Tuesday 10th

09.00-10.00	*Registration*		
10.00-10.30	*Opening Ceremony (01 - SALA FILICUDI)*		
10.30-11.30	*Coffee Break*		
11.30-12.00	*The I4SDG Conference: Past, Present and Future - Speaker:* ***Giuseppe Quaglia*** *(01 - SALA FILICUDI)*		
12.00-12.30	*IFToMM – Origins, Activities and Visions of our Worldwide Community - Speaker:* ***Andres Keksmethy*** *(01 - SALA FILICUDI)*		
12.30-14.00	*Lunch*		
	01 - SALA FILICUDI - History of Machines and Mechanisms *Chairpersons: Marco Ceccarelli, Marco Cocconcelli*	**02 - SALA ALICUDI - Sustainable Solutions for Industrial Robotics** *Chairpersons: Burkhard Corves, Carl Nelson*	**03 - SALA VERSACE - Adaptive Energy Storage Management** *Chairpersons: Jorge Solis, Macedon Moldovan*
14.00-14.15	A history of symbolic notation for mechanisms *Authors:* ***Marco Ceccarelli*** *, Eduard Krylov*	An Innovative Current Collection System for Trambus Systems operating under Tramway Catenaries *Authors:* ***Luca Pugi*** *, Michelangelo Gulino, Fernando Ortenzi, Lorenzo Berzi, Lorenzo Pugliese, Francesco Zazzeri, Adriano Alessandrini*	LED lighting with a Photovoltaic System and Energy Storage for a Jogging Track in the Countryside *Authors:* ***Jorge Solis*** *, Johan Rahm, Sebastian Anersson, Isac M. Andersson, Magnus Nilsson*
14.15-14.30	Evolution and Classification of Chestnut Harvesting Mechanisms *Authors: Lorenzo Maccioni, Stefan Leitner, Giovanni Carabin, Renato Vidoni* (Speaker ***Chiara Nezzi***)	On Efficiency and Life Cycle Improvements in Industrial Robots through Variable-Stiffness Accessories *Authors:* ***Carl Nelson***	Challenges for Autonomous Monitoring Systems in Indoor Farming: From system integration, monitoring and optimization of energy storage *Authors:* ***Jorge Solis*** *, Akihiro Funaki, Mohammad Taghi Husseiny*
14.30-14.45	From the origin of Assur Groups to their earlier applications in computational kinematics: a historical perspective *Authors: Pietro Fanghella, Matteo Verotti,* ***Luca Bruzzone***	New management strategy for a significant reduction of the impact on CO2 footprint of hydraulic actuators *Authors: Paolo Righettini,* ***Roberto Strada*** *, Filippo Cortinovis, Jasmine Santinelli*	Energy harvesting optimization in vehicle suspension systems via a non standard LQ control strategy *Authors:* ***Paul Christian Tesso Woafo*** *, Gianfranco Gagliardi, Alessandro Casavola, Francesco Tedesco*
14.45-15.00	Education and Technical Representation in Liebig Figurines Between 1872 and 1975 *Authors:* ***Marco Cocconcelli***	Automated Screw Detection and Removal for Sustainable EV Battery Recycling: A Vision-Based Approach Aligned with SDGs *Authors: Markus Schmitz, Robin Heitz,* ***Daniel Gossen*** *, Burkhard Corves*	Energy Efficiency and Sustainability in the Food Processing Chain: Addressing Consumption, Impacts, and Footprint Reduction *Authors:* ***Orlando Corigliano*** *, Angelo Algieri, Vittorio Solina, Francesco Longo*
15.00-15.15	History of bucket wheel excavators: From the first construction to the Guinness World Record for the heaviest land-based vehicle ever built *Authors:* ***Nenad Zrnic*** *, Nebojša Gnjatović, Srđan Bošnjak*	Robots for sustainability: real-time AI-based robotic waste sorting from a moving conveyor *Authors: Giovanni Boschetti, Tommaso Fabris,* ***Teresa Sinico***	Increasing the energy output of photovoltaic systems equipped with monoaxial solar tracking mechanisms with North-South horizontal rotation axis through backtracking algorithms *Authors:* ***Macedon Moldovan*** *, Ion Visa*
15.15-15.30	Advances in Master Haptic Device Design for Teleoperation: A 15-Year Exploration of Parallel and Hybrid Robotic Architectures *Authors:* Abdelbadiâ Chaker, *Térence Essomba,* ***Med Amine Laribi***	Circular Economy Design through System Dynamics Modeling *Authors:* ***Federico Zocco*** *, Monica Malvezzi*	Experimental characterization of a monitoring system for car drivers *Authors:* ***María Garrosa*** *, Marco Ceccarelli*
15.30-15.45	The 1934 World Speed Record of the Aeronautica Macchi M.C. 72 *Authors: Giuseppe Genchi,* ***Antonella Castellano*** *, Matteo Morici, Gandolfo Li Pira, Marco Cammalleri*	SDGs Initiative based on research and development of Ricoh inkjet technology (Abstract) *Authors:* ***Yoshihisa Ohta***	
