



4th Annual International Conference on Engineering, 19-22 June 2017, Athens, Greece

Organized by the Athens Institute for Education and Research

Sponsored by the Athens Journal of Technology & Engineering

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

Monday 19 June 2017

08:00-09:00 Registration and Refreshments

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

Gregory T. Papanikos, President, ATINER.

09:30-11:00 Session I (Room D-10th Floor): Structural and Dynamic Analysis

Chair: Olga Gkounta, Researcher, ATINER.

1. Nirjhar Dhang, Professor, Indian Institute of Technology, India & Subhra De, Research Scholar, Indian Institute of Technology, India. Calibration of Semi-Rigid Joints of Frame Structures using Fuzzy Finite Element Method.
2. Raul Pereda Garcia, Professor, University of Cantabria, Spain, Julio Manuel de Luis Ruiz, Professor, University of Cantabria, Spain, Rubén Pérez Álvarez, Post-Doctoral Researcher, University of Cantabria, Spain, Felipe Piña García, Associate Professor, University of Cantabria, Spain & Elena Castillo López, Professor, University of Cantabria, Spain. Mathematical Model of Forward Motion in Bathymetries and Its Effect on the Measurement Conditions.
3. Fouad Mohammad, Senior Lecturer, Nottingham Trent University, UK & Ahmed Mezgeen, Lecturer, Duhok University, Iraq. Modal Analysis of Reinforced Concrete Square Slabs.
4. Ji-Ho Kang, Senior Researcher, Korea Atomic Energy Research Institute, South Korea & Chang Keun Jo, Project Manager, Korea Atomic Energy Research Institute, South Korea. Friction Model Performance Comparison for the Dynamic Analysis of Nuclear Graphite Blocks.
5. Lintai Wang, PhD Candidate, Beijing University of Technology, China. Decreasing Vibration Technology for Tunnel Blasting Based on Building Modal Analysis.

09:30-11:00 Session II (Room E-10th Floor): Manufacturing and Materials I

Chair: Zbigniew Pasek, Professor, University of Windsor, Canada.

1. Peter Boehm, Professor, University of Applied Sciences Trier, Germany & Jannis Marion, University of Applied Sciences Trier, Germany. New Experiences in Welding Magnesium Alloys.
2. Sabrina Herbst, Scientific Assistant / PhD Student, Ernst-Abbe-Hochschule Jena, Germany, Johanna Gerlach, BSc Student, Ernst-Abbe-Hochschule Jena, Germany, Frank Engelmann, Engineer, Ernst-Abbe-Hochschule Jena, Germany & Karl-Heinrich Grote, Chair of Design Engineering, Otto-von-Guericke-Universität, Germany. Challenges of Maintenance, Repair and Overhaul in Hazardous Areas.
3. Josef Meyer, PhD Student, Hochschule Hannover, Germany, Bin Cui, PhD Student, Hochschule Hannover, Germany, Ulrich Luedersen, Professor, Hochschule Hannover, Germany & Martin Gottschlich, Professor, Hochschule Hannover, Germany. Experimental Heat Transfer Analysis of a Rotary Swing Chamber Expander.
4. Joao Marcos Ferreira Santos, Research Student, IFAL - Instituto Federal de Alagoas, Brazil, Thannys Nascimento Silva, Research Student, IFAL - Instituto Federal de Alagoas, Brazil & Dr. Justino Marques Sheyla Karolina, Advisor Professor, Federal Institute of Alagoas - IFAL, Brazil. Analysis of the Behaviour of Unserviceable Tire Rubber in Floor Manufacturing.

