

WEDNESDAY 16 NOVEMBER

8.00 - 9.00 **Registration**

9.00 - 10.00 **Opening + Keynote**

- 9.00 • Welcome by Prof. Frank Henning, President SAMPE Germany
- Opening by Guy Larnac, President SAMPE Europe
- 9.15 • Keynote presentation by Claudio Dalle Donne, Head of Materials, Processes & Tests, Airbus Operations Bremen
- 9.45 • Presentation Winners 37th Students Seminar by the Jury Chair

10.00 - 10.30 **Coffee Break**

10.30 - 12.30 **Session 1 - 6 talks**

Room 1

ADDITIVE MANUFACTURING

Session chair: to be announced

- *Hybrid Processing Advances Increase Versatility, Performance of Structural CFRTP Composites through Additive Manufacturing/Compression Molding* by Yannick Willemin, 9T Labs, Switzerland
- *Innovative Thermoset Materials and Additive Manufacturing Processes to Eliminate Mechanical Anisotropy in Fused and Continuous Filament Fabrication* by Sonke Detjen, CompriseTec, Germany
- *Highly aligned discontinuous fibre composite filaments for fused deposition modelling: Layer investigation* by Narongkorn Krajangsawasdi, University of Bristol, UK
- *Determination of optimal process parameters for selective laser melting for metal additivemanufacturing by scanning path simulation* by Joren Pelfrene, Flanders Make, Belgium
- *To be announced* by Fernando Castro, Airtech, Luxemburg

Room 2

AEROSPACE & SPACE

Session chair: to be announced

- *To be announced* by Andrea Piotrowski, Teijin Europe, Germany
- *To be announced* by Maria Dolores, Vazquea-Navarro, Boeing, Spain
- *Safety-relevant composite structures for future ressource saving jet engines* by Alrik Dargel, Rolls-Royce Deutschland \ TU dresden, Germany
- *Manufacturing study on CFRP rear pressure bulkhead using Vacuum Assisted Process (VAP)* by Jan Faber, DLR, Germany
- *A digital process-data-assessment method for tailored fiber placement preforms* by Jonas Kluger, TU Dresden, Germany
- *Release properties of plasma polymeric coated polymer films and adhesive strength of transferred polyurethane coatings to fiber-reinforced thermosets* by Pascal Baur, Fraunhofer IFAM, Germany

Room 3

HYDROGEN STORAGE

Session chair: to be announced

- *H2 meets Aviation – A presentation on hydrogen application in aircraft systems* by Tobias Meyer, CTC, Germany
- *Novel structure-integrated hydrogen storage systems for aerospace applications* by Nicole Motsch-Eichmann, Leibniz Institut, Germany
- *Sustainable composite H2 tanks: 15% material saving by automated dome reinforcements* by Florian Lenz, Ceotec, Germany
- *Novel matrix materials and design concepts for high pressure hydrogen storage composite vessels* by Markus Wolfarth, PCC Leoben, Austria

Room 4

TESTING, DESIGN & SIMULATION I

Session chair: to be announced

- *Controlled delamination induced by symmetrical laser shock* by Marine Scius-Bertrand, Rescoll, France
- *Analysis of transient response and failure initiation by impact demolding of composite parts* by Johannes Stolz, Faserinstitut Bremen, Germany
- *Identifying design guidelines for inductive heaters in RTM process using numerical modelling* by Gero Förster, Faserinstitut Bremen, Germany
- *Health monitoring of CFRP Laminates under cyclic loading via vibro-acoustic modulation based measurements* by Erik Willmann, TU Hamburg, Germany
- *A Novel Method to Obtain Smeared Properties of a Fiber-Matrix System Including Stress Concentration* by Cihan Talebi, METU (Middle East Technical University) /Roketsan, Turkey

12.30 - 14.00 **Lunch - Sponsor Exhibition & Poster Presentations**

14.00 - 15.20 **Session 2 - 4 talks**

Room 1

INDUSTRIAL INNOVATION I

Session chair: to be announced

- *Link between innovation and control – the sensitive balancing of standards and technological progress via superordinate closed-loop control* by Julia Beter, ENGEL Austria, Austria
- *Hybrid Technology Development to Direct Print Thermoset Molds for Composites* by Ido De-La-Vega, Massivit 3D, Israel
- *Enable Revolutionary Developments Sustainably and Scalabl* by Max Schultes, RAMPF Group, Germany / USA / Canada
- *Efficient manufacturing of composite components for aircraft interior applications* by Sebastian Bühler, Biontec, Switzerland

