

# WEDNESDAY, 17 JULY

8:00-9:00		<b>Registration</b>		
9:00-9:30		<b>Opening Session</b>		
9:30-10:30		<b>Plenary 1</b>		Room B.032
		<b>Constrained Control, Optimization and Flat Mappings: In the Pursuit of Certificates</b>		
		Speaker: Ionela Prodan, University Grenoble Alpes, Grenoble INP, France		
		Chair: Fernando A.C.C. Fontes		
10:30 - 11:00		<b>Coffee Break</b>		
11:00-12:20		<b>WeA1 SS2</b>		Room B.014
		<b>Optimal Control: Theory, Methods and Application</b>		
		Organizers: Sofia Lopes, Nathalie Khalil		
		Chair / co-chair: Sofia Lopes, Nathalie Khalil		
11:00	55	Pedro Caio and Cristiana J. Silva <i>Application of indirect methods to optimal control problems in epidemiology</i>		
11:00	77	Huu Thien Nguyen, Manuel C. R. M. Fernandes, Ionela Prodan and Fernando A. C. C. Fontes <i>Trajectory Optimization for a Four In-wheel Motor Vehicle in Double Lane Change Maneuver</i>		
11:00	13	Oussama Hadj Abdelkader and Hadjer Bouzebiba <i>A Double Layer Control Method for Sustainable Agricultural Production Management in a Competitive Market</i>		
11:00	27	Ana P. Lemos-Paião, Sofia O. Lopes and M. D. R. de Pinho <i>Sensitivity analysis for optimal control: application to an irrigation problem</i>		
11:00-12:20		<b>WeA2 SS6</b>		Room B.017
		<b>Hybrid Techniques Applied to Modelling and Control of Engineering Systems</b>		
		Organizers: Matilde Santos Peñas, Jesús Enrique Sierra-García		
		Chair / co-chair: Matilde Santos Peñas, Jesús Enrique Sierra-García		
11:00	26	Payam Aboutalebi, Fares M'Zoughi, Irfan Ahmad, Tahereh Bagheri Rouch, Izaskun Garrido and Aitor J. Garrido <i>Synergistic Offshore Energy Harvesting: Advancements in Hybrid Semisubmersible Floating Wind Turbines with Oscillating Water Columns</i>		
11:00	46	Fares M'Zoughi, Payam Aboutalebi, Irfan Ahmad, Tahereh Bagheri Rouch, Izaskun Garrido, Aitor J. Garrido and Manuel De La Sen <i>Vibration Mitigation of Hybrid Oscillating Water Column-Floating Offshore Wind Turbine using ANFIS-based Airflow Control</i>		
11:00	69	Mario Peñacoba, Jesus Enrique Sierra Garcia and Matilde Santos <i>Enhancing Robotic Control Efficiency with MLP-Based Inverse Kinematics: first approach</i>		
11:00	74	Alberto Martinez, Matilde Santos and J. Enrique Sierra-Garcia <i>PIL environment to validate wind turbine IEC61131-based real time controllers on digital twins</i>		
12:20-14:00		<b>Lunch</b>		
14:00-15:20		<b>WeB1 SS5</b>		Room B.014
		<b>Numerical aspects of optimization and optimal control</b>		
		Organizers: Roman Chertovskih, Silvio Gama		
		Chair / co-chair: Roman Chertovskih, Silvio Gama		
14:00	17	Abdelkader Belhenniche and Roman Chertovskih <i>Fixed Point Theory Analysis of a Lambda Policy Iteration with Randomization for the \Ciri\c Contraction Operator</i>		
14:20	1	Filipe Martins, Diogo Pinheiro and Alberto Pinto <i>An overview of duality theory techniques for the computation of optimal life insurance purchase, consumption and investment</i>		
14:40	10	Sergo Tsiramua, Sulkhan Sulkhanishvili and Lazare Kvirtia <i>Optimal Management of Systems Based on Multifunctional Elements</i>		
15:00	63	Gil Miguel Marques and Silvio Gama <i>Energy optimal control in Lamb-Oseen vortex flow</i>		
16:40-17:00		<b>Coffee Break</b>		
14:00-15:00		<b>WeB2 SS3</b>		Room B.017
		<b>Control in Airborne Wind Energy Systems</b>		
		Organizers: Luís A. Roque, Luís Tiago Paiva		
		Chair / co-chair: Luís A. Roque, Luís Tiago Paiva		
14:00	84	Rui da Costa, Manuel C.R.M. Fernandes, Luís A.C. Roque and Luís Tiago Paiva <i>Improving Power Smoothing of Airborne Wind Energy Farms by Sizing an Energy Storage System</i>		
14:20	58	Sergio Vinha, Gabriel M. Fernandes and Fernando A.C.C. Fontes <i>Circular take-off and landing of tethered aircrafts with variable tether length</i>		
14:40	60	Gabriel M. Fernandes, Conrado Guimarães Costa, Sérgio Vinha and Fernando A.C.C. Fontes <i>A testing platform for Airborne Wind Energy: modelling, sensing, and actuation</i>		
15:00	83	Luís Tiago Paiva, Alzira Mota and Luís A.C. Roque <i>Optimisation and Control in Airborne Wind Energy: A Bibliometric Study</i>		

