Published articles of the AESMT'18

Information about the published articles of the AESMT'18 conference in Plovdiv, Bulgaria:

- number of representatives of countries who sent works to the conference - 20 (Bulgaria, Kazakhstan, China, Turkey, Russia, Spain, Lithuania, India, United Kingdom, Italy, Germany, Serbia, Romania, Latvia, Malta, USA, Brazil, India, Iran and Macedonia);
- number of articles/ reports presented - 108;
- number of articles published in Renewable energy journal (IF: 5.439) - 11;
- number of articles published in „Bulgarian Chemical Communications" journal (SCOPUS citation) - 33;
- number of articles published in BAJECE journal (ISSN: 2147-284X) - 4;
- number of articles published in EJT journal (ISSN: ISSN: 2536-5010) - 7.

Published articles of AESMT'18 in "Renewable Energy" journal, totally 11: (https://www.sciencedirect.com/special-issue/10L4PN4C4ZJ)

1. RENE-D-18-04708: M. Bottarelli, M. Bortoloni, Y. Su. On the sizing of a novel Flat-Panel ground heat exchanger in coupling with a dual-source heat pump. **Renewable Energy**, Volume 142, November 2019, Pages 552-560, https://doi.org/10.1016/j.renene.2019.04.088.
2. RENE-D-18-04848: Cagri Kutlu, Mehmet Tahir Erdinc, Jing Li, Yubo Wang, Yuehong Su. A study on heat storage sizing and flow control for a domestic scale solar-powered organic Rankine cycle-vapour compression refrigeration system. **Renewable Energy**, Volume 143, December 2019, Pages 301-312, https://doi.org/10.1016/j.renene.2019.05.017.
3. RENE-D-18-05037: Ye. Yerdesh, Z. Abdulina, A. Aliuly, Ye. Belyayev, M. Mohanraj, A. Kaltayev. Numerical simulation on solar collector and cascade heat pump combi water heating systems in Kazakhstan climates. **Renewable Energy** 145, January (2020) pp. 1222-1234, https://doi.org/10.1016/j.renene.2019.06.102.
4. RENE-D-18-05038: M. Kuan, Ye. Shakir, M. Mohanraj, Ye. Belyayev, S. Jayaraj, A. Kaltayev. Numerical simulation of a heat pump assisted solar dryer for continental climates. **Renewable Energy**, Volume 143, December 2019, Pages 214-225, https://doi.org/10.1016/j.renene.2019.04.119.
5. RENE-D-18-04750: S. Ozkucuk, M. C. Kulahli. Solar photovoltaic source based magnetic launcher simulation design with thermal requirements consideration. **Renewable Energy**, Volume 145, January 2020, Pages 1004-1013, https://doi.org/10.1016/j.renene.2019.06.073.
6. RENE-D-18-04434: Tao Zhang, Zhiwei Yan, Gang Pei, Qunzhi Zhu, Jie Ji. Experimental optimization on the volume-filling ratio of a loop thermosyphon photovoltaic/thermal system. **Renewable Energy**, Volume 143, December 2019, Pages 233-242, https://doi.org/10.1016/j.renene.2019.05.014.
7. RENE-D-18-04759: Aleksandrs Volperts, Ance Plavniece, Galina Dobele, Aivars Zhurinsh, Ivar Kruusenberg, Kätlin Kaare, Janis Locs, Loreta Tamasauskaite-Tamasiunaite, Eugenijus Norkus. Biomass based activated carbons for fuel cells. **Renewable Energy**, Volume 141, October 2019, Pages 40-45, https://doi.org/10.1016/j.renene.2019.04.002.
8. RENE-D-18-04582: Shengnan Sun, Qiongfen Yu, Ming Li, Hong Zhao, Chunxiang Wu. Preparation of coffee-shell activated carbon and its application for water vapor adsorption. **Renewable Energy**, Volume 142, November 2019, Pages 11-19, https://doi.org/10.1016/j.renene.2019.04.097.
9. RENE-D-18-04920: S.Mahmoudinezhad, P.A.Cotfas, D.T.Cotfas, L.A.Rosendahl, A.Rezania. Response of thermoelectric generators to Bi2Te3 and Zn4Sb3 energy harvester

materials under variant solar radiation. **Renewable Energy**, Volume 146, February 2020, Pages 2488-2498, https://doi.org/10.1016/j.renene.2019.08.080.

10. RENE-D-18-04809: Jordi Guilera, Teresa Andreu, Núria Basset, Tim Boeltken, Friedemann Timm, Ignasi Mallol, Joan Ramon Morante. Synthetic natural gas production from biogas in a waste water treatment plant. **Renewable Energy**, Volume 146, February 2020, Pages 1301-1308, https://doi.org/10.1016/j.renene.2019.07.044.

11. RENE-D-19-04299. Rumen Popov, Nikolay Paunkov, Vania Rangelova, Aleksandar Georgiev. Study of hybrid thermal system with photovoltaic panels using virtual instruments. **Renewable Energy**, Vol. 154, July 2020, Pages 1053-1064, https://doi.org/10.1016/j.renene.2020.03.024

Published articles of AESMT'18 in "Bulgarian Chemical Communications" journal (ISSN: 0324-1130, a journal with SCOPUS citation)", totally 33: Volume 50 Special Issue-G 2018, http://www.bcc.bas.bg/

Published articles of the AESMT'19

Information about the published articles of the AESMT'19 conference, in Sofia, Bulgaria:

- number of representatives of countries who sent works to the conference - 21 (Bulgaria, Kazakhstan, China, Turkey, Russia, Spain, India, United Kingdom, Italy, Germany, Serbia, Romania, Latvia, USA, Belarus, Hong Kong, Lebanon, Norway, Poland, Slovenia, Yemen);
- number of articles/ reports presented - 96;
- number of articles published in Renewable energy journal (IF: 5.439) - 14;
- number of articles published in Energy journal (IF: 5.537) - 9;
- number of articles published in „Bulgarian Chemical Communications" journal (SCOPUS citation) - 15.

Published articles of AESMT'19 in "Renewable Energy" journal, totally 14: (https://www.sciencedirect.com/special-issue/10QMN8S24P1)

1. RENE-D-19-03878: A. F. Altun, M. Kilic. Thermodynamic performance evaluation of a geothermal ORC power plant. **Renewable Energy**, Volume 148, April 2020, Pages 261-274, https://doi.org/10.1016/j.renene.2019.12.034.
2. RENE-D-19-04076: B. Li, D. L. Zhou, Y. Wang, Y. Shuai, Q. Z. Liu, W. H. Cai. The design of a small lab-scale wind turbine model with high performance similarity to its utility-scale prototype. **Renewable Energy**, Volume 149, April 2020, Pages 435-444, https://doi.org/10.1016/j.renene.2019.12.060.
3. RENE-D-19-04269: H. Szumilas-Kowalczyk, N. Pevzner, R.Giedych. Long-term visual impacts of aging infrastructure: challenges of decommissioning wind power infrastructure and a survey of alternative strategies. **Renewable Energy**, Vol. 150, 2020, Pages 550-560, https://doi.org/10.1016/j.renene.2019.12.143.
4. RENE-D-19-04293: Qiong Li, Wenfeng Gao, Wenxian Lin, Tao Liu, Yougang Zhang, Xiang Ding, Xiaoqiao Huang, Wuming Liu. Experiment and Simulation Study on Convective Heat Transfer of All-glass Evacuated Tube Solar Collector. **Renewable Energy**, Vol. 152, 2020, pp. 1129-1139. https://doi.org/10.1016/j.renene.2020.01.089.
5. RENE-D-19-04305: Cagri Kutlu, Yanan Zhang, Theo Elmer, Yuehong Su, Saffa Riffat. A Simulation Study on Performance Improvement of Solar Assisted Heat Pump Hot Water System by Novel Controllable Crystallisation of Supercooled PCMs. **Renewable Energy**, Vol. 152, 2020, pp. 601-612,
https://doi.org/10.1016/j.renene.2020.01.090.
6. RENE-D-19-04002: T. Bevk, Mojca Golobic. Contentious eye-catchers: Perceptions of landscapes changed by solar power plants in Slovenia. **Renewable Energy**, Vol. 152, 2020, pp. 999-1010, https://doi.org/10.1016/j.renene.2020.01.108.
7. RENE-D-19-04292: A. F. Altun, M. Kilic. Economic feasibility analysis with the parametric dynamic simulation of a single effect solar absorption cooling system for various climatic regions in Turkey. **Renewable Energy**, Vol. 152, 2020, pp. 75-93, https://doi.org/10.1016/j.renene.2020.01.055.
8. RENE-D-19-04268: Yousef N. Dabwan, Gang Pei. A novel integrated solar gas turbine trigeneration system for production of power, heat and cooling: Thermodynamic-economic-environmental analysis. **Renewable Energy**, Vol. 152, 2020, pp. 925-941, https://doi.org/10.1016/j.renene.2020.01.088.
9. RENE-D-19-04501: Qiongwan Yu, Mingke Hu, Junfei Li, Yunyun Wang, Gang Pei. Development of a 2D temperature-irradiance coupling model for performance

characterizations of the flat-plate photovoltaic/thermal (PV/T) collector. **Renewable Energy**, Vol. 153, 2020, pp. 404-419, https://doi.org/10.1016/j.renene.2020.01.143.

