

Anstellung

Priv.-Doz. Dipl.-Ing. Dr.mont. Florian Arbeiter

Lehrstuhl für Werkstoffkunde und Prüfung der Kunststoffe (210)

Telefon: 2122



Forschungsbereiche

Polymere Rohrwerkstoffe

Mehrschichtstrukturen

Angewandte Bruchmechanik

Mechanische Hochgeschwindigkeitsprüfung

Additive Fertigung

Journal Artikel

1. Arbeiter, FJ, Gosch, A, Vojtek, T, Pinter, G, Hutař, P & Berer, M 2025, 'Mixed mode I/III fatigue behaviour of Polyetheretherketone', *Engineering Fracture Mechanics*, Jg. 320.2025, Nr. 13 May, 111057. <https://doi.org/10.1016/j.engfracmech.2025.111057>
2. Shahroodi, Z, Zidar, D, Momeni, V, Arbeiter, F, Duretek, I, Krempl, N, Berger-Weber, G & Holzer, C 2025, 'Tailored Recycled Composites: Enhancing the Performance of Injection Moulded Post-Consumer Polypropylene Composites Using Box-Behnken Design', *Polymer Testing*, Jg. 144.2025, Nr. March, 108743. <https://doi.org/10.1016/j.polymertesting.2025.108743>
3. Waly, C, Schulnig, S & Arbeiter, F 2024, 'Strain rate-dependent failure modes of material extrusion-based additively manufactured PETG: A study on crack deflection and penetration', *Theoretical and Applied Fracture Mechanics*, Jg. 136.2025, Nr. April, 104834. <https://doi.org/10.1016/j.tafmec.2024.104834>
4. Waly, C, Höller, R, Griesser, T & Arbeiter, F 2024, 'Deformation and fracture of lithosphere-inspired polymeric multi-layer composites', *Results in Engineering*, Jg. 24.2024, Nr. December, 103519. <https://doi.org/10.1016/j.rineng.2024.103519>
5. Messiha, M, Wiener, J, Arbeiter, F & Pinter, G 2024, 'Data-driven evaluation of the Paris' law parameters in polyethylene pipe grades — Increasing the precision of fracture mechanical lifetime estimation', *Engineering Fracture Mechanics*, Jg. 311.2024, Nr. 25 November, 110540. <https://doi.org/10.1016/j.engfracmech.2024.110540>
6. Shahroodi, Z, Krempl, N, Zidar, D, Mayrhofer, T, Kirschnick, U, Arbeiter, F, Duretek, I & Holzer, C 2024, 'Waste-to-Value Feasibility Study: Assessing the Viability and Quality of Incorporating Different Postindustrial Glass-Fiber Composites into Postconsumer Recycled Polypropylene', *ACS Sustainable Chemistry and Engineering*, Jg. 12.2024, Nr. 33, S. 12619-12631. <https://doi.org/10.1021/acssuschemeng.4c04645>
7. Bergoglio, M, Rossegger, E, Schlögl, S, Griesser, T, Waly, C, Arbeiter, F & Sangermano, M 2024, 'Multi-Material 3D Printing of Biobased Epoxy Resins', *Polymers*, Jg. 16.2024, Nr. 11, 1510. <https://doi.org/10.3390/polym16111510>
8. Gao, X, Guo, J, Zhang, D, Li, J, Su, Y, Arbeiter, F & Li, H 2024, 'Reducing part deformation of isotactic polypropylene specimens fabricated with powder bed fusion technique through controlling crystallization behaviors', *Journal of polymer science*, Jg. 62.2024, Nr. 13, S. 3025-3037. <https://doi.org/10.1002/pol.20240121>
9. Arbeiter, F, Schachinger, T, Wenighofer, R, Rieß, G, Steiner, M, Micic Batka, V, Griebaum, M, Laufer, V & Galler, R 2023, 'Maßgeschneiderte Sanierungsverfahren für die Tunnelentwässerung - "DrainRepair": Teil 2: Ergebnisbericht', *Berg- und hüttenmännische Monatshefte : BHM*, Jg. 168.2023, Nr. 12, S. 566-571. <https://doi.org/10.1007/s00501-023-01406-8>
10. Wainstein, J, Wiener, J, Arbeiter, F & Frontini, PM 2023, 'Determination of creep crack growth kinetics of ABS via the C* approach at different temperatures', *Results in Engineering*, Jg. 20.2023, Nr. December, 101481. <https://doi.org/10.1016/j.rineng.2023.101481>
11. Waly, C, Petersmann, S & Arbeiter, F 2023, 'Crack penetration versus deflection in extrusion-based additive manufacturing – Impact of nozzle temperature and morphology', *Theoretical and Applied Fracture Mechanics*, Jg. 127.2023, Nr. October, 104032. <https://doi.org/10.1016/j.tafmec.2023.104032>
12. de Carvalho, WS, Marzemin, F, Belei, C, Petersmann, S, Arbeiter, F & de Traglia Amancio-Filho, S 2023, 'Statistical-based optimization of fused filament fabrication parameters for short-carbon-fiber-reinforced poly-ether-ether-ketone considering multiple loading conditions', *Polymer Testing*, Jg. 128.2023, Nr. November, 108207. <https://doi.org/10.1016/j.polymertesting.2023.108207>

