

Publikationen im Themenfeld Materialwissenschaften

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Originalarbeiten

- 1 Baltscheit, J.; Schmidt, N.; Schröder, F.; Meyer, J. Investigations on the aging behavior of transparent bioplastics for optical applications. *InfoMat* **2020**, 4, 127.
- 2 Budzyńska, E.; Sielemann, S.; Puton, J.; Surminski, A.L.R.M. Analysis of e-liquids for electronic cigarettes using GC-IMS/MS with headspace sampling, *Talanta*, Volume 209, **2020**.
- 3 Enax, J., Fabritius, H.-O., Amaechi, B. T., Meyer, F.: Hydroxylapatit als biomimetischer Wirkstoff für die Remineralisation von Zahnschmelz und Dentin. *ZWR – Das Deutsche Zahnärzteblatt*, **2020**, in press.
- 4 Schmidt, N.; Keuker-Baumann, S.; Meyer, J.; Huber, K. Phase Transformation Behavior of Polylactide Probed by Small Angle Light Scattering and Calorimetry. *J. Polym. Sci. Part B: Polym. Phys.* **2019**, 57 (22), 1483–1495.
- 5 Enax, J., Fabritius, H.-O., Fabritius-Vilpoux, K., Amaechi, B. T., Meyer, F.: Modes of action and clinical efficacy of particulate hydroxyapatite in preventive oral health care – State of the art. *Open Dent. J.* 13: 274-287, **2019**.
- 6 Luebke, A., Loza, K., Prymak, O., Dammann, P., Fabritius, H.-O., Epple, M.: Optimized biological tools: ultrastructure of rodent and bat teeth compared to human teeth. *Bioinspir. Biomim. Nan.* 8: 247-253, **2019**.
- 7 Roters, F., Diehl, M., Shanthraj, P., Eisenlohr, P., Reuber, C., Wong, S. L., Maiti, T., Ebrahimi, A., Hochrainer, T., Fabritius, H.-O., Nikolov, S., Friák, M., Fujita, N., Grilli, N., Janssens, K. G. F., Jia, N., Kok, P. J. J., Ma, D., Meier, F., Werner, E., Stricker, M., Weygand, D., Raabe, D.: DAMASK - The Düsseldorf Advanced Material Simulation Kit for Modeling Multi-Physics Crystal Plasticity, Thermal, and Damage Phenomena from the Single Crystal up to the Component Scale. *Comp. Mater. Sci.*, 158: 420-478, **2019**.
- 8 Fabritius-Vilpoux, K., Enax, J., Herbig, M., Raabe, D., Fabritius, H.-O.: Quantitative Affinity Parameters of Synthetic Hydroxyapatite and Enamel Surfaces in vitro. *Bioinspir. Biomim. Nan.*, 8(2): 141–153, **2019**.

