



50TH ANNIVERSARY

ADM2024

INTERNATIONAL CONFERENCE

SEPTEMBER 11th-13th, 2024

Palermo

SCIENTIFIC PROGRAM



ADM 2024 INTERNATIONAL CONFERENCE
SEPTEMBER 11th-13th, 2024 - PALERMO

1ST DAY – 11/09/2024

9.00 – 13.00

CONFERENCE REGISTRATION

10.30 – 11.00

CONFERENCE OPENING
ROOM: AULA MAGNA

11.00 – 11.30

COFFEE BREAK

ROOM: 0010

11.30 – 13.30 **SESSION A.1 - Engineering Methods in Medicine**
chairman: Rocco FURFERI

#138 Sensor-based Bioprosthetic Valve Monitoring: Numerical Simulation and Experimental Design. **Puleo Silvia**, Diana Gianluca, Pasta Salvatore, Scardulla Francesco, D'Acquisto Leonardo.

#179 The effect of implant parameters on primary stability of transhumeral osseointegrated implant. **Cirello Antonino**, Ingrassia Tommaso, Marannano Giuseppe, Mirulla Agostino Igor, Nigrelli Vincenzo, **Valenti Andrea**.

#170 Facial Wrinkles as Indicators of Cardiovascular Risk: An Interdisciplinary Approach Using 3D Scanning Technology. **Salmeri Fabio**, Catalano Antonio, Colonna Michele Rosario, Cucinotta Filippo, D'amico Aurora, Galeano Mariarosaria, Sfravara Felice, Raffaele Marcello.

#181 Fluid dynamic and morphological investigation of middle cerebral artery bifurcation aneurysm for rupture risk evaluation. **Cirello Antonino**, Ingrassia Tommaso, Nigrelli Vincenzo, Ricotta Vito, **Tantillo Micol**.

#125 A Calibration Method for Gait Analysis with a Single Inertial Sensor in Telerehabilitation. **Cattaneo Andrea**, Scaburri Andrea, Vitali Andrea, Regazzoni Daniele, Rizzi Caterina.

#129 Integrating Social Impact Indicators into Environmental Analysis: A Proposal for Televisit Assessment. **Savoldelli Anna**, Landi Daniele, Rizzi Caterina.

1ST DAY – 11/09/2024

ROOM: 0011

11.30 – 12.30 SESSION B - Knowledge and Product Data Management
chairman: Marco MANDOLINI

#143 Integration of House of Quality and Black Box Analysis for the Elicitation of Mechatronic System Requirements. **Pasquariello Agnese**, *Rega Andrea, Vitolo Ferdinando, Patalano Stanislao.*

#148 Defining Relationships between Model Elements in Model-Based Systems Engineering (MBSE): the DREME Framework. **Pasquariello Agnese**, *Rega Andrea, Vitolo Ferdinando, Patalano Stanislao.*

#153 Knowledge-based Mathematical Model to Design Personalized Orthodontic Treatments. **Aruanno Beatrice**, *Barone Sandro, Bordegoni Monica, Razionale Armando Viviano.*

ROOM: 0012

11.30 – 12.30 SESSION E.1 - Product Design and Engineering
chairman: Nicola CAPPETTI

#110 Integration between AI and TRIZ for technical innovation. **Freddi Marco**, *Galiè Giulio, Donnici Giampiero, Giusti Irene, Francia Daniela.*

#136 Engineering Design and Prototyping Methodology in Complex Environments: The In-Bore Welding Tool. **Claps Vincenzo**, *Di Giacomo Antonio, Salvato Rocco, Sorgente Donato, Mozzillo Rocco.*

#199 Preliminary Design of a General Control Architecture for the DTT Remote Handling Facility. **Fimiani Andrea**, *Sofia Alessandro, Fontanelli Giuseppe Andrea, Grazioso Stanislao, Zoppoli Andrea, Reale Andrea, Di Gironimo Giuseppe.*

