SESSION 1

DAY 1, 08.50 - 10.50

KEYNOTE LECTURE (Session Chair: Antonio CONCILIO)

- 0101 - Kon-Well WANG, **Embodying Programmability and Mechano-Intelligence in Structural Dynamics**

INVITED LECTURES (Session Chair: Kon-Well WANG)

- 0102 - Jovana JOVANOVA, **Robotic Structures: Embodied Intelligence with Smart Materials**
- 0103 - Suyi LI, **Adaptive Physical Computing with Origami-Inspired Modular Structure**
- 0104 - Mattia GAZZOLA, **Modeling and Control of Biological and Biohybrid Soft Arms**
- 0105 - Alberto CORIGLIANO, **Metastructures for Mechanical Energy Confinement and Amplification**

SESSION 2

DAY 1, 11.50 - 13.10

REGULAR LECTURES (Session Chair: Rosario PECORA)

- 0201 - Rui ZHONG, **Mechanical Switching Scheme for Decoupling AC Outputs in Footstep Energy Harvester Arrays**
- 0202 - Xavier CARRILLO CÓRCOLES, **Characterisation of an Aeroelastic Wind Tunnel Model Featuring a Flared Folding Wing Tip with Control Surfaces**
- 0203 - Vittorio CAVALIERI, **Design Optimization and Dynamic Assessment of a Morphing Aileron Demonstrator with Large Actuation Bandwidth**
- 0204 - Marco EUGENI, **Modeling and Investigation of Post-Critical Aeroelastic Phenomena for Energy Harvesting Applications**
- 0205 - Elisa TESTAQUATRA, **A General-Kinematics Tool for Structural and Aeroelastic Analysis of Wings**

SESSION 3

DAY 1, 14.00 - 16.00

KEYNOTE LECTURE (Session Chair: Antonio CONCILIO)

- 0301 - Paolo GAUDENZI, **Modeling of Smart Structures**

INVITED LECTURES (Session Chair: Paolo GAUDENZI)

- 0302 - Ellen KIM, **Graph Traversal of Tendon Constrained Inflatable Segmented Motions**
- 0303 - Giannis OIKONOMOU, **A Multiresolution Daubechies Wavelet-Based Mixed Electro-mechanical Model for Fast Modeling of Smart Beams with Embedded Piezoelectric Patches**
- 0304 - Alper ERTURK, **Nonlinear Piezoelectric Metamaterial for Soliton-Based Reservoir Computing**
- 0305 - Ana VASCONCELOS, **Numerical Investigation of Arbitrarily-Shaped Encapsulated Bubbles for Attenuation Low-Frequency Underwater Sound**

SESSION 4

DAY 2, 08.30 - 10.30

KEYNOTE LECTURE (Session Chair: Salvatore AMEDURI)

- 0401 - Wen-Jong WU, **Small Scale Piezoelectric Power Transducers: From Materials to Applications**

INVITED LECTURES (Session Chair: Wen-Jong WU)

- 0402 - Zhengbao YANG, **Ultrasound Energy Harvesting for Medical Implants**
- 0403 - Junrui LIANG, **Energy-Emphasized Co-Design of Motion-Powered IoT**
- 0404 - Dejan VASIC, **Piezoelectric Transducer for Deicing Airplane Wings**
- 0405 - Yi CHIU, **Reservoir Computing Based on Nonlinear MEMS Devices**

REGULAR SESSION 5

DAY 2, 10.50 - 12.50

KEYNOTE LECTURE (Session Chair: Salvatore AMEDURI)

- 0501 - Zoubeida OUNAIES, **Field-Assisted Processing of Polymer Composites: Nature-Inspired Design for Living Multifunctional Materials**

REGULAR LECTURES (Session Chair: Zoubeida OUNAIES)

- 0502 - Salvatore AMEDURI, **De-Icing Progress in the Project of UP-WING**
- 0503 - Adelaide NESPOLI, **Cryogenic Shape Memory Alloys: State of the Art and Future Perspectives**
- 0504 - Narayan V. PILLAI, **A Modelling Approach to Sizing Miniature Pulse Combustion Systems for Flow Control**
- 0505 - Christopher SUGINO, **Nonlocal Piezoelectric Metamaterials: One-Way Vibration and Beyond**
- 0506 - Wei-Hsin LIAO, **Machine Learning and Digital Twins for Soft Robots**

SESSION 6

DAY 2, 13.40 - 15.40

REGULAR LECTURES (Session Chair: Salvatore AMEDURI)