- 9 T. Mayer-Gall, D. Plohl, L. Derksen, D. Lauer, P. Neldner, W. Ali, S. Fuchs, J. S. Gutmann, K. Opwis: «A green water-soluble cyclophosphazene as a flame retardant finish for textiles», *Molecules* **2019**, *24*, 3100-3123.
- 10 Seidl, B. H. M., Griesshaber, E., Fabritius, H.-O., Reisecker, C., Hild, S., Taiti, S., Schmahl, W. W., Ziegler, A.: Tailored disorder in calcite organization in tergite cuticle of the supralittoral isopod *Tylos europaeus* Arcangeli, 1938. *J. Struct. Biol.*, *204*: 464-480, **2018**.
- 11 Meyer, F., Amaechi, B. T., Fabritius, H.-O., Enax, J.: Overview of calcium phosphates used in biomimetic oral care. *Open Dent. J.*, *12*: 406-423, **2018**.
- 12 Fabritius, H.-O., Moussian, B.: The arthropod cuticle – A never-ending endeavor. *Arthropod Struct. Dev.* *46*: 2-3, **2017**.
- 13 Luebke, A., Loza, K., Patnaik, R., Enax, J., Raabe, D., Prymak O., Fabritius, H.-O., Gaengler, P., Epple, M.: Reply to the ‘Comments on “Dental lessons from past to present: ultrastructure and composition of teeth from plesiosaurs, dinosaurs, extinct and recent sharks”’ by Botella et al., *RSC Adv.*, 2016, *6*, 74384-74388. *RSC Adv.* *7*: 6215-6222, **2017**.
- 14 Ogbazghi, T.; Ramesohl, A.; Meyer, J.; Thomas, C.: „Microscopic characterization of function and structure within solid state lighting devices“ *Materials Today Proc.* **2017**, *4*, S237–S243.
- 15 Fabritius, H.-O., Ziegler, A., Friák, M., Nikolov, S., Huber, J., Seidl, B., Ruangchai, S., Alagboso, F., Karsten, S., Lu, J., Janus, A. M., Petrov, M., Zhu, L.-F., Hemzalová, P., Hild, S., Raabe, D., Neugebauer, J.: Functional adaptation of crustacean exoskeletal elements through structural and compositional diversity: a combined experimental and theoretical study. *Bioinspir. Biomim.*, *11*: 055006, **2016**.
- 16 Meyer, J.; Thomas, C.; Tappe, F.; Ogbazghi, T. In Depth Analyses of LEDs by a Combination of X-ray Computed Tomography (CT) and Light Microscopy (LM) Correlated with Scanning Electron Microscopy (SEM). *Journal of visualized experiments : JoVE [Online]* **2016**, No. 112.
- 17 Lübke, A., Enax, J., Wey, K., Fabritius, H.-O., Raabe, D., Epple, M.: Composites of fluoroapatite and methylmethacrylate-based polymers (PMMA) for biomimetic tooth replacement. *Bioinspir. Biomim.* *11*: 035001, **2016**.
- 18 Střelcová, Z., Kulhánek, P., Friák, M., Fabritius, H.-O., Petrov, M., Neugebauer, J., Koča, J.: The structure and dynamics of chitin nanofibrils in an aqueous environment revealed by molecular dynamics simulations. *RSC Adv.* *6*: 30710-30721, **2016**.
- 19 J. Wagner, P. Deglmann, S. Fuchs, M. Ciesielski, C. Fleckenstein, M. Döring: «A flame retardant synergism of organic disulfides and phosphorous compounds», *Polym. Degr. Stability* **2016**, *129*, 63-76.
- 20 Lübke, A., Enax, J., Loza, K., Prymak, O., Gaengler, P., Fabritius, H.-O., Raabe, D., Epple, M.: Dental lessons from past to present: ultrastructure and

