



3rd Annual International Conference on Mechanical Engineering
Organized by the Mechanical Engineering Unit of ATINER
22-25 July 2019, Athens, Greece

Sponsored by the Athens Journal of Technology & Engineering

Conference Venue: Titania Hotel, 52 Eleftheriou Venizelou (ex Panepistimiou) Street, Athens, Greece (close to metro station *Panepistimio*)

Monday 22 July 2019

07:50-08:40 Registration and Refreshments

08:50-09:20 (Room A - 10th Floor): Welcome and Opening Address by Gregory T. Papanikos, President, ATINER.

09:30-11:00 Session I (Room A - 10th Floor): Applied Mechanics & Design

Chair: Nikos J. Mourtos, Professor & Chair, Aerospace Engineering, San Jose State University, USA.

1. Mustafa Bakkal, Professor, Istanbul Technical University, Turkey, Eray Celik, R&D Manager, Yilmaz Machine, Turkey, Azmi Timur, Research Assistant, Istanbul Technical University, Turkey, Mete Kayihan, Research Assistant, Istanbul Technical University, Turkey, Murat Sesen, Student, Istanbul Technical University, Turkey, Selen Ates, Student, Istanbul Technical University, Turkey & Mahmut Yilmaz, Engineer, Yilmaz Machine, Turkey. Building a New Bridge between University-Industry Collaboration: An Engineering Design Case Study.
2. Dan Dumitriu, Senior Scientific Researcher, Solid Mechanics Institute of the Romanian Academy, Romania, Daniel Octavian Melinte, Scientific Researcher, Solid Mechanics Institute of the Romanian Academy, Romania, Marius Ionescu, Assistant Researcher, Solid Mechanics Institute of the Romanian Academy, Romania & Mihai Margaritescu, Senior Scientific Researcher, Solid Mechanics Institute of the Romanian Academy, Romania. Scissor-Type Grasping Tool for Electric Parallel Gripper Equipping a Mobile X-Y-Z Robotic System.
3. Fang Zhao, PhD Student, School of Mechanical Science and Engineering, Huazhong University of Science and Technology, China, Youmin Hu, Professor, School of Mechanical Science and Engineering, Huazhong University of Science and Technology, China, Bo Wu, Professor, School of Mechanical Science and Engineering, Huazhong University of Science and Technology, China, Tielin Shi, Professor, School of Mechanical Science and Engineering, Huazhong University of Science and Technology, China & Rutao Ma, CNPC Engineering Technologies R&D Company, China. Structural Design and Dynamic Analysis of a New Drill Floor Robot.
4. Royd Johansen, MSc Student, San Jose State University, USA & Nikos Mourtos, Professor, San Jose State University, USA. Aircraft Dynamic Analysis for an Advanced Military Trainer Conceptual Design.
5. ChaKaria Hunter, Graduate Student, San Jose State University, USA & Nikos Mourtos, Professor, San Jose State University, USA. Design of a New Generation Supersonic Transport Aircraft.

11:00-12:30 Session II (Room A - 10th Floor): Teaching & Learning

Chair: Olga Gkounta, Researcher, ATINER.

1. Costas Efthimiou, Associate Professor, University of Central Florida, USA, Elena Flitsiyan, Associate Lecturer, University of Central Florida, USA & Talat Rahman, Professor, University of Central Florida, USA. Assessment of the Effect of Service Learning in Introductory Physics on Students Learning and Critical Thinking.
2. *Attila Kovari, Associate Professor, Head of Department, University of Dunaujvaros, Hungary. Education Perspectives of Human-Computer Interfaces.
3. Manuel Condoleon, Lecturer, Australian Catholic University (ACU), Australia. Talk The Tok and Walk The Wok: How International Baccalaureate Subject Teachers Integrate Theory of Knowledge in their Teaching (Case Studies in India, Thailand and China).

12:30-13:30 Session III (Room A - 10th Floor): STEAM: Institution Experiences

Chair: Attila Kovari, Associate Professor, Head of Department, University of Dunaujvaros, Hungary.

1. Andreas Karatsolis, Associate Director of Writing, Rhetoric and Professional Communication, Massachusetts Institute of Technology (MIT), USA. Integrating Communication and STEM through Stasis Theory at MIT.
2. Aymen Elsheikh, Instructional Assistant Professor, Texas A&M University at Qatar, Qatar. STEAM Education at an American Branch Campus in Qatar.

