

Prof. Dr. Alexander Horoschenkoff
Prof. Dr. Klemens Rother
Prof. Dr. Christian Möller
Department of Mechanical, Automotive,
and Aeronautical Engineering
University of Applied Sciences Munich

Prof. Dr. Philipp Höfer
Institute of Lightweight Engineering
Prof. Dr. Tobias Dickhut
Institute for Aeronautical Engineering
University of the Bundeswehr Munich

Prof. Dr. Markus Zimmermann
Laboratory for Product Development
and Lightweight Design
Technical University of Munich

Invitation and Agenda

MUNICH SYMPOSIUM ON LIGHTWEIGHT DESIGN 2023

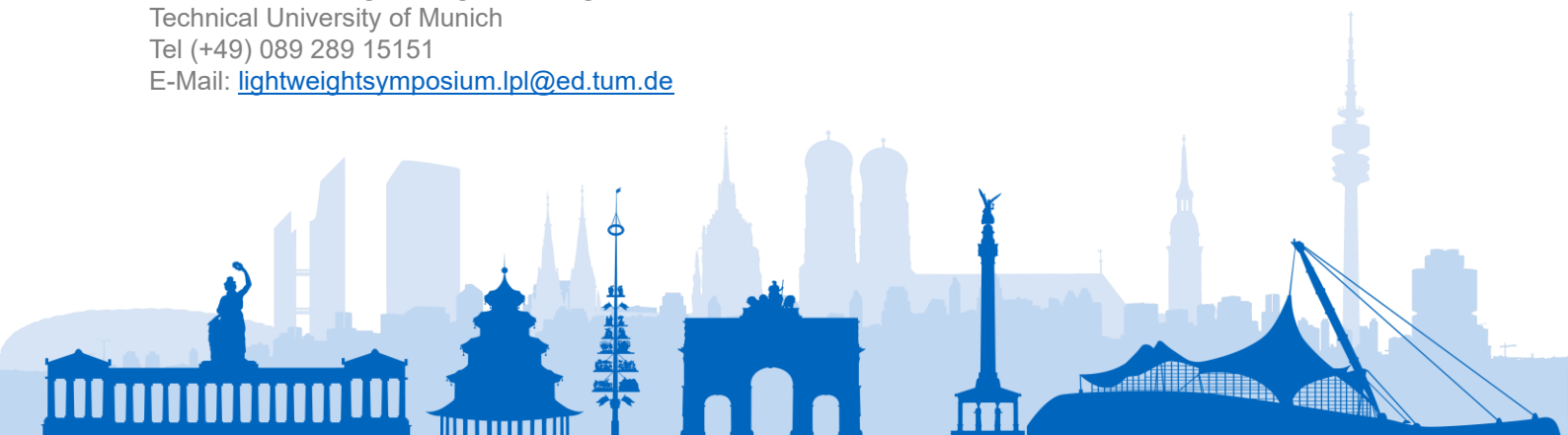
MÜNCHNER LEICHTBAUSEMINAR 2023

25.10.2023 University of the Bundeswehr Munich
15.11.2023 University of Applied Sciences Munich
29.11.2023 Technical University of Munich

Please register online here:
<https://forms.office.com/e/gEEB82Mw6a>

CONTACT

Laboratory for Product Development and Lightweight Design
TUM School of Engineering and Design
Technical University of Munich
Tel (+49) 089 289 15151
E-Mail: lightweightsymposium.lpl@ed.tum.de



Wednesday, 25 October 2023

Institute of Lightweight Engineering
Department of Aerospace Engineering
University of the Bundeswehr Munich

Institute for Aeronautical Engineering
Chair for Composites

VENUE Werner-Heisenberg-Weg 39
85579 Neubiberg
Building 33, Room 1131

ADDITIONAL INFORMATION FOR YOUR PARTICIPATION

Access to Campus through visitor gate (Westtor, Crossing Universitätsstraße, Zwergerstraße).
ID card required.

13:00 Philipp Höfer & Tobias Dickhut (University of the Bundeswehr Munich): Opening

Session 1:

13:10 Markus Neumeister (IABG GmbH): Rechnerische Ermittlung der mechanischen Kennwerte unidirektionaler Faser-Kunststoff-Verbunde unter Berücksichtigung fertigungsbedingter Streuungen

13:30 Leonie Weiblen, Michael Sauer (Fraunhofer IGCV): Hybridization of reinforcing nonwoven structures made from recycled carbon fibers with cellulosic natural fibers to adjust the mechanical and functional properties

13:50 Eduardo Szpoganicz¹, Uwe Beier², Fabian Hübner², Matthias Geistbeck², Maximilian Korff³, Holger Ruckdäschel¹ (¹Universität Bayreuth, ²Airbus CRT, ³ University of the Bundeswehr Munich): A new concept of collector-ply layer and multilayer design for liquid hydrogen storage tanks

14:10 Jens Bold (Boeing Deutschland GmbH): Investigation on double-double layup compared to quad layup under realistic conditions

14:30 Break (30 minutes)

Session 2:

15:00 Julius Grimmenstein (Technische Universität Bergakademie Freiberg): Metallschaum in Leichtbau-Wärmetauschern: Innovation und Notwendigkeit des Recyclings

