



Program Summary, 18 – 21 September, 2020, Location: *Holiday house Sozopol*

Friday, 18 th Sept., 2020	Saturday 19 th Sept., 2020	Sunday 20 th , Sept. 2020	Sunday 20 th , Sept. 2020
14:00 ~ 19:00 Registration of participants	09:00 ~ 12:00 Registration of participants	09:00 ~ 11:00 Presentation session 1	09:00 ~ 11:00 Presentation session 1A
19:30 ~ 22:30 Conference cocktail	10:30 ~ 11:30 Opening ceremony A word from the sponsors	11:00 ~ 11:30 Coffee Break	11:00 ~ 11:30 Coffee Break
		11:30 ~ 12:30 Presentation session 2	11:30 ~ 12:30 Presentation session 2A
	11:30 ~ 12:30 Lunch Break	12:30 ~ 14:00 Lunch	12:30 ~ 14:00 Lunch
	12:30 ~ 14:15 On-line session 1	14:00 ~ 15:30 Presentation session 3	14:00 ~ 16:00 Presentation session 3A
	14:15 ~ 16:30 On-line session 2	16:00 ~ 16:30 Coffee break	16:00 ~ 16:00 Coffee break
	16:30 ~ 18:00 On-line session 3		16:30 ~ 19:00 Presentation session 4A
	18:00 ~ 18:45 On-line session 4		
	19:30 Conference gala dinner		

Time per presentation: **10 minutes** and **5 minutes** for questions/discussions.



Two parallel sessions in time, in two rooms: 1 and 1A

Poster session - Date 19.09.2020; Place: Holiday House Sozopol; Time: 14:00-17:00

Presentation sessions

On-line Session 1 – Renewable energy and Environment protection		
Saturday 19th, Sept. 2020, Time: 12:30 ~ 14:15		
Chairman: Assoc. Prof. Angel Terziev		
#	Authors	Title, Paper ID
1	Violetta Gassiy, Vasiliy Stoikov	Renewable energy and green construction in the Arctic, ID 4
2	Violetta Gassiy	Renewable energy and green market development in Russia, ID 9
3	Ion V. Ion, Carp Bogdan Gabriel, Mocanu Gabriel, Florin Popescu	Energy from municipal solid wastes: Galati city case study, ID 11
4	Nikolay Makisha, Igor Gulshin	Solid bio-fuel production at Moscow wastewater treatment plant, ID 25
5	Igor Gulshin, Nikolay Makisha	Adaptation of activated sludge with anammox to low temperatures, ID 27
6	Marius E Tiboaca, Petrica Radan, Stan M Andrei	Wind power forecasting using machine learning, ID 37
7	Gadayev Sadik , Rustamov , Glovatskiy Oleg , Ismailov Naim , Jurayev Sanjar , Ergasev Rustam	EXPERIMENTAL RESEARCH AND CALCULATION OF PROFILE LOSSES OF ENERGY OF THE GUIDING DEVICE OF HYDRO POWER INSTALLATIONS, ID 57

**On-line Session 2 – Renewable energy and Environment protection****Saturday 19th , Sept. 2020, Time: 14:15 ~ 16:30**

Chairman: Assoc. Prof. Martin Ivanov

#	Authors	Title, Paper ID
1	Djurayev Kurban , Muhammadiyev Muradulla ,Urishev Boboraim, Kan Eduard	New methods of application of micro-hydroelectric power plants at existing hydraulic structures: schemes, parameters, efficiency, ID 52
2	Saidov Saidov Farid , Paluanov Daniyar	MODEL FOR CALCULATING WATER RISE THROUGH TOP OF GROUND DAM, ID 53
3	Gulmira Gulmira Akimbek , Birlesbek Aliyarov , Shyryn Akimbekova	THE DEVELOPMENT OF A METHOD AND DETERMINATION OF THE RELATIVE ABRASIVENESS OF BULK SUBSTANCES, ID 58
4	Gulmira Gulmira Akimbek, Balzhan Bakhtiyar, Shyryn Akimbekova	Reconstruction of the boiler air preheating system station no. 11, ID 63
5	Cansev GENÇ , Abdulla Sakalli , Ivaylo Stoyanov , Teodor B. Iliev , Grigor Mihaylov , Ivan Beloiev	Development of Wind Energy and the Installed Wind Power Plants in Turkey, ID 67
6	Cansev GENÇ, Abdulla Sakalli, Teodor B. Iliev , Ivaylo Stoyanov , Grigor Mihaylov, Ivan Beloiev	Wind Energy Potential for Electricity Production in Hatay, Turkey, ID 68
7	Dana Brazhanova, Stoyak Vyacheslav, Madina Ibragimova	Methodology for determination of heat losses from infiltration and ventilation and heat gains from people in overall energy balance of the building, ID 72
8	Ion V. Ion	Energy Performance of a Kalina Cycle based CHP plant driven by low-enthalpy geothermal sources, ID 75
9	Mamatkulov Dilmurat , Muhammadiyev Muradulla , Glovatskiy Oleg , Khamdamov Bekmamat , Murodov Hojiakbar , Gazaryan Aleksandr	RESEARCHES OF ENERGY BALANCE IN OPERATING WHEELS OF TURNING BLADES TURBINS AND PUMPS, ID 54

