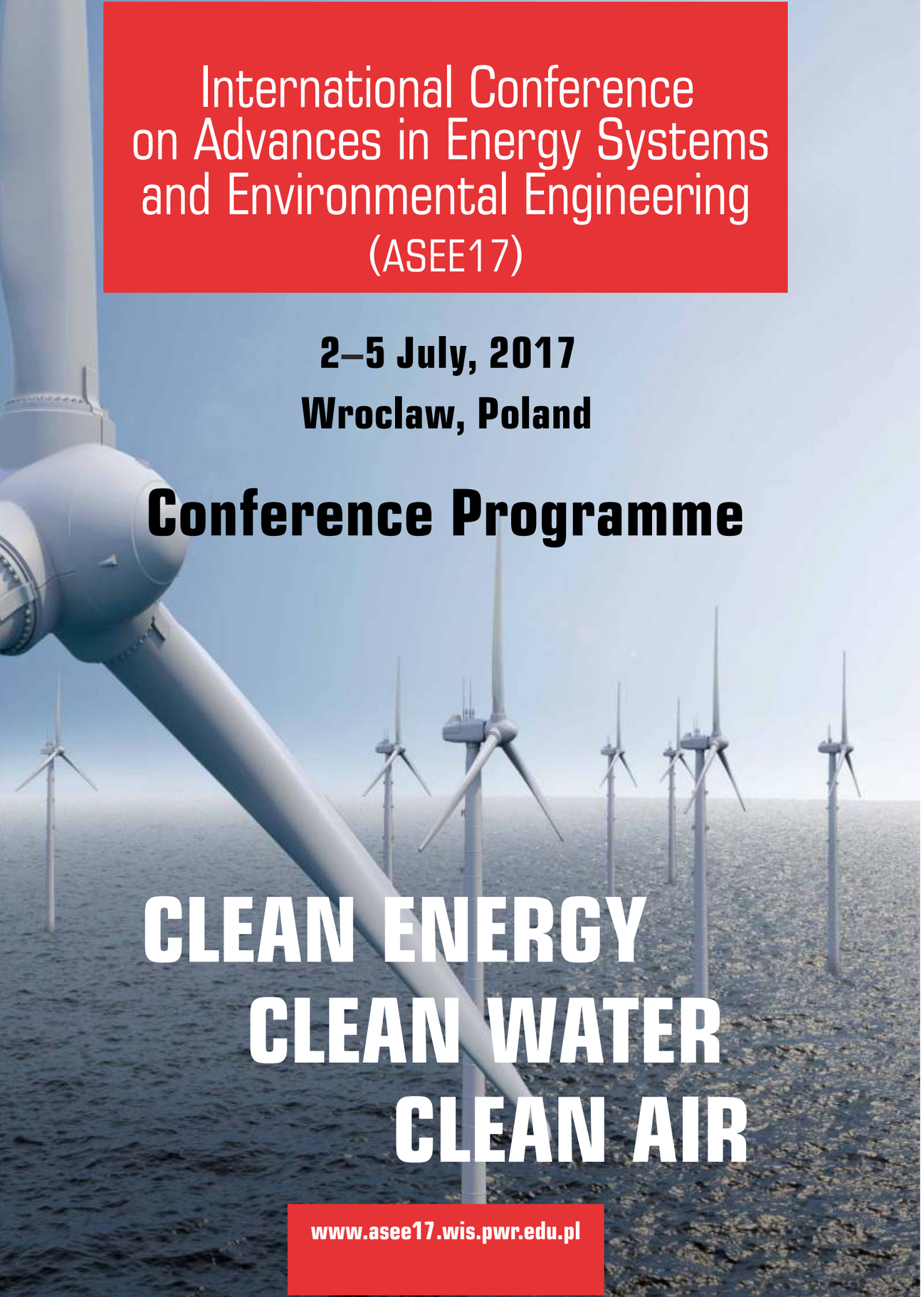
International Conference on Advances in Energy Systems and Environmental Engineering (ASEE17)

2–5 July, 2017

Wroclaw, Poland

Conference Programme



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Sunday 2 July 2017

15:00–18:00 Welcome reception, registration (building H-14, 40 Wybrzeze Wyspianskiego Street)

Monday 3 July 2017

08:30–15:30 Registration (Congress Centre – building D-20, 8 Janiszewskiego Street)

10:00–10:30 Opening ceremony of ASEE17 – Greeting guests, speeches (building D-20, hall 10AC)

Prof. Katarzyna Piekarska – Dean of Faculty of Environmental Engineering
Prof. Cezary Madryas – Rector of Wrocław University of Science and Technology
Prof. Jan Danielewicz, Prof. Hussam Jouhara, Prof. M. Shafik El-Genk – Organizing Committee

10:30–11:05 Lecture/keynote: *Small Modular reactors: Potential, Challenges and Opportunities*, by **Prof. M.S. El-Genk**, Director of the Institute for Space and Nuclear Power Studies at the University of New Mexico (USA)
Chair: Prof. Hussam Jouhara (UK), Prof. Jan Danielewicz (Poland)

10:05–11:40 Lecture/keynote: *Nuclear energy in Poland - perspectives*, by **Prof. Grzegorz Wrochna**, National Centre for Nuclear Research (Poland)
Chair: Prof. Hussam Jouhara (UK), Prof. Jan Danielewicz (Poland)

11:40–12:00 Coffee break

12:00–12:30 Discussion panel: *Perspectives and conditions of Poland's Energy supply using Small Modular Reactors?*
Chair: Prof. Grzegorz Wrochna (Poland), Prof. Jan Danielewicz (Poland), Prof. Hussam Jouhara (UK)

12:30–13:00 Presentation of platinum sponsors

Robert Stankiewicz, Country Manager Dow Poland
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13:00–14.40 Lunch (The Student Cultural Zone – building C-18, 10 Hoene-Wronskiego Street)

14:40–15:10 Lecture/keynote: *Home Energy Recovery Unit (HERU)*, by **Prof. Hussam Jouhara** (UK)
Chair: Prof. Mohamed Shafik El-Genk (USA), Prof. Jan Danielewicz (Poland)

15:10–15:30 Coffee break

Wrocław University of Science and Technology, C-13 building

15:30–17:00 Scheduled sessions:

	Session 1 (hall 10AC) ENERGY & BUILDING ENVIRONMENT I Chair: Prof. Andrzej Szczurek (Poland), Prof. Janusz Wojtkowiak (Poland)	Session 2 (hall 10B) WASTE WATER TREATMENT I Chair: Prof. Katarzyna Majewska-Nowak (Poland), Prof. Maria Włodarczyk-Makuła (Poland)	Session 3 (hall 10D) RENEWABLE ENERGY SOURCES TECHNOLOGY I Chair: Prof. Jurgita Malinauskaite (UK), Prof. Abdul-Ghani Olabi (UK)
15:30–15:45	*Study on water evaporation rate from indoor swimming pools* I. Rzeźnik	*The use of mathematical models for diagnosis of activated sludge systems in WWTP* J. Drewnowski and M. Zmarzły	*Using a coupled inductor controlled by fuzzy logic to improve the efficiency of a Buck converter in a PV system* N. Abouchabana, M. Haddadi, A. Rabh and A. El Hajjaji
15:45–16:00	*Energy demand and thermal comfort of HVAC systems with thermally activated building systems as a function of user profile* K. Pałaszyńska, K. Bandurski and M. Porowski	*Comprehensive study for Anammox process via multistage anaerobic baffled reactors* S. Ismail and A. Tawfik	*Energy efficiency of a solar domestic hot water system* M. Żukowski
16:00–16:15	*Profile of occupants activity impact on indoor air* A. Szczurek, M. Maciejewska and A. Dolega	*Scientific approach and practical experience for reconstruction of waste water treatment plants in Russia* N. Makisha and E. Gogina	*EU energy policies achievement by industries in decentralized areas* N. Destro, A. Stoppato, A. Benato and F. Schiro
16:15–16:30	*Influence of PCMs on thermal behavior of building walls: Experimental study using the walls of a reduced scale room* A. Gounni, M. T. Mabrouk, A. Kheiri and M. El alami	*Hydraulic optimization and modeling of hydro-cyclone-systems for treatment and purification of any kind of waters* L. Spangemacher, S. Fröhlich and H. Buse	*Comparing energy payback and simple payback period for solar photovoltaic systems* W. Kessler
16:30–16:45	*Detection of comfortable temperature based on thermal events detection indoors* A. Szczurek, M. Maciejewska and M. Uchroński	*Intensification of anaerobic digestion efficiency with use of mechanical excess sludge disintegration in the context of increased energy production in wastewater treatment plants* M. Żubrowska-Sudoł, J. Podedworna, A. Bisak, K. Sytek-Szmeichel, P. Krawczyk and A. Garlicka	*The importance of monitoring renewable energy plants: three case histories* R. Lazzarin
16:45–17:00	*The influence of multifamily apartment building occupants on energy and water consumption – the preliminary results of monitoring and survey campaign* K. Bandurski, M. Hamerla, J. Szulc and H. Koczyk	*Modern proposal of methodology for retrieval of characteristic synthetic rainfall hyetographs* P. Licznar, E. Burszta-Adamiak, J. Łomotowski and J. Stańczyk	*Thermal performance in subsurface shallow depth soil layer as a potential heat source for ground heat pumps in Poland* K. Bryś, T. Bryś, M. A. Sayegh, H. Ojrzyńska, J. Danielewicz, T. Nannou, B. Axcell and H. Jouhara

	Session 4 (hall 113) TECHNOLOGIES FOR ENVIRONMENT I Chair: Prof. Włodzimierz Szczepaniak (Poland), Dr. Patryk Wójtowicz (Poland)	POSTER SESSION I (hall 114) ENERGY ENVIRONMENT & BUILDINGS Chair: Prof. Marderos Ara Sayegh (Poland), Dr. Fouad Al-Mansour (Slovenia)
15:30–15:45	*A novel vortex tube-based N2-expander liquefaction process for enhancing the energy efficiency of natural gas liquefaction* M. A. Qyyum, F. Weia, A. Hussain, W. Ali, O. Sehee and M. Lee	1. *Use of CFD modelling for analysing air parameters in auditorium halls*, R. Cichowicz 2. *Mixed convection in a three-dimensional ventilated cavity with two isothermal heating Sections*, H. Doghmi, B. Abourida, L. Belarche, M. SA.d and M. Ouzaouit 3. *CO_2 concentration and occupancy density in the critical zones served by the VAV system*, *G. Etoua Evina*, S. Kajl, L. Lamarche and J. Beltran-Galindo 4. *Pollution of Soils (Pb, Cd, Cr, Zn, Cu, Ni) Along The Ring Road of Wrocław (Poland)*, A. Hołtra and D. Zamorska-Wojdyła 5. *The emission and combustion characteristics of marine diesel engine with extreme throttled of air or exhaust ducts*, J. Kowalski 6. *Geostatistical methods in the assessment of the spatial variability of the quality of river water*, M. Krasowska and P. Banaszuk 7. *The impact of the hot tap water load pattern in the industrial hall on the energy yield from solar collectors*, N. Fidorów-Kaprawy and E. Dudkiewicz 8. *Influence of environmental pollution with creo-sote oil or its vapors on biomass and selected physiological groups of microorganisms*, T. Krzyśko-Łupicka, K. Cybulska, P. Kołosowski, A. Telesiński and A. Sudoł 9. *Research of CO_2 concentration in naturally ventilated lecture room*, M. Laska and E. Dudkiewicz 10. *Batch orographic interpolation of monthly precipitation based on free-of-charge geostatistical tools*, O. Ledvinka 11. *The mathematical model of rainwater catchment in Wroclaw*, M. Nowakowska 12. *Organic and elemental carbon bound to particulate matter in the air of printing office and beauty salon*, P. Rogula-Kopiec, J. S. Pastuszka, W. Rogula-Kozłowska and W. Mucha 13. *The use of lichens in post-smelting dumps reclamation – preliminary results of experimental cultivation of selected species on slag substrate*, K. Rola and P. Osyczka 14. *The application of spiders and their webs in studies of metal pollution*, J. Rybak, B. Hanus-Lorenz, W. Rogula- Kozłowska, K. Loska, K. Widziewicz and R. Rutkowski 15. *Time series analysis and modelling of SO_2 concentration in the atmospheric air - the case study of Krakow*, Z. Skrobacki and L. E. Dąbek 16. *Evaluation of the correlation between concentration of volatile organic compounds and temperature of the exhaust gases in motor vehicles*, M. Skrętowicz, R. Wróbel and M. Andrych-Zalewska 17. *Analysis of application of alternative drive systems for international heavy-duty transport on Wroclaw-Dresden-Prague routes*, M. Skrętowicz and Z. Sroka 18. *Laboratory tests of overpressure differential systems for smoke protection of lobbies*, P. Szałański and J. Misiński 19. *Characteristics of selected elements of the air quality management system in urban areas in Poland*, I. Sówka, D. Kobus, A. Chlebowska-Styś and M. Zathey 20. *Selected heavy metals speciation in chemically stabilised sewage sludge*, E. Wiśniowska and M. Włodarczyk-Makuła
15:45–16:00	*Hybrid capacitive deionization with anion-exchange membranes for lithium extraction* A. Siekierka and M. Bryjak	
16:00–16:15	*Prospects for the use of SMR and IGCC technologies for power generation in Poland* A. Wyrwa and W. Suwała	
16:15–16:30	*Energy production for environmental issues in Turkey* I. Yuksel, H. Arman and I. H. Demirel	
16:30–16:45	*The role of energy systems on hydropower in Turkey* I. Yuksel, H. Arman, and I. H. Demirel	
16:45–17:00	*Solar energy usage in drying technologies of medicinal and spice plants* A. Čiplienė, E. Zvicevičius and A. Raila	

21:00–24:00 Boat trip on the river Oder: Wroclaw by Night (Przystan Hala Targowa - Bulwar X. Dunikowskiego Street)

Tuesday 4 July 2017

09:30–10:15 Lecture /keynote: *The EU Globaqua Project on Multiple Stressors in Rivers under Water Scarcity and Global Change. A Reconnaissance Study of Emerging Contaminants*, by **Prof. Damia Barcelo Culleres** (Spain)
Chair: Prof. Ewa Korzeniewska (Poland), Prof. Katarzyna Piekarska (Poland)

10:15–10:30 Coffee break

10:30–12:00 Scheduled sessions:

	Session 5 (hall 10AC) **ENERGY & BUILDING ENVIRONMENT II** Chair: Prof. Andrzej Szczurek (Poland), Dr. Andrzej Bugaj (Poland)	Session 6 (hall 10B) **EMISSION & OUTDOOR AIR I** Chair: Prof. Izabela Sówka (Poland), Prof. Renata Krzyżyńska (Poland)	Session 7 (hall 10D) **ECO EFFICIENT HEATING IN PROCESS INDUSTRIES I: Furnaces industrial processes and use of waste heat** Chair: Dr. Irina Celades (Spain)
10:30–10:45	*Estimation of the temperature spatial variability in confined spaces based on thermal imaging* G. Augustyn, J. Jurasz, K. Jurczyk, T. Korbiel, J. Mikulik, M. Pawlik and R. Rumin	*An Integrated Low Carbon Energy Solution to Cooking Fuel, Tailored to Niger State's Rural Population* A. Carvell, A. Price-Allison, C. Birch, T. Green, K. HariJ., S. Maihankuri, A. Raji, M. Uqaili and V. Dupont	*Introduction to the symposium and presentation to the DREAM project* E. Callegati
10:45–11:00	*Measurement of acetates in air using differential ion mobility spectrometer* A. Szczurek, M. Maciejewska, Ż. Zajiczek and M. Maziejuk	*Atmospheric CO_2 capture for the artificial photosynthetic system* A. Nogalska, A. Zukowska and R. Garcia-Valls	*CFD analysis of a full-scale ceramic kiln module under actual operating conditions* M. Milani, L. Montorsi, M. Stefani and M. Venturelli
11:00–11:15	*Large multi-zone building airtightness measurement* R. Górzeński, M. Szymański and A. Górka	*Environmental impact assessment of coal power plants in operation* A. Bartan, S. Kucukali and I. Ar	*Energy and environmental evaluation of combined cooling heating and power system* A. Bugaj
11:15–11:30	*The smart coating for improving indoor air quality* H. Oberlin	*Environmental aspects and renewable energy sources in the production of construction aggregate* I. Skrzypczak, W. Kokoszka, L. Buda-Ożóg, J. Kogut and M. Słowik	*Gas fired boilers: Perspective for near future fuel composition and impact on burner design process* F. Schiro, A. Stoppato and A. Benato
11:30–11:45	*Intake power measurement as a criterion for control of HVAC systems* J. J. Walaszczyk, A. Przydróżna and E. Przydróżny	*Variability of road traffic noise recorded by stationary monitoring stations* A. Bąkowski and L. Radziszewski	*Cycle analysis of multistage MCFC/Gas hybrid turbine system* A. Musa, A. Alaktiwi and M. Talbi
11:45–12:00	*Air temperature gradient in large industrial hall* M. Karpuk, A. Pełech, E. Przydróżny, J. Walaszczyk, S. Szczęśniak	*Assessment of the AERMOD dispersion model over complex terrain with different types of meteorological data: Tracy Power Plant experiment* M. Rzeszutek, A. Szulecka, R. Oleniacz and M. Bogacki	*Dynamic thermal properties of surface heating and cooling systems* A. Górka, H. Koczyk and F. Pawlak

	Session 8 (hall 113) **COOLING TECHNOLOGIES I** Chair: Prof. Valeriy Maisotsenko (Hong Kong), Dr. Demis Pandelidis (Poland)	POSTER SESSION II (hall 114) **RENEWABLE & THERMAL ENGINEERING TECHNOLOGIES** Chair: Prof. Marderos Ara Sayegh (Poland), Prof. Artur J. Jaworski (UK)	
10:30–10:45	*Numerical modelling of series-parallel cooling systems in power plant* P. Regucki, M. Lewkowic and M. Kucięba	21. *Industrial applications of the air direct-contact, gravel, ground heat exchanger*, W. Cepiński and M. Besler 22. *Boiling heat transfer augmentation on enhanced surfaces*, L. Dąbek and Ł. J. Orman 23. *Experimental study of air evaporative cooling process using microporous membranes*, S. Englart 24. *The analysis of the differences between the results of the thermal response test and the data from the operation of the brine-to-water heat pump's vertical exchanger*, N. Fidorów-Kaprawy, E. Stefanowicz, W. Mazurek, M. Szulgowska-Zgrzywa and A. Bryszewska-Mazurek 25. *Modification of rhodamine WT tracer tests procedure in activated sludge reactors*, M. Knap and P. Balbierz 26. *Influence of the single EGR valve usability on development of the charge directed to individual cylinders of an internal combustion engine*, K. Krakowian, A. Kaźmierczak, A. Górniak and R. Wróbel 27. *On the multicycle activity of natural limestone and dolomite for thermochemical energy storage of concentrated solar power*, B. Sarrion Aceytuno 28. *The energy source for heat pumps with vertical heat exchangers*, P. Rynkowski 29. *Selection of turbulence models in case of numerical simulation of heat-, air- and mass exchange processes*, V. Aver`yanov 30. *Energy saving by using natural energy from the shallow ground depths – many years operating results*, M. Besler, M. Skrzycki and W. Cepiński 31. Evaluating the financial efficiency of energy and water saving installations in passive house, A. Stec, A. Mazur and D. Słyś	32. *Complex assessment of quick rotation plants used as solid biofuels potential*, Ž. Černiauskiene, E. Zvicevičius, V. Tilvikiene and Z. J.kauskiene 33. *Bioarchitecture – a new vision of energy sustainable cities*, A. Krzemińska, A. Zaręba and A. Dzikowska 34. *Computational and experimental efficiency analysis of photovoltaic systems with different module technologies under Polish climate conditions*, S. Gulkowski, A. Zdyb and P. Dragan 35. *The quaternary groundwater as the low temperature energy source for heat pumps in Małopolska Province*, E. Kmiecik, B. Tomaszewska and J. Mazurkiewicz 36. *Concept of effective potential assessment as an actual hydropower possibilities in Upper Vistula water region*, A. Operacz, K. Chmielowski and B. Szeląg 37. *Investigation of the biofuel flue and producer gases cleaning efficiency using ESP*, R. Poškas, A. Sirvydas, P. Poškas, N.Striugas, N. Pedišius and V. Valinčius 38. *Design of a graphic interface for calculation of astronomical parameters for the use of solar systems*, I. Rougab and A. Cheknane 39. *Possibility of the modelling of electricity production from hydropower*, B. Szeląg and A. Operacz 40. *Innovative bio-preparates use for reduction of tillage machines fuel, energy consumption and greenhouse gas emission*, V. Naujokiene, E. Šarauskis, K. Vaitauskiene, K. Romaneckas, A. Adamavičiene, S. Buragiene and J. Sasnauskiene 41. *SOFC development in Kazakhstan*, K. Kuterbekov, K. Bekmyrza, A. Nikonov, S. Paranine, V. Hrustov, A. Lipilin, N. Pavzderin and T. Baitassov 42. *Searching of optimum modes of fuel cells based on Nafion and MF-4SK polymer membranes*, A. Nogay, K. Kuterbekov, T. Nurakhmetov, K. Bekmyrza and T. Baitassov
10:45–11:00	*A simplified model of a mechanical cooling tower with both a fill pack and a coil* F. Van Riet, G. Steenackers and I. Verhaert		
11:00–11:15	*Effect of operating conditions on performance of silica gel –water air-fluidised desiccant cooler* Z. Rogala, P. Kolasiński and Z. Gnutek		
11:15–11:30	*Thermoacoustic refrigerator driven by a combustion-powered thermoacoustic engine for rural communities* P. Saechan, A. J. Jaworski, M. S. Abbo, O. Masera-Cerutti and I. Dhuchakallaya		
11:30–11:45	*Absorption cooling sources atmospheric emissions decrease by implementation of simple algorithm for limiting temperature of cooling water* K. Wojdyga and M. Malicki		
11:45–12:00	*A review of photovoltaic cells cooling techniques* S. A. Zubeer, H. A. Mohammed and M. Ilkan		

12:00–12:15 Coffee break

12:15–13:45 Scheduled sessions:

	Session 9 (hall 10AC) **EMISSION & OUTDOOR AIR II** Chair: Prof. Andrzej Szczurek (Poland), Prof. Monika Maciejewska (Poland)	Session 10 (hall 10B) **WASTE WATER TREATMENT II and WATER SUPPLY** Chair: Prof. Damia Barcelo Culleres (Spain), Prof. Siegmund Fröhlich (Germany)	Session 11 (hall 10D) **ECO EFFICIENT HEATING IN PROCESS INDUSTRIES II: Monitoring and efficiency** Chair: Prof. Jeremy Miller (UK)
12:15–12:30	*Effects of climate factors and vegetation on the CO_2 fluxes and δ13C from re-established grassland* Y. Bezyk, M. Dorodnikov and I. Sówka	*Urban stormwater-greywater management system for sustainable urban water management at sub-watershed level* A. S. Arora	*Boiling heat transfer augmentation on enhanced surfaces* L. Dąbek and Ł. J. Orman
12:30–12:45	*Sustainable technology to support improving Outdoor Air* A. van Looveren	*Carbon and energy footprint of electrochemical vinegar wastewater treatment* E. E. Gerek, S. Yılmaz and A. S. Koparal and Ö. N. Gerek	*Development and analysis of a packaged Trilateral Flash Cycle system for low grade heat to power conversion applications* G. Bianchi, R. McGinty, D. Oliver, O. Zaher, S. A. Tassou, J. Miller and H. Jouhara
12:45–13:00	*Determining residential energy consumption-based CO_2 emissions and examining the factors affecting the variation in Ankara, Turkey* M. Kus, P. Akan, M. Aydinalp Koksal and G. Gullu	*Towards energy neutrality of wastewater treatment plants via deammonification process* K. Janiak, A. Łojek and M. Muszyński-Huhajło	*Comparison of power curve monitoring methods* P. Cambron, Ch. Masson, A. Tahan, D. Torres and F. Pelletier
13:00–13:15	*Synthesis of mesoporous cerium compound for CO_2 capture* G. Liu, K. Tatsuda, Y. Yoneyama and N. Tsubaki	*Chemical treatment of wastewater from flue gas desulphurisation* I. Pasiecznik and W. Szczepaniak	*Influence of nanofluids on the efficiency of Flat-Plate Solar Collectors (FPSC)* M. B. Nejad, H. A. Mohammed, O. Sadeghi and S. A. Zubeer
13:15–13:30	*Acid emissions monitoring needs in ceramic tile industry: challenges derived from new policy trends* I. Celades, S. Gomar, F. Romero, A. Chauhan, B. Delpech and H. Jouhara	*Closing of water circuits – a global benchmark on sustainable water management* S. Fröhlich	*Cycle analysis of MCFC/Gas turbine system* A. Musa, A. Alaktiwi and M. Talbi
13:30–13:45	*Steam co-gasification of coal-petcoke/ olive pomace blend: thermogravimetric-mass spectrometric analysis* M. Puig Gamero	*Application of regression tress for prediction of water conduits failure rate* M. Kutyłowska	

	Session 12 (hall 113) **TECHNOLOGIES FOR ENVIRONMENT II** Chair: Prof. Mirosław Żukowski (Poland), Prof. Jurgita Malinauskaite (UK)	POSTER SESSION III (hall 114) **ENVIRONMENTAL BIOLOGY & WASTE TREATMENT** Chair: Dr. Fouad Al-Mansour (Slovenia), Prof. Monika Harnisz (Poland)	
12:15–12:30	*Performance evaluation of different micro-CHP configurations in real life conditions and the influence of part load behavior* I. Verhaert, F. Van Riet, R. Baetens, M. De Pauw and M. Van Erdeweghe	43. *The use of moving bed bio-reactor to laundry wastewater treatment*, S. Bering, J. Mazur, K. Tarnowski, M. Janus, S. Mozia and A. W. Morawski 44. *Phytotoxicity of quaternary ammonium salts with hexafluorophosphate anion*, R. Biczak, A. Telesiński and B. Pawłowska 45. *Organic matter and heavy metals content modeling in sewage sludge treated with reed bed system*, D. Boruszko, W. Dąbrowski and P. Malinowski 46. *Energy consumption modeling during dairy sewage pretreatment*, W. Dąbrowski, R. Żyłka, P. Malinowski and D. Boruszko 47. *Microbiological stimulation of phytoremediation process using Salvinia natans to mercury contamined water*, V. Filyarovskaya, M. Sitarska, T. Traczewska and M. Wolf 48. *Performance and diversity of PAO and dPAO communities in the Miedzybórz and Niemcza Wastewater Treatment Plants*, E. M. Galas and K. Piekarska 49. *Pretreatment methods as a means of boosting methane production from sewage sludge and its mixtures with grease trap sludge*, A. Grosser and E. Neczaj 50. *Incineration, pyrolysis and gasification of electronic waste*, A. Gurgul, W. Szczepaniak and M. Zabłocka-Malicka 51. *Monitoring of water supply connections as an element to reduce apparent losses of water?* J. Gwoździej-Mazur 52. I*nfluence of the catchment management on the magnitude of the total solids load conveyed by the stormwater sewer system – case study*, J. Górski, K. Górska, Ł. Bąk and B. Szeląg 53. *The slag original from the process of sewage sludge incineration selected properties characteristic*, A. Głowacka, T. Rucińska and J. Kiper	54. *Energy crops cultivated on the slag from incineration of the sewage sludge energy value assessment*, A. Głowacka, K. Tarnowski, S. Bering, J. Mazur, J. Kiper and C. Wołoszyk 55. *Monitoring of drug resistance amplification and attenuation with the use of tetracycline-resistant bacteria during wastewater treatment*, M. Harnisz, E. Korzeniewska, S. Niestępski, A. Osińska and B. Nalepa 56. *The prevalence of multidrug-resistant Aeromonas spp. in the municipal wastewater system and their dissemination into the environment*, M. Harnisz and E. Korzeniewska 57. *A mass transfer model for the adsorption of pesticide on natural waste materials*, K. Ignatowicz 58. *Anaerobic co-digestion of sewage sludge and molasses*, K. Kalemba and K. Barbusiński 59. *Analysis of profitability of using a heat recovery system from grey water discharged from the shower (case study of Poland)*, S. Kordana and D. Słyś 60. *The occurrence of heavy metals and metal-resistant bacteria in water and bottom sediments of the Straszyn reservoir (Poland)*, E. Kulbat and A. Sokołowska 61. *Transfer reservoir as a new solution for transfer of stormwater to water receivers*, R. Malmur 62. *Analysis of the energy potential of municipal solid waste for the thermal treatment technology development in Poland*, K. Midor and K. Jąderko 63. *Sediments from stormwater drainage system as sorbents of organic and inorganic pollutants*, A. Sałata and L. Dąbek 64. *Experimental determination with epr-methods of dose loads on local population in inhabited localities adjacent to the tailing pond"Koshkar-ata" (Kazakhstan)*, K. Kuterbekov, N. Sadykov, K. Zhumadilov, R. Nurgaliyeva, A. Kabyshev, E. Abseitov and A. Kurmanzhanov
12:30–12:45	*The influence of using heat storage with pcm on inlet and outlet temperatures in substation in dhs* K. Nogaj, M. Turski and R. Sekret		
12:45–13:00	*Approach to the Implementation of Linear-Assisted-Based Battery Chargers* H. Martínez-García and E. García-Vílchez		
13:00–13:15	*Investigating the water consumption for electricity generation at Turkish power plants* B. El-Khozondar and M. A. Koksal		
13:15–13:30	*Comparison of the availability of groundwater information sources in Poland with other European countries. Knowledge inventory for hydrogeology research – project KINDRA* B. Tomaszewska, M. Dendys and M. Tyszer		
13:30–13:45	*Effect of Zn substitution on the magnetic properties and magnetocaloric effects in Cd1-xZnxCr2Se4 spinel* M. Bouhbou		

