

## FINAL PROGRAM

"Alternative Energy Sources, Materials & Technologies (AESMT'18)", Plovdiv, Bulgaria

### SUNDAY (May 13, 2018):

1. **Sightseeing** of Plovdiv, Bulgaria: 16:00 - 18:00 h (meeting point in hotel Leipzig)
2. **Registration and Welcome party**: 19:00 - 21:00 h (in hotel Leipzig)

### MONDAY (May 14, 2018):

1. **Registration (Large hall, Mendellsohn, hotel Leipzig)**: 8:30 - 8:55 h

2. **Plenary sessions (Large hall, Mendellsohn):**

- 2.1. **Opening**: 8:55 - 9:00 h;

- 2.2. **Plenary session 1**: 9:00 - 10:30 h (**Chair: Aleksandar Georgiev**)

**9:00 - 9:30 h; Dragomir Yankov (Sofia, Bulgaria)**: Dragomir Yankov. Current research on renewable energy sources at the Institute of Chemical Engineering - Bulgarian Academy of Sciences.

**9:30 - 10:00 h; Juan Ramón Morante (Barcelona, Spain)**: J.R.Morante. Solar refineries as a CO2 circular economy tools.

**10:00 - 10:30 h; Ahmet Saymbetov (Almaty, Kazakhstan)**: A. K. Saymbetov, M. K. Nurgaliyev, S. A. Bolegenova, R. K. Manatbayev, N. B. Kuttybay, Ye. D. Nalibayev, Ye. Tulkibaiuly, G. B. Dosymbetova, Ye. A. Svanbayev, M. M. Gylymzhanova, A. K. Meirkhanov, Zh. K. Kopzhan. Designing of mobile solar power station.

- 2.3. **Coffee break**: 10:30 - 11:00 h (in hotel Leipzig);

- 2.4. **Plenary session 2**: 11:00 - 12:00 h (**Chair: Aleksandar Georgiev**)

**11:00 - 11:30 h; Gang Pei (Hefei, China)**: Honglun Yang, Qiliang Wang, Xiaona Huang, Jingyu Cao, Jing Li, Gang Pei. Annual performance evaluation and comparative study of parabolic trough power plants with traditional and double-selective-coated receivers.

**11:30 - 12:00 h; Muhsin Kiliç (Bursa, Turkey)**: M. Kiliç. Comparative performance analysis of a two-bed adsorption cooling system with adsorption of different adsorbates on silica-gel.

3. **Poster session 1 (Bach hall, hotel Leipzig)**: 12:00 - 13:00 h (**Chair: Anna Majchrzycka**)

**Traian Lucian Severin (Suceava, Romania)**: T. L. Severin, A. Potorac, C. Dulucheanu, L. Irimescu. Mathematical modelling concerning the influence of chemical composition upon hardness of cadmium telluride crystal - Part 2-.

**Traian Lucian Severin (Suceava, Romania)**: C. Dulucheanu, T.L. Severin, A. Potorac. The critical points in solid-state phase transformation of a steel with 0.087% C and 0.511% Mn, determined by dilatometric analysis.

**Yuehong Su (Nottingham, United Kingdom)**: C. Kutlu, M. T. Erdinc, J. Li, Y. Wang, Y. Su. Modelling and performance analysis of a domestic scale solar-powered organic rankine cycle-vapour compression refrigeration unit operating at off-design conditions.

**J. Šadauskienė, J. Ramanauskas, A. Vasylius**. Impact of point thermal bridges on buildings energy efficiency.

**Liviu Costiuc (Brasov, Romania):** L. Costiuc, L. Baltes, S. Patachia, M. Tierean, A. Lunguleasa. Influence of reprocessing by melt-mixing and thermo-formation of polyolefin fractions, separated from wastes, on their calorific power.

**Silvia Patachia (Brasov, Romania):** L. Baltes, S. Patachia, M. Tierean, O. Ekincioglu, H.M. Ozkul. Usage of solar energy for glazing of polymer-cement composites.