15:20-16:40		WeC1 SS5	<b>Numerical aspects of optimization and optimal control</b>	Room B.014
		Organizers:	Roman Chertovskih, Silvio Gama	
		Chair / co-chair:	Roman Chertovskih, Silvio Gama	
15:20	15	Maria do Rosario de Pinho	<i>A Note on the Minimal Time of Crisis Problem: a Multiprocess Approach</i>	
15:40	41	Carlos Balsa, Silvio Gama and Victoria Otero-Espinar	<i>Particle movement on a rotating sphere</i>	
16:00	82	Nahid Binandeh Dehaghani, A. Pedro Aguiar and Rafal Wisniewski	<i>Application of CRAB Algorithm for Enhanced Entanglement Synthesis</i>	
16:20	81	Francisco Almeida, Roman Chertovskih, Silvio Gama and Rui Gonçalves	<i>What makes a steady flow to favour kinematic magnetic field generation: A statistical analysis</i>	
15:20-16:40		WeC2 SS7	<b>Control Applications in Robotics</b>	Room B.017
		Organizers:	Paulo Costa, José Lima	
		Chair / co-chair:	Paulo Costa, José Lima	
15:20	29	Mohammad Reza Ranjbar Divkoti and A. Pedro Aguiar	<i>A Hybrid Learning-Based Path Planning Algorithm for Enhanced Safety in Autonomous Robots</i>	
15:40	30	Mariano Alvarez, Laiany Suganuma Brancalião, Jorge Carneiro, Paulo Costa, Joao Paulo Coelho and José Gonçalves	<i>Laser engraving for 3D surfaces: A robotized application case study</i>	
16:00	51	Andrea Tiranti, Francesco Wanderlingh, Antonio Pascoal, Enrico Simetti and Giovanni Indiveri	<i>Multiple Autonomous Underwater Vehicle Motion Planning for Passive Acoustic Monitoring.</i>	
16:40-17:00 <b>Coffee Break</b>				
17:00-18:20		WeD1 SS4	<b>Control in the space of probabilities and its applications</b>	Room B.014
		Organizers:	Dmitry Karamzin, Maxim Staritsyn, Nikolay Pogodaev, Roman Chertovskih	
		Chair / co-chair:	Dmitry Karamzin, Maxim Staritsyn, Nikolay Pogodaev, Roman Chertovskih	
17:00	38	Diogo Gomes	<i>Emerging Research Directions in Mean Field Games</i>	
17:20	33	Manuela Bujorianu and Rafal Wisniewski	<i>Abstraction based safety for Markov decision processes</i>	
17:40	21	Roman Chertovskih, Nikolay Pogodaev, Maxim Staritsyn and A. Pedro Aguiar	<i>On Minimum-Dispersion Control of Nonlinear Diffusion Processes</i>	
18:00	7	Dmitry Karamzin	<i>Necessary Optimality Conditions for a Weak Minimum in Control Problems with Non-regular Mixed Constraints</i>	
17:00-18:20		WeD2 Reg1	<b>Control Applications 1</b>	Room B.017
		Chair:	Filipe Neves Santos	
17:00	8	Higor Rosse, Joao Coelho and José Barbosa	<i>Pedestrian Safety Crosswalks in Smart Cities: the VallPass Approach</i>	
17:20	52	Ahmad Safaee, Antonio Pedro Aguiar, Filipe Neves Santos and Antonio Paulo Moreira	<i>Design and Development of a Fixed-Wing Tail-Sitter Tethered VTOL Drone with Custom Autopilot and Robust Control Techniques</i>	
17:40	31	Blaz Zakej and Primoz Podrzaj	<i>Implementation of a water level control system using programmable logic controller with remote access</i>	
18:00	23	Sara Fakh, Laetitia Perez and Laurent Auriq	<i>Identification of control law and trajectory for mobile disturbance rejection in a 2D thermal context</i>	
18:20-19:30 <b>Welcome Reception</b>				