



- The International Academy for Production Engineering
- College International pour la Recherche en Productique
- Internationale Akademie fuer Produktionstechnik

CIRP CCMPM 2026 Conference



4th CIRP Conference on COMPOSITE MATERIAL PARTS MANUFACTURING

14 - 16 October 2026, Rome, Italy



	Tuesday, October 13 - Conference Registration and Welcome
17.00 - 18.00	Conference Registration at Roma Tre University, Via Vito Volterra 62, 00146 Rome, Italy
18.00 - 19.00	Welcome Reception and Get Together at 18.00, Roma Tre University, Via Vito Volterra 62, 00146 Rome, Italy

DAY 1	Wednesday, October 14 - Plenary Session: 09.15 - 11.00	
	CONFERENCE OPENING AND PLENARY SESSION	
08.00-09.00	Late Registration	
09.15 - 11.00	Conference Opening and Greetings <i>Alessandra Caggiano, CIRP CCMPM 2026 Conference Chair, Italy</i> Plenary Session Presentations <i>Jürgen Fleischer (Germany)</i> – Volatile markets, increasing individualization and circular economy <i>Lothar Kroll (Germany)</i> – Challenges in Testing Next Generation Composite Structures <i>André Hürkamp (Germany)</i> – From Process Understanding to Smart Manufacturing: Simulation and AI for Thermoplastic Composite Parts	
11.00 - 11.30	Coffee Break	
DAY 1	Wednesday, October 14 - Morning Sessions: 11.30 - 13.10	
	SESSION A1 Chair: Rafi Wertheim	SESSION B1 Chair: Zhijian Pei
	Machining Technologies I	Additive Manufacturing I
11.30 - 11.50	Fibre-pattern-aware machining (FPAM) of carbon fibre-reinforced polymer (CFRP) composites <i>Norbert Geier, Levente Bukor (Hungary)</i>	Investigation of multiple integration of carbon fiber-reinforcements in a novel laser sintering process and resulting flexural properties <i>Simon Zeidler, Sebastian Henschel, Jürgen Fleischer (Germany)</i>
11.50 - 12.10	Experimental Investigation of Band Sawing GFRP Pipes: Thermal Loads, Blade Behaviour, and Chip Transport <i>Tobias Tandler, Rocco Eisseler, Hans-Christian Möhring (Germany)</i>	Binder jetting 3D printing of silicon carbide-aluminum composites without infiltration: effects of sintering temperature on density, compressive strength, and microstructure <i>Jackson Sanders, Edoardo Ghinatti, Md Shakil Arman, Zhijian Pei (USA)</i>
12.10 - 12.30	Temperature-dependent empirical cutting force model of polyimide vitrimer CFRP composites <i>Daniel Istvan Poor, Alexander Brouschkin, Michel Seiffert, Akos Pomazi, Andrea Toldy, Jan Dege, Norbert Geier (Hungary)</i>	Life cycle assessment of a copper heat exchanger manufactured using laser powder bed fusion (LPBF): Influence of powder supply chain, energy supply and industrial scaling on environmental impacts <i>Emma Tschiene, Martin Zumpe, Natalie Frühholz, Florian Bittner, Steffen Ihlenfeldt (Germany)</i>
12.30 - 12.50	A Tool Wear Monitoring Method for CFRP Milling Based on Vibration and Thermal Signal Fusion <i>Shiwei Zhang, Fuji Wang, Yongquan Lin, Junyu Qian, Zhenyuan Jia, Hongwei Zhao, Rao Fu (China)</i>	Hybrid Manufacturing of PEEK-CF30: Milling Strategies and FFF Infill Pattern Effects on machinability and geometric quality <i>E. García-Plaza, J. Vallejo, P.J. Núñez, J.M. Chacón, M.A. Caminero, E.M. Beamud (Spain)</i>
12.50 - 13.10	Development and application of a sensor to control temperature in machining composite materials <i>Rafi Wertheim (Germany)</i>	Failure Analysis and Multiscale Learning Strategies for Robust Surface Crack Detection in Extrusion-Based Additive Manufacturing <i>Marziyeh Mohammadi, Jinghou Bi, Shirin Salehi, Roman Rezaev, Anke Schmeink (Germany)</i>
13.10 - 15.00	Lunch	