15.45-16.30	*Coffee Break*		
	01 - SALA FILICUDI - Advanced Kinematics and Mechanism Design *Chairpersons: Paulo Flores, Kiper Gokhan*	**02 - SALA ALICUDI - Sustainability Issues in Robotic Manufacturing** *Chairpersons: Can Dede, Giuseppe Quaglia*	**03 - SALA VERSACE - Innovative Didactic Systems and Paradigms for STEM** *Chairpersons: Francesco Lamonaca, Annalisa Liccardo*
16.30-16.45	Design and testing of a two-finger hand for compliant grasp (**Video Presentazione**) *Authors: Earnest Ofonaike, Kamsiyochukwu Uzegbu, Matteo Russo,* ***Marco Ceccarelli***	Pen Holder Design for a Handwriting Education Assistance Robot *Authors: Oğuz Güler, Esra Özdemir,* ***Mehmet Alp Balkan*** *, Çağatay Öztürk, Can Dede*	Integrating UN Sustainable Development Goals into Mechanical Engineering Electives: A Modular Approach *Authors:* ***Ozgun Selvi*** *, Marco Ceccarelli, Onat Halis Totuk*
16.45-17.00	Algorithm for Automatic Generation of Systems of Equations for Determining the Workspace of a Class of 3-DOF Planar Parallel Robots *Authors:* ***Larisa Rybak*** *, Dmitry Malyshev, Dmitry Dyakonov*	A Sustainable, Bidirectional Soft Pneumatic Actuator for Robotic Systems *Authors:* ***Simone Duretto*** *, Giovanni Colucci, Luigi Tagliavini, Andrea Botta, Lorenzo Toccaceli, Giuseppe Quaglia*	Extended Laboratory for Biomedical Applications: Development and Validation of an Automated NiTiNol Thermo-Electro-Mechanical Characterization System *Authors:* ***Francesco Felicetti*** *, Elio Matteo Curcio, Stefano Rodinò, Luigi D'Alfonso, Emanuele Sgambitterra, Carmine Maletta, Carbone Giuseppe, Domenico Luca Carni, Annalisa Liccardo, Giuseppe Spadafora, Francesco Lamonaca*
17.00-17.15	Forward Kinematics and Workspace Analysis of a Novel Hyper-redundant Robotic Arm *Authors:* ***Xiao Li*** *, Haibo Qu, Carbone Giuseppe, Yili Kuang, Sheng Guo*	Redundancy Resolution Options for the TWIN-IT-ROMANS Robotic Hybrid Manufacturing System *Authors: Gizem Merve Gündüz,* ***Kiper Gokhan*** *, Can Dede, Markus Schmitz, Burkhard Corves*	Remote Control of a Digital Oscilloscope for Use in Distance Learning *Authors:* ***Annalisa Liccardo*** *, Francesco Bonavolontà, Antonio Monaco, Giuseppe Spadafora, Domenico Luca Carni, Elenora Bilotta, Anna Maria Palermo, Francesco Lamonaca*
17.15-17.30	Design of a novel wrist joint with rigid-flexible-soft coupling structure *Authors: Tianyi Yan, Xuyang Duan, Yanjun Wang, Hao Wang,* ***Genliang Chen***	Towards Sustainable Manufacturing: A Review and Future Directions in Additive Manufacturing of Fiber-Reinforced Polymer Composites *Authors: Muhammed Yiğit Türkcan, Berk Kurt, Busra Karas, Halil Tetik, Alborz Shokrani,* ***Mehmet Ismet Can Dede***	The Role of Network of Extended reality-enabled laboratories in Enhancing STEM Education: Bridging Theory and Practice in the Digital Classroom *Authors:* ***Ihtisham Ul Haq*** *, Giuseppe Spadafora, Anna Maria Palermo, Eleonora Bilotta, Annalisa Liccardo, Francesco Lamonaca, Abdul Mohiz*
17.30-17.45	Design of a new elbow-wrist assisting device *Authors: Earnest Ofonaike,* ***Marco Ceccarelli*** *, Cuauhtémoc Morales-Cruz*	Driving Sustainability and Equality through Collaborative Robotics *Authors:* ***Cecilia Scoccia*** *, Clara Fischer, Serenella Terlizzi, Samuele Tonelli, Gaetano Lettera*	Artificial Intelligence in Network of Extended reality-enabled laboratories in STEM Education: Current Applications and Future Potential for Adaptive Learning *Authors:* ***Ihtisham Ul Haq*** *, Giuseppe Spadafora, Anna Maria Palermo, Eleonora Bilotta, Francesco Lamonaca, Abdul Mohiz, Francesco Felicetti*
17.45-18.00	Applications of TSP solvers for Path Planning of Parallel Robots *Authors:* ***Giovanni Mottola*** *, Pietro Davide Maddio, Alessandro Cammarata, Rosario Sinatra, Francesca Garesci*	Materials for Sustainable Robotics: Challenges and Examples *Authors:* ***Chiara Morano*** *, Salvatore Garofalo, Simone Leone, Luigi Bruno, Carbone Giuseppe*	Teaching Dynamics of Mechanical Systems Using a Practical Project: The Dragster Car Challenge *Authors: João Marafona,* ***Paulo Flores*** *, Hamid Lankarani*