11:00-12:30 Session III (Room D-10th Floor): Wind and Seismic Performance	11:00-12:30 Session IV (Room E-10th Floor): Manufacturing and Materials II
Chair: Dawen Gao, Professor, Northeast Forestry University, China.	Chair: Peter Boehm, Professor, University of Applied Sciences Trier, Germany.
<ol style="list-style-type: none"> 1. <u>Naveed Anwar</u>, Executive Director, Asian Institute of Technology (AIT), Thailand, Shilpa Nirman Thilakarathna, MSc Student, Asian Institute of Technology (AIT), Thailand, Pramin Norachan, Structural Engineering Manager at AIT Solutions, Asian Institute of Technology (AIT), Thailand & Fawad Najam, PhD Student, Asian Institute of Technology (AIT), Thailand. Effect of Wind Loads on the Seismic Performance of Tall Buildings. 2. <u>David Sanders</u>, Professor, University of Nevada, Reno, USA, Mohammed Mohammed, PhD Student, University of Nevada, Reno, USA & Ian Buckle, Professor, University of Nevada, Reno, USA. Experimental and Analytical Investigation of Structural Response of Bridge Columns using Ground Motions from the Tohoku 2011 Earthquake. 3. <u>Roberto Gomez</u>, Associate Professor, National Autonomous University of Mexico, Mexico, Mendoza-Salas, Research Associate, National Autonomous University of Mexico, Mexico, Oscar Noe Rosales-González, Research Associate, National Autonomous University of Mexico, Mexico, Luis Martin Arenas García, Research Associate, National Autonomous University of Mexico, Mexico, Adrian Pozos-Estrada, Associate Professor, National Autonomous University of Mexico, Mexico & José Alberto Escobar-Sánchez, Associate Professor, National Autonomous University of Mexico, Mexico. Experimental Verification of Tension Forces in a Cable Stayed Bridge. 	<ol style="list-style-type: none"> 1. <u>Hector Estrada</u>, Professor, University of the Pacific, USA, Jonathan Trovillion, U.S. Army Engineer Research and Development Center, USA, Hugh McManus, U.S. Army Engineer Research and Development Center, USA, Ashok Kumar, U.S. Army Engineer Research and Development Center, USA, Larry D. Stephenson, U.S. Army Engineer Research and Development Center, USA & William Lewis, U.S. Army Engineer Research and Development Center, USA. Experimental Results of Accelerated Long-Term Durability Performance of FRP Composite Materials. 2. Amel Bourguiba, PhD Student, University of Cergy Pontoise, France. Effect of a Thinner (Methyl Octanoate) on Mechanical Strengths and Fracture Behavior of Epoxy Resin Mortars. 3. Christian Lamberti, PhD Student, University of Luxembourg, Luxembourg. Laser Assisted Joining of Aluminum and Polyamide 6.6 – Evaluating the Mechanical Strength of Multi Material Structures. 4. <u>Emanuel Filipe Santos Amaral</u>, Research Student, IFAL - Instituto Federal de Alagoas, Brazil, <u>Jose Diogo Barbosa de Almeida</u>, Research Student, IFAL - Instituto Federal de Alagoas, Brazil & Dr. Justino Marques Sheyla Karolina, Advisor Professor, Federal Institute of Alagoas - IFAL, Brazil. Study of Viability of Using Rice Husk Ash in Manufacturing of Hollow Block.

12:30-14:00 Session V (Room D -10th Floor):Advanced Materials and Chemistry	12:30-14:00 Session VI (Room E-10th Floor): Supply Chain and Inventory Management
Chair: Fouad Mohammad, Senior Lecturer, Nottingham Trent University, UK.	Chair: Hannah Howard, Research Assistant, ATINER.
<ol style="list-style-type: none"> 1. Dawen Gao, Professor, Northeast Forestry University, China. How one-Stage Deammonification Process Succeed? 2. <u>Elhem Ghorbel</u>, Professor, University of Cergy Pontoise, France, <u>Mariam Limaiem</u>, PhD Student, University of Cergy Pontoise, France and University of Tunis El Manar, Tunisia & Oualid Limam, Professor, Tunis El Manar University, Tunisia. Reinforcement Effects of Concretes with CFRP Materials. 3. <u>Shamim Sheikh</u>, Professor, University of Toronto, Canada & Zahra Kharal, University of Toronto, Canada. Comparison of Steel- and GFRP-Reinforced Concrete Members under Seismic and non-Seismic Loads. 	<ol style="list-style-type: none"> 1. <u>Hubertus Franke</u>, Professor, Ostfalia University of Applied Sciences, Germany & Katharina Lanko, BSc, MA, Ostfalia University of Applied Sciences, Germany. The Supply Chain Value Stream Model. 2. <u>Zbigniew Pasek</u>, Professor, University of Windsor, Canada & Ashwath Sridharan, Graduate Student, University of Windsor, Canada. Inventory Management in Mass Customized Printing Production Environment. 3. <u>Chengli Liu</u>, PhD Candidate, The Hong Kong Polytechnic University, Hong Kong & Carman Lee, Assistant Professor, The Hong Kong Polytechnic University, Hong Kong. Pricing Strategy in Dual-Channel Supply Chain with Loss-Averse Consumers. 4. <u>Isotilia Costa Melo</u>, MSc Student, University of São Paulo, Brazil, Athanasios Rentizelas, Lecturer, University of Strathclyde, UK, Paulo Nocera Alves Júnior, PhD Student, University of São Paulo, Brazil, Jéssica Suárez Campoli, MSc Student, University of São Paulo, Brazil & Daisy Aparecida do Nascimento Rebelatto, Professor, University of São Paulo, Brazil. Assessment of Biomass Supply Chain: An DEA Application.