DAY 1	<i>Wednesday, October 14 - Afternoon Session: 15.00 - 17.00</i>	
	SESSION A2 Chair: Lothar Kroll	
	Special Session on DediGrad Project	
15.00 - 15.20	Parametric Investigation and Adaptation of a Multi-Material Tape Placement Applicator for the Manufacturing of Graded Thermoplastic Laminates <i>Xiaofei Ni, Michael Emonts, Christian Brecher (Germany)</i>	
15.20 - 15.40	A Simulation-Based CNN Surrogate for Local Fiber Orientation Prediction in Compression Molding <i>Klara Liesegang, Alexander Dementyev, Steffen Ihlenfeldt (Germany)</i>	
15.40 - 16.00	Influence of Carbon Textile Architecture on the Infiltration Quality of Novolak-Based Short-Fibre Compounds <i>M. Büttner, D. Breinl, K. Roder, J.H.M. Stiller, T. Krüger, S. Rudolph, D. Löpitz, D. Nestler, W.-G. Drossel, L. Kroll (Germany)</i>	
16.00 - 16.20	Process Development and Analysis of T-Beam Pultrusion with a Non-Impregnated Area for Further Graded Structural Integration <i>D. Breinl, M. Büttner, S. Rudolph, T. Krüger, D. Löpitz, M. Knobloch, K. Roder, A. Spickenheuer, J.H.M. Stiller, D. Nestler, L. Kroll, W.-G. Drossel (Germany)</i>	
16.20 – 16.40	A finite element analysis of shape-memory alloy-induced fibre orientation in reinforced rib structures of fibre-reinforced plastics <i>Tony Krüger, Stephan Rudolph, Kenny Pagel, Welf-Guntram Drossel (Germany)</i>	
16.40 – 17.00	Improved Rib Bonding on Thermoplastic Organic Sheets through Local Gradation <i>Ricardo Decker, Franz Böttger, Heiner Reinhardt, Lothar Kroll, Matthias Klaerner (Germany)</i>	
	<i>End of Day 1</i>	

DAY 2	<i>Thursday, October 15 - Morning Sessions: 09.00 - 13.10</i>	
	SESSION A3 Chair: Norbert Geier	SESSION B3 Chair: Alessandro Simeone
	Machining Technologies II	Sustainable Manufacturing & Life Cycle Assessment
09.00 – 09.20	Frequency-based axial force characterisation of interlayer damage in CFRP/Al stacks drilling <i>Markó Balázs, Norbert Geier (Hungary)</i>	Investigation of the suitability of sustainable fiber materials for use in prestressed fiber-reinforced polymer concrete <i>Michelle Engert, Hans-Christian Möhring (Germany)</i>
09.20 – 09.40	The impact of mechanical support conditions on drilling-induced delamination in GFRP composites <i>Tamás Lukács, Norbert Geier (Hungary)</i>	Investigation of sustainable composite materials for use in machine tools <i>André Jaquemod; Michelle Engert; Oliver Widmann; Hans-Christian Möhring (Germany)</i>
09.40 - 10.00	In-Situ Delamination Estimation in Robotic Drilling of CFRP/Al Multi-Material Stacks Using Force and Torque Sensing and Machine Learning <i>Leo Lassalle, Giulio Mattera, Alessandra Caggiano, Massimiliano Barletta, Luigi Nele (Italy)</i>	Development and characterization of biodegradable polymer blends for sustainable foamed food packaging applications <i>Gianluca Palangio, Maria Pia Desole, Annamaria Gisario, Massimiliano Barletta (Italy)</i>
10.00 - 10.20	Effect of Instantaneous Tool-Fiber Interactions on Cutting Force Shapes during End Milling of CFRP Composites <i>Darshan S, K. A. Desai, Abir Bhattacharyya (India)</i>	Mechanical characterization and environmental life cycle assessment of carbon fiber composite materials with different reinforcement and thickness cured in autoclave <i>Marco Dinucci, Lorenzo Canaroli, Vincenzo La Battaglia, Niccolò Baldi, Francesco Del Pero, Gabriele Arcidiacono, Paolo Citti (Italy)</i>
10.20 – 10.40	Research Advance Review of Machining Technology for Fiber Reinforced Polymer Composite Components <i>Rao Fu, Zhenyuan Jia, Fuji Wang (China)</i>	Comparative Life Cycle Assessment of a Pultruded GFRP Load Securing Board and Functionally Equivalent Alternatives <i>Natalie Frühholz, Maria Büttner, Maximilian Stange, Steffen Ihlenfeld (Germany)</i>
10.40 - 11.00		
11.00 – 11.30	Coffee Break	

