



*International Scientific Conference of Communications,
Information, Electronic and Energy Systems*

Conference programme

November 26 – 29, 2020
Bulgaria



Welcome to CIEES 2020

Dear participants,

It is our great pleasure to welcome you to the CIEES 2020, Bulgaria. The CIEES 2020 Conference is the premier international venue focused on understanding the current state and the evolution of the science through the lens of computer science, telecommunications, electronics, signal processing and applications, information technologies, energy systems, and many other disciplines. It is a place where researchers, academics, people in industry, students and the alike to present and discuss progress in research, development, standards, and applications related to the electrical engineering.

The technical program of this year's edition of the conference consists of two distinguished keynotes by world renowned experts: Prof. Dr. Renato Filjar of Croatia, and Prof. Dr. Goran T. Djordjevic of Serbia, 5 tracks for research papers that will be published in the IOP Conference Series: Material Science and Engineering, indexed by Scopus, ISI Web of Science, EI Compendex and others (CC BY license).

We are thankful to all the people who helped us organizing the conference and that are listed in the next section. In particular, special thanks to Prof. Dr. Iliya Iliev of University of Ruse, Bulgaria, Prof. Dr. Renato Filjar of University of Rijeka, and Krapina University of Applied Sciences, Croatia, the Conference Chairs, Program Committee members, and reviewers for their wonderful efforts in making a successful and rigorous technical program. Without them, this event would have never happened. Finally, we thank the members of the International Scientific Committee, for providing insightful guidelines and support in preparing and organizing the conference, the organizing committee for their tireless efforts, and for the highly professional work done on all aspects of the local organization of the CIEES 2020 Conference. We are confident that this conference will be a stimulating and rewarding experience, and we hope that you will also have an enjoyable and memorable time during the conference.

Teodor ILIEV
General Conference Chair

Ivaylo STOYANOV
General Conference Chair



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Ivaylo STOYANOV (Bulgaria)

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CIEES 2020 CONFERENCE – SESSION SCHEDULE

Thursday, November 26

Time	Session name	Virtual room
15:00 - 15:10	Opening ceremony	VR_P
15:10 - 16:00	Plenary Keynote Lectures	VR_P

Friday, November 27

Time	Session name	Virtual room
09:00 - 10:30	Telecommunications 1	VR_1
10:45 - 12:00	Telecommunications 2	VR_1
12:30 - 13:45	Information Technologies 1	VR_2
14:00 - 15:00	Information Technologies 2	VR_2
09:00 - 10:30	Energy and Renewable Sources 1	VR_3
10:45 - 12:15	Energy and Renewable Sources 2	VR_3
12:30 - 14:00	Energy and Renewable Sources 3	VR_3
14:15 - 15:45	Energy and Renewable Sources 4	VR_3
09:00 – 17:00	CIEES 2020 Virtual Lounge Area	VR_LA

Saturday, November 28

Time	Session name	Virtual room
9:00 - 10:15	Electronics	VR_4
10:30 - 11:30	Smart Farming	VR_5
09:00 – 12:00	CIEES 2020 Virtual Lounge Area	VR_LA
12:00 – 12:15	End of Conference	VR_P

IMPORTANT:

1. Please note that at least one author per paper is requested to attend their session.
2. All times are presented in [Eastern European Time \(EET\)](#), so be careful in the recalculation to your national time zone. (**EET**= CET+1=GMT +2)
3. The details for joining the scheduled conference sessions on Zoom platform will be available on the official website.

PLENARY KEYNOTE LECTURES

Thursday, November 27, 2020

Session:	Plenary	Time:	15:10 - 16:00
Chair:	Elena IVANOVA, Bulgaria	Virtual room:	VR_P

Presentation: Resilient Satellite Navigation Empowers Modern Science, Economy, and Society



PROF. DR. RENATO FILJAR

(Faculty of Engineering, University of Rijeka, Rijeka, Croatia, and Krapina University of Applied Sciences, Krapina, Croatia)

Short biography: Renato Filjar is a Professor at Krapina University of Applied Sciences, Krapina, Croatia, and a Honorary Professor of Electronics Engineering at Faculty of Engineering, University of Rijeka, Croatia; Beihang University, Beijing, China; and Department for Mathematics, Faculty of Science, University of Zagreb.