13. Wiener, J, Arbeiter, F & Pinter, GG 2023, 'Concepts towards bio-inspired multilayered polymer-composites', *Procedia Structural Integrity*, Jg. 2023, Nr. 47, S. 253-260. <https://doi.org/10.1016/j.prostr.2023.07.018>
14. Eder, S, Kuchler, L, Katschnig, M, Brandl, B, Wolfgang, M, Koutsamanis, I, Hentschel, L, Arbeiter, F, Roblegg, E & Spoerk, M 2023, 'Personalization of Complex Vaginal Inserts of Ethylene Vinyl Acetate via 3D-Printing', *Advanced Materials Technologies*, Jg. 8.2023, Nr. 17, 2300237. <https://doi.org/10.1002/admt.202300237>
15. Schwaiger, M, Waly, C, Huszar, M, Oreski, G, Feuchter, M, Arbeiter, F & Resch-Fauster, K 2023, 'Bioinspired fracture toughness enhancement of a fully bio-based epoxy resin', *Polymer Testing*, Jg. 124.2023, Nr. July, 108098. <https://doi.org/10.1016/j.polymertesting.2023.108098>
16. Trávníček, L, Poduška, J, Messiha, M, Arbeiter, F, Pinter, GG, Náhlík, L & Hutař, P 2023, 'Effect of recycled material on failure by slow crack growth in multi-layer polyethylene pipes', *Engineering Fracture Mechanics*, Jg. 289.2023, Nr. 1 September, 109423. <https://doi.org/10.1016/j.engfracmech.2023.109423>
17. Petersmann, S, Huemer, M, Hentschel, L & Arbeiter, F 2023, 'Effects of simulated body fluid on the mechanical properties of polycarbonate polyurethane produced via material jetting', *Polymer Testing*, Jg. 120.2023, Nr. March, 107977. <https://doi.org/10.1016/j.polymertesting.2023.107977>
18. Petersmann, S, Smith, JA, Schäfer, U & Arbeiter, F 2023, 'Material extrusion-based additive manufacturing of polyetheretherketone cranial implants: Mechanical performance and print quality', *Journal of Materials Research and Technology*, Jg. 22.2023, Nr. January-February, S. 642-657. <https://doi.org/10.1016/j.jmrt.2022.11.143>
19. Varsavas, SD, Riemelmoser, F, Arbeiter, F & Faller, LM 2022, 'A review of parameters affecting success of lower-limb prosthetic socket and liners and implementation of 3D printing technologies', *Materials Today: Proceedings*, Jg. 70.2022, S. 425-430. <https://doi.org/10.1016/j.matpr.2022.09.280>
20. Wiener, J, Arbeiter, F, Kolednik, O & Pinter, G 2022, 'Influence of layer architecture on fracture toughness and specimen stiffness in polymer multilayer composites', *Materials and Design*, Jg. 219.2022, Nr. July, 110828. <https://doi.org/10.1016/j.matdes.2022.110828>
21. Messiha, M, Frank, A, Arbeiter, F & Pinter, G 2022, 'On the slow crack growth process and associated structure-property relationships in polyamide 12 grades', *Journal of applied polymer science*, Jg. 139.2022, Nr. 24, 52357. <https://doi.org/10.1002/app.52357>
22. Hentschel, L, Petersmann, S, Gonzalez-Gutierrez, J, Kynast, F, Schäfer, U, Arbeiter, F & Holzer, C 2022, 'Parameter Optimization of the ARBURG Plastic Freeforming Process by Means of a Design of Experiments Approach', *Advanced engineering materials*, Jg. 24.2022, 2200279. <https://doi.org/10.1002/adem.202200279>
23. Petersmann, S, Hentschel, L, Gonzalez-Gutierrez, J, Tödtling, M, Schäfer, U, Arbeiter, F & Üçal, M 2022, 'The Effects of Washing and Formaldehyde Sterilization on the Mechanical Performance of Poly(methyl Methacrylate) (PMMA) Parts Produced by Material Extrusion-Based Additive Manufacturing or Material Jetting', *Advanced engineering materials*, Jg. 24.2022, 2200225. <https://doi.org/10.1002/adem.202200225>
24. Pletz, M & Arbeiter, FJ 2022, 'Combined Crack Initiation and Crack Growth Model for Multi-Layer Polymer Materials', *Materials*, Jg. 15.2022, Nr. 9, 3273. <https://doi.org/10.3390/ma15093273>
25. Eder, S, Wiltschko, L, Koutsamanis, I, Afonso Urich, JA, Arbeiter, F, Roblegg, E & Spoerk, M 2022, 'Toward a new generation of vaginal pessaries via 3D-printing: Concomitant mechanical support and drug delivery', *European Journal of Pharmaceutics and Biopharmaceutics*, Jg. 174.2022, Nr. May, S. 77-89. <https://doi.org/10.1016/j.ejpb.2022.04.001>
26. Wiener, J, Priessegger, F, Plank, B, Arbeiter, F, Kolednik, O & Pinter, G 2022, 'Characterization methods for strain-induced damage in polypropylene', *Polymer Engineering and Science*, Jg. 62.2022, Nr. 6, S. 1959-1973. <https://doi.org/10.1002/pen.25979>
27. Waly, C, Petersmann, S & Arbeiter, F 2022, 'Multimaterial Extrusion-Based Additive Manufacturing of Compliant Crack Arresters: Influence of Interlayer Length, Thickness, and Applied Strain Rate', *Advanced engineering materials*, Jg. 2022, 2101703. <https://doi.org/10.1002/adem.202101703>
28. Messiha, M, Frank, A, Heimink, J, Arbeiter, F & Pinter, G 2022, 'Mechanisms of rapid fracture in PA12 grades', *Theoretical and Applied Fracture Mechanics*, Jg. 117.2022, Nr. February, 103145. <https://doi.org/10.1016/j.tafmec.2021.103145>
29. Messiha, M, Frank, A, Arbeiter, F & Pinter, G 2022, 'How hydrogen bonds influence the slow crack growth resistance of polyamide 12', *Polymer*, Jg. 239.2022, Nr. 17 January, 124437. <https://doi.org/10.1016/j.polymer.2021.124437>
30. Arbeiter, F, Schachinger, T, Wenighofer, R, Rieß, G, Steiner, M, Schoen, A, Griebaum, M, Laufer, V & Galler, R 2021, 'Maßgeschneiderte Sanierungsverfahren für die Tunnelentwässerung – DrainRepair', *Berg- und hüttenmännische Monatshefte : BHM*, Jg. 166.2021, Nr. 12, S. 583-588. <https://doi.org/10.1007/s00501-021-01173-4>
31. Spoerk, M, Arbeiter, F, Koutsamanis, I, Cajner, H, Katschnig, M & Eder, S 2021, 'Personalised urethra pessaries prepared by material extrusion-based additive manufacturing', *International Journal of Pharmaceutics*, Jg. 608.2021, Nr. 25 October, 121112. <https://doi.org/10.1016/j.ijpharm.2021.121112>

