

Program of the 2020 International Conference on Computational and Mathematical Methods in Science and Engineering

Costa Ballena, Cádiz, Spain

July 26 – 31, 2020

Given that the current infection is easily transmitted through physical contact, either direct or indirect, this year it is necessary to take certain measures to avoid contagion:

- There will be no "reception desk".
- In the web page you can download all your documentation (<https://cmmse-app.firebaseio.com/login>). Any questions will be answered by email at cmmse@usal.es.
- In Room 1 it is recommended to keep 2 meters distance between the participants' seats.
- Remember that the use of a mask is mandatory in closed public rooms, which includes meeting rooms.
- It is not possible to do catering services (food or drink) standing up. It is a standard of the hotel.
- The excursion has been canceled for prevention reasons.

Opening Monday 27: 9:45 – 10:00 Room 1

PRESENCIAL SESSIONS:

Session I: Mathematical Models for Computer Science

Monday 27: 10:00 – 13:30 Room 1

Chair: M. Ojeda

Speaker: ALEDO, JUAN

Title: Orbital Structure of Parallel and Sequential Graph Dynamical Systems over Directed Graphs

Speaker: OJEDA, MANUEL

Title: Inconsistency in Fuzzy Logic Systems

Speaker: MEDINA, JESUS

Title: Value reduces to simplify decision rules

Speaker: PEREZ, FRANCISCO

Title: A motivation to deal with imprecise knowledge in FCA in an efficient way

Speaker: CORDERO, JOSE

Title: On pseudo-intents for data with grades

Speaker: LOBO, DAVID

Title: On sup-equations with a multi-adjoint nature

Speaker: GARCÍA ARAGÓN ROBERTO

Title: Ordering quotient set of local congruences

Session P1: Poster Session

Monday 27: 16:00 – 17:00 Room 1 (punctuality is requested at 16:00)

Chair: Peter Alonso

Speaker: VERA, PEDRO

Title: A classical music recognition system based on audio-to-audio alignment

Speaker: MUÑOZ, ANTONIO JESUS

Title: Analysis of multichannel source separation using a projection-based method

Speaker: RANILLA, JOSE

Title: Two simple protocols for improving the uniformity of quantum random bits in the presence of noise

Speaker: RANILLA, JOSE

Title: On the influence of classical minimizers on the quantum approximate optimization algorithm

Speaker: ALONSO-JORDA, PEDRO

Title: A Taylor Algorithm for Computing the Action of the Matrix Exponential on a Vector

Speaker: HAUT, JUAN M.

Title: Efficient Networks for Remote Sensing Image Processing

Speaker: ALONSO-JORDA, PEDRO

Title: High Performance Inference for Low-Power Multicore Processors

Session II: New advances in statistical methodologies in Chemistry & Biology

Tuesday 28: 9:50 – 12:30 Room 1

Chair: Felipe Marques

Speaker: LUQUE, IRENE

Title: Under sampling Molecule Data Sets Removing the Activity Borders by means of the R. and R. Indexes

Speaker: REYES-SANTIAS, FRANCISCO

Title: Using flexible regression models for calculating hospital services' production functions

Speaker: PEREZ-SANCHEZ, HORACIO

Title: Drug discovery on high performance computing architectures

Speaker: MARQUES, FILIPE

Title: On the distribution of the likelihood ratio test for sphericity considering samples with random size

Session III: High-Performance Computing

Tuesday 28: 16:00 – 18:30 Room 1

Chair Pedro Alonso-Jorda

Speaker: CECILIA CANALES, JOSE MARIA

Title: High-throughput clustering techniques with virtualized GPUs at the edge

Speaker: BELLOCH, JOSE A.

Title: Many-core SoC for a distributed Spatial Audio System

Speaker: BERNABE, GREGORIO

Title: Diagnosis of left ventricular non-compaction through deep learning

Speaker: CANO, JAVIER

Title: Enabling QoS provision in OPA switches

Speaker: DÁVILA MARIA ANGÉLICA

Title: Memory aware co-execution in heterogeneous systems with CPU and FPGA devices.

Session IV: Numerical Methods for Solving Nonlinear Problems

Wednesday 29: 9:50 – 13:30 Room 1

Chair J.R. Torregrosa

Speaker: TORREGROSA, JUAN RAMON

Title: A general class of arbitrary order iterative methods for computing generalized inverses

Speaker: CORDERO, ALICIA

Title: Stability anomalies of high-order iterative methods for solving nonlinear problems

Speaker: MAGREÑAN, ALBERTO

Title: On global convergence for an efficient third-order iterative process

Speaker: MARTINEZ, SILVIA

Title: Iterative schemes for the Chandrasekhar H-equation

Speaker: MAGREÑAN, ALBERTO

Title: Ball convergence for a novel fourth order method for solving systems of equations

Speaker: ROMERO, NATALIA

Title: A Predictor-Corrector Iterative Scheme for Solving Algebraic Riccati Equations

Speaker: RUFAl, MUFUTAU

Title: Solution of third order boundary value problems by using a two-step hybrid block method with fourth derivatives

Session P2: Poster Session

Wednesday 29: 16:00 – 17:00 Room 1 (punctuality is requested at 16:00)

Chair: Peter Alonso

Speaker: ALONSO, PEDRO

Title: Almost strictly sign regular rectangular matrices

Speaker: LOPEZ ORTI, JOSE ANTONIO

Title: An improved C++ Poisson Series Processor with its applications

Speaker: NAVASCUES, MARIA A.

Title: Cyclic generalized iterated function system

Speaker: SUAREZ, PEDRO

Title: Using the blow-up technique for a modified Lindemann mechanism

Speaker: IBAÑEZ, MARÍA JOSÉ

Title: An enhanced numerical technique to extract the series resistance in resistive switching memristors for compact modeling purposes

Social activities: Wednesday 29 (Night): Flamenco, (gardens of “Bloque 4”)

Session V: Numerical Analysis & Mathematical Modelling

Thursday 30: 9:50 – 13:30 Room 1

Chair D. Barrera

Speaker: BARRERA, DOMINGO

Title: A novel B-spline basis for a family of many-knot spline spaces

Speaker: MACIAS, JORGE

Title: Dispersive tsunami simulations on spherical coordinates

Speaker: CARRIEGOS, MIGUEL

Title: New results on system regulation and some applications to proactive cybersecurity

Speaker: MIANA, PEDRO J.

Title: The heat equation on Z : large time behavior, moments and decayment

Speaker: CEBALLOS, MANUEL

Title: Graphs associated with finite-dimensional Zinbiel algebras

Speaker: DE LA ROSA, RAFAEL

Title: Symmetries and conservation laws for the completely generalized Hirota-Satsuma-It

Speaker: GARRIDO, TAMARA

Title: Symmetry reductions of a (2+1)-dimensional Keller-Segel model

Speaker: BRUZON, M. CARMEN

Title: Travelling wave solutions for a Zakharov--Kuznetsov modified equal width equation

Session VI: Evolution of CMM journal & CMMSE 2021 Conference

Friday 31: 10:00 – 12:30 Room 1

Chair Peter Alonso

Proposal of sessions to cmmse@usal.es

Proposal of new editors and special issues editors to jvigo@usal.es

Deadline: 29 July 2020

ONLINE SESSIONS: <https://bit.ly/2OI3OLK>