13:45–15:00 Lunch (The Student Cultural Zone – building C-18, 10 Hoene-Wronskiego Street)

15:00–15:45 Lecture /keynote: *Renewable energy from waste from a legal perspective - where do we stand?*
Dr. Jurgita Malinauskaite (UK)
Chair: Prof. Hussam Jouhara (UK), prof. Jan Danielewicz (Poland)

15:45–16:00 Coffee break

16:00–17:45 Scheduled sessions:

	Session 13 (hall 10AC) **ENERGY & BUILDING ENVIRONMENT III** Chair: Prof. Andrzej Szczurek (Poland), Prof. Monika Maciejewska (Poland)	Session 14 (hall 10B) **COOLING TECHNOLOGIES II** Chair: Prof. Jeremy Miller (UK), Prof. Marderos Ara Sayegh (Poland)	Session 15 (hall 10D) **ECO EFFICIENT HEATING IN PROCESS INDUSTRIES III: Heat** Chair: Msc. Jesus M. Lopez de Ipina (Spain)
16:00–16:15	*Efficiency of heat recovery in ventilation in Wroclaw climate* M. Besler and M. Skrzycki	*Optimization of operating parameters for rotary wheel desiccant cooling systems* A. Alahmer and S. Alsaqoor	*A review on waste heat recovery from exhaust in the ceramics industry* B. Delpech
16:15–16:30	*The influence of heat recovery method on the yearly demand in dual-duct HVAC systems* E. Przydróżny, A. Przydróżna and S. Szczęśniak	*Indirect contact freeze water desalination for an ice maker machine – CFD simulation* H. Jayakody, R. Al-Dadah and S. Mahmoud	*Effects of operating variables on heat transfer coefficient and liquid nitrogen consumption of a commercial lab scale cryogenic batch freezer* T. Nannou, J. Herrmann, J. Trembley and H. Jouhara
16:30–16:45	*Optimization for energy efficiency of underground building envelope thermal performance in different climate zones of China* L. Shi, J. Liu and H. Zhang	*Stability assessment of the chemical composition of the treated mining water used to replenish the cooling circuit in Jaworzno III Power Plant – Power Plant II* M. Karpiński and E. Kmiecik	*Experimental and theoretical investigation on heat pipe shell and tube heat exchanger* S. Almahmoud
16:45–17:00	*Natural ventilation systems to enhance sustainability in buildings: a review towards zero energy buildings in schools* M. Gil-Baez, Á. Barrios-Padura and M. Molina-Huelva	*Universal device supplying heating, cooling, electrical power and hot domestic water through the Maisotsenko Cycle* A. Nam, D. C. Betts, C. Betts, R. Koo and D. Pandelidis	*The energy source for heat pumps with vertical heat exchangers* P. Rynkowski
17:00–17:15	*Analysis of the impact of simulation model simplifications on the quality of low-energy buildings simulation results* M. Klimczak, J. Bojarski, P. Ziembicki and P. Kęskiewicz	*Propositions of improvement of the cross-flow M-Cycle heat exchangers in different air-conditioning applications* D. Pandelidis, S. Anisimov, K. Rajski and E. Brychcy	*Novel model of trigeneration system generating hot, cold and desalinated water using low grade heat recovery from nuclear reactor set* R. Zwierzchowski, M. Malicki and M. Lipka
17:15–17:30	*The measures for achieving nZEB standard of retrofitted educational building for specific polish location – case study* J. Kwiatkowski, M. Mijakowski and A. Trząski	*Energetic and exergetic analysis of a novel Kalina power-cooling cycle with ejector absorption refrigeration cycle* J. Rashidi, P. Ifaei, C. Yoo and J. T. Kim	*Investigations of hot water temperature changes at the pipe outflow* J. Wojtkowiak and C. Oleśkowicz-Popiel
17:30–17:45	*Various methods of heat supply for a building which is operated periodically during the year* M. Małetka and M. Laska	*The transmission characteristics of indoor particles under different ventilation conditions* Y. Lv, H. Wang and S. Wei	*Air, water, and energy nexus analysis of a combined steam power plant and absorption heat pump* P. Ifaei, E. W. Moya Flores, J. Rashidi, J. T. Kim and C. K. Yoo

	Session 16 (hall 113) **THERMAL ENERGY & TECHNOLOGIES I** Chair: Prof. Janusz Wojtkowiak (Poland), Prof. Tomasz Mróz (Poland)	POSTER SESSION IV (hall 114) **TECHNOLOGIES AND MATERIALS FOR ENVIRONMENT** Chair: Dr. Marta Sebastian (Poland), Prof. Justyna Rybak (Poland)	
16:00–16:15	*Organic Rankine cycle - review and research directions in engine applications* A. Panesar	65. *Comparison of methods for solids retention time determination and control*, P. Balbierz and M. Knap 66. *The effect of biologically and chemically synthesized silver nanoparticles (AgNPs) on biofilm formation*, J. Chojniak, I. Biedroń, B. Mendrek and G. Płaza 67. *Power plant wastes capitalization as geopolymeric building materials*, G. Ciobanu, L. Litu and M. Harja 68. *Assessment of the possibility of using data mining methods to predict sorption isotherms of selected organic compounds on activated carbon*, L. Dąbek, B. Szeląg and A. Picheta – Oleś 69. *The influence of mechanical gear on the efficiency of small hydropower*, Z. Ferenc and A. Sambor 70. *Application of porous materials in oil substances separation from water*, A. Gołub and J. Piekutin 71. *Electrodialysis potential for fractionation of multicomponent aqueous solutions*, M. Grzegorzek and K. Majewska-Nowak 72. *Removal of oxytetracycline from aqueous solutions by hydroxyapatite as a low-cost adsorbent*, M. Harja and G. Ciobanu 73. *Single and competitive adsorption of OMPs by carbon nanotubes – mechanism and fitting models*, G. Kamińska, M. Dudziak, J. Bohdziewicz and Edyta Kudlek 74. *Removal of copper ions from aqueous solutions by means of micellar-enhanced ultrafiltration*, I. Kowalska and A. Klimonda 75. *Studies on the fuel spray macrostructure atomized with the marine fuel injector*, J. Kowalski, J. Lewińska, P. Jaworski and Ł. J. Kapusta	76. *Influence of sputtering deposition parameters on electrical and optical properties of aluminium-doped zinc oxide thin films for photovoltaic applications*, E. Krawczak, A. Zdyb, S. Gulkowski, A. Fave and E. Fourmond 77. *The influence of hydraulic conditions on coagulation process effectiveness*, A. Sambor and Z. Ferenc 78. *Experimental study of optical and electrical properties of ZnO nano composites electrodeposited on n-porous silicon substrate for photovoltaic applications*, N. Selmane, A. Cheknane, N. Gabouze, N. Maloufi and M. Aillerie 79. *The efficiency of macroporous polystyrene ion- exchange resins in natural organic matter removal from surface water*, A. Urbanowska, and M. Kabsch-Korbutowicz 80. *The application of impedance measurement to assess biofilm development on technical materials used for water supply system construction*, M. Wolf, T. Traczewska, and T. Grzebyk 81. *Mechanically enhanced electrospun nanofibers for wastewater treatment*, F. Yalcinkaya 82. I*nfluence of cross-sectional ratio of down comer to riser on the efficiency of liquid circulation in loop air lift bubble column*, T. Yamamoto, H. Kawasaki and H. Mori 83. *Enhancement of sedimentation and coagulation with static magnetic field*, M. Zieliński, M. Dębowski , A. Hajduk and P. Rusanowska 84. *Implementation of ferric hydroxide-based media for removal of toxic metalloids*, M. Szlachta and P. Wójtowicz 85. *How effective is aeration with vortex flow regulators? Pilot scale experiments*, P. Wójtowicz and M. Szlachta 86. *Electron thermal EMF for NaxCu2-xS*, K. Kuterbekov, M. Balapanov, R. Ishembetov, M. Kubenova, T. Baitasov, A. Kabyshev, A. Azhibekov, K. Bekmyrza and T. Alibay
16:15–16:30	*Numerical modelling of multi-vane expander operating conditions in ORC system* J. Rak, P. Błasiak and P. Kolasiński		
16:30–16:45	*Storage material selection for an innovative pumped thermal electricity storage system* *A. Benato and A. Stoppato*		
16:45–17:00	*Analysis of freeze protection methods for recuperators used in energy recovery from exhaust air* A. Pacak, A. Jedlikowski, D. Pandelidis and S. Anisimov		
17:00–17:15	*Improving the energy efficiency of a paint and cataphoresis facility with an organic rankine cycle module* A. Benato, A. Stoppato, F. Schiro and N. Destro		
17:15–17:30	*Thermodynamic analysis of a combined-cycle solar thermal power plant with manganese oxide-based thermochemical energy storage* Q. Lei, R. Bader, P. Kreider, K. Lovegrove and W. Lipiński		
17:30–17:45	*Experimental study on the heat transfer characteristics of waste printed circuit boards pyrolysis* H. Ma, N. Du, C. Li, S. Yu and Z. Zhang		