ROOM: 0011

12.30 – 13.30 SESSION C - Collaborative and Soft Robotics
chairman: Felice SFRAVARA

#140 Integrated design of robotic grippers for uncured CF-SMC. **Pini Fabio**, *Leali Francesco, Dimauro Alessandro, Serradimigni Davide, Benni Enrico.*

#191 Design and Prototyping of a Tip-Mounted Hybrid Magnetic Cap for Bio-inspired Soft Growing Robot. **Sabella Roberto**, *Fontanelli Giuseppe Andrea, Grazioso Stanislao, Lanzotti Antonio.*

#196 Methodology for design optimization of silicone-based pneumatic soft bending actuators for agrifood applications. **Ostuni Benedetta Maria Vita**, *Grazioso Stanislao, Caporaso Teodorico, Lanzotti Antonio.*

1ST DAY – 11/09/2024

ROOM: 0011

SESSION D.1 - Integrated methods for product and process design, Simulation, Analysis and Optimization
14.30-16.00 *chairman: Salvatore GERBINO*

#126 CFD Model for Thermal Impedance Evaluation of a SiC-based Traction Inverter Considering Heat Coupling Effects. **Donetti Luca**, *Musolino Mattia, Fiore Michele, Mauro Stefano, Calabretta Michele, Sequenzia Gaetano.*

#152 Physics-Informed Neural Networks for Industrial Applications: a Case Study in Thermal Power Prediction of an AHU for a Topcoat Process. **Ciampi Francesco Giuseppe**, *Rega Andrea, Diallo Thierno M.L., Patalano Stanislao.*

#168 Management of modal shapes and participation factor of a leaf spring exploiting parameters of Voronoi Tessellation. **Raffaele Marcello**, *Calì Michele, Cucinotta Filippo, Salmeri Fabio, Sfravara Felice.*

#204 Investigation on the Results Scalability of Towing Tank Tests Performed on a Planing Air Cavity Ship. **Chillemi Massimiliano**, *Cucinotta Filippo, Sfravara Felice.*

ROOM: 0012

14.30 – 16.00 **SESSION G.1 - Virtual and Augmented Reality**
chairman: Francesco FERRISE

#102 Immersing in Cultural Heritage: exploring artworks through an Augmented Reality virtual walking tour. **Marino Emanuele**, *Barbieri Loris, Drago Manuel Fortunato, Bruno Fabio.*

#114 Indoor Navigation Systems with Extended Reality: a comparison of different approaches. **Grandi Fabio**, *Morganti Alessio, Peruzzini Margherita, Raffaeli Roberto.*

#117 Investigating Age-related Performance and User Experience Differences in Immersive Virtual Reality Industrial Training Applications. **Evangelista Alessandro**, **De Giglio Vito**, *Manghisi Vito Modesto, Uva Antonio Emmanuele.*

#121 METAGREENVERSE: Exploring the User Experience in a Biophilic Metaverse Workspace. **Romano Sara**, *Laviola Enricoandrea, Uva Antonio Emmanuele, Gattullo Michele.*

#176 VR-Based Solution for Medical Ultrasounds Training. **Piazzolla Pietro**, *Gribaudo Marco, Bertolini Michele, Colombo Giorgio.*

2ND DAY – 12/09/2024

ROOM: 0010

9.00 – 10.30

SESSION H - Reverse Engineering, Digital Acquisition, Image Processing and Inspection

chairman: *Paolo NERI*

#104 Enhancing Tire Wear Evaluation: a Novel Approach to Analyze Tread Geometry Evolution. **Pietroni Gabriele**, *Rossoni Marco, Colombo Giorgio.*

#106 Deep Learning Approach for the Future Advanced Driver Assistance Systems. **Sitta Alessandro**, *Calabretta Michele, Rundo Francesco, Rundo Michael, Spampinato Concetto, Sequenzia Gaetano.*

