



Global Conference on
Applied Physics,
Mathematics & Computing

Madrid, 25th-27th July 2018

General Scientific Program



Welcoming Message

Dear Colleagues,

The 2nd Global Conference on Applied Physics, Mathematics and Computing (APMC-18) is organized by academics and researchers belonging to different scientific areas of the Universidad Carlos III de Madrid, the Universidad Complutense de Madrid, the Universidad de Extremadura and the Universidad de Las Palmas de Gran Canaria with the technical support of Sciknowledge European Conferences.

The event has the objective of creating an international forum for academics, researchers and scientists from worldwide to discuss worldwide results and proposals regarding to the soundest issues related to Applied Physics, Mathematics and Computing.

The papers will be published in the Abstract E-book of the Conference. Those communications considered of having enough quality can be further considered for publication in International Conference Journals. At the authors' choice, those works not suitable for publication in any of the congress journals will be published in the Extended Abstracts E-book.

To finish, I hope that all of you will enjoy the Conference, and I wish our visitors from abroad will have a very pleasant stay in Madrid.

Thank you

Prof. Israel González Carrasco Ph.D.
Computer Science Department
Universidad Carlos III de Madrid, Spain



Organizing committee

President

Prof. Israel González Carrasco Ph.D.
Computer Science Department
Universidad Carlos III de Madrid, Spain

Vocals

Prof. Belén Ruiz Mezcua Ph.D.
Computer Science Department
Universidad Carlos III de Madrid, Spain

Prof. José Luis López Cuadrado Ph.D.
Computer Science Department
Universidad Carlos III of Madrid, Spain

Prof. Elisenda Pulido Melián Ph.D.
Chemical Department
University of Las Palmas de Gran Canaria, Spain, UE

Prof. Daniel Villanueva Vásquez Ph.D.
Computer Science Department
Infotec Aguascalientes, México

Prof. Alejandro Rafael García Ramírez Ph.D.
Mechanical and Computer Departments
Universidade do Vale de Itajai, Brazil



Prof. Juan García Rodríguez Ph.D.
Chemical Engineering Department
University Complutense of Madrid, Spain

Prof. Joaquín R. Domínguez Vargas Ph.D.
Department of Chemical Engineering and Chemical Physics
University of Extremadura, Spain

Local organizing committee

Prof. Gabriel Ovejero Escudero Ph.D.
Chemical Engineering Department
University Complutense of Madrid, Spain

Prof. M Ángeles Uguina Zamorano Ph.D.
Chemical Engineering Department
University Complutense of Madrid, Spain

Prof. José Antonio Delgado Dobládez Ph.D.
Chemical Engineering Department
University Complutense of Madrid, Spain

Prof. Vicente Ismael Águeda Mate Ph.D.
Chemical Engineering Department
University Complutense of Madrid, Spain

Prof. Silvia Álvarez Torrellas Ph.D.
Chemical Engineering Department
University Complutense of Madrid, Spain



Global Conference on
Applied Physics,
Mathematics & Computing

GENERAL SCIENTIFIC PROGRAM (*)

(*) This program could be changed due to organizational issues

Wednesday, 25th July, 2018

Schedule	MAIN ROOM
15h30	Documentation delivery
16:00	Opening session
16:15 - 16:45	<p style="color: #e67e22;">Plenary talk</p> <p>The age of spoken conversational interfaces: opportunities and prospects</p> <p>David Griol Barres Universidad Carlos III de Madrid. Spain.</p>
16:45 - 18:00	<p style="color: #e67e22;">Physics of Flows and High Energy</p> <p>Interacting Ultracold Boson-Fermion Mixtures in a Trap. Ülfet Atav. Selcuk University. Turkey.</p> <p>A new numerical scheme to solve the hyperbolic telegraph equations Bashar Zogheib. American University of Kuwait. Kuwait.</p> <p>Hyperbolic-Parabolic Balance Laws: Asymptotic Behavior and Gas Flows in Thermal Non-equilibrium Yanni Zeng. University of Alabama at Birmingham. United States of America.</p>
18:00 - 18:30	Coffee-Break



Global Conference on
Applied Physics,
Mathematics & Computing

<p>18:30 – 19:30</p>	<p style="text-align: center;">Mathematical modelling, simulation and optimization</p> <p>A type of robust perturbation of continuum-wise expansiveness for vector fields. Manseob Lee. Mokwon University Korea (South).</p> <p>C2-robustly weak measure expansive diffeomorphisms J. Ahn. Chungnam National University. Korea (South).</p> <p>Weak measure expansive homoclinic classes Jumi Oh, Bowon Kang Sungkyunkwan University Korea (South)</p>
------------------------------	--



