

# Conference Program



**Lisbon, Portugal**  
**April 12-14, 2019**

**Conference Location:**

**HF Fenix Lisboa**

**Praca Marques de Pombal 8, 1269-133 Lisbon, Portugal**

**<https://www.hfhotels.com/hotels-en/hf-fenix-lisboa-en>**

Friday 12th April 2019

**Conference Room: A**

**Time: 09:00-09:30**

**Plenary Lecture:**



**The Flow of Gravity Currents and Intrusions: a Test-Case for the Power and Limitations of Simple Mathematical Models in the Prediction of Complex Phenomena**

by Prof. Marius Ungarish, Department of Computer Science, Technion - Israel Institute of Technology, Haifa, ISRAEL.

**Conference Room: A**

**Time: 09:30-10:00**

**Plenary Lecture:**



**Analysis of the Improvement of the Systems' Performance for the Relay Transmission by the Application of the Diversity Combining Techniques**

by Prof. Dragana Krstic, Faculty of Electronic Engineering, University of Nis, Nis, SERBIA.

**10:00-10:30: Coffee Break**

Friday 12th April 2019

**Conference Room: A**

**Time: 10:30-12:30**

**Title: Processing from Modelling, Measurements and Experiments in Sciences**

**Chair: Dragana Krstić, Lidia Lampreia Lourenco**

Level Crossing Rate of the Ratio of Product of Two Nakagami- $m$ Random Processes and Nakagami- $m$ Random Process	Dragana Krstić, Ivan Vulić, Mihajlo Stefanović
One Approach to using Fuzzy Logic for the Establishing of Natural Gas Tariffs	Teimuraz Tsabadze, Archil Prangishvili
A Strengthened Model for the Web Search Optimization Problem	Graca Marques Goncalves, Lidia Lampreia Lourenco
Applying the HSPF Model to Predict Watershed Responses under the Impact of Climate Change	Chia-Ling Chang, Tian-You Wu
Analysis of the Level Crossing Rate of Wireless Communication System in the Presence of Nakagami- $m$ Fading and Double Nakagami- $m$ Co-channel Interference	Dragana Krstić, Dušan Stefanović, Ivan Vulić, Mihajlo Stefanović
On Estimation of Model Error by an Adaptive Filter	Hong Son Hoang, Remy Baraille
Criteria for Adequacy of Mathematical Descriptions of Physical Processes	Yuri Menshikov
Effects of Shoe-Type Walking Assistive Device for the Blind on Gait Characteristics: A Pilot Study	Chang-Min Yang, Ji-Yong Jung, Jung-Ja Kim
Analysis of the Foot Pressure Distribution for Scoliotic Patients using an Instrumented Treadmill	Ji-Yong Jung, Jung-Ja Kim

Friday 12th April 2019

**Conference Room: A**

**Time: 12:30-14:30**

**Title: Mathematical Models in Engineering and Systems**

**Chair: Igor Gorlach, Chingiz Hajiyev**

Modelling of Boiler Drum Level Control using Flownex Software Environment	Louis Van Der Westhuizen, Igor A. Gorlach
Comparison between the Measured and Model-Calculated Temperature of the LV Melting Fuse	Mirza Sarajlić, Peter Kitak, Mitja Hribernik, Jože Pihler
Two-Stage Kalman Filter for Estimation of Wind Speed and UAV States by using GPS, IMU and Air Data System	Chingiz Hajiyev, Demet Cilden-Guler, Ulviye Hacizade
Oral Cancer Risk Prediction Model	Wan Nurul Hannah Narruddin, Eko Supriyanto, Muhammad Nabil Mohd Warid
Modelling TCP/IP Traffic of a Convergent Campus Wireless Network	Albert Espinal, Rebeca Estrada, Carlos Monsalve
Modelling and Touch Voltage Simulation of Various Earth Grid Configuration Against Lightning	Hafild Widyaputera, Febby Purnama Madrin, Mohammad Akmal Abu Taib, M. Faudzi M. Yasir, Eko Supriyanto, Zulkurnain Abdul Malek
Simulation and Analysis of Electromagnetic Interference Effects with 900 MHz Frequency on Various EMI Protection Model	Indhika Fauzan Warsito, Hafild Widyaputera, Eko Supriyanto, Muhammad Akmal Abu Taib, Muhammad Faudzi M. Yasir

**14:30-15:00: Coffee Break**

**18:00 Welcoming Drink**

**Saturday 13th April 2019**

**Conference Room: A**

**Time: 09:00-09:30**

**Plenary Lecture:**



**Application of a Stochastic-Fuzzy Approach to Modeling Optimal Discrete-Time Dynamical Systems by using Large-Scale Data Processing**

by Prof. Anna Walaszek-Babiszewska, Institute of Control and Computer Engineering, Opole University of Technology, Opole, POLAND.