Room 2

THERMOPLASTICS IN AEROSPACE

Session chair: to be announced

- *Development of an Out-of-Autoclave Thermoplastic Composite Spar* by Michael Wielandt, GKN Fokker, Netherlands
- *Automated Fibre Placement (AFP) Consolidation with LMPAEK-Based Uni-Directional Tape: Achieving Thermosets Layup Speeds & Complex Large Parts Manufacturing* by Gilles Larroque, Victrex, France
- *Innovative multi-technology thermoplastic fuselage panel* by Lucas Binsfeld, Airbus Atlantic, France
- *Thermoplastic Processing Technologies Towards Industrialization* by Stefan Jarka, DLR, Germany

Room 3

AUTOMATION

Session chair: to be announced

- *Simulation of the placement behavior of fiber patches including draping effects with a foam-based gripper* by Matthias Kornmann, University of Applied Sciences Augsburg, Germany
- *Smart sensors for autonomous robotic panel assembly* by Alfons Schuster, DLR, Germany
- *Novel Composite Manufacturing Technologies for Green Mobility* by Jamie Snudden, Aiurborne, UK / Netherlands
- *Application of a novel ultrafast manual and automatic joining process for thermoplastic aircraft brackets to metallic and thermoset fuselage components using ultrasonic technology* by Filipp Köhler, CTC, Germany

Room 4

TEXTILES AND PREFORMING

Session chair: to be announced

- *Determination of the shear angle on the basis of the geometric surface slope* by Boris Manin, RWTH Aachen, Germany
- *Analysis of energetic and process-related improvement potential of impregnation and drying processes in FRP production* by Andreas Bündgens, RWTH Aachen, Germany
- *Process window and weld strength analysis of ultrasonic spot welds on banded dry-fibre carbon tapes* by Nils Widmaier, TU Swinburne, Australia
- *Development of automated preform technologies for complex shaped parts* by Henri de Vries, Royal Netherlands Aerospace Centre, NL

15.20 - 15.50 **Coffee Break**

15.50 - 17.50 **Session 3 - 6 talks**

Room 1

ELA - EUROPEAN LIGHTWEIGHT ASSOCIATION

Session chair: to be announced

37TH STUDENTS SEMINAR WINNERS

Session chair: to be announced

- *Best Master Student*
- *Best PhD Student*

Room 2

AEROSPACE MANUFACTURING I

Session chair: to be announced

- *Investigating the Hybridization Effect of Towpreg on the Bending Properties of Sheet Molding Compound Part* by Hao Wang, RWTH Aachen, Germany
- *Mono-Material Sandwich Structures – An Overview* by Sacha Kilian, Fraunhofer ICT, Germany
- *Influence of Powder-Epoxy Towpregging Line Processing Parameters on Towpreg Consolidation* by Hanisa Hasrin, University of Edinburgh, UK
- *Equipment and process for high-rate RTM production of large aerospace structures* by André Bertin, Coexpair, Belgium
- *Co-consolidation of metal-thermoplastic composite joints: analysis and optimisation of the interface* by Vanessa Marinosci, TPRC, Netherlands
- *Design of Modular, CFRP-Encased Power Electronic Converters for More-Electric Aircraft Applications* by Mark Higgins, University of Strathclyde, UK

Room 3

AUTOMOTIVE & TRANSPORT

Session chair: to be announced

- *High-speed compression of structural polymers* by Siebe Spronk, Solvay, Belgium
- *Pathway Towards Inverse Design of Sandwich Panels: Equivalent Shell Model for Cellular Core Sandwich Panels* by Dilum Fernando, University of Edinburgh, UK
- *Implementation of structural thermoplastic composites in a 45' intermodal container* by Jan Verhaeghe, Agesia - Structural Composite Technology, Belgium
- *Ultrafast Terahertz Sensing for inline production control and automated inspection: Non-Destructive Testing and 3D Imaging of Composites and Bondings* by Uli Schmidhammer, TeraTonics, France
- *Influence of compression behavior on skin formation in thermoplastic structural foams manufactured in a hot press process* by Maximilian Salmins, Leibniz Institut, Germany

