

# Veröffentlichungen PD Dr.-Ing. habil David May (geb. Becker)

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## Fachbücher

- [1] D. May, Prozessentwicklung für Faser-Kunststoff-Verbunde: Studien zu Verarbeitungseigenschaften von Halbzeugen als Basis einer ganzheitlichen Forschungsmethodik. Ort: IVW Schriftenreihe 148, ISBN 978-3-944440-45-3, 2022
- [2] D. May, *Integrated product development with fiber-reinforced polymers*. Wiesbaden: Springer Vieweg, ISBN 978-3-030-73407-7, 2021
- [3] D. May: Integrierte Produktentwicklung mit Faser-Kunststoff-Verbunden, Springer Vieweg, Wiesbaden, 2020
- [4] D. Becker: Transversales Imprägnierverhalten textiler Verstärkungsstrukturen für Faser-Kunststoff-Verbunde. Kaiserslautern. IVW Schriftenreihe 117, 2015

## Fachzeitschriften

- [5] J. E. Semar, D. May, P. Mitschang, „Evaluation of different bonding strategies for glass-fiber reinforced epoxy resin with embedded elastomer layers”, *Plastics, Rubber and Composites: Macromolecular Engineering*, Volume 51, Issue 8, pp. 454-461 2022, <https://doi.org/10.1080/14658011.2022.2111512>
- [6] S. Cassola, T. Schmidt, M. Duhovic, D. May, “Machine Learning for Polymer Composites Process Simulation– a Review”, *Composites Part B*, Vol. 246, 110208, 2022, <https://doi.org/10.1016/j.compositesb.2022.110208>
- [7] T. Rief, N. Motsch, D. May, J. Hausmann, „Development of a new method for manufacturing hollow fibre-reinforced plastic structures for aeronautical applications using structural CFRP cores”, *Plastics, Rubber and Composites: Macromolecular Engineering*, Volume 51, 2022, DOI: <https://doi.org/10.1080/14658011.2022.2117120>
- [8] M. Eckrich, D. May, P. Arrabiyeh, A. Dlugaj, „Structural Topology Optimization and Path Planning for Composites Manufactured by Fiber Placement Technologies”, *Composite Structures*, Volume 289, 01.06.2022, DOI: 10.1016/j.compstruct.2022.115488
- [9] B. Willenbacher, D. May, P. Mitschang, “Saturated out-of-plane permeability and deformation metrology of textiles at high levels of injection pressure”, *Advanced Manufacturing: Polymer & Composites Science (AMPCS)*, Volume 8, Issue 2, April 2022, DOI 10.1080/20550340.2022.2064070
- [10] A. Baumann, D. May, J. Hausmann, „Characterization of metallic bushings in RTM-made composites by in-situ leak detection under mechanical loading”, *Composites Part C: Open Access*, Volume 7, März 2022, <https://doi.org/10.1016/j.jcomc.2021.100226>, 2021
- [11] A. X. H. Yong, A. Aktas, D. May, A. Endruweit, S. Advani, P. Hubert, I. Akhatov, D.C. Berg, S. Comas-Cardona, P. Ermanni, E. Fauster, J.A. Garcia- Manrique, A. George, R. Graupner, A. Guilloux, W. Harizi, T. Herman, A. Keller, K. Kind, M. Laspalas, A.C. Long, V. Michaud, P. Middendorf, R. Schubnel, N. Sharp, M. Sozer, F. Trochu, R. Umer, J. H. Wang, „Out-of-plane permeability measurement for reinforcement textiles: A benchmark exercise”, *Composites Part A*, Volume 148, September 2021, DOI: [doi.org/10.1016/j.compositesa.2021.106480](https://doi.org/10.1016/j.compositesa.2021.106480)