18.00-18.15	Simultaneous Topology Optimization of Stator and Rotor of IPMSM *Authors:* ***Takaya Furukawa*** *, Hayato Minamoto, Mitsuru ENDO, Yukio Tsutsui, Shimpei Tanaka*	Collison Avoidance for Growing Obstacles in Multidirectional Additive Manufacturing (Abstract) *Authors:* ***Mark Witte*** *, Jan Wiartalla, Burkhard CORVES, Mathias Hüsing*	Race Party: A Project-Based Learning Approach to Teach Dynamics and Design of Mechanical Systems *Authors:* ***Paulo Flores***
18.15 -19.00	*01 - SALA FILICUDI: Scientific Committee Meeting*		
19.00-21.00	*Dinner*		

Wednesday 11th

	01 - SALA FILICUDI - Design Process and Optimizations - Session 1 *Chairpersons: Michele Gabrio Ernesto Antonelli, Erwin Lovasz*	**02 - SALA ALICUDI - Sustainability for Smart Farming within the PNRR T4Y project** *Chairpersons: Bruno Bernardi, Salvatore Praticò*	**03 - SALA VERSACE - Simulation, Testing, and Optimization of Mechanical Systems - Session 1** *Chairpersons: Daniela Tarnita, Enrico Ciulli*
09.00-09.15	Optimization of a rotary part feeder with circular blades *Authors:* ***Matteo Bottin*** *, Michele Tonan, Giulio Rosati*	Development of a smart germination chamber for lettuce seedlings: integration of environmental monitoring and automated fertigation control *Authors: Oscar Mota-Pérez,* ***Jhon Freddy Rodriguez Leon*** *, Armando González-Marín, Jorge Pineda-Piñón, Julio C. Sosa-Savedra*	Numerical and experimental analysis of aeronautic emergency braking systems *Authors:* ***Silvia Logozzo*** *, Maria Cristina Valigi*
09.15-09.30	Design Optimization of a Cubic Permanent Magnet Array for Gravity Compensation in Rotational Motion *Authors:* ***Xiangxian Zeng*** *, Qiaosheng Sun, Chin-Hsing Kuo*	Termination method and weed monitoring in tomato in succession to cover crop mixture: preliminary results *Authors:* ***Gaetano Messina*** *, Emilio Lo Presti, Giuseppe Badagliacca, Salvatore Di Fazio, Giuseppe Modica, Michele Monti, Maurizio Romeo, Salvatore Praticò*	Contact Pressure Evolution in Classic Pin-on-Disc Tests *Authors:* ***Eugeniu Grabovic*** *, Alberto Betti, Enrico Ciulli*
09.30-09.45	Topological Optimization of Attachment Points of an Industrial Delta Robot Based on The Analysis of Its Safety Zone *Authors:* ***Larisa Rybak*** *, Voloshkin Artem, Dmitry Malyshev, Vladislav Cherkasov*	Making Post-Harvest More Efficient: Prototyping an Air Treatment Plant for PGI 'Cipolla Rossa di Tropea Calabria' Spring Onions *Authors:* ***Matteo Sbaglia*** *, Lorenzo Maria Massimo Abenavoli, Bruno Bernardi*	Three-dimensional experimental analysis of wear in retrieved hip implants *Authors: M. Amabile,* ***Virginia Burini*** *, Francesca Di Puccio, Silvia Logozzo, Giuseppe Marongiu, Lorenza Mattei, Maria Cristina Valigi*
09.45-10.00	Algorithms for Determining the Work Safety Zones of Manipulators of Various Structures as Part of a Multi-Robotic System *Authors:* ***Larisa Rybak*** *, Carbone Giuseppe, Dmitry Malyshev, Dmitry Dyakonov, Anna Nozdracheva, Vladislav Cherkasov*	Monitoring Tuta absoluta infestation in different tomato cropping systems: first results of a combined field- and UAV-based approach *Authors:* ***Annamaria Ienco*** *, Salvatore Praticò, Maria Rosario Pineda Arteaga, Gaetano Messina, Orlando Campolo, Salvatore Di Fazio, Francesca Laudani, Giuseppe Modica, Vincenzo Palmeri, Maurizio Romeo, Emilio Lo Presti*	Motion simulation analysis of a new type of wind turbine vane transport vehicle (VIDEO) *Authors: Shuangji Yao, Xin Zhang, Tao Ni,* ***Marco Ceccarelli*** *, Giuseppe Carbone*
10.00-10.15	Design and Experimental Validation of a Three-chamber Omni-directional Soft Actuator *Authors:* ***Michele Gabrio Antonelli*** *, Pierluigi Beomonte Zobel, Akihiko Hanafusa, Nicola Stampone*	UAV-based pasture characterization for precision grazing management: preliminary results in Calabria (southern Italy) *Authors:* ***Caterina Cilione*** *, Giuseppe Badagliacca, Gaetano Messina, Salvatore Praticò, Giuseppe Modica, Pasquale Caparra*	Preliminary design of a herringbone journal bearing for a high-speed compressor *Authors:* ***Federico Colombo*** *, Luigi Lentini, Edoardo Goti, Andrea Trivella, Terenziano Raparelli*
