



## CEAS-AIDAA 2025 Conference

### Preliminary Technical Sessions Programme

Monday, 1 <sup>st</sup> December 2025					
Room	10:45-12:05	12:05-13:25	14:25-15:45	16:05-17:25	17:25-18:45
<i>Sala 500</i>			C-T3.1	C-T3.2	C-T3.3
<i>Londra</i>	B-T2.1	B-T2.2	B-T2.3	B-T2.4	B-T2.5
<i>Madrid</i>	B-T1.1	B-T1.2	B-T1.3	B-T1.4	B-T1.5
<i>Berlino</i>	E-T1.1	E-T1.2	E-T1.3	E-T1.4	E-T1.5
<i>Istanbul</i>	C-T1.1	C-T1.2	C-T1.3	C-T1.4	C-T1.5
<i>Parigi</i>	C-T2.1	C-T2.2	C-T2.3	C-T2.4	C-T2.5
<i>Roma</i>	D-T1.1	D-T1.2	D-T1.3	D-T1.4	D-T1.5
<i>Dublino</i>	D-T2.1	D-T2.2	D-T2.3	D-T2.4	D-T2.5
<i>Atene</i>	F-T1.1	F-T1.2	F-T1.3	F-T1.4	F-T1.5
<i>Lisbona</i>	H-T1.1	H-T1.2	H-T1.3	H-T1.4	H-T1.5
<i>Copenaghen</i>	A-T1.1	A-T1.2	A-T1.3	A-T1.4	A-T1.5
<i>Varsavia</i>	G-T1.1	G-T1.2	G-T1.3	G-T1.4	G-T1.5
<i>Praga</i>	A-T2.1	A-T2.2	A-T2.3	A-T2.4	A-T2.5

Tuesday, 2 <sup>nd</sup> December 2025				
Room	10:35-11:55	11:55-13:15	14:15-15:35	15:55-17:15
<i>Auditorium</i>	Clean Aviation Panel Women in Aerospace Round Table			
<i>Londra</i>	B-T2.6	B-T2.7	B-T2.8	B-T2.9
<i>Madrid</i>	B-T1.6	B-T1.7	B-T1.8	B-T1.9
<i>Berlino</i>	E-T1.6	E-T1.7	E-T1.8	E-T1.9
<i>Istanbul</i>	C-T1.6	C-T1.7	C-T1.8	C-T1.9
<i>Parigi</i>	C-T2.6	C-T2.7	C-T2.8	C-T2.9
<i>Roma</i>	D-T1.6	D-T1.7	D-T1.8	D-T1.9
<i>Dublino</i>	D-T2.6	D-T2.7	D-T2.8	D-T2.9
<i>Atene</i>	F-T1.6	F-T1.7	F-T1.8	F-T1.9
<i>Lisbona</i>	H-T1.6	H-T1.7	H-T1.8	H-T1.9
<i>Copenaghen</i>	A-T1.6	A-T1.7	A-T1.8	A-T1.9
<i>Varsavia</i>	A-T2.6	C-T3.4	C-T3.5	C-T3.6
<i>Praga</i>	G-T1.6	G-T1.7	G-T1.8	C-T3.7



### Wednesday, 3<sup>rd</sup> December 2025

<b>Room</b>	10:35-11:55	11:55-13:15	14:15-15:35	15:55-17:15
<i>Auditorium</i>	H-T1.10			
<i>Londra</i>	Moon Village Association Workshop & Symposium			
<i>Madrid</i>	E-T1.10	E-T1.11	E-T1.12	E-T1.13
<i>Berlino</i>	B-T2.10	B-T2.11	B-T2.12	B-T2.13
<i>Istanbul</i>	B-T1.10	B-T1.11	B-T1.12	B-T1.13
<i>Parigi</i>	C-T1.10	C-T1.11	C-T1.12	C-T1.13
<i>Roma</i>	C-T2.10	C-T2.11	C-T2.12	C-T2.13
<i>Dublino</i>	A-T1.10	A-T1.11	A-T1.12	A-T1.13
<i>Atene</i>	D-T1.10	D-T1.11	D-T1.12	D-T1.13
<i>Lisbona</i>	Moon Village Association Workshop & Symposium			
<i>Copenaghen</i>	F-T1.10	F-T1.11	F-T1.12	F-T1.13
<i>Varsavia</i>	D-T2.10	D-T2.11	D-T2.12	D-T2.13

### Thursday, 4<sup>th</sup> December 2025

<b>Room</b>	10:35-11:55	11:55-13:15	14:15-15:35	15:55-17:15
<i>Londra</i>	Moon Village Association Workshop & Symposium			
<i>Madrid</i>	E-T1.14	E-T1.15	E-T1.16	E-T1.17
<i>Berlino</i>	B-T2.14	B-T2.15	B-T2.16	B-T2.17
<i>Istanbul</i>	B-T1.14	B-T1.15	B-T1.16	B-T1.17
<i>Parigi</i>	C-T1.14	C-T1.15	C-T1.16	
<i>Roma</i>	C-T2.14	C-T2.15	C-T2.16	
<i>Dublino</i>	A-T1.14	A-T1.15	B-T2.18	B-T2.19
<i>Atene</i>	D-T1.14	D-T1.15	D-T1.16	
<i>Lisbona</i>	Moon Village Association Workshop & Symposium			
<i>Copenaghen</i>	F-T1.14	F-T1.15	F-T1.16	F-T1.17
<i>Varsavia</i>	Pegasus Session			



# Sessions List

Session	Title	Session Chairs
<b>Aerodynamics &amp; Aerothermodynamics</b>		
A-T1.1	<i>High-lift aerodynamics</i>	Jochen Wild
A-T1.2	<i>Supersonic aircraft</i>	Jochen Wild
A-T1.3	<i>Boundary layer &amp; transition</i>	Siva Marimuthu
A-T1.4	<i>Engine integration</i>	Jochen Wild
A-T1.5	<i>Transport aircraft</i>	Jochen Wild
A-T1.6	<i>Buffeting &amp; icing</i>	Siva Marimuthu
A-T1.7	<i>Flow control &amp; wind tunnel</i>	Siva Marimuthu
A-T1.8	<i>Fundamental aerodynamics</i>	Siva Marimuthu
A-T1.9	<i>Low pressure turbines &amp; Transonic flows</i>	Raffaele Savino
A-T1.10	<i>Compressible boundary layer</i>	Giuseppe Pascazio
A-T1.11	<i>Foreign atmospheres</i>	Raffaele Savino
A-T1.12	<i>Advanced methods</i>	Giuseppe Pascazio
A-T1.13	<i>Stability and Control</i>	Raffaele Savino
A-T1.14	<i>Hypersonic</i>	Raffaele Savino
A-T1.15	<i>Unsteady &amp; rotating flows</i>	Giuseppe Pascazio
<b>Aeroacoustics</b>		
A-T2.1	<i>Aircraft Noise</i>	Matteo Filippi, Francesco Avallone
A-T2.2	<i>Flow noise reduction I</i>	Mihai Mihaescu, Matteo Filippi
A-T2.3	<i>Flow noise reduction II</i>	Francesco Avallone, Mihai Mihaescu
A-T2.4	<i>UAM/UAV/eVTOL/Rotorcraft noise I</i>	Tao Zhang, Thomas Geyer
A-T2.5	<i>UAM/UAV/eVTOL/Rotorcraft noise II</i>	Roberto Camussi, Tao Zhang
A-T2.6	<i>Airfoil Noise</i>	Thomas Geyer, Roberto Camussi
<b>Simulation, Modelling &amp; Digital Twins in Aerospace</b>		
B-T1.1	<i>Modelling and Simulation (M&amp;S) Enablers</i>	Raghu Munjulury
B-T1.2	<i>Sustainable Design</i>	Raghu Munjulury
B-T1.6	<i>Flight Simulation and Testing</i>	Robert Hällqvist
B-T1.7	<i>Digital Twins</i>	Robert Hällqvist
B-T1.8	<i>Unmanned Aerial Systems</i>	Raghu Munjulury
B-T1.9	<i>Electric and Hybrid Aircraft</i>	Raghu Munjulury
B-T1.10	<i>M&amp;S for Spacecraft and Satellite Systems</i>	Susanna Laurenzi
B-T1.11	<i>Aerospace Materials and Structures</i>	Susanna Laurenzi, Claudio Paris
B-T1.12	<i>Aerospace Communication and Control</i>	TBD
B-T1.13	<i>Aerospace Safety and Security</i>	TBD
B-T1.14	<i>Aerospace Environmental and Operational Analysis</i>	TBD
B-T1.15	<i>Propulsion Systems M&amp;S</i>	Robert Hällqvist
B-T1.16	<i>Thermal and Cooling Systems</i>	Robert Hällqvist
B-T1.17	<i>Aerospace Modelling and Simulation</i>	TBD
<b>Special Session - Digital Processes for Aircraft Maintenance</b>		
B-T1.3	<i>Data analysis for damage investigation</i>	Michele Guida, Francesco Marulo
B-T1.4	<i>Digital Processes for Aircraft Maintenance I</i>	Michele Guida, Francesco Marulo
B-T1.5	<i>Digital Processes for Aircraft Maintenance II</i>	Michele Guida, Francesco Marulo
<b>Special Session - Artificial Intelligence (AI) Applications in</b>		



<b>Aeronautics</b>		
B-T2.1	<i>AI in Aircraft Design and Optimization</i>	Raghu Munjulury, Robert Hällqvist, Vinicius Marini
B-T2.2	<i>Acoustic and Flow Prediction</i>	Raghu Munjulury, Robert Hällqvist, Vinicius Marini
B-T2.3	<i>Space Weather and Environmental Monitoring</i>	Raghu Munjulury, Robert Hällqvist, Vinicius Marini
B-T2.4	<i>Structural Monitoring and Prediction</i>	Raghu Munjulury, Robert Hällqvist, Vinicius Marini
B-T2.5	<i>System Modelling and Simulation</i>	Raghu Munjulury, Robert Hällqvist, Vinicius Marini
<b>Artificial Intelligence in Aerospace Systems</b>		
B-T2.6	<i>AI in Space Systems</i>	Derek Greer, Lukasz Kiskowskiak
B-T2.7	<i>AI in Space Operations</i>	Derek Greer, Lukasz Kiskowskiak
B-T2.8	<i>Future AI Trends in Aerospace</i>	Lukasz Kiskowskiak, Derek Greer
B-T2.9	<i>AI in Aero Systems</i>	Lukasz Kiskowskiak, Derek Greer
B-T2.10	<i>AI in Space Imaging</i>	Derek Greer, Lukasz Kiskowskiak
B-T2.11	<i>AI and Aerospace Surfaces</i>	Lukasz Kiskowskiak, Derek Greer
<b>Testing in Aerospace</b>		
B-T2.12	<i>Aerospace component qualification and durability</i>	Svjetlana Stekovic
B-T2.13	<i>Advanced testing and measurement techniques</i>	Chris Bennett
B-T2.14	<i>Flight systems and experimental platforms</i>	Vinicius Marini
B-T2.15	<i>Space systems and planetary exploration</i>	Anton Wiberg
B-T2.16	<i>Energy and propulsion innovations</i>	James Rouse
<b>Special Session - Scientific Machine Learning for Digital Twins in Aerospace Driving the Transition to Sustainable Aviation</b>		
B-T2.17	<i>Scientific Machine Learning for Digital Twins in Aerospace Driving the Transition to Sustainable Aviation</i>	Francesco di Fiore, Hayriye Pehlivan Solak, Laura Mainini
<b>Special Session - Virtual Testing and Manufacturing of Aerospace Structures and Materials</b>		
B-T2.18	<i>Virtual Testing and Manufacturing of Aerospace Structures and Materials I</i>	Marco Petrolo, Enrico Zappino
B-T2.19	<i>Virtual Testing and Manufacturing of Aerospace Structures and Materials II</i>	Marco Petrolo, Enrico Zappino
<b>Advanced Structural Design</b>		
C-T1.1	<i>Dynamic Behavior of Aerospace Structures</i>	Maria Cinefra, Erasmo Carrera
C-T1.2	<i>Structural Modeling and Analysis</i>	Erasmo Carrera, Riccardo Augello
C-T1.3	<i>Health Monitoring and Damage Tolerance</i>	Maria Cinefra, Riccardo Augello
C-T1.4	<i>Advanced Manufacturing Techniques</i>	Erasmo Carrera, Raghu Munjulury
C-T1.5	<i>Innovative Structural Designs</i>	Raghu Munjulury, Maria Cinefra
C-T1.6	<i>Lightweight Design and Optimization</i>	Chiara Bisagni, Raghu Munjulury
C-T1.7	<i>Composite Materials and Manufacturing</i>	Chiara Bisagni, Maria Cinefra
C-T1.8	<i>Space Structures and Deployable Systems</i>	Riccardo Augello, Chiara Bisagni
<b>Aeroelasticity and Structural Dynamics</b>		
C-T1.9	<i>Aeroelasticity and Structural Dynamics I</i>	Francesco Marulo, Marco Petrolo



C-T1.10	<i>Aeroelasticity and Structural Dynamics II</i>	Jonathan E. Cooper, Melike Nikbay
C-T1.11	<i>Aeroelasticity and Structural Dynamics III</i>	Melike Nikbay, Lorenzo Dozio
C-T1.12	<i>Aeroelasticity and Structural Dynamics IV</i>	Melike Nikbay, Lorenzo Dozio
C-T1.13	<i>Aeroelasticity and Structural Dynamics V</i>	Lorenzo Dozio, Franco Mastroddi
C-T1.14	<i>Aeroelasticity and Structural Dynamics VI</i>	Franco Mastroddi, Francesco Marulo
C-T1.15	<i>Aeroelasticity and Structural Dynamics VII</i>	Franco Mastroddi, Francesco Marulo
C-T1.16	<i>Aeroelasticity and Structural Dynamics VIII</i>	Marco Petrolo, Jonathan E. Cooper
<b>Advanced Materials</b>		
C-T2.1	<i>Multi-functional materials</i>	Alfonso Pagani, Ivano Benedetti
C-T2.2	<i>Adjustable and smart materials</i>	Ivano Benedetti, Ugo Lafont
C-T2.3	<i>Sustainable materials, processes and treatments</i>	Ivano Benedetti
C-T2.4	<i>Self-healing and shape memory materials</i>	Ugo Lafont, Guido Saccone
C-T2.5	<i>Manufacturing and characterization</i>	Ugo Lafont, Loredana Santo
C-T2.6	<i>Additive Manufacturing</i>	Alfonso Pagani, Enrico Zappino
<b>Special Session - Advances in monitoring dynamics and health of aerospace structures</b>		
C-T2.7	<i>Advances in monitoring dynamics and health of aerospace structures - I</i>	Fabrizio Ricci, Ernesto Monaco
C-T2.8	<i>Advances in monitoring dynamics and health of aerospace structures - II</i>	Leandro Maio, Vittorio Memmolo
C-T2.9	<i>Advances in monitoring dynamics and health of aerospace structures - III</i>	Fabrizio Ricci, Ernesto Monaco
<b>Aerospace Structures</b>		
C-T2.10	<i>Multiscale methods and global/local approaches applied to aerospace design</i>	Alberto Milazzo, Sergio De Rosa
C-T2.11	<i>3D-printed structures: design challenges</i>	Alberto Milazzo, Mirco Zaccariotto
C-T2.12	<i>Unconventional numerical methods for the analysis of aerospace structures</i>	Alberto Milazzo, Mirco Zaccariotto
C-T2.13	<i>Advances in the analysis of aerospace composite structures</i>	Alberto Milazzo, Sergio De Rosa
C-T2.14	<i>Fatigue life assessment in aerospace structures</i>	Sergio De Rosa, Mirco Zaccariotto
C-T2.15	<i>Optimization and design of aeronautical structures and components</i>	Sergio De Rosa, Alberto Milazzo
C-T2.16	<i>Advances in the design of deployable structures and components for space missions</i>	Sergio De Rosa, Mirco Zaccariotto
<b>Special Session - Additive manufacturing for metals, alloys and ceramics for aerospace applications</b>		
C-T3.1	<i>Testing methods and techniques</i>	Anton Wiberg
C-T3.2	<i>Modelling and strategies</i>	James Rouse
C-T3.3	<i>AM materials</i>	James Rouse



<b>Special Session - Acoustic characterization of composites and metamaterials</b>		
C-T3.4	<i>Acoustic characterization of composites and metamaterials I</i>	Giuseppe Petrone, Maria Cinefra
C-T3.5	<i>Acoustic characterization of composites and metamaterials II</i>	Francesco Ciampa, Francesco Nicassio
<b>Special Session - Artificially Engineered Materials and Structures for Aerospace Applications</b>		
C-T3.6	<i>Artificially Engineered Materials and Structures for Aerospace Applications</i>	Tanmoy Mukhopadhyay, Susmita Naskar
<b>Aerospace Manufacturing Technologies</b>		
C-T3.7	<i>Aerospace Manufacturing Technologies I</i>	Enrico Zappino, Svjetlana Stekovic
<b>Advanced Aircraft Design</b>		
D-T1.1	<i>Hydrogen powered aircraft</i>	Björn Nagel
D-T1.2	<i>Advanced aircraft configurations</i>	Björn Nagel
D-T1.3	<i>Propulsion aspects in aircraft design</i>	Giuseppe Palaia
D-T1.4	<i>Aircraft design methods and case studies I</i>	Karim Abu Salem
D-T1.5	<i>Aircraft design methods and case studies II</i>	Giuseppe Palaia
D-T1.6	<i>Aircraft design methods and case studies III</i>	Karim Abu Salem
<b>Sustainable Propulsion Systems</b>		
D-T1.7	<i>Sustainable Propulsion Systems I</i>	TBD
D-T1.8	<i>Sustainable Propulsion Systems II</i>	TBD
D-T1.9	<i>Sustainable Propulsion Systems III</i>	TBD
D-T1.10	<i>Sustainable Propulsion Systems IV</i>	TBD
D-T1.11	<i>Sustainable Propulsion Systems V</i>	TBD
D-T1.14	<i>Sustainable Propulsion Systems VI</i>	TBD
D-T1.15	<i>Sustainable Propulsion Systems VII</i>	TBD
D-T1.16	<i>Sustainable Propulsion Systems VIII</i>	TBD
<b>Special Session - Pathways towards the ultimate Energy Efficient Aircraft of the Future</b>		
D-T1.12	<i>Pathways towards the ultimate Energy Efficient Aircraft of the Future I</i>	Daniel Reckzeh
D-T1.13	<i>Pathways towards the ultimate Energy Efficient Aircraft of the Future II</i>	Daniel Reckzeh
<b>Human Factors in Aviation and Space</b>		
D-T2.1	<i>Human Factors in Aviation and Space I</i>	Pierangelo Masarati, Francesca De Crescenzo
D-T2.2	<i>Human Factors in Aviation and Space II</i>	Francesca De Crescenzo
D-T2.3	<i>Human Factors in Aviation and Space III</i>	Sarita Dara, Pierangelo Masarati
<b>SAF / Alternative Fuels</b>		
D-T2.4	<i>SAF Pathways, Integration, and Environmental Impact</i>	Vinicius Kaster Marini, Svjetlana Stekovic
D-T2.5	<i>Hydrogen as an Alternative Fuel: From Infrastructure to Combustion</i>	Raghu Munjulury, Robert Hällqvist



## Special Session - Next-Gen Aircraft Layouts for Sustainable Air Transport

D-T2.6	<i>Next-Gen Aircraft Layouts for Sustainable Air Transport</i>	Luciano Demasi, Karim Abu Salem
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### Flight Operations

D-T2.7	<i>Flight Operations</i>	Gabriella Gaias, Eric Hoffman
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### Air Traffic Management / Navigation

D-T2.8	<i>Air Traffic Management / Navigation</i>	Marc Bourgois, Tobias Bauer
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### Avionics

D-T2.9	<i>Avionics</i>	Manju Nanda, Umut Durak
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## Special Session - CN-MOST Spoke 1 Air Mobility

D-T2.10	<i>CN-MOST Spoke 1 Air Mobility I</i>	Giacchino Cafiero, Sergio De Rosa
D-T2.11	<i>CN-MOST Spoke 1 Air Mobility II</i>	Giacchino Cafiero, Sergio De Rosa
D-T2.12	<i>CN-MOST Spoke 1 Air Mobility III</i>	Giacchino Cafiero, Sergio De Rosa
D-T2.13	<i>CN-MOST Spoke 1 Air Mobility IV</i>	Giacchino Cafiero, Sergio De Rosa

## Spaceflight Dynamics/GNC/Space Robotics

E-T1.1	<i>Guidance &amp; Control for Lunar Missions</i>	Carlo Bettanini, Giovanni Palmerini
E-T1.2	<i>Guidance &amp; Control for Earth Missions</i>	Carlo Bettanini, Francesco Sanfedino
E-T1.3	<i>Guidance &amp; Control for Radiofrequency Missions</i>	Francesco Sanfedino, Carlo Bettanini
E-T1.4	<i>Navigation</i>	Carlo Bettanini, Giovanni Palmerini
E-T1.5	<i>Actuators &amp; HIL testing</i>	Carlo Bettanini, Francesco Sanfedino
E-T1.6	<i>Modelling and simulation</i>	Giovanni Palmerini, Francesco Sanfedino
E-T1.7	<i>Modelling and simulation</i>	Giovanni Palmerini, Francesco Sanfedino

## Special Session - GNSS Frontiers: From Earth to Lunar Exploration and Beyond

E-T1.8	<i>GNSS Frontiers: From Earth to Lunar Exploration and Beyond I</i>	Sebastiano Chiodini, Giacomo Colombatti
E-T1.9	<i>GNSS Frontiers: From Earth to Lunar Exploration and Beyond II</i>	Giacomo Colombatti, Sebastiano Chiodini

## Atmospheric Flight Dynamics/GNC

E-T1.10	<i>Modelling and simulation</i>	Marilena Pavel
E-T1.11	<i>Dynamics and stability analyses</i>	Duc Nguyen, Giulio Avanzini
E-T1.12	<i>Guidance, navigation, and control I</i>	Duc Nguyen
E-T1.13	<i>Guidance, navigation, and control II</i>	Marilena Pavel, Giulio Avanzini

## Special Session - Enabling Technologies for Innovative Missions on Very Low Earth Orbit: challenges and open questions

E-T1.14	<i>Enabling Technologies for Innovative Missions on Very Low Earth Orbit I</i>	Maria Daniela Graziano, Dario Modenini, Michele Grassi
E-T1.15	<i>Enabling Technologies for Innovative Missions on Very Low Earth Orbit II</i>	Maria Daniela Graziano, Dario Modenini, Michele Grassi
E-T1.16	<i>Enabling Technologies for Innovative Missions on</i>	Maria Daniela Graziano, Dario