DAY 2	SESSION A4 Chair: Marco Diani	SESSION B4 Chair: Alessandro Pellegrini
	Recycling & Circular Manufacturing	Additive Manufacturing II
11.30 - 11.50	Recycling of End-of-Life Thermoset Glass Fiber Reinforced Composites via Air-Laying and Light Resin Transfer Moulding <i>Marco Diani, Silvester Bolka, Giacomo Bonaiti, Marcello Colledani (Italy)</i>	Influence of printing strategies on the properties of carbon fiber-reinforced copolyester parts produced via inclined-axis Material Extrusion <i>Alessandro Pellegrini, Antonella Vizzielli, Maria Grazia Guerra, Roberto Spina, Fulvio Lavecchia (Italy)</i>
11.50 - 12.10	Manufacturing of Carbon Fiber Composite Laminates with Recycled Plies <i>Leandro Iorio, Alice Proietti, Giorgio Patrizii, Dounia Noqra, Denise Bellisario, Fabrizio Quadrini, Loredana Santo (Italy)</i>	FDM Printability Assessment of Bio-based PLA/PHA/Talc Ternary Composite Compound: From Compounding to Filament Extrusion and Additive Manufacturing <i>Marzio Milo di Villagrazia, Annalisa Genovesi, Alessandra Caggiano, Massimiliano Barletta (Italy)</i>
12.10 - 12.30	Warpage Prediction and Optimisation for Injection Molding of Thermoplastic Post-Consumer Recyclate Composites <i>Marcel Haab, Stefan Klare-Buchelt, Bernd Lüdemann-Ravit, Klaus Dröder, André Hürkamp (Germany)</i>	Prepreg filament fabrication process for short-continuous carbon fiber reinforced thermoplastic composites <i>Gong-shuo Wang, Jia-yuan Zhang, Zhen-yuan Jia, Jia-ning He, Hong-quan Wang, Rao Fu, Fu-ji Wang (China)</i>
12.30 - 12.50	Development of Sustainable Recycled HDPE Roofing Composites with Enhanced Durability and Fire Resistance <i>Ali Fazli (Canada)</i>	Process-Aware Surrogate Modelling and Optimization of Additively Manufactured Honeycomb Cores for Sandwich Panels <i>Reza Shahzadi, Amirmohammad Daareyni, Ramon Angosto Artigues, Andrea Fernández Martínez, Eleni Gkartzou, Ander Reizabal López-Para, Christina Podara, Costas Charitidis, Santiago Muños Landín, Iñigo Flores Iuarte (Finland)</i>

12.50 – 13.10	Framework Towards Demand-Driven Circular Value-Chains for Glass Fiber-Reinforced Composites <i>Matteo Grante, <u>Marco Diani</u>, Marcello Colledani (Italy)</i>	Machine Learning for Quality Monitoring in Injection Moulding <i><u>Tiago Vale</u>, William Xavier, Nuno Costa, Gustavo Corrente, Luís Santos (Portugal)</i>
13.10 - 15.00	Lunch	