15:20 Christopher Locke, Fabian Dobmeier, Martin Guggemos, Raffael Pichler, Steffen Klan, Daniel Günther (Fraunhofer IGCV): Production of Hybrid Lightweight Structures Through Al-Al Compound Casting with Additively Manufactured Lost Sand Moulds

15:40 Anton Gelencsér, Alexander Liebsch, Yuanxi Liu, Huang Chunmei, Carolin Siegel, Christian Korn, Maik Gude, André Wagenführ (Technische Universität Dresden): Braiding of wood veneer stripes – correlation of process parameters and laminate properties

16:00 Bruno Musil, Philipp Höfer (University of the Bundeswehr Munich): Curvilinear Coordinate-Based Approach for Simulation of Anisotropic Behaviour in Additively Manufactured Structures

16:20 Break (20 minutes)

Session 3:

16:40 Ralf Cuntze: 3D-Strength Criteria for the Structural Material Families Isotropic, Transversely-isotropic UD-Lamina and Orthotropic Fabrics - derived on basis of Cuntze's Failure-Mode-Concept

17:30 Get-together



Wednesday, 15 November 2023

Department of Mechanical, Automotive and Aeronautical Engineering
University of Applied Sciences Munich

VENUE Fakultät für Maschinenbau, Fahrzeugtechnik, Flugzeugtechnik
Room R 1.049 (Frank E. Strascheg hall)
Entrance Lothstr.64, 80335 München

ONLINE <https://hm-edu.zoom.us/j/64773919705?pwd=K2dremFhT09WbTIYenQyMHI0SWxyUT09>
Meeting-ID: 647 7391 9705
Password: 857898

- 14:00 Christoph Möller, Marcin Hinz (Hochschule München): Einführung KI
- 14:10 Nikita Nikita (Semsotec GmbH): Integration eines CF- Sensors in eine Leichtbau Felge
- 14:30 Christof Hirth (iXent GmbH): Efficient design process for hydrofoil optimization
- 14:50 Christian Heinrich, Narendran Raghavan, Matthew Soja, Kirill Sapunov, Brittan Farmer, Jazib Hassan (Boeing Deutschland GmbH): Model development to Predict Mechanical Properties of AM Components
- 15:10 Break (20 minutes)
- 15:30 Manuel Pusch (Hochschule München): Aktive Regelung von flexiblen Flugzeugen
- 15:50 Florian Mallmann, Henning Stoll (Hochschule München): Kurzfaserverstärkte Thermoplaste
- 16:10 Jan Wippermann, Gerson Meschut (Universität Paderborn): Effect of water absorption on the clamp load of plastic nuts
- 16:30 Josef Neuhäusler, Klemens Rother, Maximilian Kling, Marcin Hinz (Hochschule München): Dünnwandige Crashprofile
- 16:50 End



Wednesday, 29 November 2023

Laboratory for Product Development and Lightweight Design
TUM School of Engineering and Design
Technical University of Munich

VENUE TUM Entrepreneurship Research Institute
Lichtenbergstr. 6, 85748 Garching b. München

13:30 M. Zimmermann (Technical University of Munich, LPL): Opening

Session 1: Optimization

13:35 Tobias Hartwich, Johann Schellhorn, Finn Christiansen, Lukas Schwan, Dieter Krause (Hamburg University of Technology): Design optimization of aircraft cabins panels by additive Manufacturing

13:55 Marius Kuhn¹, Tobias Rosnitschek¹, Stephan Tremmel¹, Stephan Braun² (¹ University of Bayreuth, ² KSB SE & Co. KGaA): Identifying Optimization Potential of a Centrifugal Pump Inducer using PBF-LB/M

14:15 Stephan Freitag (Friedrich-Alexander-Universität Erlangen-Nürnberg): A framework for an optimal design of composite structures

14:35 Patrick Haberkern¹, Kamran Behdinan², Albert Albers¹ (¹ Karlsruher Institut für Technologie (KIT), ² University of Toronto): Influence of manufacturing dependent mechanical properties on the optimization of ribbed LFT structures

14:55 Break (35 minutes)

Session 2: Materials and Structures

15:30 Niklas Frank, Simon Voltz (Karlsruher Institut für Technologie, KIT): A Method for Determining Selective Reinforcements of Natural Fiber Reinforced Composites Considering Manufacturing Constraints

15:50 John Sunny¹, Jorge Palacios Moreno¹, Hadi Nazariipoor², Hai Giang Minh Doan¹ and Pierre Mertiny¹ (¹ University of Alberta, ² Flexpipe, Matr Infrastructure Technologies): Environmental and Time-dependent Effects on the Performance of Fiber Reinforced Thermoplastic Composites

16:10 Emre Ertürk¹, Jens Bold², Christoph Stark³, Wolfgang Höhn⁴, Philipp Höfer¹ (¹ University of the Bundeswehr Munich, ² Boeing Deutschland GmbH, ³ Modell- und Formenbau Blasius GERG GmbH, ⁴ GMA-Werkstoffprüfung GmbH): Analytical and numerical modelling of Kevlar honeycomb sandwich structures with CFRP face sheets

16:30 Sebastian Thelemann¹, Markus Schatz², Fabian Dudddeck³ (¹ Airbus Defence and Space GmbH, ² Duale Hochschule Baden-Württemberg Ravensburg, ³ Technical University of Munich): Composite Strength Analysis under Random Loading

16:50 Get-together