- composition of teeth from plesiosaurs, dinosaurs, extinct and recent sharks. *RSC Adv.* 5: 61612-61622, **2015**.
- 21 Nikolov, S., Fabritius, H., Friák, M., Raabe, D.: Integrated multiscale modeling approach for hierarchical biological nanocomposites applied to lobster cuticle. *Bulg. Chem. Commun.* 42: 1–10, **2015**.
- 22 Meyer, J.; Tappe, F.: "Photoluminescent Materials for Solid-State Lighting: State of the Art and Future Challenges". *Adv. Opt. Mater.* **2015**, 3 (4), 424–430.
- 23 Braun, U.; Eisentraut, P.; Fuchs, S.; Deglmann, P.: "Sulphurous additives for polystyrene: Influencing decomposition behaviour in the condensed phase", *J. Appl. Polym. Sci.* **2015**, 41665-41665.
- 24 Huber, J., Fabritius, H.-O., Griesshaber, E., Ziegler, A.: Function-related adaptations of ultrastructure, mineral phase distribution and mechanical properties in the incisive cuticle of mandibles of *Porcellio scaber* Latreille, 1804. *J. Struct. Biol.* 188:1-15, **2014**.
- 25 Enax, J., Janus, A.M., Raabe, D., Epple, M., Fabritius, H.-O.: Ultrastructural organization and micromechanical properties of shark tooth enameloid. *Acta Biomater.* 10:3959-3968, **2014**.
- 26 Friák, M., Zhu, L.-F., Lympirakis, L., Titrian, H., Aydin, U., Janus, A.M., Fabritius, H.-O., Ziegler, A., Nikolov, S., Hemzalová, P., Raabe, D., Neugebauer, J.: Quantum-mechanical study of single-crystalline and polycrystalline elastic properties of Mg-substituted calcite crystals. *Key Eng. Mat.* 592-593, **2014**.
- 27 Ogbazghi, T., Thomas, Ch.: "Correlative Microscopy of Optical Materials"; *Imaging & Microscopy* **2014**, 3, 32-34.
- 28 Enax, J., Fabritius, H., Rack, A., Prymak, O., Raabe, D., Epple, M.: Characterization of crocodile teeth: Correlation of composition, microstructure, and hardness. *J. Struct. Biol.* 184:155-163, **2013**.
- 29 Lhadi, S., Ahzi, S., Rémond, Y., Nikolov, S., Fabritius, H.: Effects of homogenization technique and introduction of interfaces in a multiscale approach to predict the elastic properties of arthropod cuticle. *J. Mech. Behav. Biomed.* 23:103-116, **2013**.
- 30 Zhu, L.-F., Friák, M., Lympirakis, L., Titrian, H., Aydin, U., Janus, A. M., Fabritius, H.-O., Ziegler, A., Nikolov, S., Hemzalová, P., Raabe, D., Neugebauer, J.: Ab initio study of single-crystalline and polycrystalline elastic properties of Mg-substituted calcite crystals. *J. Mech. Behav. Biomed.* 20:296-304, **2013**.
- 31 Elli, A.F., Thomas, Ch., Böker, Ch., Wiederspahn, M.: "Korrelative Licht- und Elektronenmikroskopie (CLEM) – Anwendungsmöglichkeiten in Bio- und Materialwissenschaften"; *Optik & Photonik* **2012**, 7(1), 32-36.
- 32 Fabritius, H.-O., Karsten, E.S., Balasundaram, K., Hild, S., Huemer, K., Raabe, D.: Correlation of structure, composition and local mechanical

- properties in the dorsal carapace of the edible crab *Cancer pagurus*. Z. *Krist.-New Cryst. St.* 227:766-776, **2012**.
- 33 Hennig, S., Hild, S., Fabritius, H.-O., Soor, C., Ziegler, A.: Influence of Near-Physiological Salines and Organic Matrix Proteins from Amorphous CaCO₃ Deposits of *Porcellio scaber* on in Vitro CaCO₃ Precipitation. *Cryst. Growth Des.* 12:646-655, **2012**.
 - 34 Maniruzzaman, M., Rahman, M.A., Gafur, M.A., Fabritius, H., Raabe, D.: Modification of pineapple leaf fibers and graft copolymerization of acrylonitrile onto modified fibers. *J. Compos. Mater.* 46:79-90, **2012**.
 - 35 Hameau, A.; Fuchs, S.; Laurent, R.; Majoral, J.-P.; Caminade, A.-M.: „Synthesis of dye/fluorescent functionalized dendrons based on cyclotriphosphazene“, *Beilstein J. Org.Chem.* **2011**, 7, 1577-1583.
 - 36 Nikolov, S., Fabritius, H., Petrov, M., Friák, M., Lymperakis, L., Sachs, C., Raabe, D., Neugebauer, J.: Robustness and Optimal Use of Design Principles of Biological Composites studied by Ab initio-based Multiscale Simulations. *J. Mech. Behav. Biomed.* 4:129-145, **2011**.
 - 37 Elstnerová, P., Friák, M., Fabritius, H.-O., Lymperakis, L., Hickel, T., Petrov, M., Nikolov, S., Raabe, D., Ziegler, A., Hild, S., Neugebauer, J.: Ab initio study of thermodynamic, structural, and elastic properties of Mg-substituted crystalline calcite. *Acta Biomater.* 6:4506-4512, **2010**.
 - 38 Nikolov, S., Petrov, M., Lymperakis, L., Friák, M., Sachs, C., Fabritius, H., Raabe, D., Neugebauer, J.: Revealing the design principles of high-performance biological composites using ab initio and multiscale simulations: The example of lobster cuticle. *Adv. Mater.* 22:519-526, **2010**.
 - 39 Tikhomirov, D., Eßer, G., Scholz, H.-W.: “Towards FE-simulation based production planning and development”, *Production Engineering – Research and Development* **2010**, 4 (2-3), 185-191. Fabritius, H., Sachs, C., Romano, P., Raabe, D.: Influence of structural principles on the mechanics of a biological fiber-based composite material with hierarchical organization: the exoskeleton of the lobster *Homarus americanus*. *Adv. Mater.* 21:391-400, **2009**.
 - 40 Furer, V. L.; Vandyukova, I. I.; Vandyukov, A. E.; Fuchs, S.; Majoral, J.-P.; Caminade, A.-M.; Kovalenko, V. I.: “DFT analysis of vibrational spectra of phosphorous-containing endrons built from cyclotriphosphazene core”, *J. Molec. Structure* **2009**, 932, 97-104.
 - 41 Kraska, M., Doig, M., Tikhomirov, D., Raabe, D., Roters, F.: “Virtual material testing for stamping simulations based on polycrystal plasticity”, *Computational Materials Science* **2009**, 46 (2), 383-392.
 - 42 Doig, M., Tikhomirov, D., Kraska, M., Roll, K.: “Industrial challenges for finite element and multi-scale methods for material modelling”, *International Journal of Material Forming* **2009**, 2, Suppl.1, 887-890.