18:15–19:00 - Departure of all participants to the banquet (next to building A-1, 27 Wybrzeze Wyspianskiego Street)

19:00–23:00 - Festive Banquet in Business Club located at Wroclaw Stadium (1 aleja Slaska Street)

Wednesday 5 July 2017

09:00–09:45 Lecture /keynote: *Pragmatic energy solutions in a commercial world,* by **Prof. Jeremy P. Miller FIET** (UK)
Chair: Prof. Hussam Jouhara (UK), prof. Jan Danielewicz (Poland)

09:45–10:00 Coffee break

10:00–11:30 Scheduled sessions:

	Session 17 (hall 10AC) **ENVIRONMENTAL BIOLOGY** Chair: Prof. Ewa Korzeniewska (Poland), Prof. Justyna Rybak (Poland)	Session 18 (hall 10B) **THERMAL ENERGY AND TECHNOLOGIES II** Chair: Prof. Stanisław Kajl (Canada), Prof. Christian Masson (Canada)	Session 19 (hall 10D) **RENEWABLE ENERGY SOURCES TECHNOLOGY II** Chair: Prof. Marderos Ara Sayegh (Poland), Prof. Mohamed Shafik El-Genk (USA)
10:00–10:15	*Cytotoxicity and genotoxicity properties of particulate matter fraction 2.5 μm* M. K. Bełcik, A. Trusz-Zdybek, E. Zaczyńska, A. Czarny and K. Piekarska	*Experimental and theoretical investigation on a flat heat pipe heat exchanger for waste heat recovery in steel industry* S. Almahmoud, G. Bianchi, S. A. Tassou, R. Llera, F. Lago, J. J. Arribas Ramirez and H. Jouhara	*Sizing procedures for sun-tracking PV system with batteries* Ö. N. Gerek, Ü. B. Filik and T. Filik
10:15–10:30	*The effectiveness of the biodegradation of raw and processed polystyrene by mealworms* K. Leluk, B. Hanus-Lorenz, J. Rybak and M. Bożek	*Modeling the defrost process in complex geometries – Part 1: Development of a one-dimensional defrost model* S. van Buren, E. Hertle, P. Figueiredo, R. Kneer and W. Rohlfs	*Renewable energy from waste from a legal perspective: where do we stand?* J. Malinauskaite and H. Jouhara
10:30–10:45	*Production of bio-fertilizer from microwave vacuum pyrolysis of waste palm shell for cultivation of oyster mushroom (Pleurotus ostreatus)* W. L. Nam, M. Huan Su, X. Y. Phang, M. Y. Chong, R. K. Liew, N. L. Ma and S. S. Lam	*Modelling the defrost process in complex geometries – Part 2: Wall-function based coupling to a multi-region CFD solver* E. Hertle, S. van Buren, P. Figueiredo, R. Kneer and W. Rohlfs	*On the modelling of linear-assisted DC-DC voltage regulators for photovoltaic solar energy systems* H. Martínez-García and E. García-Vílchez
10:45–11:00	*Process simulation and comparison of biological conversion of syngas and hydrogen in biogas plants* C. Awais Salman, S. Schwede, E. Thorin and J. Yan	*Experimental process investigation of a latent heat energy storage system with a staggered heat exchanger with different phase change materials for solar thermal energy storage applications* N. P. Tsolakoglou, M. K. Koukou, M. G. Vrachopoulos, N. Tachos, K. Lymberis and V. Stathopoulos	*The influence of heat sink temperature on the seasonal efficiency of shallow geothermal heat pumps* G. Pełka, W. Luboń, A. Sowiżdżał and D. Malik
11:00–11:15	*Application of multi-enzymatic hydrolysis for improving the efficiency of the biogas production in solid waste fermentation process in Ostróda WWTP* K. Lipiński and K. Umiejewska	*Study of heat exchange processes in a screw ash cooler installation* B. Janowska, P. Regucki, A. Andruszkiewicz and W. Wędrychowicz	*Adaptive heat pump and battery storage demand side energy management* F. Sobieczky, C. Lettner, T. Natschläger and P. Traxler
11:15–11:30	*Life Cycle Assessment of the use of apple pruning residues for energetic purposes* J. den Boer, A. Dyjakon, P. Bukowski, M. Gómez, F. Sebastián, D. García-Galindo, E. den Boer, S. Germer and Wolf-Anno Bischoff	*Experimental investigation and CFD simulation of multi-pipe earth-to-air heat exchangers (EAHEs) flow performance* Ł. Amanowicz and J. Wojtkowiak	*Environmental aspects of the geothermal energy utilisation in Poland* A. Sowiżdżał, B. Tomaszewska and A. Drabik