**Ance Plavniece (Riga, Latvia):** A. Plavniece, G. Dobele, A. Volperts, A. Zhurinsh, I. Kruusenbergs, J. Locs. Biomass based activated carbons for fuel cells and supercapacitors.

**Mila Trayanova (Sofia, Bulgaria):** Mila Trayanova, Vladimir Hristov, Radostina Atanassova, Edith Haslinger, Otmar Plank, Stefan Wyhlidal, Aleksey Benderev. Potential of corrosion and/or deposition of solid phases in the thermal waters in the region of Sofia Valley, Bulgaria, depending on their chemical composition.

**Anna Majchrzycka (Szczecin, Poland):** A. Majchrzycka. Application of renewable energy sources in an integrated heating systems for individual house.

**A. Mukhamedgali, Z. B. Rakisheva.** Design and simulation of uniform magnetic field.

**T. S. O. Morais, C. H. C. Tsuha.** In-situ measurements of the soil thermal properties for energy foundation applications in São Paulo, Brazil.

**Xu Ji, Qiangqiang Xu, Jiaying Liu, Qiang Wang, Yunfeng Wang, Ming Li.** Effect of condensing temperature on desorption and refrigeration performance of solid adsorption refrigeration system.

**Jinkang Wang, Xu Ji, Qiang Wang, Rongkang Fan, Guoliang Li, Ming Li.** Electrical and thermal output characteristics investigation on a solar trough concentrating PV/T system.

**Iliya Iliev (Ruse, Bulgaria):** Alexander A. Genbach, Nellya O. Jamankulova, Iliya K. Iliev. Research and calculation of high-forced capillary-porous heat exchanger.

**G. Saktashova, A. Aliuly, Ye. Belyayev, M. Mohanraj, Rao Martand Singh.** Numerical simulation of heat transfer in hybrid solar-ground source heat pump in Kazakhstan climate.

**D. Baiseitov, A. Aliuly, M. Mohanraj, Ye. Belyayev, S. Jayaraj.** Numerical simulation of heat transfer in solar pin-fin absorber plate with PCM.

**Ye. Yerdesh, Z. Abdulina, A. Aliuly, Ye. Belyayev, M. Mohanraj, A. Kaltayev.** Numerical assessment of combi solar PV/T and cascade air source heat pump performance for heating application in continental climate.

**Ye. Shakir, D. Baimbyetov, T. Radu, Ye. Belyayev, M. Mohanraj, A. Kaltayev.** Numerical simulation of a solar photovoltaic reverse osmosis performance for water desalination.

**M. Kuan, Ye. Shakir, M. Mohanraj, Ye. Belyayev, S. Jayaraj, A. Kaltayev.** Numerical simulation of a heat pump assisted solar dryer for continental climates. Almaty, Kazakhstan,

**Iliya Iliev (Ruse, Bulgaria):** A. A. Genbach, D. Yu. Bondartsev, B. T. Bakhtiyar, I. K. Iliev. Modelling of capillary coatings and heat exchange surfaces of elements of thermal power plants.

**Iliya Iliev (Ruse, Bulgaria):** A. A. Genbach, K.K. Shokolakov, K. S. Olzhabayeva, I. K. Iliev. Development of an experimental plant of a non-nozzle porous foam generator for producing with foam generating and defoaming structures.

**B. Akhmetov, A. Georgiev, M. Tungatarova, A. Kaltayev.** Thermal properties of paraffins chosen as phase change materials for thermal energy storage.

**M. Lalošević, M. Komatina, B. Živković, M. Miloš.** Reducing CO<sub>2</sub> concentration in city centres with green roofs implementation: Case study Belgrade, Serbia.

**Daulet Yermekov (Almaty, Kazakhstan):** B.K. Kenzhaliev, V.G. Mironov, G.T. Shilov, Zh.B. Ilmaliyev, D.K. Yermekov. The study of the effect of chromium boron (crb<sub>2</sub>) hardening additive on the developed pg-z40 surfacing powder.

**Mohammad Hassan Nadjafabadi Farahani (Stuttgart, Germany):** Mohammad Farahani, André Thess. Challenges in Micro-scale simulation in cycling process of Ca(OH)<sub>2</sub> de/rehydration in thermochemical energy storage.