Room 4

MECHANICAL CHARACTERISATION

Session chair: to be announced

- *Combined tensile and dynamic testing for the accurate measurement of mechanical properties of composite materials* by Hugo Sol, Bytec, Belgium
- *Microplastic deformation behavior of epoxy resin* by Janina Mittelhaus, TU Hamburg, Germany
- *Influence of the Boundary conditions on the low-velocity-impact behaviour of curved composites plates* by Jannis Hüppauff, Leibniz Institut, Germany
- *Influence of processing parameters on matrix-dominated properties of CF/PEKK composites* by Helena Pérez-Martin, University of Edinburgh, UK
- *Investigation into the mechanical and thermal properties of different powder epoxies for composites applications* by Arun Alapati, University of Edinburgh, UK

18.30 - 21.30 **Happy Hour & Network Diner**



8.00 - 8.30 **Registration**

8.30 - 10.00 **Session 4 - 5 talks**

Room 1	Room 2	Room 3	Room 4
SUSTAINABILITY & RECYCLING I	CTC	SPORTS & LEISURE	JOINING & BONDING
<p>Session chair: to be announced</p> <ul style="list-style-type: none"> Hygrothermal ageing and durability of bio-based composites and structures by Aart van Vuure, KU Leuven, Belgium Multi-level circular process chain for carbon and glass fibre composites by Christian Eitzinger, Profactor, Austria Influence of Additives on the Properties of Recycled Sheet Moulding Compound (SMC) by Vera Austermann, RWTH Aachen, Germany Microwave technology for energy-efficient heating and drying in composite production by Andreas Bündgens, RWTH Aachen, Germany Bio-based fiber-reinforced composites – an approach to decarbonize by Stephan Sprenger, Evonik, Germany 	<p>Session chair: to be announced</p> <ul style="list-style-type: none"> Lightweight production 4.0 - requirements from Airbus perspective to enable the future of connected manufacturing by Jan-Patrick Kalckhoff, Airbus, Germany An Artificial Intelligence Approach for Creating Automatic Semantic Device Descriptions for Brownfield Industrial Robots by Anna Nordhausen, Helmut-Schmidt-Universität Hamburg, Germany Impact of alignment of the sonotrode on the quality of thermoplastic composite joints in continuous ultrasonic welding by Maryam Ahanpanjeh, Helmut-Schmidt-Universität Hamburg, Germany Potentials and future applications for direct embedded sensor technology by using Additive Manufacturing by Marc Florian Meyer, Helmut-Schmidt-Universität Hamburg, Germany Automated stress-constrained manufacturing process for 3D Fiber Layup by Pezhman Pourabdollah, Airbus, Germany 	<p>Session chair: to be announced</p> <ul style="list-style-type: none"> Dry fiber placement and sustainability for sporting goods by Joerg Kaufmann, TU Chemnitz, Germany Mechanical performances of innovative healable composites by Cohades Amaël, CompPair Technologies Ltd, Switzerland Moulding of thermoplastic nonwoven sheet materials in a vacuum membrane press. - Web Based Composites for sport and medical parts by Felix Teichmann, ITA Augsburg, Germany Moulded Bionic Lightweight Components through Fibre Steering during the Layup of Thermoplastic Unidirectional Tapes by Thorsten Pillen, Fraunhofer IPT, Germany 	<p>Session chair: to be announced</p> <ul style="list-style-type: none"> Susceptor Aided Induction Welding of UD Peek/Carbon Fiber Composites by Alfonso Maffezzoli, University of Salernao, Italy Continuous ultrasonic welding of carbon fiber reinforced thermoplastic thin plies by Saber Maamri, University of Salamanca, Spain Robust Assembly - Quality Assured Welding Technologies for Full-Scale Applications by Manuel Endrass, DLR, Germany Analyzing of matrix hybrid composite joints by Tobias Karrasch, University Augsburg, Germany