<i>Very Low Earth Orbit III</i>		Modenini, Michele Grassi
<b>Reusable Systems for Space Access and In-Orbit Operations</b>		
E-T1.17	<i>Reusable Systems for Space Access and In-Orbit Operations</i>	Gabriella Gaias
<b>Mission Design and Space Systems</b>		
F-T1.1	<i>Radiation and ADCS</i>	Fabio Celani, Claudio Paris
F-T1.2	<i>Earth Observation space missions</i>	Antonio Paolozzi, Paolo Gasbarri
F-T1.3	<i>Interplanetary missions</i>	Giovanni Palmerini, Emiliano Ortore
F-T1.4	<i>Student driven space missions</i>	Federica Angeletti, Stefano Carletta
F-T1.5	<i>Cubesat missions</i>	Nunzia Favaloro
F-T1.6	<i>ASI &amp; CIRA Space Exploration Programs</i>	Nunzia Favaloro, Guido Saccone
F-T1.7	<i>Spacecraft and Cubesat technologies</i>	Antonio Paolozzi, Guido Saccone
<b>Special Session - Advanced Modelling and Integrated Design for Next-Generation Spacecraft</b>		
F-T1.8	<i>Modelling and Simulation for next-gen S/C design</i>	Giuseppe Palaia, Andrea Merlo
F-T1.9	<i>Methodology for next-gen S/C design</i>	Giuseppe Palaia, Andrea Merlo
<b>New space/Constellations</b>		
F-T1.10	<i>Observation systems: Use cases</i>	TBD
F-T1.11	<i>Aspects for a sustainable New Space</i>	TBD
F-T1.12	<i>Small satellite missions in the context of New Space</i>	TBD
F-T1.13	<i>New developments of multi constellations</i>	TBD
<b>Space Exploration – In Situ Resource Utilization</b>		
F-T1.14	<i>Surface and on remote science exploration missions</i>	Michèle Lavagna, Ugo Lafont
F-T1.15	<i>Science &amp; technologies for planetary surface exploration</i>	Ugo Lafont, Michèle Lavagna
F-T1.16	<i>Technologies for in situ resources utilisation</i>	Michèle Lavagna, Ugo Lafont
<b>System-Integration on Aircraft and Space Systems</b>		
F-T1.17	<i>System-Integration on Aircraft and Space Systems</i>	TBD
<b>Sustainable Space: Logistics and Space Debris</b>		
G-T1.1	<i>Collision Risk Prediction and Avoidance</i>	Michele Maestrini, Alessia De Riz
G-T1.2	<i>Space Debris Modelling and Fragmentation Analysis</i>	Sam Diserens, Camilla Colombo
G-T1.3	<i>Space Situational Awareness and Debris Tracking</i>	Michele Maestrini, Gabriella Gaias
G-T1.4	<i>Space Debris Forecasts and Mitigation Policies</i>	Sam Diserens, Camilla Colombo
<b>Special Session - Industrialization of the Space Sector</b>		
G-T1.5	<i>Industrialization of the Space Sector</i>	Anastasia Pesce
<b>Green Propulsion for Space Applications</b>		
G-T1.6	<i>Green Propulsion for Space Applications I</i>	TBD
G-T1.7	<i>Green Propulsion for Space Applications II</i>	TBD
G-T1.8	<i>Green Propulsion for Space Applications III</i>	TBD
<b>UAM / UAVs: Future Applications/Services and Specific Technologies</b>		



H-T1.1	<i>UAV/UAM guidance, navigation and control</i>	Fabio Celani, Mark Spiller
H-T1.2	<i>Advanced Air Mobility</i>	Sophie Armanini, Ansgar Kirste
H-T1.3	<i>UAV design &amp; performance I</i>	Guangjun Liu, Davide Invernizzi
H-T1.4	<i>UAV design &amp; performance II</i>	Thomas Geyer, Bruce Jo
H-T1.5	<i>UAM/UAV operations</i>	Giulio Avanzini, Frank Holzäpfel
<b>Rotorcraft Design and Operations</b>		
H-T1.6	<i>Rotorcraft Design and Operations I</i>	Giuseppe Quaranta, Matteo Filippi
H-T1.7	<i>Rotorcraft Design and Operations II</i>	Linghai Lu, Giuseppe Quaranta
H-T1.8	<i>Rotorcraft Design and Operations III</i>	Philipp Kramer, Linghai Lu
<b>Lighter than Air Systems / HAP (High Altitude Platforms)</b>		
H-T1.9	<i>Airship Technology</i>	David Hansell, Jürgen Fecher
H-T1.10	<i>High Altitude Flight</i>	Carlo Riboldi, Jürgen Fecher

1<sup>st</sup> December 2025  
10:45-12:05 B-T2.1

- 1) **3** - *AI-Driven Pre-Design Predictions of a 90 Passenger Hybrid-Electric Aircraft*, Erick Espinosa-Juarez
- 2) **263** - *Ontology-Assisted Aircraft Cabin Design: A Data-Driven Approach Using Language Models*, Raghu Chaitanya Munjulury, Jorge Lovaco, Ludvig Knöös Franzen, Petter Krus
- 3) **370** - *Synthesizing Aircraft System Specifications with Document-Managed Large Language Model Outputs from One-Shot System Inquiry Prompt Chain*, Vinicius Marini, Petter Krus
- 4) **598** - *AI-Driven Inverse Constrained Design for Turbine Optimization*, Francesco Porta

1<sup>st</sup> December 2025  
10:45-12:05 B-T1.1

- 1) **46** - *An Experimental Co-Simulation Engine for Advanced Cyber-Physical Systems (CPS) Scheduling and Digital Twin Evaluation*, Erik Rosenlund, Robert Hällqvist, Robert Braun
- 2) **47** - *Temporal Decoupling of Weakly Coupled Systems in Hybrid Co-Simulation*, Erik Rosenlund, Robert Hällqvist, Robert Braun
- 3) **166** - *A Software-in-the-Loop Scheme for Accurate Flight Co-Simulation with a Surrogate Hybrid Electric Propulsion Engine Model*, Andres Lopez Pulzovan, Rudy Cepeda-Gomez
- 4) **513** - *Assessment of Structure-Preserving Methods for LES of Compressible, Wall-Bounded Flows*, Giuseppe Illiano, Francesco De Vanna, Gennaro Coppola

1<sup>st</sup> December 2025  
10:45-12:05 E-T1.1

- 1) **110** - *Piecewise-Linear Guidance and Phase-Dependent Gain-Scheduled PID Attitude Control for Lunar Lander Descent*, Clemente Tecchia, Giuseppe Puleo, Simona Morra, Tobia Armando La Marca
- 2) **184** - *Differential Algebra Model Predictive Control for Spacecraft Rendezvous in Cislunar Environment*, Michele Mapelli, Luca Giorcelli, Mauro Massari
- 3) **194** - *Rendezvous in Low-Lunar-Orbit from Gateway via Low-Thrust Nonlinear Control*, Edoardo Maria Leonardi, Mauro Pontani, Paolo Teofilatto
- 4) **440** - *Lunar Descent and Landing via Fusion of Deep Learning-Based Visual Navigation and Moonlight Signals*, Michele Ceresoli, Floor Melman, Yoann Audet, Richard Swinden, Francesco Capolupo, Michele Lavagna

1<sup>st</sup> December 2025  
10:45-12:05 C-T1.1

- 1) **31** - *Robust and Reliable Design Optimization of the Goland Wing*, Valentin Breaz, Fintan Healy, Jonathan Cooper
- 2) **241** - *Coupled Thermo-Mechanical Analyses of Flexible Structures Through Variable-Fidelity Beam Models*, Rodolfo Azzara, Matteo Filippi, Erasmo Carrera
- 3) **256** - *Adaptive Multi-Fidelity Framework for Defect and Damage Tolerant Composite Structures*, Dario Zamani, Chiara Franceschini, Marco Petrolo, Alfonso Pagani, Erasmo Carrera
- 4) **450** - *Effect of Uncertainty on Wing Jig Shape Design*, Guangda Yang, Jonathan Cooper

1<sup>st</sup> December 2025  
10:45-12:05 C-T2.1

- 1) **148** - *Astrotracker Mission: First Stratospheric Validation of Third-Generation Dye-Sensitized Solar Cells Using a CubeSat-Based ADCS Platform*, Maria Quintana, Angie Perez, Maria Munoz

- 2) **195** - *Structural Batteries for Aeronautical Applications: A Multidisciplinary Analysis of Integration and Multifunctional Performance*, Matteo Mangone, Salvatore Mallardo, Carlo Boursier Niutta, Alberto Ciampaglia, Michele Guida, Pietro Russo, Gabriella Santagata, Raffaele Ciardiello, Francesco Marulo, Giovanni Belingardi
- 3) **270** - *Variational Asymptotic Micromechanics of Piezoelectric Composites Using Carrera Unified Formulation*, Alfonso Pagani, Rebecca Masia, Enrico Zappino
- 4) **353** - *Multifunctional Gels for Strain Sensing and Radiation Shielding in Space*, Lucia Lambertini, Maria Gabriella Santonicola, Susanna Laurenzi

1<sup>st</sup> December 2025  
10:45-12:05 **D-T1.1**

- 1) **91** - *Trim Drag Prediction of SAF and Hydrogen Aircraft Concepts: Assessment of Conceptual Design and CFD Studies*, Michael Kotzem, Claudio Niro, Sebastian Wöhler, Thomas Zill
- 2) **359** - *A Breguet Range Formulation for Liquid Hydrogen-Powered Aircraft*, Giuseppe Palaia, Karim Abu Salem, Erasmo Carrera
- 3) **405** - *Aerostructural Analysis Framework for Novel Hydrogen Aircraft Configurations Using Open-Source Tools*, Abdullah Mejbil, Harvey Thomson, Amirul Khan, Martin Muir, Gregory de Boer
- 4) **456** - *Preliminary Sizing Methodology and Results of Hydrogen-Burning Jet Aircraft*, Gabriele Sirtori, Lorenzo Trainelli

1<sup>st</sup> December 2025  
10:45-12:05 **D-T2.1**

- 1) **23** - *Application of Random Forest and HRV Analysis for Real-Time Pilot Mental Workload Monitoring: Toward an Intelligent Cockpit Support System*, Carmelo Vindigni, Giuseppe Iacolino, Antonio Esposito, Calogero Orlando, Andrea Alaimo
- 2) **339** - *Evaluation of Physiological Data Analysis Methods Regarding Their Relevance for Performance Measurement in the Flight Simulator*, Rebecca Nauli, Celina Vetter, Ruth Häusler Hermann
- 3) **558** - *Visual Scanning and Monitoring Behavior in Reduced-Crew Operations: A Comparative Analysis on an A320 Full-Flight Simulator*, Nicola Puca, Marco Pogliano, Gabriele Luzzani, Danilo Demarchi, Giorgio Guglieri
- 4) **560** - *Enhancing Single-Pilot Operations on an A320 Full-Flight Simulator: Real-Time Mental Workload Monitoring Using Eye-Tracking*

1<sup>st</sup> December 2025  
10:45-12:05 **F-T1.1**

- 1) **127** - *Systems integration of COTS components for a 3U EO and data analysis CubeSat*, Lewis McNish
- 2) **204** - *PowerSat: A CubeSat-Based System for Space-to-Earth Wireless Power Transmission*, Noha Hassen
- 3) **236** - *Radiation Exposure Analysis for Autonomous Orbital Transfer Vehicles in Commercial Space Operations*, Razvan Bimbasa
- 4) **237** - *Cosmo ArduSiPM: A Miniaturized Modular Radiation Payload Based on the INFN ArduSiPM Technology for Atmospheric and Spaceborne Missions*, Valerio Bocci

1<sup>st</sup> December 2025  
10:45-12:05 **H-T1.1**

- 1) **33** - *Minimum-Energy Trajectory Generation for Quadrotor UAVs Using Basis Functions and Gradient-Based Optimization*, Fabio Celani, Dennis Lucarelli
- 2) **410** - *Application of Control Barrier Functions to Avoid Vortex Ring State in Unmanned Helicopters*, Mark Spiller

- 3) **464** - *Drone Trajectory Optimization for Fast Inspection of Light Sources in Light Pollution Assessment*, Federico Toson, Carlo Bettanini, Pietro Fiorentin, Sebastián Fingerhuth, Iván Kopaitic, Javier González Paredes
- 4) **755** - *Anti-Windup Compensator Design for Fixed-Tilt Multirotors with Interaction Capabilities*, Dharani Jayanna, Davide Invernizzi, Daniele Magliore, Simone Panza, Marco Lovera

1<sup>st</sup> December 2025  
10:45-12:05 **A-T1.1**

- 1) **70** - *In-Flight Characterization of Leading-Edge Tubercles*, Grace Ryde, Ruben Perez, William Allan
- 2) **419** - *CFD-Based Investigation of a Novel High-Lift Concept Using a Morphing Trailing Edge Equipped with a Jet Flap*, Emanuele Soreca
- 3) **555** - *Aerodynamic Performance of Droop Leading Edge Aerofoils at Low Reynolds Numbers*, Shanshan Xiao, Mark Jabbal, Humberto Medina, Mohammadreza Amoozgar
- 4) **683** - *Understanding the Flow Behavior Around Krueger Flaps Through the Means of CFD Simulations*, Apurva Hasabnis, Jochen Wild

1<sup>st</sup> December 2025  
10:45-12:05 **G-T1.1**

- 1) **56** - *Worst-Case Collision Probability for Tethered Spacecraft*, Vema Paul, Francois Laporte
- 2) **130** - *Quantum computing for optimized space traffic and satellite collision avoidance*, Emmanuel Kiundu, Adah Tole, Gifton Ndemo, Kevin Gitau
- 3) **189** - *Onboard Optical Processing for Conjunction Risk Reduction in LEO*, Giulio Campiti, Alessandra Colucci, Giuseppe Brunetti, Caterina Ciminelli
- 4) **205** - *Predicting Satellite Collision Risk Zones Using Remote Sensing, Geospatial Mapping, and Machine Learning*, Ramila Aliyeva

1<sup>st</sup> December 2025  
10:45-12:05 **A-T2.1**

- 1) **431** - *The Ffowcs-Williams and Hawkings Analogy for Full Aircraft Noise Prediction*, Emanuele Sticchi, Damiano Casalino, Daniele Ragni, Francesco Avallone
- 2) **543** - *Computed Noise Emissions from an Electric Propulsion Unit of a Regional Aircraft*, Erik Schnehagen, Sebastian Hakansson, Enrico Teichert, Andres Lopez Pulzovan, Thomas Geyer
- 3) **681** - *A Novel Multipolar Expansion for Acoustic Footprint Reduced Order Modeling*, Giorgio Palma, Stefano Meloni, Christophe Bogey, Lorenzo Burghignoli, Caterina Poggi, Jacopo Serafini
- 4) **778** - *From Flow-Induced Noise to Cabin: A Hybrid FEM-SEA Approach to Cabin Noise Assessment of Miniliner Aircraft in the NEWBORN Project*, Giovanni Fasulo, Mattia Barbarino, Antonio Visingardi, Fabrizio Morlando, Francesco Petrosino, Antonio Pagano, Miha Zupanič, Jernej Drofelnik

1<sup>st</sup> December 2025  
12:05-13:25 **B-T2.2**

- 1) **317** - *Reinforcement Learning Applied on the Reduction of Acoustic Pressure with Electroacoustic Absorbers*, Arthur Diniz Fernandes, Emanuele De Bono, Rafael Teloli, Leonardo Ferreira, Morvan Ouisse, Sergio De Rosa, Giuseppe Petrone
- 2) **429** - *Neural Network-Based Prediction of Bursting Events in a Turbulent Channel Flow*, Enrico Saccaggi, Gaetano Maria Di Cicca
- 3) **554** - *Physics-Informed Neural Network for Wing Aerodynamics*, Xin Chen, Guangyuan Huang, Ankit Sharma, Atif Riaz, Sergio Jimeno
- 4) **731** - *Geometric Deep Learning for Unsteady Aerodynamic Predictions of Manoeuvring Aircraft*, David Masseur, Andrea Da Ronch

1<sup>st</sup> December 2025  
12:05-13:25 B-T1.2

- 1) **66** - *Comparative Analysis of MBSE Approaches and Tools for Aircraft Design and Certification Support*, Claudio Mirabella, Michele Tuccillo, Pierluigi Della Vecchia
- 2) **235** - *Identifying Time-Dependent Sources of Sensitivity in Early-Stage Landing-Gear Design*, Sander van den Broek, Edwin Simpson, Jonathan Cooper
- 3) **640** - *A Parametric Life Cycle Approach for Circular and Sustainable Aircraft Design*, Chiara Gastaldi
- 4) **730** - *Comparative Analysis of Wide-Body Aircraft Design in Mid-Range Mission Performance for Sustainable Optimized Operations*, Jose Alexandre Fregnani, Alejandro Cruz

1<sup>st</sup> December 2025  
12:05-13:25 E-T1.2

- 1) **156** - *Comparative Study of Conventional and Model Predictive Attitude Controllers for High-Performance LEO Scientific Missions*, Isabel Sotirova, Yusuf Acar
- 2) **188** - *Modular Vision-Based Navigation System for Autonomous Rendezvous and Docking in Geostationary Transfer Orbits*, Annachiara Ippolito, Niccolò Faraco, Michele Maestrini, Mauro Massari
- 3) **478** - *Analytical Formulation for J2-Perturbed Formation Flying*, Silvano Sgubini, Giovanni Palmerini
- 4) **744** - *Performance Assessment of a Multi-Step Guidance and Control Architecture for Approach and Capture of a Tumbling Space Target*, Agostino Madonna, Giuseppe Napolano, Alessia Nocerino, Roberto Opromolla, Giancarmine Fasano, Michele Grassi

1<sup>st</sup> December 2025  
12:05-13:25 C-T1.2

- 1) **295** - *Novel Modeling Technique of Metamaterials Using One-Dimensional Finite Elements*, Riccardo Augello, Erasmo Carrera
- 2) **407** - *Novel Curvilinear 2|3D Unified Finite Element Formulations for the Analysis of Complex Shell Structures*, Piero Chiaia, Maria Cinefra, Erasmo Carrera
- 3) **438** - *Nonlinear Buckling Analysis of Variable Cross-Section Beams Using the Carrera Unified Formulation*, Antonio Fontanella, Tommaso Sironi, Piero Chiaia, Maria Cinefra, Alfonso Pagani
- 4) **490** - *Characterization of folding stiffness in origami deployable structures for dynamic bar and hinge modeling*, Andrea Troise, Antonio Paolo Fontanella, Paolo Celli, Maria Cinefra

1<sup>st</sup> December 2025  
12:05-13:25 C-T2.2

- 1) **59** - *Achieving Adjustable Elasticity with Non-Affine to Affine Transition*, Chenchao Fang, Yanju Liu, Jinsong Leng
- 2) **439** - *Hybrid Integrated Composite Devices by Compression Molding for Soft Actuation in Space*, Alice Proietti, Fabrizio Quadrini, Loredana Santo
- 3) **468** - *Smart Composite Actuator with Embedded Heater by Autoclave Molding for Soft Actuation in Space*, Loredana Santo, Dounia Noqra, Leandro Iorio, Alice Proietti, Fabrizio Quadrini
- 4) **671** - *Experimental Static Response Characteristics of Piezoelectric d15 Shear-Induced Torsion Mechanism*, Pelin Berik Giwa

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12:05-13:25 **D-T1.2**

- 1) **72** - *Parametric Comparison of Solar UAV Configurations*, Hayden Mydland, Ruben Perez
- 2) **146** - *Design and Verification of Grid Ducted VTOL Fixed Wing Aircraft*, Li Bo Le, Mi Bai Gang
- 3) **174** - *Conceptual Design for Uncrewed Combat Aircraft Through a Modular Low-Fidelity MDO Workflow*, Lorenzo Visconti, Giovanni Zippa, Paolo Bader
- 4) **702** - *Conceptual Design of a Next-Generation Tail-Sitter PAV*, Riccardo Andrew Oggioni

1<sup>st</sup> December 2025  
12:05-13:25 **D-T2.2**

- 1) **121** - *DLR Project NICO – Feasibility Study of an Alternate Airport Assistant for Pilots Deciding Where to Divert*, Joan Iñaki González Cabeza
- 2) **294** - *Immersive Virtual Reality Framework for Lunar Pressurized Rover Training and Interaction*, Dario Zamani, Mehran Bahojb Ghalibafan, Marco Crestini, Matteo D'Aquila, Magesh Chandramouli, Alfonso Pagani, Marco Petrolo, Erasmo Carrera
- 3) **331** - *Extended Reality Technologies for Enhanced Public Acceptance of Urban Air Mobility: Insights on the State of the Art*, Millene Gomes Araujo, Francesca De Crescenzo, Francesca Starita, Giuseppe di Pellegrino
- 4) **656** - *Movement Assessment on Extra-Vehicular Activity (EVA): Towards a Potential Stress Detection Method*, Giuseppe Scavo

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12:05-13:25 **F-T1.2**

- 1) **253** - *Orbit Data Analysis of LAGEOS and LARES 2 Space Missions*, Emiliano Ortore
- 2) **275** - *Orbital Predictions for the LARES and LARES 2 Missions*, Juan Sellanes, Claudio Paris, Emiliano Ortore
- 3) **592** - *Development of a Robotic Testbed and Initial Testing for Machine Learning-Based Spacecraft Pose Estimation*, Alessandro Lotti, Dario Modenini, Paolo Tortora
- 4) **735** - *Robust Image Reconstruction for Synthetic Aperture Radiometer Formations*, Matas Gelžinis, Alexander Wittig

1<sup>st</sup> December 2025  
12:05-13:25 **H-T1.2**

- 1) **394** - *A Survey of Advanced Air Mobility Use Cases and Implementation Challenges in Japan: A Systems Approach Perspective*, Yusuke Mihara
- 2) **612** - *eVTOLs in Inter-Hospital Medical Transport: A Simulation-Based Scenario Analysis for Bavaria*, Benedikt Dreyer, Sophie Armanini
- 3) **636** - *Comparing UAM Demand, eVTOL Design, and Profitability Across Metropolitan Regions Using Simulation and Optimization*, Ansgar Kirste, Eike Stumpf
- 4) **752** - *Optimizing UAV Fleets for Life-Saving Missions: AED Delivery Across Alexandria and Beyond*, Dalia Farghaly