10.15-10.30	Motion Tracking Hands-free HMI of Electric Wheelchair *Authors:* ***Lorenzo Baglieri*** *, Daisuke Matsuura, Tsune Kobayashi, Giuseppe Quaglia*	Methodological approaches for estimating the biomass of natural pastures in the Lucanian hills using UAV remote sensing *Authors: Rosanna Paolino, Emilio Sabia, Ada Braghieri, Amelia Maria Riviezzi, Luca Vignozzi, Salvatore Claps, Daniele Baldassarre, Corrado Pacelli,* ***Pasquale Caparra*** *, Adriana Di Trana*	Static Equilibrium Analysis Based on Cosserat Theory and Phase Space Analysis for String-Shaped Flexible Elements *Authors:* ***Ryosuke Hakamata*** *, Oscar Altuzarra, Mitsuru Endo, Yusuke Sugahara*
10.30-10.45	Optimized Synthesis Method of the 7-RR(RRRR)RR Seven-Bar Linkage Used for Medical Disinfection Robot *Authors: Elida-Gabriela Tulcan, Sticlaru Carmen, Alexandru Oarcea, Narcis-Gratian Craciun,* ***Erwin-Christian Lovasz***	The STAR project: giving smell sense to agricultural robotics *Authors:* ***Angelo Ugenti*** *, Sara Stolyarova, Adir Krayden, Annalisa Milella, Stefan Rilling, Yael Nemirovsky, Giulio Reina*	Evaluations of vibrations and comfort of a driver of an electric tractor by modal and experimental analysis *Authors:* ***Daniela Tarnita*** *, Alin Oncescu, Ilie Dumitru, Ionut Daniel Geonea, Nicolae-Valentin Vladut, Danut-Nicolae Tarnita*
10.45-11.30	*Coffee break*		
	01 - SALA FILICUDI - Design Process and Optimizations - Session 2 *Chairpersons: Luca Bruzzone, Adrian Pisla*	**02 - SALA ALICUDI - Emerging Trends in Robotics and Automation - Session 1** *Chairpersons: Matteo Bottin, Yusuke Sugahara*	**03 - SALA VERSACE - Simulation, Testing, and Optimization of Mechanical Systems - Session 2** *Chairpersons: Maria Cristina Valigi, Giuseppe Quaglia*
11.30-11.45	Optimal Synthesis of the 2R Serial Robot Based on Kinematic Performance Measures *Authors: Alexandru Oarcea, Elida-Gabriela Tulcan, Ana Maria Scurt, Robert Kristof,* ***Erwin-Christian Lovasz***	A Design Procedure Towards a Drone for the Inspection of Coastal Built Cultural Heritage Sites *Authors:* ***Mohammed Khadem*** *, Dmitry Malyshev, Simone Leone, Carbone Giuseppe*	Improving the Estimation of the Transient Response of Mechatronic Systems *Authors:* ***Juan Carlos Jauregui***
11.45-12.00	Ability mining of manipulation using lower limb motion - Comparison with upper limb using isotonic-rate method - *Authors:* ***Masaharu Komori*** *, Ryo Koshiba, Tatsuro Terakawa*	Experimental approach for assessing a platinum silicon human thoracic aorta replica *Authors:* ***Mario Alberto Grave-Capistrán*** *, Chiara Morano, Christopher René Torres-San Miguel, Francesco Lamonaca, Carbone Giuseppe*	Improving the design of construction equipment for accessibility - Target user and development requirements Authors: ***Misato Nihei*** *, Kousuke Hongama, Takazumi Ono, Rui Fukui*
12.00-12.15	The first type singularity of the novel 3-PRPS type tripod *Authors:* ***Zhumadil Baigunchekov*** *, Carbone Giuseppe, Med Amine Laribi, Rustem Kaiyrov, Wang Xuelin, Li Qian, Muerzhahan Yeerzhati*	Design and experiments of a cutting robot for disassembly tasks *Authors:* ***Luca Quattrucci*** *, Marco Ceccarelli, Matteo Russo*	Modeling of Dynamics of Nonideal Mixer at Oscillation-Damped Mode of Driving Member Motion *Authors:* ***Zharilkassin Iskakov*** *, Kuatbay Bissembayev, Azizbek Abduraimov, Akmaral Kalybaeva*
12.15-12.30	Multidisciplinary Design Optimization for Weight Reduction of Six DoF Manipulator using Directional Manipulability Index *Authors:* ***Kaho Hibino*** *, Mitsuru Endo, Yukio Tsutsui*	Adaptive and Flexible 3D Printing Design for Wearable Devices *Authors:* ***Simone Leone*** *, Michele Perrelli, Carbone Giuseppe*	A proposal of an electrically driven press for producing monolithic aerogel and control system simulation *Authors:* ***Sebastiano Angelella*** *, Cinzia Buratti, Dave Hodgson, Silvia Logozzo, Francesca Merli, Maria Cristina Valigi Narducci, Gonçalo Sousa Torres*