	Session 20 (hall 113) **DISTRICT HEATING I** Chair: Prof. Krzysztof Wojdyga (Poland), Prof. Marderos Ara Sayegh (Poland)	POSTER SESSION V (hall 114) **ENERGY ENVIRONMENT & BUILDINGS** Chair: Prof. Renata Krzyżyńska (Poland), Prof. Herminio Martinez-Garcia (Spain)	
10:00–10:15	*Biomass universal district heating systems* V. M Soltero, S. Rodríguez-Artacho, R. Velázquez and R. Chacartegui	87. *Vibration and air quality tests inside the tractor cabin*, R. Wróbel, M. Skrętowicz, K. Trzmiel, K. Pentoś and K. Pieczarka 88. *Energy sustainable cities. From eco villages, eco districts towards zero carbon cities*, A. Zaręba, A. Krzemińska and J. Łach 89. *Deriving brown carbon contribution from multi-wavelength absorption measurements at an urban site*, S. Park 90. *Assessing high shares of renewable energies in district heating systems – a case study for the city of Herten*, A. Aydemir, E. Popovski, D. Bellstädt, T. Fleiter and R. Büchele 91. *The effect of the thermal inertia on the thermal transfer in building wall*, L. Bellahcene, A. Cheknane, SMA. Bekkouche and D. Sahel 92. *Change-over natural and mechanical ventilation system energy consumption in single-family buildings*, M. Kostka and M. Szulgowska-Zgrzywa 93. *Energy of the future: hydrogen and light weakly bound nuclei*, K. Kuterbekov, Y. Penionzhkevich and B. Ibrayev 94. *Analysis of energy consumption at the Rzeszów Wastewater Treatment Plant*, A. Masłoń 95. *Impact of the circulation system on the energy balance of the building*, I. Polarczyk and M. Fijewski 96. *Impact of the circulation system on domestic hot water consumption*, I. Polarczyk and M. Fijewski 97. *Catalytic cracking of plant oil with binary oxide systems obtained by sol gel method - influence of acid base properties* M. Osinska-Broniarz, A. Martyla, R. E.Przekop, M. Kopczyk, P. Kirszensztejn, M. Stodolny and M. Mikolajczak	98. *Heat pump integration platform in European district heating networks*, M. A. Sayegh, P. Jadwiszczak, M. Miniewicz, K. Piekarska, T. Nannou, B. Axcell and H. Jouhara 99. *The use of multi criteria analysis to compare the operating scenarios of the hybrid generation system of wind turbines, photovoltaic modules and a fuel cell*, B. Ceran 100. *Preliminary sanitary analysis of supply and exhaust air of ventilation units working at special rooms*, S. Szczęśniak, A. Trusz-Zdybek and K. Piekarska 101. *The analysis of the air-to-water heat pump operation with consideration of the actual profile of the domestic hot water demand*, M. Szulgowska-Zgrzywa, A. Chmielewska, K. Piechurski and J. Danielewicz 102. *Zero energy buildings in the logistics warehouse systems*, P. Zajac, S. Kwasniowski 103. *Impact of external conditions on energy consumption in industrial halls*, A. Żabnieńska-Góra 104. *Whether usage of innovative solution photovoltaics/energy bank in single-family houses worthwhile in Poland*, D. Olszewska 105. *Water-pipe network as a heat source for heat pump integrated into a district heating*, P. Jadwiszczak and E. Niemierka 106. *Temporal and spatial complementarity of wind and solar resources in Lower Silesia (Poland)*, J. Jurasz, M. Wdowikowski, B. Kaźmierczak and P. Dąbek 107. *Determination of the total amount of radiation-induced paramagnetic centers in environment of the tailing pond "Koshkar-Ata" (Kazakhstan)*, K. Kuterbekov, N. Sadykov, K. Zhumadilov, R.Nurgaliyeva, A. Kabyshev, E. Abseitov and A. Kurmanzhanov
10:15–10:30	*A numerical investigation of laminar forced convection in a solar collector with non-circular duct* T. J. Teleszewski		
10:30–10:45	*A method of determining the thermal power demand of buildings connected to the district heating system with usage of heat accumulation* M. Turski and R. Sekret		
10:45–11:00	*An application of data mining in district heating substations for improving energy performance* P. Xue, Z. Zhou, X. Chen and J. Liu		
11:00–11:15	*Characteristics of large thermal energy storage systems in Poland* R. Zwierzchowski		
11:15–11:30	*The choice of primary energy source including PV installation for providing electric energy to a public utility building - a case study* B. Radomski, B. Ćwiek and T. M. Mróz		

11:30–11:45 - Coffee break

11:45–13:15 - Scheduled sessions:

	Session 21 (hall 10AC) **WASTE AND SOIL POLLUTION** Chair: Prof. Ivan Calleyas (Brazil), Prof. Włodzimierz Szczepaniak (Poland)	Session 22 (hall 10B) **NUCLEAR ENERGY TECHNOLOGIES** Chair: Prof. Mohamed Shafik El-Genk (USA), Prof. Kairat Kuterbekov (Kazakhstan)	Session 23 (hall 10D) **DISTRICT HEATING II** Chair: Prof. Luca Montorsi (Italy), Prof. Marderos Ara Sayegh (Poland)
11:45–12:00	*Use of cement-fly ash-based stabilization techniques for the treatment of waste containing aromatic contaminants* K. Banaszkiewicz and T. Marcinkowski	*Passive and safe thermal coupling of generation-IV VHTR to hydrogen fuel production complex* M. S. El-Genk and J. M. P. Tournier	*A new test procedure to evaluate the performance of substations for collective heating systems* R. Baetens and I. Verhaert
12:00–12:15	*Food waste in Central Europe - challenges and solutions* J. den Boer, P. Kobel, A. Dyjakon, K. Urbańska, G. Obersteiner, M. Hrad, E. Schmied and E. den Boer	*The influence of the small platinum clusters on hydrogen sorption properties* A. Martyła, R. E. Przekop, M. Osińska-Broniarz, M. Kopczyk, J. D. Rybka and P. Kirszensztejn	*Analysis of a combined heating and cooling system model under different operating strategies* M. Dzierzgowski and R. Zwierzchowski
12:15–12:30	*Performance of mechanical-biological treatment of residual municipal waste in Poland* E. den Boer and A. Jędrczak	*Evaluation of external and internal irradiation on uranium mining enterprise staff by tooth enamel EPR spectroscopy* K. Zhumadilov, A. Ivannikov, A. Khailov, S. Orlenko, V. Skvortsov, V. Stepanenko, K. Kuterbekov, S. Toyoda, P. Kazymbet and M. Hoshi	*Seasonal coefficient of performance for ground source heat pump and groundwater one in Białystok* A. Gajewski
12:30–12:45	*Temperature influence on the fast pyrolysis of manure samples: char, bio-oil and gases production* M. Fernandez-Lopez, K. Anastasakis, W. De Jong, J. L. Valverde and M. L. Sanchez Silva	*Dosimetry study of East Kazakhstan residents by tooth enamel EPR spectroscopy* K. Zhumadilov, A. Ivannikov, V. Skvortsov, V. Stepanenko, T. Rakhypbekov and M. Hoshi	*Multicriteria optimization approach to design and operation of district heating supply system over its life cycle* P. Hirsch, K. Duzinkiewicz and M. Grochowski
12:45–13:00	*Steam gasification for waste valorization with energy recovery* W. Szczepaniak and M. Zabłocka-Malicka	*Solar radiation – to – power generation models for one-axis tracking PV system with on-site measurements from Eskisehir, Turkey* T.Filik, Ü. Başaran Filik and Ö. N. Gerek	*Heat losses of a distribution network under different operating conditions for a district heating and cooling system* O. Niemyjski and R. Zwierzchowski
13:00–13:15	*Microwave pyrolysis using self-generated pyrolysis gas as activating agent: An innovative single-step approach to convert waste palm shell into activated carbon* P. N. Y. Yek, R. K. Liew, M. S. Osman, C. C. Wong and S. S. Lam	*Solar potential and energy consumption analysis in Iki Eylul campus of Anadolu University, Eskisehir* Ü. B. Filik, T. Filik and Ö.N. Gerek	