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12:05-13:25 **A-T1.2**

- 1) **163** - *Computational Analysis of a Multistage Nose Spike to Reduce Drag on a Conceptual Supersonic Transport Aircraft*, Joseph Pinto, Siva Marimuthu, Parvathy Rajendran, Rajadurai Murugesan
- 2) **179** - *Numerical Simulation of the Transition from Regular to Mach Reflection of Oblique Shocks*, Davide Ruocchio, Alberto Guardone

- 3) **460** - *Assessment of RANS Turbulence Models for Swept Shock Wave–Boundary Layer Interactions*, Andrea Palumbo, Sergio Pirozzoli
- 4) **693** - *Large Eddy Simulation of a Heated Supersonic Round Jet at High Reynolds Number*, Asmita Rahatgaonkar

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12:05-13:25 **G-T1.2**

- 1) **104** - *Simulating the Potential of an In-Space Fragmentation of the Lunar Reconnaissance Orbiter*, Nicolò Trabacchin, Cinzia Giacomuzzo, Lorenzo Olivieri
- 2) **411** - *Estimating the Probability of Close Approaches Generated by an In-Orbit Fragmentation via Monte Carlo-Based Approach*, Yeerang Lim, Camilla Colombo
- 3) **477** - *Estimation and Prediction of Long-Term Aerodynamic Drag Effect on Floating LEO Debris Using EDAC-Adapted Model*, Victor Nwankwo
- 4) **760** - *Efficient Analytical Propagation for Long-Term Analysis of Fragmentation Events*, Yema Paul

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12:05-13:25 **A-T2.2**

- 1) **244** - *Local Noise Dissipation Mechanism and Flow Impedance in Acoustic Liner Grazed by Turbulent Flow and Acoustic Wave*, Francesco Avallone, Francesco Scarano, Angelo Paduano
- 2) **328** - *Effects of Pre-Stressed Conditions on the Dynamic and Acoustic Behavior of Composite Sandwich Panels*, Piero Chiaia, Alfonso Pagani, Matteo Filippi, Erasmo Carrera
- 3) **711** - *Broadband Aeroacoustic Testing and Inverse Modeling of Porous-Liner Metamaterials for Nacelles*, Khanim Azimova

1<sup>st</sup> December 2025  
14:25-15:45 **C-T3.1**

- 1) **772** - *Novel Testing Methods for Mechanical Assessment of Additively Manufactured Materials in Aerospace Relevant Contexts – Experience and Development at the University of Nottingham*, James Rouse, Chris Bennett
- 2) **632** - *Innovative Design and Testing of 3D-Printed Aerospike Nozzle for Sounding Rocket Applications*, Paweł Wiatrzyk, Oliwia Opoń, Łukasz Ciorga, Jędrzej Szczepankiewicz, Konrad Gruber
- 3) **717** - *Additive Manufacturing Techniques for Aerospace Applications: A Review of Process Challenges*, Shamil Farzalizada

1<sup>st</sup> December 2025  
14:25-15:45 **B-T2.3**

- 1) **417** - *Noise Robust ML Sunspot Forecasts for Cycle Aware Space Weather Operations in the Cycle 25 Era*, Esraa Mohammed, Ahmed Ghareeb, Mohammed Baker
- 2) **444** - *Deep Neural Estimation of the Interplanetary Magnetic Field Intensity in L1*, Federico Sabbatini, Catia Grimani
- 3) **492** - *Enhanced Oil-Spill Detection Using U-Net Deep Learning Model*, Hatem Keshk, Ayman Abdallah
- 4) **565** - *Enabling Physics-Based Deep-Learning Thunderstorm Nowcasting for Critical Decision Making in Innovative Air Mobility*, Niklas Wartha, Grigory Rotshteyn, Christoph Metzl, Tobias Bölle

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14:25-15:45 B-T1.3

- 1) **516** - *AI-Driven Detection and Management of Repetitive Failures in Aircraft Maintenance: From Concept to Production in the Vueling Fleet*, Darío Pérez Campuzano, Javier Morant Santiago, Eduardo Sánchez Díaz, Marc Pérez Font, Antonio López Lázario
- 2) **186** - *Deep-Learning-Based Dent Detection of Aircraft for Damage Assessment*, Aditi Mhatre, Salvatore Merola, Ann-Kathrin Koschlik, Rebecca Rodeck, Gerko Wende
- 3) **297** - *Wind Gust Spectral Analysis with Aeolus Observations: Insights from a Transatlantic Route*, Marianna Valente, Giuseppe Palaia, Alfonso Pagani, Erasmo Carrera
- 4) **577** - *From 3D Point Clouds to Unified 3D Real Geometry Models in Aircraft MRO: A Literature-Based Analysis of Requirements and Conceptual Approach for Real Geometry Acquisition in Fuselage Surface Measurements*, Evgeny Grishchenko, Ann-Kathrin Koschlik, Florian Raddatz, Gerko Wende

1<sup>st</sup> December 2025  
14:25-15:45 E-T1.3

- 1) **81** - *Bistatic SAR with Satellites at Different Orbit Altitudes: Coverage Control for PLATiNO-1 Mission Scenario*, Antonio Gigantino, Alfredo Renga, Maria Daniela Graziano, Francesco Argenziano, Antonio Moccia, Giovanni Paolo Blasone, Simona Zoffoli, Deodato Tapete
- 2) **112** - *Formation Flying Strategies for Small Distributed SAR Satellites: A Trade-Off Between Stability and Performance*, Maria Salvato, Antonio Gigantino, Gianluca Coppa, Francesca Pelliccia, Maria Daniela Graziano, Alfredo Renga
- 3) **117** - *Impact Assessment of Perturbations on the Orbit Control in a Near-Zero Inclination Geosynchronous Synthetic Aperture Radar*, Francesca Pelliccia, Alfredo Renga, Matteo Monti, Andrea Monti Guarnieri, Giovanni Paolo Blasone, Simona Zoffoli
- 4) **611** - *Aerodynamic-Based Control for Nanosat Multi-Static SAR Formation Flying Mission Aimed at Space Debris Characterization*, Vishnuvardhan Shakthibala

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14:25-15:45 C-T1.3

- 1) **183** - *Experimental Investigation of Energy Absorption in BCC and Wavy-BCC Lattice Structures under Drop-Weight Impact Testing*, Giuseppe Iacolino, Davide Tumino, Calogero Orlando, Giuseppe Mantegna, Giuseppe Catalanotti, Emilio Vicente Gonzalez, Andrea Alaimo
- 2) **324** - *Post-Buckling Behaviour of a Multi-Stable Composite Stiffened Specimen under Low-Cycle Fatigue – A Preliminary Study*, Xi Li, Chiara Bisagni
- 3) **437** - *Buckling Control in Composite Structures Using Inflatable Elements*, Antonio Raimondo, Chiara Bisagni
- 4) **677** - *Preliminary Design and Innovative FEM Simulation Assessment of Fragmentation Warheads for Counter-UAS Applications*, Francesco Gasperini, Matteo Giannitti, Michele Guida, Simone Gubbioni, Emanuele Cofani

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14:25-15:45 C-T2.3

- 1) **425** - *Effect of Surface Treatments on the Adhesion Performance of RF-Functionalized Silicone-Based Elastomers for Stealth Aircraft Applications*, Bahadır Malcı, Elif Gaye Erki
- 2) **622** - *Bridging the Gaps in Fiber Composites Through Particle-Based Hybridization*, Marcin Bogucki, Paweł Stabla
- 3) **727** - *Sustainable Hydrogen-Rich Polymer Blends for Advanced Space Radiation Shielding*, Elisa Toto, Francesca Blondelli, Lorenzo Ferri, Susanna Laurenzi, Maria Gabriella Santonicola

4) **761** - *Advanced Materials and Processes for Sustainable Space Applications*, Ugo Lafont

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14:25-15:45 **D-T1.3**

- 1) **68** - *Experimental Assessment of Aero-Propulsive Effects on a Commuter Aircraft due to Distributed Electric Propulsion*, Fabrizio Nicolosi, Domenico Idioma, Danilo Ciliberti, Pierluigi Della Vecchia
- 2) **137** - *Conceptual Design and Performance Assessment of Cryogenic Hydrogen Tanks for Hybrid-Electric Aircraft*, Giuseppe Melone, Fabrizio Nicolosi
- 3) **207** - *Aerodynamic Efficiency of Longitudinally Unstable Tailless Aircraft*, Stefan Riethausen
- 4) **228** - *Aircraft and Fuel-Cell Design: Assessment and Optimization of Conceptual Design Drivers on a Regional Aircraft*, Simon Müller, Georgi Atanasov, Thomas Zill

1<sup>st</sup> December 2025  
14:25-15:45 **D-T2.3**

- 1) **42** - *Tracking-Based Assessment of Active Inceptor Handling Quality for BWB Aircraft*, Yating Qi, James Whidborne, Linghai Lu
- 2) **355** - *Flexible poly(vinyl alcohol) gels for radiation shielding in next-generation spacesuits*, Lucia Lambertini, Maria Gabriella Santonicola, Susanna Laurenzi
- 3) **613** - *Integrated Rotorcraft Stability Through Pilot Biomechanics: A Human Factors Perspective*, Andrea Zanoni, Pierangelo Masarati

1<sup>st</sup> December 2025  
14:25-15:45 **F-T1.3**

- 1) **120** - *Low Energy Lunar Missions Based on the Locus of Lyapunov Orbits*, Paolo Teofilatto, Stefano Carletta, Alee Obeid, Mauro Pontani
- 2) **601** - *Spacecraft Navigation by Images: Deep Learning Application for Autonomous Orbit Determination*, Alessia Sbriglio, Giovanni Palmerini
- 3) **705** - *Orbit Design and Feasibility Evaluation for an Exploration Mission to Saturn's Moon Enceladus* Gianluca Montuori, Francesca Pelliccia, Alfredo Renga

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14:25-15:45 **H-T1.3**

- 1) **138** - *Design and Experimental Validation of a Low-Cost and Easy-to-Use Test Platform for Power Beaming Pointing Systems*, Federico De Donatis, Tommaso Aresi, Davide Invernizzi
- 2) **193** - *A New Perspective into Solar-Powered UAV Conceptual Design Sizing*, Tommaso Bussi, Alessandro Borgia, Salvatore Gaetani
- 3) **318** - *Event-Based Optical Flow for UAV Obstacle Avoidance: A Direction Selective Filter Approach*, Guangjun Liu, Bahar Ahmadi
- 4) **430** - *UAV Mission Performance Analysis for Fixed-Wing Simulation and Flight Testing*, Thando Sissing, Mirko Hornung

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14:25-15:45 A-T1.3

- 1) **30** - *Instability Mechanisms of the Compressible Falkner-Skan Boundary Layers in Cooled Wall*, Hao Li
- 2) **293** - *Mean and Fluctuating Skin-Friction Measurement in Turbulent Boundary Layer Using Floating Element Device*, Mostafa Reslan, Anton Gorbushin, Elena Anokhina
- 3) **396** - *Secondary Stability of Tollmien-Schlichting Waves in a Blasius Boundary Layer*, Riccardo Bertonecello, Alessandro Chiarini, Franco Auteri
- 4) **706** - *Far-Field Exergy-Based Drag Decomposition of a Turbulent Blunt-Body Wake with Hybrid-LES* Justin du Plessis, Drewan Sanders, Tamas Jozsa, Tom-Robin Teschner

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- 1) **114** - *Experimental Validation of Initial Orbit Determination of Resident Space Objects using Probabilistic Admissible Regions*, Bart Kieboom, Martin Michel, Urs Hugentobler
- 2) **404** - *Autonomous Detection of Satellite Orbital Anomalies Through Statistical Behavioural Analysis* Pietro Russo, Giorgio Isoletta, Roberto Opromolla, Giancarmine Fasano
- 3) **423** - *Performance Evaluation of Initial Orbit Determination with Space-Based Optical Measurements*, Alessia De Riz, Alessandro Mignocchi, Pierluigi Di Lizia
- 4) **527** - *Observability Analysis of Distributed Satellite Systems for Enhanced Space Situational Awareness*, Annarita Argirò, Giorgio Isoletta, Roberto Opromolla, Giancarmine Fasano

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14:25-15:45 A-T2.3

- 1) **40** - *Comparison of Weapon's Bay Aero-Acoustic and Store Solicitations Predictions Using Different Solvers*, David Bacci
- 2) **192** - *Numerical Simulation of the Effect of Extreme Accelerations on the Sonic Boom Generated by a Circular Cylinder*, Roberto Miserda, Braulio Pimenta, Vinicius da Silva, Ana Luisa Maldonado
- 3) **690** - *Advances in Reduction of Supersonic Propeller Noise Using Vacuumed Microperforated-Absorbing Structures*, Claudiu Capră, Constantin Sandu

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16:05-17:25 C-T3.2

- 1) **422** - *TraceFEM method for shell-based lattice structures*, Giuliano Guarino, Gonzalo Bonilla, Pablo Antolin
- 2) **467** - *Numerical Modeling and Fabrication of Hybrid Metal-Ceramic Structures for Space Applications Using FDM Additive Manufacturing*, Enrico Zappino, Matteo Filippi, Alfonso Pagani
- 3) **733** - *Open-Source Path Planning for Spot, Line, and Contour Strategies in E-PBF Additive Manufacturing*, Anton Wiberg, Prithwish Tarafder, Karin Wennersten, Jinghao Xu, Johan Moverare
- 4) **44** - *UV-assisted additive manufacturing of fiber-reinforced thermoset lattice structures for advanced in-space applications*, Aditya Thakur

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16:05-17:25 B-T2.4

- 1) **402** - *Displacement prediction method for structures with buckled components based on Physics-Informed Neural Network (PINN)*, Jixuan Yi, Chiara Bisagni
- 2) **506** - *Data-Driven Detection of Pilot-Induced Oscillations using Principal Component Analysis*, André Paladini, Raghu Munjulury, Daniel Drewiacki, Petter Krus, Jorge Bidinotto

- 3) **582** - *Transformer-Based Monitoring of Aerospace Structures: An Experimental Study Case*, Federica Angeletti, Paolo Gasbarri
- 4) **739** - *A Vision-Based Framework for In-Flight IMU Error Estimation in Drones*, Mateus de Souza, Sebastián Zepeda, Igor Zago, Ricardo Angélico, Jorge Bidinotto

1<sup>st</sup> December 2025  
16:05-17:25 **B-T1.4**

- 1) **267** - *A Digital Twin Platform for Structural Health Monitoring of Smart Aircraft Structures*, Zahra Sharif Khodaei, Ferri M.H. Aliabadi
- 2) **306** - *Enhancing Aircraft Maintenance Efficiency through Digital Integration: The CY-MA Platform*, Francesco Martone, Gaetano Zazzaro, Michele Inverno, Sergio De Luca, Francesco Mainieri, Gianpaolo Romano
- 3) **363** - *Secure Lifecycle Traceability for Aircraft Maintenance Using Blockchain Technology*, Sandro Vecchiarelli, Giuseppe Adduce, Damian Molyneux
- 4) **518** - *Damage Folio: A Digital Twin-Enabled Platform for Streamlined 3D Aircraft Damage Tracking and Inspection*, Darío Pérez Campuzano, Stephane Abadie, Thomas Perez

1<sup>st</sup> December 2025  
16:05-17:25 **E-T1.4**

- 1) **105** - *Enabling Onboard Analytical Batch Filtering for Angles Only Navigation to Non-Cooperative Space Targets*, Alessandro Scalvini, Giacomo Borelli, Gabriella Gaias
- 2) **482** - *Integrating Earth-Based Radio Tracking and AI-Assisted Optical Navigation for Enhanced Orbit Reconstruction and Planetary Exploration*, Antonio Genova, Simone Andolfo, Anna Maria Gargiulo
- 3) **593** - *Trajectory design, stability, and maintenance analysis of Quasi-Satellite-Orbits in Martian moons environment*, Enrico Belloni, Fabrizio Maccari, Michèle Lavagna
- 4) **638** - *A Decentralized Cluster-Based Approach for Multi-Agent On-Orbit Inspection Planning*, Francesco Salzo, Giordana Bucchioni, Pasquale Ferrara

1<sup>st</sup> December 2025  
16:05-17:25 **C-T1.4**

- 1) **71** - *Computational Design for Spiralized Additive Manufacturing Via Cellular Automata*, Alexander Lamey, Ruben Perez
- 2) **312** - *Component-Wise Beam Modelling of Sandwich Panels with Arbitrary Core Topologies*, Erasmo Carrera, Karim Abu Salem, Riccardo Augello
- 3) **466** - *Global-Local Modelling with Node Dependent Kinematics and Arbitrary Displacement Fields for Plates*, Daniele Scano, Erasmo Carrera, Enrico Zappino
- 4) **475** - *Nonlinear Transient Analysis of Sprag Clutches: Effects of Geometry and Frictional Contact*, Fahimeh Mashayekhi, Stefano Zucca, Christian Maria Firrone

1<sup>st</sup> December 2025  
16:05-17:25 **C-T2.4**

- 1) **360** - *Engineering Polyimide Materials for Moon Exploration Missions: Intrinsic Self-Healing and Shape Memory Properties via Supramolecular Interactions*, Francesca Blondelli, Elisa Toto, Guido Saccone, Nunzia Favaloro, Maria Gabriella Santonicola
- 2) **375** - *Magnetically Targeted Microcapsules to Enhance Self-Healing Behaviour of High-Performance Polymers Designed to Withstand Moondust Environment*, Guido Saccone, Elisa Toto, Nunzia Favaloro, Marianna Rinaldi, Maria Gabriella Santonicola
- 3) **729** - *Finite Element Modelling and Simulation of Shape Memory Behavior of Carbon Fiber Reinforced Bisphenol-A based Epoxy Composite*, Avadesh Yadav, Satish Kumar, Abhishek Kumar

- 4) **740** - *Multifunctional Protective Architectures for Astronauts: Machine Learning-Driven Optimization of Self-Healing Polymers*, Vincenzo Carretta, Antonio Grande

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16:05-17:25 **D-T1.4**

- 1) **64** - *Application of the Cybermatrix Protocol to Early Design in an Industrial Context*, Patrick Teufel
- 2) **159** - *A Multi-Fidelity Approach to Computational Aerodynamics for Preliminary Design of Aircraft*, Federico Poleni, Maurizio Boffadossi, Marco Basaglia, Elisa Giulia Garbin
- 3) **170** - *Enhancements in the Aircraft Preliminary Design Methodologies: Adoption of Sustainable High-Fidelity Simulations*, Federico Carlini, Marco Basaglia, Luca Battaglia, Elisa Giulia Garbin, Simone Genovese, Rocco Gentile, Chiara La Guardia, Angela Scardigli, Giovanni Zippa, Lorenzo Visconti
- 4) **484** - *Collaborative Conceptual Aircraft Design Using Multiple Surrogate Models*, Fintan Healy, Sander van den Broek, Joe de Courcy, Chris Wales, Jonathan Cooper

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16:05-17:25 **D-T2.4**

- 1) **199** - *Decarbonizing Aviation: Sustainable Aviation Fuel (SAF) pathways and their impact*, Omobayo Anifowose, Silas Osunba
- 2) **515** - *Analysis of CO<sub>2</sub> emissions and cost resulting from the adoption of Sustainable Aviation Fuels by medium range aircraft in different world regions*, Angela Bozzaotre, Davide Ferretto
- 3) **697** - *A Modular Life Cycle Assessment Framework for Novel Aircraft Configurations and Sustainable Aviation Fuels*, Kristina Mazur, Katrin Bistreck, Christina Erbskorn, Mirko Hornung
- 4) **718** - *Integrating SAF Production into Existing Refinery Infrastructures: A Review of Technological Pathways*, Shamil Farzalizada

1<sup>st</sup> December 2025  
16:05-17:25 **F-T1.4**

- 1) **149** - *Feasibility Analysis of a Reconfigurable Satellite for Multi-Purpose Missions*, Gabriele Vergani, Marco Candiani, Alessandro Pasinetti
- 2) **552** - *HOPE – Hydrothermal Ocean Plume Explorer; mission to future*, Amirmohsen Paziresh
- 3) **618** - *RedPill: Mission analysis of a student PocketQube mission*, Giacomo Porcarelli, Alessandro Vignato, Giovanni Pitacco, Luca Dallago, Gloria Licitra, Lorenzo Paolo Franchini, Greta Rosa, Zoe Murgia, Alice Maddalon, Nicola Destro, Lorenzo Olivieri, Federico Toson, Giacomo Colombatti
- 4) **627** - *Innovative methods for commercial aerospace: new solutions for Deep Space travel*, Gianluca Santini

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16:05-17:25 **H-T1.4**

- 1) **196** - *Design and Performance Evaluation of Hybrid Electric Powertrain, Power, and Propulsion Systems for Unmanned Aerial Vehicles*, Achintya Saha, Azizur Rahman, Bruce Jo
- 2) **472** - *Simulation-Based Development of a Forward-Motion Mid-Air Deployment System for Fixed-Wing UAVs from Quadrotor Platforms*, Paul Oke, Yingsong Gu
- 3) **476** - *Design of a Compact Biplane Tailsitter UAV for Adaptive VTOL Missions*, Araav Sojen, Sophie Armanini, Arnold Pretorius
- 4) **691** - *Design of UAM Concept Vehicles with Distributed Electric Propulsion Systems*, Thomas Geyer, Stephen Schade, Patrick Ratei, Jonas Ludowicy, Arne Stürmer, Martin Hepperle

1<sup>st</sup> December 2025  
16:05-17:25 A-T1.4

- 1) **316** - *Innovative Elliptical Nacelle Design for Superior Aerodynamic Efficiency in Next-Generation Turboprop Systems*, Javad Rashid Jafari, Karim Ahmadi Dastgerdi, Mohsen Moradkhani, Tahir Durhasan
- 2) **495** - *Aerodynamic Performance Characterization of UAV Propellers via Blade Element Momentum Theory including Post-Stall Behaviour*, Marco Lucarini, Gianpietro Di Rito, Simone Camarri, Marco Nardeschi
- 3) **670** - *Hot-Wire Velocity Measurements in Subsonic Nozzle Flows: Experimental Test Campaign*, Roberto Camussi, Elisa De Paola, Alessandro Talamelli, Lorenzo Lazzarini, Salvatore Palazzo, Fabrizio De Gregorio, Karl-Stephane Rossignol
- 4) **684** - *Numerical Investigation of the Applicability of a Single Ramp Supersonic Inlet for Ramjet Propulsion*, Franciszek Tomczak

