



Athens Institute for Education and Research
A World Association of Academics & Researchers



5th Annual International Conference on Engineering, 25-28 June 2018, Athens, Greece
Organized by the [Engineering & Architecture Division](#)
Sponsored by the [Athens Journal of Technology & Engineering](#)

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

Monday 25 June 2018

08:00-08:45 Registration and Refreshments

08:45-09:30 Welcome and Opening Address (Room A - 10th Floor)

Gregory T. Papanikos, President, ATINER.

Nicholas Pappas, Vice President of Academic Membership, ATINER & Professor of History, Sam Houston University, USA.

09:30-11:00 Session I (Room B - 10th Floor): Manufacturing

Chair: Theodore Trafalis, Director, Engineering & Architecture Division, ATINER, Professor of Industrial & Systems Engineering and Director, Optimization & Intelligent Systems Laboratory, The University of Oklahoma, USA.

1. Timothy Young, Professor, University of Tennessee, USA. Quantifying Interactions in Manufacturing using Regression Tree Models – A Useful Inductive Step for Planning a Designed Experiment.
2. Moshe Eben-Chaime, Professor, Ben-Gurion University of the Negev, Israel. Using the Operations Process chart as a Platform for Integrated Process Design.
3. Chin-Mei Lin, Professor, Asia University / Quanzhou Normal University, Taiwan, Pei-Chen Hsiao, PhD Student, Asia University, Taiwan, Chao-Tsang Lu, Associate Professor, Central Taiwan University of Science and Technology, Taiwan, Hsing-Hua Cheng, Lecturer, Asia University, Taiwan & Jia-Horng Lin, Professor, Feng Chia University, Taiwan. The Evaluation of the Manufacturing and Functions of Complex Knitted Fabrics.

11:00-12:30 Session II (Room B - 10th Floor): Big Data and Machine Learning

Chair: John Lamb, Adjunct Professor, Pace University, USA.

1. Jeongbeom Kim, Professor, Namseoul University, South Korea. An Empirical Study of Effective Promotion System based on Big Data Analysis and Machine Learning.
2. Stefan-Gheorghe Pentiuc, Professor, University Stefan cel Mare Suceava, Romania & Crenguta Bobric, Associate Professor, University Stefan cel Mare Suceava, Romania. Clustering Techniques for Comparative Analysis of Load Factor Profiles.

12:30-14:00 Session III (Room B - 10th Floor): Big Data in Professional Practice: Challenges, Solutions and Future Prospects**Chair:** Timothy Young, Professor, University of Tennessee, USA.

1. John Lamb, Adjunct Professor, Pace University, USA. Making Healthcare Green: The Role of Cloud, Green IT, and Data Science to Reduce Healthcare Costs and Combat Climate Change.
2. Imad El-Zakhem, Assistant Professor, University of Balamand, Lebanon & Marie Khair, Associate Professor, Notre Dame University, Lebanon. Big Data Opportunities: Prescriptive Analytics to Enhance Learning Programming in Higher Education.
3. *Andreea Mihailescu, Research Scientist / Development Engineer, Lasers Department / National Institute for Lasers, Plasma and Radiation Physics, Romania. Architectural Challenges in Designing Big Data Solutions in Support of Laser-Plasma Interaction Experimental Investigations.

14:00-15:00 Lunch**15:00-17:00 Session IV (Room A - 10th Floor): Special Topics in Civil Engineering****Chair:** Kasim Korkmaz, Assistant Professor, Eastern Michigan University, USA.

