



<https://www.dessert-conf.org/>

	<p><b>13<sup>th</sup> International Conference Dependable Systems, Services and Technologies DESSERT'2023, Greece, Athens, October 13-15, 2023 hybrid mode (i.e., using remote audio/video support and as an in-person event)</b></p>	
--	---	--

#### **2023 Theme:**

**Dependable and Resilient AI, Internet of Everything and Robotics Systems for a Safe and Secure World**

#### **Organizers**

IEEE Greece Section

National Aerospace University KhAI, Kharkiv, Ukraine

University of Thessaly, Department of Computer Science and Biomedical Informatics, Lamia, Greece

Ionian University, Department of Archives, Library Science and Museology, Corfu, Greece

Leeds Beckett University, UK

Institute of Information Science and Technologies, Pisa, Italy

Lutsk National Technical University, Lutsk, Ukraine

Mohammed VI Polytechnic University, Benguérir, Morocco

Teaching and Research Staff Association - Hellenic Army Academy, Athens, Greece

#### **Scope**

The annual DESSERT conference began since 2006 and its primary focus has been on methodologies, techniques and tools for dependability, security and safety assessment and assurance of software, hardware, computer systems and IT-infrastructures. A lot of related DESSERT Ws covered different issues of dependable critical computing. DESSERT'2023 is responding to current major challenges relating to state-of-the-art information and communication technologies and paradigms such as Internet of Things, cloud and edge computing, AI and Big Data, robotics systems, etc.

Relevant areas of interest encompass regulations, analysis, modeling, development, verification, operation and maintenance of computer systems, networks and infrastructures for safety-, secure-, mission- and business-critical applications.

DESSERT'2023 is addressing the main theoretical, methodological and technological challenges related to **Dependable, Resilient and Trustworthy Artificial Intelligence, Internet of Everything and Robotic Systems for a Safe and Secure World**. Authors are invited to

submit original manuscripts demonstrating recent advances in all areas relevant to these challenges, including, but not limited to:

### ***Fundamentals and methodologies***

- Methodology and technologies of dependable and resilient computing
- Methodologies and technologies of smart and pervasive computing
- Methodologies and technologies of sustainable and green computing and communications
- Infrastructure safety and security regulation, assessment and assurance
- Multi-sectoral cybersecurity and safety analysis and assurance
- Safety, cybersecurity and resilience of Industry 4.0 and 5.0
- AI for design technology and decision making systems
- Cryptography and information security
- Privacy and personal & information society data protection
- Privacy and security ethical issues
- Big Data Analytics for safety and security
- Multidimensional decomposition for dimensionality reduction

### ***Methods and technologies***

- Dependable IoT for human and industry domains
- Trustworthy and explainable AI, AI as a Service, and resilient AI systems
- AI powered attacks against AI powered protection
- Human-machine interaction and cooperation for safety and security
- Dependability, security and resilience of web, cloud- and edge computing
- Big data and data mining techniques for business and critical domains
- Augmented, virtual and mixed reality for secure industrial and human applications
- Blockchain technology for critical and business domains
- Penetration testing and vulnerability scanners
- Formal methods and assurance case-based techniques of development and assessment
- Quantum computing and post quantum cryptography
- Cryptography and steganography technologies
- Image processing and recognition for smart and dependable systems

### ***Domains and applications***

- Protecting critical infrastructures from cyberattacks
- Smart grid cybersecurity and resilience
- Reliability and safety of unmanned vehicles and UAV fleets
- UAV swarms/fleets for intellectual systems of monitoring critical objects
- Dependability of mission critical, aviation and space systems
- Safety and cybersecurity of industrial robots and robotics systems
- Cybersecurity and privacy of health systems
- Intellectual transport systems dependability
- Biomedical Engineering and Informatics
- Ecology monitoring and decision making support
- Dependable communication and high-reliable electronics
- Covid-19 and global trusted dependability
- UI cooperation, networking, education and training for business and critical domains
- Collaborative networked organizations for security
- Tensors for Image processing and face recognition

The conference will include special events (workshops, tutorials, industrial panels) including sessions dedicated to special topics.

### **The Expected Benefit**

DESSERT'2023 provides the opportunity to discuss topics with colleagues from different spheres such as academia, industry, IT, manufacturing companies, public and private research institutions and organizations. DESSERT'2023 with its truly international character promotes the development of relationships between countries from all parts of the globe.