**4. Lunch:** 13:00 - 14:00 h (on your own).

**5. Parallel session (Bach hall):** 14:00 - 16:00 h; Solar and Hybrid Thermal Systems (**Chair: Juan Ramón Morante**)

**14:00 - 14:20 h; Nikolay Stavrev (Plovdiv, Bulgaria):** Nikolay Stavrev. Why should we build Passive Houses?

**14:20 - 14:40 h; Guangtao Gao (Hefei, China):** Guangtao Gao, Jing Li1, Gang Pei, Jahanzeb Alvi, Yuehong Su. The study of a seasonal solar trigeneration system based on evacuated flat-plate collector and organic Rankine cycle.

**14:40 - 15:00 h; Jingyu Cao (Hefei, China):** T. Zhang, G. Pei, Q. Z. Zhu, J. Ji. Experimental optimization on the volume-filling ratio of a loop thermosyphon photovoltaic/thermal system.

**15:00 - 15:20 h; Kalina Tchonkova (Sofia, Bulgaria):** M. Nikolaeva-Dimitrova, M. Stoyanova, Pl. Ivanov, K. Tchonkova, R. Stoykov. Investigation of thermal behaviour of innovative Water Flow Glazing modular unit.

**15:20 - 15:40 h; Petru Adrian Cotfas (Brasov Romania):** AA S. Mahmoudinezhad, D.T. Cotfas, A. Rezanian, P.A. Cotfas, L.A. Rosendahl. Transient response of Bi<sub>2</sub>Te<sub>3</sub> based thermoelectric generator to variant solar radiation: an experimental and numerical study.

**15:40 - 16:00 h; Rumén Popov (Plovdiv, Bulgaria):** Nikolay Paunkov, Vanya Rangelova, Stefka Nedelcheva, Aleksandar Georgiev, Rumén Popov. Study of hybrid thermal system with photovoltaic panels using virtual instruments.

**6. Parallel session (Wagner hall, hotel Leipzig):** 14:00 - 16:00 h; Storages with Phase Change Materials (PCM), Food Engineering and Technologies, Biotechnologies (**Chair: Dragomir Yankov**)

**14:00 - 14:20 h; Ahmet Alper Aydin (Istanbul, Turkey):** E. Yalcin, G. A. Kilic, A. A. Aydin. The effect of phase change material (PCM) utilization on air-cooled condenser capacity.

**14:20 - 14:40 h; Burak Turkan (Bursa Turkey):** B. Turkan, A.S. Canbolat, A.B. Etemoglu. 3-D simulation of simultaneous heat and mass transfer of food products by numerical modelling.

**14:40 - 15:00 h; Dimitar Atanasov (Plovdiv, Bulgaria):** M. G. Georgieva, At. I. Tashev, D. G. Atanasov, V. Zh. Georgiev. Energy efficiency of impulse drying regimes of beetroot.

**15:00 - 15:20 h; Juan Ramón Morante (Barcelona, Spain):** Jordi Guilera, Teresa Andreu, J.R.Morante. Synthetic natural gas production from biogas in a waste water treatment plant in Barcelona.

**15:20 - 15:40 h; Yunlan Li (Taiyuan, China):** Yunlan Li, Ying Wei, Xiaoqing Ji, Dan Wang, Xiaozhi Qiao, Qingshan Li. Interaction ability of metallic dibutyltin antitumor drug DPDCT with human liver isoenzyme CYP3A4 which metabolized exogenous substances.

**15:40 - 16:00 h; Angel Danev (Plovdiv, Bulgaria):** A. M. Danev, R. N. Gabrova, T. Yaneva-Marinova, A. I. Angelov. Application possibilities of open-source software for microbiological analyses.

**7. Coffee break:** 16:00 - 16:30 h (in hotel Leipzig)

**8. Parallel session (Bach hall):** 16:30 - 18:30 h; Energy Efficiency (**Chair: Michele Bottarelli**)

**16:30 - 16:50 h; Petyo Pekov (Plovdiv, Bulgaria):** Petyo Pekov. Why should energy efficiency be the prime objective of HVAC businesses?

