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XXVI International Congress

AUG 31ST – SEPT 3RD



GENERAL
PROGRAMME



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All sessions will be in ENGLISH,
except for the Opening Ceremony, that will be
in ITALIAN.

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Program Overview

	Day 1 - 31/8/2021 Tuesday	Day 2 - 1/9/2021 Wednesday	Day 3 - 2/9/2021 Thursday	Day 4 - 3/9/2021 Friday
9:00 - 9:30	-	<p>Keynote Lecture</p> <p>ARIANE 6 and VEGA-C The Upcoming European launchers on the market C. Colaianni, <i>Arianespace</i></p> <p>Chair: M. Valorani, <i>Università di Pisa</i> (PLENARY ROOM)</p>	<p>Keynote Lecture</p> <p>Challenges risen by the shift from hydraulically to electrically powered actuators J. C. Mare, <i>INSA Toulouse</i></p> <p>Chair: G. Di Rito, <i>Università di Pisa</i> (PLENARY ROOM)</p>	<p>Keynote Lecture</p> <p>Development of Structural Integrity - History and Future A. Blom, <i>Innovair</i></p> <p>Chair: L. Lazzeri, <i>Università di Pisa</i> (PLENARY ROOM)</p>
9:30 - 11:00	<p>Opening Ceremony</p> <p>Prof. P. M. Mancarella, <i>Rector, Università di Pisa</i> Col. M. Rega, <i>Aeronautica Militare</i> Avv. P. Di Palma, <i>President, ENAC</i> Prof. R. Galatolo, <i>President,</i> <i>AIDAA Tuscany Section</i> Prof. E. Carrera, <i>President, AIDAA</i></p> <p>CHAIR: L. Lazzeri, <i>Università di Pisa</i> (PLENARY ROOM)</p>	<p>Parallel Sessions</p> <p>A DEVISU Project 1 B Advancing Space Access Capabilities 1 C Sensors 1 D Fluid Dynamics 3 E Remotely Piloted Aircraft Systems 3</p>	<p>Parallel Sessions</p> <p>A Stratospheric Balloons 1 B - C Aerospace Propulsion 2 D Composites 3 E Aircraft design 1</p>	<p>Parallel Sessions</p> <p>A Microsatellites 1 B Aircraft design 3 C Spaceflight Mechanics 1 D Recent topics in Aerospace Research 1 E -</p>

11:00 - 11:30 Break

	Day 1 - 31/8/2021 Tuesday	Day 2 - 1/9/2021 Wednesday	Day 3 - 2/9/2021 Thursday	Day 4 - 3/9/2021 Friday
11:30 - 12:15	<p>Keynote Lecture</p> <p>GALILEO Global Navigation Satellite System: from reality into the future M. Falcone, <i>ESA</i></p> <p>Chair: R. Galatolo <i>Università di Pisa</i> (PLENARY ROOM)</p>	<p>Parallel Sessions</p> <p>A DEVISU Project 2 B Advancing Space Access Capabilities 2 C Sensors 2 D Fluid Dynamics 4 E Remotely Piloted Aircraft Systems 4</p>	<p>Parallel Sessions</p> <p>A Stratospheric Balloons 2 B Stratospheric Balloons 4 C Aerospace Propulsion 3 D Composites 4 E Aircraft design 2</p>	<p>Parallel Sessions</p> <p>A Microsatellites 2 B Aircraft design 4 C Spaceflight Mechanics 2 D Recent topics in aerospace research 2 E -</p>
12:15 - 13:00	<p>Keynote Lecture</p> <p>Technological challenges for zero-impact air transport M. Protti, <i>Leonardo SpA</i></p> <p>Chair: R. Galatolo <i>Università di Pisa</i> (PLENARY ROOM)</p>			

13:00 - 14:30 Break

	Day 1 - 31/08/2021 Tuesday	Day 2 - 1/9/2021 Wednesday	Day 3 - 2/9/2021 Thursday	Day 4 - 3/9/2021 Friday
14:30 - 16:00	<p>Parallel Sessions</p> <p>A Fluid Dynamics 1 B Composites 1 C Structures 1 D Remotely Piloted Aircraft Systems 1 E Space Structures 1</p>	<p>Parallel Sessions</p> <p>A DEVISU Project 3 B Advancing Space Access Capabilities 3 C Sensors 3 D Structures 3 E -</p>	<p>Parallel Sessions</p> <p>A Stratospheric Balloons 3 B Stratospheric Balloons 5 C Aerospace Propulsion 4 D Additive Manufacturing E -</p>	<p>Parallel Sessions</p> <p>A Microsatellites 3 B - C Spaceflight Mechanics 3 D Recent topics in aerospace research 3 E -</p>

11:00 - 11:30 Break

16:30 - 18:00	<p>Parallel Sessions</p> <p>A Fluid Dynamics 2 B Composites 2 C Structures2 D Remotely Piloted Aircraft Systems 2 E Space Structures 2</p>	<p>Parallel Sessions</p> <p>A DEVISU Project 4 B Advancing Space Access Capabilities 4 C Aerospace Propulsion 1 D Structures 4E -</p>		
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Parallel Sessions: Day 1 — Room A

- Day 1 (31/8/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Fluid Dynamics 1 CHAIRPERSON: M. Chiatto, <i>Università degli Studi di Napoli "Federico II"</i>	14:30 15:00	58	Riccardo Gemma	R. Gemma, A. Chiesa	AN AI APPLICATION TO INVESTIGATE "INVERSE" REYNOLDS NUMBER EFFECT
	15:00 15:30	21	Francesco Bonelli	F. Bonelli, D. Ninni, G. Colonna, G. Pascazio	THERMOCHEMICAL NON-EQUILIBRIUM AND HEAT TRANSFER IN A HYPERSONIC FLOW OVER A DOUBLE- CONE
	15:30 16:00	15	Alessandro Del Buono	A. Del Buono, G. Bernardini, A. Iafrati	MULTISECTION APPROACH FOR THE VERTICAL WATER IMPACT OF A FUSELAGE

16:00 - 16:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Fluid Dynamics 2 CHAIRPERSON: M. Chiatto, <i>Università degli Studi di Napoli "Federico II"</i>	16:30 17:00	12	Davide Ninni	D. Ninni, F. Bonelli, G. Pascazio	ANALYSIS OF SHOCK WAVE/BOUNDARY LAYER INTERACTION ON DOUBLE-WEDGE GEOMETRY
	17:00 17:30	114	Stefano Bortolotti	S. Bortolotti, F. F. Semeraro, M. Boffadossi	A FULLY AUTOMATED OPTIMISATION PROCEDURE FOR MULTI-AIRFOIL CONFIGURATIONS BASED ON CFD
	17:30 18:00	63	Antonio Colanera	A. Colanera, M. Chiatto, L. de Luca	POD AND SPOD ANALYSIS OF VERTICAL LIQUID SHEET

Parallel Sessions: Day 1 — Room B

- Day 1 (31/8/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Composites 1 CHAIRPERSON: L. Lazzeri, <i>Università di Pisa</i>	14:30 15:00	104	Pietro Aceti	P. Aceti, P. Ballarin, S. Ghiasvand, A. Airoidi, P. Bettini, G. Sala	EFFECT OF HYGROTHERMAL AGEING ON OPTICAL FIBER-SENSORIZED COMPOSITE MATERIALS
	15:00 15:30	141	Riccardo Augello	R. Augello, E. Carrera, A. Pagani, D. Scano	EVALUATION OF 3D STRESS FIELD OF COMPOSITE SANDWICH STRUCTURES USING UNIFIED 1D BEAM AND 2D PLATE AND SHELL FES WITH VARIABLE KINEMATICS
	15:30 16:00	46	Ernesto Monaco	E. Monaco, N.D. Boffa, F. Ricci	TRAINING OF DEEP NEURAL NETWORKS AIMED AT DAMAGE RECONSTRUCTION BY FEM SIMULATION OF WAVES PROPAGATION INTO COMPOSITES THIN SHELLS.