The key DESSERT target is to create new values for human, industry, state organizations and business.

### **Submission Guidelines**

The language of DESSERT'2023 Conference is English. Presentations in any other language are also not accepted. All submissions must comply with the IEEE format guidelines. Formatting instructions and template as well as submission guidelines are provided at the <https://www.dessert-conf.org/dessert-2023/for-authors/> Prospective authors are invited to submit a paper of minimum 4 and maximum 8 pages. Submissions must be made in .pdf or .doc/.docx by using EasyChair Conference Management System. You can find more details on how to complete the online registration at the registration page <https://easychair.org/>. Please submit your paper to the applicable DESSERT'2023 Track.

### **Important Dates**

Workshop proposals: August 7, 2023  
Notification of Workshop acceptance: August 9, 2023  
Paper submission: August 28, 2023  
Notification of paper acceptance: September 16, 2023  
Final manuscript: September 21, 2023  
Registration and payment: September 23, 2023  
Program draft publication: September 25, 2023  
Conference date: October 13-15, 2023

### **Publication and Indexing**

Accepted papers presented at the DESSERT will be published in Conference Proceedings, available in the IEEE Xplore and indexed by Scopus. Selected papers will be collected for a publication in international journals indexed by WoS and Scopus including IJ Entropy (Scopus, Q1, Special Issue [https://www.mdpi.com/journal/entropy/special\\_issues/XA00Q48686](https://www.mdpi.com/journal/entropy/special_issues/XA00Q48686)), Radioelectronic & Computer Systems (Scopus, Q3 <http://nti.khai.edu/ojs/index.php/reks/index>). Full list of journals will be specified.

### **Invitation to Sponsoring Program**

Organizations interested in presenting their products are invited to participate in the Sponsor Program and to take part in the Technical exhibition. The exhibition area assigned during the DESSERT'2023 will be offered free of charge for sponsors only.

### **The Venue**

Athens is the capital and largest city of Greece, a world famous cultural and historical centre located on the picturesque coast of the Aegean Sea. The heritage of the Classical Era is still evident in the city, represented by ancient monuments, and works of art, the most famous of all being the Parthenon, considered a key landmark of early Western civilization. Athens is home to two UNESCO World Heritage Sites, the Acropolis of Athens and the medieval Daphni Monastery and as well as many other ancient shrines. During the conference participants will see one of the most beautiful cities of the world. The DESSERT will be held in mixed format.

### **Committees**

#### **General Co-Chairs:**

Prof, DrS Vyacheslav Kharchenko, National Aerospace University KhAI, Ukraine  
Prof, Dr Nikolaos Bardis, Hellenic Military Academy, Athens, Greece

#### **Honorary Co-Chair:**

Prof, Dr Alexandr Romanovsky, Newcastle University, United Kingdom

#### **International Program Committee Co-Chairs:**

Prof, DrS Oleksandr Gordiev, Lutsk National Technical University, Ukraine,

Queen's University Belfast, United Kingdom  
Prof, Khalide Jbilou, Université du Littoral Côte d'Opale, LMPA, France  
Prof, Dr Athanasios Kakarountas, University of Thessaly, Greece  
Prof. Dr Ahmed Ratnani, Mohammed VI Polytechnic University, Morocco  
Prof, Dr Marios Poulos, Ionian University, Greece