32. Messiha, M, Frank, A, Heimink, J, Arbeiter, F & Pinter, G 2021, 'Structure-Property Relationships of Polyamide 12 Grades Exposed to Rapid Crack Extension', *Materials*, Jg. 14.2021, Nr. 19, 5899. <https://doi.org/10.3390/ma14195899>
33. Gonzalez-Gutierrez, J, Cano Cano, S, Ecker, JV, Kitzmantel, M, Arbeiter, F, Kukla, C & Holzer, C 2021, 'Bending Properties of Lightweight Copper Specimens with Different Infill Patterns Produced by Material Extrusion Additive Manufacturing, Solvent Debinding and Sintering', *Applied Sciences : open access journal*, Jg. 11, Nr. 16, 7262. <https://doi.org/10.3390/app11167262>
34. Rueda, F, Rull, N, Quintana, C, Torres, JP, Messiah, M, Frank, A, Arbeiter, F, Frontini, PM & Pinter, G 2021, 'Modelling Failure Of Polymers: An Optimization Strategy Based on Genetic Algorithms and Instrumented Impact Tests', *Journal of dynamic behavior of materials*. <https://doi.org/10.1007/s40870-021-00297-5>
35. Gosch, A, Arbeiter, FJ, Agnelli, S, Berer, M & Baldi, F 2021, 'Size-Induced Constraint Effects on Crack Initiation and Propagation Parameters in Ductile Polymers', *Materials*, Jg. 14.2021, Nr. 8, 1945. <https://doi.org/10.3390/ma14081945>
36. Frank, A, Messiha, M, Koch, T, Poduška, J, Hutař, P, Arbeiter, F & Pinter, G 2021, 'Correlation of the cyclic cracked round bar test and hydrostatic pressure test for unplasticized polyvinylchloride', *Polymer Testing*, Jg. 95.2021, Nr. March, 107125. <https://doi.org/10.1016/j.polymertesting.2021.107125>
37. Wiener, J, Kaineder, H, Kolednik, O & Arbeiter, F 2021, 'Optimization of Mechanical Properties and Damage Tolerance in Polymer-Mineral Multilayer Composites', *Materials*, Jg. 14.2021, Nr. 4, 725, S. 1-19. <https://doi.org/10.3390/ma14040725>
38. Gosch, A, Arbeiter, F, Berer, M, Vojtek, T, Hutař, P & Pinter, GG 2020, 'Fatigue characterization of polyethylene under mixed mode I/III conditions', *International Journal of Fatigue*, Jg. 145.2021, Nr. April, 106084. <https://doi.org/10.1016/j.ijfatigue.2020.106084>
39. Koutsamanis, I, Spoerk, M, Arbeiter, F, Eder, S & Roblegg, E 2020, 'Development of Porous Polyurethane Implants Manufactured via Hot-Melt Extrusion', *Polymers*, Jg. 12.2020, Nr. 12, 2950, S. 1-22. <https://doi.org/10.3390/polym12122950>
40. Gosch, A, Geier, J, Arbeiter, F, Berer, M & Pinter, GG 2020, 'Methods for automated crack length detection in fracture mechanical fatigue tests of unreinforced polymers', *Procedia structural integrity / ESIS, European Structural Integrity Society*, Jg. 28.2020, S. 1184-1192. <https://doi.org/10.1016/j.prostr.2020.11.100>
41. Arbeiter, F, Trávníček, L, Petersmann, S, Dlhý, P, Spoerk, M, Pinter, G & Hutař, P 2020, 'Damage tolerance-based methodology for fatigue lifetime estimation of a structural component produced by material extrusion-based additive manufacturing', *Additive Manufacturing*, Jg. 36, 101730. <https://doi.org/10.1016/j.addma.2020.101730>
42. Messiha, M, Frank, A, Koch, T, Arbeiter, F & Pinter, G 2020, 'Effect of polyethylene and polypropylene cross-contamination on slow crack growth resistance', *International journal of polymer analysis and characterization*, Jg. 25, Nr. 8, S. 649-666. <https://doi.org/10.1080/1023666X.2020.1833143>
43. Arbeiter, F, Eichinger, S, Rieß, G, Schachinger, T, Boch, R, Wenighofer, R, Galler, R, Hausberger, A, Strobl, E, Stur, M, Saliger, F, Steiner, M, Dietzel, M & Pinter, G 2020, 'Optimierte Polymer-Rohrwerkstoffe für effiziente Drainagesysteme in Tunnelbauwerken—PolyDrain Teil II', *Berg- und hüttenmännische Monatshefte : BHM*, Jg. 165.2020, Nr. 11, S. 623-630. <https://doi.org/10.1007/s00501-020-01045-3>
44. Arbeiter, F, Petersmann, S, Wiener, J, Oesterreicher, F, Spörk, M & Pinter, GG 2020, 'Using Compliant Interlayers as Crack Arresters in 3-D-Printed Polymeric Structures', *Materials Performance and Characterization*, Jg. 9, Nr. 5. <https://doi.org/doi:10.1520/MPC20190201>
45. Gosch, A, Arbeiter, FJ, Agnelli, S, Berer, M, Pinter, G & Baldi, F 2020, 'J-testing of polymers via the load separation criterion based ESIS TC4 procedure: Effect of the specimen size', *Polymer Testing*, Jg. 89, Nr. September, 106637. <https://doi.org/10.1016/j.polymertesting.2020.106637>
46. Petersmann, S, Spörk-Erdely, P, Feuchter, M, Wieme, T, Arbeiter, F & Spörk, M 2020, 'Process-induced morphological features in material extrusion-based additive manufacturing of polypropylene', *Additive Manufacturing*, Jg. 35.2020, Nr. October, 101384. <https://doi.org/10.1016/j.addma.2020.101384>
47. Petersmann, S, Spörk, M, Van De Steene, W, Üçal, M, Wiener, J, Pinter, GG & Arbeiter, F 2020, 'Mechanical properties of polymeric implant materials produced by extrusion-based additive manufacturing', *Journal of the Mechanical Behavior of Biomedical Materials*, Jg. 104.2020, Nr. April, 103611. <https://doi.org/10.1016/j.jmbbm.2019.103611>
48. Hennen, D, Hartmann, D, Rieger, PH, Oesterreicher, A, Wiener, J, Arbeiter, F, Feuchter, M, Fröhlich, E, Pichelmayer, M, Schlögl, S & Griesser, T 2020, 'Exploiting the Carbon and Oxa Michael Addition Reaction for the Synthesis of Yne Monomers: Towards the Conversion of Acrylates to Biocompatible Building Blocks', *ChemPhotoChem*, Jg. 4.2020, Nr. 7, S. 476-480. <https://doi.org/10.1002/cptc.201900199>
49. Messiha, M, Gerets, B, Heimink, J, Frank, A, Arbeiter, F & Engelsing, K 2020, 'Slow crack growth resistance of modern PA-U12 grades measured by cyclic cracked round bar tests and strain hardening tests', *Polymer Testing*, Jg. 86.2020, Nr. June, 106468. <https://doi.org/10.1016/j.polymertesting.2020.106468>