Global Conference on
Applied Physics,
Mathematics & Computing

Thursday, 26th July, 2018

Schedule	MAIN ROOM
09:00 - 09:30	<p style="text-align: center;">Plenary talk 2</p> <p style="text-align: center;">Accessibility of ICT: the European Context</p> <p style="text-align: center;">Loïc Martínez Normand Universidad Politécnica de Madrid. Spain.</p>
09:30 - 11:00	<p style="text-align: center;">Trends and Applications in Accessibility</p> <p style="text-align: center;">State of Art of Speech-to-Text technologies and its application on accessible subtitle creation Jose Luis López Cuadrado. Universidad Carlos III. Spain.</p> <p style="text-align: center;">Subtitle speed for deaf impaired in Spain Mónica Souto Rico. Spanish Center of Subtitling and Audiodescription. Spain.</p> <p style="text-align: center;">Recommendation system based on collaborative intelligence for the representation of knowledge in people with visual disabilities Jesus Leonardo Lopez Hernandez. Universidad Carlos III. Spain.</p>
11:00 - 11:45	<p style="text-align: center;">Coffee-Break POSTER SESSIONS</p>
11:45 - 13:30	<p style="text-align: center;">Mathematical Modelling in Chemical and Medicine</p> <p style="text-align: center;">Green's Function of a Keller-Segel Type Chemotaxis Model with Logarithmic Sensitivity and Logistic Growth Yanni Zeng. University of Alabama at Birmingham. United States of America.</p> <p style="text-align: center;">Mathematical models of MRAM cells with the different types of anisotropy Natalia Ostrovskaya. Institute for Design Problems in Microelectronics Russian Academy of Sciences. Russian Federation.</p>



Global Conference on
Applied Physics,
Mathematics & Computing

	<p>Analysis of Coronary Artery Disease by using Cox Regression Technique Salahuddin Falahuddin CECOS University of IT and Emerging Sciences Pakistan</p>
13:30- 15:00	LUNCH
19:30 – 21:30	TOURISTIC VISIT TO MADRID - FREE WALKING TOUR



Global Conference on
Applied Physics,
Mathematics & Computing

Friday, 27st July, 2018

Schedule	MAIN ROOM
<p>09:30 - 11:00</p>	<p style="text-align: center;">Computer Applications in Science and Engineering</p> <p style="text-align: center;">Rachel: An IoT application based on FIWARE Yolanda Raquel Baca Gómez. INFOTEC, Centro de Investigación e Innovación en Tecnologías de la Información y Comunicación. México</p> <p style="text-align: center;">Getting the value out of data using high-level analysis techniques in the tourism sector Jose Luis Jimenez Márquez Universidad Carlos III. Spain</p> <p style="text-align: center;">Air Quality Monitoring System using Cloudino based on FIWARE Yolanda Raquel Baca Gómez. INFOTEC, Centro de Investigación e Innovación en Tecnologías de la Información y Comunicación. México</p> <p style="text-align: center;">Multidimensional poverty trap models Sonja Radosavljevic. Stockholm Resilience Centre, Stockholm University. Sweden</p>
<p>11:00 - 11:45</p>	<p style="text-align: center;">Coffee-Break POSTER SESSIONS</p>
<p>11:45 - 13:00</p>	<p style="text-align: center;">Advanced Applications of Physics and Computing</p> <p style="text-align: center;">Bosons on a Two-Dimensional Optical Lattice: Effect of Correlations Ülfet ATAV Selcuk University Turkey</p> <p style="text-align: center;">Development of a novel DOM radiation model in OpenFOAM Jose Moreno Rey Juan Carlos University Spain</p> <p style="text-align: center;">An Access Control of Ciphertext-Policy Attribute-Based Encryption with Revocation by Version Number in Cloud Computing Shi-Jinn Horng National Taiwan University of Science and Technology Taiwan</p>



Global Conference on
Applied Physics,
Mathematics & Computing

13:00- 15:00	CLASSICAL MUSIC CHAMBERT CONCERT and CLOSING COCKTAIL
-----------------	--



Global Conference on
Applied Physics,
Mathematics & Computing

POSTER SESSIONS

Thursday, 26th July, 2018

Title	Author	ID
Symbolic time series notation for time series clustering	Jerzy Korzeniewski	470
Influence of the Cavitation on the Characteristics of Hydrodynamic Oscillation Generators	Anatoly Korneev	562
Approximation of Maxwell's Microscopic Boundary Conditions	Auzhan Sakabekov	656
Iterated Petrov - Galerkin method with regular pairs for solving Fredholm integral equations of 2nd. Kind	S. Seminara	766
Characterization of rare-earth substituted cobalt ferrite using first order reversal curve method	Basharat Want	369
Nonlinear reconstruction of pulse noisy images via stochastic resonance	Hongjun Liu	366



Global Conference on
Applied Physics,
Mathematics & Computing

POSTER SESSIONS

Friday, 27st July, 2018

Title	Author	ID
Development of a Brain-Computer Interface to Control a Robotic Arm	Alejandro Rafael Garcia Ramirez	245
Design of Automated Authentication for accessing graded medical Information Based on Patient Situations	Su-Chong Joo	690
Molecular simulation of the separation of isoleucine enantiomers by β -cyclodextrin with polar solvents	Elena Alvira	696
Approximation of Maxwell's Microscopic Boundary Conditions	Yerkanat Auzhani	760
A new proof of the global Fuchsian-Cauchy problem in Gevrey spaces	Faiza Derrab	765
Double density dynamics and coupled Nosé-Hoover equations	Ikuo Fukuda	745