#169 A Methodological Approach for the Evaluation of Deformations in Additively Manufactured Lattice Structures. **Maltauro Mattia**, *Grigolato Luca, Elsayed Hamada, Dal Fabbro Pierandrea, Meneghello Roberto, Concheri Gianmaria, Savio Gianpaolo.*

#173 A New Computer-based Method for Digital Reconstruction of Archeological Bells from the Fragments of their Casting Mantle. *Di Angelo Luca, Di Stefano Paolo, Forgiione Alfonso, Guardiani Emanuele, Morabito Anna Eva.*

#175 An overview of camera-based methods for the Human Pose Estimation. *Di Angelo Luca, Di Stefano Paolo, Guardiani Emanuele.*

ROOM: 0011

09.00 – 10.30

SESSION L - Human Factors and Ergonomics

chairman: *Maura MENGONI*

#124 Ergonomic Risk and Discomfort Assessment of hairdressers' tasks: the case of shampoo assistant job. **Califano Rosaria**, *Naddeo Alessandro.*

#137 A Sensor-Based Approach for Automatic and Objective Ergonomic Risk Indices Calculation. **Ciccarelli Marianna**, *Papetti Alessandra, Germani Michele.*

#139 A Multibody Model of the Exoskeleton-Human Body System for Ergonomic Design. **Pascoletti Giulia**, *Di Natali Christian, Sposito Matteo, Franceschini Giordano, Bianconi Francesco, Zanetti Elisabetta Maria.*

#166 Sensor-Based Evaluation of Work-Related Postural Risk in Municipal Waste Collection. **Papetti Alessandra**, *Ciccarelli Marianna, Micucci Filippo Maria, Germani Michele.*

#194 Enhancing Ergonomics and Aesthetics in Hybrid Sports Vehicle Design: A Comprehensive Methodology Integrating IDeS & Human-Centered Approach. **Pagliari Curzio**, *Pignatelli Edoardo, Seclì Alessandro, Frizziero Leonardo.*

2ND DAY – 12/09/2024

ROOM: 0012

09.00 – 10.30 **SESSION M – Virtual Reality and Education**
chairman: Antonio E. UVA

#160 A collaborative XR platform for streamlining industrial maintenance activities. *Marino Emanuele, Bevacqua Gerardo, Fortunato Drago Manuel, Fortuna Santina, Barbieri Loris, Bruno Fabio, Muzzupappa Maurizio.*

#178 Driving Experience Evaluation of AR and VR Integration in a Driving Simulator. *Cappetti Nicola, Baiamonte Giuliana, Daniele Mario, Sorrentino Alfonso, Fontana Carlotta.*

#118 Towards human-centric industrial training. *Becattini Niccolò, Cascini Gaetano, Covarrubias Rodriguez Mario, Dozio Nicolò, Ferrise Francesco, Li Shumin, Morosi Federico, Napoletano Linda, Zanatto Debora, Vanucci Erica.*

#120 Learning in Immersive Environments – A Comprehensive Framework for Technology-Related Skill Acquisition. *Becattini Niccolò, Cascini Gaetano, Covarrubias Rodriguez Mario, Dozio Nicolò, Ferrise Francesco, Li Shumin, Morosi Federico.*

#161 XR Technologies in Mechanical Engineering Education. *De Crescenzo Francesca, Tassinari Maria Elena, Frizziero Leonardo, Liverani Alfredo, Marcuccio Massimo.*

10.30 – 11.00

COFFEE BREAK

ROOM: 0010

11.00 – 12.15 **SESSION I.1 - Design for Sustainability and EcoDesign**
chairman: Loris BARBIERI

#146 Toward a Collaborative Platform for the Life Cycle Design and Management of Electrical and Electronic Equipment. *Marconi Marco, Favi Claudio, Pietroni Giorgia, Tamborrini Paolo Marco, Marino Cristina, Fiore Eleonora.*