12.30-12.45	Robots or People as Manpower Needed *Authors: Adrian Pisla, David Mihai Lupu, Alina-Beatrice Oltean, George Iacoban,* ***Silvia-Daniela Pohrib***	Design and Analysis of a Hybrid Thrustered Cable-Suspended Parallel Robot with Hexarotor Integration *Authors:* ***Yifan Feng*** *, Yusuke Sugahara, Ming Jiang, Marco Ceccarelli, Yukio Takeda*	Development of the motion controller and the sensors feedback system of a commercial robot for virtual sensing applications *Authors:* ***Gabriele Scordamaglia*** *, Rocco Adduci, Michele Perrelli, Domenico Mundo*
12.45-13.00	Natural Motion of the RR-4R-R Manipulator: Effects of Trajectory Types and Parameters *Authors:* ***Luca Bruzzone*** *, Matteo Verotti, Pietro Fanghella*	Optimal motor placement for efficient upper arm rehabilitation exercises *Authors: Giovanni Boschetti,* ***Matteo Bottin*** *, Riccardo Minto*	Monitoring and diagnosis of railway axles *Authors:* ***Cristina Castejon Sisamon*** *, M. Jesus Gomez-Garcia, Higinio Rubio, Eduardo Corral*
13.00-13.15	Development of a Robotic Harvesting Device for Tomatoes Based On a Palm Gripper *Authors:* ***Dmitry Malyshev*** *, Carbone Giuseppe, Issam Bakki*	Design of an innovative robotic surgical instrument for circular stapling *Authors: Paul Tucan, Nadim Al Hajjar, Calin Vaida,* ***Alexandru-Vasile Pusca*** *, Corina Radu, Daniela Jucan, Tiberiu Antal, Adrian Pisla, Damien Chablat, Doina Pisla*	Lumped Parameter Model for the Evaluation of the Energy Lost in Oscillations of Rotating Blades and Experimental Comparison *Authors:* ***Tommaso Taverna*** *, Andrea Manuello Bertetto*
13.15-14.30	*Lunch*		
	01 - SALA FILICUDI - Human Machine Interaction *Chairpersons: Cinzia Amici, Alberto Borboni, Monica Tiboni*	**02 - SALA ALICUDI - Emerging Trends in Robotics and Automation - Session 2** *Chairpersons: Doina Pisla, Genliang Chen*	**03 - SALA VERSACE - Innovation in Energy and Transportation Systems** *Chairpersons: Domenico Mundo, Renato Brancati*
14.30-14.45	Integrating Clinical Expertise in the Design of Home-Based Smart Rehabilitation Devices for Motor and Cognitive Therapy in Patients with Neurological Disorders *Authors:* ***Fabio Zanoletti*** *, Alberto Borboni, Loris Pignolo, Martina Vatrano*	Conceptual design of an innovative device for hand rehabilitation *Authors: Ionut-Marian Zima, Dragos Sebeni,* ***Vasile Bulbucan*** *, Calin Vaida, Bogdan Gherman, José Machado, Paul Tucan, Tiberiu Antal, Doina Pisla*	FOWT Modeling and Validation in Extreme Conditions *Authors:* ***Francesco Niosi*** *, Marco Cammalleri, Giuliana Mattiazzo, Antonella Castellano, Antonella Castellano*
14.45-15.00	Development and Automation of a Robotic Hexapod Device for Orthopedic Applications *Authors:* ***Monica Tiboni*** *, Danilo Cambiaghi, Marco Domenicucci, Franco Cavina Pratesi, Gianluigi Frigerio, Sofia Toscano, Giovanni Legnani*	A simulation framework for the development and operation of hybrid underwater vehicles *Authors:* ***Fernando Gomez*** *, Olga Marín Casas, Alejandro Garrocho Cruz*	Feasibility of Transferring Variant Input Loads for the Semi-Analytical Multibody Simulation of Bicycles *Authors:* ***Johannes Bolk*** *, Oliver Pütz, Burkhard Corves*

15.00-15.15	Towards an Innovative Urostomy Bag Filling Monitoring System with Hall Effect Sensors *Authors: Hector Medina Romo, Amina Louki, **Carlo Alberto Seneci***	Advances and Future Directions in Robotic and Automated Facade Maintenance and Construction *Authors: **Andrea Lucarini** , Edoardo Idà, Tobias Bruckmann, Aileen Pfeil, Rabee Taha, Dimos Kifokeris, Marco Carricato*	Experimental assessment of hydrogen combustion cells in a four-stroke engine *Authors: Jonathan Jorge Ruiz Dominguez, **Mario Alberto Grave-Capistrán** , Christopher René Torres-San Miguel, Martin Daniel Trejo-Valdez*
15.15-15.30	Beyond Boundaries: PICO-Driven Design Criteria for Robotic Rehabilitation Medical Devices *Authors: Cinzia Amici, Riccardo Buraschi, Mihai Dragusanu Dragusanu, Massimiliano Gobbo, Silvia Logozzo, Monica Malvezzi, Joel Pollet, Monica Tiboni, **Maria Cristina Valigi***	An innovative mechatronic tool for the cleaning and sampling of the Underwater Cultural Heritage *Authors: **Emiliano Scalercio** , Alessandro Gallo, Maurizio Muzzupappa, Loris Barbieri, Fabio Bruno*	Numerical and experimental assessment of the impact damage on Liteon batteries *Authors: Christopher René Torres-San Miguel, **Mario Alberto Grave-Capistrán***