- 0601 - Jiong TANG, **Non-Contact Metasurface Synthesis Leveraging Magneto-Mechanical Coupling and Local Resonance**
- 0602 - Gregoire PIZON, **Uncertainty Quantification of Negative Capacitance Shunts for Vibration Absorption of Flexural Waves**
- 0603 - Li NAN, **A Flexible Reconfigurable Sensor-Based on Metamaterial and Superhydrophobic Biomimetic Surface**
- 0604 - Emiliano RUSTIGHI, **Tunable Structured Fabrics for Adaptive Vibration Control: Modeling and Experimental Validation**
- 0605 - Giorgos SARMAS, **Numerical Investigation on the Tuning of Anti-Resonances in Beams Using Multiple Semi-Active Resonators**
- 0606 - Luca LAMPANI, **Optimal Placement of FBG Optical Sensors on a Composite Scale Glider for Modal Acquisition**
- 0607 - Alessandro AIROLDI, **Modelling Costs and Benefits of Structural Health Monitoring Systems for Aeronautical Applications**
- 0608 - Antonio CARCATERRA, **Electro-Mechanical Exoskeletons of Structures and Higher Strain-Gradients**

SESSION 7

DAY 3, 08.30 - 10.30

KEYNOTE LECTURE (Session Chair: Ignazio DIMINO)

- 0701 - Benjamin WOODS, **Adaptive Aerostructures for Power and Transportation Sustainability (AdAPTS)**

INVITED LECTURES (Session Chair: Benjamin WOODS)

- 0702 - Nuhaadh MAHID, **Spatially Tailored Core Geometries for Folding Wingtip Morphing Fairings**
- 0703 - Jasmin WONG, **Passive structures, Active Insight: How Feathered Wings Tune Aeroelastic Responses for Flight Behaviours**
- 0704 - Jonathan COOPER, **Recent Progress in Movable Wingtips for Improved Aircraft Wing Designs**
- 0705 - Joe DE COURCY, **Aerodynamic Shape Optimisation of Wing Tips Incorporating a Compliance-Based Morphing Fairing**

SESSION 8

DAY 3, 11.30 - 12.50

REGULR LECTURES (Session Chair: Ignazio DIMINO)

- 0801 - Maria Chiara NOVIELLO, **Structural Design and Actuation System Trade-Off of a Full-Scale and Full-Size Compliant Morphing Trailing-Edge Flap**
- 0802 - Guido SERVETTI, **Investigation of Different Morph Wing Configurations for the Rolling Maneuver**
- 0803 - Tomas MARHAN, **On Determination of Aerodynamic Properties of Morphing Wing by Numerical Simulations**
- 0804 - Panagiotis GEORGOPOULOS, **Camber-Twist Morphing Flap Concept with Two Chord-wise Degrees-of-Freedom**
- 0805 - Fernando MONTANO, **Tail Evaluation for a Morphing UAV**

POSTER SESSION

DAY 1, 16.30 - 18.30

- 0P01 - Bernardino GALASSO, **Aerodynamic Deployment Mechanisms for Vortex Generators with Innovative Actuators Based on "Smart" Materials**
- 0P02 - Kexin ZHANG, **Piezoelectric Bio-Organic Materials**
- 0P03 - Kosei MIMURA, **Structural Analysis of a Deployable Wing Main Structure Consisting of Convex Boom and Bellows-Type Ribs**
- 0P04 - Emilia DE MICCO, **Metal-Coated Optical Fiber Sensors for Adaptive Structures**
- 0P05 - Yuiko ICHIKAWA, **Reduction of Computational Cost in Structural Analysis of Complex Lattice Structures Using a Reduction Method**
- 0P06 - Yusuke ARAI, **Study on Bending Stiffness of a Multi-Beam Structure with Multiple Units for a Twist Morphing Wing**
- 0P07 - Alessio GALFIONE, **A Comparison of Mode Selection Criteria for SHAPE RECONSTRUCTION with the Modal Method**
- 0P08 - Costanza SPECIALE, **Mechatronics for Bio-Inspired Flapping-Wing Air Vehicles**
- 0P09 - Davide RAFFAELE, **A Preliminary Investigation of Wave Propagation in Beam-Like In-Vacuo Tunable Structured Fabrics**
- 0P10 - Vera KORTMAN, **Branched Bio-Inspired McKibben Artificial Muscles for Advanced Robotics Systems**
- 0P11 - Emanuele SORECA, **CFD Analysis and Performance Evaluation of a Morphing Wing Trailing Edge and Adaptive Jet Flap**
- 0P12 - Lorenzo STAGI, **Real-Time Wing-Ice Detection via Lamb-Wave Dispersion Shifts and Echo Signatures**

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ROUNDTABLES

I PART: DAY 1, 11.10 – 11.50
II PART, DAY 3, 10.50 – 11.30

- **Adaptive Structures in the 21st Century – A Big Tent: Mid- and Early-Career Researchers Chart Paths Forward**

I PART (Moderator: Alison FLATAU)

- Jovana JOVANOVA, Technical University of Delft
- Nan LI, Harbin Institute of Technology
- Shay SHOHAM, Israel Aerospace Industries
- Christopher SUGINO, Stevens Institute of Technology

II PART (Moderator: George LESIEUTRE)

- Roeland DE BREUKER, Technical University of Delft
- Ellen KIM, University of Michigan
- Maria Chirara NOVIELLO, CIRA
- Zhengbao YANG, Hong Kong University of Science and Technology