50. Tiwari, A, Wiener, J, Arbeiter, F, Pinter, G & Kolednik, O 2019, 'Application of the material inhomogeneity effect for the improvement of fracture toughness of a brittle polymer', *Engineering Fracture Mechanics*, Jg. 224.2020, Nr. March, 106776. <https://doi.org/10.1016/j.engfracmech.2019.106776>
51. Wiener, J, Arbeiter, F, Tiwari, A, Kolednik, O & Pinter, G 2019, 'Bioinspired toughness improvement through soft interlayers in mineral reinforced polypropylene', *Mechanics of materials*, Jg. 140.2020, Nr. January, 103243. <https://doi.org/10.1016/j.mechmat.2019.103243>
52. Arbeiter, F, Eichinger, S, Rieß, G, Schachinger, T, Boch, R, Wenighofer, R, Galler, R, Hausberger, A, Strobl, E, Stur, M, Saliger, F, Steiner, M, Dietzel, M & Pinter, GG 2019, 'Optimierte Polymer-Rohrwerkstoffe für effiziente Drainagesysteme in Tunnelbauwerken - PolyDrain', *Berg- und hüttenmännische Monatshefte : BHM*, Jg. 164.2019, Nr. 12, S. 545-551. <https://doi.org/10.1007/s00501-019-00918-6>
53. Schachinger, T, Arbeiter, F, Eichinger, S & Saliger, F 2019, 'Research on pipe materials for tunnel drainage by the ÖBB Task Force Drainage', *Geomechanics and tunnelling = Geomechanik und Tunnelbau*, Jg. 12.2019, Nr. 5, S. 467-471. <https://doi.org/10.1002/geot.201900022>
54. Gosch, A, Berer, M, Hutař, P, Slavik, O, Vojtek, T, Arbeiter, F & Pinter, GG 2019, 'Mixed Mode I/III fatigue fracture characterization of Polyoxymethylene', *International Journal of Fatigue*, Jg. 130.2020, Nr. January, S. 105269. <https://doi.org/10.1016/j.ijfatigue.2019.105269>
55. Petersmann, S, Spoerk, M, Huber, P, Lang, M, Pinter, G & Arbeiter, F 2019, 'Impact Optimization of 3D-Printed Poly(methyl methacrylate) for Cranial Implants', *Macromolecular materials and engineering*, Jg. 304.2019, Nr. 11, 1900263. <https://doi.org/10.1002/mame.201900263>
56. Spörk, M, Arbeiter, F, Raguz, I, Holzer, C & Gonzales-Gutierrez, J 2019, 'Mechanical Recyclability of Polypropylene Composites Produced by Material Extrusion-Based Additive Manufacturing', *Polymers*, Jg. 11.2019, Nr. 8, 1318. <https://doi.org/10.3390/polym11081318>
57. Khudiakova, A, Arbeiter, F, Spoerk, M, Wolfahrt, M, Godec, D & Pinter, G 2019, 'Inter-layer bonding characterisation between materials with different degrees of stiffness processed by fused filament fabrication', *Additive Manufacturing*, Jg. 28.2019, Nr. August, S. 184-193. <https://doi.org/10.1016/j.addma.2019.05.006>
58. Gonzalez-Gutierrez, J, Arbeiter, F, Schlauf, T, Kukla, C & Holzer, C 2019, 'Tensile properties of sintered 17-4PH stainless steel fabricated by material extrusion additive manufacturing', *Materials letters*, Jg. 248.2019, Nr. 1 August, S. 165-168. <https://doi.org/10.1016/j.matlet.2019.04.024>