DAY 2	Thursday, October 15 - Afternoon Session: 15.00 – 16.40	
	SESSION A5 Chair: Jürgen Fleischer	
	Modelling, Processing & Characterisation	
15.00 - 15.20	Modeling Methodology for Injection-Molded Short-Fiber-Reinforced Thermoplastic (FRP)-Metal Hybrid Components for Structural Simulation and Optimization <i>Sven Lenhardt, Albert Albers (Germany)</i>	
15.20 - 15.40	Void Formation During Liquid Composite Molding Under Varied Pressure on Braided Composites <i>Patrick Schaible, Edward Constantin Volz, Sebastian Schabel, Jürgen Fleischer (Germany)</i>	
15.40 - 16.00	Graph-Based Flow Front Reconstruction Algorithm Applied to Process Monitoring in Liquid Composite Moulding Processes <i><u>Malpe Rohan Kini</u>, Marcel Achzet, Jan Faber, Thomas Schlech, Matthias Merzkirch, Markus G.R. Sause (Germany)</i>	
16.00 - 16.20	Effect of binder activation on permeability evolution and saturation dynamics in GFRP preform <i>Edoardo Toscano, Debabrata Adhikari, Jesper John Lisegaard, Robert S. Pierce, <u>Sankhya Mohanty</u> (Denmark)</i>	
16.20 – 16.40	Production and validation of PE100 - Ionomer – talc composites for Hot Water Transportation pipes <i><u>Annalisa Genovesi</u>, Alessandra Caggiano, Massimiliano Barletta (Italy)</i>	
19:00- 23:00	Gala Dinner at 19:00, Circolo Canottieri Roma, Lungotevere Flaminio 39, 00196 Rome, Italy	

DAY 3	<i>Friday, October 16 - Morning Sessions: 09.00 - 13.10</i>	
	SESSION A6 Chair: Hidetake Tanaka	SESSION B6 Chair: Adelaide Marzano
	Non-Traditional Machining & Grinding	Smart Robotics & Data-Driven Manufacturing
09.00 – 09.20	Effect of vibration amplitude on the performance of ultrasonic-assisted drilling of glass fiber reinforced polymer composites <i>Ramazan Hakki Namlu, <u>Korcan Kucukoztas</u>, Hakan Kalkan, Bilgin Kaftanoglu (Turkey)</i>	Investigation of Robot Assisted Incremental Sheet Forming with Localized IR Heating for 3D Printed Polymer Sheets <i><u>Donatas Akulovas</u>, Darius Eidukynas, Tomas Vaitkūnas, Arūnas Kleiva (Lithuania)</i>
09.20 – 09.40	Machinability and Surface Integrity Characterisation of Ox-Ox Ceramic Matrix Composite Material <i><u>Leon Proud</u>, Daniel Whitehead, Pete Crawforth, Beatrice Green, David Curtis (UK)</i>	Systematic friction characterization of machine tool feed drives based on data-driven identification of the Generalized Maxwell-Slip model <i>Haruki Goto, Naruhiro Irino, <u>Yasuhiro Kakinuma</u> (Japan)</i>
09.40 - 10.00	Advancing Niobium Silicide (NbSi) Processing through Ultrasonic vibration-assisted grinding <i><u>Muhammad Fawad Jamil</u>, Jianfu Zhang, Jianjian Wang (China)</i>	Towards Context-Augmented Visual Monitoring of Large-Scale Invar 36 Tool Manufacturing for Composite Applications, <i>Yuchen Fan, <u>Giulio Mattera</u>, Alessandra Caggiano, Alessandro Simeone, Luigi Nele, Luca Settineri (Italy)</i>
10.00 - 10.20	Influence of Grain Size and Material on the Temperature and Surface Roughness during Grinding CFRP <i><u>Alexander Brouschkin</u>, Carsten Möller, Jan Hendrik Dege (Germany)</i>	Autoregressive Tool Condition Monitoring fo Digital-Shadow-Based Decision Support in CFRP Drilling <i>Louis Pauly, <u>Elena Manoli</u>, Giulio Mattera, Alessandra Caggiano, Gokula Vasantha, Adelaide Marzano (Italy, UK)</i>
10.20 – 10.40	Optimization of Low-Voltage Electric Discharge Assisted Turning (EDAT) for CFRP Machining: Influence of Ambient Gas on Discharge Behavior <i><u>Hidetake Tanaka</u>, Ryuta Kuboshima, Emir Yilmaz (Japan)</i>	Formalisation of the development process for component and mould design based on the MMD approach as a foundation for AI-supported methods <i><u>D. R. Haider</u>, M. Krahl, M. Gude (Germany)</i>
10.40 – 11.10	Coffee Break	