10. RENE-D-19-04013: Chong Zhao, Yunfeng Wang, Ming Li, Wenkui Zhao, Xuejuan Li, Qiongfen Yu, Mengxiao Huang. Impact of three different enhancing mass transfer operating characteristics on a solar adsorption refrigeration system with compound parabolic concentrator. **Renewable Energy**, Vol. 152, 2020, Pages 1354-1366, https://doi.org/10.1016/j.renene.2020.01.110.

11. RENE-D-19-04259: Jingyang Han, Xu Ji, Haiyang Xu, Yuanyuan Heng, Cong Wang, Jia Deng. Solar vaporizing desalination by heat concentration. **Renewable Energy**, Available online 3 March 2020, In Press, https://doi.org/10.1016/j.renene.2020.02.105.

12. RENE-D-19-03894: Yiyuan Liu, Qunzhi Zhu, Tao Zhang, Xuefeng Yan, Rui Duan. Analysis of chemical-looping hydrogen production and power generation system driven by solar energy. **Renewable Energy**, Vol. 154, July 2020, Pages 863-874, https://doi.org/10.1016/j.renene.2020.02.109.

13. RENE-D-19-04260: Haiyang Xu, Xu Ji, Liuling Wang, Jingxin Huang, Jingyang Han, Yue Wang. Performance study on a small-scale photovoltaic electrodialysis system for desalination. **Renewable Energy**, Vol. 154, July 2020, Pages 1008-1013, https://doi.org/10.1016/j.renene.2020.03.066.

14. RENE-D-19-04353: M. Peric, D. Antonijevic, M. Komatina, B. Bugarski, M. Rakin. Life cycle assessment of wood chips supply chain in Serbia. **Renewable Energy**, Vol. 155, August 2020, Pages 1302-1311, https://doi.org/10.1016/j.renene.2020.04.026.

Published articles of AESMT'19 in "Energy" journal, totally 9: (https://doi.org/10.1016/j.energy.2020.117067)

15. EGY-D-19-06217: Y.Li, G. Yue, Y. M. Yu, Q. Z. Zhu. Preparation and thermal characterization of LiNO3–NaNO3–KCl ternary mixture and LiNO3–NaNO3–KCl/EG composites. **Energy**, Vol. 196, 1 April 2020, 117067, https://doi.org/10.1016/j.energy.2020.117067.

16. EGY-D-19-06975: Bo Cao, Weijie Cui, Chao Chen, Yixue Chen. Development and uncertainty analysis of radionuclide atmospheric dispersion modeling codes based on Gaussian plume model. **Energy**, Vol. 194, 1 March 2020, 116925, https://doi.org/10.1016/j.energy.2020.116925.

17. EGY-D-19-06260: Bachirou Guene Lougou, Yong Shuai, Hao Zhang, Clément Ahouannou, Jiupeng Zhao, Basile Bruno Kounouhewa, Heping Tan. Thermochemical CO2 reduction over NiFe2O4@alumina filled reactor heated by high-flux solar simulator. **Energy**, Vol. 197, 15 April 2020, 117267, https://doi.org/10.1016/j.energy.2020.117267.

18. EGY-D-19-06963: A. A. Genbach, D. Yu. Bondartsev, I. K. Iliev, A. G. Georgiev. Scientific method of creation of ecologically clean capillary-porous systems of cooling of power equipment elements of power plants on the example of gas turbines. **Energy**, Vol. 199, 15 May 2020, 117458, https://doi.org/10.1016/j.energy.2020.117458.

19. EGY-D-19-06938: Zaiguo Fu, Huanhuan Gao, Zhuoxiong Zeng, Jiang Liu, Qunzhi Zhu. Generation characteristics of thermal NOx in a double-swirler annular combustor under various inlet conditions. **Energy**, Vol. 200, 1 June 2020, 117487, https://doi.org/10.1016/j.energy.2020.117487.

20. EGY-D-19-06688: Borja Badenes, Burkhard Sanner, Miguel Ángel Mateo Pla, José Manuel Cuevas, Flavia Bartoli, Francesco Ciardelli, Rosa M. González, Ali Nejad Ghafar, Patrick Fontana, Lenin Lemus Zuñiga, Javier F. Urchueguía. Development of advanced materials guided by numerical simulations to improve performance and cost-efficiency of borehole heat exchangers (BHEs). **Energy**, Vol. 201, 15 June 2020, 117628, https://doi.org/10.1016/j.energy.2020.117628.

21. EGY-D-19-06924: Cagri Kutlu, Mehmet Tahir Erdinc, Jing Li, Yuehong Su, Gang Pei, Guangtao Gao, Saffa Riffat. Evaluate the validity of the empirical correlations of clearance and friction coefficients to improve a scroll expander semi-empirical model. **Energy**, Vol. 202, 1 July 2020, 117723, https://doi.org/10.1016/j.energy.2020.117723.

22. EGY-D-19-07085: Ping He, Huang Qin, Yi Zhang, Xinyi Zhang, Naichao Chen, Jiang Wu. Influence of mercury retention on mercury adsorption of fly ash. **Energy**, Vol. 204 (2020) 117927, https://doi.org/10.1016/j.energy.2020.117927.

23. EGY-D-19-06941: M. P. Aleksandrova, T. D. Tsanev, I. M. Pandiev, G. H. Dobrikov. Study of piezoelectric behaviour of sputtered KNbO3 nanocoatings for flexible energy harvesting. **Energy**, Vol. 205, 2020, 118068, https://doi.org/10.1016/j.energy.2020.118068.

Published articles of AESMT'19 in "Bulgarian Chemical Communications" journal (ISSN: 0324-1130, a journal with SCOPUS citation)", totally 15: Volume 51 Special Issue-F 2019, http://www.bcc.bas.bg/

Published articles of the AESMT'20

Information about the published articles of the AESMT'20 conference, in Varna, Bulgaria:

- number of representatives of countries who sent works to the conference – 26 (Bulgaria, China, Kazakhstan, Turkey, Israel, United Kingdom, Spain, India, Romania, Italy, Serbia, Latvia, Belarus, Poland, Yemen, Cyprus, Denmark, France, Germany, Iran, Ireland, Lithuania, Sweden, USA, Austria, Algeria);
- number of articles/ reports presented - 71;
- number of articles published/ accepted in „Renewable energy" journal (IF: 6.274) - 10;
- number of articles published/ accepted in „Energy" journal (IF: 6.082) - 9;
- number of articles published in „Bulgarian Chemical Communications" journal (SCOPUS citation) - 14.

Published articles of AESMT'20 in "Renewable Energy" journal, totally 10: (https://www.sciencedirect.com/special-issue/10X51S1VW65)