16:00 - 16:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Composites 2 CHAIRPERSON: L. Lazzeri, <i>Università di Pisa</i>	16:30 17:00	18	Greta Ongaro	G. Ongaro, R. Bertani, U. Galvanetto, M. Zaccariotto	PERIDYNAMIC MODELLING AND EXPERIMENTAL VERIFICATION OF NANOCOMPOSITE PROPERTIES
	17:00 17:30	136	Alfonso Pagani	A. Pagani, A. R. Sanchez-Majano	ADVANCED MODELS FOR THE ANALYSIS OF VARIABLE STIFFNESS COMPOSITES WITH MANUFACTURED-INDUCED GAPS AND OVERLAPS
	17:30 18:00	1	Marco Petrolo	M. H. Nagaraj, I. Kaleel, E. Carrera, M. Petrolo	ELASTOPLASTIC MICROMECHANICAL ANALYSIS OF FIBRE-REINFORCED COMPOSITES WITH DEFECTS

Parallel Sessions: Day 1 — Room C

- Day 1 (31/8/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Structures 1 CHAIRPERSON: U. Galvanetto <i>Università di Padova</i>	14:30 15:00	79	Runsen Zhang	F. Biondani, R. Zhang, M. Morandini, G. L. Ghiringhelli, P. Masarati	PARTICLE DAMPER SIMULATION TOOLS
	15:00 15:30	112	Fabio Biondani	F. Biondani, M. Morandini, G. L. Ghiringhelli, P. Cordisco, M. Terraneo	PARTICLE DAMPER NUMERICAL-EXPERIMENTAL CORRELATION
	15:30 16:00	142	Ugo Galvanetto	U. Galvanetto, T. Ni, F. Pesavento, M. Zaccariotto, B. A. Schrefler	NUMERICAL SIMULATION OF MULTIPHYSIC PHENOMENA WITH A HYBRID FEM/ PERIDYNAMIC MODEL

16:00 - 16:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Structures 2 CHAIRPERSON: U. Galvanetto <i>Università di Padova</i>	16:30 17:00	116	Raffaele Ievolella	R. Ievolella, M. Guida, N. D. Boffa, F. Marulo, B. Vitolo	MAGNESIUM ALLOY MODELLING AND VALIDATION FOR FINITE ELEMENT ANALYSIS
	17:00 17:30	87	Federico Bovecchi	F. Bovecchi, M. Santangelo, L. Boni, D. Fanteria, L. Lazzeri	NUMERICAL SIMULATION OF FATIGUE CRACK GROWTH IN AN OPEN-HOLE SPECIMEN
	17:30 18:00	140	Matteo Filippi	M. Filippi, M. Petrolo, E. Carrera	STRUCTURAL THEORIES FOR RANDOM RESPONSE OF AEROSPACE STRUCTURES UNDER STOCHASTIC LOADS

Parallel Sessions: Day 1 — Room D

- Day 1 (31/8/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Remotely Piloted Aircraft Systems 1 CHAIRPERSON: D. Accardo, <i>Università degli Studi di Napoli "Federico II"</i>	14:30 15:00	19	Giuseppe D'Angelo	G. D'Angelo, P. Polledro, I. Iannitelli, M. Verrastro, F. Binotto	AUTOMATIC TAKE-OFF AND LANDING FOR ENABLING RPAS INSERTION IN NON-SEGREGATED AIRSPACES
	15:00 15:30	144	Francesco Schettini	M. Lucchesini, F. Schettini, G. Bertini, V. Grasso, R. Fiorenzani, A. Matera, F. Paterni, G. Mattei, D. Seni	A SAFETY-ORIENTED DESIGN FOR LIGHTWEIGHT REMOTED PILOT AIRCRAFT SYSTEMS WITH HIGH PERFORMANCE
	15:30 16:00	134	Claudia Conte	C. Conte, G. de Alteriis, R. Schiano Lo Moriello, D. Accardo, G. Rufino	DESIGN OF A TASK-ORIENTED ARCHITECTURE FOR THE CONTROL SYSTEM OF UNMANNED VEHICLES

16:00 - 16:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Remotely Piloted Aircraft Systems 2 CHAIRPERSON: G. Di Rito, <i>Università di Pisa</i>	16:30 17:00	128	Marco Fiorio	M. Fiorio, R. Galatolo, G. Di Rito, G. Mattei, A. Casazza	SENSE AND AVOID SYSTEM FOR A MINI UAV BASED ON DATA FUSION BETWEEN ELECTRO-OPTICAL AND RADAR SENSORS
	17:00 17:30	41	Fabio Celani	F. Celani, D. Lucarelli	MINIMUM-ENERGY TRAJECTORY GENERATION FOR QUADROTOR UAVS USING BASIS FUNCTIONS
	17:30 18:00	151	Domenico Accardo	G. de Alteriis, C. Conte, R. Schiano Lo Moriello, G. Rufino, D. Accardo	DESIGN OF DRONE SWARM ARCHITECTURES TO CONTRAST THE PANDEMIC SPREAD

Parallel Sessions: Day 1 — Room E

- Day 1 (31/8/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Space Structures 1 CHAIRPERSON: P. GASBARRI, <i>Università degli Studi di Roma "La Sapienza"</i>	14:30 15:00	81	Lorenzo D'Arcangeli	L. D'Arcangeli, M. Sabatini, F. Angeletti, P. Iannelli	SCALING AND EXPERIMENTAL TESTING OF A LARGE FLEXIBLE SPACECRAFT
	15:00 15:30	43	Lorenzo Olivieri	L. Olivieri, L. Barilaro, C. Giacomuzzo, A. Francesconi	AN OVERVIEW OF RESEARCH ACTIVITIES AT UNIVERSITÀ OF PADOVA IN THE FIELD OF SATELLITE IMPACTS WITH SPACE DEBRIS
	15:30 16:00	13	Alex De Bonis	A. De Bonis, F. Angeletti, P. Iannelli	MULTI-BODY MODELLING OF A DUAL-ARM SPACE FLEXIBLE MANIPULATOR SYSTEM FOR ACTIVE DEBRIS REMOVAL

16:00 - 16:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Space Structures 2 CHAIRPERSON: N. FAVALORO, <i>Centro Italiano Ricerche Aerospaziali</i>	16:30 17:00	54	Andrea Delfini	A. Delfini, R. Pastore, M. Albano, F. Santoni, F. Piergentili, G. Familiari, E. Battaglione, R. Matassa, M. Marchetti	SYNERGISTIC EFFECTS OF ATOMIC OXYGEN AND UV RADIATION ON CARBON/CARBON PLATES AT DIFFERENT ATTITUDE POSITIONS
	17:00 17:30	44	Guido Saccone	G. Saccone, N. Favaloro, A. Delfini, R. Pastore, F. Santoni, F. Piergentili, M. Albano, M. Marchetti	CONCEPT DESIGN FOR MANUFACTURING OF NEW ADVANCED C/C COMPOSITES FOR AEROSPACE APPLICATIONS
	17:30 18:00	84	Paolo Iannelli	P. Iannelli, F. Angeletti, P. Gasbarri	COMBINED ATTITUDE AND VIBRATION CONTROL FOR FLEXIBLE SPACECRAFT BASED ON MODEL PREDICTIVE CONTROL