14:00-15:00 Lunch

15:00-17:00 Session VII (Room D-10th Floor): Design and Optimization	15:00-17:00 Session VIII (Room E-10th Floor): Foresight
Chair: Elhem Ghorbel, Professor, University of Cergy Pontoise, France.	Chair: Isotilia Costa Melo, MSc Student, University of São Paulo, Brazil.
<ol style="list-style-type: none"> 1. Shian Gao, Lecturer, University of Leicester, UK & Ahmed Qasim Ahmed, PhD Research Student, University of Leicester, UK. Large Eddy Simulation of Air Flow and Temperature Distributions in an Office Room Served by a Displacement Ventilation System. 2. Erdem Baltaci, Industrial Engineer, Turkey, Sevgi Ozlem Bulu, Industrial Engineer, Turkey & Sila Isyar, Industrial Engineer, Turkey. Production Facility Layout Design for a Project Based Company. 3. Haider Iqbal Hanif, PhD Student, Hochschule Hannover, Germany, Dennis Saul, Research Assistant, Hochschule Hannover, Germany, Henrik Rüscher, Research Assistant / PhD Student, Hochschule Hannover, Germany, Lars-Oliver Gusig, Professor, Hochschule Hannover, Germany & Christian Bohn, Professor, Clausthal University of Technology, Germany. Module Design Methodology for the Conceptionalization of a Portable Unit for Providing Heat, Cold and Electricity in BEVs and Buildings. 4. Sahar Elaiwi, PhD Student, Plymouth University, UK. Analysis and Design of Castellated Beams. 	<ol style="list-style-type: none"> 1. Abhijit Deshmukh, James J. Solberg Head and Professor, School of Industrial Engineering, Purdue University, USA. ReThinking IE – Innovations at the Frontiers of Industrial Engineering. 2. Dimitrios Kyriakou, Lead Economist, European Commission, Spain. Implementing Smart Specialisation Strategies: Projected Issues and Foresight. 3. Jin-Wei Wang, PhD Student, Beijing Institute of Technology, China & Yi-Ming Wei, Professor, Beijing Institute of Technology, China. Developing Foresight Intelligence for Energy Technology: Qualitative Comparative Analysis Method.

17:00-19:00 Session IX (Room D-10th Floor): <i>A Symposium on the Future Developments and Prospects of Engineering and Science Education & Research in a Global World</i>
Chair: Lampros A. Pyrgiotis, President, Greek Society of Regional Scientists, Greece.
<ol style="list-style-type: none"> 1. Abhijit Deshmukh, James J. Solberg Head and Professor, School of Industrial Engineering, Purdue University, USA. Convergence of Knowledge. 2. Anthony Koutoulis, Professor & Head of School of Biological Sciences, University of Tasmania, Australia. The Future Developments and Prospects of Biology Education and Research in a Global World – a Tasmanian and Australian context. 3. LuAnn Carpenter, Director, Student Program Assessment and Administration, Industrial and Systems Engineering, Auburn University, USA. Issues and Trends in Engineering Education at Auburn University, Alabama, United States of America. 4. David H. Sanders, UNR Foundation Professor, Past-Chair UNR Faculty Senate, Department of Civil and Environmental Engineering, University of Nevada, Reno, USA. Is the Future for Higher Education bright in the United States? 5. Ravi Mukkamala, Professor, Old Dominion University, USA. The Future of Computer Science. <p>For details on the discussion please click here.</p>

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 20 June 2017

07:30-10:30 Session X: 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 XI (Room D-10th Floor): Structural Design Considerations

Chair: Roberto Gomez, Associate Professor, National Autonomous University of Mexico, Mexico.