15.30-15.45	Development of an Ultra-Thin Piezoresistive Velostat-Based Wearable Sensor for Real-Time Pressure Monitoring in Adolescent Idiopathic Scoliosis Bracing *Authors: **Alberto Borboni** , Fabio Zanoletti, Rodolfo Faglia*	A novel injection device for the consolidation of the Underwater Cultural Heritage *Authors: **Emiliano Scalercio** , Alessandro Gallo, Maurizio Muzzupappa, Loris Barbieri, Fabio Bruno*	Energy harvesting using triboelectricity: from a general overview to mechanical applications *Authors: **Renato Brancati** , Lorella Cannavacciuolo, Chiara Cosenza, Cristina Ponsiglione*
15.45-16.00	Handbike and Handcyclist: a Vibrational Model *Authors: Michele Sanguinetta, Giovanni Incerti, Alessandro Cudicio, **Cinzia Amici** , Giovanni Legnani*	Challenges in Designing and Adopting Robotic Rehabilitation Systems *Authors: **Francesco Lago** , Simone Leone, Elio Curcio, Carbone Giuseppe*	On the use of wavelet analysis for the detection and position estimation of short wavelength rail head faults *Authors: **Giovanni Bellacci** , Niccolò Baldanzini, Luca Pugi*
16.00-16.15	Development of a New Leg Mechanism for Exoskeleton Robots: Structural Synthesis, Dynamic Analysis, and Prototype Implementation *Authors: Ionut Daniel Geonea, Cristian Copilusi, **Daniela Tarnita***	Limits of robotized unscrewing by a SCARA robot *Authors: **Simon Wilbers** , Luca Quattrucci, Marco Ceccarelli, Matteo Russo, Jörg Reiff-Stephan*	Evaluation of Paint Suitability for Improving of Large-body Coatings Using Ink-Jet Printing Technology *Authors: Ogura Taiga, Harada Yoshihiro, Fushinobu Kazuyoshi, **Kato Koichi***
16.15-17.00	*Coffee break*		
	01 - SALA FILICUDI - Advances in Robotic Actuation and Motion Optimization *Chairpersons: Paolo Boscariol, Samir Ladaci*	**02 - SALA ALICUDI - Green Aware AI within the PNRR FAIR project** *Chairpersons: Luca Ferragina, Davide Longo, Francesco Scarcello*	**03 - SALA VERSACE - Energy Efficiency and Sustainability in Systems** *Chairpersons: Luca Pugi, Matteo Bottin*
17.00-17.15	Protection of insulating paper strip during forming and assembly of Hairpin motors: some preliminary modelling and comparisons between different solutions *Authors: **Luca Pugi** , Andrea Nocentini, lorenzo berzi, daniele nocciolini, Massimo Becheri, Rubino Corbinelli, Niccolò Baldanzini*	Development of an Object Detection Algorithm Based on Trained Models Integration: A Tomato Detection Case *Authors: **Dmitry Malyshev** , Carbone Giuseppe, Angad Singh Gurtatta*	Evaluating the feasibility of estimating rail longitudinal level through double integration of vertical contact forces *Authors: **Giovanni Bellacci** , Mani Entezami, Paul Weston, Niccolò Baldanzini, Luca Pugi*
17.15-17.30	Closed-loop Pressure Control of a Soft Pneumatic Actuator by a 3/2 Solenoid Digital Valve *Authors: **Nicola Stampone** , Michele Gabrio Antonelli, Pierluigi Beomonte Zobel*	Analysing the Integration of Artificial Intelligence into Rehabilitation Ankle Joint Exoskeletons *Authors: **Nursultan Zhetenbayev** , Arman Uzbekbayev , Aidos Sultan , Gani Sergazin, Abu Alim Ayazbay*	Development and Validation of a Design Method for Energy-Efficient Cam Mechanisms *Authors: **Thomas Knobloch** , Fabian Loba, Mathias Hüsing, Burkhard Corves*
17.30-17.45	Leveraging kinematic redundancy for energy efficiency in a 8-DOF robotic system *Authors: **Giuliano Fabris** , Lorenzo Scalera, Alessandro Gasparetto*	Enhancing Robotics Education with Reinforcement Learning in Task Planning *Authors: **Elena Caselli** , Michele Polito, Valerio Cornagliotto, Elisa Digo, Laura Gastaldi, Stefano Pastorelli*	Operating range formulation of regenerative clutches for Human-Powered Robotic Vehicles *Authors: **Yusuke Sugahara** , Kento Maeda*