#149 EDAM: lifecycle engineering framework for ecodesign AM components in transport vehicles. *Marconi Marco, Mandolini Marco, Murgese Luca, Villazzi Nicola, Gallozzi Simone, Favi Claudio.*

#111 Exploring Product Circularity Indicators: Assessing Applicability across Diverse Product Categories. *Chroukate Sokaina, Orzes Guido, Borgianni Yuri.*

#109 Digital Product Passports: A Framework for Developing Adaptable and Compliant Data Models. *Gianvincenzi Mattia, Marconi Marco, Mosconi Enrico Maria, Pennino Diego, Tola Francesco.*

2ND DAY – 12/09/2024

ROOM: 0011

**SESSION D.2 - Integrated methods for product and
11.00 - 12.15 process design, Simulation, Analysis and Optimization**
chairman: Domenico MARZULLO

#115 Experimental and Numerical Correlation Method for Carbon Fiber Sheet Moulding Compound Analysis. **Galati Nicolò**, *Gherardini Francesco, Leali Francesco.*

#116 A Procedure to Model and Simulate Customized Porous Scaffolds Employed in Tissue Regeneration. **Vaiani Lorenzo**, *Uva Antonio Emmanuele, Ballini Andrea, Cantore Stefania, Boccaccio Antonio.*

#182 A comparative analysis of meta-heuristic algorithms for finite element optimization. *Cirello Antonino, Ingrassia Tommaso*, **Marannano Giuseppe**, *Ricotta Vito.*

#100 Ambulance Siren's Active Noise Cancellation: Reference Synthesis and Switching FxNLMS on Real-Time Target Hardware. **Buttarazzi Massimo Generoso**, *Borchi Francesco, Mambelli Alessandro, Carfagni Monica, Governi Lapo, Puggelli Luca.*

ROOM: 0012

11.00 – 12.15 SESSION N.1 - Design for Additive Manufacturing
chairman: Luca DI ANGELO

#113 2D Frequency-based topological optimization: Machine Learning to aid tuning simulation parameters. **Bacciaglia Antonio**, *Ciccone Francesco, Ceruti Alessandro, Peruzzini Margherita.*

#172 Design of a Local Heating System for Cost-effective Fused Filament Fabrication of PEEK. **Tamburrino Francesco**, *Aruanno Beatrice, Neri Paolo, Paoli Alessandro.*

#174 A multi-criteria analysis method in algorithm-driven design. **Agostinelli Thomas**, *Ceccacci Silvia, Giancamilli Giovanni, Generosi Andrea, Mengoni Maura.*

#203 A strategy towards in situ monitoring and quality assessment of 3D components manufactured by FDM: preliminary features. *Gloria Antonio*, **Di Bernardo Romolo**, *Fuscone Alessandra, Papallo Ida, Speranza Domenico, Acerra Francesco, Gatta Davide Maria, Cannizzaro Davide, Martorelli Massimo.*

2ND DAY – 12/09/2024

ROOM: 0010

12.15 – 13.15 **SESSION E.2 - Product Design and Engineering**
chairman: Barbara MOTYL

#150 Approach to the redesign of agro-industrial products based on a reduced version of the value analysis methodology (VAM-2P) and CAD/CAE tools. Harvesting trolley case study. *Robles-López Juan José, González-Yebra Óscar, Aguilar Fernando José, Aguilar Manuel Ángel.*

#192 Preliminary concept design of an innovative under-actuated gripper for the remote handling operations in the RFX-mod2 fusion machine. **Fusco Salvatore**, *Sofia Alessandro, Fontanelli Giuseppe Andrea, Grazioso Stanislao, Di Gironimo Giuseppe.*

#144 Machine learning for costing sheet metals. **Luca Manuguerra**, *Marco Mandolini, Mikhailo Sartini, Michele Germani.*

ROOM: 0011

12.15 – 13.15 **SESSION F.2 - Virtual Prototyping and Digital Twin**
chairman: Francesca DE CRESCENZIO