He holds BSc (1987), MSc (1994) and PhD (2007) degrees in electrical engineering, respectively, from Faculty of Electrical Engineering and Computing, University of Zagreb, Croatia.

His research interests include: satellite navigation resilience development against the adverse space weather, ionospheric, spoofing and jamming effects; spatio-temporal statistical learning and predictive modelling; and nature-inspired positioning and navigation methods.

Dr. Filjar is a Fellow of The Royal Institute of Navigation (London, UK), and external expert to the UN International Committee on GNSS, Vienna, Austria, and European GNSS Agency, Prague, Czech Republic.

He was awarded J E D Williams (Silver) Medal of the Royal Institute of Navigation, London, UK, for his contribution to understanding of space weather and ionospheric effects on GNSS positioning performance, and for raising public awareness of GNSS. Dr. Filjar founded the traditional Baška GNSS Conference, held every year in Baška, Krk Island, Croatia.

Presentation: Performance of Free-Space Optical Systems in the Presence of Receiver Imperfections



PROF. DR. GORAN T. DJORDJEVIC

(Department of Telecommunications, University of Nis, Serbia,)

Short biography: Goran T. Djordjevic was born in Nis, Serbia. He received the Dipl.Ing. (5 years), M.S., and Ph.D. degrees in electrical engineering from the University of Nis, Faculty of Electronic Engineering, Serbia, in 1996, 1999 and 2005, respectively.

He is a Full Professor at the Department of Telecommunications, Faculty of Electronic Engineering, University of Nis, Serbia. He teaches courses of Communication Theory, Modeling and Simulation of Communication Systems, Information Theory and Satellite

Communications.

His area of research interest is communication theory and applications in wireless optical and RF systems, as well as satellite communication systems. His current research interests include application of different modulation formats and error control codes in free space optical systems, modeling and simulation of fading channels, as well as cooperative systems. He is an author of 45 papers published by journals from SCI list and more than 150 conference papers. He is an author of two books (in Serbian) in the field of communication theory and a book chapter published by Springer. He was a guest editor of special edition on wireless optical communications of journal Applied Sciences. He coordinated activities carried out at the Faculty of Electronic Engineering of some international and domestic projects, and he participated in many research and educational projects, too.

CIEES 2020 Conference – Session List

Friday, November 27, 2020

Session:	Telecommunications 1	Time:	09:00 - 10:30
Chair:	Teodor ILIEV, Bulgaria	Virtual room:	VR_1

№	Paper	Speaker	Country
T1.1	Modelling and Performance Analysis of DWDM Passive Optical Network Stanimir Sadinov*, Krasen Angelov*, Panagiotis Kogias** <i>*Technical University of Gabrovo, Bulgaria</i> <i>**International Hellenic University, Greece</i>	Stanimir Sadinov	Bulgaria
T1.2	Deployment of Mesh Network in an Indoor Scenario for Application in IoT Communications Krasen Angelov*, Stanimir Sadinov*, Panagiotis Kogias** <i>*Technical University of Gabrovo, Bulgaria</i> <i>**International Hellenic University, Greece</i>	Krasen Angelov	Bulgaria
T1.3	Security of the Sensory Data in the Cloud Filip Tsvetanov*, Martin Pandurski* <i>*South West University, Bulgaria</i>	Martin Pandurski	Bulgaria
T1.4	Statistical Techniques to Determine of Optimal and Acceptable Noise Levels Ivelina Balabanova*, Stela Kostadinova**, Valentina Markova**, Stanimir Sadinov*, Georgi Georgiev* <i>*Technical University of Gabrovo, Bulgaria</i> <i>**Technical University of Varna, Bulgaria</i>	Georgi Georgiev	Bulgaria
T1.5	Voice Control and Management in Smart Home System by Artificial Intelligence Ivelina Balabanova*, Stela Kostadinova**, Valentina Markova**, Stanimir Sadinov*, Georgi Georgiev* <i>*Technical University of Gabrovo, Bulgaria</i> <i>**Technical University of Varna, Bulgaria</i>	Georgi Georgiev	Bulgaria
T1.6	Evolution of Mobile Networks and Seamless Transition to 5G Elena Ivanova*, Teodor Iliev*, Ivaylo Stoyanov*, Grigor Mihaylov** <i>*University of Ruse, Bulgaria</i> <i>**University of Telecommunications and Post, Bulgaria</i>	Elena Ivanova	Bulgaria