59. Cano Cano, S, Gonzalez-Gutierrez, J, Sapkota, J, Spörk, M, Arbeiter, F, Schuschnigg, S, Holzer, C & Kukla, C 2019, 'Additive manufacturing of zirconia parts by fused filament fabrication and solvent debinding: Selection of binder formulation', *Additive Manufacturing*, Jg. 26.2019, Nr. March, S. 117-128. <https://doi.org/10.1016/j.addma.2019.01.001>
60. Frank, A, Arbeiter, FJ, Berger, IJ, Hutar, P, Náhlík, L & Pinter, G 2019, 'Fracture Mechanics Lifetime Prediction of Polyethylene Pipes', *Journal of Pipeline Systems Engineering and Practice*, Jg. 10.2019, Nr. 1, 04018030. [https://doi.org/10.1061/\(ASCE\)PS.1949-1204.0000356](https://doi.org/10.1061/(ASCE)PS.1949-1204.0000356)
61. Gosch, A, Arbeiter, FJ, Berer, M & Pinter, G 2018, 'Comparison of J-integral methods for the characterization of tough polypropylene grades close to the glass transition temperature', *Engineering Fracture Mechanics*, Jg. 203.2018, Nr. November, S. 2-17. <https://doi.org/10.1016/j.engfracmech.2018.06.002>
62. Spoerk, M, Savandaiah, C, Arbeiter, F, Traxler, G, Cardon, L, Holzer, C & Sapkota, J 2018, 'Anisotropic properties of oriented short carbon fibre filled polypropylene parts fabricated by extrusion-based additive manufacturing', *Composites Part A: Applied Science and Manufacturing*, Jg. 113.2018, Nr. October, S. 95-104. <https://doi.org/10.1016/j.compositesa.2018.06.018>
63. Hergan, P, Li, Y, Zaloznik, L, Kaynak, B, Arbeiter, F, Fauster, E & Schledjewski, R 2018, 'Using (VA)RTM with a Rigid Mould to Produce Fibre Metal Laminates with Proven Impact Strength', *Journal of Manufacturing and Materials Processing*, Jg. 2.2018, Nr. 2, 38. <https://doi.org/10.3390/jmmp2020038>
64. Spörk, M, Arbeiter, F, Raguž, I, Weingrill, G, Fischinger, T, Traxler, G, Schuschnigg, S, Cardon, L & Holzer, C 2018, 'Polypropylene Filled With Glass Spheres in Extrusion-Based Additive Manufacturing: Effect of Filler Size and Printing Chamber Temperature', *Macromolecular materials and engineering*, Jg. 303.2018, Nr. 7, 1800179. <https://doi.org/10.1002/mame.201800179>
65. Fleischmann, DD, Arbeiter, F, Schaller, R, Holzner, A, Kern, W & Schlögl, S 2018, 'Influence of crosslinker and water on cyclic properties of carboxylated nitrile butadiene rubber (XNBR)', *Polymer Testing*, Jg. 67.2018, Nr. May, S. 309-321. <https://doi.org/10.1016/j.polymertesting.2018.03.021>
66. Arbeiter, F, Spoerk, M, Wiener, J, Gosch, A & Pinter, G 2018, 'Fracture mechanical characterization and lifetime estimation of near-homogeneous components produced by fused filament fabrication', *Polymer Testing*, Jg. 66.2018, Nr. April, S. 105-113. <https://doi.org/10.1016/j.polymertesting.2018.01.002>
67. Fleischmann, DD, Ayalur-Karunakaran, S, Arbeiter, F, Schaller, R, Holzner, A, Kern, W & Schlögl, S 2018, 'Influence of crosslinker and water on mechanical properties of carboxylated nitrile butadiene rubber (XNBR)', *Polymer Testing*, Jg. 66.2018, Nr. April, S. 24-31. <https://doi.org/10.1016/j.polymertesting.2018.01.001>