**16:50 - 17:10 h; K. Saka (Bursa, Turkey):** K. Saka, I. H. Yilmaz, A. S. Canbolat, Ö. Kaynakli. Evaluation of mass flowing with COP for triple effect absorption refrigeration system.

**17:10 - 17:30 h; M. Mutlu (Bursa, Turkey):** M. Mutlu. Dynamic modelling of heating costs of an air conditioner in three different climate regions in Turkey.

**17:30 - 17:50 h; Kenan Saka (Bursa, Turkey):** Potential energy of animal biomass in Turkey.

**17:50 - 18:10 h; Anatoli Vakhguelt (Astana, Kazakhstan):** Anatoli Vakhguelt. Development of Renewable Energy Sector in Kazakhstan.

**18:10 - 18:30 h; Jingyu Cao (Hefei, China):** Jingyu Cao, Chuxiong Chen, Yuehong Su, Michele Bottarelli, Jing Li, Mauro Cannistraro, Gang Pei. Preliminary evaluation of the energy-saving behaviour of a novel household refrigerator.

**9. Parallel session (Wagner hall):** 16:30 - 18:10 h; Materials Science (**Chair: Ahmet Alper Aydin**)

**16:30 - 16:50 h; Juan Ramón Morante (Barcelona, Spain):** F.J. Vazquez-Galvan, C. Flox, J.R.Morante. High density power vanadium flow redox batteries.

**16:50 - 17:10 h; Vasily Chitanov (Plovdiv, Bulgaria):** V. A. Chitanov, L. P. Kolaklieva, T. M. Cholakova, R. D. Kakanakov. Investigation of triple Cr-Ti-based nitride coatings depending on the graded transition layers.

**17:10 - 17:30 h; Stanislava Rabadzhiyska (Plovdiv, Bulgaria):** S. N. Rabadzhiyska, L. P. Kolaklieva, T. M. Cholakova, R. D. Kakanakov, V. Chitanov, P. K. Stefanov, G. B. Atanasova, K. T. Balashev, B. S. Rangelov, S. B. Atanasova. Multilayer CrN/TiN coatings deposited at low temperatures by unbalanced magnetron sputtering for implant applications.

**17:30 - 17:50 h; Shaban Patat (Kayseri, Turkey):** S. Patat, A. Ülgen, S. Yildiz, A. R. Türkmen, T. Öztürk. Wood Derived Hard Carbon Anode Material for Low-Cost Sodium-Ion Batteries Towards Practical Application for Grid Energy Storage.

**17:50 - 18:10 h; Iliya Iliev (Ruse, Bulgaria):** B. Ongar, I. K. Iliev. Numerical simulation of the coal dust process to the emission of nitrogen oxides.

**10. Official dinner:** 20:00 - 24:00 h (in restaurant Megdana)

## **TUESDAY (May 15, 2018):**

**1. Morning session 1 (Bach hall):** 9:00 - 11:00 h; Solar Photovoltaic Systems, Shallow Geothermal Energy Applications (**Chair: Khairulla Baishagirov**)

**9:00 - 9:20 h; Kenan Saka (Bursa, Turkey):** Kenan Saka. Performance analysis of a grid-connected PV power plant in Bursa, Turkey.

**9:20 - 9:40 h; Daniel Tudor Cotfas (Brasov, Romania):** D. T. Cotfas, P. A. Cotfas. Comparative study of two commercial photovoltaic panels under natural sunlight conditions.

**9:40 - 10:00 h; Serhat Ozkucuk (Bursa, Turkey):** S. Ozkucuk, M.C. Kulahli. Solar photovoltaic source based magnetic launcher simulation design with thermal requirements consideration.

**10:00 - 10:20 h; Jingyu Cao (Hefei, China):** Zhu Lihong, Zhang Liang, Yin Andong, Su Jun. Carbon emission estimation and environmental impact assessment of solar panels based on life cycle.