1. RENE-D-20-04442: Gökhan Erdemir, Ahmet Emin Kuzucuoglu, Fahri Anil Selçuk. A mobile wind turbine design for emergencies in rural areas. **Renewable Energy**, Volume 166, April 2020, Pages 9-19, https://doi.org/10.1016/j.renene.2020.11.124.
2. RENE-D-20-04271: Mingke Hu, Chao Guo, Bin Zhao, Xianze Ao, Suhendri, Jingyu Cao, Qiliang Wang, Saffa Riffat, Yuehong Su, Gang Pei. A parametric study on the performance characteristics of an evacuated flat-plate photovoltaic/thermal (PV/T) collector. **Renewable Energy**, Volume 167, April 2021, Pages 884-898, https://doi.org/10.1016/j.renene.2020.12.008.
3. RENE-D-20-04370: Xiao Ren, Jing Li, Datong Gao, Lijun Wu, Gang Pei. Analysis of a novel photovoltaic/thermal system using InGaN/GaN MQWs cells in high temperature applications. **Renewable Energy**, Vol. 168, May 2021, Pages 11-20, https://doi.org/10.1016/j.renene.2020.12.035.
4. RENE-D-20-04373: Zaiguo Fu, Xiaotian Liang, Yang Li, Lingtong Li, Qunzhi Zhu. Performance improvement of a PVT system using a multilayer structural heat exchanger with PCMs. **Renewable Energy**, Volume 169, May 2021, Pages 308-317, https://doi.org/10.1016/j.renene.2020.12.108.
5. RENE-D-20-04420: Liyuan Yuan, Qunzhi Zhu, Tao Zhang, Rui Duan, Haitao Zhu. Performance evaluation of a co-production system of solar thermal power generation and seawater desalination. **Renewable Energy**, Volume 169, May 2021, Pages 1121-1133, https://doi.org/10.1016/j.renene.2021.01.096.
6. RENE-D-20-04367: Rustem Manatbayev, Zhandos Baizhuma, Saltanat Bolegenova, Aleksandar Georgiev. Numerical simulations on static Vertical Axis Wind Turbine blade icing. **Renewable Energy**, Volume 170, June 2021, Pages 997-1007, https://doi.org/10.1016/j.renene.2021.02.023.
7. RENE-D-20-04180: Lazaros Aresti, Paul Christodoulides, Georgios A. Florides. An investigation on the environmental impact of various Ground Heat Exchangers configurations. **Renewable Energy**, Volume 171, June 2021, Pages 592-605, https://doi.org/10.1016/j.renene.2021.02.120.
8. RENE-D-20-04372: Xiaoqiao Huang, Qiong Li, Yonghang Tai, Zaiqing Chen, Jun Zhang, Junsheng Shi, Bixuan Gao, Wuming Liu. Hybrid deep neural model for hourly solar irradiance forecasting. **Renewable Energy**, Volume 171, June 2021, Pages 1041-1060, https://doi.org/10.1016/j.renene.2021.02.161.

9. RENE-D-20-04421: Qiong Li, Xiaoqiao Huang, Yonghang Tai, Wenfeng Gao, Wenxian Lin, Wuming Liu. Thermal stratification in a solar hot water storage tank with mantle heat exchanger. **Renewable Energy**, Volume 173, August 2021, Pages 1-11, https://doi.org/10.1016/j.renene.2021.03.105.

10. RENE-D-20-03844: Guoliang Li, Youhua Han, Ming Li, Xi Luo, Yongfeng Xu, Yunfeng Wang, Ying Zhang. Study on matching characteristics of photovoltaic disturbance and refrigeration compressor in solar photovoltaic direct-drive air conditioning system. **Renewable Energy**, Volume 172, July 2021, Pages 1145-1153, https://doi.org/10.1016/j.renene.2021.03.110.

Published articles of AESMT'20 in "Energy" journal, totally 9: (https://doi.org/10.1016/j.energy.2020.118985)

11. EGY-D-20-06746: T. Zhang, Z. W. Yan, L. Y. Wang, W. J. Zheng, Q. Wu, Q. L. Meng. Theoretical analysis and experimental study on a low-temperature heat pump sludge drying system, **Energy**, Volume 214, 2021, 118985, https://doi.org/10.1016/j.energy.2020.118985.

12. EGY-D-20-07138: I. K. Iliev, A.K.Terziev, H. I. Beloev, I. Nikolaev, A. G. Georgiev. Comparative analysis of the energy efficiency of different types co-generators at large scales CHPs. **Energy**, Volume 221, 15 April 2021, 119755, https://doi.org/10.1016/j.energy.2021.119755.

13. EGY-D-20-06783: T. H. Kwan, Y. Shen, G. Pei. Recycling fuel cell waste heat to the thermoelectric cooler for enhanced combined heat, power and water production. **Energy**, Volume 223, 15 May 2021, 119922, https://doi.org/10.1016/j.energy.2021.119922.

14. EGY-D-20-07939: Zhiqi Zhao, Lei Luo, Dandan Qiu, Zhongqi Wang, Bengt Sundén. On the solar air heater thermal enhancement and flow topology using differently shaped ribs combined with delta-winglet vortex generators. **Energy**, Volume 224, 1 June 2021, 119944, https://doi.org/10.1016/j.energy.2021.119944.

15. EGY-D-20-07749: K. Li, Y. Zhang, Y. F. Wang, W. El-Kolaly, M. Gao, W. Sun, M. Li. Effects of drying variables on the characteristic of the hot air drying for gastrodia elata: Experiments and multi-variable model. **Energy**, Volume 222, 1 May 2021, 119982, https://doi.org/10.1016/j.energy.2021.119982.

16. EGY-D-20-08548: Tao Zhang, Wenjie Zheng, Liuya Wang, Zhiwei Yan, Mingke Hu. Experimental study and numerical validation on the effect of inclination angle to the thermal performance of solar heat pipe photovoltaic/ thermal system. **Energy**, Volume 223, 15 May 2021, 120020, https://doi.org/10.1016/j.energy.2021.120020.

17. EGY-D-20-07696: Yong Shuaia, Hao Zhang, Bachirou Guene Lougou, Boshu Jiang, Azeem Mustafa, Chi-Hwa Wang, Fuqiang Wang, Jiupeng Zhao. Solar-driven thermochemical redox cycles of ZrO_2 supported $NiFe_2O_4$ for CO_2 reduction into chemical energy. **Energy**, Volume 223, 15 May 2021, 120073, https://doi.org/10.1016/j.energy.2021.120073.

18. EGY-D-20-07807: Almagul Mergalimova, Bulbul Ongar, Aleksandar Georgiev, Kazima Kalieva, Rakhimash Abitaeva, Parassat Bissenbaeyev. Parameters of heat treatment of coal to obtain combustible volatile substances. **Energy**, Volume 224, 1 June 2021, 120088, https://doi.org/10.1016/j.energy.2021.120088.

19. EGY-D-20-07806: Barbara Larwa, Silvia Cesari, Michele Bottarelli. Study on thermal performance of a PCM enhanced hydronic radiant floor heating system. **Energy**, Volume 225, 15 June 2021, 120245, https://doi.org/10.1016/j.energy.2021.120245.

Published articles of AESMT'20 in "Bulgarian Chemical Communications" journal (ISSN: 0324-1130, a journal with SCOPUS citation)", totally 14: Volume 52 Special Issue-C 2020, http://www.bcc.bas.bg/

Published articles of the AESMT'21

Information about the published articles of the AESMT'21 conference, in Ruse, Bulgaria:

- number of representatives of countries who sent works to the conference - 34 (Australia, Austria, Bulgaria, Chile, China, Cyprus, Egypt, France, Germany, Greece, Hungary, India, Iran, Iraq, Israel, Italy, Kazakhstan, Kosovo, Kuwait, Latvia, Lebanon, Lithuania, Macedonia, Nigeria, Norway, Portugal, Romania, Russia, Serbia, Spain, Tajikistan, Turkey, United Kingdom, Yemen);
- number of articles/ reports presented - 78;
- number of articles published/ accepted in „Renewable energy" journal (IF: 8.001) - 11;
- number of articles published/ accepted in „Energy" journal (IF: 7.147) - 12;
- number of articles published/ accepted in „Applied thermal engineering" journal (IF: 5.295) - 8;
- number of articles published/ accepted in „Energies" journal (IF: 3.252) - 1;
- number of articles published in „Bulgarian Chemical Communications" journal (SCOPUS citation) - 9.

Published articles of AESMT'21 in "Renewable Energy" journal, totally 11: (https://www.sciencedirect.com/special-issue/1069SVGC22R)

1. RENE-D-21-04335: Resat Celikel, Musa Yilmaz, Ahmet Gundogdu. A voltage scanning-based MPPT method for PV power systems under complex partial shading conditions. **Renewable Energy** 184 (2022) 361-373, https://doi.org/10.1016/j.renene.2021.11.098.
2. RENE-D-21-04458: Tianxiang Hu, Trevor Hocksun Kwan, Gang Pei. An all-day cooling system that combines solar absorption chiller and radiative cooling. **Renewable Energy** 186 (2022) 831-844, https://doi.org/10.1016/j.renene.2022.01.058.
3. RENE-D-21-04599: Zhaomeng Li, Jie Ji, Jing Li, Xudong Zhao, Yu Cui, Zhiying Song, Xin Wen, TingTing Yao. Experimental investigation and annual performance mathematical-prediction on a novel LT-PV/T system using spiral-descent concentric copper tube heat exchanger as the condenser for large-scale application. **Renewable Energy** 187 (2022) 257-270, https://doi.org/10.1016/j.renene.2022.01.079.
4. RENE-D-21-04315: Veysel Incili, Gülsah Karaca Dolgun, Aleksandar Georgiev, Ali Keçebas, Numan Sabit Çetin. Performance evaluation of novel photovoltaic and Stirling assisted hybrid micro combined heat and power system. **Renewable Energy** 189 (2022) 129-138, https://doi.org/10.1016/j.renene.2022.03.030.
5. RENE-D-21-05007: D. Nikolic, J. Skerlic, J. Radulovic, A. Miskovic, R. Tamasauskas, J. Sadauskiene. Exergy efficiency optimization of photovoltaic and solar collectors' area in buildings with different heating systems. **Renewable Energy** 189 (2022) 1063-1073, https://doi.org/10.1016/j.renene.2022.03.075.
6. RENE-D-21-05183: Michele Bottarelli, Eleonora Baccega, Silvia Cesari, Giuseppe Emmi. Role of phase change materials in backfilling of flat-panels ground heat exchanger. **Renewable Energy**, Volume 189, April 2022, Pages 1324-1336, https://doi.org/10.1016/j.renene.2022.03.061.
7. RENE-D-21-05130: P. T. Gkeka-Serpetsidaki, S. Papadopoulos, T. Tsoutsos. Assessment of the visual impact of offshore wind farms. **Renewable Energy,** Volume 190, May 2022, Pages 358-370, https://doi.org/10.1016/j.renene.2022.03.091.
8. RENE-D-21-05132: Nasrullo Khasanzoda, Inga Zicmane, Svetlana Beryozkina, Murodbek Safaraliev, Sherkhon Sultonov, Alifbek Kirgizov. Regression model for predicting the speed of wind flows for energy needs based on fuzzy logic. **Renewable Energy**, Volume 191, May 2022, Pages 723-731, https://doi.org/10.1016/j.renene.2022.04.017.