17.45-18.00	Concept for a Digital Tool Chain for lightweight-optimised design of high-speed planar mechanisms *Authors: **Burkhard Corves** , Mathias Hüsing, Kai-Uwe Schröder, Nils Brückmann, Raphael Cleven*	Data Preprocessing for Cultural Competent Machine Learning in Social Robotics *Authors: **Enzo Ubaldo Petrocco** , Antonio Sgorbissa, Luca Oneto*	Energy expenditure comparison of planar parallel robotic manipulators for pick-and-place operations *Authors: **Chiara Nezzi** , Veit Gufler, Anna Berger, renato vidoni*
18.00-18.15	Energy-optimal motion planning with robust residual oscillation suppression on a translating flexible beam *Authors: **Paolo Boscariol** , Dario Richiedei, Alberto Trevisani*	Justifying black-box model decisions through generative-models-enhanced explanations (**Abstract**) *Authors: Fabrizio Angiulli, Fabio Fassetti, **Simona Nisticò***	Motion Optimization in Sliding Actuators *Authors: **Christian Schioppetto** , Jacopo Belotti, Cinzia Amici, Roberto Pagani, Carlo Remino, Rodolfo Faglia*
18.15-18.30	Development of a robotic hand with soft sensors and actuators *Authors: **Dorin Copaci** , Paula Canora, Dolores Blanco, Luis Enrique Moreno Lorente*	Reservoir computing using spintronic diodes with mechanical coupling (**Abstract**) *Authors: Andrea Grimaldi, Davi R. Rodrigues, Andrea Meo, Giovanni Finocchio, **Francesca Garesci***	Improving Environmental Perception during Underwater Manipulation through Stereo Vision and Acoustic Imaging: a Simulation-Based Approach *Authors: **Michele Calabria** , Vincenzo Rino, Luigi Scarfone, Antonio Lagudi, Loris Barbieri, Fabio Bruno*
18.30-18.45	Fractional-order L1 adaptive controller with model-based feed-forward for VELOCE Parallel Manipulator *Authors: Bouchra Khoumeri, **Samir Ladaci** , Carbone Giuseppe*	Detecting and fixing anomalies in neuro-symbolic planning systems: a theoretical framework (**Abstract**) *Authors: **Luca Ferragina** , Simona Nisticò, Luigi Palopoli*	Simulative Investigation of Uneven Rotor Surfaces on the Drop-Down Behavior in Planetary Touch-Down Bearings *Authors: Benedikt Schüßler, **Karl Scholl** , Stephan Rinderknecht*
19.30-22.00	*Gala Dinner and Award Cerermony*		
	Thursday 12th		
	01 - SALA FILICUDI - Assistive and Collaborative Robotics - Session 1 *Chairpersons: Alessandro Gasparetto, Larisa Rybak*	**02 - SALA ALICUDI - Human Assistance and Medical Robotics** *Chairpersons: Bogdan Gherman, Alberto Borboni*	**03 - SALA VERSACE - Abstract - Session 1** *Chairpersons: Paolo Boscariol, Simone Leone*
9.00-9.15	Method for Optimizing the Structure and Parameters of Mobile Robots in a Group for Joint Solution of Agricultural Problems *Authors: **Larisa Rybak** , Dmitry Malyshev, Vladislav Cherkasov, Dmitry Dyakonov*	Engineering an Active Ankle-Foot Prosthesis: Conceptual Design for Enhanced Walking Dynamic *Authors: Nursultan Zhetenbayev, Sayat Akhmejanov , **Aidos Sultan** , Kassymbek Ozhikenov , Yerkebulan Nurgizat, Gani Sergazin*	A Backseat Control Architecture for Unmanned Marine Vehicles: a Case Study with a UUV *Authors: **Luigi Scarfone** , Santina Fortuna, Antonio Lagudi, Loris Barbieri, Fabio Bruno*
9.15-9.30	A navigation approach for autonomous mobile robots in sustainable agriculture *Authors: **Diego Tiozzo Fasiolo** , Lorenzo Scalera, Eleonora Maset, Baptiste Lesquerré-Caudebez, Andrea Fusiello, Alberto Beinat, Alessandro Gasparetto*	Design of a novel robotic instrument used for minimally invasive esophagectomy *Authors: **Bogdan Gherman** , Andrei Cailean, David Eles, Paul Tucan, Daniela Jucan, Alexandru-Vasile Pusca, Calin Vaida, Doina Pisla*	Assistive Device for Elderly Care Workers *Authors: **Taisuke Sakaki** , Kanta Aoki, Toshihiko Shimokawa, Takehiro Tashiro*
9.30-9.45	Four-pose Synthesis of a Generalized Rapson Slide Mechanism *Authors: Luciano Tomassi, **Giorgio Figliolini** , Chiara Lanni*	A Hands-On Platform for Learning Human-Robot Collaboration Using Gesture-Controlled Robotics *Authors: Francesco Crivellari, Valerio Cornagliotto, **Michele Polito** , Stefano Pastorelli*	IF the Cobots need to replace Humans *Authors: Vittoria Scalise, **Adrian Pisla** , Frank Andreas Schittenhelm, Sueleyman Torasan*
