



An Annual International Symposium on the Future of STEAM (sciences, technology, engineering, arts and mathematics) Education, 17-20 July 2017, Athens, Greece

**Organized by the Natural & Formal Sciences and the Engineering & Architecture Divisions of ATINER
Sponsored by the Athens Journal of Sciences and the Athens Journal of Technology & Engineering**

Conference Venue: Titania Hotel, 52 Panepistimiou Avenue, Athens, Greece (close to Omonoia metro station)

Monday 17 July 2017

08:00-09:00 Registration and Refreshments

09:00-09:30 (Room B-10th Floor) Welcome and Opening Address

Gregory T. Papanikos, President, ATINER.

09:30-11:00 Session I (Room A-10th Floor): Energy System, Generators and Motors

Chair: Bala Maheswaran, Academic Member, ATINER & Professor, Northeastern University, USA.

1. Silvia-Maria Diga, Professor, University of Craiova, Romania, Leonardo-Geo Manescu, Professor, University of Craiova, Romania, Adelaida-Mihaela Duinea, Lecturer, University of Craiova, Romania & Nicolae Diga, Design Engineer, Electroputere S.A. Craiova, Romania. Considerations on the Experimental Verifications of the Numerical Model of a Permanent Magnet Synchronous Motor Mounted in the Wheel of an Electric Bicycle.
2. Alexandre De Bernardinis, Research Scientist, IFSTTAR, France. High Efficiency Silicon Carbide-based Converters for Fuel Cells and Flywheel Energy Systems.
3. Muhammad Arslan Gondal, Electrical Engineer, Fatima Fertilizer Co. Ltd., Mukhtargarh, Sadiqabad, Pakistan. Implementation of 86G1 (Generator Lock-out) and 86G2 (Turbine Lock-out) for Steam Turbine Generator by using microprocessor based relay, Model: Siprotec 7UM62 (Make: SIEMENS).

09:30-11:00 Session II (Room B-10th Floor): Dynamics & Control

Chair: Nikos Mourtos, Head, Mechanical Engineering Unit, ATINER & Professor, San Jose State University USA.

1. David Schmidt, Professor Emeritus, University of Colorado – Colorado Springs, USA. On Modeling the Dynamics of Flexible Aircraft.
2. Patrick Weidman, Professor Emeritus, University of Colorado, USA. On the Terminal Motion of Sliding Spinning Disks with Uniform Coulomb Friction.
3. Sheng Fu, Professor, Beijing University of Technology, China, Lei Cheng, Post Graduate, Beijing University of Technology, China & Tao Chen, Post Graduate, Beijing University of Technology, China. Online Health Assessment of Gearbox Based on Vibration Signal and PID Control Theory.
4. Ilhan Tuzcu, Associate Professor, California State University, Sacramento, USA. Active Vibration Control of a Thin Plate Using Heat.

11:00-12:30 Session III (Room A-10th Floor): Numerical, Data and Storage**Chair:** Silvia-Maria Diga, Professor, University of Craiova, Romania.

1. Amos Olagunju, Professor, St Cloud State University, USA. A Call for Generalized Aggregation Functions for Modelling Complex Decisions with a Mixture Categorical and Continuous Data.
2. Qing Yang, Professor, University of Rhode Island, USA. Introducing DPU - Data-storage Processing Unit, Placing Intelligence in Storage.

11:00-12:30 Session IV (Room B-10th Floor): STEAM Education**Chair:** Ilhan Tuzcu, Associate Professor, California State University, Sacramento, USA.

1. Christoph Maurer, Vice Dean, Munich University of Applied Sciences, Germany, Lars Brehm, Professor, Munich University of Applied Sciences, Germany & Anne Bergner, Professor, Coburg University of Applied Sciences, Germany. Agile Management in Hardware Related Design Projects.
2. Nabil Semaan, Assistant Professor and Chairman of the Engineering Management Department, University of Balamand, Lebanon. The Periodic Aviation Maintenance Stochastic Schedule Model (PAM-SS).

12:30-14:00 Session V (Room B-10th Floor): Fuel, Power & Energy Systems**Chair:** Amos Olagunju, Professor, St Cloud State University, USA.

1. Yves Gagnon, Professor, University of Moncton, Canada, Jompob Waewsak, Thaksin University, Thailand, Chana Chancham, Thaksin University, Thailand & Somphol Chiwamongkhonkarn, Thaksin University, Thailand. On the Wind Resource Assessment of Thailand.
2. Dong-Wook Jerng, Professor, Chung-Ang University, South Korea & Jung-jin Bang, Graduate Student, Chung-Ang University, South Korea. Containment Cooling Methods for Safety Enhancement of Nuclear Power Plants.
3. Hoseong Lee, Senior Researcher, KATECH (Korea Automotive Technology Institute), South Korea. Experimental Study on Heating Performance Characteristics of Coolant Heat-Sourced Heat Pump System in a Fuel Cell Electric Vehicle.
4. Azeddine Draou, Professor, Islamic University of Madinah, Saudi Arabia. Performance Analysis of Photo Voltaic (PV) Panel Emulator Connected to the Grid System.
5. Lidi Wang, Associate Professor, Shenyang Agricultural University, China. Photovoltaic Power Supply is Used to Improve the Voltage Level of Distribution Network and its ETAP Implementation.