**On-line Session 3 – Fundamental and applied fluid mechanics, Heat and mass transfer****Saturday 19th, Sept. 2020, Time: 16:30 ~ 18:00**

Chairman: Assoc. Prof. Angel Terziev

#	Authors	Title, Paper ID
1	Dmitry Svoboda , Igor Borshchev , Aleksandr Zharkovskii , Evgeniy Ivanov , Arsentiy Klyuyev	CFD computation of flow in the flow path of a torque flow pump, ID 35
2	Svetlin Antonov , Van Viet Ma , Van Sy Le	STUDY ON THE FORMABILITY BY TPIF TECHNOLOGY FOR ALUMINUM SHEET AT ROOM TEMPERATURE, ID 59
3	Svetlin Antonov , Van Viet Ma , Van Sy Le	Effect of lubrication on deforming the aluminum sheet with two points incremental forming technology, ID 60
4	Nguyen Thanh Nam , Khanh Le Dien	A Study on the Effects of Technical Parameters on the Tensile Strength of Bamboo Plywood, ID 73
5	Momchil Vassilev , Thanh Nhan Phan, Van Hung Tran , Nikola Kaloyanov	Heat transfer performance of R1234yf for convective boiling in horizontal micro-fin and smooth tubes, ID 77
6	Van Hung Tran , Thanh Nhan Phan , Nikola Kaloyanov , Momchil Vassilev	Efficiency evaluation of water production from the atmospheric air in Vietnam, ID 78

On-line Session 4 – Electrohydraulic Power and Control Systems, Control and Automation of energy processes**Saturday 19th, Sept. 2020, Time: 18:00 ~ 18:45**

Chairman: Assoc. Prof. Martin Ivanov

#	Authors	Title, Paper ID
1	Saidov Saidov Farid , Muhammadiyev Muradulla , Glovatskiy Oleg , Ergasev Rustam , Nasirova Naira	ASSESSMENT OF TECHNICAL CONDITION AND READINESS OF PUMP UNITS BY DIAGNOSTIC METHODS, ID 50
2	Abdurauf Abduaziz, Glovatskiy , Azizov Oybek , Saparov Anvar , Rustamov Sherzod	MODERNIZATION OF PUMPS WITH CHANGED CONSTRUCTION OF THE FLOW , ID 51
3	Jaroslav Markowski , Krzysztof Jesionek , Grzegorz Wieczorkiewicz , Damian Olejniczak , Marcin Nowacki	The concept of measurement of calorific value of gaseous fuels, ID



Presentation session 1 - Design and Technologies for Clothing and Textiles, Advanced Fibres and Materials, Innovative Textiles		
Sunday 20th, Sept. 2020, Time: 9:00 ~ 11:00		
Chairman: Prof. Diana Krasteva		
#	Authors	Title, ID
1	Radka Atanasova	Women's clothing with eco design features, ID 12
2	Diana Krasteva	Deformation behaviour of textile electrodes during compression, ID 13
3	Diana Krasteva	Analysis of defects and their impact on the production losses using Pareto diagrams, ID 19
4	Radostina A. Angelova	The circular economy: a new paradigm for the textile and clothing industries , ID 28
5	Daniela Sofronova , Yavor Sofronov	Evaluation of stitch length accuracy of embroidery machine by different speed and step, ID 32
6	Daniela Sofronova	Application and technologies for textile sensors production used in pressure distribution measurement – a critical review, ID 34
7	Raya Stouanova , Sasho Aleksandroov , Umme Kapanak	Study of the influence of compressive force on the coefficients of friction for wool-containing fabrics, ID 41
8	Magdalena Pavlova , Radka Atanasova	Developing a creative method for reuse of clothing, ID 44
9	Raya Stouanova	Experimental determination of the frictional characteristics of fabrics made of wool, ID 42