68. Spörk, M, Savandaiah, C, Arbeiter, F, Sapkota, J & Holzer, C 2017, 'Optimization of Mechanical Properties of Glass-Spheres-Filled Polypropylene Composites for Extrusion-Based Additive Manufacturing', *Polymer Composites*, Jg. 40.2019, Nr. 2, S. 638-651. <https://doi.org/10.1002/pc.24701>
69. Spörk, M, Sapkota, J, Weingrill, G, Fischinger, T, Arbeiter, F & Holzer, C 2017, 'Shrinkage and Warpage Optimization of Expanded-Perlite-Filled Polypropylene Composites in Extrusion-Based Additive Manufacturing', *Macromolecular materials and engineering*, Jg. 302.2017, Nr. 10, 1700143. <https://doi.org/10.1002/mame.201700143>
70. Spörk, M, Arbeiter, F, Cajner, H, Sapkota, J & Holzer, C 2017, 'Parametric optimization of intra- and inter-layer strengths in parts produced by extrusion-based additive manufacturing of poly(lactic acid)', *Journal of Applied Polymer Science*, Jg. 134.2017, Nr. 41, 45401. <https://doi.org/10.1002/app.45401>
71. Katschnig, M, Arbeiter, F, Haar, B, von Campe, G & Holzer, C 2016, 'Cranial Polypropylene Implants by Fused Filament Fabrication', *Advanced engineering materials*, Jg. 19.2017, Nr. 4, 1600676. <https://doi.org/10.1002/adem.201600676>
72. Arbeiter, F, Frank, A & Pinter, GG 2016, 'Influence of molecular structure and reinforcement on fatigue behavior of tough polypropylene materials', *Journal of Applied Polymer Science*, Jg. 133.2016, Nr. 38, 43948. <https://doi.org/10.1002/app.43948>
73. Salazar, A, Rodríguez, J, Arbeiter, F, Pinter, GG & Martínez, AB 2016, 'Fracture toughness of high density polyethylene: Fatigue pre-cracking versus femtolasers, razor sharpening and broaching', *Engineering Fracture Mechanics*, Jg. 149.2015, Nr. November, S. 199-213. <https://doi.org/10.1016/j.engfracmech.2015.07.016>
74. Mikula, J, Hutař, P, Nezbedová, E, Lach, R, Arbeiter, F, Ševčík, M, Pinter, G, Grellmann, W & Náhlík, L 2015, 'On crack propagation in the welded polyolefin pipes with and without the presence of weld beads', *Materials & design*, Jg. 87, S. 95-104. <https://doi.org/10.1016/j.matdes.2015.07.131>
75. Arbeiter, F, Schrittmesser, B, Frank, A, Berer, M & Pinter, G 2015, 'Cyclic tests on cracked round bars as a quick tool to assess the long term behaviour of thermoplastics and elastomers', *Polymer Testing*, Jg. 45, 4441, S. 83-92. <https://doi.org/10.1016/j.polymertesting.2015.05.008>
76. Frank, A, Berger, I, Arbeiter, F & Pinter, G 2015, 'Beschleunigte Werkstoffqualifizierung mit dem zyklischen CRB-Test', *3 R*, Nr. 04-05 2015, S. 74-80. <https://www.di-verlag.de/de/Zeitschriften/3R/2015/04-05/Beschleunigte-Werkstoffqualifizierung-mit-dem-Zyklischen-CRB-Test>
77. Arbeiter, F, Pinter, G & Frank, A 2014, 'Characterisation of quasi-brittle fatigue crack growth in pipe grade polypropylene block copolymer', *Polymer Testing*, Jg. 37, S. 186-192. <https://doi.org/10.1016/j.polymertesting.2014.05.016>
78. Brunbauer, J, Arbeiter, F, Stelzer, S & Pinter, G 2014, 'Stiffness based fatigue characterisation of CFRP', *Advanced materials research*, S. 166-171. <https://doi.org/10.4028/www.scientific.net/AMR.891-892.166>
79. Arbeiter, F, Pinter, G, Redhead, A & Frank, A 2012, 'Kunststofftechnik Leoben: Rohrexpertise in Spanien Präsentiert', *VLK-News*, S. 18-18.