#145 Computer-Aided Design and Multibody Modelling Integrated Approach for Virtual Prototyping of Customized Industrial Systems. **Rega Andrea**, *Pasquariello Agnese, Vitolo Ferdinando, Cirillo Pierluigi, Patalano Stanislao.*

#167 Development of a Decision Support Tool for Projector-based Augmented Reality Component Selection through Design for Mass Personalization Methodology. *Piñones Eduardo, Morosi Federico, Apablaza Valentina, Ozdemir Mehmet.*

#183 BIM Methodology for Built Environment Management. *Limongiello Marco, Di Filippo Andrea, Cappetti Nicola, Villecco Francesco.*

ROOM: 0012

12.15 – 13.15 **SESSION A.3 - Engineering Methods in Medicine**
chairman: Daniele REGAZZONI

#159 GripDome Prototype: Customizable Grip Strength Assessment in Stroke Rehabilitation. **Torzini Lorenzo**, *Puggelli Luca, Volpe Yary, Governi Lapo, Buonamici Francesco.*

#147 KARMA: an Instrumented Sleeve for Estimation of Knee Joint Angles, a Pilot Study. *Miller Corinna, Sanseverino Giuseppe, Salvi Andrea Giordano, Chuang Lewis, Odenwald Stephan.*

#190 Shape memory waterbomb origami by polylactic acid fused filament fabrication for biomedical devices. **Uccheddu Francesca**, *Savio Gianpaolo.*

2ND DAY – 12/09/2024

13.15 – 14.30

LUNCH

ROOM: AULA MAGNA

14.30 – 15.30

ADM MEETING

15.30 – 16.30

50th ANNIVERSARY CELEBRATION

16.30 – 17.00

COFFEE BREAK

3TH DAY – 13/09/2024

ROOM: 0010

09.00 – 10.30 SPECIAL SESSION 2.1 - Geometrical product specification and Tolerancing

organizers: Gianmaria Concheri, Roberto Meneghello, Mattia Maltauro, Michele Calì, Rita Ambu

#197 Easy experimental cylindricity tolerance verifications in close-range bushings of automotive hinges. **Di Martino Gianfranco, Dusini Luca, Nicoletta Alberto, Lo Savio Fabio, Tuccari Giuseppe, Calì Michele.**

#155 Trends in Engineering Education on ISO GPS and GD&T: A Look at Today and Tomorrow. **Motyl Barbara, Filippi Stefano, Uberti Stefano, Baronio Gabriele.**

#107 Towards an analytical generalization for Conformity Rate Estimation of Shaft-Hole Pattern Fit Not Compliant with the Boundary Condition Design Criterion. **Maltauro Mattia, Fontana Davide, Meneghello Roberto Concheri Gianmaria.**

#131 Multi Response Optimization for Geometrical Accuracy of Metal Binder Jetting Products. **Zago Marco, Cristofolini Ilaria.**

ROOM: 0011

09.00 – 10.30 SPECIAL SESSION 1 - Design Methods for Mobility

organizers: Francesco Leali, Giovanni Berselli, Antonio Mancuso, Domenico Marzullo, Alfredo Liverani, Francesca De Crescenzo

#112 Urban Air Mobility for Medical Delivery: an Innovative Approach to Healthcare Logistics. **Dalpadulo Enrico, Vergnano Alberto, Leali Francesco.**

#154 Prototyping Urban Environments towards Extended Reality-based Human Machine Interfaces for Advanced Air Mobility and Urban Air Mobility. **De Crescenzo Francesca, Gomes Araujo Millene.**

#180 Sailing yacht foil design, a comparison between Vortice Lattice Method and CFD Rans simulations. **Cirello Antonino, Gulizzi Vincenzo, Mancuso Antonio.**

#201 The role of virtual prototyping in a new approach to integrated ship design. **Padolecchia Donato, Bertagna Serena, Bucci Vittorio, Marino' Alberto.**