**10:20 - 10:40 h; Michele Bottarelli (Ferrara, Italy):** M. Bottarelli, M. Bortoloni, J. Wang, Y. Su. On the optimization of a dual-source heat pump in coupling with a Flat-Panel ground heat exchanger.

**10:40 - 11:00 h; Stefan Antonov (Sofia, Bulgaria):** S. Antonov, G. Petrov. Innovation centre for Renewable Energy Sources – test bench and showroom for geothermal research and development

**2. Coffee break:** 11:00 - 11:30 h (in hotel Leipzig)

**3. Morning session 2 (Bach hall):** 11:30 - 13:30 h; Energy Efficiency (**Chair: Gang Pei**)

**11:30 - 11:50 h; Damien Gatt (Marsaxlokk, Malta):** D. Gatt, C. Yousif, M. Cellura, L. Camilleri. An innovative approach to manage uncertainties and stock diversity in the EPBD cost-optimal methodology.

**11:50 - 12:10 h; Ayshe Altun (Bursa, Turkey):** A.F. Altun, M. Kiliç. An investigation of the ammonia adsorption performance on different adsorbents for cooling applications.

**12:10 - 12:30 h; Esra Özdemir (Bursa, Turkey):** E. Ozdemir, M. Kilic. Simulation and thermodynamic analysis of an organic Rankine cycle configuration.

**12:30 - 12:50 h; Bo Cao (Beijing, China):** Bo Cao, Yixue Chen. Atmospheric dispersion modelling and radiological safety analysis for a hypothetical accident of liquid fuel molten-salt reactor (TMSR-LF).

**12:50 - 13:10 h; Esra Özdemir (Bursa, Turkey):** E. Ozdemir, M. Kilic. Thermodynamic analysis and working fluid selection of a cogeneration system driven by renewable energy.

**13:10 - 13:30 h; Yakup Sen (Bursa, Turkey):** Y. Sen, O. Kaynakli, R. Yamankaradeniz. Thermoeconomic analysis of combined cooling, heating and power (CCHP) system.

**4. Lunch:** 13:30 - 14:30 h (on your own).

**5. Poster session 2 (Bach hall):** 14:30 - 15:30 h (**Chair: Yunlan Li**)

**B. E. Bekbauov, Z. Imansakipova.** Numerical analysis of the near wellbore flow mechanisms controlling well productivity.

**Q. F. Yu, M. Li, S. N. Sun, H. Zhao, H. R. Zhao, X. Ji, Y. F. Wang.** Development and water vapor adsorption on walnut-shell activated carbon-CaCl<sub>2</sub> composite adsorbents for solar drying system application.

**S.N. Sun, Q.F. Yu, M. Li, H. Zhao, C. X. Wu, G. L. Li.** Preparation and water vapor adsorption of activated carbon from coffee-shell by KOH chemical activation.

**G. B. Nurpeissova, D. V. Panyukova, A. T. Nurpeissova.** Smart techniques' implementation for small entities and central power grid in Almaty, Kazakhstan: challenges and possibilities.

**Ion Ion (Galati, Romania):** I. V. Ion, S. L. Paraschiv, S. Paraschiv, F. Popescu. Heat requirement in an indoor recirculating aquaculture system.

**H. Zhao, Q.F. Yu, M. Li, S.N. Sun, F. Wang, X. Ma, X. Luo.** Preparation and characterization of "green" hydrophilic activated carbon from walnut shells by CO<sub>2</sub> physical activation.

**Z. Rakisheva, N. Kaliyeva, A. Sukhenko.** Non-linear attitude control for a small spacecraft actuated by magnetorquers.

**Z. B. Rakisheva, N. S. Doszhan, G.E. Ybrayev, R.R. Pilpani.** Ultra-high accurate attitude determination and control of microsatellite formation flight.

**Rustem Manatbayev (Almaty, Kazakhstan):** A. Askarova, S. Bolegenova, V. Maximov, S. Bolegenova, Z. Gabitova, A. Yergaliyeva, A. Nugymanova, M. Beketayeva, Sh. Ospanova. Application of overfire air technology on an example of a steam boiler PK-39 of the Aksu TPP (Kazakhstan).