10.10 - 10.30 **Coffee Break**

10.30 - 12.30 **Session 5 - 6 talks**

Room 1	Room 2	Room 3	Room 4
SUSTAINABILITY & RECYCLING II	THERMOPLASTICS II	CIVIL AND MARINE ENGINEERING	TESTING, DESIGN & SIMULATION II
<p>Session chair: to be announced</p> <ul style="list-style-type: none"> Composites sustainability – Manufacturing, repair, and recycling are challenging by Ralf Schledjewski, Montanuniversität Leoben, Austria Effects of different environmental exposures on the properties of natural fibre reinforced biocomposites by Hom Dhakal, University of Portsmouth, UK Permeability, Compressibility and Relaxation Characteristics of Knitted Cellulose Regenerated Fibre Textiles by Marcel Bender, Montanuniversität Leoben, Austria Interfacial Characterisation of Natural Fique Fibre/Polypropylene Composites Using Single Fibre Fragmentation Test (SFFT) by Ross Minty, University of Strathclyde, UK 	<p>Session chair: to be announced</p> <ul style="list-style-type: none"> Assembly of the lower half of a Thermoplastic Multifunctional Fuselage Demonstrator by Gabriele Ridolfi, GKN Fokker Aerospace, NL and Abhas Choudary, SAMIXL, NL Aircraft structural parts based on thermoplastic UD-tapes – A comprehensive processing approach including tape laying and injection overmolding using the example of an aircraft door outer skin by Mathias Muehlbacher, Neue Materialien Bayreuth, Germany Innovating towards large scale Implementation of TPC's in Aerospace by Tjitse Slange, Toray Advanced Composites, UK 	<p>Session chair: to be announced</p> <ul style="list-style-type: none"> Development and validation of a gravity independent inline impregnation method for multi-tow robotic coreless fiber winding by Marko Szeszny, TU Stuttgart, Germany An Innovative Light-Weight FRP Composite Bridge Deck Panel by Dilum Fernando, University of Edinburgh, UK To be announced by Andy Winistoerfer, Carbo-Link, Switzerland Exploration of composite materials application on noise mitigation systems by Duo Zou, Royal IHC, NL Coextruded Polymeric Bicomponent Fibers for Concrete Reinforcements by Jonas Herz, Rosenheim Technical University of Applied Sciences, Germany Investigation of Recyclable Acrylic Monomer Resins for Marine and Renewable Energy Composite Applications by Machar Devine, University of Edinburgh, UK 	<p>Session chair: to be announced</p> <ul style="list-style-type: none"> Hierarchical interfaces as fracture propagation traps in natural layered composites by Daniel Wagner, Weizmann Institute of Science, Israel Estimation of the permeability tensor based on machine learning approach by David Droste, Faserinstitut Bremen, Germany Towards a three-dimensional compaction model for non-planar geometries by Dennis Bublitz, TU München, Germany
	AEROSPACE MANUFACTURING II		
	<p>Session chair: to be announced</p> <ul style="list-style-type: none"> Design optimization procedure of autoclave loading based on process simulation and neural network by Juhong Zhu, Faserinstitut Bremen, Germany Tailored non-crimp fabric for eVTOL propellers - optimized fiber materials for high mechanical performance and efficient manufacturing by Rico Hubert, University of Applied Sciences Aachen, Germany Innovative translucent Epoxy-SMC for Applications with Flame retardant properties by Simon Kaysser, CompriseTec, Germany 		