Aktivitäten

1. **Czech Academy of Sciences, Brno**
Arbeiter, F. (Gastforscher)
16 Feb. 2017
2. **Czech Academy of Sciences, Brno**
Arbeiter, F. (Gastforscher)
4 März 2019 → 22 März 2019
3. **Czech Academy of Sciences, Brno**
Arbeiter, F. (Gastforscher)
13 Jan. 2015
4. **Czech Academy of Sciences, Brno**
Arbeiter, F. (Gastforscher), Maurer, C. (Gastforscher), Zach, D. (Gastforscher) & Huszar, M. (Gastforscher)
18 März 2025 → 19 März 2025
5. **Università degli Studi di Brescia**
Arbeiter, F. (Gastforscher)
8 März 2018 → 9 März 2018
6. **Universität Gent**
Arbeiter, F. (Gastforscher)
15 Okt. 2019 → 17 Okt. 2019
7. **17-4PH Steel Parts Produced via Material Extrusion Additive Manufacturing, Debinding and Sintering**
Holzer, C. (Redner), Gonzales-Gutierrez, J. (Beitragende/r), Kukla, C. (Beitragende/r), Arbeiter, F. (Beitragende/r) & Schlauf, T. (Beitragende/r)
18 Sept. 2019

8. **Analyzing and Predicting Failure Modes in Mono- and Multi-Material Extrusion-based Additive Manufactured Structures**
Waly, C. (Redner), Schulnig, S. (Beitragende/r) & Arbeiter, F. (Beitragende/r)
21 Nov. 2024 → 22 Nov. 2024
9. **Deformation and fracture of lithomers - a novel class of polymeric multilayer composite materials**
Waly, C. (Redner), Höller, R. (Beitragende/r), Pletz, M. (Beitragende/r), Griesser, T. (Beitragende/r) & Arbeiter, F. (Beitragende/r)
24 März 2024 → 28 März 2024
10. **Exploring the Interplay Between Process, Structure, and Resulting Properties in Polymeric Multi-material Composites Inspired by Lithomimetics Principle**
Waly, C. (Redner) & Arbeiter, F. (Beitragende/r)
19 Mai 2024 → 23 Mai 2024
11. **Grabungsfreie Rohrsanierungstechnologien und deren Einsetzbarkeit für Tunnel drainagen**
Griebaum, M. (Beitragende/r) & Arbeiter, F. (Redner)
6 Juli 2022 → 8 Juli 2022
12. **17th International Conference on Deformation, Yield and Fracture of Polymers**
Arbeiter, F. (Gastredner)
27 März 2018
13. **An Investigation on the Effects of Post-industrial Glass Fiber Flakes on the Properties of Recycled Polypopylene**
Raguz, I. (Redner), Shahroodi, Z. (Beitragende/r), Krempf, N. (Beitragende/r), Arbeiter, F. (Beitragende/r), Friesenbichler, W. (Beitragende/r) & Holzer, C. (Beitragende/r)
23 Mai 2024
14. **EXPERIMENTAL INVESTIGATION INTO THE FRACTURE BEHAVIOR OF LAYERED POLYMERS**
Arbeiter, F. (Gastredner), Waly, C. (Beitragende/r), Wiener, J. (Beitragende/r) & Pletz, M. (Beitragende/r)
3 Juli 2024
15. **Fracture of layered polymers**
Arbeiter, F. (Redner)
1 Sept. 2021
16. **Influence of crosslinker and water on mechanical properties of carboxylated nitrile butadiene rubber (XNBR)**
Fleischmann, D. D. (Redner), Arbeiter, F. (Beitragende/r), Kern, W. (Beitragende/r) & Schlögl, S. (Beitragende/r)
23 Apr. 2018 → 25 Apr. 2018
17. **Methodische und werkstoffliche Besonderheiten bei der Bruchsicherheitsbewertung und Lebensdauerabschätzung von Polymerwerkstoffen mittels zyklischer mechanischer Beanspruchung**
Arbeiter, F. (Gastredner), Frank, A. (Beitragende/r), Schrittmesser, B. (Beitragende/r), Berer, M. (Beitragende/r), Hutař, P. (Beitragende/r) & Pinter, G. G. (Beitragende/r)
28 März 2019
18. **29th Colloquium on Fatigue Mechanisms**
Arbeiter, F. (Teilnehmer/-in)
21 März 2019 → 22 März 2019
19. **8. Internationale Tagung Kunststoffe im Anlagenbau**
Arbeiter, F. (Gastredner/-in)
10 Okt. 2023 → 11 Okt. 2023
20. **A cracking approach to inventing tough new materials: fracture stranger than friction**
Arbeiter, F. (Teilnehmer/-in)
20 Sept. 2021 → 21 Sept. 2021
21. **International Symposium on Smart Materials**
Arbeiter, F. (Redner/-in)
14 Juni 2023 → 15 Juni 2023
22. **PSM Vortragsveranstaltung: Lebensdauerabschätzung von Polymerwerkstoffen**
Arbeiter, F. (Gastredner/-in)
28 März 2019
23. **16th International Conference on Deformation, Yield and Fracture of Polymers**
Arbeiter, F. (Redner/-in)
29 März 2015 → 2 Apr. 2015
24. **17th International Conference on Deformation, Yield and Fracture of Polymers**
Arbeiter, F. (Redner/-in)
25 März 2018 → 29 März 2018
25. **18th European Mechanics of Materials Conference**
Arbeiter, F. (Redner/-in) & Wiener, J. (Redner/-in)
4 Apr. 2022 → 6 Apr. 2022