- [12] P. A. Arrabiyeh, D. May, M. Eckrich, A. Dlugaj, "An Overview on Current Technologies for Continuous Thermoset Impregnation and Processing of Rovings", 2021, *Polymer Composites*, Volume 42, Issue 11, November 2021, DOI: doi.org/10.1002/pc.26274
- [13] D. May, P. Mitschang: Concept for Darcy-based viscosity measurement for fast-curing resin systems, *Composites Communications*, DOI:10.1016/j.coco.2021.100881, 2021
- [14] T. Schmidt, D. May, M. Duhovic, A. Widera, M. Hümbert, P. Mitschang: A combined experimental-numerical approach for permeability characterization of engineering textiles, *Polymer Composites*, Wiley, DOI:10.1002/pc.26064, 2021
- [15] D. May, C. Goergen, K. Friedrich: Multifunctionality of polymer composites based on recycled carbon fibers: A review, *Advanced Industrial and Engineering Polymer Research*, DOI: 10.1016/j.aiepr.2021.01.001, 2021
- [16] A. X. H. Yong, A. Aktas, D. May, A. Endruweit, S. V. Lomov, S. Advanie, P. Hubert, S. G. Abaimov, D. Abliz, I. Akhatov, M. A. Ali, S. Allaoui, T. Allen, D. C. Berg, S. Bickerton, B. Caglar, P. Causse, A. Chiminelli, S. Comas-Cardona, M. Danzi, J. Dittmann, C. Dransfeld, P. Ermanni, E. Fauster, A. George, J. Gillibert, Q. Govignon, R. Graupner, V. Grishaev, A. Guilloux, M. A. Kabachi, A. Keller, K. Kind, D. Large, M. Laspalas, O. V. Lebedev, M. Lizaranzu, A. C. Long, C. López, K. Masania, V. Michaud, P. Middendorf, P. Mitschang, S. van Oosterom, R. Schubnel, N. Sharp, P. Sousa, F. Trochu, R. Umer, J. Valette, J. H. Wang: Experimental characterisation of textile compaction response: A benchmark exercise, *Composites Part A*, Volume 142, DOI: 10.1016/j.compositesa.2020.106243, 2021
- [17] D. May, C. Goergen, P. Mitschang: Integration of rCF in resin transfer pressing process, *Journal of Reinforced Plastics and Composites*, DOI: 10.1177/0731684420906879, 2020
- [18] D. May, F. Kühn, M. Etchells, E. Fauster, A. Endruweit, C. Lira: A Reference Specimen for Compaction Tests of Fiber Reinforcements, *Advanced Manufacturing: Polymer & Composites Science*, Vol. 5, Issue 4, pp. 230-233, 2019
- [19] T. Schmidt, F. Schimmer, A. Widera, D. May, N. Motsch, C. Bauer: A Novel Simulative-Experimental Approach to Determine the Permeability of Technical Textiles, *Key Engineering Materials* 809 (2019), pp. 487-492, 2019
- [20] J. Semar, D. May: Textile-Integrated Elastomer Surface for Fiber Reinforced Composites, *Key Engineering Materials* 809 (2019), S. 53-58, 2019
- [21] C. Goergen, A. Klingler, S. Grishchuk, D. May, B. Wetzel, P. Mitschang: Novel approach in B-Staging of an Epoxy Resin for development of rCF Non-Woven Prepregs for RTP Processing, *Key Engineering Materials* 809 (2019), pp. 521-526, 2019
- [22] C. Goergen, D. May, P. Mitschang: Integration of RCF in Resin Transfer Pressing Process, *Journal of Reinforced Plastics and Composites* (Online publiziert vor der Integration in eine Ausgabe: DOI: 10.1177/0731684420906879), 2019
- [23] D. May, B. Willenbacher, J. Semar, K. Sharp, P. Mitschang: Out-of-plane permeability of 3D woven fabrics for composite structures, *Journal of the Textile Institute* (Online publiziert vor der Integration in eine Ausgabe: DOI: 10.1080/00405000.2019.1682759), 2019
- [24] O. Rimmel, D. May: Modelling transverse micro-flow in Dry Fiber Placement preforms, *Journal of Composite Materials* (Online publiziert vor der Integration in eine Ausgabe: DOI: 10.1177/0021998319884612), 2019
- [25] B. Willenbacher, D. May, P. Mitschang: Out-of-plane capillary pressure of technical textiles, *Composites Part A*, Volume 124 (Online publiziert vor der Integration in eine Ausgabe: DOI: 10.1016/j.compositesa.2019.105495, 2019