Parallel Sessions: Day 2 — Room A

- Day 2 (1/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: DEVISU Project 1 CHAIRPERSON: E. CARRERA, <i>Politecnico di Torino</i>	9:30 10:00	3	Riccardo Vescovini	R. Vescovini	MESHLESS APPROACH FOR THE ANALYSIS OF VARIABLE STIFFNESS PANELS WITH ARBITRARY SHAPES
	10:00 10:30	139	Marco Enea	M. Enea, F. Scabbia, A. Pagani, M. Zaccariotto, E. Carrera, U. Galvanetto	ONE-DIMENSIONAL HIGH ORDER FINITE ELEMENTS EMBEDDING 3D STATE-BASED PERIDYNAMIC SUBDOMAINS
	10:30 11:00	78	Jamal Najd	J. Najd, E. Zappino, E. Carrera, W. Harrizi, Z. Aboura	A VARIABLE KINEMATIC MODEL FOR THE PREDICTION OF CAPACITANCE VARIATIONS IN EMBEDDED PZT SENSORS

11:00 - 11:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: DEVISU Project 2 CHAIRPERSON: A. PAGANI, <i>Politecnico di Torino</i>	11:30 12:00	6	Cheng Angelo Yan	C.A. Yan, R. Vescovini, L. Dozio	ANALYSIS OF VARIABLE STIFFNESS STRUCTURES USING PHYSICS INFORMED NEURAL NETWORKS
	12:00 12:30	133	Rodolfo Azzara	R. Azzara, E. Carrera, A. Pagani, A.R. Sanchez-Majano	NUMERICAL NONLINEAR VIBRATION-BUCKLING INVESTIGATION OF VARIABLE STIFFNESS COMPOSITE PLATE AND SHELL STRUCTURES
	12:30 13:00	8	Alessia Pecoraro	A. Pecoraro, D. Magliacano, G. Petrone, M. Filippi, F. Franco, S. De Rosa	PERIODICITY AND QUASI-PERIODICITY EFFECTS ON VIBRATION BAND GAPS: NUMERICAL INVESTIGATIONS ON ONE-DIMENSIONAL STRUCTURES

13:00 - 14:30 Break

Parallel Sessions: Day 2 — Room A

- Day 2 (1/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: DEVISU Project 3 CHAIRPERSON: S. De Rosa <i>Università degli Studi di Napoli "Federico II"</i>	14:30 15:00	66	Marco Grifò	M. Grifò, A. Da Ronch, A. Milazzo, I. Benedetti	HIGH-FIDELITY AEROELASTIC FRAMEWORK WITH ADVANCED STRUCTURAL MODELS
	15:00 15:30	75	Alberto Milazzo	I. Benedetti, D. Campagna, A. Milazzo	A STUDY ON VARIABLE STIFFNESS COMPOSITE LAMINATES UNDERGOING LOW VELOCITY IMPACTS
	15:30 16:00	7	Marco Pisano	M. Pisano, G. Petrone, E. Turco, S. De Rosa, P. Gardonio	DESIGN OF A TUNED VIBRATION ABSORBER (TVA) FOR APPLICATIONS IN TRANSPORT ENGINEERING

16:00 - 16:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: DEVISU Project 4 CHAIRPERSON: S. De Rosa <i>Università degli Studi di Napoli "Federico II"</i>	16:30 17:00	17	Giuliano Guarino	G. Guarino, V. Gulizzi, A. Milazzo	A LAYER-WISE DISCONTINUOUS GALERKIN APPROACH FOR LAMINATED COMPOSITE SHELLS
	17:00 17:30	145	Mirco Zaccariotto	M. Zaccariotto, R. Alebrahim, P. Packo, U. Galvanetto	AN EFFECTIVE STRATEGY TO MITIGATE WAVE DISPERSION IN PERIDYNAMICS
	17:30 18:00	22	Francesco Scabbia	F. Scabbia, M. Zaccariotto, U. Galvanetto	AN EFFECTIVE METHOD FOR IMPOSING PERIDYNAMIC BOUNDARY CONDITIONS AND MITIGATING THE SURFACE EFFECT

Parallel Sessions: Day 2 — Room B

- Day 2 (1/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Advancing Space Access Capabilities 1 CHAIRPERSON: C. Bach <i>TU Dresden</i>	9:30 10:00	124	Alessia Gloder	A. Gloder, M. Tajmar, C. Bach	ADVANCING SPACE ACCESS CAPABILITIES FOR AND BY EARLY STAGE RESEARCHERS
	10:00 10:30	107	Lucía Ayala Fernández	L. Ayala Fernández, C. Wiedemann, V. Braun	ANALYSIS OF SPACE LAUNCH VEHICLE FAILURES
	10:30 11:00	106	Livia Ordonez Valles, Lily Blondel Canepari	L. Ordonez Valles, L. Blondel Canepari, A. Pasini, U. Apel, M. Tajmar	GREEN PROPELLANTS AND ELECTRIC PUMP FEEDING SYSTEM: CHALLENGES AND OPPORTUNITIES OF USING THESE TECHNOLOGIES FOR FUTURE KICK STAGES

11:00 - 11:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Advancing Space Access Capabilities 2 CHAIRPERSON: C. Bach, <i>TU Dresden</i>	11:30 12:00	67	Christopher Glaser	C. Glaser, J. Hijlkema, J. Anthoine	REVIEW OF REGRESSION RATE ENHANCEMENT TECHNIQUES FOR HYBRID ROCKET ENGINES
	12:00 12:30	74	Riccardo Gelain	R. Gelain, A. Hauw, E. Bardotti, P. Hendrick	INVESTIGATION OF ADDITIVE MANUFACTURING TECHNIQUES FOR PARAFFIN-BASED FUEL GRAINS
	12:30 13:00	95	Giuseppe Scarlatella	G. Scarlatella, J. Sieder- Katzmann, F. Roßberg, F. Weber, M. Tajmar, C. Bach	COLD-FLOW TESTS ON ADVANCED NOZZLE CONCEPTS IN SUBSONIC RETRO-FLOWS: DEVELOPMENT OF TEST-BENCH

13:00 - 14:30 Break

Parallel Sessions: Day 2 — Room B

- Day 2 (1/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Advancing Space Access Capabilities 3 CHAIRPERSON: C. Bach, <i>TU Dresden</i>	14:30 15:00	56	Jacopo Guadagnini	J. Guadagnini, D. Bonetti, G. De Zaiacomo	ENTRY CORRIDOR ANALYSIS FOR VERTICAL LANDING REUSABLE LAUNCH VEHICLES
	15:00 15:30	90	Alice De Oliveira	A. De Oliveira, M. Lavagna	REUSABLE LAUNCH VEHICLES RE-ENTRY: PRELIMINARY ARCHITECTURE TOWARDS OPTIMAL GUIDANCE AND CONTROL
	15:30 16:00	127	Inigo Alforja Ruiz	I. Alforja Ruiz, M. Lavagna	GUIDANCE, NAVIGATION AND CONTROL SYSTEM DESIGN FOR MULTI-PAYLOAD AND MULTI-ORBIT INJECTION