DAY 3	SESSION A7 Chair: Wessel Wits	SESSION B7 Chair: Yasuhiro Kakinuma
	Manufacturing of Polymer & Hybrid Composites	Intelligent Design & Automated Manufacturing
11.10 - 11.30	Effect of Laser-Textured Surface Architectures on the Interfacial Strength of AZ31/PA66-GFRP Hybrid Laminates <i><u>R. Bertolini</u>, M. Mazzonetto, V. Siciliani, L. Orazi, S. Bruschi (Italy)</i>	Development of a CAM system for incremental forming of CFRTP based on 3D CAD data <i><u>Karter Wong</u>, Junya Swift, Emir Yilmaz, Tatsuki Ikari, and Hidetake Tanaka (Japan)</i>
11.30 - 11.50	CNF Aerogel/Myristic Acid Composites for Thermal Energy Storage: Comparing Ambient and Freeze-Drying Routes <i>Jack Sclater, Dongyang Sun, Reza Salehiyan, Carolina Costa Pereira, <u>Adelaide Marzano</u> (UK)</i>	A Robust AutoML-Integrated Active Learning Workflow for Data-Efficient Design of Composite Materials and Structure <i><u>Jinghou Bi</u>, Song Wei, Eugen Boos, Hajo Wiemer, Steffen Ihlenfeldt (Germany)</i>
11.50 - 12.10	Thermo-Mechanical Finite Element Modeling of Paperboard Trays with Polyethylene Terephthalate (PET) Coating for Oven Applications <i><u>Dario Belcastro</u>, Annalisa Genovesi, Marzio Milo di Villagrazia, Massimiliano Barletta (Italy)</i>	Clustered and Steered Deposition Paths in Automated Fiber Placement: Mechanical Modeling of Planning-Induced Features in Variable Stiffness Laminates <i><u>Sebastian Brühl</u>, Raphael Höfer, Felix Gehlhoff, Patrick Schiebel, David May (Germany)</i>
12.10 - 12.30	A Controlled-Composition Study for Cast Film: Directly Comparing the Performance of PLA, PBSA, PBS, and PBAT <i><u>Arif Enes Karaca</u>, Alessandra Caggiano, Massimiliano Barletta (Italy)</i>	A Knowledge Graph-Based Representation of Parametric CAD Models for Structural Heterogeneity and Design Intent Preservation <i><u>Rehnuma Shabnam Ananya</u>, Eugen Boos, Daniel Reinhold Haider, Steffen Ihlenfeldt (Germany)</i>
12.30 - 12.50	Comparison of hybrid joining techniques: autoclave joining, (hot) pressing, resistance and induction welding <i><u>Wessel W. Wits</u>, Thijs Jansen, Camill de Vos, Ozan Erartsin (Netherlands)</i>	Robotic Cutting for Entangled Chip Removal Using Macro-Micro Manipulators and Imitation Learning <i><u>Hayato Kimura</u>, Jorge Lobaton, Yasuhiro Kakinuma (Japan)</i>
12.50 - 13.10	CONFERENCE CLOSURE AND FAREWELL Alessandra Caggiano, CIRP CCMPM 2026 Conference Chair	
13.10 - 15.00	Lunch	