9.45-10.00	Effect of single-sided robotic leg support in the stand-to-sit motion of individuals with asymmetric leg strength *Authors: **Micah Jibril Alampay** , Ming Jiang, Yukio Takeda*	Prioritized Task Transition in Physical Interaction with Mobile Manipulators *Authors: Francesco Grella, Giorgio Cannata, **Pedro Figueroa Saire***	ROS2 Framework Based Design and Evaluation of an Autonomous Robotic System for Real-Time Grid Failure Assessment *Authors: Rhitam Dutta, Jay Dhamija, **Manish Jain** , Shauraya Aggarwal, Sachin Kansal, Ashish Singla*
10.00-10.15	Development of a Bearing Hub Unit Having Force Sensor Functionality for Assistive Robot Systems *Authors: **Daisuke Matsuura** , Yudai Baba, Tsune Kobayashi*	A tele-operated architecture based on a parallel position/velocity control for robot-aided percutaneous surgery *Authors: Clemente Lauretti, **Rosaura Morfino** , Francesco Cocco, Loredana Zollo*	
10.15-11.00	*Coffee break*		
	01 - SALA FILICUDI - Assistive and Collaborative Robotics - Session 2 *Chairpersons: Silvia Logozzo, Masaharu Komori*	**02 - SALA ALICUDI - PNRR Age-It: Ageing Well in an Ageing Society (Invited Truck)** *Chairpersons: Emanuele Menagatti, Alessandra Del Felice*	**03 - SALA VERSACE - Abstract - Session 2** *Chairpersons: Dmitry Malyshev, Francesco Lago*
11.00-11.15	Development of a Cooperative Learning-Based Operation System for Estimating Operator Intent and Enhancing Hands-Free Mobility *Authors: **Yoshito Kamon** , Misato Nihei, Yusuke Sugahara, Chao Lyu, Yuri Nishiwaki, Takazumi Ono*	Brain reactivity to peripheral nerve stimulation during motor tasks with and without lower limb exoskeleton: a neurophysiological marker of human-robot embodiement *Authors: Margherita Bertuccelli, Stefano Tortora, Edoardo Trombin, Mariasole Pasinato, William Tasinazzo, Emanuele Menegatti, Giovanni Sparacino, **Alessandra Del Felice***	Using AVL EXCITE™ as educational platform to study dynamics and vibrations of engines and powertrains *Authors: **Tigran Parikyan***
11.15-11.30	Robotically Assisted Biopsychosocial Performance Enhancement of Paralympic Athletes *Authors: Adrian Pisla, **Danut Ilie Popa** , David Mihai Lupu, Laura Roxana Bodea, Ioana Rada Popa Ilie*	Model Parameters Estimation of a Robotic Device for Upper Limb Neuromotor Rehabilitation *Authors: Mario Visconte, Francesca Alvaro, Rocco Adduci, Michele Perrelli, **Domenico Mundo***	Feedback Linearization-Based Control of Lower Limb Exoskeleton Using Hybrid GA-PSO Technique *Authors: S. Anup Chander, M.P.S. Shyam Sundar, Anant Tomar, Ravjeet Singh, V. D. Shivling , Ashish Singla, Jay Dhamija, **Manish Jain***
11.30-11.45	Cobot Technology for Emergencies Approach *Authors: Adrian Pisla, Laura Roxana Bodea, **Alina-Beatrice Oltean** , Bogdan Vartolomei, Eugen-Dănuț Mariș*	InteLLExo: an open framework for boosting the development of intelligent exoskeletons *Authors: Francesco Bettella, Stefano Tortora, Riccardo Novello, Edoardo Trombin, Luigi Alberti, **Emanuele Menegatti** , Nicola Petrone, Alessandra Del Felice*	Data Driven Conceptual Design of Reconfigurable Robot for Non-surgical Medical Assistance *Authors: Shreyas Maheshkumar Patel, Ashish Kumar Rout, Ekta Singla, Ashish Singla, **Jay Dhamija** , Manish Jain*
11.45-12.00	From Vision to Grasp: Agricultural product recognition and manipulation trough TCP Dynamic Realignment *Authors: **Nader Al Khatib** , Daniele Cafolla*	Conceptual and Functional Design of a New Sustainable Cable-Driven Hip Exoskeleton *Authors: Giovanni Gerardo Muscolo, Michele Conconi, Lorenzo Chiari, **Alessandra Del Felice** , Nicola Sancisi*	Design and Implementation of a Power Electronic System for an Autonomous Martian Rover *Authors: Maadhav Katyal, Astik Thukral, Yachit Guliani, Pranjay Dhawan, Sachin Kansal, Ashish Singla, **Jay Dhamija** , Manish Jain*
12.00-12.15	Study of contact deformations in human and robotic fingertips for haptic applications *Authors: Silvia Logozzo, Monica Malvezzi, **Maria Cristina Valigi***	Development of a dynamic fixing system for wearable robotics *Authors: **Michele Perrelli** , Simone Leone, Carbone Giuseppe*	
12.30-13.00	*Closing Ceremony*		
13.00-14.30	*Lunch*		
14.30-19.00	*Visit to Reggio Calabria and MArRC Museum*		