	Session 24 (hall 113) **ENVIRONMENT-FRIENDLY MATERIALS** Chair: Dr. Irina Celades López (Spain), Dr. Stanisław Frąckowiak (Poland)	POSTER SESSION VI (hall 114) **ENVIRONMENTAL BIOLOGY & WASTE TREATMENT** Chair: Prof. Małgorzata Kabsch-Korbutowicz (Poland), Prof. Katarzyna Majewska-Nowak (Poland)	
12:15–12:30	*Influence of silane on the structure of polystyrene prepared by sol-gel coatings via UV curing* S. Balbay and C. Acıkgoz	108. *Co-digestion of sewage sludge from external small WWTP's in a large plant*, S. Miodoński 109. *Shortcut nitrification / partial nitritation start-up for reject water treatment in a SBR*, M. Muszyński-Huhajło and S. Miodoński 110. *Impact assessment of treated wastewater on water quality of the receiver using the Wilcoxon test*, P. Ofman, M. Puchlik, G. Simson, M.Krasowska and J. Struk-Sokołowska 111. *Calibration of the computer model describing flows in the water supply system; example of the application of a genetic algorithm*, M. Orłowska-Szostak and R. Orłowski 112. *Concentration of polycyclic aromatic hydrocarbons in water samples from different stages of treatment*, M. Pogorzelec and K. Piekarska 113. *Seasonal changes in quality of wastewater from fruit and vegetable industry*, M. Puchlik and K. Ignatowicz 114. *Recovery of useful chemicals from palm oil mill wastewater*, Y. Ratanaporn, N.R. Duangkamol, T. Teruoki and M. Takao 115. *The influence of glycerin on nitrogen removal in wastewater treatment with activated sludge*, J. Smyk and K. Ignatowicz 116. *Changes in microbiological composition of soils and soil contamination with drug-resistant bacteria caused by the use of sewage sludge in nature*, E. Stanczyk-Mazanek, L. Pason and U. Kepa 117. *COD fractions changes in the SBR-type reactor treating municipal wastewater with controlled percentage of dairy sewage*, J. Struk-Sokołowska and J. Rodziewicz 118. *Prediction of wastewater quality indicators at the inflow to the wastewater treatment plant using data mining methods*, B. Szeląg, K. Barbusiński, J. Studziński and L. Bartkiewicz	119. *Integrated assessment of soil quality after application of the biogas fermentation residues – a laboratory experiment*, A. Telesiński, K. Cybulska, M. Płatkowski, M. Stręk, G. Jarnuszewski, I. Wrońska, P. Mularewicz, T. Kajdan, R. Biczak and P. Kołosowski 120. *The effectiveness of removing precursors of chlorinated organic substances in pilot water treatment plant*, M. Wolska, S. Szerzyna, J. Machi, M. Mołczan, W. Adamski and J. Wiśniewski 121. *Rheological properties of disintegrated sewage sludge*, P. Wolski 122. *The quantity and quality of biogas produced from the biological sludge processed by the inoculum of bacterial strains*, I. Wrońska and K. Cybulska 123. Energy potential of the modified excess sludge, I. Zawieja 124. *Optimization of energy cost in water supply system*, I. Zimoch and E. Bartkiewicz 125. *Unconventional yeast in the degradation of hydrocarbons in contaminated soil*, Ł. Kręcidło 126. *The use of a decision-making model in the planning of a medical waste management system*, M. Walery 127. *Application of stochastic approach based on Monte Carlo (MC) simulation for life cycle inventory (LCI) of the rare earth elements (REEs) in beneficiation rare earth waste from the gold processing: case study*, B. Bieda and K. Grzesik 128. *The analysis of the possibility of using 10-minute rainfall series to determine the maximum rainfall amount with 5 minutes duration*, B. Kaźmierczak, K. Wartalska, M. Wdowikowski and A. Kotowski 129. Real-time energy efficient ventilation control strategy for healthy indoor air quality under time-varying ventilation loads Q. Li, S. Lee, J. Rashidi, P. Ifaee, J. Kim and C.Yoo
12:30–12:45	*Dynamic environmental control mechanisms for pneumatic foil constructions* J. F. Flor, Y. Wu, P. Beccarelli and J. Chilton		
12:45–13:00	*Determination of the solar transmittance for the translucent shutter with PCM in liquid and solid state* A. Komerska, D. Ksionek and M. Rosiński		
13:00–13:15	*Compatibility study of thermoplastic polymers in contact with organic phase change materials* V. Chalkia, N. Tachos, A. Giannakas, M. Koukou, M. Vrachopoulos, A. Ladavos and V.N. Stathopoulos		
13:15–13:30	*Nanomaterials in the environment* B. Mrowiec		
13:30–13:45	*Simulation of thermal environment in a three-layer vinyl greenhouse by natural ventilation control* T. H. Jin, K. Y. Shin, S. W. Yoon, Y. H. Im and K. C. Chang		

13:45–15:00 Lunch (The Student Cultural Zone – building C-18, 10 Hoene-Wronskiego Street)

14:30–15:15 Lecture/keynote: The Relation between Renewable Energy and Circular Economy,
by **Prof. Abdul Ghani Olabi** (UK)
Chair: Prof. Hussam Jouhara (UK), prof. Jan Danielewicz (Poland)

15:15–16:30 Scheduled sessions:

	Session 25 (hall 10AC) **TECHNOLOGIES FOR ENVIRONMENT III** Chair: Prof. Włodzimierz Szczepaniak (Poland), Dr. Patryk Wójtowicz (Poland)
15:15–15:30	*Model and design of a four-stage thermoacoustic electricity generator with two push-pull linear alternators* A. Hamood, A. J. Jaworski and X. Mao
15:30–15:45	*A novel design of reactive distillation configuration for 2-Methoxy-2-Methylheptane process* A. Hussain, M. A. Qyyum, L. Q. Minh, H. Jimin and M. Lee
15:45–16:00	*Conceptual design of multi-source CCS pipeline transportation network for Polish energy sector* N. Isoli and M. Chaczykowski
16:00–16:15	*Hydrodynamic characterization of gas-solids fluidized beds by means of electrical capacitance tomography* X. Li, X. Mao and A. J. Jaworski
16:15–16:30	*Modeling an impact of road geometric design on vehicle energy consumption* B. Luin, S. Petelin and F. Al-Mansour

16:30–17:00 Closing Session

Prof. Katarzyna Piekarska – Dean of Faculty of Environmental Engineering
Prof. Jan Danielewicz, Prof. Hussam Jouhara, Prof. M. Shafik El-Genk – Organizing Committee

CAMPUS MAP - WROCŁAW UNIVERSITY OF SCIENCE AND TECHNOLOGY

Welcome Reception
H-14 building
40 Wybrzeze Wyspianskiego Street

Congress Centre
D-20 building
8 Janiszewskiego Street

The Student Cultural Zone
C-18 building
10 Hoene-Wronskiego Street


H-14 building


D-20 building

C-18 building



WROCLAW

Wroclaw, situated on the Odra river, is the historic capital of Lower Silesia. The city emerged at the intersection of major trade routes linking the West and South with Eastern and Northern Europe. Being a communication, industrial, academic, scientific and cultural centre, the city is the greatest tourist attraction in south-western Poland. In its 1000-year history the city has undergone many political, economic and cultural changes that have contributed to Wroclaw's present architectonic and cultural visage. Wroclaw is a very picturesque city with a great number of green areas, parks and 115 bridges spanning five rivers cutting across the city.








Wroclaw, with a cosmopolitan history, is a reduced model of Europe where the greatest diversity has accumulated within a small space. Openness has been a constitutive feature of our city throughout its history. Wroclaw is also a cultural laboratory, in which a process of mutual metamorphoses of various cultures, coming into contact in this city in the past and today, goes on continuously.

For all reasons above Wroclaw has been chosen for European Capital of Culture of year 2016.