1. Edward Minchin, Professor and Interim Associate Director, M.E. Rinker School of Construction Management, University of Florida, USA, Giovanni Migliaccio, Associate Professor, University of Washington, USA, Lourdes Ptschelinzew, Graduate Research Assistant, University of Florida, USA & Yuanxin Zhang, Assistant Professor, Guangzhou University, China. Best Practices for the Design Process for the Construction-Manager-as-General-Contractor Delivery System.
2. Ram Balachandar, Professor, University of Windsor, Canada, Vimaldoss Jesudhas, Research Associate, University of Windsor, Canada & Ron Barron, Professor, University of Windsor, Canada. Study of the Shallow Wake Characteristics of Emergent Slender Cylinders using DES.
3. Mohamed Moussa, Graduate Student, The American University in Cairo, Egypt, A. Samer Ezeldin, Professor and Chair, Department of Construction Engineering, The American University in Cairo, Egypt & Sayed Ismail, Assistant Professor, Ain Shams University, Egypt. A Risk-based Logistic Regression Decision Support Model for the Selection from The World Bank Lending Instruments.
4. Brwa Ahmed Saeed, Lecturer, A. S. Brwa / Ishik University, Iraq. Influence of Optimal Distribution of Dampers on Structural Vibration Control.

15:00-17:00 Session V (Room B - 10th Floor): Design and Optimization**Chair:** Nicholas Pappas, Vice President of Academic Membership, ATINER & Professor of History, Sam Houston University, USA.

1. Benhur Satir, Assistant Professor, Çankaya University, Turkey. Turkish Red Crescent's Blood Collection and Blood Products Distribution Logistics Network Design.
2. Bin Cui, PhD Student, Hochschule Hannover, Germany, Martin Gottschlich, Professor, Hochschule Hannover, Germany & Ulrich Luedersen, Professor, Hochschule Hannover, Germany. CFD Simulation of a Rotary Swing Chamber Machine.
3. Maren Schmuck, Research Assistant, Hochschule Hannover, Germany, Erdenetuya Lepenies, Research Assistant, Hochschule Hannover, Germany & Ulrich Luedersen, Professor, Hochschule Hannover, Germany. Limiting Viscosity Number in CED-solution - Verification of a New Method through Round Robin Test to Evaluate the Effectiveness of Paper Deacidification Processes.
4. Gloria Polimeno, Data Scientist, Exprivia SpA, Italy. Designing Solution for Healthcare: A Case Study Combining Big Data and Blockchain Technologies.
5. Ylenia Maruccia, Data Scientist, Exprivia SpA, Italy. Talking Machines: How Big Data can help in Real-Time Anomalies Detection.
6. Zouhair Issa Ahmed Al-Daoud, Assistant Professor, Al-Bani University College, Iraq & Rasha Qasim Humadi, Lecturer, Al-Nahrain University, Iraq. Optimization and Evaluation of a factory Layout Design Problems.

17:00-19:00 Session VI (Room A - 10th Floor): ATINER's 2018 Series of Academic Dialogues A Symposium Discussion on *Future Developments and Prospects of Engineering and Science Education & Research in a Global World*

Chair: Nicholas Pappas, Vice President of Academic Membership, ATINER & Professor of History, Sam Houston University, USA.

1. Dimitrios Goulias, Head, Civil Engineering Unit, ATINER and Associate Professor & Director of Undergraduate Studies Civil & Environmental Engineering Department, University of Maryland, USA. University of Maryland's Civil Engineering Education & Research Activities in the Global World.
2. Ram Balachandar, Professor, University of Windsor, Canada. Recent Developments in Engineering Education and Research – The Canadian Experience.
3. Fouad Mohammad, Senior Lecturer, Nottingham Trent University, UK. Teaching Civil and Structural Engineering for the Next Generation.
4. Jeh-Nan Pan, Professor and CSQ Fellow, National Cheng Kung University and Chinese Society for Quality, Taiwan. Quantitative Education for Creating an Interface between Statistics and Engineering.
5. Timothy M. Young, Director, Center for Business & Manufacturing Excellence (CBME) & Professor and Graduate Director, Center for Renewable Carbon, The University of Tennessee, USA. The Importance of Data Quality Management in the Era of Predictive Analytics.
6. Theodore Trafalis, Director, Engineering & Architecture Division, ATINER, Professor of Industrial & Systems Engineering and Director, Optimization & Intelligent Systems Laboratory, The University of Oklahoma, USA. Future Developments of Engineering and Science Education & Research in a Big Data Era.