1. Amde Amde, Professor, University of Maryland, USA & Andreas Paraschos, Senior Structural Engineer, New York City Department of Transportation, USA. Effects of Inline Cantilever Wingwalls on Integral Abutment Bridge Pile Stresses.
2. Yanglin Gong, Professor, Lakehead University, Canada. Test of All-Bolted Angle Connections for Catenary Action.

11:00-12:30 Session XII (Room E-10th Floor): Big Data in Professional Practice: Challenges, Solutions and Future Prospects

Chair: Sabrina Herbst, Scientific Assistant / PhD Student, Ernst-Abbe-Hochschule Jena, Germany.

1. Ravi Mukkamala, Professor, Old Dominion University, USA & Aftab Ahmad, CUNY John Jay College of Criminal Justice, USA. Privacy Provisioning in the Internet of Things.
2. Andreea Mihailescu, Research Scientist / Engineer, Lasers Department / National Institute for Lasers, Plasma and Radiation Physics, Romania. Designing Predictive and Recommender Systems for Laser-Plasma Interaction Scenarios. Implementations, Challenges and Future Prospects.
3. Dillon Chrimes, Technical Integration Coordinator, Vancouver Island Health Authority, Canada. Towards Hadoop/MapReduce Framework Supporting Interactive Big Data Analytics Platform for Healthcare over Billions of Patient Records.
4. Koichi Yagi, CEO, BumpRecorder Co., Ltd., Japan. Probe Data Collection for Pavement Maintenance Management by Using Smartphone Sensors.

12:30-14:00 Session XIII (Room D-10th Floor): Advanced Materials and Chemistry

Chair: Amde Amde, Professor, University of Maryland, USA.

1. Dimitrios Goulias, Associate Professor, University of Maryland, USA & Sahand Karimi, University of Maryland, USA. Risk Analysis for Highway Materials of Flexible Pavement Structures.
2. Lucas Willian Aguiar Mattias, Student Researcher, Federal Institute of Alagoas - IFAL, Brazil, Jesimiel Pinheiro Cavalcante, Professor, Federal Institute of Alagoas - IFAL, Brazil & Eliedson Carvalho, Student Researcher, Federal Institute of Alagoas - IFAL, Brazil. Reuse of Gypsum Residue in the Manufacturing of 3D Decorative Wall Covering Panels.
3. Amanda Lys Matos dos Santos Melo, Student / Researcher, Federal Institute of Education, Science and Technology of Alagoas (IFAL), Brazil, Filipe da Silva Duarte, Student / Researcher, Federal Institute of Education, Science and Technology of Alagoas (IFAL), Brazil & Rodrigo Mero Sarmiento da Silva, Teacher, Federal Institute of Education, Science and Technology of Alagoas (IFAL), Brazil. Prototypes of an Air Incorporating Bioadditive Derived from Castor Oil.

12:30-14:00 Session XIV (Room E-10th Floor): Human Factors and Safety

Chair: Dillon Chrimes, Technical Integration Coordinator, Vancouver Island Health Authority, Canada.

1. Dejan Lacmanovic, Professor, University of Novi Sad, Serbia, Miodrag Ivkovic, University of Novi Sad, Serbia, Izabela Lacmanovic, University of Novi Sad, Serbia, Dusanka Milanov, University of Novi Sad, Serbia & Branko Markoski, University of Novi Sad, Serbia. Computer System for Using Internet and e-Banking Services by Persons with Hand and Body Disabilities.
2. LuAnn Carpenter, Director, Student Program Assessment and Administration, Auburn University, USA, Jerry Davis, Associate Professor, Auburn University, USA, Sean Gallagher, Associate Professor, Auburn University, USA & Mark Schall, Assistant Professor, Auburn University, USA. An Interactive Model of Personal Protective Equipment (PPE) Donning and Doffing Times.
3. Yousif Abulhassan, Assistant Professor, Murray State University, USA, Rong Huangfu, PhD Student, Auburn University, USA, Connor Lusk, MSc Student, Auburn University, USA, Leslie Gunter, PhD Student, Auburn University, USA & Jerry Davis, Professor, Auburn University, USA. Does Wearing a Smoke Hood Impede one's Ability to see Stairs while Descending?