**Y. Y. Sandybayev, A. D. Muradov.** Mechanical, optical and thermal properties of metallized and high temperature superconductor filled polyimide composites.

**Z. B. Rakisheva**, N. Kudryavtseva, K. K. Kussembayeva, A. K. Sakhayeva. Wave climate analysis of the Caspian Sea. Almaty, Kazakhstan,

**Saltanat Bolegenova (Almaty, Kazakhstan):** A. S. Askarova, S. A. Bolegenova, A. Georgiev, S. A. Bolegenova, V. Yu. Maximov, A. B. Yergaliyeva, A. O. Nugymanova. The use of a new “clean” technology for burning low-grade coal in on boilers of Kazakhstan TPPs.

**Saltanat Bolegenova (Almaty, Kazakhstan):** A.S. Askarova, S.A. Bolegenova, A.Georgiev, N.R. Mazhrenova, S. A. Bolegenova, A.O. Nugymanova, R.K. Manatbaev, Zh.T.Baizhuma. Development of a typical configuration of an autonomous photovoltaic system for power supply to a remote residential building, Kazakhstan.

**Saltanat Bolegenova (Almaty, Kazakhstan):** A.S. Askarova, S. A. Bolegenova, V. Yu. Maximov, S. A. Bolegenova, A.O. Nugymanova, M. T. Beketayeva, Sh.S. Ospanova. The computational study of heat and mass transfer processes at combustion of pulverized Kazakh coal in real conditions of energy objects.

**Zhanar Shortanbaeva (Almaty, Kazakhstan):** A.S. Askarova, S.A. Bolegenova, V.Yu. Maximov, S.A. Bolegenova, Sh.S. Ospanova, M.T. Beketayeva, A.O. Nugymanova, N.V. Pilipenko, Zh.K. Shortanbayeva. Investigation of the different Reynolds numbers influence on the atomization and combustion processes of liquid fuel.

**D. E. Turalina**, D. A. Bolysbek. Research with purpose of finding optimal variant of the guide blades of the vortex wind power installation.

**D. E. Turalina**, G. B. Kazakbay. Research on purpose of determining the optimal configuration of blades for improving the energy efficiency of direct flow hydro turbine.

**Tetiana Cholakova (Plovdiv, Bulgaria):** T.M. Cholakova, L.P. Kolaklieva, R.D. Kakanakov, V.A. Chitanov, B. S. Ranguelov, S. Atanasova-Vladimirova, P. K. Stefanov, G. B. Atanasova, K. T. Balashev. Effect of the heat treatment on mechanical and structural properties of CrTiAlN coatings deposited at low temperature.

**Yunlan Li (Taiyuan, China):** Yunlan Li, Hongyan Zhou, Yulian Xu, Lin Niu, PuGuo, Lanlan Miao, Qingshan Li. Antitumor activity of orthogonal array designed extracts from different part of hedyotis diffusa on human hepatocellular carcinoma hepG2.

**Yunlan Li (Taiyuan, China):** Yunlan Li, Min Dong, Jiali Zhang, Lin Niu, Hongyan Zhou, Qing-shan Li. Application of HPLC-Q/orbitrap MS in the detection and identification of anticancer constituents in Hedyotis Diffusa.

**Bo Cao (Beijing, China):** Bo Cao, Yixue Chen. Radiological consequences assessment of a hypothetical accident during transportation of spent nuclear fuel.

**Bo Cao (Beijing, China):** Bo Cao. Growth mechanism and photoluminescence property of flower-like ZnO by hydrothermal method.

**Rustem Manatbayev (Almaty, Kazakhstan):** R.K.Manatbaev, A.Kydyrbekuly, N.Kalaso, B. Bektibai, Y.Nurumov, Zh.E.Baizhuma. Definition of the basic geometric parameters of a carousel type turbine its technological solution.

**Rustem Manatbayev (Almaty, Kazakhstan):** S.A.Bolegenova, R. K. Manatbayev, Zh.Shortanbaeva, Sh.Yershin, Zh.E.Baizhuma. Evaluation of wind power potential in Shelek corridor (Kazakhstan) using Weibull distribution function.

