FINAL SCHEDULE of XVII PEGASUS STUDENT COONFERENCE - Thursday 21 April 2022

"Le Benedettine" Congress Center, Piazza S. Paolo a Ripa D'Arno, 16, Pisa

TIME	Paper ID	ROOM:	Session 1a: SPACE ENGINEERING and TECHNOLOGY / Session 1b: SPACE ENGINEERING and TECHNOLOGY-PERFORMANCE	Student ID	Session
09:30h	BOL1	Andrea Curatolo	Development and experimental testing of nanosatellites attitude control using mixed magnetic/mechanical actuation	1	S1a
10:00h	PIS1	Francesco Mancini	Design and Test of a Solar Cell Characterization System in the Stratosphere	32	
10:30h	MIL3	Martina Rusconi	Modeling and Simulation of Milani CubeSat Contact Motion on the Surface of the Secondary Asteroid of Didymos Binary System	14	
11:00h		Coffe break			
11:30h	MIL2	Andrea Pizzetti	Autonomous Wheel Off-Loading Strategies for Deep-Space CubeSats	13	S1b
12:00h	TOR3	Gabriel Jose Guiterrez	Design of the ESA PROBA-3 Alternative SPS algorithm for formation flight applications	27	
12:30	CRE1	Etienne Gojard	Monte Carlo Methods : Finding the safest path	6	
13:00		Lunch break			
TIME	Paper	ROOM:	Session 2a: SPACE ENGINEERING and TECHNOLOGY / Session 2b: PROPULSION AND COMBUSTION-GASDYNAMICS		
09:30h	BOL2	Giancorrado Brighi	Titan's surface as revealed by Cassini Bistatic Radar experiments	2	S2a
10:00h	GLA1	Jan Luca Loettgen	Application of deep reinforcement learning to satellite attitude control	7	
10:30h	SUP1	Antonio Finozzi	Sub-Structuring Modeling of Large Space Truss Structures for Structure/Control Optimization	8	
11:00h		Coffe break			
11:30h	ROM1	Marco Fabiani & Giorgio Gubernari	Numerical Simulations of Fuel Shape Change and Swirling Flows in Paraffin/Oxygen Hybrid Rocket Engines	18	S2b
12:00h	SEV3	Alvaro Saez Zapata	Designing, Manufacturing and Testing of an Experimental Solid Propellant Rocket	23	
12:30h	TOR2	Carlo Brunelli	Thermochemical Models for Hypersonic Regime	26	
13:00		Lunch break			
TIME	Paper	ROOM:	Session 3a: GASDYNAMICS-PROPULSION AND COMBUSTION / Session 3b: AERODYNAMICS-GASDYNAMICS		
09:30h	SUP3	Nathan Magnan	Orbital Plane Alignment, A New Way To Probe Black Holes In Galactic Nuclei	10	S3a
10:00h	UPM1	Luis Vaquero Garcia	Evaluation Of The Effects Of Solid Rocket Motor Design Parameters On Particle Trajectories And Performance	11	
10:30h	ROM3	Davide Cavalieri	Theoretical and Numerical Modeling of Multicomponent Transcritical Diffuse Interfaces	20	
11:00h		Coffe break			
11:30h	UPV1	Rawya Khorta El Graini	Boundary layer control in remotely piloted aircarft by means of an ejector pump	28	S3b
12:00h	ENS2	Johan Valentin	Development of an Aerodynamic Simulation Technique Based on the Vortex Particle Method	30	
12:30h	PIS2	Edoardo Manetti	CFD analysis, experimental validation and optimization of a octocopter drone with counter-rotating propellers	33	
13:00h		Lunch break			
TIME	Paper	ROOM:	Session 4a: PLANETARY SCIENCE - ROTARY WING SYSTEMS - STRUCTURES AND MATERIALS / Session 4b: SUBSYSTEM and INTEGRATION - HYPERSONIC		
09:30h	SUP2	Lucas Lange	InSight Pressure Data Recalibration, and its Application to the Study of Long-Term Pressure Changes on Mars	9	S4a
10:00h	MIL1	Davide Algarotti	An experimental and numerical study of the aerodynamic interaction between tandem overlapping propellers	12	
10:30h	NAP1	Francesco Cuomo	YORP effects on long-term rotational dynamics of debris in GEO	15	
11:00h		Coffe break			
11:30h	DEL2	Giuseppe Onorato	Fuel Tank Integration for Hydrogen Airliners	5	S4b
12:00h	SEV2	Javier Utrera Cruzado & Jose Francisco Torres	Regenerative airbraking on propeller-based aircraft: feasibility, system modelling and architecture.	22	
12:30h	ROM2	Emanuele Leonetti	Fluid dynamic analysis of a thermal inflatable heat shield for aerocapture missions	19	
13:00h		Lunch break			
TIME	Paper	ROOM:	Session 5a: AIRCRAFT NAVIGATION - AIRPORTS / Session 5b: STRUCTURES and MATERIALS		
09:30h	DEL1	Bardenius P. Duisterhof	Sniffy Bug: A Fully Autonomous Swarm of Gas-Seeking Nano Quadcopters in Cluttered Environments	4	S5a
10:00h	SEV1	Guillermo Vallejo Soto & Julio Muñoz Becerril	Obstacles detection with artificial vision techniques in aerodromes	21	
10:30h	CZE1	Petr Had	Simulation Based Evaluation of Airport Taxiway Infrastructure Throughput and Caused Aircraft Delays	31	
11:00h		Coffe break			
11:30h	NAP2	Gennaro Di Mauro	Structural Batteries meeting the Airworthiness Requirements	16	S5b
12:00h	NAP3	Dario Scilla	Instance Segmentation of WorldView-3 data for Building Detection in urban and industrial areas	17	
12:30h	ENS1	Vo-Huu-Thuc Nguyen	Numerical methods for prediction of fatigue life	29	
13:00h		Lunch break			
TIME	Paper	ROOM:	Session 6a: GASDYNAMICS - HEAT TRANSFER / Session 6b: SAFETY-ROTARY WING SYSTEMS		
09:30h	BEH1	Cao Yingfei	A reactive molecular dynamics study of hyperthermal O/O2 effect on erosion mechanisms for graphene sheets	34	S6a
10:00h	BEH2	Tang Ju	A Reactive Molecular Dynamics Study of Hyperthermal Atomic Oxygen Erosion Mechanisms for Knitted Graphene	35	
10:30h	BEH3	Zhang Hexuan	Numerical Simulation of Viscoelastic Fluid Past a Cylinder in a Microchannel	36	
11:00h		Coffe break			
11:30h	KOS1	Martina Koščáková	Analysis of Safety Risks Related to Alternative Aviation Fuels	24	S6b
12:00h	TOR1	Gabriele Bossotto	Urban Air Vehicle implementation and limitations	25	
13:00		Lunch break			
TIME	Paper	ROOM:	Session 7a: PROPULSION and COMBUSTION - SAFETY		
09:30h	BEH4	Xue Tianyou	Dynamic Behavior of Droplet Impact on Superhydrophobic Surface in Low-Pressure Environment	37	S7a
10:00h	BEH5	Wang Zhengkun	Machine learning based CFD study for fast aerothermal prediction	38	
10:30h	BOL3	Giovanni Luddeni	Improvement of a simulation platform for Helicon Plasma Thrusters: analysis of the Boundary Conditions and modelling of the Sheath	3	
11:00h		Coffe break			