14:00-15:00 Lunch**15:00-16:30 Session XV (Room D-10th Floor): Geotechnical and Construction Engineering****Chair:** Dimitrios Goulias, Associate Professor, University of Maryland, USA.

1. Josef Zak, Assistant Professor, Czech Technical University in Prague, Czech Republic. Asphalt Mixtures that Dissipate Energy.
2. Dayana Carla de Macedo, Teacher, Midwest University of Paraná, Brazil, E. C. M. Ishikawa, Midwest University of Paraná, Brazil, C. B. Santos, Midwest University of Paraná, Brazil, S. N. Matos, Midwest University of Paraná, Brazil, H. B. Borges, Midwest University of Paraná, Brazil & A. C. Francisco, Midwest University of Paraná, Brazil. DRM-F: Dimensionality Reduction Method based in Framework.

15:00-16:30 Session XVI (Room E-10th Floor): Special Topics**Chair:** LuAnn Carpenter, Director, Student Program Assessment and Administration, Auburn University, USA.

1. Barry Hojjatie, Professor and Engineering Coordinator, Valdosta State University, USA. Undergraduate Research Projects Designed to Improve Student Retention in Engineering.
2. Sara McComb, Professor, Purdue University, USA & Ralitza Vozdolska, Data Scientist, Teradata, USA. Reexamining the Relationship between Teamwork and Performance: The Influence of Shared Mental Models.
3. Magdalena Wrobel-Kwiatkowska, Assistant Professor, Wroclaw University of Environmental and Life Sciences, Poland. Genetic Modification of Flax Plants and their Application.

21:00- 22:30 Dinner
Wednesday 21 June 2017
Educational Island Tour or Mycenae and Epidaurus Visit
Thursday 22 June 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. Dr. Theodore Trafalis, Director, Engineering & Architecture Research Division, ATINER, Professor of Industrial & Systems Engineering and Director, Optimization & Intelligent Systems Laboratory, The University of Oklahoma, USA.
3. Thomas Attard, Associate Professor, The University of Alabama at Birmingham, USA.
4. Dawen Gao, Professor, Northeast Forestry University, China.
5. Amde Amde, Professor, University of Maryland, USA.
6. Zbigniew Pasek, Professor, University of Windsor, Canada.
7. Peter Boehm, Professor, University of Applied Sciences Trier, Germany.
8. LuAnn Carpenter, Director, Student Program Assessment and Administration, Auburn University, USA.
9. Roberto Gomez, Academic Member, ATINER & Associate Professor, National Autonomous University of Mexico, Mexico.
10. Dimitrios Goulias, Associate Professor, University of Maryland, USA.
11. Elhem Ghorbel, Professor, University of Cergy Pontoise, France.
12. Fouad Mohammad, Academic Member, ATINER & Senior Lecturer, Nottingham Trent University, UK.
13. Magdalena Wrobel-Kwiatkowska, Academic Member, ATINER & Assistant Professor, Wroclaw University of Environmental and Life Sciences, Poland.
14. Dillon Chrimes, Technical Integration Coordinator, Vancouver Island Health Authority, Canada.
15. Lampros A. Pyrgiotis, President, Greek Society of Regional Scientists, Greece.
16. Sabrina Herbst, Scientific Assistant / PhD Student, Ernst-Abbe-Hochschule Jena, Germany.
17. Isotilia Costa Melo, MSc Student, University of São Paulo, Brazil.
18. Vassilis Skianis, Research Fellow, ATINER.
19. Olga Gkounta, Researcher, ATINER.
20. Hannah Howard, Research Assistant, ATINER.