13:30-14:30 Lunch

14:30-16:00 Session IV (Room A - 10th Floor): Materials

Chair: Salaheldin Doma, Professor, Alexandria University, Egypt.

1. Hussein Motaweh, Professor, Damanhour University, Egypt & Marwa Nabil, Associate Professor, Advanced Technology and New Materials Research Institute, Egypt. Porous Silica as a Master Material in Various Applications.
2. Madalina Simona Baltatu, Assistant Professor, "Gheorghe Asachi" Technical University of Iasi, Romania. Electrochemical Behaviour of New Ti-based Alloys, Ti-Mo-Zr-Ta vs. Ti-Mo-Si.
3. Adam Lantos, Postgraduate Student, The University of Edinburgh, Scotland, UK & Konstantinos Mouloupoulos, Associate Professor, University of Cyprus, Cyprus. Topology in Modern Solid State Physics: From Topological Insulators to Weyl Semimetals.

16:00-18:00 Session V (Room A - 10th Floor): ATINER's 2019 Series of Academic Dialogues: The Future of STEAM (Sciences, Technology, Engineering, Arts and Mathematics) Education

Chairs: Olga Gkounta, Researcher, ATINER.

1. Bala Maheswaran, Professor, Northeastern University, USA. STEAM Education through Experiential Learning.
2. Ellene Tratras Contis, Professor of Chemistry, Eastern Michigan University, USA. Community-based/STEM Experiential Learning: Is it STEAM?
3. Nikos J. Mourtos, Professor & Chair, Aerospace Engineering, San Jose State University, USA. STEAM Education in the 21st Century: Are we Neglecting the "A"?
4. Ethel Petrou, Professor and Chair, Department of Physics, Erie Community CollegeSouth, State University of New York, USA. The Many Faces of STEAM at a Community College in Western New York.

21:00-23:00 Greek Night and Dinner

Tuesday 23 July 2019

07:45-10:45 Session VI: An Educational Urban Walk in Modern and Ancient Athens

Group Discussion on Ancient and Modern Athens.

Visit to the Most Important Historical and Cultural Monuments of the City (be prepared to walk and talk as in the ancient peripatetic school of Aristotle)

11:15-13:00 Session VII (Room A - 10th Floor): Machine Learning, Optimization and Other Issues

Chair: Hemchandra Shertukde, Professor, University of Hartford, USA.

1. Nikos J. Mourtos, Professor & Chair, Aerospace Engineering, San Jose State University, USA. The Boeing 737 Max: A Systems Approach to Analyzing what Went Wrong.
2. Ahmed Lakhssassi, Titular Professor, Director of the Engineering Module, Department of Computer Science and Engineering, University of Quebec Outaouais, Canada. Multi-Heat Sources Silicon-Die Thermal Monitoring Using Embedded Sensor Cells Unit.
3. Adrian Ionescu, Professor, Wagner College, USA. Polynomial Interpolation and Some New Autonomous Numerical Methods.
4. Elena Niculina Dragoi, Assistant Professor, Gheorghe Asachi Technical University of Iași, Romania, Lucian Eva, Medical Doctor, "Prof. Dr. Nicolae Oblu" Emergency Hospital, Romania, Vlad Dafinescu, Bioengineer, "Prof. Dr. Nicolae Oblu" Emergency Hospital, Romania, Alexandru Cosmin Apetrei, Medical Doctor, "Prof. Dr. Nicolae Oblu" Emergency Hospital, Romania & Dana Mihaela Turluc, Associate Professor, "Grigore T. Popa" University of Medicine and Pharmacy, Romania. Modelling with Nature Inspired Optimizers and Artificial Neural Networks. Case Study: Phenol Adsorption.
5. Reto Daniel Wettstein, MSc Student, Heilbronn University of Applied Sciences / University of Heidelberg, Germany & Christian Fegeler, Professor, Heilbronn University of Applied Sciences, Germany. Real-Time Body Temperature and Heart Rate Monitoring System for Classification of Physiological Response Patterns Using Wearable Sensor and Machine Learning Technology.

13:00-14:30 Session VIII (Room A - 10th Floor): Energy Conversion and Efficiency, Electric Vehicles and Combustion Engines

Chair: Muthuramalingam Thangaraj, Associate Professor, SRM Institute of Science and Technology, India.