16:00 - 16:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Advancing Space Access Capabilities 4 CHAIRPERSON: C. Bach, <i>TU Dresden</i>	16:30 17:00	100	Andrea Vennitti	A. Vennitti, T. Schmiel, C. Bach, M. Tajmar	INTRODUCTION TO SENSOR INVESTIGATION FOR RLVS HEALTH MONITORING SYSTEM
	17:00 17:30	45	Valeria Vercella	V. Vercella, R. Fusaro, D. Ferretto, N. Viola, J. Steelant	LIFE CYCLE COST ESTIMATION FOR FUTURE REUSABLE ACCESS TO SPACE SYSTEMS
	17:30 18:00	92	Giuseppe Narducci	G. Narducci, G. Governale, N. Viola, J. Rimani, R. Fusaro, D. Ferretto	MICROLAUNCHERS DESIGN AND COST ESTIMATION

Parallel Sessions: Day 2 — Room C

Day 2 (1/9/2021)

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Sensors 1 CHAIRPERSON: A. Renga, <i>Università degli Studi di Napoli "Federico II"</i>	9:30 10:00	62	Andrea De Vittori	A. De Vittori, R. Cipollone, G. Purpura, M. La Rosa, M. Massari	SPACE OBJECTS TUMBLING MOTION RECONSTRUCTION FROM LIGHT CURVES ANALYSIS WITH MACHINE LEARNING TECHNIQUES
	10:00 10:30	27	Giacomo Carlo Affilastro	G. C. Affilastro, M. F. Montaruli, P. Di Lizia, M. Massari	ESTIMATION OF THE ROTATIONAL DYNAMICS AND KINEMATICS OF A SPACE OBJECT USING RADAR MEASUREMENTS
	10:30 11:00	61	Riccardo Cipollone	R. Cipollone, A. De Vittori, P. Di Lizia, M. Massari, M. F. Montaruli, G. Bianchi, G. Pupillo, G. Naldi	MULTILAYER PERCEPTRON NEURAL NETWORK FOR LEO TRACK RECONSTRUCTION FROM MULTIBEAM RADAR MEASUREMENTS

11:00 - 11:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Sensors 2 CHAIRPERSON: A. Renga, <i>Università degli Studi di Napoli "Federico II"</i>	11:30 12:00	125	Fabio Curti	N. Zappacosta, F. Curti	AUGMENTED GYRO-STELLAR MODEL IN THE PRESENCE OF MEASUREMENTS DELAY
	12:00 12:30	109	Francesco Latorre	F. Latorre, D. Spiller, F. Curti	AUTONOMOUS CRATER DETECTION ON ASTEROIDS USING A FULLY-CONVOLUTIONAL NEURAL NETWORK
	12:30 13:00	118	Fabio Curti	I. Agostinelli, F. Curti	GYROLESS ANGULAR RATE DETERMINATION BASED ON STAR SENSOR IMAGES

13:00 - 14:30 Break

Parallel Sessions: Day 2 — Room C

Day 2 (1/9/2021)

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Sensors 3 CHAIRPERSON: M. Massari, <i>Politecnico di Milano</i>	14:30 15:00	126	Fabio Curti	F. Curti, M. Mastrofini, I. Agostinelli, C. Facchinetti, L. Ansalone, A. Tuozzi	STAR SENSOR IMAGE ON-BOARD PROCESSING FOR ORBITING OBJECTS DETECTION-SPOT
	15:00 15:30	10	Roberto Del Prete	R. Del Prete, M.D. Graziano, A. Renga	AUTOMATIC SHIP RECOGNITION IN SAR IMAGES FOR MARITIME SURVEILLANCE USING DEEP-LEARNING
	15:30 16:00	132	Mirco Bartolomei	M. Bartolomei, L. Olivieri, C. Bettanini	CALIBRATION ACTIVITY OF A SKY QUALITY METER FOR AUTONOMOUS LIGHT POLLUTION MEASUREMENT

16:00 - 16:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Aerospace Propulsion 1 CHAIRPERSON: M. Valorani, <i>Università degli Studi di Roma "La Sapienza"</i>	16:30 17:00	129	Domenic D'Ambrosio	D. D'Ambrosio, R. Marsilio	EFFECT OF THRUST COEFFICIENT ON SUPERSONIC RETRO-PROPULSION AERODYNAMICS: CFD ANALYSIS AND VALIDATION WITH EXPERIMENTAL DATA
	17:00 17:30	31	Davide Cavalieri	D. Cavalieri, G. Indelicato, A. Remiddi, P.E. Lapenna, F. Creta	THEORETICAL AND NUMERICAL MODELLING OF MULTICOMPONENT TRANSCRITICAL DIFFUSE INTERFACES
	17:30 18:00	93	Giuseppe Indelicato	P. E. Lapenna, A. Remiddi, G. Indelicato, M. Pizzarelli, M. Valorani, F. Creta	TOWARDS HIGH-FIDELITY NUMERICAL SIMULATIONS OF INJECTORS NEAR-FIELD IN LRE COMBUSTION CHAMBERS

Parallel Sessions: Day 2 — Room D

Day 2 (1/9/2021)

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Fluid Dynamics 3 CHAIRPERSON: B. Re, <i>Politecnico di Milano</i>	9:30 10:00	32	Giulio Gori	G. Gori, A. Guardone	MULTI-FIDELITY SURROGATE MODELS IN AERODYNAMIC OPTIMIZATION PROBLEMS
	10:00 10:30	64	Andrea Conte	A. Conte, M. Chiatto, L. de Luca	NUMERICAL INVESTIGATION OF PSJ ACTUATORS IN QUIESCENT CONDITIONS
	10:30 11:00	69	Carlo De Michele	C. De Michele, G. Coppola	AN EFFICIENT ALGORITHM FOR THE NUMERICAL INTEGRATION OF THE INCOMPRESSIBLE NAVIER-STOKES EQUATIONS FOR TURBULENT FLOWS

11:00 - 11:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Fluid Dynamics 4 CHAIRPERSON: G. Gori, <i>Politecnico di Milano</i>	11:30 12:00	88	Barbara Re	B. Re, A. Guardone	AN ALE INTERPOLATION-FREE STRATEGY FOR UNSTEADY FLOW SIMULATIONS USING FINITE VOLUME AND RESIDUAL DISTRIBUTION SCHEMES OVER ADAPTIVE GRIDS
	12:00 12:30	68	Manuel Carreño Ruiz	M. Carreño Ruiz, D. D'Ambrosio	VALIDATION AND APPLICATION OF AERODYNAMIC SIMULATIONS IN THE MARTIAN ATMOSPHERE
	12:30 13:00	73	Ettore Sietta	E. Sietta, R. Tognaccini	AERODYNAMIC FORCE BREAKDOWN: STATE OF ART OF THE FAR FIELD METHODS

13:00 - 14:30 Break

Parallel Sessions: Day 2 — Room D

Day 2 (1/9/2021)