Friday, November 27, 2020

Session:	Telecommunications 2	Time:	10:45 - 12:00
Chair:	Dejan MILIC, Serbia	Virtual room:	VR_1

№	Paper	Speaker	Country
T2.1	Conceptual Framework for Quality Assessment in Human-Centric 6G XR Services Viktor Stoynov*, Antoni Ivanov*, Dimitriya Mihaylova* <i>*Technical University of Sofia, Bulgaria</i>	Viktor Stoynov	Bulgaria
T2.2	Energy Detectors Performance Evaluation for Interweave Cognitive Radio Network Scenario in 5G Antoni Ivanov*, Viktor Stoynov*, Dimitriya Mihaylova*, Vladimir Poulkov* <i>*Technical University of Sofia, Bulgaria</i>	Antoni Ivanov	Bulgaria
T2.3	An Overview of Methods to Combat Eavesdropping in NOMA-based Networks Through Physical Layer Security Dimitriya Mihaylova*, Viktor Stoynov*, Antoni Ivanov*, Zlatka Valkova-Jarvis* <i>*Technical University of Sofia, Bulgaria</i>	Dimitriya Mihaylova	Bulgaria
T2.4	Storing Data from Sensors Networks Filip Tsvetanov* <i>*South West University, Bulgaria</i>	Filip Tsvetanov	Bulgaria
T2.5	Study the Influence of Intermodulation Products on Navigation Signals Teodor Iliev*, Ivaylo Stoyanov*, Grigor Mihaylov**, Elena Ivanova* <i>*University of Ruse, Bulgaria</i> <i>**University of Telecommunications and Post, Bulgaria</i>	Grigor Mihaylov	Bulgaria

Friday, November 27, 2020

Session:	Information Technologies 1	Time:	12:30 - 13:45
Chair:	Grigor MIHAYLOV, Bulgaria	Virtual room:	VR_2

№	Paper	Speaker	Country
IT1.1	An Industrial IoT Edge Node for Buffer Level Detection in a Cardboard Production Line George Avramidis*, Dimitris Karampatzakis* <i>*International Hellenic University, Greece</i>	George Avramidis	Greece
IT1.2	6LoWPAN Network Analysis Using Simulations and Experiments Aydan Haka*, Veneta Aleksieva*, Hristo Valchanov* <i>*Technical University of Varna, Bulgaria</i>	Aydan Haka	Bulgaria
IT1.3	Deployment and Analysis of Bluetooth Low Energy Network Aydan Haka*, Veneta Aleksieva*, Hristo Valchanov* <i>*Technical University of Varna, Bulgaria</i>	Aydan Haka	Bulgaria
IT1.4	Selection of Countermeasures Against Propagation of Harmful Information via Internet Lidia Vitkova*, Aleksei Pronichev*, Elena Doynikova*, Igor Saenko* <i>*St. Petersburg Institute for Informatics and Automation of the Russian Academy of Sciences (SPIIRAS), Russian Federation</i>	Elena Doynikova	Russian Federation
IT1.5	On Numerical Method for Modeling Oil Filtration Problems in Piecewise-Inhomogeneous Porous Medium Abdugani Nematov*, Elmira Nazirova*, Rustam Sadikov* <i>*Tashkent university of information technologies named after Muhammad al-Khwarizmi, Uzbekistan</i>	Rustam Sadikov	Uzbekistan

Friday, November 27, 2020

Session:	Information Technologies 2	Time:	14:00 - 15:00
Chair:	Filip TSVETANOV, Bulgaria	Virtual room:	VR_2

№	Paper	Speaker	Country
IT2.1	Comparative Analysis of Prototypes for Two Touch Finger Interfaces of Smartwatch Yuri Dimitrov*, Veneta Aleksieva*, Hristo Valchanov* <i>*Technical university Varna, Bulgaria</i>	Veneta Aleksieva	Bulgaria
IT2.2	Objects Distance Measurement in Augmented Reality for Providing Better User Experience Nikolay Neshov*, Agata Manolova* <i>*Technical University of Sofia, Bulgaria</i>	Agata Manolova	Bulgaria
IT2.3	Technique for Storing and Automated Processing of Weather Station Data in Cloud Platforms Strahil Sokolov*, Stefan Vlaev*, Mihail Chalashkanov* <i>*University of Telecommunications and Post, Bulgaria</i>	Strahil Sokolov	Bulgaria
IT2.4	Software-defined Wireless Urban Network Oleh V Streltsov*, Yevhen Birka*, Valerii Gnatenko*, Valerii Sytnikov*, Pavel Stupen* <i>*Odessa National Polytechnic University, Ukraine</i>	Oleh Streltsov	Ukraine