21:00-23:00 Greek Night and Dinner

Tuesday 26 June 2018

07:45-11:00 Session VII: An Educational Urban Walk in Modern and Ancient Athens

Chair: Gregory A. 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)

11:15-13:00 Session VIII (Room A - 10th Floor): Sustainable and Resilient Infrastructure - Environmental Issues

Chair: Jeh-Nan Pan, Professor and CSQ Fellow, National Cheng Kung University and Chinese Society for Quality, Taiwan.

1. Samuel Hassid, Associate Professor, Technion – Israel Institute of Technology, Israel. EnergyPlus vs. Monthly ISO 13790 for Israeli Climatic Zones.
2. Hatem Abou-Senna, Assistant Professor, University of Central Florida, USA & Essam Radwan, Professor / CATSS Director, University of Central Florida, USA. Quantifying the Effects of Vehicular Driving Cycles on Air Quality.
3. Suleiman Hassan Otuoze, PhD Student, University of Birmingham, UK, Dexter Hunt, Senior Lecturer, University of Birmingham, UK & Ian Jefferson, Professor, University of Birmingham, UK. Review of Trends in System Resilience for Sustainable Future Transport in Megacities.
4. Soumya Kar, Research Scholar, BITS Pilani, India & Rajiv Gupta, Senior Professor, BITS Pilani, India. A Study on the Disposal and Efficient Re-use of Water Treatment Sludge Generated in a Household: A Review.
5. Helene Jeannin, Sociologist, Orange Labs, France. Technology Influencers and the Culture of Mobility: Experimenting Self-Ruling Floating Cities.

13:00-14:00 Lunch

14:00-16:00 Session IX (Room A - 10th Floor): Special Topics in Technology & Engineering

Chair: Timothy Young, Professor, University of Tennessee, USA.

1. Kyung Jin Cha, Associate Professor, Kangwon National University, South Korea & Hwa Jong Kim, Associate Professor, Kangwon National University, South Korea. Designing Conversational User Interface for Artificial Intelligence Devices.
2. Jeh-Nan Pan, Professor and CSQ Fellow, National Cheng Kung University and Chinese Society for Quality, Taiwan & Chung-I Li, National Cheng Kung University, Taiwan. A New Demerit Control Chart for Monitoring the Quality of Multivariate Poisson Process.
3. Su-Qun Cao, Professor / Vice Dean of Mechanical & Material Engineering Faculty, Huaiyin Institute of Technology, China. A Novel Feature Selection Method for Unsupervised Pattern.
4. Gyeunho Choi, Professor, Daegu-Gyeongbuk Institute of Science and Technology (DGIST), South Korea, Yongseob Lim, Assistant Professor, Daegu-Gyeongbuk Institute of Science and Technology (DGIST), South Korea & Mingyu Choi, Assistant Professor, Daegu-Gyeongbuk Institute of Science and Technology (DGIST), South Korea. Case Studies of a Project-Based Learning Course in Transdisciplinary Engineering Program.
5. Chien-An Shih, Orthopedic Surgeon, National Cheng Kung University Hospital, Taiwan, Ming-Long Yeh, Associate Professor, National Cheng Kung University Hospital, Taiwan, Fei-Yi Hung, Professor, National Cheng Kung University Hospital, Taiwan, Chih-Kai Hung, Orthopedic Surgeon, National Cheng Kung University Hospital, Taiwan, Cheng-Li Lin, Orthopedic Surgeon, National Cheng Kung University Hospital, Taiwan, Chia-Lung Li, Orthopedic Surgeon, National Cheng Kung University Hospital, Taiwan, I-Ming Jou, Orthopedic Surgeon, National Cheng Kung University Hospital, Taiwan & Wei-Ren Su, Chairman of Orthopedic Department, National Cheng Kung University Hospital, Taiwan. Biomechanical Comparison of Parallel, Posterior, and Y Configuration for Treating Comminuted Distal Humerus Fractures.
6. Arash Mazaheri, PhD Candidate, University of Zanjan, Iran & Amir Masoud Rahimi, Associate Professor, University of Zanjan, Iran. Synchro Software: Can be used to Enhance and Optimize the Performance of Urban Signalized Intersections with Queue Blockage?