- 43 Al-Sawalmih, A., Li, C., Siegel, S., Fabritius, H., Yi, S.B., Raabe, D., Fratzl, P., Paris, O.: Microtexture and Chitin/Calcite Orientation Relationship in the Mineralized Exoskeleton of the American lobster. *Adv. Funct. Mater.* 18:3307-3314, **2008**.
 - 44 Fuchs, S.; Pla-Quintana, A.; Mazères, S.; Caminade, A.-M. ; Majoral, J.-P.: "Cationic and Fluorescent „Janus“ Dendrimers", *Org. Letters* **2008**, 10, 4751-4754.
 - 45 Sachs, C., Fabritius, H., Raabe, D.: Influence of microstructure on deformation anisotropy of mineralized cuticle from the lobster *Homarus americanus*. *J. Struct. Biol.* 161:120-132, **2008**.
-

Patente

- 1 M. Luksin, S. Fuchs, P. Frank, U. Jonas: „Flammgeschützte Copolymere und Formmassen“, angemeldet, (Prio. 17.12.2019)
- 2 Fabritius, H.-O., Enax, J., Klenk, A.: "Hydroxylapatit". (Patent application DE 10 2018 102 365.0, 2018).
- 3 Fuchs, S.; Keppeler, U.; Albert, T.: „Halogenfreie Flammenschutzmischungen für Polyolefinschaumstoffe“, angemeldet, (Prio. 08.04.2014).
- 4 Fuchs, S.; Roth, M.; Nesvadba, P.; Keppeler, U.: „Flammenschutzmittel auf Basis von substituierten Di-, Tri- und Tetra-Arylethanverbindungen“, angemeldet, (Prio. 12.03.2014).
- 5 Fuchs, S.; Däschlein, C.; et. al.: "Polymer foams with low monomer content", angemeldet, (Prio. 20.11.2012).
- 6 Fuchs, S.; Däschlein, C.; et. al.: "Process for the manufacture of halogen-free flame retardant polymer foams", angemeldet, (Prio. 20.11.2012).
- 7 Fleckenstein, C.; Fuchs, S.; et. al.: "Synthesis of polyphenol disulfides", WO2013/135701 A1 (19.09.2013).
- 8 Fleckenstein, C.; Fuchs, S.; et. al.: "Method for manufacturing polyphenol disulfides", EP2628762 A2 (21.08.2013).
- 9 Braun, F.; Fuchs, S.; et. al.: "Method for producing expandable styrene polymers containing graphite and flame retardants", WO2013/092322 A2 (27.06.2013).
- 10 Fuchs, S.; Fleckenstein, C.; et. al.: "Flame-retardant polymer foams with halogen-free flame-retardant agents containing phosphorous on sugar basis", EP2574614 A1 (03.04.2013).