Friday, November 27, 2020

Session:	Energy and Renewable Sources 1	Time:	09:00 - 10:30
Chair:	Svilen RACHEV, Bulgaria	Virtual room:	VR_3

№	Paper	Speaker	Country
ERS1.1	Analysis of the Energy Recovery Possibilities of Energy from Lavender Straws after a Steam Distillation Process Daniela Chakyrova*, Nadezhda Doseva* <i>*Technical University of Varna, Bulgaria</i>	Daniela Chakyrova	Bulgaria
ERS1.2	Bin Weather Data of Varna and their Influence on the Seasonal Efficiency of Heat Pumps with Outdoor Air as Energy Source Daniela Chakyrova*, Nadezhda Doseva*, Nely Kalcheva* <i>*Technical University of Varna, Bulgaria</i>	Nadezhda Doseva	Bulgaria
ERS1.3	Experimental Study and Analysis of Hydraulic Characteristics of Diaphragm (chamber) Gas Flow Meter Petko Tsankov*, Nely Georgieva*, Sivelina Delcheva* <i>*Trakia University, Bulgaria</i>	Petko Tsankov	Bulgaria
ERS1.4	Analysis of Energy Consumption in the Industrial Sector in the European Union Nely Georgieva*, Petko Tsankov* <i>*Trakia University, Bulgaria</i>	Nely Georgieva	Bulgaria
ERS1.5	The Gaps of Renewable Energy Legislation in Bulgaria Todorka Stankova*, Daniela Toneva* <i>*Technical University of Varna, Bulgaria</i>	Todorka Stankova	Bulgaria
ERS1.6	Achievement of Maximum Energy Efficiency Through Vector Control of Induction Motor Electric Drive Svilen Rachev*, Ginka Ivanova** <i>*Technical University of Gabrovo, Bulgaria</i> <i>**Technical University of Varna, Bulgaria</i>	Svilen Rachev	Bulgaria

Friday, November 27, 2020

Session:	Energy and Renewable Sources 2	Time:	10:45 - 12:15
Chair:	Jacob FANTIDIS, Greece	Virtual room:	VR_3

№	Paper	Speaker	Country
ERS2.1	Influence of Buoyancy Forces in Multi-Storey Buildings on the Efficiency of a Regenerative Air Handling Unit with Heat Recovery Angel Penev*, Lyubomir Tsokov* <i>*Technical University Sofia, Bulgaria</i>	Angel Penev	Bulgaria
ERS2.2	Hydraulic Power Take-Off System for Wave Energy Utilization Rositsa Velichkova*, Martin Pushkarov*, Radostina Angelova*, Iskra Simova*, Detelin Markov*, Ivan Denev*, Peter Stankov* <i>*Technical University of Sofia, Bulgaria</i>	Rositsa Velichkova	Bulgaria
ERS2.3	Experimental Investigation of the Refrigeration Cycle of Water-to-Water Heat Pump Zhivko Kolev*, Plamen Mushakov*, Seher Kadirova* <i>*University of Ruse, Bulgaria</i>	Zhivko Kolev	Bulgaria
ERS2.4	Assessment of the Gross Potential of Local Waste Based on Geoinformation Systems for Bioenergy Production Sayyora Mamatkulova*, Gulom Uzakov** <i>*Tashkent University of Information Technologies Karshi branch named after Muhammad al-Khwarizmi, Uzbekistan</i> <i>**Karshi Engineering Economics Institute, Uzbekistan</i>	Sayyora Mamatkulova	Uzbekistan
ERS2.5	Fly Ash Zeolites as a Dual System for Simultaneous CO₂ Capture and its Utilization in the Production of Synthetic Gas Denitza Zgureva*, Silvia Boycheva*, Kalin Filipov* <i>*Technical University of Sofia, Bulgaria</i>	Denitza Zgureva	Bulgaria
ERS2.6	Studies on the Thermochemical Energy Storage in the Coal Ash Zeolite/Water System Silvia Boycheva*, Denitza Zgureva*, Ivan Marinov*, Simona Miteva*, Ivan Yankov*, Angel Ivanov*, Asen Asenov* <i>*Technical University of Sofia, Bulgaria</i>	Denitza Zgureva	Bulgaria

