxicological studies)</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">12:15–12:30</p>	<p>Csongor Báthory, Márton L. Kiss, Attila Trohák, Zsolt Dobó and Árpád Bence Palotás</p> <p>Preliminary research for low-cost particulate matter sensor network</p>	<p>Grzegorz Ligus, Daniel Zając and Jatinkumar Panchal</p> <p>Effect on louver dampers configuration on gas maldistribution in a heat exchanger for waste heat recovery</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">12:30–12:45</p>	<p>Agata Łopuszyńska and Małgorzata Bartyna-Zielińska</p> <p>Lighting of urban green areas – the case of Grabiszyn Park in Wrocław. Searching for the balance between light and darkness through social and technical issues.</p>	<p>Dawid Skrzypczak, Katarzyna Mikula and Anna Witek-Krowiak</p> <p>Hydrogel capsules with alfalfa as micronutrients carrier</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">12:45–13:00</p>	<p>Marek Badura, Piotr Batog, Anetta Drzeniecka-Osiadacz and Piotr Modzel</p> <p>Regression methods in the calibration of low-cost sensors for ambient particulate matter measurements</p>	<p>Natalia Ćwilichowska, Joanna Kuźma, Anna Jurga, Paweł Piszko and Thien Nguyen</p> <p>Feasibility study of the remote Mars Colony concept utilising today's technology</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">13:00–13:15</p>	<p>Marta Wiśniewska, Andrzej Kulig and Krystyna Lelicińska-Serafin</p> <p>Comparative analysis of preliminary identification and characteristic of odour sources in biogas plants processing municipal waste in Poland</p>	<p>Artur Rusowicz, Jakub Kajurek and Kuat Baubekov</p> <p>Analysis of flow resistance in bundles of power plant condensers</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">13:15–13:30</p>	<p>Tomasz Orliński and Anna M. Anielak</p> <p>Fulvic acids generated in municipal waste landfills in Promnik</p>	<p>Bartosz Szulczyński and Jacek Gębicki</p> <p>Electronic nose - an instrument for odour nuisances monitoring</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">13:30–13:45</p>	<p>Aneta Łukaszek-Chmielewska, Martin Girard, Barbara Piotrowska, Karol Wojtkowski, Krzysztof Isajenko, Olga Stawarz and Robert Godlewski</p> <p>Radioactivity of waste materials coming from the largest power plants in Poland</p>	<p>Renata Gmurkowska</p> <p>Characteristics of water sludge from Cracow Water Treatment Plants – case study</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">13:45–14:00</p>	<p>Michał Starke, Małgorzata Pośpiech, Marta Peplińska, and Zuzanna Nowacka</p> <p>Application of biotechnological methods in ex-situ conservation of endangered fern <i>Dryopteris cristata</i></p>	<p>Marcin Wdowikowski, Ondrej Ledvinka and Bartosz Kaźmierczak</p> <p>Attempts to establish a regional probabilistic model of intensive rainfall for the upper and middle Odra river basin</p>

Conference Programme:

Monday 8 April 2019

08⁰⁰–09³⁰ Breakfast
10⁰⁰–11⁴⁵ Session I
11⁴⁵–12⁰⁰ Coffee break
12⁰⁰–13⁴⁵ Sessions II
14⁰⁰–15⁰⁰ Lunch
15¹⁵–17⁰⁰ Sessions III and IV
17⁰⁰–17³⁰ Coffee break
17³⁰–19⁰⁰ Session V (poster session)
20⁰⁰–02⁰⁰ Gala dinner

Tuesday 9 April 2019

08⁰⁰–09³⁰ Breakfast
10⁰⁰–11³⁰ Session VI (poster session)
11³⁰–12⁰⁰ Coffee break
12⁰⁰–14⁰⁰ Sessions VII and VIII
14⁰⁰–15⁰⁰ Lunch
15⁰⁰–20⁰⁰ Free time, workshops
20⁰⁰–02⁰⁰ Integration dinner

Wednesday 10 April 2019

08⁰⁰–09³⁰ Breakfast
10⁰⁰–11³⁰ Session IX (poster session)
11³⁰–12⁰⁰ Coffee break
12⁰⁰–14⁰⁰ Sessions X and XI
14⁰⁰–14¹⁰ Closing ceremony
14¹⁰–15⁰⁰ Lunch

Organizers:



Politechnika
Wrocławska

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