- 11 Fuchs, S.; Bruchmann, B.; et. al.: "Polymer flame retardant", WO2013/017417 A1 (07.02.2013) & "Polymeric flame retardant", US2013/030066 A1 (31.01.2013).
- 12 Fuchs, S.; Fleckenstein, C.; et. al.: "Flame-retardant system", WO2012/089667 A1 & US 2012/0172467 A1 (05.07.2012).
- 13 Fuchs, S.; Ulanova, T.; et. al.: "High temperature- and moisture-stable materials with improved insulating properties based on foams and disperse silicates", WO2012/019988 A1 & US2012/032103 A1 (16.02. 2012 & 09.02.2012).
- 14 Fuchs, S.; Xue, S.: "Flame-proofed molding compounds", WO2012/013564 A1 & «Flame retardant molding compositions», US2012/029122 A1 (02.02.2012)
- 15 Fuchs, S.; Fleckenstein, C.; et. al.: "Flame retardant", WO2011/121001 A1 & US2011/245360 A1 (06.10.2011).
- 16 Fuchs, S.; Peretolchin, M. et. al.: "Flame retardant composite foam", WO2011/113795 A2-A3 & US2011/230578 A1 (22.09.2011).
- 17 Fuchs, S.; Fleckenstein, C.; et. al.: "Flame retardant", WO2011/095552 A1 & US2011/196052 A1 (11.08.2011).
- 18 Fuchs, S.; Fleckenstein, C.; et. al.: "Halogen-free, phosphorous-containing, flameprotected polymer foams", WO2011/095540 A2-A3 & US2011/196053 A1 (11.08.2011), US8691896 B2 (08.04.2014).
- 19 Fuchs, S.; Fleckenstein, C.; et. al.: "Flame Retardant (Phosphorylated Isosorbides and Glycolfuranes as renewables-based flame retardants for plastics)", WO2011/083009 A1 (14.07.2011).
- 20 Hahn, K.; Fuchs, S.; et. al.: "Flame protected polymer foams", WO2011/073141 A1 (23.06.2011).
- 21 Fuchs, S.; Ulanova, T.; et. al.: "Coating composition for foam particles", WO2011/064230 A1 (03.06.2011).
- 22 Fuchs, S.; Fleckenstein, C.; et. al.: "Halogen-free, flame-proof polymer foams containing at least one oligophosphorus compound", WO2011/029901 A1 (17.03.2011).
- 23 Fuchs, S.; Weiss, T.: "Melamine phenylphosphinate flame retardant compositions", WO2010057851 A1 (28.09.2010).
- 24 Nehls, B.; Fuchs, S.; et. al.: "Microwave-assisted setting of shaped ceramic/foam bodies", WO2010076170 A2 (08.07.2010).
- 25 Fuchs, S.; Roth, M.; Xalter, R.: "Dihydrophospho-phenanthrene (DOPO)-flame retardant in epoxy resins", WO2010/076276 A1 (08.07.2010).
- 26 Fuchs, S.; Weiss, T.; Xalter, R.: "Melamine phenylphosphonate flame retardant compositions", WO2010/063623 A1 (10.06.2010).