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Structures 3 CHAIRPERSON: M. Marchetti, <i>Università degli Studi di Roma "La Sapienza"</i>	14:30 15:00	101	Federico Valpiani	F. Valpiani, A. Polla, P. Cicolini, G. Grilli, E. Cestino, V. Sapienza	EARLY NUMERICAL EVALUATION OF FLUID- STRUCTURE INTERACTION OF A SIMPLY WEDGE GEOMETRY WITH DIFFERENT DEADRISE ANGLE
	15:00 15:30	2	Huimin Zhang	H. Zhang, P. Masarati	IMPLICIT, UNCONDITIONALLY STABLE INTEGRATION SCHEMES FOR MULTIBODY SYSTEM DYNAMICS
	15:30 16:00	4	Fiorella Tavasso	F. Tavasso, A. Casaburo, G. Petrone, F. Franco, S. De Rosa	A LINEAR TRANSFORMATION FOR THE RECONSTRUCTION OF THE RESPONSES BETWEEN SYSTEMS IN SIMILITUDE

16:00 - 16:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Structures 4 CHAIRPERSON: M. Marchetti, <i>Università degli Studi di Roma "La Sapienza"</i>	16:30 17:00	20	Flavio Dipietrangelo	F. Dipietrangelo, F. Nicassio, G. Scarselli, G. Petrone, A. Casaburo, S. De Rosa	MACHINE LEARNING APPLICATIONS FOR AEROSPACE STRUCTURES ASSESSMENTS
	17:00 17:30	65	Marco Prodan	L. Loiodice, A. Brugnera, D. Di Cosmo, V. Di Domenico, R. Fallucca, S. Grendene, R. Piani, M. Prodan	DESIGN AND BUILDING A 1:8 SCALE REPLICA OF THE SIAI-MARCHETTI S55X
	17:30 18:00	49	Aniello Daniele Marano	A.D. Marano, F. Di Matteo, M. Guida, T. Polito, F. Marulo	THEORETICAL AND PRACTICAL ASPECTS OF MULTI- INPUT MULTI-OUTPUT TESTING

Parallel Sessions: Day 2 — Room E

Day 2 (1/9/2021)

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Remotely Piloted Aircraft Systems 3 CHAIRPERSON: A. Moccia, <i>Università degli Studi di Napoli "Federico II"</i>	9:30 10:00	26	Giuseppe Migliozi	A. Beccaro, L. Lo Verde, A. Martinetti, G. Migliozi, R. Prete	EUROPEAN MALE RPAS: FROM HIGH LEVEL KEY OPERATIONAL REQUIREMENT TO PRELIMINARY SYSTEM DESIGN
	10:00 10:30	37	Marco Fiorio	M. Fiorio, R. Galatolo, G. Di Rito	OBJECT DETECTION AND TRACKING ALGORITHMS BASED ON KLT FEATURE TRACKER FOR A SENSE AND AVOID SYSTEM
	10:30 11:00	59	Massimiliano Piccirillo	L. Lo Verde, M. Piccirillo	MAPS AND HAPS: A CHALLENGE OF SUSTAINABILITY FOR A NEW CLASS OF AUTONOMOUS UNMANNED AIRCRAFT SYSTEMS

11:00 - 11:30 Break

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Remotely Piloted Aircraft Systems 4 CHAIRPERSON: A. Moccia, <i>Università degli Studi di Napoli "Federico II"</i>	11:30 12:00	60	Aleksander Suti	A. Suti, G. Di Rito, R. Galatolo	HYBRID THERMO-ELECTRIC PROPULSION SYSTEM FOR CLIMBING PERFORMANCE ENHANCEMENT OF LIGHTWEIGHT FIXED-WING UAVS
	12:00 12:30	96	Federico Toson	F. Toson, F. De Giudici, A. Piva, P. Artusi, C. Chilo, D. Banzi, A. Toccane, P. Danieli, L. Olivieri, C. Bettanini	AVERLA: AUTONOMOUS DRONE FOR AVALANCHE RESCUE
	12:30 13:00	-	-	-	-

Parallel Sessions: Day 3 — Room A

- Day 3 (2/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Stratospheric Balloons 1 CHAIRPERSON: M. Albano, <i>Agenzia Spaziale Italiana</i>	9:30 10:00	117	Marta Albano	M. Albano, D. Spoto, A. Volpe, P. Raizonville, A. Vargas, K. Dannenberg, R. Kirchhartz, E. Vachon, F. Friedl-Vallon, P. Ubertini, M. Abrahamsson, K. Boen, X. Dubois, N. Huret, N. Harris, K. Pfeilsticker	HEMERA: THE EUROPEAN INTERNATIONAL STRATOSPHERIC BALLOONS RESEARCH INFRASTRUCTURE
	10:00 10:30	24	Angela Volpe	A. Volpe, M. Albano, M., P. A. R. Ade, R. Baldini, A. Baù, E. Battistelli, P. de Bernardis, M. Biasotti, A. Boscaleri, F. Cei, I. Colantoni, F. Columbro, G. Coppi, A. Coppolecchia, G. D'Alessandro, M. De Petris, V. Fafone, F. Fontanelli, M. Gervasi, L. Galli, F. Gatti, S. Gordon, D. Grosso, L. Lamagna, C. Magneville, L. Martinis, S. Masi, P. Mauskopf, A. May, L. Mele, A. Paiella, G. Pettinari, A. Passerini, F. Piacentini, L. Piccirillo, G. Pisano, G. Polenta, G. Presta, A. Schillaci, G. Signorelli, B. Siri, F. Spinella, A. Tartari, E. Tommasi, C. Tucker, D. Vaccaro, V. Vdovin, M. Zannoni, D. Yvon	THE OLIMPO & LSPE/SWIPE MISSIONS : ADVANCEMENT IN THE PROJECTS
	10:30 11:00	105	Fabio Frassetto	F. Frassetto, L. Cocola, R. Claudi, V. Da Deppo, P. Zuppella, L. Poletto	LOW NOISE FOURIER TRANSFORM SPECTROMETER FOR A BALLOON BORNE PLATFORM

11:00 - 11:30 Break

SESSION: Stratospheric Balloons 2 CHAIRPERSON: M. Albano, <i>Agenzia Spaziale Italiana</i>	11:30 12:00	110	Vincenzo Della Corte	V. Della Corte, A. Rotundi, Z. Dionnet	DUSTER: COLLECTION AND LABORATORY ANALYSIS OF STRATOSPHERIC DUST IN THE FRAME OF HEMERA H ₂ O ₂ O PROJECT
	12:00 12:30	71	Alessandro Iarocci	A. Iarocci, P. Adobbato, A. Lepore, S. Masi, G. Romeo	HERMES: HEMERA RETURNING MESSENGER
	12:30 13:00	76	Valentina Fanfani	V. Fanfani, G. Coppi, P. A. R. Ade, P. C. Ashton, J. E. Austermann, J. Beall, S. E. Clark, E. G. Cox, M. J. Devlin, S. Dicker, B. J. Dober, L. M. Fissel, N. Galitzki, J. Gao, B. Hensley, J. Hubmayr, S. Li, Z.Y. Li, N. P. Lourie, I. Lowe, P. G. Martin, P. Mauskopf, F. Nati, G. Novak, G. Pisano, L. J. Romualdez, A. Sinclair, J. D. Soler, C. Tucker, M. Vissers, J. Wheeler, P. A. Williams, M. Zannoni	THE BLAST OBSERVATORY