- [26] B. Willenbacher, D. May, P. Mitschang: Metrological determination of inhomogeneous hydrodynamic compaction during unsaturated out-of-plane permeability measurement of technical textiles, *Advanced Manufacturing: Polymer & Composites Science*, .Vol. 5, Issue 2, pp. 51-54, 2019
- [27] D. May et al. (50+ authors): In-Plane Permeability Characterization of Engineering Textiles Based On Radial Flow Experiments: A Benchmark Exercise, *Composites Part A*, Vol. 121, pp. 100-114, 2019
- [28] F. Kühn, J. Rehra, D. May, S. Schmeer, P. Mitschang: Dry Fiber Placement of Carbon / Steel Fiber Hybrid Preforms for Multifunctional Composites. *Advanced Manufacturing: Polymer & Composites Science*, Vol. 5, Issue 1, pp. 37-49, 2019
- [29] O. Rimmel, D. May, A. Poeppel, P. Mitschang: Development & Validation of Recycled Carbon Fiber – Based Binder Tapes for Automated Tape Laying processes. *Journal of Composite Materials*, Vol. 53, Issue 23, pp. 3257-3268, 2018
- [30] D. May, M. Domm, P. Mitschang: Wet Fiber Placement: A novel manufacturing technology for continuously fiber reinforced polymers. *Journal of Composite Materials*, Vol. 53, Issue 4, pp. 521-533, 2018
- [31] O. Rimmel, D. May, P. Mitschang: Impact of Stitching on Permeability and Mechanical Properties of Preforms Manufactured by Dry Fiber Placement. *Polymer Composite*, Vol. 40, Issue 4, pp. 1631-1642, 2018
- [32] E. Fauster, D. C. Berg, D. May, Y. Blößl, R. Schledjewski: Robust evaluation of flow front data for in-plane permeability characterization by radial flow experiments. *Advanced manufacturing: Polymer & Composites Science*, Vol. 4, Issue 1. Pp. 24-40, 2018
- [33] T. Grieser, D. Becker, P. Mitschang: Investigation of the bending behaviour of multi-ply dry carbon fibre non-crimped fabrics. *Journal of the Textile Institute*, Vol. 109, Issue 4, pp. 455-465, 2017
- [34] C. Kracke, F. Drissen, K. Mahl, B. Staudt, S. Bickerton, P. Mitschang, D. Becker: Verfahrensoptimierung des Resin Transfer Moulding Prozess mit werkzeugseitigen Matrixverteilersystemen, *Landshuter Leichtbaukolloquium*, 2017
- [35] O. Rimmel, D. Becker, P. Mitschang: Maximizing the Out-Of-Plane-Permeability of Preforms Manufactured by Dry Fiber Placement. *Advanced Manufacturing: Polymer and Composites Science*, Vol. 2, No. 3-4, pp. 93-102, 2017
- [36] R. Holschuh, D. Becker, P. Mitschang: Techno-economic feasibility study of new concept for Build-up of local load specific reinforced hybrid structures. *Polymers & Polymer Composites*, Vol. 24, No.5., pp. 347-364, 2016
- [37] D. Becker, H. Grössing, S. Konstantopoulos, E. Fauster, P. Mitschang, R. Schledjewski: An evaluation of the reproducibility of ultrasonic sensor-based out-of-plane permeability measurements: a benchmarking study. *Advanced Manufacturing: Polymer & Composites Science*, Vol. 2 (1), pp. 34-45, 2016
- [38] D. Becker, J. Broser, P. Mitschang: An experimental study of the influence of process parameters on the textile reaction to transverse impregnation. *Polymer Composites*, Vol. 37 (9), pp. 2820-2831, 2015
- [39] D. Becker, P. Mitschang: Influence of preforming technology on the out-of-plane impregnation behavior of textiles. *Composites Part A*, Vol. 77, pp. 248-256, 2015
- [40] H. Grössing, D. Becker, R. Schledjewski, P. Mitschang, Kaufmann, S.: An evaluation of the reproducibility of capacitive sensor based in-plane permeability measurements: a benchmarking study. *Express Polymer Letters*, Vol. 9 (2), pp. 129-142, 2015

- [41] D. Becker, P. Mitschang: Measurement system for on-line compaction monitoring of textile reaction to out-of-plane impregnation. *Advanced Composite Letters*, Vol. 23 (02), pp. 32-36, 2014