1<sup>st</sup> December 2025  
16:05-17:25 G-T1.4

- 1) **187** - *Assessing the Sustainable Use of Cislunar Space: A Comprehensive Review of Debris Mitigation Strategies*, Filippo Mascellani, Michele Maestrini, Carmine Giordano, Mauro Massari
- 2) **531** - *Forecasting a Complete Picture of Future Launches in Terms of Orbital Region and Physical Parameters*, Wiebke Retagne, Camilla Colombo
- 3) **550** - *Baseline Values and Sensitivity Analysis of the THEMIS Space Debris Index*, Daniel Lück, Andrea Muciaccia, Martina Rusconi, Camilla Colombo
- 4) **680** - *Technologies and Strategies for Debris Management to Enable In-Space Manufacturing in Low Earth Orbit*, Brendan Sullivan

1<sup>st</sup> December 2025  
16:05-17:25 A-T2.4

- 1) **175** - *Multi-fidelity numerical acoustic optimization of UAV propellers*, Roberto Navarro, Luis Miguel García-Cuevas, Jorge García-Tiscar, Federico Nahuel Ramírez, Mihai Mihaescu, Marco Laudato
- 2) **412** - *Auralization and Subjective Evaluation of Air Taxi Noise Events*, Teresa Moses, Michael Schmähl, Mirko Hornung
- 3) **414** - *A Model-Based System Engineering Framework for eVTOL Community Noise*, Alessandro Rossi

1<sup>st</sup> December 2025  
17:25-18:45 C-T3.3

- 1) **660** - *High-Performance Aerospace Metals: Pushing the Limits of Strength and Durability*, Ameer Idbayyis
- 2) **682** - *Dwell-Fatigue and Creep in L-PBF Alloy 718: Implications for Gas-Turbine Hot-Section Components*, Rana Elsayed, Johan Moverare, Emil Eriksson
- 3) **725** - *Electron-Beam Powder Bed Fusion of Titanium Alloy Wave Springs: From Manufacturability to Performance*, Niyonkuru Benjamin, Aamer Nazir

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17:25-18:45 B-T2.5

- 1) **327** - *Modular OODA-Based Agents for Scalable and Adaptive AI in System-of-Systems Modelling and Simulation*, Jorge Lovaco, Karl Zuber, Raghu Chaitanya Munjulury, Petter Krus
- 2) **346** - *Nearest Neighbour Search Method For 3D Data Mapping of CFD Data*, Abhishek Dhiman, Raghu Chaitanya Munjulury
- 3) **742** - *Automating System Modeling with Capella and Python: A Workflow for Operational Analysis*, Ivan Rehder, Petter Krus, Emilia Villani
- 4) **743** - *Integration of LLMs in Multimodal Human-Machine Interfaces*, Ivan Rehder, Moacyr Machado Cardoso Junior, Petter Krus, Emilia Villani

1<sup>st</sup> December 2025  
17:25-18:45 **B-T1.5**

- 1) **406** - *Comparative Analysis of Nonlinear Effects in Debonded Structures under Deterministic and Stochastic Excitations*, Shabnam Kiasat, Matteo Filippi, Ali Salehzadeh Nobari, Erasmo Carrera
- 2) **171** - *Comparative Analysis of Generative Data Augmentation Techniques for Aircraft Damage Detection Algorithms: A Case Study*, Salvatore Merola, Aditi Mhatre, Ann-Kathrin Koschlik, Michele Guida, Francesco Marulo
- 3) **757** - *Data Interactions between Asset Digital Twins and Maintenance Workflows*, Hendrik Meyer

1<sup>st</sup> December 2025  
17:25-18:45 **E-T1.5**

- 1) **113** - *Nonlinear Orbit Control for Small Satellite Missions with Hardware-In-The-Loop Testing*, Virna Sisti, Stefano Carletta, Mauro Pontani, Paolo Teofilatto
- 2) **449** - *Adaptive Control Algorithm for Real-Time Thrust-Controlled Vehicles*, Nicola Gaiani, Giacomo Porcarelli, Giacomo Colombatti
- 3) **587** - *The Design and Implementation of Multi-objective Thruster Angle Optimization under Constraints*, Matteo Ceriotti, Yusuf Acar
- 4) **696** - *When Propellant Controls the Spin: Two-Phase Fluid Dynamics and Their Impact on Spacecraft Rotational Stability*, Gianni Cassoni, Jacopo Serafini, Gianmarco Covetti, Fabrizio Gennari

1<sup>st</sup> December 2025  
17:25-18:45 **C-T1.5**

- 1) **309** - *Accuracy Prediction of Higher-Order Structural Theories for 1D Aerospace Structures Using Neural Networks*, Marco Petrolo, Alfonso Pagani, Erasmo Carrera, Giulio Candita
- 2) **575** - *Integration of a Morphing Trailing Edge Flap Demonstrator on a Ground Rig and Test Matrix Definition within HERWINGT*, Maria Chiara Noviello, Bernardino Galasso, Monica Ciminello, Antonio Gabriele Sodano, Gianluca Diodati, Marco Di Vice, Domenico Cristillo, Pietro Catalano, Marika Belardo, Giuseppe Mingione, Vincenzo Quaranta, Salvatore Ameduri
- 3) **258** - *Progressive Failure of Deployable Thin-Shell Space Structures Using Refined One-Dimensional Finite Elements*, Daniele Scano, Riccardo Augello, Erasmo Carrera, Francesco Latini, Marco Petrolo
- 4) **641** - *High-Order Multiscale Thermo-Elastic Analysis of a Triangular Sub-Array with Dielectric Patches*, Rebecca Masia, Irene Izzo, Alfonso Pagani, Enrico Zappino, Ryo Higuchi, Xin Lu, Erasmo Carrera

1<sup>st</sup> December 2025  
17:25-18:45 **C-T2.5**

- 1) **545** - *Effect of Manufacturing Stages on the Mechanical Properties of CFRP, C/C and CMC Materials*, Gennaro Scarselli, Riccardo Nobile, Sana Ullah, Angelo De Fenza, Mario De Stefano

- 2) **578** - *The Effect of TVAC Cycles on Mechanical Properties of Coated AA7075 via Anodization and Pulsed Laser Deposition: A Comparative Study for Space Applications*, Emanuele Pizzo, Luca Giuliani, Andrea Semeraro, Andrea Raymond, Nicola Cefis, Chiara Martina, Nora Lecis, Diego Scaccabarozzi
- 3) **579** - *The Effect of TVAC Cycles on Physical Properties and Morphology of Alumina Coated AA7075 via Hard Anodization and Pulsed Laser Deposition: A Comparative Study for Space Applications*, Emanuele Pizzo, Luca Giuliani, Andrea Semeraro, Chiara Martina, Federico Piccagli, Marco Beghi, Diego Scaccabarozzi
- 4) **710** - *Regolith-Induced Abrasion as a Critical Challenge for Lunar Materials: Experimental Insights on Fiber Reinforced Composites and Polyethylene*, Marta Balestra, Susanna Laurenzi, Andrea Di Benedetto, Antonia Simone

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17:25-18:45 **D-T1.5**

- 1) **41** - *Off-Design Performance Consequences of Design Payload and Range Requirements for SPPH Hybrid-Electric Aircraft*, Maurice Hoogreef
- 2) **69** - *Empirical Comparison of Additively Manufactured Hingeless Control Surfaces*, Grace Ryde, Alexander Lamey, Ruben Perez
- 3) **653** - *Effect of Bleed Systems on the Maneuver Envelope of an External Compression Intake at Low Subsonic Mach Numbers*, Muhammed Ozcan, Nilay Sezer Uzol
- 4) **771** - *Preliminary Design of an Ultra Efficient Regional Aircraft*, Giovanni Marco Carossa, Elena Roncolini, Tomas Cardenas, Francesco Toffol

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17:25-18:45 **D-T2.5**

- 1) **289** - *Preliminary Sizing of Airport Infrastructures for Refuelling Hydrogen-Powered Aircraft*, Lorenzo Trainelli
- 2) **604** - *Accelerated Hydrogen-Air Flame Propagation: A Study on the Flame Dynamics in Obstacle Incorporated Rectangular Combustion Chamber*, Manas Jain, Abhishek Kumar, Sandeep Pandey, Ratan Joarder
- 3) **726** - *Emission Characteristics of Alternative Drive Technologies Regarding Type and Number of Condensation Nuclei for Contrail Formation*, Judith Rosenow, Sophie Köhler, Thomas Geyer

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17:25-18:45 **F-T1.5**

- 1) **561** - *CHIPS - CubeSat with High Performance for SkyHopper*, Massimiliano Bussolino, Samuele Giuseppe Labò, Lucia Bianchi, Michèle Lavagna, Paolo D'Avanzo, Maria Grazia Bernardini, Gianpiero Tagliaferri, Andrea Melandri, Fabrizio Fiore, Matteo Mergè, Simone D'Alessandro, Alessandro Turchi
- 2) **644** - *Hybrid Power Generation for Nanosatellites: Integration of Thermo-Electric Generators and Photovoltaic Solar Cells as Efficient Primary Source*, Kamel Kerrouche
- 3) **714** - *Mission Design and Enabling Technologies for a LEO-to-MEO Dual-Phase CubeSat Mission: The BOREALIS Platform*, Lorenzo Nardi, Fabio Curti, Stefano Carletta, Parsa Avvasrezaee, Vahid Omrani, Domenico Caputo, Giovanni Palmerini, Nicola Lovecchio, Sai Siva Emani, Sahithi Sriramoju, Giulia Petrucci, Riccardo Mazzotti, Mara Mirasoli, Fabio Lorenzini, Matteo Mergè, Augusto Nascetti
- 4) **737** - *Development of the EXCITE IOD/IOV Mission*, Matteo Gemignani, Salvo Marcuccio, Marco Andrenacci, Giacomo Bacci, Giordana Bucchioni, Salvatore Campisi, Claudia Casali, Mario Chiarelli, Angelo Ciminelli, Andrea Dalle Piagge, Mariz Dief, Federico Dini, Fabrizio Evangelisti, Alberto

Falchetti, Daniele Fanteria, Alessandro Filippeschi, Sauro Filippeschi, Simone Genovesi, Filippo Giannetti, Mauro Mameli, Irene Marsili, Ettore Noccetti, Angelo Pasini, Francesco Petroni, Lorenzo Pollini, Elia Pulcinelli, Vincenzo Pulcino, Emanuele Saccomani, Fabiola Sapienza, Sergio Saponara, Matteo Serchi Masini, Lucrezia Spadoni, Andrea Terracciano, Simone Vagaggini, Flavio Cavallini, Ferdinando Varrecchione, Emanuele Zaccagnino

1<sup>st</sup> December 2025  
17:25-18:45 **H-T1.5**

- 1) **249** - *Simulation of Air Taxi Flights for Safe Vertiport Operations at Major Airports*, Frank Holzäpfel
- 2) **303** - *Optimal Drone Routing in the Presence of Wind*, Giulio Avanzini, Danilo Zona, Emanuele Luigi De Angelis, Fabrizio Giulietti
- 3) **547** - *Path Planning for Drone Fleets in Logistic Scenarios*, Salvatore Rosario Bassolillo, Egidio D'Amato, Immacolata Notaro
- 4) **572** - *Preliminary Evaluation of Wing and Horizontal Tail Morphing for UAV's Path Following* Salvatore Piave, Vincenzo Guilizzi, Alberto Milazzo, Fernando Montano

1<sup>st</sup> December 2025  
17:25-18:45 **A-T1.5**

- 1) **126** - *Computational Analyses to Improve the Aerodynamic Performance of NACA 0012 in Transonic Flow Using Raw Riblet Patterns*, Siva Marimuthu, Sheikh Islam, Parvathy Rajendran, Rajadurai Murugesan
- 2) **182** - *Aerodynamic Analysis of an Open Fan Integration on a Strut-Braced Wing*, Sven Pülm, Patrick Wegener
- 3) **190** - *Numerical Predictions of Shock Wave-Boundary Layer Interacting Flow over XRF-1 Transport Aircraft in Extreme Conditions*, Guangyuan Huang, Xin Chen, Ankit Sharma, Atif Riaz
- 4) **694** - *Influence of Variable Camber and Differential Flap Setting on the Aerodynamic Flight Performance in Off-Design Flight Conditions*, Katharina Alt, Victoria Schmitz, Jochen Wild

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17:25-18:45 **G-T1.5**

- 1) **323** - *The ESA GSTP Element 1 Serialization Specific Area in Support of the Industrialization of the European Supply Chain*, Anastasia Pesce
- 2) **609** - *Advancing Electric Propulsion Readiness: Enabling Scalable Testing and Qualification*, Amani Alhammad
- 3) **728** - *Navigating the New Frontier: The EU Space Law and Its Impact on the European Aerospace Sector*, Cecilia Nota

1<sup>st</sup> December 2025  
17:25-18:45 **A-T2.5**

- 1) **459** - *Aeroacoustic Prediction of Ideally Twisted Rotor in Hover Using Flow360*, Se Hwan Park, Nahyeon Roh, Minjun Park
- 2) **533** - *Experimental and Numerical Comparison of a Single Propeller and a Quadcopter in Hover and Maneuvering Flight*, Marco Picillo, Giovanni Fasulo, Mattia Barbarino, Francesco Avallone
- 3) **647** - *Evaluating Scimitar vs. Toroidal Propellers: Thrust Efficiency and Noise Comparison*, Mohamed Takeyeldein
- 4) **764** - *GPU-Accelerated CABARET Simulations of Distributed Propulsion for UAM*, Hussain Ali Abid, Igor Solntsev, Andrea Rapisarda, Hassan Ali Abid, Elisa De Paola, Luana Georgiana Stoica, Giorgia Capobianchi, Alessandro Di Marco, Roberto Camussi



2<sup>nd</sup> December 2025  
10:35-11:55 **B-T2.6**

- 1) **87** - *Onboard Health Monitoring and Decision Making for Reusable Space Vehicles*, Alejandro Sabán Fosch, Eduard Díez i Lledó
- 2) **314** - *Single-Agent Inspection of Asteroids: Energy-awareness, Data Down-linking and Orbital Exploration via Deep-Q-Learning*, Augustin Day, Francesco Paolo Salzo, Gabriele Gemignani, Stéphanie Lizy-Destrez, Giordana Bucchioni
- 3) **445** - *Enhancing Space Manipulator Fault Tolerance for In-Orbit Servicing through Meta-Reinforcement Learning*, Matteo D'Ambrosio, Michèle Lavagna
- 4) **608** - *Validation of Deep Learning-Based Spacecraft Pose Estimation algorithm in a Hardware-in-the-Loop Facility*, Roman Prokazov, Dario Modenini, Paolo Tortora, Miguel Olivares Mendez, Carol Martinez Luna, Mohatashem Reyaz Makhdoomi, Georges Kremer

2<sup>nd</sup> December 2025  
10:35-11:55 **B-T1.6**

- 1) **106** - *Implementations of an Extended Reality Full Mission Small UAS Flight Simulator*, Eric Bird, Tye Payne, Josh Boyd, Luis Hernandez
- 2) **116** - *Development of a flexible flight simulation design and test environment*, Peter Thomas, Joanna Rawska
- 3) **480** - *Acoustic comfort evaluation in the passenger cabin and cockpit through a mixed-reality environment*, Andrea Alaimo, Sara Bagassi, Erasmo Carrera, Antonio Esposito, Tommaso Fadda, Matteo Filippi, Martino Moruzzi
- 4) **528** - *Validation of High-Fidelity Multidisciplinary Maneuver Simulations with Flight Test Data from DLR Dassault Falcon 2000LX ISTAR*, Martin Bauer, Johan Feldwisch, Philipp Mühlmann

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10:35-11:55 **E-T1.6**

- 1) **374** - *Vision-Based Relative Pose Estimation of Space Objects for Proximity Operations Using Lab-Validated Deep Learning*, Matteo Forasassi, Giordana Bucchioni, Lorenzo Pollini
- 2) **403** - *Singularity-Free Hierarchical Tracking Control in Space Robots with Arbitrary Task Dimensions*, Pietro Bruschi, Davide Invernizzi
- 3) **453** - *Deep Learning-Based Pose Estimation of Non-Cooperative Spacecraft from Sparse 3D Point Clouds*, Clemente Tecchia, Alessia Nocerino, Giancarmine Fasano, Michele Grassi, Roberto Opromolla
- 4) **454** - *A COTS-based Visual-Inertial Odometry System for Robust Attitude Estimation on a CanSat Platform*, Hyeonmyeong Jo, Hanyun Son, Jaehwan Park, DongGyu Kim, Haedong Kim

2<sup>nd</sup> December 2025  
10:35-11:55 **C-T1.6**

- 1) **17** - *Impact of Structural Mass Reduction on the Payload Capacity and Reusability Index of Next-Generation Launch Systems*, Suhana Arsh, Inchara N K, Ravindra S Kulkarni
- 2) **222** - *New Opportunity of Double-Double Composites in Designing Lighter and Safer Aircraft Structures*, Yizhou Huang, Cheng Qiu, Jinglei Yang
- 3) **307** - *Complex integral components for Lighter Aircraft Structures*, Damien Desgaches
- 4) **369** - *A topology optimization framework for the design of wind turbine blade cross sections*, Zaiwei Lin, Marco Morandini

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10:35-11:55 C-T2.6

- 1) **48** - *Self-Sensing of 3D Printed UAV Structural Components via Resistivity Monitoring: A Validation Strategy Using Strain Gauges*, Imi Ochana, François Ducobu, Thomas Rainchon, Khalil Homrani, Anthonin Demarbaix
- 2) **699** - *Full PEEK based 3D-printed multifunctional structure with self-sensing capability for space application*, Tibor Barsi Palmic, Ugo Lafont, Janko Slavic
- 3) **703** - *4D Printing of Electro-Active Continuous Fiber Reinforced Auxetic Structures*, Ali Fallah, Atakan Alkan, Bahattin Koc
- 4) **756** - *Electromagnetic Steering of Synthetic Fiber Composites Using Ferrous Oxide–Epoxy Coatings for Advanced Manufacturing*, Suhail Hyder Vattathurvalappil, Domenico Di Napoli

2<sup>nd</sup> December 2025  
10:35-11:55 D-T1.6

- 1) **129** - *System of Systems Optimization of an Autonomous Aircraft for Cargo Logistics*, Ruben Perez, Jeremy Wang
- 2) **272** - *Co-design of Aircraft Configuration and Flight Profile for Match-range Operation*, Lijing Liu, Rhea Liem, Reyner Christian
- 3) **522** - *Truss Architecture Analysis and Optimization using High-Fidelity Methods for Truss-Braced Wing Aircraft*, Saeed Hosseini, Hamid Reza Ovesy, Mohammad Ali Vaziry-Zanjany
- 4) **736** - *Design of a 3D-printed modular airframe with interchangeable vertical stabilizers for experimental applications*, Valeria Vavalà, Ambra Giovannelli, Tomasz Łusiak

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10:35-11:55 D-T2.6

- 1) **287** - *Exploring box-wing configurations for next-generation firefighting aircraft*, Giuseppe Palaia, Karim Abu Salem, Andrea Fasolis, Erasmo Carrera
- 2) **498** - *The Platform “Seagull” for the Development of Innovative Solutions for LSA and UAM applications*, Leonardo Lecce, Antonio Sollo, Andrea Piscopo, Fabio Bocchetti, Carmine Di Napoli, Antonio Nocerino
- 3) **753** - *Egypt’s First Modular VTOL UAV for Emergency Medical Supply Delivery: A Case Study in Next-Generation Air Transport*, Dalia Farghaly
- 4) **762** - *Aerodynamic Characterization of Finite-Span Wings with Integrated Propulsion Devices*, Karthik Mahesh

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10:35-11:55 F-T1.6

- 1) **415** - *Design and Prototyping of a Lunar Rover Wheel Using Additive Layer Manufacturing*, Gaetano Ippolito, Rosario Borrelli, Stefania Franchitti, Marco Russo, Nunzia Favalaro
- 2) **529** - *Space It Up! Project: Space Exploration Technology Roadmaps*, Nunzia Favalaro, Roberta Fusaro, Giuseppe Narducci, Giacomo Luccisano, Paolo Tortora, Loredana Santo, Marco Giuliani, Mara Mirasoli, Sara Piccirillo, Nicole Viola
- 3) **732** - *Italian Space Agency Stratospheric Balloon Research Activities and Programmes*, Angela Volpe, Marta Albano, Elisabetta Tommasi, Gianluca Polenta, Valerio Vagelli, Elisabetta Cavazzuti, Barbara Negri, Enrico Cavallini
- 4) **741** - *SMS, the Detailed Design of a Mission to Mars of a Deployable Heatshield Italian Spacecraft for In Situ Manufacturing. Qualification in Relevant Environment of the Thermal Protection System*, Giovanni Radio, Francesco Punzo, Giacomo Cao, Paolo Bellomi, Camilla Sordini, Pasquale Dell'Aversana, Mariana Poderico, Antonio Schettino, Gaetano Buovolo, Luigi Cutrone, Caterina

Speranza, Michele Ferraiuolo, Antonio del Vecchio, Antoni Evangelista, Daniele Fusco, Carmine Battimelli, Luca Scotti

2<sup>nd</sup> December 2025  
10:35-11:55 **H-T1.6**

- 1) **51** - *Continuous Time Estimation of Pilot Biodynamic Response for Vertical Bounce Coupling Assessment*, Tommaso Aresi, Andrea Zanoni, Pierangelo Masarati
- 2) **144** - *Vibration and Noise Analyses of eVTOL Tilting Propeller with Different Anhedral Angles in Low-Speed Flight*, Gi-Jeong Park, Hyeok-Jin Son, Jaeheon Jeong, Jae-Sang Park
- 3) **226** - *Periodic Ground Resonance Analysis with Harmonic Decomposition*, Andrea Bassi, Giuseppe Quaranta
- 4) **245** - *Dynamic Modeling of Rotor Damper Configurations for Aeroelastic and Ground Resonance Analysis*, Matteo Croci, Pierangelo Masarati

2<sup>nd</sup> December 2025  
10:35-11:55 **A-T1.6**

- 1) **470** - *Design of a Test Article with Electro-Thermal Ice Protection System for Icing Wind Tunnel Testing*, Akshaya Kannan, Alberto Guardone, Mariachiara Gallia
- 2) **566** - *Numerical Investigation of Transonic Turbulent Buffet over a Supercritical Airfoil*, Giulio Soldati
- 3) **569** - *Data Driven Models for Rapid Ice Accretion Prediction on NACA 0012 Airfoil*, Omer Akbal, Al Faisal Firdaus, Metin Orhan Kaya
- 4) **665** - *High-Reynolds Turbulence Modelling and Simulations for Oscillating Super-Critical Aerofoils*, Adam Okoh, Chaoyue Ji, Peter Thomas, Hongwei Wu