14:00-15:00 Lunch**15:00-16:30 Session VI (Room B-10th Floor): Biomedical Applications****Chair:** Yves Gagnon, Professor, University of Moncton, Canada.

1. Vimolrat Ngamaramvaranggul, Assistant Professor, Chulalongkorn University, Thailand, Nawalax Thongjub, Lecturer, Thammasat University, Thailand & Gawkij Teeramoke, Chulalongkorn University, Thailand. Simulation of Extrudate for Wet Powder Masses in Pharmaceutical Process.
2. Binnur Sagbas, Assistant Professor, Yildiz Technical University, Turkey. Additive Manufacturing of Biomedical Implants.

16:30-18:30 Session VII (Room B-10th Floor): *A Symposium on The Future Developments and Prospects of Engineering and Science Education & Research in a Global World I***Chair:** Nikos Mourtos, Head, Mechanical Engineering Unit, ATINER & Professor, San Jose State University, USA.

1. Bala Maheswaran, Professor, Northeastern University, USA. Engineering Education via Innovations and Inventions (E2 via I2).
2. Itzhak Orion, Head of the Nuclear Engineering Department, Ben-Gurion University of the Negev, Israel. Nuclear Science Research and Education in Israel.
3. Jin He, Professor, Peking University, Shenzhen SOC Key Laboratory, China. New Teaching Technique and Method Function in the Engineering and Science Education and Research.
4. Haiduke Sarafian, Professor, The Pennsylvania State University, USA. The Research Aspect of College Education.
5. Thomas J. J. Mueller, Professor, University of Dusseldorf, Germany. Life Science – Society.

For details on the discussion please [click here](#).**21:00-23:00 The Pragmatic Symposium of the Conference as Organized in Ancient Athens with Dialogues, Food, Wine, Music and Dancing but fine tuned to Synchronous Ethics**

Tuesday 18 July 2017

07:30-10:30 Session VIII: An Educational Urban Walk in Modern and Ancient Athens

Chair: Gregory Katsas, Vice President of Academic Affairs, ATINER & Associate Professor, The American College of Greece-Deree College, Greece.

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)

11:00-12:30 Session IX (Room A-10th Floor): Sensors and Laplacian

Chair: Lluís Jofre, Professor, Polytechnic University of Catalonia (UPC), Spain.

1. Jin He, Professor, Peking University, Shenzhen SOC Key Laboratory, China, Guoqin Hu, Peking University, Shenzhen SOC Key Laboratory, China, Bin Xie, Peking University, Shenzhen SOC Key Laboratory, China, Guangjin Ma, Peking University, Shenzhen SOC Key Laboratory, China & Xiaomeng He, Peking University, Shenzhen SOC Key Laboratory, China. Study on CMOS Image Sensor Detection of DNA Based on Self-assembled Nano-metallic Particles.
2. Roger Nakad, Assistant Professor, Notre Dame University, Lebanon. Eigenvalue Estimate for the basic Laplacian on Manifolds with Foliated Boundary.

11:00-12:30 Session X (Room B-10th Floor): Thermal – Fluid Applications

Chair: Dong-Wook Jerng, Professor, Chung-Ang University, South Korea.

1. Besir Sahin, Professor, Cukurova University, Turkey, Nehir Tokgoz, Assistant Professor, Osmaniye Korkut Ata University, Turkey & M. Murat Aksoy, Rice University, USA. Experimental Studies of Flow Characteristics in Corrugated Ducts.
2. Oguz Turgut, Professor, Gazi University, Turkey, Fatih Celen, Gazi University, Turkey, Omer Evran, Gazi University, Turkey & Burak Tigli, Gazi University, Turkey. Numerical Study of Flow and Heat Transfer in a Curved Square Duct with Longitudinal Triangular Rib Using Al₂O₃/Water Nanofluid.
3. Cetin Canpolat, Assistant Professor, Cukurova University, Turkey & Besir Sahin, Professor, Cukurova University, Turkey. The Near Wake of a Circular Cylinder with Single Longitudinal Groove.

12:30-14:00 Session XI (Room A-10th Floor): Education

Chair: Klaus Wuersig, Associate Professor, University of Pittsburgh at Bradford, USA.

1. Lluís Jofre, Professor, Universitat Politècnica de Catalunya (UPC), Spain. Engineering Education. Technological and Social Leading.
2. Daniel Conway, Professor, Texas A&M University, USA & Claire Katz, Professor, Texas A&M University, USA. The Importance of Philosophy for Pre-College STEAM Education.
3. Scott Grenquist, Associate Professor, Wentworth Institute of Technology, USA. A Novel Method of Teaching a Capstone Final-year Design Course in Electrical Engineering over a Two-Semester Interval.