**Conference Room: A**

**Time: 09:30-10:00**

**Plenary Lecture:**



**Urban Living Labs - Technological Experiences and People Engagement Towards Urban Sustainability**

by Prof. Paulo Ribeiro, Department of Civil Engineering, School of Engineering, University of Minho, Minho, PORTUGAL.

**Conference Room: A**

**Time: 10:00-10:30**

**Plenary Lecture:**



**Augmented Virtuality; Enabling Technologies for Industry 4.0**

by Prof. Eko Supriyanto, Biomedical Engineering, Universiti Teknologi Malaysia, Johor, MALAYSIA.

**10:30-11:00: Coffee Break**

Saturday 13th April 2019

**Conference Room: A**

**Time: 11:00-13:00**

**Title: Applied and Numerical Mathematics in Sciences**

**Chair: Flavius Guias, Beatrice Paternoster**

Adapted IMEX Numerical Methods for Reaction-Diffusion Problems	Raffaele D'Ambrosio, Martina Moccaldi, Beatrice Paternoster
High Precision Stochastic Solvers for Large Autonomous Systems of Differential Equations	Flavius Guias
A New Stability Number of the Bresse-Cattaneo System	Leila Djouamai, Belkacem Said-Houari
Construction of Exponentially Fitted Explicit Peer Methods	Dajana Conte, Beatrice Paternoster, Leila Moradi, Fakhroddin Mohamadi
Stroke Risk Prediction Model	Wan Nor Syuhada Wan Zahari, Eko Supriyanto, Nazriah Mahmud
Correction of Shading Effects on Different Components of Solar Radiation	Hadj Sahraoui Omar, Fizazi Hadria, Berrichi Faouzi, Chamakhi Djemoui
A Two-Dimensional Mathematical Model of Heat Propagation Equations and Their Significance for Soil Temperature	Anis Ben Dhahbi, Salah Boulaaras, Nadia Mezouar, Khaled Zennir, Sewelem Ghanem, Ali Allahem, Mohamed Haiour
Vane-type Rectangular Vortex Generators Modeled by jBAY	U. Fernandez-Gamiz, P. Martinez-Filgueira, A. Boyano, E. Zulueta, J. M. Lopez-Guede, Victor Gimenes Martin

**Saturday 13th April 2019**

**Conference Room: A**

**Time: 13:00-15:00**

**Title: Applications of Civil and Mechanical Engineering**

**Chair: Paulo Ribeiro**

A Bus Demand Model for Low-Density Territories in Continental Portugal	Harley Largo, Paulo Ribeiro
A Multi-Criteria Model to Define Intervention Priority Levels for Traffic Signs	Daniel Souto Rodrigues, Fernando Fonseca, Paulo Ribeiro
Analysis of Road Safety Conflicts. The Case Study of a Road Interchange in Guimarães	Carlos Miguel Cardoso Araújo, Paulo Jorge Gomes Ribeiro, Flávio José Craveiro Cunto
The Impact of a Ring Road in the Road Network Performance of City. The Case Study of Guimarães, Portugal	Paulo Jorge Gomes Ribeiro, Luís António Pena Jardim Gonçalves
Flyback Converter of Electrical Discharge Machining Power Supply: Application to Surface Texturing	Nazriah Mahmud, Azli Yahya, Eko Supriyanto

**15:00-15:30: Coffee Break**

**20:00: Conference Dinner**



Sunday 14th April 2019

Conference Room: A

Time: 09:00-09:30

Plenary Lecture:



**Analysis of Non-Fourier Conduction Problems: Applications to Semi-Transparent Media and to Thermoelements**

by Prof. Myriam Lazard, Thermal Fluid and Combustion Department,  
Institut PPrime, Poitiers, FRANCE.

Sunday 14th April 2019

**Conference Room: A**

**Time: 09:30-11:30**

**Title: Multimedia Systems & Signal Processing**

**Chair: Myoungbeom Chung, Klimis Ntalianis**

A Destination Notification System for Disembarking Public Transportation using Smart Devices and High Frequencies	Myoungbeom Chung
The Principles, Philosophy of Change and Action Lines in Preschool Education Core Curriculum Guidelines in Poland	Anna Klim-Klimaszewska
Robust Denoising Method based on Tensor Models Decomposition for Hyperspectral Imagery	Salah Bourennane
Approximate Solutions of a Prey-Predator Model	T. A. Anake, O. J. Adeleke, S. O. Edeki, J. I. Ejiogu
Brunch-cut for Unwrapping Interferometric Phase	Hadj Sahraoui Omar, Fizazi Hadria, Berrichi Faouzi, Chamakhi Djemoui
Coupled Transform for Approximate-Analytical Solutions of a Time-Fractional One-Factor Markovian Bond Pricing Model	S. O. Edeki, I. Adinya
Corporate Reputation in the Online Universe based on Social Media Content Analysis	Vasileios Basdras, Klimis Ntalianis, Nikolaos Mastorakis

**11:30-12:00: Coffee Break**