2<sup>nd</sup> December 2025  
10:35-11:55 **A-T2.6**

- 1) **140** - *Effect of Airfoil Trailing Edge Thickness on the Generation of Secondary Tones*, Giorgio Santanatoglia, Richard D. Sandberg, Elnaz Hajizadeh
- 2) **367** - *Aeroacoustic Directivity of Serrated Blades under Turbulent Jet Interaction*, Andrei-George Totu, Daniel-Eugeniu Crunteanu, Grigore Cican
- 3) **502** - *Comparing Tripped and Natural Transition Effects on Tonal and Broadband Noise of Low-Mach-Number Airfoils*, Atilla Altintas, Chaitanya Paruchuri, Phillip Joseph
- 4) **557** - *Numerical Investigation of Airfoil Dipole Noise due to Flow Separation and Reattachment at Near Stall Conditions*, Eltayeb Eljack, Omer Mustafa, Mohamed Salih

2<sup>nd</sup> December 2025  
10:35-11:55 **G-T1.6**

- 1) **108** - *Evaluation of Thermal Imaging for the Investigation of the Heat Release in a Resonance Ignition System*, Tom Linnemann, Christian Bauer, Simona Silvestri
- 2) **173** - *Integrated System Modeling of a Hybrid Water Electrolysis and Vaporizing Liquid Microthruster Propulsion Architecture for CubeSats*, Raviteja Vemula, Maria Grazia De Giorgi
- 3) **185** - *Experimental and Modelling Investigation of Chemical and Physical Processes in Hybrid Rocket Engines Fuelled with Biopolymers-Based Propellants*, Francesco Saverio Marra, Barbara Apicella, Ciro Celotto, Francesca Cerciello, Tommaso De Angelis, Giovanna Gargiulo, Francesco Renzulli, Carmela Russo, Osvalda Senneca, Mariano Sirignano
- 4) **443** - *Chemical Emissions and Near-Field Dispersion of Suborbital Carriers in Conceptual Design*, Fabrizio Borgna, Roberta Fusaro, Davide Ferretto, Sara Gnaccarini, Nicole Viola

2<sup>nd</sup> December 2025  
11:55-13:15 **B-T2.7**

- 1) **278** – *AI-Powered Digital Twins for Autonomous Satellite Operations in Africa*, Erick Villa
- 2) **325** – *Agentic AI and Large Language Models for Root-Cause Analysis in Satellite Health Monitoring and Ground Operations*, Andrea Di Luca, Nieves Salor Moral, Nicola Policella, James Eggleston, Gabriele De Canio, Marco Cristoforetti
- 3) **386** – *Benchmarking Advanced Time-Series Models for Enhanced Orbital Parameter Prediction*, Sankalp Bhoyar, Yusuf Acar
- 4) **397** – *Safe Reinforcement Learning for Autonomous and Constraint-Aware Earth Observation Satellite Scheduling*, Fabio Favaretto, Claudio Ronchetti, Guido Volpi

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11:55-13:15 **B-T1.7**

- 1) **96** - *Digital Twins and Modelling for Spacecraft Science Operations: Application to Surface Interaction and Sampling on Small Solar-System Bodies*, Iosto Fodde, Fabio Ferrari, Franco Bernelli Zazzera
- 2) **329** - *Digital Twinning for Onboard Health Monitoring of Solar Panels for Space Exploration Missions*, Sachin Solanki, Francesco Di Fiore, Laura Mainini
- 3) **530** - *High-Fidelity Synthetic Thermal Image Generation for In-Space Proximity Operations via Infrared Camera Calibration*, Lucia Bianchi, Matteo Quirino, Michèle Lavagna
- 4) **642** - *Testing Aircraft Functions with a Scenario-Based Approach Using Digital Twins*, Denis Kruschinski, Siddhartha Gupta, Umut Durak, Sven Hartmann

2<sup>nd</sup> December 2025  
11:55-13:15 **E-T1.7**

- 1) **251** - *Tensor Modeling of Zero-Sum Games for In-Orbit Servicing Operations with Collision Avoidance*, Stefano Carletta, Alfonso Farina, Giovanni Palmerini, Francesco De Angelis
- 2) **357** - *Modelling of Contact and Grasping in Robotic Capture of Orbital Targets*, Andrea Chiarello, Brook Durante, Francesco Branz, Alessandro Francesconi
- 3) **504** - *An Heterogeneous Multi-Robot Framework for Cooperative Lunar Exploration*, Riccardo Caccavale, Stefano Ciaravino, Alberto Finzi, Vincenzo Lippiello, Giuseppe Rauso
- 4) **672** - *Thermo-Structural and Dynamic Multiphysics Simulation of a Robotic Claw for Space Debris Capture with Emphasis on Material Suitability for Energy Absorption*, Oluwatosin Kolade, Victor Adeleke

2<sup>nd</sup> December 2025  
11:55-13:15 **C-T1.7**

- 1) **125** - *Design of Open Source Proprietary Mounting Brackets for the CubeSpace Gen 2 ADCS Sensor Array*, Lewis McNish
- 2) **265** - *Thermal and CUF-Based Decoupled Thermo-Elastic Analysis of a Microstrip Patch Antenna Circuit for Radar Applications*, Rebecca Masia, Federico Zoppi, Alfonso Pagani, Enrico Zappino, Erasmo Carrera
- 3) **352** - *High-Order Kinematic Coupling of Embedded Fiber and Matrix Ensembles Using a Unified Variational Approach*, Alberto Racionero Sánchez-Majano, Alfonso Pagani
- 4) **526** - *Thermo-Mechanical Analysis of Composite Laminates with Manufacturing-Induced Imperfections*, Tommaso Sironi, Sergio Pellegrino, Maria Cinefra, Federico Benazzo

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11:55-13:15 C-T2.7

- 1) **197** - *Experimental Testing of the Static and Dynamic Performances of Nano-Filled Polymer Sensors for Aerospace Structural Health Monitoring*, Massimo Viscardi, Ernesto Monaco, Pietro Russo, Fabrizio Ricci
- 2) **358** - *Detection of Interfacial Weak Bonds in Adhesively Bonded Joints Using Contact Acoustic Nonlinearity and Local Damage Resonance*, Jacopo Brunetti, Weeliam Khor, Walter D'Ambrogio, Annalisa Fregolent, Francesco Ciampa
- 3) **458** - *Ultrasonic Guided Waves-Defect Interaction Phenomena by Global Local Analyses for Damage Monitoring in Aerospace Structures*, Margherita Capriotti, Mingyue Zhang, Janelle Dela-Cueva, Hyonny Kim
- 4) **570** - *Frequency Domain Analysis of Guided Waves in Plates and Cylinders for Damage Detection*, Fabrizio Ricci, Ernesto Monaco, Vittorio Memmolo, Lorenzo Esposito, Leandro Maio

2<sup>nd</sup> December 2025  
11:55-13:15 D-T1.7

- 1) **53** - *Systematic aircraft propulsive system generation for sizing, evaluation and selection*, Enzo Della Bella, Valérie Pommier-Budinger, Scott Delbecq, Joël Jezegou, Marija Jankovic, Alain Lefebvre
- 2) **67** - *Sustainable aircraft propulsion with four energy sources*, Salvatore Trepiccione, Giuseppe Grazioso, Fabrizio Nicolosi
- 3) **88** - *Preliminary Safety Assessment of the Propulsion Power Management System of a Hybrid-Electric Regional Aircraft*, Gianpietro Di Rito, Aleksander Suti
- 4) **89** - *Impact of Thermopropulsion and Fuel Distribution Systems Integration on Hydrogen Aircraft Sizing: A Parametric Analysis*, Abdoulaye Sarr

2<sup>nd</sup> December 2025  
11:55-13:15 D-T2.7

- 1) **124** - *Software Flight Control Systems Using BrightAscension's FlightKit for an EO Mission*, Lewis McNish
- 2) **350** - *A Road Map for the Entry into Service of Hydrogen-Powered Aircraft: Fleet Transition and Network Scenarios*, Gabriele Sirtori, Lorenzo Trainelli
- 3) **390** - *Analysis of LTO Cycle Emissions as Results of Aircraft Operations in the Vicinity of Torino Caselle Airport*, Edoardo Blanco, Davide Ferretto
- 4) **420** - *In-Flight Operations and Performances of the Cover Mechanism for the JANUS Telescope*, Francesca Filippini, Alessio Aboudan, Giacomo Colombatti, Cecilia Tubiana, Luca Penasa, Livio Agostini, Elke Kersten, Klaus-Dieter Matz, Romolo Politi, Frank Trauthan, Angelo Zinzi, Thomas Bilotta, Ganna Portyankina, Thomas Roatsch, Luisa Maria Lara, Manish Patel

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11:55-13:15 F-T1.7

- 1) **254** - *Multi-Hitchhiking Strategies Using Advanced Tether Materials for Enhanced Deep Space Exploration*, Valentina Nasti, Giorgio Isoletta, Giancarmine Fasano, Michele Grassi
- 2) **418** - *A Power and Data Link Solution for a Satellite Capture Interface (ARRIVA da Sustainable Space: Logistics and Space Debris)*, Giovanni Buonconsiglio, Francesco Branz, Brook Durante, Marco Pertile, Orietta Lanciano, Alessandro Francesconi
- 3) **597** - *Multi-Mission Small Lander Design for Planetary Exploration*, Alice Dottori, Enrico Belloni, Francesco De Cecio, Fabrizio Maccari, Sabrina Lanfranco, Michèle Lavagna

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11:55-13:15 H-T1.7

- 1) **115** - *An Unsteady Lifting-Line Model for Rotors in Forward Flight*, Gregorio Frassoldati, Giovanni Bernardini, Massimo Gennaretti
- 2) **143** - *Investigation of Lift-Offset Effect on Performance and Vibratory Loads of a Rigid Coaxial Rotor* Jae-Hee Hwang, Su-Bin Lee, Jae-Sang Park
- 3) **242** - *Advanced Rotorcraft Analyses Using Variable-Kinematic Finite Elements in a Multibody Framework*, Matteo Filippi, Rodolfo Azzara, Erasmo Carrera
- 4) **707** - *From Strain Measurements to Rotor Blade Shape and Loads Reconstruction: The BeSaME Project*, Pierangelo Masarati, Luyiza Das, Emanuele Casciaro, Roman Sutov, Paolo Bettini, Alex Zanotti, Giovanni Bernardini, Francesco Liguori, Jacopo Serafini

2<sup>nd</sup> December 2025  
11:55-13:15 A-T1.7

- 1) **49** - *High-Lift Characteristics of Adaptive Dropped-Hinge Flaps Performing Longitudinal Oscillations*, Paloma García-Guillén, Christian Breitsamter
- 2) **474** - *Blockage Effects in Wind Tunnel Experiments of Turbulent Wakes: A Numerical Study*, Gianluca Porpora, Andrea Palumbo
- 3) **749** - *Numerical Simulations of Plasma Synthetic Jets Actuators*, Matteo Chiatto, Giuseppe Giaquinto, Antonio Colanera
- 4) **765** - *Improving Post-Stall Airfoil Performance Using Synthetic Jet-Based Flow Control*, Baris Gungordu

2<sup>nd</sup> December 2025  
11:55-13:15 C-T3.4

- 1) **218** - *Optimal Impedance for Acoustic Liners: From Cremer to Nonlocal Concepts*, Emanuele De Bono, Alessandro Casaburo, Giuseppe Petrone, Manuel Collet, Sergio De Rosa
- 2) **365** - *Labyrinthine Acoustic Metamaterials for Grazing Sound Waves*, Giuseppe Petrone, Alessandro Casaburo, Giuseppe Catapanè
- 3) **507** - *Numerical Assessment of Convective PGMs*, Giada Colombo, Umberto Iemma
- 4) **580** - *Numerical Vibro-Acoustic Characterization of Aerospace Structures Made of Miura-Ori Origami Metamaterial*, Vasilena Petrova Krалеva, Martino Carlo Moruzzi, Matteo Filippi, Maria Cinefra

2<sup>nd</sup> December 2025  
11:55-13:15 G-T1.7

- 1) **451** - *Numerical Modelling and Design of an Experimental Setup for a Helicon Plasma Thruster*, Francesco Felicioni, Giovanni Coppola, Francesco Battista, Mario Panelli, Manrico Fragiaco, Nabil Souhair, Fabrizio Ponti
- 2) **461** - *Prospective Life Cycle Assessment and Eco-Design Considerations for Autophagy Launchers: Case Study of the Combustible Fuselage*, Martin Gros
- 3) **501** - *Innovative Cooling Technology for In-Space Propulsion: A Review of Fundamentals, Modeling, and Applications*, Nicola Foletti
- 4) **509** - *Development and Characterization of Alternative, Environmentally Friendly Solid Propellants Based on Renewable Sugars and Low-Toxicity Oxidants for Aerospace Applications*, Gerardo Caballero Morales, Italo Paolo Ambrosio Huanay

2<sup>nd</sup> December 2025  
14:15-15:35 **B-T2.8**

- 1) **54** - *Enhancing the OODA Loop with AI*, Faran Hameed
- 2) **521** - *Automatic Generation of Ontology for Aircraft Maintenance Applications*, Rohin Majeti, Bhavana Raju, Florian Raddatz, Gerko Wende
- 3) **652** - *Budget Constrained Optimization of Aerospace Projects by Using Neural Network*, Verda Özge Afşar, Kerem Karahan, Umut Afşar
- 4) **688** - *The Role of AI in Aerospace Sustainability: A Review of Current Trends and Future Prospects*, Oluwarantimi Bukola, Blossom Oton, Daniel Oladepo, Iyanuoluwa Omidiji, Samuel Oyefusi, Olasunkanmi Oladejo, Taiye Akinlabi

2<sup>nd</sup> December 2025  
14:15-15:35 **B-T1.8**

- 1) **286** - *An Extensible Drone Framework for In-Flow Disturbance Analysis*, Benedetta Novelli, Alessandro Trotta, Diego Pennino, Stefano Meloni
- 2) **336** - *A Novel Approach to Quantifying Counter-Drone System Effectiveness Against UAS Swarms*, Dani Hotters, Felix Kuhnert, Nikolaos Kalliatakis
- 3) **709** - *A Simulation-Coupled Concurrent Engineering Approach to Next-Generation Low-Cost Counter-UAV Missiles*, Vincenzo Junior Di Rosa, Francesco Gasperini, Matteo Giannitti, Michele Guida, Emanuele Cofani, Simone Gubbioni

2<sup>nd</sup> December 2025  
14:15-15:35 **E-T1.8**

- 1) **266** - *Galileo Space Service Volume Analysis for Earth Orbit Rising Missions*, Andrea Piccolo, Francesco Menzione
- 2) **434** - *ELECTRA Mission: Ionospheric TEC Mapping through a 3U CubeSat*, Francesco Fiorina, Serena Campioli, Alvise Franceschini, Chiara My, Milena Perduca, Marco Fantone, Andrea Managheddu, Mattia Li Vigni, Philip List, Enrico Pittatore, Luca Niero, Alessio Taretto, Ernesto Belluardo, Marco Grisolia, Giorgio Abbate, Sabrina Corpino
- 3) **508** - *Improving GNSS Positioning Accuracy through Adaptive Weighting and Multipath Isolation*, Sebastiano Chiodini, Andrea Valmorbida, Giovanni Anese, Marco Pertile, Giada Giorgi, Claudio Narduzzi, Bortolino Saggin
- 4) **643** - *Exploiting Terrestrial GNSS in the Earth-Moon Space Volume*, Giovanni Palmerini

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14:15-15:35 **C-T1.8**

- 1) **252** - *Integration of 3D Scanning Technologies in the Inspection of Complex Aerospace Laser Microdrilled Titanium Skin for Hybrid Laminar Flow Control Wing Demonstrator*, Ionut-Ovidiu Brinza, Stefan Palas, Teodor Lucian Grigorie, Grigore Cican
- 2) **296** - *Folding Simulation of Flat Arrays Using Refined Beam Finite Elements*, Riccardo Augello, Erasmo Carrera
- 3) **479** - *Expanding the view. New Frontiers in Space Window Technology and Applications*, Lynda Estes, Laura Galuppi, Sydney Taylor, Gianni Royer-Carfagni

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14:15-15:35 C-T2.8

- 1) **99** - *Machine Learning Approaches for Post-Buckling Analysis in Thin-Walled Aerospace Structural Elements*, Ernesto Monaco, Andrea Larenza, Emanuele Palomba
- 2) **261** - *Ultra-High Resolution Optical Fiber Sensing for Smart Composite Spacecraft Structures: Toward Intelligent Space Systems*, A.E.S. Nosseir, Angelo Cervone, Emanuele Alberto Slejko, Swen Zaremba, Elisabeth Gleis, Fabrizio Di Pasquale, Claudio J. Oton, Tommaso Andreussi
- 3) **338** - *Toward Vibration-Based Damage Detection: Nonlinear Modal Damping Estimation in Delaminated Structures*, Shabnam Kiasat, Ali Salehzadeh Nobari, Matteo Filippi, Erasmo Carrera
- 4) **768** - *Active Vibration Control of a Beam with Offset Piezoelectric Stack Actuators Using  $H_{\infty}$* , Muhammad Faisal Nadeem

2<sup>nd</sup> December 2025  
14:15-15:35 D-T1.8

- 1) **5** - *Experimental study of mean flow characteristics of swirling jets*, SM Mehady Hasan
- 2) **7** - *Experimental Studies on Performance Evaluation of an Axial Flow Gas Turbine Using Diesel-Jet Oil Fuel Blends*, Sumit Tripathi, Sodha Pujan, Dhaval Maru
- 3) **139** - *Offset Strip-Fin vs. Novel Impingement Heat Exchangers for Megawatt SOFCs Powering Electric Aircraft Propulsion*, Sahil Bhapkar
- 4) **191** - *Plasma-Enhanced Flame Stabilization in Hydrogen-Based Swirl Combustion: The Role of Swirl Angle*, Maria Grazia De Giorgi, Pasquale Di Gloria, Sara Bonuso, Ekin Can Karasu

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14:15-15:35 D-T2.8

- 1) **10** - *Prediction of Approaching Aircraft Touchdown Speed Based on CNN-BiLSTM-Attention*, Yicheng Zhang, Gao Peng
- 2) **240** - *Validation of the Flight Centric ATC Concept in Spanish Upper Airspace: Strategic and Operational Insights*, Eva Puntero Parla, Ana Vidaller Guillén, Daniel Gómez López, Danlin Zheng Zhang, Juan Antonio López, Fernando Ruiz-Artaza, Samuel Martín Ortega, Ángela Abad Gracia
- 3) **300** - *Analysis of the Wake Vortex Encounter Risk under Reduced Vertical Separation Enabled by Geometric Altimetry*, Tobias Bauer, André Koloschin

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14:15-15:35 F-T1.8

- 1) **248** - *Digital Twin of a Thermal Vacuum Chamber Test Facility*, Roberto Scigliano, Roberta Fusaro, Vincenzo Quaranta, Paolo Tropini
- 2) **426** - *Modeling of Spinning Plates: Geometric Stiffening and Modal Approximation for GNC Applications*, Umberto Zucchelli, Irene Valles Sánchez, Francesco Sanfedino
- 3) **537** - *A Compensation Strategy for Cases of Divergence in Angle of Arrival Measurements Due to Satellite Attitude*, Marcello Ascioffa, Angela Cratere, Francesco Dell'Olio
- 4) **442** - *The REALISE2 Robotic Framework for On-Orbit Assembly of Large Structures: Toward Next-Generation Space Infrastructure*, Ahmed E.S. Nosseir, Paolo Gallina, Nicola Scuor, Sergio Carrato, Chiara Battistelli, Simone Cottiga, Stefano Seriani

2<sup>nd</sup> December 2025  
14:15-15:35 **H-T1.8**

- 1) **95** - *Development of Adaptive Pilot Model for eVTOL Handling Quality Study*, Wenbing Shi, Linghai Lu, Anderson Proenca, Mike Jump
- 2) **676** - *U-STOL Undriven Tilt Rotors Twinjet*, Paul Lederman
- 3) **720** - *Conceptual Research on a European Rotorcraft for Passenger and Cargo Transportation in Future Mars Missions*, Jakub Kocjan, Robert Rogolski

2<sup>nd</sup> December 2025  
14:15-15:35 **A-T1.8**

- 1) **34** - *Quantitative Assessment of the Magnus-Induced Lift in Laminar Flow Past a Rotating Cylinder*, SM Mehady Hasan
- 2) **100** - *A Comparative Study of Flow-Induced Vibrations by Circular and Polygonal Cylinders Using Lattice Boltzmann and Immersed Boundary Methods*, Alessandro Trotta, Esmaeel Masoudi, Stefano Meloni, Mahdi Azarpeyvand, Djamel Rezgui, Andrea Luigi Facci, Stefano Ubertini
- 3) **279** - *Lattice Boltzmann Simulations of Unsteady Wall Pressure Load Induced by a Cylinder on Fixed and Vibrating Lamina at Different Reynolds Numbers*, Alessandro Trotta, Stefano Meloni, Andrea Facci, Roberto Camussi, Carlo Aquilini, Stefano Ubertini
- 4) **332** - *Lattice Boltzmann Method for Accurate Simulation of Turbulent Vortex Flows*, Davide Galbiati, Anirudh Jonnalagadda, Giuseppe Quaranta

2<sup>nd</sup> December 2025  
14:15-15:35 **C-T3.5**

- 1) **409** - *Monitoring System for Small RC Airplane: Impact Recognition through Artificial Intelligence*, Francesco Nicassio, Flavio Dipietrangelo, Gennaro Scarselli
- 2) **436** - *Smart Composite for Structural Health Monitoring: Using Copper Wires for Strain Sensing*, Antonio Fontanella, Matteo Febo, Ester D'Accardi, Davide Palumbo, Umberto Galiatti, Francesco Ciampa, Maria Cinefra
- 3) **520** - *Experimental Vibro-Acoustic Characterization of Aerospace Structures Made of Miura-Ori Origami Metamaterial*, Vasilena Petrova Kraveva, Martino Moruzzi, Giuseppe Petrone, Maria Cinefra

2<sup>nd</sup> December 2025  
14:15-15:35 **G-T1.8**

- 1) **603** - *Analysing the Eco-Design Approach for Innovative In-Space Propulsion Systems*, Daniele Ferrara, Michele Trovato, Michele Amicarelli, Angelo Minotti, Antonio Casimiro Caputo, Paolo Cicconi
- 2) **633** - *Assessment of the Propulsive Performance of a 10N-Class Hydrogen Peroxide-Based Hybrid Thruster under Varying Injection Conditions*, Riccardo Guida, Sergio Cassese, Stefano Mungiguerra, Raffaele Savino
- 3) **695** - *The GREEN FOXFIRE Project: Sustainable Hybrid Propulsion for CubeSats Based on Paraffin/HTPB and Nitrous Oxide*, Daniele Tortorici, Sasi Kiran Palateerdham, Antonella Ingenito, Daniele Piazzullo, Alessandro Montanaro, Luigi Allocca
- 4) **746** - *H-IMP: National Infrastructure for the Development of Space Propulsion with Advanced Diagnostic Systems LOX/LCH4*, Federico De Filippis