**International Advisory Board:**

Prof, Dr George E. Antoniou, Montclair State University, New Jersey, USA  
Prof, Jose Alberto de Jesus Borges, Portuguese Military Academy, Portuguese  
Dr Athanasios Drigas, IIT-NCSR DEMOKRITOS, Greece  
Prof, Nikos Daras, Hellenic Army Academy, Athens, Greece  
Prof, Khalide Jbilou, Université du Littoral Côte d'Opale, LMPA, France  
Prof, DrS Anatoliy Gorbenko, Leeds Beckett University, United Kingdom  
Prof, Dr Athanasios Kakarountas, University of Thessaly, Greece  
Prof, Dr Christos Koukouvinos, National Technical University of Athens, Greece  
Prof, Dr Sokratis Katsikas, Norwegian University of Science and Technology, Trondheim, Norway  
Prof, Gilbert Makanda, Central University of Technology, South Africa  
Prof, Dr Nikos Mastorakis, Technical University of Sofia, Sofia, Bulgaria  
Prof, Dr Valeri Mladenov, Technical University of Sofia, Sofia, Bulgaria  
Prof, DrS Mykola Nechyporuk, National Aerospace University KhAI, Ukraine  
Prof, DrS Oleg Odarushchenko, RPC Radics, Kropyvnytskyi, Ukraine  
Prof, Ismail Yusuf Panessai, Sekolah Tinggi Teknik Ar-Rahmah. Bintan, Indonesia  
Prof, DrS Volodymyr Pavlikov, National Aerospace University KhAI, Ukraine  
Prof, Dr Peter Popov, Centre for Software Reliability, City University of London, United Kingdom  
Prof, Dr Marios Poulos, Ionian University, Greece  
Prof, Dr Ahmed Ratnani, Mohammed VI Polytechnic University, Morocco  
Prof, Dr Andrzej Rucinski, University of New Hampshire, eCv Collaboratory, USA  
Prof, Dr Abdel-Badeeh M. Salem, Ain Shams University, Abbasia, Cairo, Egypt  
Dr Olexandr Siora, RPC Radiy, Kropyvnytskyi, Ukraine  
Prof, DrS Gia Sirbiladze, Iv. Javakhishvili Tbilisi State University, Georgia  
Prof, DrS Vladimir Sklyar, National Aerospace University "KhAI", Ukraine  
Dr Peter Stavroulakis, Founder of the Telecom Research Institute of Technical University of Crete, Greece  
Prof, DrS Iryna Vakhovych, Lutsk National Technical University, Kyiv, Ukraine  
Prof, Dr Elena Zaitseva, Zilina University, Slovakia

**Publicity and Information Co-Chairs:**

Dr Oleg Illiashenko, National Aerospace University KhAI, Ukraine; Institute of Information Science and Technologies "Alessandro Faedo" (ISTI CNR), Italy  
Prof, DrS Anatoliy Gorbenko, Leeds Beckett University, United Kingdom

**Publication Co-Chairs:**

Prof, Dr Nikos Doukas, Hellenic Military Academy, Athens, Greece  
Olena Golembovska, Ukrainian Scientific-Educational IT-Society, Ukraine

**Local Organizing Committee Chair:**

Prof, Dr Nikos Karadimas, Hellenic Army Academy, Athens, Greece  
Prof, Dr Marianna Patrona, Hellenic Army Academy, Athens, Greece

**Web and Communication Co-Chairs:**

Dr Artem Tetskyi, National Aerospace University KhAI, Kharkiv, Ukraine  
Dr Olena Surynovych, Lutsk National Technical University, Lutsk, Ukraine