#invited speech - Research and Career paths in Mobility: a success story at ADM. **Sandhya Santhosh.**

3TH DAY – 13/09/2024

ROOM: 0012

9.00 – 10.30 **SESSION O - Experimental Methods in Product Development**
chairman: Davide TUMINO

#128 Towards Precision Extraction: Machine Learning-Based Prediction of Oil and Water Content in Olive Paste and Pomace. *Magherini Roberto, Spadi Agnese, Servi Michaela, Masella Piernicola, Furferi Rocco.*

#130 VTS Dynamic Model and Experimental Validation for Vibration Suppression. **Neri Paolo**, *Barone Sandro, Paoli Alessandro, Contreras-martinez Crispin, Pronitchev Oleg, Pischalnikov Yuriy, Giaccone Bianca.*

#158 Definition of an experimental method and setup for high temperature deformation measurements on FEBIAD-type ion source. **Giroto Alberto**, *Ballan Michele, Rebesan Pietro, Bodini Ileana, Isceri Antonio, Paderno Diego, Dima Razvan, Pepato Adriano, Manzolaro Mattia, Villa Valerio.*

#164 Challenges in the Selection of New Product Development Models for SMEs. **Dal Fabbro Pierandrea**, *Grigolato Luca, Maltauro Mattia, Vargiu Elisa, Meneghello Roberto, Concheri Gianmaria, Savio Gianpaolo.*

#184 Muscle synergy-based design method of electromyographic shorts for monitoring motor and fun activities with playground equipment. *Caporaso Teodorico, Megna Alessia, Grazioso Stanislao, Vietto Gianpiero, Lanzotti Antonio.*

10.30 – 11.00

COFFEE BREAK

ROOM: 0010

11.00 – 12.15 **SPECIAL SESSION 2.2 - Geometrical product specification and Tolerancing**
organizers: Gianmaria Concheri, Roberto Meneghello, Mattia Maltauro, Michele Calì, Rita Ambu

#205 - Invited paper - For a Global Process to Set a Geometrical Product Specification [GPS²]: a R&D Roadmap Toward an Extensive and Extended Use of Situation features in ISO Geometrical Product Specification (GPS) Standards. **NICQUEVERT Bertrand.**

#142 Computer-Based Methodology for Geometric Specification Allocation and Stack-Up Analysis for Automotive Components. **Dalpadulo Enrico**, *Pini Fabio, Leali Francesco.*

#200 A functional DfT approach in hinges supported by close-range bushings. **Laudani Giuseppe**, *Di Martino Gianfranco, Baiamonte Giuliana, Dusini Luca, Ambu Rita, Calì Michele.*

#108 Statistical Assembly shift a numerical approach applied to pattern of fits. **Maltauro Mattia**, *Meneghello Roberto Concheri Gianmaria.*

3TH DAY – 13/09/2024

ROOM: 0011

11.00 – 12.15 SESSION N.2 - Design for Additive Manufacturing
chairman: Ilaria CRISTOFOLINI

#105 Reasons Behind Selecting a Manufacturing Process: A Semi-structured Interview Study. **Ördek Baris**, *Borgianni Yuri*.

#198 Design and assessment of functionally graded lattices. **Ambu Rita**, *Aymerich Francesco*.

#177 A Design Method for Graded Density Components by Polylactic Acid Foaming via Material Extrusion. **Grigolato Luca**, *Dal Fabbro Pierandrea, Meneghello Roberto, Concheri Gianmaria, Savio Gianpaolo*.

#157 Lightweighting of a kart connecting rod in Additive Manufacturing. **Trovato Michele**, *Cicconi Paolo*.

ROOM: 0012

11.00 – 12.15 SESSION A.4 - Engineering Methods in Medicine
chairman: Gianpaolo SAVIO

#122 Does Bony Morphology Influence Anterior Cruciate Ligament Reconstruction Surgical Outcomes?. **Ghidotti Anna**, *Zamarian Andrea, Regazzoni Daniele, Weiss Cohen Miri, Condello Vincenzo*.