13:00 - 14:30 Break

Parallel Sessions: Day 3 — Room A

- Day 3 (2/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Stratospheric Balloons 3 CHAIRPERSON: M. Albano, <i>Agenzia Spaziale Italiana</i>	14:30 15:00	77	Federico Nati	G. Coppi, V. Farfani, A. Boscaleri, G. Conenna, M. Zannoni, F. Nati	AN ARCSECOND-ACCURATE ATTITUDE DETERMINATION AND CONTROL SYSTEM FOR A MULTI-PURPOSE BALLOON GONDOLA
	15:00 15:30	42	Alessandro Paiella	A. Paiella, P. de Bernardis, S. Masi, F. Cacciotti, F. Cavaliere, A. Coppolecchia, C. Franceschet, M. Gervas, L. Lamagna, A. Limonta, E. Manzan, A. Mennella, A. Passerini, G. Pettinari, F. Piacentini, G. Presta, E. Tommasi, A. Volpe, M. Zannoni	KINETIC INDUCTANCE DETECTORS FOR BALLOON-BORNE CMB EXPERIMENTS
	15:30 16:00	143	Andrea Delfini	P. Marzioli, R. Garofalo, N. Picci, E. Bedetti, L. Di Palo, L. Collettini, L. Misercola, C. Di Nunzio, P. Celesti, A. Graux, A. Gianfermo, A. Delfini, L. Frezza, F. Curianò, A. Volpe, F. Santoro, C. Romanelli, F. Piergentili, F. Santoni	THE STRAINS STRATOSPHERIC EXPERIMENT: RADIO-FREQUENCY TRACKING SYSTEMS FOR STRATOSPHERIC AND SUBORBITAL MISSIONS

Parallel Sessions: Day 3 — Room B

- Day 3 (2/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Stratospheric Balloons 4 CHAIRPERSON: A. Volpe, <i>Agenzia Spaziale Italiana</i>	11:30 12:00	135	Carlo Bettanini	C. Bettanini, M. Bartolomej, A. Aboudan, G. Colombatti, L. Olivieri	MEASUREMENT OF LIGHT POLLUTION AND SKY BRIGHTNESS IN A SOUNDING BALLOON FLIGHT: DATA ELABORATION THROUGH INERTIAL POINTING RECONSTRUCTION
	12:00 12:30	147	Salvo Marcuccio	S. Marcuccio, M. Gemignani, G. Cataldi	NEW LOW-COST STRATOSPHERIC BALLOON FLIGHT OPPORTUNITIES WITH PISA UNIVERSITY 'S MICROHAPS PLATFORM
	12:30 13:00	108	Simone Sandon	S. Sandon, L. Vitali, A. Pitarresi, M. Pulice, L. Antoniazzi, D. Magnani, C. Segna, D. Sandu, F. Toson, A. Conte, D. Panariti, M. Furiato, M. Pavan, G. Righi, S. Lopresti, G. Kamsi	O-ZONE: COMPACT DEVICE FOR STRATOSPHERIC DYNAMIC AIR SAMPLING

13:00 - 14:30 Break

SESSION: Stratospheric Balloons 5 CHAIRPERSON: A. Volpe, <i>Agenzia Spaziale Italiana</i>	14:30 15:00	148	Salvo Marcuccio	S. Marcuccio, M. Gemignani, G. Cataldi, S. Gregucci, M. Andrenacci	THE ECAPS EXPERIMENT FOR SOLAR CELL CHARACTERIZATION IN THE STRATOSPHERE
	15:00 15:30	149	Silvano Fineschi	S. Fineschi, L. Zangrilli, D. Bonino, G. Capobianco, F. Landini, A. Liberatore, G. Massone, M. Pancrazzi, R. Susino, F. Amadori, M. Romoli	THE CORONAL MAGNETOGRAPH - CORMAG - MISSION FOR THE STRATOSPHERIC HEMERA MISSION
	15:30 16:00	-	-	-	-

Parallel Sessions: Day 3 — Room C

- Day 3 (2/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Aerospace Propulsion 2 CHAIRPERSON: F. Paganucci, <i>Università di Pisa</i>	9:30 10:00	115	Beatrice Latini	B. Latini, M. Fiore, F. Nasuti	HEAT TRANSFER PREDICTIONS IN ROUGH COOLING CHANNELS FOR LIQUID ROCKET ENGINES
	10:00 10:30	47	Mario Panelli	M. Panelli, F. Battista	FLUID SIMULATION OF ELECTRON DISCHARGE IN HALL EFFECT THRUSTER
	10:30 11:00	35	Arianna Remiddi	A. Remiddi, G. Indelicato, P.E. Lapenna, F. Creta	A FLAMELET-BASED NUMERICAL FRAMEWORK FOR CONJUGATE HEAT TRANSFER IN LRE RELEVANT CONDITIONS

11:00 - 11:30 Break

SESSION: Aerospace Propulsion 3 CHAIRPERSON: F. Paganucci, <i>Università di Pisa</i>	11:30 12:00	57	Mario Panelli	A. Petronelli, M. Panelli, F. Battista	PARTICLE-IN-CELL SIMULATION OF HEAVY SPECIES IN HALL EFFECT THRUSTER DISCHARGE
	12:00 12:30	28	Emanuele Resta	E. Resta, R. Marsilio, M. Ferlauto	APPLICATION OF SHOCK VECTOR CONTROL TO AN AXISYMMETRIC SUPERSONIC NOZZLE
	12:30 13:00	30	Federico Ghioldi	F. Ghioldi, E. Gallorini, S.M. Aithal, F. Piscaglia	A CFD METHODOLOGY FOR THE OPTIMAL THERMAL DESIGN OF THE PROPULSION SYSTEM IN ELECTRIC MOTORS

13:00 - 14:30 Break

SESSION: Aerospace Propulsion 4 CHAIRPERSON: F. Marulo, <i>Università degli Studi di Napoli "Federico II"</i>	14:30 15:00	38	Alex Zanotti	A. Zanotti	EXPERIMENTAL INVESTIGATION OF AERODYNAMIC INTERACTION OF SIDE-BY-SIDE PROPELLERS
	15:00 15:30	52	Nicola Russo	N. Russo, G. M. Gagliardi, A. D. Marano, T. Polito, F. Marulo	EXPERIMENTAL PERFORMANCES EVALUATION ON COUNTER-ROTATING COAXIAL PROPELLERS FOR MULTIROTORS
	15:30 16:00	14	Caterina Poggi	C. Poggi, M. Rossetti	ARTIFICIAL NEURAL NETWORK SURROGATE MODELS FOR PROPELLER ARRAY NOISE RADIATION