- 27 Fuchs, S.: "Flame retardant combinations of hydroxyalkyl phosphine oxides with 1,3,5-triazines and epoxides", WO2009/034023 A2 (25.03.2010), US2010210763 A1 (19.08.2010), US8084524 B2 (27.12.2011).
- 28 Mueller, G. O.; Mueller-Mach, R. B.; Krames, M. R.; Schmidt, P. J.; Bechtel, H. H.; Meyer, J.; Graaf, J. de; Kop, T. A. Luminescent ceramic for a light emitting device. US9359260 B2, Jun 7, 2016.
- 29 Meyer, J.; PEETERS, M.; WEGH, R. T.; van Gorkom, R. P.; Hikmet, R. Daylight illumination apparatus. US9335025 B2, May 10, 2016.
- 30 Meyer, J.; Bechtel, H. H.; Mayr, W.; Schmidt, P.; Schreinemacher, B. S.; Wiechert, D. U. White emitting light source and luminescent material. US9024520 B2, May 5, 2015.
- 31 Schmidt, P. J.; Mayr, W.; Meyer, J.; Kechele, J. A.; Schnick, W.; Oeckler, O. M. Light emitting device comprising a green emitting sialon-based material. US8546845 B2, Oct 1, 2013.
- 32 Schmidt, P.; Meyer, J.; Mayr, W.; Bechtel, H. Illumination system comprising a radiation source and a luminescent material. US8545722 B2, Oct 1, 2013.
- 33 Meyer, J.; Lürkens, P.; Ackermann, B.; Tücks, A. Colored and white light generating lighting device. US8523924 B2, Sep 3, 2013.
- 34 Meyer, J.; Schmidt, P. J.; Bechtel, H. H.; Mayr, W.; Schreinemacher, B. S.; Heidemann, M. Red emitting SiAlON-based material. US8441026 B2, May 14, 2013.
- 35 Bechtel, H.-H.; Busselt, W.; Schmidt, P.; Meyer, J. Illumination device, particularly with luminescent ceramics. US8247828 B2, Aug 21, 2012.
- 36 Schmidt, P.; Bechtel, H.; Meyer, J. Light emitting device with improved conversion layer. US8164250 B2, Apr 24, 2012.
- 37 Schmidt, P. J.; Meyer, J.; Mayr, W.; Busselt, W.; Bechtel, H. H. Light emitting device with an improved CaAlSiN light converting material. US8159126 B2, Apr 17, 2012.
- 38 Schmidt, P. J.; Mayr, W.; Meyer, J.; Schnick, W.; Hecht, C. S.; Stadler, F. Red emitting luminescent materials. US8153025 B2, Apr 10, 2012.
- 39 Meyer, J.; WEGH, R. T.; Kropman, B. L.; van der Wel, P.; Deeben, J.; Kriege, J. C.; Jansen, J. M. Light emitting device comprising a fluidized phosphor. WO2012042441 A1, Apr 5, 2012.
- 40 Bechtel, H. H.; Busselt, W.; Schmidt, P.; Meyer, J.; Boerner, H. F.; Grabowski, S. P. Electroluminescent light source. US8040045 B2, Oct 18, 2011.
- 41 Mueller-Mach, R.; Mueller, G.; Meyer, J.; Schmidt, P. J.; Mayr, W.; Bausen, H. D. Illumination system comprising a radiation source and a fluorescent material. US7938983 B2, May 10, 2011.