12:30-14:00 Session XII (Room B-10th Floor): Experimental Methods

Chair: Malgorzata Karczmarzyk, Professor, University of Gdansk, Poland.

1. Peter Horvath, Associate Professor, Széchenyi University, Hungary. Nondestructive Bolt Preload Measurement.
2. Soyeon Lee, Researcher, Korea Institute of Industrial Technology, South Korea, Hyung-ick Kim, Senior Researcher, Korea Institute of Industrial Technology, South Korea, Sinhye Moon, Researcher, Korea Institute of Industrial Technology, South Korea, Suk-soo Jang, The Director of Laboratory, Sandong Metal Industrial Co.Ltd., South Korea, Min-kyu Kim, Senior Researcher, Sandong Metal Industrial Co.Ltd., South Korea, Young-ju Kim, Principal Researcher, Korea Institute of Geoscience and Mineral Resources, South Korea & Nam-sub Woo, Senior Researcher, Korea Institute of Geoscience and Mineral Resources, South Korea. The Evaluation of Mechanical Properties for Dissimilar Metal Weld in Offshore Diverter System Housing.
3. Tilman Traub, Research Assistant / PhD Student, TU Darmstadt / Institute for Production Engineering and Forming Machines, Germany, Christoph Mijs, Student, TU Darmstadt / Institute for Production Engineering and Forming Machines, Germany & Peter Groche, Professor, Head of the Institute for Production Engineering and Forming Machines, TU Darmstadt / Institute for Production Engineering and Forming Machines, Germany. Force Measurements Supporting the Set-up Process in Roll Forming.

14:00-15:00 Lunch

15:00-16:30 Session XIII (Room B-10th Floor): Special Topics

Chair: Patrick Weidman, Professor Emeritus, University of Colorado, USA.

1. Malgorzata Karczmarzyk, Professor, University of Gdańsk, Poland & Grażyna Penkowska, Professor, University of Gdańsk, Poland. Painting Artist in the Eyes of Children - Semiotic Analysis of the Meanings about Artists Constructed by the Children.
2. Klaus Wuersig, Associate Professor, University of Pittsburgh at Bradford, USA. MatLab, a very Potent Tool to Solve many Electrical Engineering Problems.

16:30-18:30 Session XIV (Room B-10th Floor): A Symposium on The Future Developments and Prospects of Engineering and Science Education & Research in a Global World II

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

1. Nikos Mourtos, Professor, San Jose State University, USA. Teaching & Learning Engineering in the 21st Century: Challenges and Opportunities.
2. Lluís Jofre, Professor, Polytechnic University of Catalonia (UPC), Spain. Catalonia Engineering and Science Education and Research Trends in the European Context.
3. Dong-Wook Jerng, Professor, Chung-Ang University, South Korea. Some Thoughts for Future Direction of Engineering/Science Education with Insights from a K-POP Story of BTS.
4. Isai Urasa, Professor, Hampton University, USA. International Higher Education: A Vehicle for Global Cooperation and Development in Science and Engineering.
5. Santhi Sambamoorthy, Associate Professor, Bharathidasan University, India. Creative and Inimitable Role Played by Indian Universities in Science, Engineering and Research in a Global World.
6. Ethel Petrou, Professor and Chair, Department of Physics, Erie Community College-South, State University of New York, USA. Emerging Trends in New York State Community Colleges-SUNY.

For details on the discussion please [click here](#).

21:00- 22:30 Dinner

Wednesday 19 July 2017
Educational Island Tour or Mycenae and Epidaurus Visit

Thursday 20 July 2017
Delphi Visit

All ATINER's conferences are organized by the Academic Committee (<https://www.atiner.gr/academic-committee>). This conference has been organized with the assistance of the following academics, who contributed by chairing the conference sessions and/or by reviewing the submitted abstracts and papers:

1. Gregory T. Papanikos, President, ATINER.
2. Nikos Mourtos, Head, Mechanical Engineering Unit, ATINER & Professor, San Jose State University, USA.
3. Bala Maheswaran, Academic Member, ATINER & Professor, Northeastern University, USA.
4. Patrick Weidman, Professor Emeritus, University of Colorado, USA.
5. Lluís Jofre, Professor, Polytechnic University of Catalonia (UPC), Spain.
6. Yves Gagnon, Professor, University of Moncton, Canada.
7. Dong-Wook Jerng, Professor, Chung-Ang University, South Korea.
8. Amos Olagunju, Professor, St Cloud State University, USA.
9. Malgorzata Karczmarzyk, Professor, University of Gdansk, Poland.
10. Silvia-Maria Diga, Professor, University of Craiova, Romania.
11. Klaus Wuersig, Associate Professor, University of Pittsburgh at Bradford, USA.
12. İlhan Tuzcu, Associate Professor, California State University, Sacramento, USA.
13. Vassilis Skianis, Research Fellow, ATINER.
14. Olga Gkounta, Researcher, ATINER.
15. Hannah Howard, Research Assistant, ATINER.