Parallel Sessions: Day 3 — Room D

- Day 3 (2/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Composites 3 CHAIRPERSON: E. Monaco, <i>Università degli Studi di Napoli "Federico II"</i>	9:30 10:00	29	Laura Pernigoni	L. Pernigoni, A.C. Bressi, A.M. Grande	EXPERIMENTAL CHARACTERIZATION OF SELF-HEALING NANOCOMPOSITE AND MULTILAYER SAMPLES FOR SPACE APPLICATIONS
	10:00 10:30	103	Fabrizio Ricci	F. Ricci, N.D. Boffa, E. Monaco	STATIC BEHAVIOR OF A STIFFENED COMPOSITE PANEL WITH A DISBONDED STRINGER
	10:30 11:00	48	Vincenzo Romano	V. Calvanese, V. Romano, F. Marulo	DEVELOPMENT OF AN ORIENTABLE INTENSITY PROBE FOR CURVED PANELS
11:00 - 11:30 Break					
SESSION: Composites 4 CHAIRPERSON: F. Ricci <i>Università degli Studi di Napoli "Federico II"</i>	11:30 12:00	113	Massimo Viscardi	M. Viscardi	DESIGN OF A VLA VERTICAL CONTROL SURFACE WITH LRTM TECHNOLOGY
	12:00 12:30	123	Enrico Zappino	E. Zappino, M. Petrolo, N. Zobeiry, E. Carrera	A REFINED MODEL FOR THE PREDICTION OF PROCESS-INDUCED DEFORMATIONS OF COMPOSITE STRUCTURES
	12:30 13:00	137	Alberto Racionero Sanchez-Majano	A.R. Sanchez-Majano, R. Azzara, A. Pagani, E. Carrera	STRESS ANALYSIS OF VARIABLE ANGLE TOW SHELLS BY HIGH-ORDER UNIFIED FINITE ELEMENTS
13:00 - 14:30 Break					
SESSION: Additive Manufacturing CHAIRPERSON: S. Bagassi, <i>Università di Bologna</i>	14:30 15:00	120	Marzia Corsi	M. Corsi, M.C. Moruzzi, S. Bagassi	DIMENSIONAL ACCURACY ANALYSIS OF ADDITIVELY MANUFACTURED PARTS
	15:00 15:30	102	Giulia Maritano	L. Loiodice, P. Iavecchia, G. Campolo, G. Maritano, L. Loiodice, E. Cestino, V. Sapienza	DESIGN AND MANUFACTURING THROUGH ADDITIVE MANUFACTURING OF RPAV FASTENING AND COMPONENTS
	15:30 16:00	121	Martino Carlo Moruzzi	M.C. Moruzzi, S. Bagassi, M. Cinefra, M. Corsi, M. Rossi	DESIGN OF ADDITIVELY MANUFACTURED METAMATERIAL FOR CABIN NOISE AND VIBRATIONS REDUCTION

Parallel Sessions: Day 3 — Room E

- Day 3 (2/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Aircraft Design 1 CHAIRPERSON: D. Fanteria, <i>Università di Pisa</i>	9:30 10:00	55	Karim Abu Salem	K. Abu Salem, V. Cipolla, G. Palaia, V. Binante, D. Zanetti	PERFORMANCE ANALYSIS OF A SHORT-MEDIUM HAUL BOX-WING AIRCRAFT AND COMPARISON WITH CONVENTIONAL AIRCRAFT
	10:00 10:30	99	Oscar Gori	N. Viola, D. Ferretto, O. Gori, R. Fusaro, M. Marini, P. Roncioni, B. Çakır, A.C. Ispir, B.H. Saracoglu	STRATEGIES FOR PRELIMINARY RE-DESIGN OF A LH2 MACH 5 CRUISER CONCEPT ORIGINALLY CONCEIVED FOR MACH 8 MISSION
	10:30 11:00	51	Giuseppe Maurizio Gagliardi	G. M. Gagliardi, A. D. Marano, F. Marulo	CONCEPT, DEVELOPMENT AND TESTING OF AN EXPERIMENTAL DEVICE FOR WHIRL FLUTTER RESEARCH

11:00 - 11:30 Break

SESSION: Aircraft Design 2 CHAIRPERSON: V. Cipolla, <i>Università di Pisa</i>	11:30 12:00	85	Vincenzo Binante	V. Cipolla, V. Binante, K. Abu Salem, G. Palaia, D. Zanetti	ADOPTION OF A DOE-BASED APPROACH FOR THE IMPLEMENTATION OF STRUCTURAL SURROGATE MODELS IN THE PRELIMINARY DESIGN OF A REGIONAL BOX-WING AIRCRAFT
	12:00 12:30	25	Angelo Lerro	M. Iavarone, A. Lerro, P. Gili, U. Papa, A. Chiesa	DEFINITION OF THE FLEXIBLE AIRCRAFT LONGITUDINAL MODEL FOR A PRELIMINARY CONTROL DESIGN
	12:30 13:00	131	Alessandro Cocco	A. Cocco, S. Mazzetti, S. van't Hoff, B. Timmerman, P. Masarati	AEROELASTIC SIMULATION FOR STABILITY ANALYSIS OF A TILTROTOR SEMI-SPAN MODEL

Parallel Sessions: Day 4 — Room A

- Day 4 (3/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Microsatellites 1 CHAIRPERSON: S. Marcuccio, <i>Università di Pisa</i>	9:30 10:00	-	-	-	-
	10:00 10:30	150	Giuseppe Leccese	S. Natalucci, V. Cottini, G. Leccese	Invited Presentation: ITALIAN SPACE AGENCY CUBESAT ACTIVITIES
	10:30 11:00	146	Camilla Colombo	C. Colombo, F. Scala, M. Trisolini, J. L. Gonzalo, S. Antonetti, F. Di Tolle, R. Radaelli, F. Lisi, L. Marrocchi, M. Aliberti, A. Francesconi, L. Olivieri, M. Tipaldi	THE ENVIRONMENTAL CUBESAT MISSION E.CUBE FOR LOW EARTH ORBIT DATA ACQUISITION
11:00 - 11:30 Break					
SESSION: Microsatellites 2 CHAIRPERSON: S. Marcuccio, <i>Università di Pisa</i>	11:30 12:00	82	Fabrizio Stesina	F.Stesina, S.Corpino, D. Calvi, E. Bosch Borrás, J. Gonzalez Del Amo, N. Bianco	6U AND 12U CUBESAT TEST PLATFORMS FOR THE VERIFICATION OF MINIATURIZED ELECTRIC PROPULSION SYSTEMS
	12:00 12:30	83	Caterina Speranza	F.Stesina, S.Corpino, D.Calvi, C. Novara, C. Speranza, S.Russo	CONTROL OF THE MANOEUVRES FOR DOCKING BETWEEN CUBESATS
	12:30 13:00	70	Luigi Falanga	L. Falanga, G. Caso, A. Ciccarelli, F. Cuomo, S. De Masi, F. Della Vecchia, D. Di Maio, S. Gala, S. Piatti, A. Saveriano, M. Scamardella, D. Scilla, R. Tarone, A. Renga, G. Isoletta, A. Nocerino	A MICROSATELLITE MISSION TO A LONG-PERIOD COMET IN A HELIOCENTRIC INNER ORBIT
13:00 - 14:30 Break					
SESSION: Microsatellites 3 CHAIRPERSON: S. Marcuccio, <i>Università di Pisa</i>	14:30 15:00	72	Vincenzo Porrino	V. Porrino, A. Argirò, M. Chiariello, A. Contaldi, A. Cristiano, L. D'Albenzio, B. De Leonardis, C. Di Mauro, F. J. Fernández Fernández, M. Gargiulo, R. Guida, C. R. Ibello, G. Montano, L. Zennamo, G. Isoletta, A. Nocerino, A. Renga	SCORE: A SCIENTIFIC MISSION FOR THE EXPLORATION OF A LONG PERIOD COMET WITH MICRO/NANO SATELLITES
	15:00 15:30	50	Michele Grassi	G. Di Martino, A. Di Simone, M. Grassi, M. Grasso, M. D. Graziano, A. Iodice, A. Moccia, A. Renga, D. Riccio, G. Ruello, M. D'Errico, S. Cotecchia, R. Aurigemma, V. Pisacane	FORMATION FLYING SAR BASED ON CUBESAT ASSEMBLIES