## Fachkonferenzen

- [42] M. Eckrich, P. Arrabiyeh, A. Dlugaj, D. May, „Topology-Optimized Design to Manufacture for Wet Fiber Placement”, 20th European Conference on Composite Materials ECCM20, 26. – 30.06.2022, Lausanne, Schweiz
- [43] T. Schmidt, E. Syerko, D. May, C. Binetruy, L. Silva, S.V. Lomov, S.G. Advani. “First insights from the virtual permeability benchmark on a fibrous microstructure”, *Proceedings of the 20th European Conference on Composite Materials, ECCM 20*, 26. – 30.06.2022, Lausanne, Schweiz
- [44] M. Duhovic, T. Hoffmann, D. Schommer, J. Ernst, K. Schladitz, A. Moghiseh, F. Gortner, J. Hausmann, P. Mitschang, K. Steiner, “Digitizing the production of carbon fiber sheet molding compounds”, *Proceedings of the 20th European Conference on Composite Materials, ECCM 20*, 26. – 30.06.2022, Lausanne, Schweiz
- [45] P. Arrabiyeh, M. Eckrich, A. M. Dlugaj, D. May, “Wet Fiber Placement - Additive manufacturing with fiber bundles impregnated with thermoset resin”, *The Fifth International Symposium on Automated Composites Manufacturing (ACME5)*, 06. – 07.04.2022, Bristol, UK
- [46] E. Syerko, C. Binetruy, K. Schladitz, T. Barisin, T. Schmidt, D. May, „Image Processing Applied to Multi-Scale Textile Reinforcements for Permeability Prediction“, *IBSim-4i - Image-Based Simulation for Industry*, London, UK, 18. - 21.10.2021
- [47] J. Semar, D. May, P. Mitschang, “Evaluation of different bonding strategies for glass fiber reinforced epoxy resin with embedded elastomer layers”, *International Conference on Manufacturing of Advanced Composites*, Edinburg, UK, 20.-22.10.2021, Digital Conference
- [48] D. May, M. Eckrich, A. Dlugaj, P. Arrabiyeh, ”Topology-optimized structural components through wet fiber placement”, 30 years IVW Anniversary Colloquium, Kaiserslautern, 08. - 09.09.2021
- [49] D. May, E. Syerko, T. Schmidt, C. Binetruy, L. Silva, S. Lomov, S. Advani, “Benchmarking Virtual Permeability Predictions”, 36th Technical Conference of the American Society for Composites 2021, College Station, Texas, USA, 20.-21.09.2021, Virtual Conference
- [50] A. Faas, J. Böcking, J. Janzen, H.-P. Hartmann, D. May, „Textile reinforcements for variable curved thermoplastic composite profiles”, *Aachen-Dresden-Denkendorf International Textile Conference 2021 (ADD)*, Stuttgart, 09. – 10.11.2021, Virtual Conference
- [51] P. A. Arrabiyeh, M. Eckrich, A. M. Dlugaj, D. May, “Additive Manufacturing of Composites Using Continuous Rovings Impregnated with Thermoset Resin”, 2nd International Conference on Additive Fabrication of Composites, 23. - 24.11.2021, Virtual Conference
- [52] R. Heydt, T. Schmidt, N. Motsch-Eichmann, D. May: FlexiFrame – Highly Flexible Hybrid Composite Rear End for Individual Mountain Bike Frames, 30 Jahre IVW, [www.ivw.uni-kl.de/de/30-jahre-ivw/postershow](http://www.ivw.uni-kl.de/de/30-jahre-ivw/postershow), 2020

