

MATHROCKS Workshop Series

MATHEMATICAL AND COMPUTATIONAL MODELING ON THE EARTH

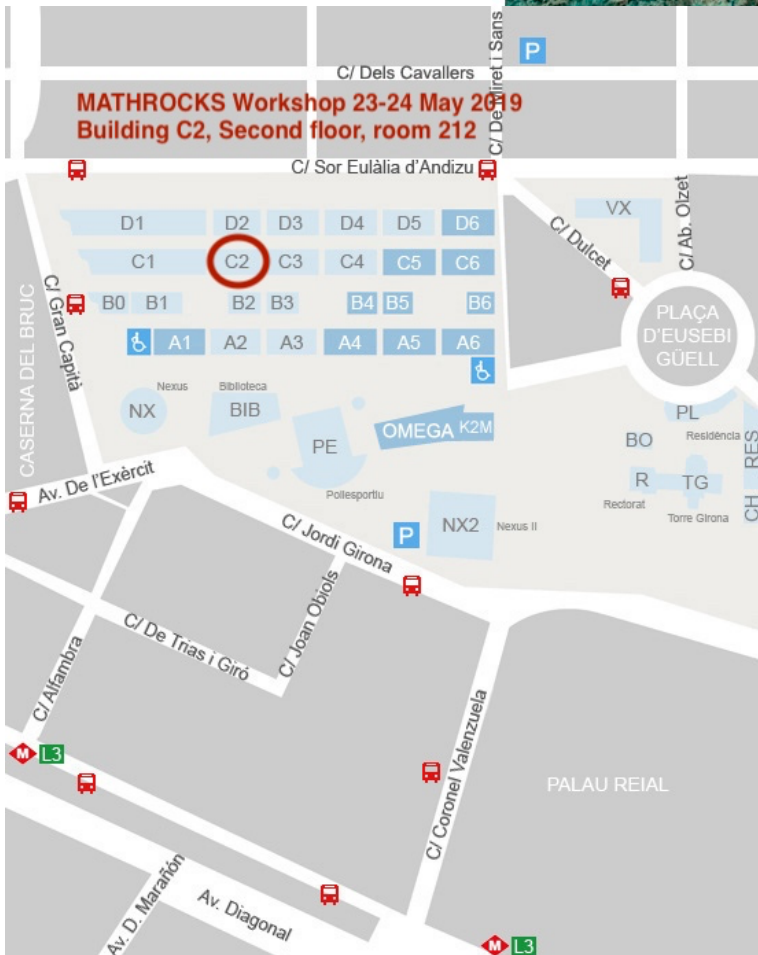
Venue:
LaCàM, Escuela Técnica Superior de Ingeniería de Caminos, Canales y Puertos
Universitat Politècnica de Catalunya.
Barcelona, Spain

Contact persons:
Pedro Díez & Sergio Zlotnik

2019

May

23-24



MATHEMATICAL AND COMPUTATIONAL MODELLING ON THE EARTH

Program version 3

LaCáN, UPC, Campus Nord, Building C2, room 212 (second floor)

www.lacan.upc.edu/mathrocks/

Thursday 23	
9:00 - 9:30h	Welcome and introduction
	Session 1 - chair: Pedro Díez
9:30 - 10:00h	Serge Prudhomme On contact detection algorithms between pairs of ellipsoids for discrete element simulations
10:00 - 10:30h	Paulina Sepúlveda Explicit-in-time adaptive p-refinement for the heat equation
10:30 - 11:00h	Olga Ortega-Gelabert Coupling Reduces Basis with Markov Chain Monte Carlo for the study of lithospheric structure
11:00 - 11:30h	<i>Coffee break</i>
	Session 2 - chair: Matteo Giacomini
11:30 - 12:00h	Octavio Castillo HPC with Python for numerical modeling in geophysics
12:00 - 12:30h	Ygee Larion Building a Certified Reduced Basis for Transient Coupled Problems
12:30 - 13:00h	Pedro García A new pseudospectral approach to the solution of the acoustic wave equation
13:00 - 14:30h	<i>Lunch</i>
	Session 3 - chair: David Pardo
14:30 - 15:00h	Matteo Giacomini Hybridized discretization techniques in computational mechanics: towards fast solvers for parameterized problems
15:00 - 15:30h	Javier Omella Sensitivity Analysis by Discontinuous Galerkin of Optically Excited Lock-in Thermography for Crack Characterization
15:30 - 16:00h	Vincent Darrigrand A painless hp-adaptivity in H^1: Elliptic and non-elliptic problems.

Friday 24	
	Session 4 - chair: Sergio Zlotnik
9:30 - 10:00h	Juanjo Ledo Electrical resistivity model of the Iberian lithosphere (ERMIL 1.0) and its application for geomagnetically induced currents
10:00 - 10:30h	Jeremías Likerman Numerical modelling of the thermal evolution of oceanic lithosphere
10:30 - 11:00h	Josep de la Puente Time integration strategies for Pseudospectral methods: Application to the acoustic wave equation
11:00 - 11:30h	<i>Coffee break</i>
	Session 5 - chair: Juan Galvis
11:30 - 12:00h	Julien Diaz Space-Time Trefftz-DG formulation coupled with tent-pitching meshes for elasto-acoustic coupling
12:00 - 12:30h	David Modesto Local ABC with farfield expansions: a high-order finite element approach
12:30 - 13:00h	Adelina Geyer Cooling dynamics of magma chambers: Insights from finite element modeling
13:00 - 14:30h	<i>Lunch</i>
	Session 6 - chair: David Modesto
14:30 - 15:00h	Mostafa Shahriari Deep Learning for Geosteering Applications
15:00 - 15:30h	Juan Carlos Galvis Arrieta Universidad Nacional de Colombia
15:30 - 16:00	Victor Calo An Adaptive Stabilized Finite Element Method Based on Residual Minimization
20:30h	<i>Workshop dinner at restaurant 7 portes</i>