2<sup>nd</sup> December 2025  
15:55-17:15 **B-T2.9**

- 1) **36** - *Single Controller For Multiple Aircraft by Modular Deep Reinforcement Learning*, Fatih Sarigul, Ismail Bayezit
- 2) **259** - *Perception Aware Quadrotor Control: An Experimental Evaluation*, Lidia Perez, Alessandro Nazzari, Roberto Rubinacci, Davide Invernizzi
- 3) **549** - *AI-Based Aircraft Wake Vortex Detection and Prediction for Vertiports*, Anton Stephan

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15:55-17:15 **B-T1.9**

- 1) **340** - *Comprehensive Modelling for Electric Machine Sizing and Performance Estimation in Aerospace Applications Enhancing Static and Dynamic Simulation*, Victor Bahrs, Katharina Kolo, Stefanie de Graaf
- 2) **576** - *Enabling Aerospace Electrification by Means of Scale-Resolved Battery Simulation*, Max Okrashevski
- 3) **585** - *The Crucial Role of Experimental Testing in IP-GNC Technology Development: The POLIMI-ARGOS Facility*, Lucia Bianchi, Andrea Brandonisio, Massimiliano Bussolino, Samuele Giuseppe Labò, Giovanni Pio Parracino, Stefano Silvestrini, Michèle Lavagna

2<sup>nd</sup> December 2025  
15:55-17:15 **E-T1.9**

- 1) **351** - *Reconfiguration and Optimization of Lunar Navigation Satellite Constellation Targeting South Hemisphere*, Shuo Yang, Rui Zhong, Franco Bernelli
- 2) **471** - *Precise Orbit Determination of Satellites with Low-Cost, Single Frequency Receivers in raPPPId*, Ho-or Bano, Marcus Franz Wareyka-Glaner, Gregor Möller
- 3) **589** - *GNSS-Like One Way Ranging for On-Board Relative Navigation in Spacecraft Formation Flying Scenarios*, Francesco De Cecio, Giorgia Cirilli, Enrico Belloni, Michèle Lavagna

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15:55-17:15 **C-T1.9**

- 1) **134** - *Cross-Correlation and Tangential Interpolation for Propeller-Driven Vibration Testing of Aircraft Wings*, Gabriele Dessena, Alessandro Pontillo
- 2) **177** - *Whirl Flutter: An Experimental, Numerical, and Analytical Study on a Small-Scale Demonstrator*, Giusi Magliocco, Michele Guida, Francesco Marulo, Giovanni Marulo
- 3) **214** - *CFD and CSD Model Development towards Aeroelastic Simulation of Helicopter Rotor Blades*, Weixing Yuan, Amar Fayyad K. Akberali, Devon Downes, Mahmoud Mamou, Guillaume Renaud, Yong Chen, Mojtaba Kheiri, Dominique Poirel, Brian Vermeire, Marc Alexander
- 4) **381** - *Design and Experimental Validation of a Damping Augmentation Controller via a Destabilizing/Stabilizing Approach*, Boris Micheli, Robin Volkmar, Keith Soal, Martin Tang, Marc Boeswald

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15:55-17:15 C-T2.9

- 1) **2** - *Numerical and Experimental Validation of Multifunctional Sandwich Composites for Micro-Debris Impact Detection and Localisation (ARRIVA da Sustainable Space)*, Matteo Febo, Maria Cinefra, Umberto Galietti, Ester D'Accardi, Davide Palumbo, Francesco Ciampa
- 2) **86** - *Experimental and Operational Modal Analysis Supported by Digital Image Correlation: Dynamic Characterization on Representative Aerospace Structures*, Lorenzo Esposito, Nicola Russo, Ernesto Monaco, Gaetano Esposito, Biagio De Maio, Salvatore Di Cristofaro
- 3) **271** - *Damage Localization Accuracy in Probabilistic Imaging Techniques Based on Guided Ultrasonic Waves*, Francesco Gasperini, Vittorio Memmolo, Fabrizio Ricci
- 4) **559** - *Ice Detection in Composite Structures Using Ultrasonic Guided Wave Scattering*, Mohamed Ashraf Hefnawy, Fabrizio Ricci, Vittorio Memmolo, Leandro Maio

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15:55-17:15 D-T1.9

- 1) **93** - *Multi Objective Off-Design Mission Optimization for a Three Sources Hybrid-Electric Aircraft*, Giuseppe Grazioso, Fabrizio Nicolosi
- 2) **395** - *Analysis of Sustainability Initiatives and Opportunities in Aircraft Engine Manufacturing for a Greener Aviation Future*, Abdelrahman Alzarooni, Alessandro Gardi, Ehtesham Iqbal, Yusra Abdulrahman
- 3) **519** - *Development of a Framework for Integration and Performance Analysis of Novel Engines*, Saeed Hosseini, Elyas Lekzian
- 4) **686** - *Sustainable Propulsion Systems — A Comparative Framework for Hydrogen–Hybrid and SAF Pathways*, Khanim Azimova

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15:55-17:15 D-T2.9

- 1) **621** - *Advanced Ground Handling Automation for Unmanned Aircraft Using Disturbance Rejection Control Techniques*, Albert Zajdel
- 2) **651** - *Shuttle Drone Control with Airflow Disturbance Compensation for Cooperative Target Capture*, António Costa, Bruno Guerreiro

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15:55-17:15 F-T1.9

- 1) **283** - *A Parametric and Configurable Framework for the Early Design of Pressurized Lunar Surface Vehicles*, Karim Abu Salem, Giuseppe Palaia, Alfonso Pagani, Marco Petrolo, Erasmo Carrera
- 2) **292** - *A Holistic Engineering Approach for Lunar Pressurized Vehicles*, Alfonso Pagani, Marco Petrolo, Karim Abu Salem, Giuseppe Palaia, Chiara Franceschini, Erasmo Carrera, Andrea Merlo, Lucia Grizzaffi
- 3) **452** - *Multidisciplinary Design and Optimization of Suborbital Transatmospheric Vehicles*, Pierluigi Della Vecchia, Luca Falcone, Agostino De Marco, Fabrizio Nicolosi, Michele Capasso, Giulio Avanzini, Mario Di Renzo, Donatella Passiatore, Danilo Zona
- 4) **534** - *Toward Human-Centric Space System Architectures: Transferring CE-MBSE Knowledge from Spacecraft to Human Spaceflight Design*, Alessio Taretto, Serena Campioli, Giacomo Luccisano, Carlotta Deiana, Sabrina Corpino

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15:55-17:15 H-T1.9

- 1) **12** - *Contrails-Free Air Traffic: A Review of the Status-Quo in Front of Second World War*, Armin Litz
- 2) **50** - *CFD-Based Estimation of Added-Mass and Aerodynamic Derivatives in Heave Motion for a Hybrid Closed-Wing HAPS*, Eleonora Riccio, Alessandro Ceresa, Vincenzo Rosario Baraniello, Giuseppe Persechino, Francesco Tufano, Domenico Coiro
- 3) **384** - *Analysis of Key Factors Affecting High-Altitude Missions of the Solar-Electric Aircraft HAP-Alpha at Different Potential Launch Sites*, Andreas Bierig, Florian Nikodem, Daniel Rothe

2<sup>nd</sup> December 2025  
15:55-17:15 A-T1.9

- 1) **37** - *High-Fidelity Simulation of Transonic LPT Flows: Comparative Analysis of DNS and LES Approaches*, Francesco Mario D'Afiero, Luca De Vincentiis, Matteo Giovannini, Filippo Rubechini, Mihai Mihaescu, Ardeshir Hanifi, Monica Gily, Francesco Bertini
- 2) **61** - *Comparison of Low- and High-Fidelity Simulations for a Transonic Low-Pressure Turbine Airfoil* Luca De Vincentiis, Matteo Giovannini, Filippo Rubechini, Monica Gily, Francesco Bertini
- 3) **168** - *Towards Virtual Testing of Transonic LPTs: LES Validation on the SPLEEN Cascade*, Simone Paccati, Matteo Giovannini, Filippo Rubechini, Sergio Lavagnoli, Francesco Bertini
- 4) **553** - *The Impact of Staggered Fins on Aerodynamic Drag of a Transonic Sounding Rocket*, Jakub Jankiewicz, Manfred Gawlas, Urszula Wasilewska

2<sup>nd</sup> December 2025  
15:55-17:15 C-T3.6

- 1) **63** - *Functionally Graded TPMS Structures for Boundary Layer Suction on a Swept Wing*, Jan Kube, Lajos Fohlmeister, Rolf Radespiel, Christian Hühne
- 2) **600** - *Green Composites in Aerospace: The Potential of Plant-Based Fibers in Lightweight Structures* Maciej Liwoch
- 3) **662** - *Maintaining Multistability in Cured Shapes of Series Connected Unsymmetrical Laminates with Clamped Edges*, P.R. Manu, B.N. Rao, P.M. Anilkumar
- 4) **692** - *Tunable Elastic Metamaterials for Magnetically Controlled Vibration Mitigation*, Alok Tiwari

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15:55-17:15 C-T3.7

- 1) **361** - *Manufacturing Aspects and Preliminary Test Results Relatively to a Composite Liquid Hydrogen Conformable Tank (Type V) for Aeronautical Application*, Leonardo Lecce, Antonio Sollo, Raffaele Acierno
- 2) **387** - *Sustainable Surface Preparation for Adhesively Bonded Fasteners in Aerospace Composites*, Adem Can Uşak
- 3) **779** - *Development of a Turboprop Engine Gas Generator Turbine with Significantly Improved Key Parameters*, Grzegorz Karpinski, Krzysztof Klimek

3<sup>rd</sup> December 2025  
10:35-11:55 **H-T1.10**

- 1) **485** – *Reinforcement Learning-Based Bezier Airship Hull Optimization: A Data-Driven Framework for Shape Adaptation Under Aerodynamic Constraints*, Qian Zhao, Carlo Riboldi
- 2) **503** – *Assessing the technical-economic feasibility of unmanned airships: methodology and case-studies*, Carlo Emanuele Dionigi Riboldi, Luca Fanchini
- 3) **556** – *Identification of airship aerodynamic models from flight data: preliminary investigation and identifiability analysis*, Carlo Emanuele Dionigi Riboldi, Stefano Cacciola, Yan Pozhanka, Mostafa Hassanalian
- 4) **715** – *An Integrated Approach for the Design and Analysis of Long-Endurance High-Altitude Airships*  
Mohammad Irfan Alam

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10:35-11:55 **E-T1.10**

- 1) **305** – *Nonlinear Simulation of Aircraft Terminal Maneuvers Including Gear Dynamics and Ground Effect*, Stefano Cacciola, Andrea Calabria
- 2) **488** – *Streamlining European Launch Operations: A High-Fidelity Approach to Flight Safety*, Federico Toso
- 3) **584** – *Another F-16 simulation? A user-friendly Julia, MATLAB, and Simulink flight simulation package suitable for undergraduate teaching*, Duc Nguyen, Mark Lowenberg
- 4) **667** – *Modelling and simulations of a low aspect ratio UAV in gliding.*, Marcin Figat, Agnieszka Kwiek, Łukasz Kiskowskiak, Tomasz Goetzendorf-Grabowski, Katarzyna Kania, Adam Dziubiński

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10:35-11:55 **B-T2.10**

- 1) **356** – *ML-based Algorithm for Streak Detection in Astronomical Images*, Pasquale Bencivenga, Lorenzo Ostrogovich, Giorgio Isoletta, Roberto Opromolla, Giancarmine Fasano
- 2) **424** – *Crater detection by a neuromorphic camera in lunar landing scenarios*, Luca Ostrogovich, Ileana Piscitelli, Roberto Del Prete, Alfredo Renga
- 3) **542** – *CNN-Based Crater Detection for Vision-Based Absolute Navigation in Lunar Landing*, Giovanni Parracino, Michele Ceresoli, Stefano Silvestrini, Michèle Lavagna
- 4) **649** – *A Deep Learning Model for Detecting and Monitoring Fine-Scale Mangroves Using Very High-Resolution Remote Sensing Imagery Along Saudi Arabian Coast of the West Arabian Gulf*, Muhammad Usman

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10:35-11:55 **B-T1.10**

- 1) **210** – *Advances in Battery Cell Technology and Model-Based State Estimation for Spacecraft Power Systems*, Marius Eilenberger
- 2) **227** – *A Study on Prediction of Atomic Oxygen Fluence Changes Caused by Operating Altitude Changes of Small Satellite Using Machine Learning Technique (Long-Short Term Memory)*, Yougwang Kim, Changho Lim, Eungsik Park, Heekwang Eun, Yunkyong Hyon
- 3) **247** – *Hardware-in-the-Loop Implementation of a Fixed-Point Controller for Boresight Stabilization of Magnetorquer-Only Satellites*, Emre Sayin, Stefano Carletta, Fabio Celani
- 4) **497** – *GosPIC: A Particle-In-Cell Code for Simulating Plasma Behaviour in Ion Thruster Optics*, Annarita Manzo, Mario Panelli, Francesco Battista

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10:35-11:55 C-T1.10

- 1) **22** – *Free vibrations of variable stiffness cylindrical shells with cutouts by a single-domain Ritz formulation*, Alberto Milazzo
- 2) **595** – *Nonlinear Analysis of Stiffened Wing Panels Using CUF Models: Enabling High-Fidelity Stress Prediction for Aeroelastic Optimization with Nonlinear Structural Stability Constraints*, Francesco Mario Antonio Mitrotta, Maria Cinefra, Rauno Cavallaro
- 3) **721** – *Nonlinear Dynamics of Highly Flexible Aeroelastic Wings Using Nonlinear Reduced Order Models*, Declan Clifford, Andrea Da Ronch
- 4) **750** – *Strain Rate Dependent Impact Response of Composite Panels with Spatially Varying Fibre Distributions*, Aayush Gupta, Abdul Sadiq, Dipak Kumar Maiti

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10:35-11:55 C-T2.10

- 1) **102** – *Global-Local Optimization of Composite Structures Using Unified High-Order Finite Element Models*, Alex Prado, Dario Zamani, Alfonso Pagani, Erasmo Carrera, Saullo Castro, Roeland De Breuker, Pedro Cabral
- 2) **435** – *An iterative global/local analysis with direct differentiation for composite applications*, Paolo Minigher, Albertino Arteiro, Albert Turon, Ludovic Barriere, Pedro Camanho
- 3) **645** – *Multi-Scale Evaluation of the Hydroplastic Effect on Mechanical Properties of Woven Hemp/Epoxy Composites*, Qinyu Li
- 4) **663** – *Multiscale Optimization of Composite Wings Through Global-Local High-Order Modeling*, Spyridon Kilimtzidis, Dario Zamani, Giuseppe Palaia, Karim Abu Salem, Alfonso Pagani, Vassilis Kostopoulos, Spyridon Psarras

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10:35-11:55 A-T1.10

- 1) **491** – *Effects of the Wall Temperature on a Hypersonic Transitional Boundary Layer*, Marco Fratini, Matteo Bernardini
- 2) **590** – *Numerical Simulation of Wall-Bounded Flows with Thermally Perfect Gases*, Alessandro Aiello, Andrea Palumbo, Gennaro Coppola
- 3) **724** – *Compressible Turbulent Boundary Layers Over Prism-Shaped Roughness: Simulation and Modeling*, Davide Depieri, Michele Cogo, Davide Modesti, Matteo Bernardini, Francesco Picano

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10:35-11:55 D-T1.10

- 1) **433** – *Numerical Investigation of a Rotating Detonation Engine*, Francesco Bonelli, Davide Milia, Davide Ninni, Giuseppe Pascazio, Davide Laera
- 2) **499** – *Optimization of Aircraft Propellers with Off-Design Constraints*, Simao Marques, John Doherty, Zeke McKee, Peter Wong, Martin Doherty, Kevin Hackett, David Philpott
- 3) **620** – *Effect of Frequency and Pressure on Pulsed Injection Vectoring Efficiency on a Mach 1.60 Supersonic Nozzle Jet*, Ayushmaan Singh, S. Raghuram, Arun Kumar Perumal
- 4) **650** – *Boundary Layer Ingestion (BLI) for Sustainable Propulsion: Aerodynamic Efficiency, Challenges, and Future Application*, Oluwarantimi Bukola, Samuel Gboyinde, Samuel Oyefusi, Immanuel Ulinfun, Aanuoluwapo Ojewunmi, Blossom Oton, Iyanuoluwa Omidiji

3<sup>rd</sup> December 2025  
10:35-11:55 **F-T1.10**

- 1) **21** – *Remote sensing use in insurance companies to manage natural disasters policies – IRIDE constellation case study*, Giuseppe Di Bella, Ludovica Locatelli, Franco Bernelli Zazzera
- 2) **180** – *Classification of Man-Made Targets in PLATiNO-1 Bistatic SAR Mission: Algorithm Definition and Validation*, Antimo Verde, Alfredo Renga, Antonio Gigantino, Giovanni Paolo Blasone, Simona Zoffoli, Deodato Tapete
- 3) **605** – *Concept and Feasibility Analysis of a Microsatellite Constellation for National Reconnaissance and Disaster Management*, Giovanni Pitacco, Alberto Ramon, Alessandro Vignato, Alberto Carasi, Gabriel Chiodega, Davide Conte, Siria Finizio, Gianluca Fiorino, Miriana Lucchini, Antonio Nicolino, Silvio Polito, Antonio Ricci, Alessandro Rossi, Davide Tonelli, Matteo Zanin, Stefano Lopresti, Delia Visconi, Carlo Bettanini, Lorenzo Olivieri
- 4) **634** – *Design of Responsive Space-Based Observation Systems with Integrated Collision Risk Consideration*, Yifan Cai, Camilla Colombo

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10:35-11:55 **D-T2.10**

- 1) **MOST Observatory IOSCA - Italian Observatory on Sustainable Civil Aviation**, Giorgio Guglieri, Fabrizio Meroni
- 2) **202** – *Combined Airfoil Shape and Active Flow Control Optimization Through Deep Reinforcement Learning*, Piergiorgio Scavella, Gerardo Paolillo, Carlo Salvatore Greco, Gennaro Cardone
- 3) **238** – *Optimal Sizing of Battery-Powered Helicopters for Advanced Aerial Mobility and Delivery Applications*, Emanuele De Angelis, Elia Costantini, Daniele Fattizzo, Fabrizio Giulietti, Mattia Gulmanelli, Giulio Avanzini

3<sup>rd</sup> December 2025  
11:55-13:15 **E-T1.11**

- 1) **224** – *Flight Dynamics and Control Challenges of Hypersonic Glide Vehicles: A Case Study on the GHGV-2*, Johannes Autenrieb, Patrick Gruhn
- 2) **462** – *Stability Analysis of a Light UAV with Solar Propulsion*, Tomasz Goetzendorf-Grabowski, Cezary Galiński
- 3) **664** – *Static and Dynamic Derivatives Estimation of an Image Guided Rocket Using Computational Fluid Dynamics*, Karol Bielaszka, Radosław Kamiński, Olgierd Skromak
- 4) **657** – *Fluid-Motion Interactions Simulations of the Hayabusa Sample Return Capsule in Subsonic Flow*, Yuki Takeda

3<sup>rd</sup> December 2025  
11:55-13:15 **B-T2.11**

- 1) **160** – *Determining the Probability of In-Flight Glaze Ice Using the Aerodynamic Performance Degradation of Wings Through Supervised Machine Learning Classification*, Carlos Neves, Ilaria Savoldi, Pietro Congedo, Enora Denimal Goy, Alberto Guardone, Francesco Caccia
- 2) **165** – *Physics-Informed Neural Network for Erosion-Driven Attitude and Surface Morphology Change Perturbations in LEO Satellite*, Salvatore Rea, Michele Guida
- 3) **229** – *Tuning Machine Learning Outcomes for Airfoil Aerodynamics: Seed Sensitivity in Predictive Performance*, Diana-Andreea Sterpu, Daniel Măriuța, Grigore Cican, Ciprian-Marius Larco, Lucian-Teodor Grigorie
- 4) **538** – *Image Segmentation for Leading Edge Experiments of Rocket Fins in an Arc-Heated Wind Tunnel*, Oliver Assenmacher, Oliver Hohn, Alexander Rüttgers

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11:55-13:15 B-T1.11

- 1) **269** – *A Grain-Scale Model for Polycrystalline Cracking Under Thermo-Mechanical Loading*, Dario Campagna, Vincenzo Gulizzi, Alberto Milazzo, Ivano Benedetti
- 2) **299** – *Multiscale–Multiphysics Analysis of Wing-Integrated Heat Exchangers for Sustainable Aircraft* Girindra Ramgobin
- 3) **319** – *Towards the Development of Bird Strike Simulation Models for Hybrid Electric Regional Aircraft Wing Structures*, Theodora Tsiourva, George Lampeas, Ioannis Diamantakos, Vasiliki Roumelioti
- 4) **568** – *The Risk of Adopting Low-Fidelity Models in Early Design: The Case of Re-Entry Vehicles Design*, Francesco Di Fiore, Livia Trambaiolo, Laura Mainini

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11:55-13:15 C-T1.11

- 1) **383** – *Active Flutter Suppression in Transonic Flow Based on Linearized RANS CFD*, Boris Micheli, David Quero, Christoph Kaiser
- 2) **481** – *On the Characteristics and Measurement of Non-Oscillatory Aeroelastic Modes*, Francesco Sacchi, Fintan Healy, Djamel Rezgoui, Jonathan Cooper
- 3) **524** – *Aeroelastic Investigation of a Regional Aircraft Configuration with Distributed Propulsion and Wing-Integrated Batteries*, Tobias Hecken, Matthias Schulze, Thomas Klimmek, Georgi Atanasov
- 4) **540** – *Comparison of Time Marching and Harmonic-Balance Methods for Flutter Onset Prediction*, Murat Kurnaz, Dilan Kilic, Melike Nikbay

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11:55-13:15 C-T2.11

- 1) **13** – *Development of the Advanced Turboprop Engine Power Turbine Containing 3D Printed Hardware*, Michał Hetlof, Blażej Czajka
- 2) **109** – *An Investigation Into the Applicability of Lattice Structures in Aircraft Stiffened Panels*, Naim Mahmud Rahad
- 3) **203** – *A Simplified Modeling Strategy for the Analysis of Lattice Structures With Manufacturing Defects*, Davide Cappa, Riccardo Vescovini
- 4) **209** – *Innovation in Structural Design: When Generative Design Meets Additive Manufacturing*, Raffaele Conte, Benedetto Gambino