#163 Development of a User-Centred Assessment Protocol for the Optimization of a SW Interface for Older Adults. **Caragiuli Manila**, *Brunzini Agnese, Massera Chiara, Candelari Mara, Germani Michele*.

#186 Automatic Configuration of a Telerehabilitation Platform for Neurological Patients. **Mostachetti Ivana**, *Vitali Andrea, Regazzoni Daniele, Rizzi Caterina*.

#188 Validating Finite Element Model for Lumbar Spine with Experimental Data. **Sciortino Vincenza**, *Cerniglia Donatella, Pasta Salvatore, Cirello Antonino, Ingrassia Tommaso*.

3TH DAY – 13/09/2024

ROOM: 0010

12.15 – 13.30

SESSION N.3 - Design for Additive Manufacturing
chairman: Rita AMBU

#101 The simultaneous effect of FFF build orientation on tensile strength, flatness and roughness. **Greco Alessandro**, *Russo Mario Brandon, Cardilicchio Antimo, Gerbino Salvatore.*

#123 A Short Overview Of Optimization Methods For BBC, FCC And Octet Lattice Structure. **Schifano Biagio**, *Sequenzia Gaetano, Calabretta Michele.*

#141 Advancements in Design of Personalized Bone Scaffolds and Fabrication through 3D Printing. **Alessandri Giulia**, *Pagliari Curzio, De Santis Marella, Frizziero Leonardo.*

#195 A New BCC Lattice Modelling Approach Through a Neural Network Optimisation. Mantegna Giuseppe, *Vindigni Carmelo Rosario, Alaimo Andrea, Catalanotti Giuseppe, Tumino Davide.*

ROOM: 0011

12.15 – 13.30

SESSION G.2 - Virtual and Augmented Reality
chairman: Francesca CAMPANA

#162 Varjo XR-3 vs HoloLens 2 for Maxillofacial Surgery: A Preliminary Comparative Assessment. **Brunzini Agnese**, *Senesi Paolo, Mandolini Marco, Pagnoni Mario, Mazzoli Alida.*

#185 Virtual Reality in Systems Engineering: a Case Study in ITER RNC Maintenance Operations. **Occhiuto Enrico**, *Clagnan Andrea, Massanova Nicola, Vinoni Pietro, Marzullo Domenico.*

#202 Study of Procedures for Real-Time 2D Deformation of Automotive Components during Virtual Assembly Operations. **Spadoni Federico**, *Belluomo Luca Giovannoli Pietro, Bici Michele, Campana Francesca.*

#127 Virtually driven Closure of the Epicardial Left Atrial Appendage with Augmented Reality and Computational Modelling. **Costagliola Eleonora**, *Pasta Salvatore, Sciacca Sergio, Musumeci Francesco.*

3TH DAY – 13/09/2024

ROOM: 0012

12.15 – 13.30 **SESSION I.2 - Design for Sustainability and EcoDesign**
chairman: Yuri BORGIANI

#171 Towards Eco-Friendly Marine Monitoring: The Development and Environmental Impact Assessment of Autonomous Smart Buoys. **Salmeri Fabio**, Barbieri Loris, Cucinotta Filippo, Raffaele Marcello.

#103 Study and Application of a New Index to Support Design for Disassembly. **Cappelletti Federica**, Manuguerra Luca, Rossi Marta, Germani, Michele.

#156 Towards Sustainable Furniture: Evaluating Environmental Impact Perception and Tools for Circular Design. **Sartini Mikhailo**, Rossi Marta, Mandolini Marco, Mundo Miriana, Germani Michele.

#151 Eco-design and Life Cycle Management: Life Cycle Assessment and Artificial Intelligence. **Avogadri Simone**, Spreafico Christian, Landi Daniele, Russo Davide.

13.30 – 14.30

LUNCH

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SEPTEMBER 11-13, 2024 - PALERMO

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