9. RENE-D-21-04336: A. Galgaro, E. Di Sipio, A. Carrera, G. Dalla Santa, A. Ramos Escudero, J.M. Cuevas, R. Pasquali, B. Sanner, A. Bernardi. European and municipal scale drillability maps: A tool to identify the most suitable techniques to install borehole heat exchangers (BHE) probes. **Renewable Energy** 192 (2022) 188-199, https://doi.org/10.1016/j.renene.2022.04.120.

10. RENE-D-21-05107: Shijie Xu, Qunzhi Zhu, Yan Hu, Tao Zhang. Design and performance research of a new non-tracking low concentrating with lens for photovoltaic systems. **Renewable Energy** 192 (2022) 174-187, https://doi.org/10.1016/j.renene.2022.04.121.

11. RENE-D-21-05087: Hossein Javadi, Javier F. Urchueguía, Borja Badenes, Miguel Á. Mateo, Ali Nejad Ghafar, Ojas Arun Chaudhari, Giedrius Zirgulis, Lenin G. Lemus. Laboratory and numerical study on innovative grouting materials applicable to borehole heat exchangers (BHE) and borehole thermal energy storage (BTES) systems. **Renewable Energy**, Volume 194, July 2022, Pages 788-804, https://doi.org/10.1016/j.renene.2022.05.152.

Published articles of AESMT'21 in "Energy" journal, totally 12: (https://www.sciencedirect.com/special-issue/10GXZ9BC7GH)

12. EGY-D-21-09122: Xiaoqiao Huang, Qiong Li, Yonghang Tai, Zaiqing Chen, Jun Liu, Junsheng Shi, Wuming Liu. Time series forecasting for hourly photovoltaic power using conditional generative adversarial network and Bi-LSTM. **Energy** 246 (2022) 123403, https://doi.org/10.1016/j.energy.2022.123403.

13. EGY-S-21-10838: J. X. Flores-Lasluisa, F. Huerta, D. Cazorla-Amoros, E. Morallon. Manganese oxides/LaMnO3 perovskite materials and their application in the oxygen reduction reaction. **Energy** 247 (2022) 123456, https://doi.org/10.1016/j.energy.2022.123456.

14. EGY-D-21-07726: Xing Xie, Xing-ni Chen, Bin Xu, Gang Pei. Investigation of occupied/unoccupied period on thermal comfort in Guangzhou: Challenges and opportunities of public buildings with high window-wall ratio. **Energy** 244 (2022) 123186, https://doi.org/10.1016/j.energy.2022.123186.

15. EGY-D-21-07920: Xing Xie, Fei Xia, Yu-qian Zhao, Bin Xu, Yang-liang Wang, Gang Pei. Parametric study on the effect of radiant heating system on indoor thermal comfort with/without external thermal disturbance. **Energy** 249 (2022) 123708, https://doi.org/10.1016/j.energy.2022.123708.

16. EGY-D-21-09121: Cong Wang, Bianfeng Yang, Xu Ji, Ren Zhang, Hailong Wu. Study on activated carbon/silica gel/lithium chloride composite desiccant for solid dehumidification. **Energy**, Volume 251, 15 July 2022, 123874, https://doi.org/10.1016/j.energy.2022.123874.

17. EGY-D-21-08976: Nasrullo Khasanzoda, Murodbek Safaraliev, Inga Zicmane, Svetlana Beryozkina, Jamshed Rahimov, Javod Ahyoev. Use of smart grid based wind resources in isolated power systems. **Energy** 253 (2022) 124188, https://doi.org/10.1016/j.energy.2022.124188.

18. EGY-D-21-09005: L. Lopez, A. Giusti, E. Gutheil, H. Olguin. On the effects of the fuel injection phase on heat release and soot formation in counterflow flames. **Energy**, Volume 254, Part B, 1 September 2022, 124306, https://doi.org/10.1016/j.energy.2022.124306.

19. EGY-D-21-08878: Jie Liu, Chengfeng Xu, Xianze Ao, Kegui Lu, Bin Zhao, GangPei. A dual-layer polymer-based film for all-day sub-ambient radiative sky cooling.

Energy, Volume 254, Part A, 1 September 2022, 124350, https://doi.org/10.1016/j.energy.2022.124350.

20. EGY-D-21-09297: Aliya Askarova, Aleksandar Georgiev, Saltanat Bolegenova, Meruyert Beketayeva, Valeriyu Maximov, Symbat Bolegenova. Computational modeling of pollutants in furnaces of pulverized coal boilers of the republic of Kazakhstan. **Energy** 258 (2022) 124826, https://doi.org/10.1016/j.energy.2022.124826.

21. EGY-D-21-09213: A. A. Genbach, H. I. Beloev, D. Yu Bondartsev, N.A. Genbach. Boiling crisis in porous structures. **Energy** 259 (2022) 125076, https://doi.org/10.1016/j.energy.2022.125076.

22. EGY-D-21-07753: Kenan Saka, Mehmet Fatih Orhan. Analysis of stack operating conditions for a polymer electrolyte membrane fuel cell. **Energy**, Volume 258, 1 November 2022, 124858, https://doi.org/10.1016/j.energy.2022.124858.

23. EGY-D-21-08641: Zaiguo Fu, Lichao Sui, Jin Lu, Jiang Liu, Peifen Weng, Zhuoxiong Zeng, Weiguo Pan. Investigation on effects of hydrogen addition to the thermal performance of a traditional counter-flow combustor. **Energy**, Volume 262, Part A, 1 January 2023, 125465, https://doi.org/10.1016/j.energy.2022.125465.

Published articles of AESMT'21 in "Applied thermal engineering" journal, totally 8:

24. ATE-D-21-05049: Silvia Cesari, Giuseppe Emmi, Michele Bottarelli. A weather forecast-based control for the improvement of PCM enhanced radiant floors. **Applied Thermal Engineering** 206 (2022) 118119, https://doi.org/10.1016/j.applthermaleng.2022.118119.

25. ATE-D-21-04801: Bin Xu, Xing Xie, Xing-ni Chen. Implicit method for solving building heat transfer model and its application in energy-saving materials. **Applied Thermal Engineering** 206 (2022) 118062, https://doi.org/10.1016/j.applthermaleng.2022.118062.

26. ATE-D-21-04724: Jingyong Cai, Haihua Zhou, Tao Zhang, Zhengrong Shi, Qingliang Meng. Sensitivity analysis of structural parameters of a low-temperature heat pump sludge drying system. **Applied Thermal Engineering** 207 (2022) 118172, https://doi.org/10.1016/j.applthermaleng.2022.118172.

27. ATE-D-21-04800: Zhangwei Feng, Chengyun Xin, Tuo Zhou, Jianmei Zhang, Tairan Fu. Airside thermal-hydraulic and fouling performances of economizers with integrally-molded spiral finned tubes for residual heat recovery. **Applied Thermal Engineering,** Volume 211, 5 July 2022, 118365, https://doi.org/10.1016/j.applthermaleng.2022.118365.

28. ATE-D-21-05023: Qiong Li, W. Lin, Xiaoqiao Huang, Yonghang Tai, Xiang Ding, Yougang Zhang, Wenfeng Gao. Thermocline dynamics in a thermally stratified water tank under different operation modes. **Applied Thermal Engineering**, Volume 212, 25 July 2022, 118560, https://doi.org/10.1016/j.applthermaleng.2022.118560.