- [53] T. Rief, F. Rieger, H. Franz, V. Disandt, W. Gölzer, D. May, N. Motsch-Eichmann, J. Hausmann: Next.Move – Structural FRP Cores for Aviation Application, 30 Jahre IVW, [www.ivw.uni-kl.de/de/30-jahre-ivw/postershow](http://www.ivw.uni-kl.de/de/30-jahre-ivw/postershow), 2020
- [54] T. Schmidt, O. Rimmel, D. May: Digitized Design of Textiles and Permeability Measurement allows Time- and Cost Efficient Material Selection, 30 Jahre IVW, [www.ivw.uni-kl.de/de/30-jahre-ivw/postershow](http://www.ivw.uni-kl.de/de/30-jahre-ivw/postershow), 2020
- [55] F. Kühn, T. Schmidt, D. May, P. Mitschang: Flexible Production of High-Performance Thermoplastic Composites Based on Powder-Impregnated Tapes, 30 Jahre IVW, [www.ivw.uni-kl.de/de/30-jahre-ivw/postershow](http://www.ivw.uni-kl.de/de/30-jahre-ivw/postershow), 2020
- [56] D. May, A. Faas, A. Klingler, B. Wetzel: Projektvorstellung: rCF-Mobil, MAI Carbon Projektforum, 07.-08.10.2020, Augsburg, 2020
- [57] D. May: TopComposite – Topologieoptimierte und ressourceneffiziente Composites für Mobilität und Transport, Netzwerktreffen der BMBF-Nachwuchsgruppenleiter, 22.-23.09.2020, Berlin, 2020
- [58] J. E. Semar, D. May, C. Goergen, P. Mitschang: Tiefziehfähige Textilien auf Basis von rCF-Stapelfasergarnen, Composites United - Themenwoche Nachhaltigkeit, 05.05.2020, Winterthur, Schweiz, 2020
- [59] D. May, F. Kühn, M. Etchells, E. Fauster, A. Endruweit, C. Lira: A Reference Specimen for Compaction Tests of Fiber Reinforcements, SAMPE Europe Conference 2019, Nantes, France, 2019
- [60] O. Rimmel, T. Schmidt, D. May: Holistic Approach for Modelling Impregnation Behavior of Dry Fiber Placement Preforms, 8th GeoDict User Meeting, Kaiserslautern, Germany, 2019
- [61] O. Rimmel, T. Schmidt, D. May: Digitized design of textiles and permeability measurement allows time- and cost-efficient material selection, 8th GeoDict User Meeting, Kaiserslautern, Germany, 2019
- [62] F. Kühn, D. May, P. Mitschang: Automated Fiber Placement and Variothermal Pressing of Thermoplastic Towpregs, 22. ICCM, Melbourne, Australia, 2019
- [63] M. Duhovic, P. Kelly, D. May, T. Allen, S. Bickerton: Simulating Compression-Induced Resin Transfer from a Saturated Non-Woven into a Dry Fiber Structure, 22. ICCM, Melbourne, Australia, 2019
- [64] C. Goergen, D. May, P. Mitschang: Resin transfer Pressing – A novel process for large scale composite manufacturing, 22. ICCM, Melbourne, Australia, 2019
- [65] B. Willenbacher, D. May, P. Mitschang: Novel Measurement System for Determining Textil Behavior During Out-of-Plane-Impregnation, 22. ICCM, Melbourne, Australia, 2019
- [66] O. Rimmel, D. May: Novel Measurement System for Determining Textil Behavior During Out-of-Plane-Impregnation, 22. ICCM, Melbourne, Australia, 2019
- [67] B. Willenbacher, D. May, H. Franz, P. Mitschang: Experimental-Simulative Approach for the Measurement of Unsaturated Out-of-Plane Permeability of Engineering Textiles, 22. Symposium Verbundwerkstoffe und Werkstoffverbunde (DGM), Kaiserslautern, Germany, 2019
- [68] T. Schmidt, F. Schimmer, A. Widera, D. May, N. Motsch, C. Bauer: A Novel Simulative-Experimental Approach to Determine the Permeability of Technical Textiles, 22. Symposium Verbundwerkstoffe und Werkstoffverbunde (DGM), Kaiserslautern, Germany, 2019
- [69] O. Rimmel, D. May: Experimentell-simulativer Ansatz zur ganzheitlichen Optimierung der Imprägnierbarkeit von Dry fiber Placement Preforms, 22. Symposium Verbundwerkstoffe und Werkstoffverbunde (DGM), Kaiserslautern, Germany, 2019