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11:55-13:15 A-T1.11

- 1) **79** – *Non-Equilibrium Thermochemical Models for the Characterization of Titan Atmospheric Entry Under Hypersonic Conditions*, Antonio Narracci, Francesco Bonelli, Davide Ninni, Gianpiero Colonna, Annarita Laricchiuta, Giuseppe Pascazio
- 2) **181** – *Study of Aerodynamic Characteristics and Turbulence Effects on Low Reynolds Number and High-Lift Airfoils in Martian Atmosphere*, Absar Khan
- 3) **539** – *Ground Effect on Thrust-Lift Conversion in a Fixed-Wing Martian Vertical Take-Off and Landing UAS*, Wei Han, Manuel Carreño Ruiz, Domenic D'Ambrosio

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11:55-13:15 **D-T1.11**

- 1) **58** – *Operational Envelope of an EAD Thruster Under Varying Pressure and Electrode Gap*, Davide Uselli
- 2) **74** – *Impact of the Fuel Cell Propulsion System Design on Performance, Durability, and Environmental Impact for Advanced Air Mobility*, Ricardo Novella Rosa, Josep Gómez Soriano, Marcos López Juárez, Daniel Velasco Pérez
- 3) **78** – *Advanced Mesh Grid Geometries for EAD Thrusters: An Experimental Approach*, Stefano Trovato
- 4) **198** – *Electric-Powered Helicopters: From Concept to Feasibility*, Elif Hazal Çelikcan, Ahmad Hammad, Michail Tsagkaris

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11:55-13:15 **F-T1.11**

- 1) **322** – *A New ECSS Standard: ECSS-I, a Structured Industrialization, Production, and Maintenance Processes for Space Projects*, Anastasia Pesce
- 2) **758** – *Legal Consequences of the Classification of Space Assets as Critical Infrastructure*, Denitza Petrounova
- 3) **763** – *The Legal Conundrum of Mega-Constellations: A Call for a Sustainable Space Governance Framework*, Margherita Penna

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11:55-13:15 **D-T2.11**

- 1) **388** – *Estimation of Low-Speed Aerodynamic and Control Stability Derivatives for eVTOLs Using a Mid-Fidelity Solver*, Agata Rylko, Alessandro Cocco, Giuseppe Quaranta
- 2) **469** – *Urban Air Mobility: Trends and Economic Perspective in Europe and Italy*, Gabriele Lecis, Leonardo Corbo, Francesca De Crescenzo, Millene Gomes Araujo
- 3) **473** – *Propeller Aerodynamics Under Non-Uniform Inflows*, Sara Montagner, Manuel Zannone, Jacopo Serpieri, Gioacchino Cafiero
- 4) **493** – *Scaled Flight Tests Multipurpose Model Design*, Pierluigi Della Vecchia

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14:15-15:35 **E-T1.12**

- 1) **84** – *Towards Cooperative Guidance in Air-Defense: Extending Weapon-Target Assignment Into the Mid-Course Phase*, Ole Ostermann, Johannes Autenrieb, Carsten Schwarz
- 2) **219** – *Simulations of a Return Trajectory of the Rocket Plane Dedicated to Suborbital Tourist Flights*, Agnieszka Kwiek, Marcin Figat, Katarzyna Kania
- 3) **290** – *Learning-Based Quadrotor Tracking Control Using Recursive Gaussian Processes*, Alessandro Lupatini, Giovanni Gozzini, Alessandro Nazzari, Roberto Rubinacci, Marco Lovera
- 4) **364** – *Lidar-Based Active Gust Load Alleviation Control: A UV-Doppler-Wind-Lidar System Optimized for Airborne Functional Validation*, Patrick Vrancken

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14:15-15:35 **B-T2.12**

- 1) **773** – *Evaluating the Structural Integrity of Gas Turbine Components*, Chris Bennett, James Rouse
- 2) **201** – *Environmental Qualification Testing of AlbaCubeSat STM Model*, Stefano Lopresti, Samuele Enzo, Pietro Boscariol, Andrea Grignaschi, Alessandro Francesconi

- 3) **211** – *Multiaxial Mission Synthesis Approach for Durability Testing of Aerospace Components*, Alberto Garcia de Miguel, Umberto Musella, Ruben Araujo, Mattia Dal Borgo, Emilio Di Lorenzo
- 4) **282** – *Quasistatic Loads Verifier System for Small Masses*, Edgardo Roggero, Juan Sellanes, Gabriel Reinoso, Ignacio Capparelli, Gabriel Cataldo, Sergio Lingeri, Facundo Leanes, Juan Frontera

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14:15-15:35 **B-T1.12**

- 1) **366** – *Communication Architectures for System of Systems Engineering*, Jorge Lovaco, Raghu Chaitanya Munjulury, Karl Zuber, Petter Krus
- 2) **380** – *Evaluation of Gas Turbine Control Strategies for a Multi-Point Gas Turbine Diagnostic Approach for Single Engine Aircraft*, Mikael Stenfelt, Konstantinos Kyprianidis
- 3) **448** – *iPID-Based Robust Control for Precise Hover of a Hummingbird-Inspired Flapping Wing Vehicle*, Huanan Qi, Mario Bosnar, Marko Kasalo, Liang Ding, Pierangelo Masarati, Zdravko Terze
- 4) **486** – *A Modular AOCS Simulator for the 3U CubeSat ELECTRA: Modeling CubeSat Propulsion Demonstrations*, Luca Niero, Fabrizio Stesina, Serena Campioli, Valentina Rotti, Leonardo Scotti, Francesco Riccardi, Tiziano Scimone, Gaetano De Nichilo, Nicolas Skrijelj, Lazzaro Francesco Sangiovanni, Sabrina Corpino

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14:15-15:35 **C-T1.12**

- 1) **28** – *Wavenumber-Based Reconstruction Method for the Vibroacoustic Response of Plates Under Distorted Similitude*, Alessandro Casaburo, Giuseppe Petrone, Francesco Franco, Sergio De Rosa
- 2) **399** – *Modelling the Correlation Function of Wall Pressure Fluctuations Under Turbulent Boundary Layers With Machine Learning Methods*, Marika Di Meo, Alessandro Casaburo, Arthur Diniz Flor Torquato Fernandes, Francesco Franco
- 3) **722** – *Second-Order Stability-Preserving Balanced Reduction Methods of Structural Models*, Tommaso Robbiani, Lorenzo Dozio
- 4) **766** – *A Study on the Effect of Type of Elastic Foundation on Bandgap Behavior Resulted From Biaxial Flexural Wave Attenuation in Asymmetric Periodic Beams*, Iqbal Ahmed, Abdul Sadiq, Mohammed Rabius Sunny

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14:15-15:35 **C-T2.12**

- 1) **155** – *Peridynamic Modeling of Nearly-Incompressible Soft Materials for Aerospace Systems*, Francesco Scabbia, Vito Diana, Francesca Fantoni, Mirco Zaccariotto, Ugo Galvanetto
- 2) **178** – *Computationally Efficient Fracture Modeling Using a Hybrid Peridynamic Formulation*, Mirco Zaccariotto, Sebastiano Galeazzo, Francesco Scabbia, Ugo Galvanetto
- 3) **233** – *Modelling Progressive Failure in Lattice Materials Using an Adaptive Virtual Element Method*, Marco Lo Cascio, Alberto Milazzo
- 4) **770** – *Parametric Study on Nonlinear Flexural Analysis of FGM Plates With HSDT*, Smruti Sahoo

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14:15-15:35 **A-T1.12**

- 1) **62** – *Aerodynamic Heating Prediction Employing Gaussian Process Regression Models*, Sezer Sivri, Kamil Özden, Ertan Demiral, Ali Karakuş
- 2) **65** – *Aerothermal Shape Optimization Using Multi-Objective Surrogate-Based Optimizers*, Ertan Demiral, Kamil Özden, Kıvanç Arslan

- 3) **206** – *Implicit-Mesh Discontinuous Galerkin Methods for Solving Multi-Physics Flow in Lid-Driven Cavities*, Niba Kainat, Vincenzo Gulizzi
- 4) **614** – *Use of Matching Pursuit Algorithm for Identification of Aircraft Aerodynamic Coefficients*, Mateusz Pilecki, Jacek Grzegorzewski, Manfred Gawlas, Piotr Paczkowski, Patryk Niczke, Jakub Płuziński

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14:15-15:35 **D-T1.12**

- 1) **776** – *The Energy-Efficient Aircraft of the Future: A Long-Term Perspective*, Daniel Reckzeh
- 2) **4** – *Towards Net-Zero CO<sub>2</sub> Emission in 2050: Rightsizing and Expediting the Introduction of Optimally Fuel Efficient New Airliners*, Frederik Abbink
- 3) **38** – *Flying Testbeds to Accelerate the Development of Disruptive Long Range Aircraft*, Johannes Kos
- 4) **153** – *Assessing Synergies Between Truss-Braced Wings, Liquid Hydrogen Propulsion, and Open Rotors in Conceptual Aircraft Design*, Lucas Kugler

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14:15-15:35 **F-T1.12**

- 1) **80** – *Distributed Synthetic Aperture Radar in Single-Input Multiple Output Long Baseline Bistatic Configuration: Addressing Synchronization Issue With a Data Driven Approach*, Gianluca Coppa, Antonio Gigantino, Francesca Pelliccia, Maria Salvato, Maria Daniela Graziano, Alfredo Renga
- 2) **446** – *PROJECT IGNIS: Cubesat-Based Earth Thermal Observation Using COTS Imaging Technology*, Raffaele Colamarino, Maria Mattiello
- 3) **626** – *Design, Implementation and Testing of a LoRa-Based TTC Subsystem for PocketQube Applications*, Alessandro Vignato, Marco Segato, Alberto Carasi, Giacomo Porcarelli, Luca Dallago, Lorenzo Olivieri, Federico Toson, Giacomo Colombatti
- 4) **629** – *RedPill: Architecture and Engineering of a Miniaturized PocketQube Platform for LEO Missions*, Giacomo Porcarelli, Alessandro Vignato, Greta Rosa, Nicola Gaiani, Luca Dallago, Lorenzo Olivieri, Federico Toson, Giacomo Colombatti

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14:15-15:35 **D-T2.12**

- 1) **525** – *Preliminary PHM System Development for Harmonic Drives in Electromechanical Flight Control Systems*, Roberto Guida, Antonio Carlo Bertolino, Andrea De Martin, Massimo Sorli
- 2) **330** – *Integrated Risk Assessment in Specific Operations for Advanced Air Mobility Supported by Extended Reality Technologies*, Claudia Conte, Millene Gomes Araujo, Francesca De Crescenzo, Domenico Accardo
- 3) **333** – *An Extended Reality-Based Platform for Digital Twin Applications in Urban Air Mobility and Advanced Air Mobility: Framework Proposed Inside MOST Project*, Francesca De Crescenzo, Millene Gomes Araujo, Sara Bagassi, Fabrizio Lamberti, Filippo Gabriele Praticò, Domenico Accardo, Claudia Conte, Lorenza Sabatino, Marco Bazzani
- 4) **562** – *Indoor Drone Testing Reproducing Complex Operative Scenarios*, Stefano Primatesta, Gioacchino Cafiero, Riccardo Enrico, Sara Montagner, Giorgio Guglieri

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15:55-17:15 **E-T1.13**

- 1) **308** – *Enhancing Incremental NDI Control With LI Adaptive Augmentation in a Longitudinal Autopilot*, Giorgio Raos, Giovanni Gozzini, Davide Invernizzi

- 2) **457** – *Nonlinear Control for a VTOL-Cruise UAV in Urban Wind Environments*, Mewael Abraham, Alessandro Gardi
- 3) **500** – *Adaptive augmentation of Incremental NDI laws with systematic  $H_\infty$  synthesis*, Giulio Franceschini, Giorgio Raos, Giovanni Gozzini, Davide Invernizzi (Corretto)
- 4) **541** – *Development of an Autonomous Flight Control System for a Distributed Electric Propulsion Flying Model*, Giorgio Filippoli, Beniamino Maria Perri, Niko Terzaroli, Lorenzo Trainelli, Stefano Cacciola, Carlo Riboldi

3<sup>rd</sup> December 2025  
15:55-17:15 **B-T2.13**

- 1) **29** – *Spectral Dynamic Weighted Graph Neural Network for Impact Force Reconstruction in Acoustic Cabin Tests*, Chun Huang, Giuseppe Petrone, Sergio De Rosa, Alessandro Casaburo, Francesco Franco
- 2) **77** – *Evaluation of Strain Gauge Calibration on an Aircraft Engine Pylon*, Vega Handojo, Marco Norambuena, Ray Dewald, Rene Winter
- 3) **172** – *Numerical-Experimental Approach for Simplified Aerospace Structures' Testing Using the Eulerian Video Magnification Technique*, Giusi Magliocco, Salvatore Merola, Francesco Marulo, Michele Guida
- 4) **348** – *Aspects Regarding the Implementation, Capture and Measurement of Noise on the Măgurele Air Test Stand*, Radu Gabor, Grigore Cican, Mihnea Gall

3<sup>rd</sup> December 2025  
15:55-17:15 **B-T1.13**

- 1) **571** – *Enhancing Reliability Estimation for Spaceborne Computers: Methodology from the RAMSES CubeSat Mission*, Eleonora Vacca, Luca Sterpone
- 2) **738** – *Risk Examination and Safety and Security Approaches for the Development of Complex Data Systems*, Daphne Claß, Hendrik Meyer, Florian Raddatz, Gerko Wende
- 3) **774** – *Digital Twin Framework for Design of Earth Observation Satellite Constellations and Payload Performance Assessment*, Mascia Bucciarelli, Lorenzo Mariani, Sidhant Kumar, Luca Sette, Luca Ostrogovich, Alessia De Matteis, Arsenio Maria Di Donna, Luca Andolfi, Federico Bunkheila, Fabrizio Piergentili

3<sup>rd</sup> December 2025  
15:55-17:15 **C-T1.13**

- 1) **35** – *Nodal Loading Process for Aircraft Level Loads Generation*, Rubén López Parras
- 2) **255** – *Evaluating Load Alleviation Approaches in a Scaled UAV*, Alexander Herwig, Yannic Beyer, Matthias Haupt, Meiko Steen, Peter Hecker, Sebastian Heimbs
- 3) **260** – *Wing Bending Mode Estimation for Active Gust Load Alleviation*, Yannic Beyer, Fabian Gücker, Alexander Herwig, Meiko Steen, Peter Hecker
- 4) **373** – *1P Non-Linear Model for High Induced Angles of Attack of a Heavy Transport Firefighter Aircraft*, Mercedes Oliver, Ricardo Navarro, Guillermo Pastor, Félix Arévalo

3<sup>rd</sup> December 2025  
15:55-17:15 **C-T2.13**

- 1) **301** – *Geometrically Non-Linear Thermo-Elastic Analysis of Variable Angle Tow Composite Plates Through Layerwise Models*, Francesca Bracaglia, Alfonso Pagani, Enrico Zappino, Erasmo Carrera
- 2) **372** – *Buckling Analysis of Prismatic Composite Beam Through Cross Section Characterization*, Zaiwei Lin, Marco Morandini

- 3) **754** – *Understanding Strength Reduction in Aerospace Composites Structures: The Role of Delamination*, Abrar Ul Haq Baluch

3<sup>rd</sup> December 2025  
15:55-17:15 **A-T1.13**

- 1) **147** – *Investigation on Unsteady Flow Evolution of Intake/Engine Integration Under Distributed Body Force Model*, Jianlan Ling, Yike Hu, Zhaoqi Yan, Tianyu Pan
- 2) **708** – *Modeling of Spacecraft Using Different Aerodynamic Calculation Methods*, Kaan Caliskan, Fatih Kilincarslan, Yigit Kilicaslan, Mesut Bilici
- 3) **712** – *Aerodynamic Analysis of a Highly Maneuverable Combat Aircraft Using Water Tunnel Tests*, Łukasz Kiszowski, Łukasz Malicki, Marta Marciniuk, Paweł Piskur, Ziemowit Malecha, Stanisław Kachel
- 4) **734** – *Wind Tunnel Investigation of Vertical Stabilizer Wedging Angles on the Aerodynamic Performance of a Modular Aircraft Model*, Valeria Vavalà, Ambra Giovannelli, Tomasz Łusiak

3<sup>rd</sup> December 2025  
15:55-17:15 **D-T1.13**

- 1) **777** – *The "Flying Vision" – Efficiency, Novel Energy and the Future Traveller*, Victor Rijkaart, Elise Bavelaar, Daniel Reckzeh
- 2) **157** – *Conceptual Design of Hydrogen Aircraft in Conventional and Unconventional Configurations*, Yosuke Ueno, Takahiro Toyoda, Kenta Kumada, Hitoshi Akiyama, Wataru Suzuki
- 3) **698** – *An Energy-Centric Approach for Evaluating Climate Impact Levers in Conceptual Aircraft Design*, Kristina Mazur, Mirko Hornung
- 4) **85** – *Most Promising Technologies and Aircraft Concepts for Environmental Performance Improvements: A Systematic Review*, Lukas Söffing, Elise Scheers, Helen Szöke-Erös, Lukas Weber, Pascal Bertram, Patrick Ratei

3<sup>rd</sup> December 2025  
15:55-17:15 **F-T1.13**

- 1) **111** – *Efficient Information Routing for Constellations with Satellite Clusters via Static Digraph*, Giulio De Angelis, Stefano Carletta, Mauro Pontani, Paolo Teofilatto
- 2) **264** – *Monte Carlo Modeling of NGSO Mega-Constellation Interference on GEO Earth Stations*, Rémi Plazinski
- 3) **511** – *A Multi-Constellation Approach to Space-Based RF Emissions Monitoring Through Opportunistic Satellite Cluster Collisions in LEO*, Marcello Ascioffa, Francesco Menzione, Angela Cratere, Francesco Dell'Olio

3<sup>rd</sup> December 2025  
15:55-17:15 **D-T2.13**

- 1) **239** – *High-Order Vibroacoustic Modal Analysis of Fluid-Loaded Plates with Simply-Supported and Free Edges*, Dario Magliacano, Matteo Filippi
- 2) **250** – *Acoustic Liners for Low-Frequency Sound Absorption: A Preliminary Study*, Luigi Maria Cardone, Alessandro Casaburo, Giuseppe Petrone, Sergio De Rosa, Francesco Franco
- 3) **262** – *Conceptual Design and Thermo-Mechanical Modelling of Liquid Hydrogen Storage Vessels for Aircraft Integration*, Sergio Bagarello, Dario Campagna, Ivano Benedetti
- 4) **315** – *Thermo-Structural Design of Composite Pressure Vessels for Hydrogen Aircraft*, Vittorio Memmolo

4<sup>th</sup> December 2025  
10:35-11:55 E-T1.14

- 1) **39** – *Aerodynamic Characterization of Fin Configurations for VLEO Attitude Stabilization*, Vincenzo Maria Cannavale, Mattia Illiano, Tobia Armando La Marca, Maria Daniela Graziano, Elisa Capello, Michele Grassi
- 2) **217** – *Numerical Investigation of Winged CubeSats for VLEO Applications: Wing Profile Optimization*, Rodrigo Palharini, Rodrigo Araya
- 3) **567** – *Design of Guidance and Attitude Control Systems for Formation Flights in Very Low Earth Orbits*, Riccardo Cecchini, Ivan Galuppi, Pierluigi Martufi, Domenico Pascale, Elisa Capello
- 4) **635** – *Water-Based Electric Propulsion: Early Insights from Project WET*, Fabrizio Ponti

4<sup>th</sup> December 2025  
10:35-11:55 B-T2.14

- 1) **132** – *Hardware-in-the-Loop testing solution for a guided rocket vision system*, Olgierd Skromak, Maciej Mikulski, Krystian Zyśk, Stanisław Hajduk, Bartosz Dąbrowski, Dariusz Miedziński, Mateusz Sochacki
- 2) **304** – *Development of a Flying Platform to Study Three-Surface Configurations with Redundant Longitudinal Control*, Stefano Cacciola, Carlo Riboldi, Carlo Fazioli, Leonardo Filippello
- 3) **321** – *Experimental Study of Vibration Levels in Microjet Engine Prototypes considering Venturi Intake influence*, Cornel Tarabic, Andrei George Totu, Grigore Cican
- 4) **535** – *Automated Flight Testing of a Distributed Electric Propulsion Flying Model*, Lorenzo Trainelli, Giorgio Filippoli, Niko Terzaroli, Beniamino Maria Perri, Stefano Cacciola, Carlo Riboldi

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10:35-11:55 B-T1.14

- 1) **288** – *Design, simulation, and testing of a novel docking system for lunar surface applications*, Giuseppe Palaia, Thomas Binetti, Karim Abu Salem, Alfonso Pagani, Erasmo Carrera
- 2) **391** – *Enhancing Classical Computer Vision Algorithms on Infrared Frames for Autonomous Planetary Landing*, Samuele Labò, Stefano Silvestrini, Michèle Lavagna
- 3) **532** – *Aero-Propulsive Modelling and System Identification of a Distributed Electric Propulsion Flying Model*, Giorgio Filippoli, Niko Terzaroli, Beniamino Maria Perri, Stefano Cacciola, Lorenzo Trainelli, Carlo Riboldi

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10:35-11:55 C-T1.14

- 1) **94** – *Aerodynamic/Structural Integrated Design Method for Composite Wing in Civil Aircraft*, Bocheng Zhang, Jian Zhang, Chao Yang
- 2) **101** – *Trim analysis of highly flexible aircraft via a coupled DG-VLM framework*, Elisa Testaquatra, Vincenzo Gulizzi
- 3) **150** – *Morphing Instabilities of Flexible Cantilever Wing with Time-Periodic Stiffness Variation*, Manoj Prabhakar, Senthil Murugan
- 4) **220** – *Aeroelastic Evaluation of Hydrogen Dry Wing Effects*, Fanglin Yu

4<sup>th</sup> December 2025  
10:35-11:55 C-T2.14

- 1) **298** – *Fatigue life estimation in frequency-domain of composite and metallic structures via CUF and Dirlik's method*, Elisa Tortorelli, Giuseppe Palaia, Erasmo Carrera

- 2) **379** – *Preliminary Fatigue Life Prediction of Composite Wing under Gust Spectrum Loads Using a CUF-Based Approach*, Elisa Tortorelli, Marianna Valente, Giuseppe Palaia, Erasmo Carrera
- 3) **505** – *Fighter Aircraft Weapon Bay Acoustic Fatigue Analysis*, Nicola Gravagnone, Giuseppe Dilillo, Giuseppe Fauci, Michele Guida, Massimo Viscardi
- 4) **594** – *Methodology for fatigue life prediction based on generalized constant life diagram modeling*, Agam Sharan