29. ATE-D-21-05024: Gansong Lu, Ming Li, Yali Liu, Ying Zhang, Le Zhao, Guoliang Li, Jin Li, Zhihan Deng, Xun Ma. Performance characteristics of direct contact refrigeration system based on phase change materials and different refrigerants. **Applied Thermal Engineering** Vol. 215 (2022) 118974, https://doi.org/10.1016/j.applthermaleng.2022.118974.

30. ATE-D-21-05052: D. T. Cotfas, P. A. Cotfas, S. Mahmoudinezhad, M. Louzazni. Critical factors and parameters for hybrid Photovoltaic-Thermoelectric systems; review. **Applied Thermal Engineering** Vol. 215 (2022) 118977, https://doi.org/10.1016/j.applthermaleng.2022.118977.

31. ATE-D-21-06452: Mingke Hu, Bin Zhao, Suhendri, Jingyu Cao, Qiliang Wang, Saffa Riffat, Yuehong Su, Gang Pei. Effect of vacuum scheme on radiative sky cooling

performance. **Applied Thermal Engineering** 219 (2023) 119657, https://doi.org/10.1016/j.applthermaleng.2022.119657.

Published articles of AESMT'22 in "Energies" journal, totally 1:

32. Gülsah Karaca Dolgun, Onur Vahip Güler, Aleksandar G. Georgiev, Ali Keçebas. Experimental Investigation of a Concentrating Bifacial Photovoltaic/Thermal Heat Pump System with a Triangular Trough. **Energies** 2023, 16, 649. https://doi.org/10.3390/en16020649.

Published articles of AESMT'21 in "Bulgarian Chemical Communications" journal (ISSN: 0324-1130, a journal with SCOPUS citation)", totally 9: Volume 53 Special Issue-B 2021, http://www.bcc.bas.bg/

Published articles of the AESMT'22

Information about the published articles of the AESMT'22 conference, in Veliko Turnovo, Bulgaria:

- number of representatives of countries who sent works to the conference - 23 (Belarus, Brazil, Bulgaria, China, Chile, France, Germany, India, Iran, Israel, Italy, Kazakhstan, Kuwait, Latvia, Poland, Portugal, Romania, Russia, Serbia, Spain, Tajikistan, Turkey, United Kingdom);
- number of articles/ reports presented - 67;
- number of articles published in „Renewable energy" journal (IF: 8.634) - 10;
- number of articles published/ accepted in „Energy" journal (IF: 8.857) - 13;
- number of articles published/ accepted in „Applied thermal engineering" journal (IF: 6.465) - 5;
- number of articles published in „Energies" journal (IF: 3.252) - 1;
- number of articles published in „Processes" journal (IF: 3.352) - 1;
- number of articles published in „Bulgarian Chemical Communications" journal (SCOPUS citation) - 5.

Published articles of AESMT'22 in "Renewable Energy" journal, totally 10: (https://www.sciencedirect.com/special-issue/10Z2J1J2D0M)

1. RENE-D-22-06346: Bin Zhao, Jie Liu, Mingke Hu, Xianze Ao, Lanxin Li, Qingdong Xuan, Gang Pei. Performance analysis of a broadband selective absorber/emitter for hybrid utilization of solar thermal and radiative cooling. **Renewable Energy** 205 (2023) 763–771, https://doi.org/10.1016/j.renene.2023.01.094.

2. RENE-D-22-06928: Muchi Yao, Ming Li, Yunfeng Wang, Guoliang Li, Ying Zhang, Meng Gao, Zhihan Deng, Tianyu Xing, Zude Zhang, Wenxiang Zhang. Analysis on characteristics and operation mode of direct solar collector coupled heat pump drying system. **Renewable Energy**, 206, 2023, 223–238, https://doi.org/10.1016/j.renene.2023.02.016.

3. RENE-D-22-07033: Amin Ehtiwesh, Cagri Kutlu, Yuehong Su, Saffa Riffat. Modelling and performance evaluation of a direct steam generation solar power system coupled with steam accumulator to meet electricity demands for a hospital under typical climate conditions in Libya. **Renewable Energy**, 206, 2023, 795–807, https://doi.org/10.1016/j.renene.2023.02.075.

4. RENE-D-22-06737: T. Zhang, Y.F. Zhang, Z. R. Shi, Q. F. Li, J.Y. Cai. Experimental study of a photovoltaic solar-assisted heat pump/ gravity-assisted heat pipe hybrid system. **Renewable Energy** 207 (2023) 147–161, https://doi.org/10.1016/j.renene.2023.03.008.

5. RENE-D-22-06870: Jingyang Han, Haoyue Li, Yong Li, Shiqi Hou. Spectral splitting solar energy transfer in small-diameter multimode optical fiber based on two-stage concentration. **Renewable Energy** 207 (2023) 47–59, https://doi.org/10.1016/j.renene.2023.03.006.

6. RENE-D-22-06869: Kegui Lu, Qiongwan Yu, Bin Zhao, Gang Pei. Performance analysis of a novel PV/T hybrid system based on spectral beam splitting. **Renewable Energy** 207 (2023) 398–406, https://doi.org/10.1016/j.renene.2023.03.007.

7. RENE-D-22-06872: Cagri Kutlu, Yuehong Su, Qinghua Lyu, Saffa Riffat. Thermal management of using crystallization-controllable supercooled PCM in space heating applications for different heating profiles in the UK. **Renewable Energy**, Volume 206, April 2023, Pages 848-857, https://doi.org/10.1016/j.renene.2023.02.077.

8. RENE-D-22-07032: Yong Zhang, Mingke Hu, Ziwei Chen, Yuehong Su, Saffa Riffat. Modelling analysis of a solar-driven thermochemical energy storage unit combined

with heat recovery. **Renewable Energy** 206 (2023) 722–737, https://doi.org/10.1016/j.renene.2023.02.076.

9. RENE-D-22-06867: Giuseppe Emmi, Michele Bottarell. Enhancement of shallow ground heat exchanger with phase change material. **Renewable Energy** 206 (2023) 828–837, https://doi.org/10.1016/j.renene.2023.02.079.

10. RENE-D-22-07034: Haihua Zhou, Jingyong Cai, Tao Zhang, Lijie Xu, Qifen Li, Hongbo Ren, Zhengrong Shi, Fan Zhou. Performance analysis on the concentrated photovoltaic /thermal air collector with phase change material and vacuum double-glazing for temperature regulation. **Renewable Energy** 207 (2023) 27–39, https://doi.org/10.1016/j.renene.2023.03.012.

Published articles of AESMT'22 in "Energy" journal, totally 13: (https://www.sciencedirect.com/special-issue/10B8SZ81BX5)

11. EGY-D-22-11004: Bachirou Guene Lougou, Lianxuan Wu, Danni Ma, Boxi Geng, Boshu Jiang, Donmei Han, Hao Zhang, Piotr Łapka, Yong Shuai. Efficient conversion of solar energy through a macroporous ceramic receiver coupling heat transfer and thermochemical reactions. **Energy**, Volume 271, 15 May 2023, 126989, https://doi.org/10.1016/j.energy.2023.126989.

12. EGY-D-22-12137: Xiaoqiao Huang, Jun Liu, Shaozhen Xu, Chengli Li, Qiong Li, Yonghang Tai. A 3D ConvLSTM-CNN network based on multi-channel color extraction for ultra-short-term solar irradiance forecasting. **Energy**, Volume 272, 1 June 2023, 127140, https://doi.org/10.1016/j.energy.2023.127140.

13. EGY-D-22-10928: M. P. Aleksandrova. Study of lead-free perovskite photoconverting structures by impedance spectroscopy. **Energy**, Volume 273, 15 June 2023, 127141, https://doi.org/10.1016/j.energy.2023.127141.

14. EGY-D-22-12146: Xirong Yue, Xu Ji, Haiyang Xu, Bianfeng Yang, Mengqi Wang, Yuan Yang. Performance investigation on GO-TiO2/PVDF composite ultrafiltration membrane for slightly polluted ground water treatment. **Energy**, Volume 273, 15 June 2023, 127215, https://doi.org/10.1016/j.energy.2023.127215.

15. EGY-D-22-11036: Haomin Wang, Xin Liu, Xiao Liu, Chenggong Sun, Yupeng Wu. Fluidizable mesoporous silica composites for thermochemical energy storage. **Energy**, Volume 275, 15 July 2023, 127255, https://doi.org/10.1016/j.energy.2023.127255.

16. EGY-D-22-10589: J.X. Flores-Lasluisa, F. Huerta, D. Cazorla-Amoros, E. Morallon. LaNi1-xCoxO3 perovskites for application in electrochemical reactions involving molecular oxygen. **Energy**, Volume 273, 15 June 2023, 127256, https://doi.org/10.1016/j.energy.2023.127256.