**Infrastructure Administration Chair**

Dr Artem Perepelitsyn, National Aerospace University KhAI, Kharkiv, Ukraine

### **International Program Committee (TBC)**

Prof, Dr Maria Adam, University of Thessaly, Greece  
Dr Karl Andersson, Luleå University of Technology, Sweden  
Dr Sergiy Abramov, National Aerospace University KhAI, Kharkiv, Ukraine  
Prof, Dr Eyaggelia Athanasiadou, National and Kapodistrian University of Athens, Greece  
Prof, DrS Igor Atamanyuk, Mykolaiv National Agrarian University, Ukraine  
Dr Antal Bodi, Institute of Transport Systems, Budapest, Hungary  
Dr Eugene Babeshko, National Aerospace University KhAI, Kharkiv, Ukraine  
Dr Sergiy Bogomolov, Newcastle University, United Kingdom  
Dr Thar Baker, Liverpool John Moores University, United Kingdom  
Prof, DrS Alexandr Barkalov, University of Zelena Gura, Poland  
Prof, DrS Andrzej Białas, Instytut Technik Innowacyjnych EMAG, Poland  
Prof, DrS Eugene Brezhnev, National Aerospace University KhAI, Kharkiv, Ukraine  
Dr Bruno Cabral, Coimbra University, Portugal  
Dr De-Jiu Chen, KTH University, Sweden  
Dr Dmytro Cherkashyn, Institute for Security and Safety at the Brandenburg University of Applied Sciences, Germany  
Dr Marta Chinnici, ENEA, Roma, Italy  
Prof, DrS Alexander Chemeris, Pukhov Institute for Modelling in Energy Engineering, NASU, Kyiv, Ukraine  
Prof, Dr Vouyioukas Demosthenes, University of the Aegean, Greece  
Prof, Dr Nikos Doukas, Hellenic Army Academy, Athens, Greece  
Dr Mario Fusani, Institute of Information Science and Technologies, Pisa, Italy  
Prof, DrS Herman Fesenko, National Aerospace University KhAI, Kharkiv, Ukraine  
Prof, Dr Bezhan Ghvaberidze, Iv. Javakhishvili Tbilisi State University, Georgia  
Dr Sergiy Gnatyuk, National Aviation University, Kyiv, Ukraine  
Dr Daria Gordieieva, Lutsk National Technical University, Ukraine, Queen's University Belfast, United Kingdom  
Prof, Dr Mustapha Hached, Université des Sciences et Techniques de Lille, France  
Prof, DrS Vladimir Hahanov, Kharkiv National University of Radioelectronics, Ukraine  
Prof DrS Valerii Hlukhov, Lviv Polytechnic National University, Ukraine  
Prof DrS Tatyana Hovorushchenko, Khmelnytsky National University, Ukraine  
Prof, Dr Ioannis Ilias, Hellenic Police Academy, School of Greek Police Officers, Greece  
Prof, Dr Dimitris Iracleous, Hellenic Military Academy, Athens, Greece  
Prof, DrS Oleg Ivanchenko, National University Dnipro Politechnic, Dnipro, Ukraine  
Prof, Dr Mariusz Jurkiewicz, Military University of Technology, Poland  
Prof, Dr Nikos Karadimas, Hellenic Army Academy, Athens, Greece  
Prof, Vasiliki Karamanoli, Hellenic Army Academy, Athens, Greece  
Prof, Dr Vasilis Katos, Bournemouth University, United Kingdom  
Prof, DrS Volodymyr Kazimir, Chernihiv National University of Technology, Ukraine  
Dr Eva Kern, Leuphana University of Lüneburg, Germany  
Dr Joachim Klerx, Center for Innovation Systems and Policy, Wien, Austria  
Dr Thaddeus Paul Kochanski, Sensors Signals Systems Corporation, Lexington, MA USA  
Dr Inna Kondius, Lutsk National Technical University, Kyiv, Ukraine  
Prof, DrS Yuriy Kondratenko, Black Sea National University, Mykolaiv, Ukraine  
Prof, Dr Panagiota Kontou, University of Thessaly, Greece  
Prof, DrS Andriy Kovalenko, Kharkiv National University of Radioelectronics, Ukraine  
Prof, DrS Viacheslav Kovtun, Vinnytsia National Technical University, Ukraine  
Dr Sergey Krivenko, National Aerospace University KhAI, Kharkiv, Ukraine  
Dr Miroslav Kvassay, Zilina University, Slovakia  
Dr Nuno Laranjeiro, University of Coimbra, Portugal  
Prof, Dr Vitaly Levashenko, Zilina University, Slovakia  
Dr Nataliia Lishchyna, Lutsk National Technical University, Kyiv, Ukraine  
Prof, DrS Sergiy Lysenko, Khmelnytsky National University, Ukraine  
Prof, DrS Vladimir Lukin, National Aerospace University KhAI, Kharkiv, Ukraine  
Prof, DrS Volodymyr Lytvynenko, Kherson National Technical University, Ukraine  
Prof, DrS Dmitry Maevsky, Odesa National Politechnical University, Ukraine