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10:35-11:55 **A-T1.14**

- 1) **25** – *A GPU-Accelerated C++ Library for Implicit Coupled Hypersonic Flow Simulations in OpenFOAM*, Federico Piscaglia, Federico Ghioldi, Ivan Spisso, Joel Enrique Guerrero Rivas
- 2) **167** – *Wall-Resolved Large-Eddy Simulation for Channel Flow: Toward Hypersonic Applications*, Paola La Scala, Davide Ninni, Luca Sciacovelli, Giuseppe Pascazio
- 3) **334** – *Application of DSMC for Rarefied Aerodynamics of Satellites in VLEO: Pitch Stability and Drag Exploitation for Orbital Maneuvers*, Antonio Sannino, Stefano Mungiguerra, Anselmo Cecere, Raffaele Savino
- 4) **371** – *Fluid Dynamics and Electromagnetic Characterization of Plasma Sheath on Hypersonic Vehicles: a numerical approach*, Sergio Cassese, Gennaro Corbi, Stefano Mungiguerra, Amedeo Capozzoli, Claudio Curcio, Angelo Liseno, Raffaele Savino

4<sup>th</sup> December 2025  
10:35-11:55 **D-T1.14**

- 1) **20** – *Numerical analysis and Optimization of a Micro Gas Turbine combustion chamber for hydrogen conversion*, Salvatore Vellecco, Giancarlo Sorrentino, Raffaele Savino, Armando Diego Tomasso, Michele Visone
- 2) **75** – *Investigation of Fouling Layer Growth in Compact Heat Exchangers for Electrified Aviation*, Claudia Calle González, Markus Kober, Stefan Kazula
- 3) **216** – *High-Fidelity Frequency-Domain Analysis of Thermoacoustic Coupling in Liquid Propellant Rocket Engines Using COMSOL*, Ashray Saxena
- 4) **523** – *Reduced-order dynamic modelling of the Wankel engine employed in the hybrid propulsion system of a lightweight helicopter UAV*, Gianpietro Di Rito, Alessandro Mazzone, Andrea Nesci, Eugenio Rovera, Valerio Bonini

4<sup>th</sup> December 2025  
10:35-11:55 **F-T1.14**

- 1) **398** – *Preliminary mission design concept to explore lunar lava tubes*, Irene Terlizzi, Sebastiano Chiodini, Giacomo Colombatti
- 2) **548** – *FORTUNA: design, integration and testing of a technology demonstrator for space exploration rover*, Enrico Sabbatini, Ludovica Giacconi, Federico Fantastico, Damiano Carra, Stefano Giulianelli, Massimiliano Morelli, Fabrizio Stesina
- 3) **748** – *GeoScout: architecture for piggyback interplanetary CubeSats*, Lorenzo Olivieri, Alessandro Francesconi, Matteo Massironi
- 4) **26** - *The LIW@Space Project A Green Living Wall in Space*, Andrea Tosetto, Giacomo Balestrieri, Adamo Battaglia, Stefano Chiadò, Giovanni Marchitelli, Martina Milazzo, Vincenzo Fraello, Raffaella Ricci, Valentina Scariot, Elio Padoan

4<sup>th</sup> December 2025  
11:55-13:15 E-T1.15

- 1) **631** – *Advancing Iodine-Based Electric Propulsion: Early Results from Project BOOST*, Fabrizio Ponti
- 2) **97** – *The VOLTA thruster: development and ground demonstration of a novel CubeSat-scale air-breathing electric propulsion system*, Vittorio Giannetti, Eugenio Ferrato, Luca Leporini, Fabrizio Tracchegiani, Bruno Moriconi, Célian Boyé, Tommaso Andreussi
- 3) **161** – *Setup and characterization of a novel facility for air-breathing electric thrusters*, Bruno Moriconi, Celian Boye, Elia Bianchini, Mattia De Martino, Pedro Querejeta Simbeni, Vittorio Giannetti, Eugenio Ferrato, Tommaso Andreussi
- 4) **162** – *Comparative Analysis of Conventional and Air-breathing Electric Propulsion for VLEO Nanosatellites*, Eugenio Ferrato, Bruno Moriconi, Thomas Gerard, Vittorio Giannetti, Tommaso Andreussi

4<sup>th</sup> December 2025  
11:55-13:15 B-T2.15

- 1) **483** – *Thermovacuum tests on a component of a microsatellite, and evaluation of test monitoring with fibre optic sensors*, Claudio Paris, Maurizio Parisse, Luigi Schirone, Pierpaolo Granello, Daniela Andrea Maturana Orellana, Daniel Ortega Oliver
- 2) **602** – *SUNFLOWER: Solar Unveiling for Natural Flux of Light Optimization Window and Efficient Radiator*, Anna Filippi, Alice Maddalon, Lucia Menetto, Asmaa Jamaï, Filippo Rigoni, Federica Mion, Ludovica Priscoglio
- 3) **610** – *A Modular and Scalable Validation Framework for Planetary Rovers: Application to the ARDITO System*, Amalia Dellacasa, Gianmarco Polvani, Leonardo Maria Festa
- 4) **668** – *The Atacama Desert as a Martian Analog for the experimental benchmark of Space Photovoltaic technologies*, Paula Navia, Valentina Arias, Robinson Cavieres

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11:55-13:15 B-T1.15

- 1) **83** – *Generative design of hybrid electric aircraft propulsion systems using evolutionary algorithms*, Tobias Albrecht, Kay Kochan
- 2) **231** – *A Modeling Framework for Fuel Distribution Systems in Hydrogen-Powered Aircraft*, Remi Obasa, Hayriye Pehlivan Solak, Robert Hewson, Laura Mainini
- 3) **232** – *Multi-Fidelity Modelling of Fuel Cell Power Systems for Large Transport Aircraft*, Joseph Schaefer, Hayriye Pehlivan Solak, Billy Wu, Laura Mainini
- 4) **345** – *Control System Design of Solid Oxide Fuel Cell and Balance of Plant in Hybrid Aircraft Propulsion System*, Zalakben Rameshbhai Barot, Rudy Cepeda-Gomez

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11:55-13:15 C-T1.15

- 1) **630** – *Decoupling Techniques for Fixed Base Modal Analysis in Shaker Environmental Testing*, Vittoria D'Alessio, Giancarlo Kosova, Lorenzo Dozio, Emilio Di Lorenzo
- 2) **666** – *Fluid-Structure Interaction Analysis on Solar-Electric Ultra High Aspect Ratio Wings*, Adam Okoh, Chaoyue Ji, Peter Thomas
- 3) **674** – *A Robust Integration and Discretization Strategy for a Multi-Physics On-Ground Aircraft Model* Inês Afonso
- 4) **689** – *Aeroelastic Flutter Analysis of Variable-Fiber-Spacing Composite Panels with Elastic Supports* Abdul Sadiq, Aayush Gupta, Dipak Kumar Maiti

4<sup>th</sup> December 2025  
11:55-13:15 C-T1.15

- 1) **9** – *The Study on Stiffness Optimization Analysis of Civil Aircraft Fuselage Door Openings*, YIN Kaijun
- 2) **18** – *A Multi-Fidelity Aircraft Seat Model for Occupant Safety Assessment in the Preliminary Design Process Chain*, Leonardo Marconi, Dieter Kohlgrueber, Michael Petsch
- 3) **544** – *Dynamic Characterization of Compliant Wheel for Martian Rover: ARDITO*, Enrico Sabbatini, Damiano Carra, Enrico Zappino
- 4) **599** – *Thermo-Mechanical Performance of Brake Disk with Internal Lattice Cores: A Preliminary Numerical Investigation*, Giuseppe Mantegna, Carmelo Vindigni, Calogero Orlando, Davide Tumino, Andrea Alaimo

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11:55-13:15 A-T1.15

- 1) **73** – *Multi-Objective Optimization of Leading-edge Tubercles on Vertical Axis Wind Turbines*, Dillon Hesketh, Ruben Perez, Peter Jansen
- 2) **122** – *Experimental Study on Rotational Heat Transfer in Rib-pin Composite Trapezoidal Channels with Varied Rib Configurations*, Chenghua Zhu, Hao Li, Jiale Wang, Jie Wen
- 3) **291** – *Analysis of Morphing Trailing Edge Flap Effects on Dynamic Stall of the NACA 13112 Airfoil for Helicopter Rotor Blade Applications Using CFD and Experimental Methods*, Madalin Feraru, Daniel Măriuța, Grigore Cican, Ciprian-Marius Larco, Lucian-Teodor Grigorie
- 4) **701** – *Comparison of Far-field Methodologies for Unsteady Low Reynolds Number Flows*, Dameon Westley

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11:55-13:15 D-T1.15

- 1) **400** – *Retrofitting a Hairpin Stator Winding Aircraft Propulsion Motor with a Superconducting Rotor*, Xinjun Liu, Daniel Walch, Andreas Lindner, Jonas Gehring
- 2) **489** – *Defining Control Loops for a Fuel-Cell Powered Aeronautic Propulsion System*, Rudy Cepeda Gomez
- 3) **673** – *Suitability Assessment and Potential Use Case Definition for the Application of Electric Energy Carriers in Electrified Aircraft*, Maurice Dörnte
- 4) **679** – *Advances in Design and Technology of the Electromagnetic Gravitational Spacecraft*, Constantin Sandu

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11:55-13:15 F-T1.15

- 1) **441** – *Non-cohesive planetary regolith physics modelling towards digital twin for tool-soil interaction* Sabrina Lanfranco, Alice Dottori, Michèle Lavagna
- 2) **496** – *A High-Mobility Autonomous Rover for Long-Range Surface Exploration in GNSS-Denied Environments*, Antonio Genova, Simone Andolfo, Annamaria Gisario, Luca Lampani, Matteo Berti, Fabio Valerio Buonomo, Stefano Capoccia, Ludovica Cavalieri, Maria Pia Desole, Lorenzo Duranti, Mohamed El Awag, Angelica Ligori, Andrea Melchiori, Gabriele Sillato, Riccardo Teodori, Filippo Tuzzi, Davide Venanzi, Serena Falocco, Alessandra Pompili, Carlo Tuninetti, Michele Amato, Alessandro Ardito, Massimiliano Mattioli, Gianmarco Maisano, Alessio Parmeggiani, Giuseppe D'Amore
- 3) **551** – *Leveraging planetary exploration drill systems for geotechnical investigations*, Lorenzo Rossi, Francesca Altieri, Alessandro Frigeri, Maria Cristina De Sanctis, Michèle Lavagna

4<sup>th</sup> December 2025  
14:15-15:35 E-T1.16

- 1) **342** – *Adaptive Sliding Mode for Agile Attitude Tracking in a high-precision modelled VLEO environment*, Pierantonio Bertuccio, Vincenzo Maria Cannavale, Mattia Illiano, Tobia Armando Lamarca, Mauro Mancini, Maria Daniela Graziano, Elisa Capello, Michele Grassi
- 2) **596** – *Constraining the Optimization of Hull Designs for Earth Observation Missions in VLEO*, Daniel Garbe, Stephan Busch, Noah Ledford, Frank Schäfer
- 3) **607** – *Line-of-Sight stabilization for VLEO satellites through image-in-the-loop motion estimation*, Dario Modenini, Andrea Curatolo, Alessandro Lotti, Nicolas Gagliardi
- 4) **616** – *Atmospheric breathing electric propulsion inlet*, Alexandru Claudiu Cancescu, Theodora Anna Maria Andreescu, Razvan Bimbasa, Simona Nicoleta Danescu, Dan Ifrim

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14:15-15:35 B-T2.16

- 1) **401** – *A new flow process model for Aerothermal Facilities driven by Industrial Plasma Torches*, Antonio Esposito, Marcello Lappa
- 2) **408** – *Experimental characterization of ageing phenomena in Li-Po battery packs for lightweight UAV applications*, Aleksander Suti, Gianpietro Di Rito, Aurélien Reysset

4<sup>th</sup> December 2025  
14:15-15:35 B-T1.16

- 1) **57** – *ThermpoQuest V3: Advanced Integration of COMSOL, Houdini, and Unreal Engine 5 for Immersive Active Thermography Simulation in Engineering Education*, Ilario Strazzeri, Arnaud Notebaert, Florian Smets, Julien Quinten, Anthonin Demarbaix
- 2) **107** – *Design and simulation of pumped Two-Phase Cooling System for Fuel Cell powered hybrid electric aircraft*, Meissara Houalef, Marco Fioriti
- 3) **368** – *Modelling the Transient Behavior of Heat Exchangers in Aircraft Engine Preliminary Design*, Aytunc Yildirim, Marc Schmelcher, Alexander Görtz
- 4) **700** – *Calibration of Heat Flux Sensors for Space Applications through Advanced Numerical Modelling*, Armando Maiello, Orsola Petrella, Angela Vozella

4<sup>th</sup> December 2025  
14:15-15:35 C-T1.16

- 1) **223** – *Aeroelastic modeling of deformable-airfoil wings through unsteady lifting-line theory*, Riccardo Giansante, Giovanni Bernardini, Massimo Gennaretti
- 2) **234** – *Mid-fidelity approaches for the non-linear aeroelastic assessment of the Pazy Wing*, Alessia Bove, Giuseppe Quaranta
- 3) **257** – *Fault Tolerance Analysis of a Double Ailerons Based Adaptive Flutter Suppression System*, Carmelo Vindigni, Giuseppe Mantegna, Calogero Orlando, Andrea Alaimo
- 4) **284** – *Aeroelastic modelling of highly deformable wings in compressible flows*, Edoardo Levati, Igor Paolini, Giovanni Bernardini, Massimo Gennaretti

4<sup>th</sup> December 2025  
14:15-15:35 C-T2.16

- 1) **225** – *Conceptual Structural Design of a Pressurized Inflatable and Deployable Habitat Optimized for Lunar Surface Missions*, Alfonso Caiazzo, Giuseppe Petrone, Sergio De Rosa, Alessandro Casaburo, Francesco Franco
- 2) **494** – *Evaluation of the mechanical properties of ultrathin CNTs-reinforced composites for deployable structures*, Lorenzo Martinazzoli, Giuseppe Fausto Anuso, Susanna Laurenzi
- 3) **517** – *Design and optimization of thin membrane tensioning for deployable space antennas*, Lorenzo Martinazzoli, Susanna Laurenzi
- 4) **617** – *Structural Integrity Assessment of Origami-Inspired Satellite Components Using Finite Element Analysis*, Oluwatosin Kolade, Victor Adeleke

4<sup>th</sup> December 2025  
14:15-15:35 B-T2.18

- 1) **154** – *Virtual Shaker Testing: A Real-Time Framework for Predicting Spacecraft Vibration Tests*, Mattia Dal Borgo, Umberto Musella, Laurane Thielemans, Silvia Vettori, Alberto Garcia de Miguel, Roland Pastorino, Emilio Di Lorenzo, Bart Peeters
- 2) **230** – *Low-Velocity Impact Analysis of Composite Plates using the Hashin 3D Criterion and Layer-Wise Models*, Marco Petrolo, Matteo Filippi, Erasmo Carrera, Chiara Franceschini, Elisa Tortorelli
- 3) **313** – *Constrained Surrogate-based Optimisation for Finite Element Model Updating*, Eduardo Larrea Herranz, Gabriele Dessena
- 4) **320** – *Fatigue Cracking Analysis by Coupled 3D Peridynamics and 1D High Order Refined Elements* Qiang Zhang, Alfonso Pagani, Xiang Liu, Wei Zhou, Jiahui Shen

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14:15-15:35 D-T1.16

- 1) **326** – *Development and testing of a low-power argon-fed Hall thruster and cathode*, Bhavya Mahajan
- 2) **606** – *Design of oxidizer pump for low thrust liquid rocket engines*, Miłosz Kozycz
- 3) **716** – *Digital Thread for MRO: From Work Cards to Live Reliability Models*, Khanim Azimova
- 4) **119** - *Experimental Flow Characteristics Of Turbine Stator Well With Honeycomb And Labyrinth Structures*, Jiahua Liu, Zeyu Wu, Dongdong Liu, Nan Cao, Xiang Luo

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14:15-15:35 F-T1.16

- 1) **344** – *Fused Filament Fabrication of LDPE/Regolith Composites for Space-Based Production*, Federica De Rosa, Virgilio Del Basso, Susanna Laurenzi
- 2) **427** – *Preliminary design of a platinum wire temperature sensor for Martian atmosphere monitoring using additive manufacturing technologies*, Elisabetta Dolejsi, Davide Tonelli, Bortolino Saggin, Francesca Ferri, Alessio Aboudan, Carlo Bettanini, Giacomo Colombatti
- 3) **428** – *ORACLE: in-situ demonstration of solid-gas carbothermal reduction for oxygen extraction from lunar regolith*, Alice Dottori, Sabrina Lanfranco, Michèle Lavagna, Francesco Latini, Simone Pirrotta, Raffaele Mugnuolo

4<sup>th</sup> December 2025  
15:55-17:15 **E-T1.17**

- 1) **164** – *Investigation of Influences of different booster recovery methods on air traffic*, Antonio Depardon, Jonas Langner, Martin Sippel, Thomas Feuerle, Carsten Wiedemann, Simona Silvestri
- 2) **343** – *SmallSat Docking Interface Designs and their Experimental Contact Dynamics Identification*, Balthasar Jäger, Thineth Thawalama Gamage, Rajeev Shivakumar, Patrick Plörer
- 3) **514** – *iDREAM 2.0: a paradigm shift towards Reusable Space Systems*, Antonio Gregorio, Roberta Fusaro, Nicole Viola, Davide Ferretto, Giuseppe Narducci, Valeria Borio, Giacomo Luccisano, Giuseppe De Bari, Marco Verrascina
- 4) **747** – *Enabling Technologies as Drivers of Reusable Upper Stage Design Methodologies*, Valeria Borio, Roberta Fusaro, Nicole Viola, Grazia Piccirillo, Francesca Maria Pisano, Giuseppe Rufolo

4<sup>th</sup> December 2025  
15:55-17:15 **B-T2.17**

- 1) **302** – *Unlocking Barriers to Net-Zero in Aviation: A Talent Development Perspective*, Hayriye Pehlivan Solak, Laura Mainini
- 2) **385** – *Use of Convolutional Neural Networks for multifidelity CFD problems*, Sebastiano Geremia Isidoro Marci, Luca Muscarà, Lorenzo Folcarelli, Andrea Ferrero, Filippo Masseni, Dario Giuseppe Pastrone
- 3) **465** – *Hybrid Digital Twin for Reliable Sensing Frameworks in Aerospace Structural Health Monitoring*, Shapeetha Ariyaratnam, Mirko Ermacora, Francesco Di Fiore, Laura Mainini

4<sup>th</sup> December 2025  
15:55-17:15 **B-T1.17**

- 1) **82** - *Single-pass Radargrammetric DEM Generation from Cosmo-SkyMed and PLATiNO-1 SAR Data* Antonio Gigantino, Alfredo Renga, Maria Daniela Graziano, Antonio Moccia, Giovanni Paolo Blasone, Simona Zoffoli, Deodato Tapete
- 2) **90** - *From Flight Test to a Simulator Model - System Identification of the ISTAR Research Aircraft*, Christian Raab, Anton Dilcher
- 3) **131** - *Modeling and validation of a turbopump-fed engine using the DRAGON software*, Andrea Montaini, Stefania Carlotti
- 4) **658** - *An Automatic Order Determination Method for OE Models in Digital Twins and Its Application to Flutter Flight Test Data*, Leo Wang, Hua Zheng, Xiaotian Ma

4<sup>th</sup> December 2025  
15:55-17:15 **B-T2.19**

- 1) **310** – *Virtual modeling of the curing process of composite aerospace components using coupled multiphysics models* Martina Santori, Enrico Zappino, Navid Zobeiry, Marco Petrolo
- 2) **311** – *A Multi-Fidelity Gaussian Process Framework for Predicting Process-Induced Deformations in Composites*, Kendall Johnson, Martina Santori, Enrico Zappino, Navid Zobeiry, Marco Petrolo
- 3) **510** – *A data-driven framework for reliable and efficient prediction of process-induced distortions in composite structures*, Marco Enea, David Dumas, Tariq Benamara
- 4) **751** – *Phenolic-Impregnated Carbon Ablators (PICA) Modelling for Spacecraft Structures Under High-Temperature Applications* Kalid Kassa, Abrar Baluch, Sherifdeen Anafi

4<sup>th</sup> December 2025  
15:55-17:15 **F-T1.17**

- 1) **208** – *Fire Fighting System Integration on C-27J Aircraft*, Francesco Giugliano, Fabio Chiacchio, Pierpaolo Borrelli, Marco Di Gifico
- 2) **337** – *Integrated Model-Based Systems Engineering methodology for design, analysis and simulation of an Environmental Control and Life Support System for an Analog Habitat*, Loris Giannini, Giacomo Luccisano, Nicole Viola, Roberta Fusaro
- 3) **341** – *End-to-End Small Satellite Design: A Hybrid Data-Driven and Model-Based Systems Engineering Approach*, Serena Campioli, Carlotta Deiana, Fabrizio Stesina, Sabrina Corpino
- 4) **376** – *Integrating Scenario-Based Life Cycle Assessment into Model-Based Systems Engineering for Space Exploration Systems Design*, Giacomo Luccisano, Fabrizio Borgna, Roberta Fusaro, Nicole Viola

4<sup>th</sup> December 2025  
10:35-13:15 **Pegasus Session**

- 1) *Enhancing Thrust Prediction for AF-MPDTs using XGBoost Machine Learning Technique*, Tarik Almeda
- 2) *Set-up of a generic aeroelastic simulation model for demonstration and software testing purposes*, Francisco Manuel Carneiro Pinto Branco Carvalho
- 3) *Vision-based Localization and Mapping for a Lunar Rover*, Ludovica Cavalieri
- 4) *High-Fidelity Simulation of Orbital Forces and Torques*, Valerio Levi
- 5) *Stall characterization on tubercled wings using ILES and MRF approach*, Miguel Paniagua Ros
- 6) *Peculiar rainbows in Saturn's E ring: Uncovering luminous bands near Enceladus*, Niels Rubbrecht
- 7) *Design of a low power Anode Layer Hall Thruster*, Davide Picciau, Ivana Settembre
- 8) *Detection of Aircraft Spoofing Using the GVA Parameter in ADS-B Data*, Jakub Trýb
- 9) *Port-Hamiltonian reduced order modelling of the 2D Maxwell equations*, Mattéo Gouzien