- [70] F. Kühn, D. May, P. Mitschang: Production of Fiber Reinforced Thermoplastic Composites by Powder-Towpreg Placement and Direct Impregnation in a Variothermal Pressing Process, 22. Symposium Verbundwerkstoffe und Werkstoffverbunde (DGM), Kaiserslautern, Germany, 2019
- [71] J. Semar, D. May: Textilintegrierte Elastomeroberflächen für Faser-Kunststoff-Verbunde, 22. Symposium Verbundwerkstoffe und Werkstoffverbunde (DGM), Kaiserslautern, Germany, 2019
- [72] C. Goergen, A. Klingler, D. May, A. Faas, S. Grishchuk: Recycled High Performance Composites for Mobility and Transport Applications, 22. Symposium Verbundwerkstoffe und Werkstoffverbunde (DGM), Kaiserslautern, Germany, 2019
- [73] C. Goergen, A. Klingler, S. Grishchuk, D. May, B. Wetzel, P. Mitschang: Novel approach in B-Staging of an Epoxy Resin for development of rCF Non-Woven Prepregs for RTP Processing, 22. Symposium Verbundwerkstoffe und Werkstoffverbunde (DGM), Kaiserslautern, Germany, 2019
- [74] J. Semar, D. May, K. Heilos, F. Goethals, P. Mitschang: Flame retardant composites for building and transport sector, Symposium – Brandsicherheit und Gefährdungspotenzial im Kontext neuartiger innovativer Produkte, 2019
- [75] D. May, O. Rimmel, T. Schmidt.: Simulation statt Experiment? Ansätze zur virtuellen Permeabilitätsbestimmung für virtuelle Textilien, 28. Leobener Kunststoffkolloquium: Simulation in der Kunststofftechnik, Leoben, Austria, 2019
- [76] F. Kühn, D. May, P. Mitschang: Manufacturing of fiber reinforced thermoplastics via automated powder-towpreg placement and direct impregnation, ITHC 2018, Bremen, Germany, 2018
- [77] O. Rimmel, D. May: Combining experimental and simulative approaches for full understanding of impregnation of Dry Fiber Placement preforms, 7th GeoDict User Meeting, Kaiserslautern, Germany, 2018
- [78] A. Wiegmann, C. Bauer, T. Schmidt, D. May: Efficient design of composite components – permeability simulation on large CT-scans and their digital twins, French Interpore Conference on Porous Media (JEMP), Nantes, France, 2018
- [79] E. Fauster, D.C. Berg, D. May, A. Endruweit, Y. Blöchl, R. Schledjewski: Elliptic Paraboloid Flow Front Modelling For In-Plane Permeability Characterization Of Textile Fabrics By The Radial Flow Technique, Proceedings of the ECCM-18, Athens, Greece, 2018
- [80] B. Willenbacher, A. Kabachi, D. May, M. Danzi, P. Mitschang, P. Ermanni: Flow Induced Sample Deformations in Out-of-Plane Permeability Measurement, Proceedings of the ECCM-18, Athens, Greece, 2018
- [81] J. Semar, D. May, P. Mitschang: Evaluation of Different Perforation Patterns for Laminate-Integrated Heating Foils in Wind Turbine Rotor Blades, Proceedings of the ECCM-18, Athens, Greece, 2018
- [82] O. Rimmel, D. May, A. Poeppel, J. Schlimbach, P. Mitschang: Recycling of Long Carbon Fibers, Part II: Development of a Binder Tape Manufacturing Process for Processing in Automated Tape Laying, Proceedings of the ECCM-18, Athens, Greece, 2018
- [83] D. May, A. Aktas, A. Yong: International Benchmark Exercises on Textile Permeability and Compressibility Characterization, Proceedings of the ECCM-18, Athens, Greece, 2018
- [84] E. Fauster, D.C. Berg, D. May, Y. Blöchl, R. Schledjewski: Polynomial Surface Modelling Of Flow Front Data For In-Plane Permeability Characterization Of Textile Fabrics By Radial Flow Experiments, Proceedings of the FPCM-14, Luleå, Sweden, 2018

- [85] B. Willenbacher, D. May, P. Mitschang: Determining the capillary pressure of engineering textiles, Proceedings of the FPCM-14, Luleå, Sweden, 2018
- [86] O. Rimmel, D. May, Mitschang, P: Stitching Preforms Manufactured By Dry Fiber Placement To Optimize Permeability – An Experimental Evaluation, Proceedings of the FPCM-14, Luleå, Sweden, 2018
- [87] D. May, A. Aktas, A. Yong: Workshop: International Benchmark Exercises on Textile Permeability and Compressibility Characterization, Proceedings of the FPCM-14, Luleå, Sweden, 2018
- [88] D. May, O. Rimmel, T. Schmidt, J. Semar, P. Mitschang: Faser + Polymer = Verbundwerkstoff? - Lösungen für eine schnelle und gute Imprägnierung, 23. Nationales SAMPE Symposium, Kaiserslautern, Germany, 2018
- [89] T. Schmidt, C. Bauer, F. Schimmer, D. May, N. Motsch: A novel simulative-experimental approach for an efficient design of composite components, 6th GeoDict User Meeting, Kaiserslautern, Germany, 2017
- [90] J. Semar, M. Duhovic, C. Derdas, D. May: Material Characterization and Infusion Simulation of Highly Reactive Resin Systems, ESI Forum, Weimar, Germany, 2017
- [91] O. Rimmel, D. May, C. Gemperlein, P. Mitschang: Effects Of Fast Prepreg Pressing On Laminate Quality And Mechanical Properties, Proceedings of the ICCM21, Xian, China, 2017
- [92] K. Friedrich, E. Akpan, B. Wetzel, D. May: “Structural, Mechanical and Wear Properties of Palm Wood as a Model Natural Composite”, Proceedings of the ICCM21, Xian, China, 2017
- [93] D. May, A. Aktas: “Workshop: International Benchmark Exercises on Textile Permeability and Compressibility Characterization”, Proceedings of the ICCM21, Xian, China, 2017
- [94] F. Kühn, J. Rehra, D. May, S. Schmeer, P. Mitschang: Manufacturing of preforms for multifunctional steel / carbon hybrid fiber reinforced polymer composites by optimized dry fiber placement process, SAMPE Europe Conference, Stuttgart, Germany, 2017
- [95] D. May, O. Rimmel, C. Gemperlein: Jeder Rahmen so individuell wie sein Fahrer – Prozesskette zur effizienten Fertigung von flexiblen Hybrid-Composites, CCeV Schweiz Forum „Composites in der Fahrrad-Industrie“, Winterthur, Switzerland, 2017
- [96] F. Kühn, L. Medina, D. Becker, M. Zwick, M. Koch, B. Romahn, P. Mitschang: Ceramic pressing tool for variothermal processing of thermoplastic fiber composites. Proceedings of the ECCM 17, Muenchen, Germany, 2016
- [97] O. Rimmel, D. Becker, J. Mack, P. Mitschang: Maximizing the out-of-plane permeability of preforms manufactured by dry fiber placement. Proceedings of the ECCM 17, Muenchen, Germany, 2016
- [98] J. Gebauer, D. Becker: Vortrag bei der CCeV - Arbeitsgruppe “Garne und Textilien”, Augsburg, Germany, 2016
- [99] D. Becker, P. Mitschang: International Benchmark on Unsaturated 2D In-Plane Permeability Measurement. Proceedings of the FPCM-13, Kyoto, Japan, 2016
- [100] D. Becker, P. Mitschang: Darcy-based viscosity measurement for fast-curing resin systems. Proceedings of the FPCM-13, Kyoto, Japan, 2016
- [101] D. Becker, P. Mitschang: Know your textile: risks and chances of textile impregnation behavior. Proceedings of the IVW Kolloquium 2015, Kaiserslautern, Germany, 2015
- [102] Duhovic, M., D. Becker, P. Ortmann, J. Hausmann, P. Mitschang: Experimentally validated simulation of 3D impregnation behavior of thick-walled (wound) fiber reinforcements. ESI DACH Forum 2015, Bamberg, Germany, 2015