**Presentation session 1A - Building Efficiency Improvements and HVAC systems, Heat and mass transfer****Sunday 20th, Sept. 2020, Time: 9:00 ~ 11:00**

Chairman: Assoc. Prof. Merima Zlateva

#	Authors	Title, ID
1	Nadezhda Doseva , Daniela Chakyrova	Life cycle cost analysis of different residential heat pump systems, ID 46
2	Nikolay Komitov , Nikolay Shopov , Violeta Rasheva (UFT Plovdiv)	Model of a building heating system with renewable energy sources, ID 69
3	Martin P. Ivanov	Moisture accumulation analyses over windowpane, based on field measurements in sleeping room, ID 29
4	Kalin S Krumov , Nina Penkova , Boian Mladenov , Yordan Stoyanov	Modelling and numerical simulation of the heat transfer and natural ventilation in storage halls, ID 36
5	Slav E Valchev	Analysis of energy efficiency of air handling unit with integrated air to air heat exchanger in heating mode, ID 43
6	Ivalina Petrova	Thermodynamic parameters of the copigmentation interaction between strawberry anthocyanins and rose (Rosa damascena Mill.) petal polyphenols, ID 5
7	Stanislava Tz. Tasheva	CLARY SAGE (SALVIA SCLAREA L.) ESSENTIAL OIL AND PHYSICOCHEMICAL AND THERMAL PROPERTIES OF ITS SOLUTIONS IN ETHANOL-WATER SYSTEM, ID 20
8	Stanislava Tz. Tasheva	PHYSICOCHEMICAL, THERMODYNAMIC AND THERMAL PROPERTIES OF LINALYL ACETATE-ETHANOL-WATER SYSTEM, ID 21
9	Nesho Toshkov , Lazar Lazarov , Venelina Popova , Tanya Ivanova , Nikolay Menkov	Thermodynamics of moisture sorption in tobacco (Nicotiana tabacum L.) seeds , ID 8



Presentation session 2 - Renewable Energy Technologies		
Sunday 20th, Sept. 2020, Time: 11:30 ~ 12:30		
Chairman: Assoc. Prof. Ivan Dukov		
#	Authors	Title, ID
1	Valentin Obretenov , Rossen Sashov Iliev	A Study of a Darrieus Vertical Axis Wind Turbine with a guiding nozzle, ID 24
2	Rossen Sashov Iliev	A CFD analysis of the performance characteristics of different Darrieus turbine runners, ID 31
3	Georgi Pitchurov , Christof-Bernhard Gromke , Jordan Denev , Flavio Cesar Cunha Galeazzo	Validated numerical simulation of a wind tunnel forest model

Presentation session 2A – Thermodynamics, Heat and Mass Transfer		
Sunday 20th, Sept. 2020, Time: 11:30 ~ 12:30		
Chairman: Assoc. Prof. Merima Zlateva		
#	Authors	Title, ID
1	Lazar Lazarov , Nesho Toshkov , Tanya Ivanova , Venelina Popova , Nikolay Menkov	Sorption isotherms of tobacco (Nicotiana tabacum L.) seeds, ID 7
2	Angel Penev , Lyubomir P. Tsokov	Application of polymer thermal store material in fixed honeycomb regenerative heat exchanger, ID 23
3	Boian M Mladenov , Nina Penkova	INVESTIGATION OF THE POSSIBILITIES FOR ENERGY ECONOMY IN CONTINUOUS DRYERS THROUGH REDUCTION OF THE DRYING TIME, ID26
4	Nina Penkova , Merima Zlateva , Boian M Mladenov	ANALYSIS OF THE EFFICIENCY OF AN EMBEDDED FLOOR HEATING FOR SNOW MELTING AND FREEZE PROTECTION