16:00-17:30 Session X (Room A - 10th Floor): Innovative Concrete Materials

Chair: Hatem Abou-Senna, Assistant Professor, University of Central Florida, USA.

1. Ivanka Netinger Grubesa, Associate Professor, Josip Juraj Strossmayer University of Osijek, Croatia, Ivana Barisic, Assistant Professor, Josip Juraj Strossmayer University of Osijek, Croatia & Ilijana Kljajic, Civil Engineer, Croatia. Polymer Modified Pervious Concrete.
2. Cise Unluer, Lecturer, Nanyang Technological University, Singapore. Influence of Carbonation on the Performance of Reactive MgO Cement-based Concrete Mixes.
3. Tomas Lovasi, Student, University of Chemistry and Technology, Prague, Czech Republic, Milan Kouril, University of Chemistry and Technology, Prague, Czech Republic & Sarka Msallamova, University of Chemistry and Technology, Prague, Czech Republic. Electrochemical Healing Techniques for Concrete Reinforcement Restoration.
4. Jose Ivan Escalante-Garcia, Research Scientist, Cinvestav Unidad Saltillo, Mexico, Karina Cabrera-Luna, Postdoc, Universidad Veracruzana, Mexico, Erick E. Maldonado-Bandala, Academic, Universidad Veracruzana, Mexico & Demetrio Nieves-Mendoza, Academic, Universidad Veracruzana, Mexico. Strength Evolution of Concretes Made with Supersulfated Binders based on Volcanic Materials Exposed to two Media.

20:00- 21:30 Dinner

**Wednesday 27 June 2018
Mycenae and Island of Poros Visit
Educational Island Tour**

**Thursday 28 June 2018
Delphi Visit**

**Friday 29 June 2018
Ancient Corinth and Cape Sounion**

All ATINER's conferences are small events which serve the mission of the association (<https://www.atiner.gr/mission>) under the guidance of its Academic Committee (<https://www.atiner.gr/academic-committee>) which sets the policies (<http://www.atiner.gr/acceptance>). In addition, each conference has its own academic committee. Members of the committee include all those who have evaluated the abstract-paper submissions and have chaired the sessions of the conference. The members of the academic committee of the 5th Annual International Conference on Engineering, 25-28 June 2018, Athens, Greece, were the following:

1. Gregory T. Papanikos, President, ATINER.
2. Nicholas Pappas, Vice President of Academic Membership, ATINER & Professor of History, Sam Houston University, USA.
3. Panagiotis Petratos, Vice-President of Information Communications Technology, ATINER, Fellow, Institution of Engineering and Technology & Professor, Department of Computer Information Systems, California State University, Stanislaus, USA.
4. Nicholas N. Patricios, Vice President of Strategic Planning & Analysis, ATINER and Professor & Dean Emeritus, School of Architecture, University of Miami, USA.
5. Theodore Trafalis, Director, Engineering & Architecture Division, ATINER, Professor of Industrial & Systems Engineering and Director, Optimization & Intelligent Systems Laboratory, The University of Oklahoma, USA.
6. Timothy M. Young, Director, Center for Business & Manufacturing Excellence (CBME) & Professor and Graduate Director, Center for Renewable Carbon, The University of Tennessee, USA.
7. Jeh-Nan Pan, Professor and CSQ Fellow, National Cheng Kung University and Chinese Society for Quality, Taiwan.
8. John Lamb, Adjunct Professor, Pace University, USA.

9. Zouhair Issa Ahmed Al-Daoud, Academic Member, ATINER & Assistant Professor, Al-Bani University College, Iraq.
10. Hatem Abou-Senna, Assistant Professor, University of Central Florida, USA.
11. Kasim Korkmaz, Assistant Professor, Eastern Michigan University, USA.

The Organizing Committee of the conference was:

1. Fani Balaska, Researcher, ATINER.
2. Olga Gkounta, Researcher, ATINER.
3. Hannah Howard, Research Assistant, ATINER.
4. Eirini Lentzou, Administrative Assistant, ATINER.
5. Konstantinos Manolidis, Administrator, ATINER.
6. Kostas Spyropoulos, Administrator, ATINER.