26. **18th International Conference on Deformation, Yield and Fracture of Polymers**
Arbeiter, F. (Gastredner/-in)
13 Apr. 2022
27. **19th International ASTM/ESIS Symposium on Fatigue and Fracture Mechanics**
Arbeiter, F. (Redner/-in)
15 Mai 2019 → 17 Mai 2019
28. **1st Virtual ESIS TC4 Conference on Fracture of Polymers, Composites and Adhesives**
Gosch, A. (Redner/-in) & Arbeiter, F. (Redner/-in)
28 Sept. 2021 → 29 Sept. 2021
29. **1st Virtual European Conference on Fracture - VECF1**
Arbeiter, F. (Redner/-in)
29 Juni 2020 → 1 Juli 2020
30. **22. Leobener Kunststoff-Kolloquium "Oberflächen und Grenzflächen in der Polymertechnologie"**
Arbeiter, F. (Redner/-in)
14 Nov. 2013 → 15 Nov. 2013
31. **27. Leobener Kunststoff-Kolloquium**
Arbeiter, F. (Gastredner/-in)
19 Apr. 2018 → 20 Apr. 2018
32. **28. Leobener Kunststoff-Kolloquium 2019**
Arbeiter, F. (Gastredner/-in)
25 Apr. 2019 → 26 Apr. 2019
33. **29. Leobener Kunststoff-Kolloquium**
Arbeiter, F. (Teilnehmer/-in)
15 Sept. 2021 → 16 Sept. 2021
34. **32. Leobener Kunststoffkolloquium - 32nd Leoben-Conference on Polymer Engineering and Science 'New Materials – New Perspectives'**
Arbeiter, F. (Mitgliedschaft in Programmausschüssen)
21 Nov. 2024
35. **32. Leobener Kunststoffkolloquium - 32nd Leoben-Conference on Polymer Engineering and Science 'New Materials – New Perspectives'**
Arbeiter, F. (Redner/-in)
21 Nov. 2024
36. **4a Technology Day 2020**
Arbeiter, F. (Redner/-in)
3 März 2020 → 4 März 2020
37. **4th International Conference on Polymer Process Innovation (PPI)**
Arbeiter, F. (Mitgliedschaft in Programmausschüssen)
18 Sept. 2024 → 20 Sept. 2024
38. **68. Geomechanik Kolloquium 2019**
Schachinger, T. (Redner/-in), Arbeiter, F. (Redner/-in), Eichinger, S. (Teilnehmer/-in) & Saliger, F. (Teilnehmer/-in)
10 Okt. 2019
39. **7th International Conference on Fracture of Polymers, Composites and Adhesives**
Arbeiter, F. (Redner/-in)
14 Sept. 2014 → 18 Sept. 2014
40. **7th International Conference on Fracture of Polymers, Composites and Adhesives**
Arbeiter, F. (Redner/-in)
17 Sept. 2014
41. **8th International Conference on Fracture of Polymers, Composites and Adhesives**
Arbeiter, F. (Teilnehmer/-in)
10 Sept. 2017 → 14 Sept. 2017
42. **9th International Conference on the Fracture of Polymers and Composites**
Arbeiter, F. (Redner/-in)
24 März 2024 → 27 März 2024
43. **9th International Conference on the Fracture of Polymers and Composites**
Arbeiter, F. (Vorsitzende/r)
24 März 2024 → 27 März 2024
44. **Advances in Polymer Science and Technology 3**
Arbeiter, F. (Redner/-in)
9 Sept. 2013 → 10 Sept. 2013

45. **ANTEC 2017**
Arbeiter, F. (Redner/-in)
8 Mai 2017 → 10 Mai 2017
46. **ANTEC 2017**
Arbeiter, F. (Redner/-in)
9 Mai 2017
47. **Austrian Slovenian Polymer Meeting 2013**
Arbeiter, F. (Redner/-in)
3 Apr. 2013 → 5 Apr. 2013
48. **Danube Vitava Sava Polymer Meeting - DVSPM 2017**
Arbeiter, F. (Redner/-in)
6 Sept. 2017
49. **Danube Vitava Sava Polymer Meeting - DVSPM 2017**
Arbeiter, F. (Redner/-in)
6 Sept. 2017
50. **ESIAM21 - Second European Conference on Structural Integrity of Additively Manufactured Materials**
Arbeiter, F. (Redner/-in)
8 Sept. 2021 → 10 Sept. 2021
51. **Eurotec 2013**
Arbeiter, F. (Redner/-in)
4 Juli 2013 → 5 Juli 2013
52. **Fatigue 2014**
Arbeiter, F. (Redner/-in)
2 März 2014 → 7 März 2014
53. **Frontiers in polymer science**
Arbeiter, F. (Teilnehmer/-in)
20 Mai 2015 → 22 Mai 2015
54. **Plastic Pipes in Infrastructure**
Arbeiter, F. (Redner/-in)
19 Apr. 2016 → 21 Apr. 2016
55. **Plastic Pipes XVI**
Arbeiter, F. (Redner/-in)
24 Sept. 2012 → 26 Sept. 2012
56. **Plastic Pipes XVII**
Arbeiter, F. (Redner/-in)
22 Sept. 2014 → 24 Sept. 2014
57. **Plastic Pipes XVIII**
Arbeiter, F. (Redner/-in)
14 Sept. 2016
58. **Polymer Meeting 14**
Arbeiter, F. (Gastredner/-in)
30 Aug. 2021 → 2 Sept. 2021
59. **Polymertec 2014**
Arbeiter, F. (Redner/-in)
25 Juni 2014 → 27 Juni 2014
60. **PPS2015 - Polymer Processing Society Conference 2015**
Arbeiter, F. (Redner/-in)
21 Sept. 2015 → 25 Sept. 2015
61. **SPE ANTEC 2018**
Arbeiter, F. (Redner/-in)
6 Mai 2018 → 10 Mai 2018
62. **SPE ANTEC 2018**
Gosch, A. (Redner/-in), Arbeiter, F. (Redner/-in), Berer, M. (Redner/-in), Wiener, J. (Redner/-in), Frank, A. (Redner/-in) & Pinter, G. G. (Redner/-in)
8 Mai 2018