- [103] D. Becker, P. Mitschang: Influence of process parameters on the efficiency of transverse impregnation of textiles. Proceedings of the 20th ICCM, Copenhagen, Denmark, 2015
- [104] M. Bobertag, D. Becker, J. Glück, P. Mitschang: Rapid test system for permeability of textiles. Proceedings of the 8. Aachen-Dresden International Textile Colloquium, Dresden, Germany, 2014
- [105] D. Becker, P. Mitschang: Preforming influences on the out-of-plane impregnation behavior of textiles. Proceedings of the 8. Aachen-Dresden International Textile Colloquium, Dresden, Germany, 2014
- [106] D. Becker, P. Mitschang: LCM with transverse impregnation – a step towards mass production of high-performance composites. International METI-Shikoku Forum & Workshop, Takamatsu, Japan, 2014
- [107] D. Becker, P. Mitschang: Twente, Influence of preforming technology on the out-of-plane impregnation behavior of textiles (oral presentation, manuscript submitted to Composites Part A special issue), FPCM-12, Twente, Netherlands, 2014
- [108] D. Becker, P. Mitschang: Metrological Consideration of flow-induced preform compaction during out-of-plane permeability measurement. Proceedings of the TexComp11, Leuven, Belgium, 2013
- [109] D. Becker, P. Mitschang: Application-oriented permeability measurement for LCM processes. Proceedings of the Interpore 2013, Prague, Czech Republic, 2013
- [110] D. Becker, M. Brzeski, D. Linster, P. Mitschang: Preform compaction and deformation during through-the-thickness impregnation. Proceedings of the 19th ICCM, Montréal, Canada, 2013
- [111] P. Mitschang, M. Glawe, D. Kreutz, G. Rieber; D. Becker: Influence of textile parameters on the through-the-thickness permeability of woven textiles. Proceedings of the FPCM-11, Auckland, New Zealand, 2012
- [112] G. Rieber, J. Jiang, C. Deter, D. Becker, D. Kreutz, M. Glawe, P. Mitschang, Chen, N.: Influence of textile parameters on the permeability of reinforcement textiles. Proceedings of the ECCM-15, Venice, Italy, 2012
- [113] D. Becker; Arnold, M., T. Grieser, G. Rieber, P. Mitschang: Cutting edge developments for RTM: preforming, draping, injection. Proceedings of the IVW Kolloquium 2012, Kaiserslautern, Germany, 2012
- [114] D. Becker, G. Rieber, P. Mitschang: Textile parameters and through-the-thickness permeability. Proceedings of the IVW Kolloquium, 2012