17. EGY-D-22-10982: Tianyu Xing, Xi Luo, Ming Li, Yunfeng Wang, Zhihan Deng, Muchi Yao, Wenxiang Zhang, Zude Zhang, Meng Gao. Study on drying characteristics of Gentiana macrophylla under the interaction of temperature and relative humidity. **Energy**, Volume 273, 15 June 2023, 127261, https://doi.org/10.1016/j.energy.2023.127261.

18. EGY-D-23-01139: Zenan Xiao, Xiaoqiao Huang, Jun Liu, Chengli Li, Yonghang Tai. A novel method based on time series ensemble model for hourly photovoltaic power prediction. **Energy** 276 (2023) 127542, https://doi.org/10.1016/j.energy.2023.127542.

19. EGY-D-22-11011: Yingxu Chen, Xu Ji, Guanchao Lv, Yicong Jia, Bianfeng Yang, Jingyang Han. Study on compound parabolic concentrating vaporized desalination system with preheating and heat recovery. **Energy** 276 (2023) 127619, https://doi.org/10.1016/j.energy.2023.127619.

20. EGY-D-23-00299: Saltanat Bolegenova, Aliya Askarova, Aleksandar Georgiev, Aizhan Nugymanova, Valeriy Maximov, Symbat Bolegenova, Bolat Mamedov. The use of

plasma technologies to optimize fuel combustion processes and reduce emissions of harmful substances. **Energy** 277 (2023) 127635, https://doi.org/10.1016/j.energy.2023.127635.

21. EGY-D-23-02001: Sultan Ybray, Arystan Dikhanbaev, Bayandy Dikhanbaev, Almagul Mergalimova, Aleksandar Georgiev. Development of a technology for the production of hydrogen-enriched synthesis gas with waste-free processing of Ekibastuz coal. **Energy** 278 (2023) 127817, https://doi.org/10.1016/j.energy.2023.127817.

22. EGY-D-22-10926: C. D. Jaimes-Paez, E. Morallon, D. Cazorla-Amoros. Few layers graphene-based electrocatalysts for ORR synthesized by electrochemical exfoliation methods. **Energy** 278 (2023) 127888, https://doi.org/10.1016/j.energy.2023.127888.

23. EGY-D-22-11021: Ziwei Chen, Yanan Zhang, Yong Zhang, Yuehong Su, Saffa Riffat. A Study on Vermiculite-based Salt Mixture Composite Materials for Low-grade Thermochemical Adsorption Heat Storage. **Energy** 278 (2023) 127986, https://doi.org/10.1016/j.energy.2023.127986.

Published articles of AESMT'22 in "Applied thermal engineering" journal, totally 5: (https://www.sciencedirect.com/special-issue/1038BF958XM)

24. ATE-D-22-06796: Xing-ni Chen, Bin Xu, Xing Xie, Gang Pei. Evaluating and optimizing the energy saving benefits of latent heat in phase change materials with new indices. **Applied Thermal Engineering**, Volume 228, 25 June 2023, 120479, https://doi.org/10.1016/j.applthermaleng.2023.120479.

25. ATE-D-22-06838: Eleonora Baccega, Michele Bottarelli, Silvia Cesari. Addition of granular phase change materials (PCMs) and graphene to a cement-based mortar to improve its thermal performances. **Applied Thermal Engineering** 229 (2023) 120582, https://doi.org/10.1016/j.applthermaleng.2023.120582.

26. ATE-D-22-06954: Zhangwei Feng, Binjie Su, Chengyun Xin, Tuo Zhou, Yong Hao, Tairan Fu. Airside thermal–hydraulic performance evaluation of flue gas coolers for waste heat recovery. **Applied Thermal Engineering** 228 (2023) 120433, https://doi.org/10.1016/j.applthermaleng.2023.120433.

27. ATE-D-22-06837: Jiaming Song, Jinqing Peng, Jingyu Cao, Rongxin Yin, Yingdong He, Bin Zou, Wanfang Zhao. Global sensitivity analysis of fan coil air conditioning demand response - a case study of medium-sized office buildings. **Applied Thermal Engineering** 230 (2023) 120721, https://doi.org/10.1016/j.applthermaleng.2023.120721.

28. ATE-D-22-06953: Javier F. Urchueguia, Borja Badenes, Hossein Javadi, Miguel Angel Mateo, Bruno Armengot. Adapted composite two - region line source methods for evaluation of borehole heat exchangers with advanced materials. **Applied Thermal Engineering**, Volume 231, August 2023, 120910, https://doi.org/10.1016/j.applthermaleng.2023.120910.

Published articles of AESMT'22 in "Energies" journal, totally 1:

29. Daniela Dzhonova-Atanasova, Aleksandar Georgiev, Svetoslav Nakov, Stela Panyovska, Tatyana Petrova, Subarna Maiti. Compact Thermal Storage with Phase Change Material for Low-TemperatureWaste Heat Recovery - Advances and Perspectives. **Energies** 2022, 15, 8269, https://doi.org/10.3390/en15218269.

Published articles of AESMT'22 in "Processes" journal, totally 1:

30. Gülsah Karaca Dolgun, Meltem Kosan, Muhammet Kayfeci, Aleksandar G. Georgiev, Ali Keçebas. Life Cycle Assessment and Cumulative Energy Demand Analyses of a Photovoltaic/Thermal System with MWCNT/Water and GNP/Water Nanofluids. **Processes**, 2023, 11, 832. https://doi.org/10.3390/pr11030832.

Published articles of AESMT'22 in "Bulgarian Chemical Communications" journal (ISSN: 0324-1130, a journal with SCOPUS citation)", **totally 5:**

31. N. M. Petrov, M. R. Mladenović, N. R. Rudonja, SNCR in biomass combustion facilities: from theories to existing models. **Bulgarian Chemical Communications**, Vol. 55 (2), pp. 141-148, 2023, DOI: 10.34049/bcc.55.2.AESMT22-05.

32. G. Golan, M. Azoulay, High sensitivity calorimetric sensor for flow measurements. **Bulgarian Chemical Communications**, Vol. 55 (2), pp. 149-152, 2023, DOI: 10.34049/bcc.55.2.AESMT22-21.

33. B. Ongar, Hr. Beloev, A. Georgiev, I. Iliev, A. Kijo-Kleczkowska. Optimization of the design and operating characteristics of a boiler based on three-dimensional mathematical modeling. **Bulgarian Chemical Communications**, Vol. 55 (2), pp. 153-159, 2023, DOI: 10.34049/bcc.55.2.AESMT22-54.

34. M. D. Simov, V. S. Rupetsov, Ch. O. Pashinski, Investigation of the properties of Ti/TiN/TiCN gradient hard coating deposited on Stavax ESR steel. **Bulgarian Chemical Communications**, Vol. 55 (2), pp. 160-165, 2023, DOI: 10.34049/bcc.55.2.AESMT22-55.

35. A. S. Askarova, Sa. A. Bolegenova, A. G. Georgiev, V. Yu. Maximov, Sy. A. Bolegenova, M.T. Beketayeva, A. M. Mukhtarova. Study of combustion processes in the combustion chambers of power facilities. **Bulgarian Chemical Communications**, Vol. 55 (2), pp. 166-172, 2023, DOI: 10.34049/bcc.55.2.AESMT22-84.

Published articles of the AESMT'23

Information about the published articles of the AESMT'23 conference, in Sofia, Bulgaria:

- number of representatives of countries who sent works to the conference - 24 countries (Bulgaria, Canada, China, Cuba, Germany, Greece, India, Iraq, Israel, Italy, Kazakhstan, Kosovo, Latvia, Macedonia, Poland, Portugal, Romania, Russia, Serbia, Singapore, Spain, Turkey, Ukraine, United Kingdom);
- number of articles/ reports presented - 71;
- number of articles published in „Renewable energy" journal (IF: 8.7) - 17;
- number of articles published/ accepted in „Energy" journal (IF: 9.0) - 13;
- number of articles published/ accepted in „Applied thermal engineering" journal (IF: 6.4) - 9;
- number of articles published in „Bulgarian Chemical Communications" journal (SCOPUS citation) - 5.

Published articles of AESMT'23 in "Renewable Energy" journal, totally 17: (https://www.sciencedirect.com/special-issue/10M5H8Z4Z95)

1. RENE-D-23-04639: Bin Zhao, Qingdong Xuan, Chengfeng Xu, Mingke Hu, Yousef N. Dabwan, Gang Pei. Considerations of passive radiative cooling. **Renewable Energy**, Volume 219 (2023) 119486, https://doi.org/10.1016/j.renene.2023.119486.