Prof, Dr George Markowsky, University of Maine, USA  
Prof, Dr Oleksandr Markovskiy, NTUU, "Igor Sikorsky Kyiv Polytechnic Institute", Ukraine  
Dr Bidzina Matsaberidze, Iv. Javakhsishvili Tbilisi State University, Georgia  
Dr Jacek Mazurkiewicz, Wrocław University of Science and Technology, Poland  
Dr Zlatogor Minchev, Institute of ICT, Bulgarian Academy of Science, Sofia, Bulgaria  
Prof, Marilena Mitrouli, National and Kapodistrian University of Athens, Greece  
Prof, Dr Panagiotis Nastou, University of the Aegean  
Dr Kate Netkachova, Adelard Company, United Kingdom  
Prof, DrS Oleg Odarushchenko, RPC Radiy, Kropyvnytskyi, Ukraine  
Prof, DrS Vladimir Oleshchuk, University of Agder, Norway  
Prof, Dr Sigeru Omatu, Osaka Institute of Technology, Japan  
Dr Anna Palczewska, Leeds Beckett University, United Kingdom  
Prof, Dr Krzysztof Pancerz, University of Rzeszow, Poland  
Prof, Ismail Yusuf Panessai, Sekolah Tinggi Teknik Ar-Rahmah. Bintan, Indonesia  
Prof, Dr Marianna Patrona, Hellenic Army Academy, Athens, Greece  
Prof, Dr Marios Poulos, Ionian University, Greece  
Prof, DrS Yuriy Ponochovnyi, Poltava State Agrarian University, Ukraine  
Dr Muthu Ramachandran, Leeds Beckett University, United Kingdom  
Prof, Dr Ahmed Ratnani, Mohammed VI Polytechnic University, Morocco  
Prof, Dr Eric Rondeau, Université de Lorraine, France  
Prof, DrS Leon Rothkrantz, Delft University of Technology, The Netherlands  
Prof, DrS Anatoly Sachenko, Ternopyl National Economical University, Ukraine  
Prof, Dr Metin Salamci, Gazi University, Turkey  
Prof, Dr Khaled Shaalan, British University in Dubai, UAE  
Dr Eugeniy Sidenko, Petro Mohyla Black Sea National University, Mykolaiv, Ukraine  
Prof, Dr Axel Sikora, Offenburg University, Germany  
Prof, DrS Tatyana Shmelyeva, National Aviation University, Kyiv, Ukraine  
Prof, DrS Inna Skarga-Bandurova, Oxfrd Brookes University, United Kingdom  
Prof, DrS Vladimir Sklyar, National Aerospace University KhAI, Ukraine  
Prof, DrS Oleksandr Sokolov, Nicolaus Copernicus University, Torun, Poland  
Prof, DrS Marina Solesvik, Nord University, Norway  
Dr Grigore Stamatescu, Politehnica University of Bucharest, Romania  
Prof, Dr Ioannis Stamatiou, University of Patras, Greece  
Dr Olexiy Stryuk, RPC Radiy, Kropyvnytskyi, Ukraine  
Prof, DrS Larisa Titarenko, University of Zelena Gura, Poland  
Prof, Dr George Trantas, Hellenic Army Academy, Athens, Greece  
Dr Philippa Trevorrow, Leeds Beckett University, United Kingdom  
Dr Leonidas Tsiopoulos, Tallinn University of Technology, Estonia  
Prof, DrS Vitaliy Tsyganok, Institute for Information Recording of NASU, Kyiv, Ukraine  
Prof, Dr Juri Vain, Tallinn University of Technology, Estonia  
Dr Andriy Volkoviy, Mellanox Technologies, Kyiv, Ukraine  
Prof, DrS Bogdan Volochoyj, Lviv Polytechnic National University, Ukraine  
Prof, Dr Christos Volos, Aristotle University of Thessaloniki, Greece  
Prof, Dr Benoit Vozel, University of Rennes 1, Lannion, France  
Dr Heinz-Dietrich Wuttke, Ilmenau University of Technology, Ilmenau, Germany  
Prof, DrS Sergiy Yakovlev, National Aerospace University KhAI, Ukraine; Lodz University of Technology, Poland  
Dr Nataliya Yakymets, EPFL, Lausanne, Switzerland  
Prof, DrS Mikhail Yastrebenetsky, State Center on Nuclear&Radiation Safety, Kyiv, Ukraine  
Prof, DrS Vladimir Zaslavsky, Taras Shevchenko National University of Kyiv, Ukraine  
Prof, Dr Elena Zaitseva, University of Zilina, Slovak Republic  
Prof, DrS Grygoriy Zholtkevych, V. N. Karazin Kharkiv National University, Ukraine  
Prof, DrS Igor Zhukov, National Aviation University, Kyiv, Ukraine  
Prof, DrS Simeon Zhyla, National Aerospace University KhAI, Kharkiv, Ukraine  
Prof, Dr Nikos Zografopoulos, Hellenic Army Academy, Athens, Greece

## **Contact Information**

All information concerning DESSERT2023 is available at <https://www.dessert-conf.org/>  
Organizing Committee Postal Address: Department 503, IEEE-DESSERT'2023 Organizing  
Committee, National Aerospace University KhAI, Chkalov str., 17, Kharkiv, 61070, Ukraine  
Phone: +38 (066) 5389293, +38 (096) 1305556 e-mail: [dessert@csn.khai.edu](mailto:dessert@csn.khai.edu) Olena  
Surynovych