Friday, November 27, 2020

Session:	Energy and Renewable Sources 3	Time:	12:30 - 14:00
Chair:	Iliya ILIEV, Bulgaria	Virtual room:	VR_3

№	Paper	Speaker	Country
ERS3.1	Methodology for Assessing the Residual Resource During the Operation of High-Temperature Units Alexander Nikiforov*, Evgeniy Prikhodko*, Akmaral Kinzhibekova*, Amangeldy Karmanov* <i>*Pavlodar State University named after S. Toraighyrov, Kazakhstan</i>	Alexander Nikiforov	Kazakhstan
ERS3.2	Modeling the Influence of the Characteristics of Renewable Organic Materials on the Energy Performance of the Boiler Alexander Nikiforov*, Evgeniy Prikhodko*, Akmaral Kinzhibekova*, Sholpan Nurkina* <i>*Pavlodar State University named after S. Toraighyrov, Kazakhstan</i>	Alexander Nikiforov	Kazakhstan
ERS3.3	Modeling the Basis Power in the Systems for Continuous Transport of Fluids and Bulk Materials Ognyan Dinolov*, Katerina Ilieva* <i>*University of Ruse, Bulgaria</i>	Ognyan Dinolov	Bulgaria
ERS3.4	Development of Innovative Methods of Thermal Waste Processing in Modular Waste Burners with a High Degree Capture of Harmful Emissions Rakhimzhan Orumbayev*, Andrey Kibarin*, Iliya Iliev**, Abish Torgayev*, Madina Kumargazina* <i>*Almaty University of Power Engineering and Telecommunications, Kazakhstan</i> <i>**University of Ruse, Bulgaria</i>	Andrey Kibarin	Kazakhstan
ERS3.5	Studies of Integrated Natural Capillary-Porous Coatings Alexander Genbach*, David Bondartsev*, Hristo Beloev** <i>*Almaty University of Energy and Communications, Kazakhstan</i> <i>**University of Ruse, Bulgaria</i>	David Bondartsev	Kazakhstan

ERS3.6	A Study of Thermal Devices with Porous Coatings Alexander Genbach*, David Bondartsev*, Hristo Beloev** <i>*Almaty University of Energy and Communications, Kazakhstan</i> <i>**University of Ruse, Bulgaria</i>	David Bondartsev	Kazakhstan
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Friday, November 27, 2020

Session:	Energy and Renewable Sources 4	Time:	14:15 - 15:45
Chair:	Bogdan POPA, Romania	Virtual room:	VR_3

№	Paper	Speaker	Country
ERS4.1	Solar Energy Potentials in Different Climatic Zones of Nigeria Ogunjo Samuel*, Aderonke Obafaye**, Babatunde Rabi** <i>*Federal University of Technology Akure, Nigeria</i> <i>**Centre for Atmospheric Research, National Space Research and Development Agency, Anyigba, Nigeria</i>	Ogunjo Samuel	Nigeria
ERS4.2	Wind Energy Assessment for Low Complex Terrain Using Reference Meteorological Mast Angel Terziev*, Yancho Panteleev*, Martin P. Ivanov* <i>*Technical University of Sofia, Bulgaria</i>	Angel Terziev	Bulgaria
ERS4.3	Estimation of Wind Speed and Energy Potential by Atmospheric Model for Day-Ahead Market and Wind Power Plants in Turkey Mehmet Devrim*, Abdulla Sakalli* <i>*Iskenderun Technical University, Turkey</i>	Mehmet Devrim	Turkey
ERS4.4	Impacts of Climate Change and Distribution of Precipitation on Hydroelectric Power Generation in Turkey Umut Bulut*, Abdulla Sakalli* <i>*Iskenderun Technical University, Turkey</i>	Umut Bulut	Turkey
ERS4.5	Utilization of the Energy Potential of Waste Meal and Creating of “Green” Workplaces Metodi Mladenov*, Spaska Yaneva* <i>*University of Chemical Technology and Metallurgy, Bulgaria</i>	Metodi Mladenov	Bulgaria