2. RENE-D-23-04543: Biao Li, Chen Lei, Wenpu Zhang, Victor Samuel Olawoore, Yong Shuai. Numerical model study on influences of photovoltaic plants on local microclimate. **Renewable Energy**, Volume 221, February 2024, 119551, DOI: https://doi.org/10.1016/j.renene.2023.119551.

3. RENE-D-23-04135: Jingyong Cai, Chu Weng, Ruonan Zhang, Qifen Li, Tao Zhang, Zhengrong Shi. Comparative analysis on the dynamic operation performance of photovoltaic/thermal powered proton exchange membrane water electrolysis cogeneration system (PV/T-PEMWE) under different connection modes. **Renewable Energy**, Volume 219 (2023) 119566, https://doi.org/10.1016/j.renene.2023.119566.

4. RENE-D-23-04747: K. Aljundi, A. Figueiredo, A. Vieira, J. Lapa, R. Cardoso. Geothermal energy system application: From basic standard performance to sustainability reflection. **Renewable Energy,** Volume 220 (2024) 119612, https://doi.org/10.1016/j.renene.2023.119612.

5. RENE-D-23-04739: Tianxiang Hu, Han Zhang, Trevor Hocksun Kwan, Qiliang Wang, Gang Pei. Thermal performance analysis of eccentric double-selective-coated parabolic trough receivers with flat upper surface. **Renewable Energy**, Volume 220 (2024) 119613, https://doi.org/10.1016/j.renene.2023.119613.

6. RENE-D-23-04797: Shuai Gong, Qiong Li, Liqun Shao, Yuwen Ding, Wenfeng Gao. Performance analysis of V-corrugated flat plate collector containing binary crystal thermal storage materials. **Renewable Energy,** Volume 221 (2024) 119705, https://doi.org/10.1016/j.renene.2023.119705.

7. RENE-D-23-04792: He Zhao, Xiaoqiao Huang, Zenan Xiao, Haoyuan Shi, Chengli Li, Yonghang Tai. Weekly solar irradiation forecasting method based on ICCEMDAN and TimesNet networks. **Renewable Energy**, Volume 220 (2024) 119706, https://doi.org/10.1016/j.renene.2023.119706.

8. RENE-D-23-04784: Haiyang Xu, Le Zhang, Sheng Jie Wei, Xuan Tong, Yue Yang, Xu Ji. A novel solar system for photothermal-assisted electrocatalytic nitrate reduction reaction to ammonia. **Renewable Energy**, Volume 221 (2024) 119707, https://doi.org/10.1016/j.renene.2023.119707.

9. RENE-D-23-04752: Giuseppe Emmi, Eleonora Baccega, Silvia Cesari, Elena Mainardi, Michele Bottarelli. Energy analysis of multi-source heat pump system: A real case study application. **Renewable Energy**, Volume 221 (2024) 119708, https://doi.org/10.1016/j.renene.2023.119708.

10. RENE-D-23-04737: Yingxu Chen, Xu Ji, Bianfeng Yang, Yicong Jia, Mengqi Wang. Performance enhancement of compound parabolic concentrating vaporized desalination system by spraying and steam heat recovery. **Renewable Energy**, Volume 220 (2024) 119709, https://doi.org/10.1016/j.renene.2023.119709.

11. RENE-D-23-04247: Fengqiang Deng, Wei Li, Peng Pei, Lin Wang, Yonglin Ren. Study on design and calculation method of borehole heat exchangers based on seasonal patterns of groundwater. **Renewable Energy**, Volume 220 (2024) 119711, https://doi.org/10.1016/j.renene.2023.119711.

12. RENE-D-23-04749: Yong Zhang, Mingke Hu, Ziwei Chen, Yuehong Su, Saffa Riffat. Exploring a novel tubular-type modular reactor for solar-driven thermochemical energy storage. **Renewable Energy**, Volume 221 (2024) 119767, https://doi.org/10.1016/j.renene.2023.119767.

13. RENE-D-23-04946: Javier F. Urchueguia, Borja Badenes, Miguel A. Mateo Pla, Bruno Armengot, Hossein Javadi. New trilobular geometry using advanced materials for experimentally validated enhanced heat transfer in shallow geothermal applications. **Renewable Energy**, Volume 222, February 2024, 119816, https://doi.org/10.1016/j.renene.2023.119816.

14. RENE-D-23-04756: D. T. Cotfas, A. Enesca, P. A. Cotfas. Enhancing the performance of the solar thermoelectric generator in unconcentrated and concentrated light. **Renewable Energy**, Volume 221, February 2024, 119831, https://doi.org/10.1016/j.renene.2023.119831.

15. RENE-D-23-04754: Zaiguo Fu, Mingxing Xue, Zhixiong Shao, Qunzhi Zhu. Performance evaluation of a novel vacuum-tube PV/T system with inserted PV module and heat pipe. **Renewable Energy**, Volume 223, March 2024, 120027, https://doi.org/10.1016/j.renene.2024.120027.

16. RENE-D-23-04791: Shaozhen Xu, Jun Liu, Xiaoqiao Huang, Chengli Li, Zaiqing Chen, Yonghang Tai. Minutely multi-step irradiance forecasting based on all-sky images using LSTM-InformerStack hybrid model with dual feature enhancement. **Renewable Energy**, Volume 224, April 2024, 120135, https://doi.org/10.1016/j.renene.2024.120135.

17. RENE-D-23-04735: I. Keroglou , T. Tsoutsos. Optimal siting of solar desalination plants in Crete, Greece employing a GIS/MCDM approach. **Renewable Energy**, Volume 224, April 2024, 120168, https://doi.org/10.1016/j.renene.2024.120168.

Published articles of AESMT'23 in "Energy" journal, totally 13: (https://www.sciencedirect.com/special-issue/106WS7QJ7WZ)

18. EGY-D-23-08131: Bin Xu, Xing-ni Chen, Gang Pei. Combination optimization, importance order of parameters and aging consequence prediction for thermal insulation coating with radiation characteristics. **Energy**, Volume 290, 1 March 2024, 129981, https://doi.org/10.1016/j.energy.2023.129981.

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32. ATE-D-23-04975: Chengzhi Lang, Changxin Lu, Ben Sun, Chengyun Xin, Tuo Zhou, Tairan Fu. Performance comparison of inline and staggered integrally-molded spiral

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38. ATE-D-23-04950: Weixin Liu, Jingyu Cao, Tianxiang Hu, Dongsheng Jiao, Gang Pei. Experimental investigation on the characteristics of a controllable separate heat pipe-based cold storage temperature control system. **Applied Thermal Engineering** 241 (2024) 122356, https://doi.org/10.1016/j.applthermaleng.2024.122356.

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42. A. Auce, A. Jermuss, A. Rucins, I. Auce, I. A. Horns. Solar and heat pump hybrid heated greenhouse in Latvia: energy storage and CO2 reduction. **Bulgarian Chemical Communications,** Vol. 56 (1), pp. 32-37, 2024, DOI: 10.34049/bcc.56.1.AESMT23-09.

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Published articles of the AESMT'24

Information about the published articles of the AESMT'24 conference, in Sofia, Bulgaria:

- number of representatives of countries who sent works to the conference - 22 countries ((Bulgaria, Canada, China, Cyprus, France, Germany, Greece, India, Israel, Italy, Kazakhstan, Kosovo, Lithuania, Moldova, Poland, Portugal, Romania, Russia, Serbia, Spain, Turkey, United Kingdom);
- number of articles/ reports presented - 82;
- number of articles published in „Renewable energy" journal (IF: 9.0) - 18;
- number of articles published/ accepted in „Energy" journal (IF: 9.0) - 14;
- number of articles published/ accepted in „Applied thermal engineering" journal (IF: 6.1) - 10;
- number of articles published/ accepted in „Solar energy" journal (IF: 6.0) - 2;
- number of articles published in „Bulgarian Chemical Communications" journal (SCOPUS citation) - 1.