Presentation session 3 - Electrohydraulic Power and Control Systems		
Sunday 20th, Sept. 2020, Time: 14:00 ~ 15:30		
Chairman: Assoc. Prof. Ivan Dukov		
#	Authors	Title, ID
1	Alexander St. Mitov	Comparison of Model Predictive Control (MPC) and Linear-Quadratic Gaussian (LQG) Algorithm for Electrohydraulic Steering Control System, ID 14
2	Krasimir Ormandzhiev	Design of Adaptive Fuzzy PID Controller for Electropneumatic System, ID65
3	Krasimir Ormandzhiev , Stanimir Yordanov , Georgi Mihalev , Krasen Kostov	Parametric Optimization of Electrohydraulic Follow-Up System, ID 66
4	Gencho St. Popov , Kliment Klimentov , Boris Z Kostov , Reneta Dimitrova	Determining the minor loss coefficient of cone diffusers, ID 76
5	Donka , Apostol Simitchiev (UFT); Hristo Hristov (UFT)	CAVITATION TREATMENT OF WATER FROM A WASTEWATER TREATMENT PLANT, ID 38

Presentation session 3A – Nuclear technology, Energy and Environment Protection		
Sunday 20th, Sept. 2020, Time: 14:00 ~ 16:00		
Chairman: Assoc. Prof. Kalin Filipov		
#	Authors	Title, ID
1	Delyan N Gospodinov	Thin layer activation method. Potential applications and benefits for the food processing industry, ID 22
2	Zlatina Mancheva , Ivaylo Naydenov	Material Balance of Fuel Cycles for Plutonium Recycling in Pressurised Water Reactors, ID 30
3	Totyto Totev, Borislav Ignatov	Possible solutions for the reduction of carbon emissions during operation of lignite power unit, ID 33
4	Kaloyan Hr Hristov , Ivan Genovski	MODEL REASERCH OF THE ENERGY EFFICIENCY OF A COGENERATION BACKPRESSURE STEAM TURBINE INSTALATION,



		ID 39
5	Petar Paunov , Ivaylo Naydenov	Determination of Potential Long-Term Radiotoxicity of PWR Spent Nuclear Fuel And Highly Active Waste In Once-Through And Closed Fuel Cycle, ID 40
6	Dimityr Popov	An option for integration of Carnot Battery into the small Nuclear Power Plant, ID 62
7	Иван Геновски, Калоян Христов	Изследване на топлинната икономичност на противоналегателна паротурбинна инсталация
8	Стоил Русев, Борислав Игнатов	Прилагане на стандарт за балансови изпитавания на котли БДС EN 12 952-15 върху котелна инсталация ЕК 220 t/h ст.№ 8 в ТЕЦ „София“

Presentation session 4A - Renewable energy, Environment protection, Heat and mass transfer**Sunday 20th, Sept. 2020, Time: 16:30 ~ 19:00**

Chairman: Assoc. Prof. Merima Zlateva

#	Authors	Title, ID
1	Daniela P. Chakyrova , Anastas Yangyozov , Dimitar Rusev , Nadezhda Doseva	The Prediction of Drying Uniformity in Dryer Chamber System Using Computational Fluid Dynamics (CFD), ID 64
2	Merima Zlateva	ASSESSMENT OF THE ANNUAL PERFORMANCE OF SOLAR COLLECTORS BY MEANS OF THE UTILIZABILITY METHOD, ID 61
3	Apostol Simitchiev , Hristo Hristov, Donka Bodurova	Influence of the capillary pipe geometry on the energy efficiency of household refrigerator , ID 18
4	Нина Пенкова , Йордан Стоянов	Приложение на изчислителните хидродинамика и топлообмен за анализ на ефективността на абсорбционни термopомпи
5	Siyka D Kodinova	Optimization of energy demand during ultrafiltration of cow's milk with different membranes, ID 16
6	Siyka D Kodinova	Reduction of energy demand during ultrafiltration of goat's milk
7	Росен Цеков , Никола Калоянов , Стоимир Червенков	Експериментално изследване на температурната стратификация в акумулатор за гореща вода в активна слънчева система



8	Константин Шушулов , Георги Томов	Намаляване на енергията за отопление на промишлени сгради изградени от изолационни сандвич панели
9	Георги Томов, Константин Шушулов	Естествена вентилация на склад и монтажен цех чрез „стена на Тромб“ слънчеви модули
10	Анелия Цанова-Донева	Метанова ферментация на органични отпадъци, същност, предимства и недостатъци на процеса.
11	Анелия Цанова-Донева	Индикатори - фактори за проследяване състоянието на процеса метанова ферментация