1. Hemchandra Shertukde, Professor, University of Hartford, USA. Improvements in the REVOLT Pure Electric Drag Racer by GREEN 707 Club.
2. Alexandre De Bernardinis, Research Scientist, IFSTTAR, France. Multi-Phase Silicon Carbide Interleaved DC/DC Converter for Fuel Cell or Storage Applications.
3. Nicolas Saba, Associate Professor, University of Balamand, Lebanon. Analysis and Modification of the Tailoring Method in Hot Stamping Processes.
4. Ayhan Uyaroglu, Assistant Professor, Selçuk University, Turkey, İlker Ors, Assistant Professor, Selçuk University, Turkey, Mahmut, Unaldi, Assistant Professor, Selçuk University, Turkey, Murat Cinviz, Professor and Head of Mechanical Engineering Department, Selçuk University, Turkey & Bahar Sayin Kul, Researcher, Selçuk University, Turkey. The Benefits of Fuel Additives Used in Internal Combustion Engines.

14:30-15:30 Lunch

15:30-16:30 Session IX (Room A - 10th Floor): STEAM: Special Topics

Chair: Bala Maheswaran, Professor, Northeastern University, USA.

1. Angel Vazquez-Alonso, Professor and Researcher, University of the Balearic Islands, Spain & Maria-Antonia Manassero-Mas, Professor and Researcher, University of the Balearic Islands, Spain. An Elaboration on the Interface between STEM and Art Searching for Convergences.
2. Eunyoung Kim, Associate Professor, Japan Advanced Institute of Science and Technology, Japan. STEAM Education in the Context of the Educational Innovations in Graduate Schools.

16:30-18:00 Session X (Room A - 10th Floor): Manufacturing & Materials

Chair: Mustafa Bakkal, Professor, Istanbul Technical University, Turkey.

1. Steven Le Corre, Professor, University of Nantes, France. Residual Stresses Prediction in Composite Materials Manufacturing: A Multiscale Combined Experimental and Numerical Approach.
2. Muthuramalingam Thangaraj, Associate Professor, SRM Institute of Science and Technology, India. Multi Criteria Decision Making of Power Diode based Process Parameters in Laser Beam Machining Using Taguchi–DEAR Methodology.
3. Ahmed Sabry Abdel-Rahman, Associate Professor, Cairo University, Egypt. Measuring the Internal Friction of some Rubber Composites doped Nanocarbon using the Laser Shadowgraphy Pulse Excitation Technique.
4. Marwa Elnady, Researcher Assistant, Central Metallurgical Research and Development Institute, Egypt, Gamal Saad, Professor, Cairo University, Egypt, Alaa Eid, Researcher, Central Metallurgical Research and Development Institute, Egypt & Malak Abou El-khair, Professor, Central Metallurgical Research and Development Institute, Egypt. Effect of PP Grafted p-Hydroxy-N- Phenyl Maleimide Comptabilizer and Organoclay Percent on the Properties of Polypropylene/Organoclay Nanocomposites.

20:30-22:00 Dinner

Wednesday 24 July 2019
Mycenae and Island of Poros Visit
Educational Island Tour

Thursday 25 July 2019
Delphi Visit

Friday 26 July 2019
Ancient Corinth and Cape Sounion

All ATINER's conferences are organized by the [Academic Council](#). This conference has been organized with the assistance of the following academics, who contributed by a) setting up the program b) chairing the conference sessions, and/or c) reviewing the submitted abstracts and papers:

1. Gregory T. Papanikos, President, ATINER & Honorary Professor, University of Stirling, UK.
2. Nikos J. Mourtos, Professor & Chair, Aerospace Engineering, San Jose State University, USA.
3. Bala Maheswaran, Professor, Northeastern University, USA.
4. Mustafa Bakkal, Professor, Istanbul Technical University, Turkey.
5. Hemchandra Shertukde, Professor, University of Hartford, USA.
6. Salaheldin Doma, Professor, Alexandria University, Egypt.
7. Attila Kovari, Associate Professor, Head of Department, University of Dunaujvaros, Hungary.
8. Muthuramalingam Thangaraj, Associate Professor, SRM Institute of Science and Technology, India.
9. Olga Gkounta, Researcher, ATINER.