ERS4.6	Change Point Detection in Recent Hydropower Generation in Romania Angela Neagoe*, Eliza Isabela TICĂ*, Florica Popa**, Bogdan Popa* <i>*University Politehnica of Bucharest, Romania</i> <i>**University Valahia of Targoviste, Romania</i>	Eliza Isabela Tică	Romania
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Saturday, November 28, 2020

Session:	Electronics	Time:	09:00 - 10:15
Chair:	Boris EVSTATIEV, Bulgaria	Virtual room:	VR_4

№	Paper	Speaker	Country
E.1	The Comparison of Five Proton Linac Beams for the Design of a Thermal Neutron Radiography Unit Jacob Fantidis*, George Nicolaou**, George Tsakalos*, Anna Thysiadou* <i>*International Hellenic University, Greece</i> <i>**Democritus" University of Thrace, Greece</i>	George Tsakalos	Greece
E.2	Automatic Detection of Characteristic Segments of a Recorded ECG Signal with Noise Handling Methods Bojan Glushica*, Bojan Aleksovski*, Andrijana Kuhar* <i>*Ss. Cyril and Methodius University in Skopje, North Macedonia</i>	Andrijana Kuhar	North Macedonia
E.3	Plexiglass Glove Box for Organic Solar Cells Lorant Szolga*, Cristian Stan* <i>*Technical University of Cluj-Napoca, Romania</i>	Lorant Andras Szolga	Romania
E.4	Robotic Arm Controlled by Android App Through Bluetooth Connection for Organic Solar Cell Manipulation Lorant A Szolga*, George Flueraș* <i>*Technical University of Cluj-Napoca, Romania</i>	Lorant Andras Szolga	Romania
E.5	High-level Model Based Calibration Technique Design for SAR ADC Maksim Skripnichenko* <i>*National Research University of Electronic Technology (MIET), Russian Federation</i>	Maksim Skripnichenko	Russian Federation

Saturday, November 28, 2020

Session:	Smart Farming	Time:	10:30 - 11:30
Chair:	Ivaylo STOYANOV, Bulgaria	Virtual room:	VR_5

№	Paper	Speaker	Country
SF.1	Information Management and Monitoring System for a Grapes Harvesting Robot Konstantinos Tziridis*, Alexandros Nikolaou*, Theofanis Kalampokas*, Eleni Vrochidou*, Theodore Pachidis*, George Papakostas*, Vassilis Kaburlasos* <i>*International Hellenic University, Greece</i>	Konstantinos Tziridis	Greece
SF.2	Kinematic Model of a Cow Milking Manipulator with Simultaneous Positioning at Four Given Points Semen Ruzin*, Denis Shilin*, Aleksey Dorokhov*, Dmitriy Pavkin*, Ekaterina Chepurina** <i>*Federal State Budgetary Scientific Institution "Federal Scientific Agroengineering Center VIM", Russian Federation</i> <i>**Russian State Agrarian University - Moscow Timiryazev Agricultural Academy, Russian Federation</i>	Denis Shilin	Russian Federation
SF.3	A Review on the Methods for Big Data Analysis in Agriculture Boris Evstatiev*, Katerina Gabrovska-Evstatieva* <i>*University of Ruse, Bulgaria</i>	Boris Evstatiev	Bulgaria
SF.4	Modeling of Three-phase Inverter Power Supply System in SIMULINK Vasil Ivanov* <i>*Assen Zlatarov University, Bulgaria</i>	Vasil Ivanov	Bulgaria

Saturday, November 28, 2020

Session:	End of Conference	Time:	12:00 - 12:15
Chair:	Teodor ILIEV, Bulgaria	Virtual room:	VR_P

Ruse welcomes CIEES 2021 conference!

We are honored and pleased to organize the next edition of the CIEES conference in [Ruse, Bulgaria](#). The excellence that is usually promoted by CIEES will fit well with the scientific, and academic spirit and cultural life of Ruse. Ruse is a city with a long and interesting past, many Roman vestiges and historic buildings.

We hope this conference will represent an opportunity for young researchers to meet specialists in their field and to present their research and also to discuss with industry representatives.

We will enjoy together not only the conference but also the special “light” of city of Ruse and the wonderful view of the Danube River and the city.

Autumn is the one of the most beautiful season in Ruse and we invite you to see it for yourselves in November 2021!



See you in Ruse!