Parallel Sessions: Day 4 — Room B

- Day 4 (3/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Aircraft Design 3 CHAIRPERSON: A. Alaimo, <i>Università degli Studi di Enna Kore</i>	9:30 10:00	34	Calogero Orlando	A. Alaimo, C. Orlando	NUMERICAL INVESTIGATION OF THE ACTUATOR INFLUENCES ON THE NLG ADAPTIVE DAMPING SYSTEM
	10:00 10:30	122	Giuseppe Palaia	G. Palaia, K. Abu Salem, V. Cipolla, D. Zanetti, V. Binante	PRELIMINARY COMPARISON OF BOX-WING AND TUBE-AND-WING HYBRID-ELECTRIC REGIONAL AIRCRAFT
	10:30 11:00	5	Francesco Toffol	F. Toffol, S. Ricci	AERO-SERVO-ELASTIC OPTIMIZATION IN EARLY DESIGN PHASES

11:00 - 11:30 Break

SESSION: Aircraft Design 4 CHAIRPERSON: A. Alaimo, <i>Università degli Studi di Enna Kore</i>	11:30 12:00	130	Fabrizio Cuomo	F. Cuomo, G. Troiano, V. Mariniello, M. Protti, F. Salvato	LEONARDO AIRCRAFT DIVISION – ELECTRIFICATION FRAMEWORK VISION – ENABLING TECHNOLOGIES AND AIRCRAFT APPLICATION
	12:00 12:30	86	Davide Zanetti	D. Zanetti, G. Palaia, K. Abu Salem, V. Cipolla, V. Binante	METHODOLOGY FOR THE CONCEPTUAL DESIGN OF CONVENTIONAL AND BOX-WING AIRCRAFT WITH HYBRID-ELECTRIC PROPULSION
	12:30 13:00	111	Bruno Di Giandomenico	B. Di Giandomenico	MBSE IN A CONTINUOUS DEVELOPMENT / INTEGRATION ENVIRONMENT – LAD EXPERIENCES

Parallel Sessions: Day 4 — Room C

- Day 4 (3/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Spaceflight Mechanics 1 CHAIRPERSON: F. Bernelli Zazzera, <i>Politecnico di Milano</i>	9:30 10:00	80	Federica Angeletti	F. Angeletti, P. Iannelli, P. Gasbarri	A DEEP REINFORCEMENT LEARNING APPROACH TO AUTONOMOUS SPACECRAFT DOCKING
	10:00 10:30	36	Danilo Forte	D. Forte, F. Bernelli Zazzera	THE LUNAR NEARSIDE NAVIGATION SATELLITE SYSTEM
	10:30 11:00	98	Edoardo Del Vecchio	E. Del Vecchio, F. Petricca, A. Genova	PATH PLANNING AND STEREO VISION-BASED MAP UPDATE FOR NASA'S MARS 2020 PERSEVERANCE ROVER
11:00 - 11:30 Break					
SESSION: Spaceflight Mechanics 2 CHAIRPERSON: F. Bernelli Zazzera, <i>Politecnico di Milano</i>	11:30 12:00	39	Roberto Opromolla	R. Opromolla, F. Branz, A. Francesconi, A. Cenedese, R. Antonello, P. Iob, Z. Pavanello, D. Vertuani, M. Grassi, G. Fasano, A. Nocerino, C. Lombardi, C. Vela, M. Massari, C. Colombo, M. Lovera, D. Invernizzi, P. Ghignoni, L. M. Ticozzi, G. Borelli, J. Huertas, P. Simplicio	CHASER-ROBOTIC ARM COMBINED CONTROL AND OPTICAL RELATIVE NAVIGATION FOR SPACE TARGET CAPTURE
	12:00 12:30	16	Ivan Napoli	I. Napoli, M. Pontani	DISCRETE-VARIABLE-THRUST GUIDANCE FOR ORBITAL RENDEZVOUS BASED ON FEEDBACK LINEARIZATION
	12:30 13:00	97	Luigi Ansalone	D. Spiller, L. Ansalone, F. Tataranni, R. Lorusso, P. Sacco, E. Lopinto	CHALLENGES OF THE EXPERIMENTAL TOOLS FOR THE ASI PRISMA MISSION: THE PREFEASIBILITY ANALYZER AND THE BACKGROUND MISSION OPTIMIZER
13:00 - 14:30 Break					
SESSION: Spaceflight Mechanics 3 CHAIRPERSON: F. Bernelli Zazzera, <i>Politecnico di Milano</i>	14:30 15:00	23	Mauro Pontani	M. Pontani, F. Celani, S. Carletta	EXPLICIT NEAR-OPTIMAL GUIDANCE AND PULSE-MODULATED CONTROL FOR LUNAR DESCENT AND TOUCHDOWN
	15:00 15:30	40	Riccardo Masiero	R. Masiero, F. Ferrari, F. Bernelli Zazzera	ANALYSIS OF OPTIONS TO ENHANCE THE PERFORMANCE OF NEW SPACE ECONOMY DOWNSTREAM SERVICES
	15:30 16:00	9	Laura De Leo	L. De Leo, M. Pontani	LOW-THRUST ORBIT DYNAMICS AND PERIODIC TRAJECTORIES IN THE EARTH-MOON SYSTEM

Parallel Sessions: Day 4 — Room D

- Day 4 (3/9/2021) -

	Timeslot	Paper ID	Presenting Author	Authors	Title of full-paper
SESSION: Recent Topics in Aerospace Research 1 CHAIRPERSON: N. Viola, <i>Politecnico di Torino</i>	9:30 10:00	-	-	-	-
	10:00 10:30	89	Davide Marchesoli	D. Marchesoli, P. Garbo, A. Cocco, A. Zanoni	THE ROLE OF THE SHORT-RANGE STIFFNESS IN PILOT BIODYNAMIC RESPONSE CHARACTERIZATION
	10:30 11:00	91	Donato Chirulli	D. Chirulli, G. Governale, F. Vincelli, N. Viola, R. Fusaro, D. Ferretto	HUMAN LUNAR LANDER DESIGN AND COST ESTIMATION

11:00 - 11:30 Break

SESSION: Recent Topics in Aerospace Research 2 CHAIRPERSON: N. Viola, <i>Politecnico di Torino</i>	11:30 12:00	33	Martina Membola	M. Membola, N. Viola, R. Demarchi, I. Sale	RNP/RNAV INTRODUCTION IN SINGLE PILOT (FIGHTER) A/C
	12:00 12:30	94	Fabio Magnacca	F. Magnacca, K. Abu Salem, V. Cipolla	ECONOMIC ASSESSMENT OF BOX-WING AIRCRAFT ARCHITECTURE: METHODOLOGY AND APPLICATION IN THE PARSIFAL PROJECT
	12:30 13:00	53	Antonio Esposito	A. Esposito, F. De Rosa, M. Viscardi	USING AN ICING FLOW FACILITY TO STUDY ELECTROTHERMAL ICING PROTECTION SYSTEMS

13:00 - 14:30 Break

SESSION: Recent Topics in Aerospace Research 3 CHAIRPERSON: N. Viola, <i>Politecnico di Torino</i>	14:30 15:00	11	Leonardo Barilaro	L. Barilaro, L. Olivieri, R. Tiscio, A. Francesconi	DEVELOPMENT OF A SINGLE-STAGE LIGHT-GAS GUN FACILITY IN MALTA: A COOPERATIVE CONCEPTUAL EVALUATION
	15:00 15:30	119	Sandhya Santhosh	M.C. Moruzzi, S. Santhosh, F. De Crescenzo, S. Bagassi	SPATIAL SOUND SYSTEM TO AID INTERACTIVITY IN A HUMAN CENTRED DESIGN EVALUATION OF AN AIRCRAFT CABIN ENVIRONMENT
	15:30 16:00	-	-	-	-