12.30 - 14.00 **Lunch**

12.30 - 14.00 **Plant Tours leaving or later**

POSTER PRESENTATIONS

<ul style="list-style-type: none"> Co-Consolidation of Tape-Preforms to realize local reinforcements in stamp-forming by Julian Weber, Leibniz Institut, Germany Investigation of high performance elastic textile reinforcements for drapability to fabricate doublecurved textile reinforced concrete (TRC) elements by Shantanu Bhat, RWTH Aachen, Germany Implementation of the structural bonding process from the laboratory to the industrial application of aviation by Samir Abdul, Helmut-Schmidt-Universität, Germany Electrospinning of Epoxy Fibers by Daniel Wagner, Weizmann Institute of Science, Israel Development of a Continuous Manufacturing Process for Wound Tubular Structural Elements Based on Thermoplastic Hybrid Yarns by Dominik Granich, RWTH Aachen, Germany A novel thermoplastic rigid particle foam, meeting FST and Heat Release requirements of large (Interior) aircraft components by Denis Holleyn, Evonik, Germany Novel through-thickness reinforcement of foam-core sandwich composite panels by Mohamed Saleh, Technology Innovation Institute, United Arab Emirates Introducing Fibrarforce Technology – Revolutionizing the high-volume production of customized multiaxial thermoplastic cross-ply by Lars Linnemann, Fibraworks, Germany 	<ul style="list-style-type: none"> Simulation-Driven Design (SFE) – A Concept for Forming Simulations by Muhammad Saeed, Stuttgart University & TU Swinburne, Germany Repair of FRP-structures based on textile patches by David Rabe, ITM / TU Dresden, Germany A comparative study on using BESO and SIMP to optimize the design of laminated carbon fiberreinforced plastics using topology optimization by Vinay Nagaraj, Leibniz Institut, Germany Progressive Damage Analysis of Steel/CFRP Hybrid Part Under Static and Impact Load by Soon-Myeong Lee, Pusan University, South Korea To Automate Rivet Fastening of UD-CF/PEEK Rod Manufactured by Prepreg Tape Pultrusion by Takeshi Eguchi, Kindai University, Japan Analysis of the Fabrication and the Bending Strength of Bio-Based Sandwich Materials with Different Core Materials by Mathias Engelfried, Stuttgart University, Germany Functional and lightweight composites using additive manufacturing by Fidel Valega, Brightlands Materials Center, NL New Particle Foam Core for automated high volume mass Production of Sandwich Aerostructures by Alexander Roth, Evonik, Germany 	<ul style="list-style-type: none"> Sustainable compression-molded composites using recycled polyester carpets and bottling discards by Ranji Vaidyanathan, Oklahoma State University, USA Development of an Insert Connection for Sandwich Structures under Localised Load by Stefanie Zimmermann, Hochschule Mittweida, Germany Test setup investigations for faster FE-calibration via advanced measurement techniques by Christoph David, DLR, Germany Simulation Based Forecast of Critical Quality Metrics for Thermoplastic Automated Fiber Placement by Lars Brandt, German Aerospace Center (DLR), Germany 100% thermoplastic and recyclable sandwich panel for Aerospace by Thomas Poumadere, DIAB, Sweden Development of composites using waste mixed plastic and waste glass fibres for value-added products by Kate Orouke, University of Edinburgh, UK Integrated solutions for large, complex stiffened thermoplastic composite structures by Peter Boer, Collins Aerospace, Nederland High barrier epoxy resin We developed epoxy resin for TypeV vessels that can retain gases well. by Kousuke Ikeuchi, Mitsubishi Gas Chemical, Japan 	<ul style="list-style-type: none"> Modeling and simulation of the fabrication of glass/Elium® acrylic thermoplastic resin composites by the infusion process by Nihad Siddig, IRT Jules Verne, France Variable Angle Composite Plate's Thermal Buckling Analysis by Fatih Baran, Istanbul Technical University, Turkey Investigations on the influence of temperature on the shear cutting process of organo sheet materials by Vicky Reichel, TU Braunschweig, Germany Aerodynamic high-pressure hydrogen CFRP vessels with increased storage energy density for green aviation: Novel design and dimensioning method by David Schlegel, Technische Universität Dresden, Germany Study on edge resin outflow during prepreg CFRP cure by Yusei Kondo, Mitsubishi Heavy Industries, Japan Induction welding of recycled UD tape compounds by Maarten Labordus, DAHER / KVE, France / Netherlands
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<p>MAIN SPONSOR CONFERENCE HAMBURG 2022</p> 	<p>PARTNERS 2022/2023</p>        		
<p>EVENT SPONSOR</p> 	<p>TABLE TOPS HAMBURG 22</p>          		<p>MEDIA PARTNERS</p>    

Preliminary Edition August 30 2022 - Subject to later Changes -