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2. RENE-D-24-06464: Nazgul K. Tanasheva, Ainura N. Dyusembaeva, Asem R. Bakhtybekova, Leonid L. Minkov, Maxim A. Burkov, Nurgul N. Shuyushbayeva, Akmaral Zh Tleubergenova. CFD simulation and experimental investigation of a Magnus wind turbine with an improved blade shape. **Renewable Energy**, Volume 237, Part B, December 2024, 121698, https://doi.org/10.1016/j.renene.2024.121698.
3. RENE-D-24-06826: Leyang Zhu, Xiaoqiao Huang, Zongbin Zhang, Chengli Li, Yonghang Tai. A novel U-LSTM-AFT model for hourly solar irradiance forecasting. **Renewable Energy**, Volume 238, 2025, 121955, https://doi.org/10.1016/j.renene.2024.121955.
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5. RENE-D-24-06827: Ya Dan, Mingke Hu, Qiliang Wang, Yuehong Su, Saffa Riffat. Enhancing radiative sky cooling performance by employing crossed compound parabolic concentrating configurations. **Renewable Energy**, Volume 239, 1 February 2025, 121979, https://doi.org/10.1016/j.renene.2024.121979.
6. RENE-D-24-06815: Yinlong Zhu, Guoliang Li, Yonglei Jiang, Ming Li, Yunfeng Wang, Ying Zhang, Yali Liu, Muchi Yao. Predicting photovoltaic greenhouse irradiance at low-latitudes of plateau based on ultra-short-term time series. **Renewable Energy** 239 (2025) 122053, https://doi.org/10.1016/j.renene.2024.122053.
7. RENE-D-24-06102: Haifei Chen, Xulei Li, Jian Gao, Jingyu Cao, Hao Dong, Wenjie Wang, Yawei Chen. Comparative study on a solar-assisted ground source heat pump with CPC solar collector and phase change heat storage. **Renewable Energy** 239 (2025) 122065, https://doi.org/10.1016/j.renene.2024.122065.
8. RENE-D-24-06089: Xue Li, Ken Chen, Jianglei Michael Su, Hai Zhou, Zhongyi Ren, Bin Zhao, Gang Pei. Performance study of a vacuum photovoltaic/thermal collector with

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9. RENE-D-24-06829: Yali Liu, Ying Zhang, Ming Li, Yunfeng Wang, Guoliang Li, Qiongfen Yu, Runsheng Tang, Xintian Yang, Xin Li. Novel water-based composite phase change materials for cold energy storage applications. **Renewable Energy** 240 (2025) 122174, https://doi.org/10.1016/j.renene.2024.122174.

10. RENE-D-24-06086: Tao Zhang, Shijing Feng, Jinming Zhai, Zhengrong Shi, Jie Ji. Experimental study on the switching logic of a photovoltaic solar-assisted loop thermosiphon /heat pump hybrid system in enthalpy difference laboratory. **Renewable Energy**, Volume 239, 1 February 2025, 122176, https://doi.org/10.1016/j.renene.2024.122176.

11. RENE-D-24-06582: Hazim Dirawi, Qiliang Wang, Mingke Hu, Yuehong Su, Saffa Riffat. Comprehensive performance analysis of a novel closed-loop hydronic cooling of photovoltaic panel with a controlled intermittent flow strategy. **Renewable Energy**, Volume 239, 1 February 2025, 122185, https://doi.org/10.1016/j.renene.2024.122185.

12. RENE-D-24-06182: Shixun Hu, Wei Li, Peng Pei, Chen Wang, Long Tang. Study on the thermo-mechanical coupling behavior of phase change backfill materials and its influence on the borehole and surrounding ground. **Renewable Energy**, Volume 241, March 2025, 122323, https://doi.org/10.1016/j.renene.2024.122323.

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20. EGY-D-24-14049: Bin Xu, Tianchen Huang, Jianbin Jing, Chuanxia Zhang, Kang Li, Yangliang Wang, Taohong Ye. Heat flux distribution and deviation of stagnation point on blunt body under atmospheric dense environment. **Energy**, Volume 319, 15 March 2025, 35007, https://doi.org/10.1016/j.energy.2025.135007.

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23. EGY-D-24-14113: A.V. Cherpakova, M.V. Solovyeva, A.D. Grekova, Yu.I. Aristov, L.G. Gordeeva. Mesoporous silica gels for waste heat recovery and adsorption cooling of Big Data Centres. **Energy** 316 (2025) 134427, https://doi.org/10.1016/j.energy.2025.134427.

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30. EGY-D-24-14115: A. V. Cherpakova, A. D. Grekova, L. G. Gordeeva. Composite based on lithium chloride and highly porous silica gel for adsorptive heat storage systems. **Energy** 321 (2025) 135435, https://doi.org/10.1016/j.energy.2025.135435.

31. EGY-D-24-14960: Aliya Askarova, Aleksandar Georgiev, Saltanat Bolegenova, Valeriy Maximov, Symbat Bolegenova, Dimash Toktarov, Aizhan Nugymanova. Highly efficient plasma technology for ignition and thermochemical preparation of high-ash fuel in

various power boilers in Kazakhstan. **Energy** 322 (2025) 135677, https://doi.org/10.1016/j.energy.2025.135677.

32. EGY-D-24-14071: Darya S. Loenko, Mikhail A. Sheremet. Effect of solid/porous finned system on cooling of heat-generating element in a cavity filled with non-Newtonian nanosuspension and bottom heat-conducting substrate. **Energy** 329 (2025) 136663, https://doi.org/10.1016/j.energy.2025.136663.

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34. ATE-D-24-06939: Junjie Chen, Ken Chen, Bin Zhao, Jie Yu, Maobin Hu, Gang Pei. Numerical analysis of spectrally selective photovoltaic-thermal collectors coupled with pit thermal energy storage in solar district heating systems Author links open overlay panel. **Applied Thermal Engineering**, Volume 262, 1 March 2025, 125239, https://doi.org/10.1016/j.applthermaleng.2024.125239.

35. ATE-D-24-07127: Changxin Lu, Ben Sun, Chengzhi Lang, Jiawei Li, Chengyun Xin, Tuo Zhou, Tairan Fu. Numerical investigation on ash deposition and wear performance of integrally-molded double-sided spiral finned tubes for waste heat recovery. **Applied Thermal Engineering** 266 (2025) 125593, https://doi.org/10.1016/j.applthermaleng.2025.125593.

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38. ATE-D-24-07133. C.A. García Vázquez, D.T. Cotfas, A.I. González Santos, P.A. Cotfas, B.Y. León Ávila, V. Pérez Garrido. Optimal tuning of PID controllers focused on energy efficiency in a multivariable and coupled system. Case study: An AHU in the biopharmaceutical industry. **Applied Thermal Engineering** 269 (2025) 126053, https://doi.org/10.1016/j.applthermaleng.2025.126053.

39. ATE-D-24-07112: G. Lombardo, G. Zanetti, D. Menegazzo, L. Vallese, S. Bordignon, M.De Carli, M. Bottarelli, A.A. Aydin, F. Agresti, S. Bobbo, L. Fedele. Comparative performance analysis of eutectic salt-water solutions in latent thermal energy storage for residential applications: Insights from the ECHO project. **Applied Thermal Engineering**, Volume 268, 1 June 2025, 125917, https://doi.org/10.1016/j.applthermaleng.2025.125917.

40. ATE-D-24-07193. Ming Jun Huang, Gerard Obasi, Sarah McCormack, Neil J. Hewitt. Experimental investigation of the PCM-EG radiant floor heating driven by ASHP with advanced heat transfer enhancement. **Applied Thermal Engineering**, Volume 267, 15 May 2025, 125781, https://doi.org/10.1016/j.applthermaleng.2025.125781.

41. ATE-D-24-07138: Zhaopeng Huang, Qiong Li, Yiyuan He, Xiang Ding, Yunli Dong, Wenfeng Gao. Coupled heat and mass transfer analysis for indoor air quality and

thermal comfort in naturally ventilated offices. **Applied Thermal Engineering**, Volume 269, Part A, 15 June 2025, 126019, https://doi.org/10.1016/j.applthermaleng.2025.126019.

42. ATE-D-24-07126: Zhuohao He, Feng Cheng, Xiuwei Li. Comparative analysis between concentration difference energy storage method and super-capacitor energy storage method for absorption air-conditioning system. **Applied Thermal Engineering** 271 (2025) 126343, https://doi.org/10.1016/j.applthermaleng.2025.126343.

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43. SEJ_113306_2025. Bin Zhao, Kegui Lu, Wenshuo Zhang, Cheng Jin, Qingdong Xuan, Gang Pei. Thermo-responsive hydrogel-based building envelopes for building energy-saving. **Solar Energy**, Volume 288, 1 March 2025, 113306, https://doi.org/10.1016/j.solener.2025.113306.

44. SEJ-D-24-03075: Haoyi Yao, Yunfeng Wang, Xun Ma, Ming Li, Fangling Fan. An investigation on daylight in PV greenhouse for mushroom vertical cultivation in Kunming, China. **Solar Energy** 291 (2025) 113414, https://doi.org/10.1016/j.solener.2025.113414.

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(http://www.bcc.bas.bg/)

45. I. K. Iliev, A. V. Fedyukhin, Y. V. Yavorovsky, H. I. Beloev. The application of an energy metric (EROI) for the analysis of a city energy profile. **Bulgarian Chemical Communications,** Vol. 56 (4), pp. 433-440, 2024, DOI: 10.34049/bcc.56.4.5679.