**M. E. Ugur Oz**, M. Ziya Sogut. Assessment of energy performance of a hotel using exergy approach based energy audit.

**6. Afternoon session 1 (Bach hall):** 15:30 - 17:30 h; Wind Energy, Mechanical Engineering and Technologies, Electrical Engineering, Automatics and Control Systems (**Chair: Daniela Dzhonova**)

**15:30 - 15:50 h; *Khairulla Baishagirov (Kokshetau, Kazakhstan)***: Kh. Zh. Baishagirov, T. D. Karimbaev, B. M. Omarov. Mobile composite wind power plant with diffuser.

**15:50 - 16:10 h; *Oguz Dogan (Bursa, Turkey)***: O. Dogan, O. C. Kalay, F. Karpat. Effects of linear short tip relief modification on dynamic response of the spur gears.

**16:10 - 16:30 h; *Zhandos Baizhuma (Almaty, Kazakhstan)***: Ainakul Yershina, Rustem Manatbayev, Nurdaulet Kalasov, Asylbek Tulepbergenov, Elmira Zулbukharova, Birzhan Bektibai. Development of a laboratory model of a carousel wind turbine with an anti-icing system.

**16:30 - 16:50 h; *Vasil Georgiev (Plovdiv, Bulgaria)***: V. Zh. Georgiev, N. St. Nenov. Laboratory refrigeration unit with steam-jet compressor.

**16:50 - 17:10 h; *Oguz Dogan (Bursa, Turkey)***: E. Karpat, M. R. Bakcan, A. T. Chabbar, M. M. A. Ibrahim, B. Çelik, O. Dogan. Estimating base station based electrical field in line of sight of outdoor and indoor by artificial neural network and fuzzy logic.

**17:10 - 17:30 h; *Madiyar Nurgaliyev (Almaty, Kazakhstan)***: A. K. Saymbetov, M. K. Nurgaliyev, S. A. Bolegenova, R. K. Manatbayev, N. B. Kuttybay, Ye. D. Nalibayev, Ye. Tulkibaiuly, G. B. Dosymbetova, Ye. A. Svanbayev, A. K. Meirkhanov, Zh. K. Kopzhan, M. M. Gylymzhanova. Development of autonomous street lighting system based on solar cells and wireless communication control system.

**7. Coffee break:** 17:30 - 18:00 h (in hotel Leipzig)

**8. Afternoon session 2 (Bach hall):** 18:00 - 19:40 h; Energy Efficiency (**Chair: Muhsin Kiliç**)

**18:00 - 18:20 h; *Daniyar Bossinov (Almaty, Kazakhstan)***: D. E. Turalina, D. Zh. Bossinov. Theoretical and experimental investigations to define optimal parameters of straight-flow turbine for non-dam hydro power station.

**18:20 - 18:40 h; *Ahmet Serhan Canbolat (Bursa, Turkey)***: A.S. Canbolat, A. H. Bademlioglu, K. Saka, O. Kaynakli. Investigation of parameters affecting the optimum thermal insulation thickness for buildings in hot and cold climates.

**18:40 - 19:00 h; *Ali Bademlioglu (Bursa, Turkey)***: A. H. Bademlioglu, A. S. Canbolat, R. Yamankaradeniz, O. Kaynakli. A modelling of electricity generation by using geothermal assisted organic Rankine cycle with internal heat recovery.

**19:00 - 19:20 h; *Ahmet Serhan Canbolat (Bursa, Turkey)***: A. S. Canbolat, A. H. Bademlioglu, N. Yamankaradeniz, O. Kaynakli. Effect of using dimpled tubes in car radiators into thermal performance and pressure drop characteristics.

**19:20 - 19:40 h; *Slav Valchev (Plovdiv, Bulgaria)***: S. E. Valchev, N. S. Nenov, V. D. Georgiev. Determination of coefficient of performance (COP) of mechanical vapor recompression heat pump.

### **WEDNESDAY (May 16, 2018):**

**1. Hiking tour** in the Rhodope Mountains: 9:00 - 14:00 h (meeting point in hotel Leipzig)