## **Sonstige Veröffentlichungen**

- [115] M. Duhovic, T. Hoffmann, D. Schommer, D. May, J. Ernst, K. Schladitz, A. Moghiseh, F. Gortner, J. Hausmann, P. Mitschang, K. Steiner, "Digitalisierung eines CFK-Fertigungsprozesses", AVK Composites Report, Ausgabe 6, p. 22-24, 2022. [https://www.unserebroschuere.de/AVK\\_Composites\\_Report\\_06\\_DT/WebView/](https://www.unserebroschuere.de/AVK_Composites_Report_06_DT/WebView/)
- [116] D. May, „Faser-Kunststoff-Verbunde auf Basis recycelter Kohlenstofffasern“, wissenschaftlicher Vortrag im Habilitationsverfahren an der Technischen Universität Kaiserslautern, 28.04.2021
- [117] J. Janzen, D. May, P. Mitschang, „MarineCare – Nachhaltigkeit in Bootsbau & Wassersport“, AVK Industrievereinigung Verstärkte Kunststoffe e. V. (AVK), AVK Composites Report 04/2021



- [118] J. Janzen, D. May, „MarineCare – Sustainable boats and water sports“, Composites United, CU-Report 01/2021
- [119] M. Hümbert, T. Schmidt, A. Widera, D. May, N. Motsch, „Simulativ-Experimentell zum Digitalen Zwilling“, Carbon Composites Magazin, 2/2019, 2019
- [120] L. Ausheyks, S. Baz, A. Dinkelmann, H. Finkch, G. Gresser, R. Hehl, O. Rimmel, T. Schmidt, D. May, P. Mitschang, A. Poeppel: Recycling langer Kohlenstofffasern, Kunststoffe, 5/2018, 2018
- [121] L. Ausheyks, S. Baz, A. Dinkelmann, H. Finkch, G. Gresser, R. Hehl, O. Rimmel, T. Schmidt, D. May, P. Mitschang, A. Poeppel: Recycling of long carbon fibers, Kunststoffe International, 5/2018, 2018
- [122] O. Rimmel, J. Mack, D. Becker, P. Mitschang: Automated Direct Fibre Placement with Online Binder Application, Lightweight Design International, Volume 10, Issue 2, 2017
- [123] D. Becker, V. Boszak, G. Francois, P. Mitschang: Combining the Best of Two Polymer Worlds, Kunststoffe international, 12/2016, 2016
- [124] D. Becker, J. Glück, F. Ludwig, P. Mitschang, M. Bobertag: Viscosity of fast-curing resin systems. Kunststoffe International (8/2016), pp. 59-61, 2016
- [125] M. Hümbert, D. Becker, P. Mitschang, M. Andres, F. Liebana: Fusion bonding of thermoplastic composites and metals. JEC Composites Magazine, No 103, 2016
- [126] J. Glück, M. Bobertag, P. Mitschang, D. Becker () Rapid test system for permeability of textiles in QA and R+D. Rubber Fibres Plastics International, Vol. 10, pp. 206-209, 2015
- [127] D. Becker, P. Mitschang: Precise characterization of reinforcement textiles. Kunststoffe international, (4), pp. 38-41, 2014
- [128] K. Hildebrandt, J. Mack, D. Becker, P. Mitschang: Potenziale der Matrixpolymere für die FKV-Bauteilfertigung im Automobilbau. Lightweight Design, Vol. 7 (2), pp. 14-21, 2014
- [129] D. Becker, T. Grieser, M. Arnold, P. Mitschang: Preform-LCM: Schlüsselemente zur Effizienzsteigerung. Werkstoffe in der Fertigung, (6), pp.37-38, 2013
- [130] R. Holschuh, J. Dzalto, D. Becker, P. Mitschang: Load-related locally reinforced hybrid structures, JEC Composites Magazine, 2013
- [131] A. Arnold, J. Broser, D. Becker, G. Rieber, P. Mitschang: Influence of textile manufacturing parameters on the maximum shear angle of glass fiber fabrics. Technical Textiles, (3), pp. 94-101, 2013
- [132] R. Holschuh, D. Becker, P. Mitschang: Erhöhung der Wirtschaftlichkeit des FKV-Einsatzes im Automobilbau durch effiziente Verfahrenskombination. Lightweight Design, Vol. 5 (4), pp. 14-19, 2012

## Patente

D. Becker, M. Domm: 2016120518532300DE Vorrichtung und Verfahren zur Ablage von imprägnierten Fasern (angemeldet), 2017

D. Becker, G. Rieber, H. Franz: DE102013102486 - Verfahren zur kontinuierlichen Messung des hydrodynamischen Kompaktierungsverhaltens einer Verstärkungsstruktur, 2014