- 42 Jüstel, T.; Meyer, J.; Mayr, W. Device for generating UVC radiation. US7808170 B2, Oct 5, 2010.
- 43 Jüstel, T.; Mayr, W.; Meyer, J.; Schmidt, P. Illumination system comprising color deficiency compensating luminescent material. US7753553 B2, Jul 13, 2010.
- 44 Mueller, G. O.; Mueller-Mach, R. B.; Meyer, J.; Schmidt, P. J.; Wiechert, D. U. Phosphor converted light emitting device. US7671529 B2, Mar 2, 2010.
- 45 Meyer, J.; Klee, M. K.; Kiewitt, R. Precursor solution, method of preparation thereof and use thereof. US7601278 B2, Oct 13, 2009.
- 46 Ronda, C. R.; Mizerak, O.; Weichmann, U.; Juestel, T. T.; Bengoechea, A. J.; Meyer, J. Green emitting solid-state laser comprising a sesquioxide and/or ceramic material. WO2009063388 A2, May 22, 2009.
- 47 Jüstel, T.; Ronda, C. R.; Meyer, J. Fluorescent mercury vapor discharge lamp comprising trichromatic phosphor blend. WO2008129489 A2, Oct 30, 2008.
- 48 Schmidt, P. J.; Beckers, L.; Meyer, J.; Schreinemacher, B. S.; Schreinemacher, H. Illumination system comprising composite monolithic ceramic luminescence converter. WO2008096301 A1, Aug 14, 2008.
- 49 Schmidt, P.; van Hal, H.; Boerenkamp, J.; Meyer, J. Yag-based ceramic garnet material comprising at least one multi-site element. WO2008012712 A1, Jan 31, 2008.
- 50 Jüstel, T.; Meyer, J.; Mayr, W. Color filter for display application. WO2007093928 A1, Aug 23, 2007.
- 51 Schmidt, P.; Meyer, J.; Busselt, W.; Bechtel, H. H. Light emitting device with a ceramic siaion material. WO2007036875 A2, Apr 5, 2007.
- 52 Meyer, J.; Schmidt, P. J.; Hilbig, R.; Schreinemacher, H. Discharge lamp with a monolithic ceramic color converter. WO2006120613 A2, Nov 16, 2006.
- 53 Schmidt, P.; Meyer, J.; Bechtel, H. H.; Kop, T. A. Illumination system comprising a red-emitting ceramic luminescence converter. WO2006111906 A2, Oct 26, 2006.
- 54 Schmidt, P.; Mayr, W.; Meyer, J.; Schreinemacher, B. S. Illumination system comprising a radiation source and a luminescent material. WO2006095284 A1, Sep 14, 2006.
- 55 Gaertner, G. F.; Greuel, G.; Jüstel, T.; Meyer, J.; Schiene, W. Dielectric barrier discharge lamp with protective coating. WO2006072893 A1, Jul 13, 2006.
- 56 Schmidt, P. J.; Schreinemacher, B. S.; Schnick, W.; Stadler, F. M.; Meyer, J. Illumination system comprising a radiation source and a blue-emitting phospor. WO2006061778A1, Jun 15, 2006.

- 57 Keur, W. C.; van Hal, H.; Beelen, D.; Klee, M. K.; Meyer, J.; Brand, H. W.; Huiskamp, G. Method of preparing a solution and application of this solution to prepare functional oxide layers. WO2004040034 A2, May 13, 2004.
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Tagungsbeiträge

- 1 M. Luksin, P. Frank, U. Jonas, S. Fuchs: «Novel flame retardant concepts for styrenic polymers», *Makromolekulares Kolloquium Freiburg 2020*, Freiburg im Breisgau, Germany.
- 2 T. von Zons, S. Fuchs: «From synthesis to application: Investigations on structure-activity relationships of functionalized cyclotriphosphazenes as flame retardants in high impact polystyrene», *Ecole Nationale Supérieure de Chimie*, Jan. **2020**, Université de Lille, Villeneuve d'Ascq, France.
- 3 Fabritius, H.-O.: Struktur und Farben: Photonenmanagement in der Natur. Anwender-Treffen "Rasterelektronenmikroskopie" ZEISS und Gesellschaft für Materialographie Rhein-Ruhr e.V. (gmr2), Düsseldorf, Germany, Okt 15, **2019**.
- 4 Meyer, J.; Hemmerich, M.; Saha, S.; Walther, F. *Analyse des Photodegradationsverhaltens von Polylactiden zur Evaluation der Anwendbarkeit in optischen Komponenten*; ANAKON 2019: Münster, 2019.
- 5 Saha, S.; Walther, F.; Hemmerich, M.; Scholz, R.; Tappe, F.; Meyer, J. *Poly lactide – a bio-plastic suitable for optical components?*; DisoMAT 2019: Potsdam, 2019. Surminski, A. L. R. M., Gerk, S. Sielemann, S.: Bestimmung von Nikotin und verschiedenen Aromastoffen in eLiquids mittels HS-GC-IMS. In: GDCh, ANAKON, März 2019, Münster, Deutschland.
- 6 Surminski, A. L. R. M., Sielemann, S.: Comprehensive analysis of refill solutions for electronic cigarettes by HS-GCxIMS. In: International Society for Ion Mobility Spectrometry, 28th Annual ISIMS Conference, Juli 2019, S.52, Hannover, Deutschland.
- 7 Sielemann, S., Surminski, A. L. R. M.: Digital sensory by GCxIMS for the authentication of food products. In: International Society for Ion Mobility Spectrometry, 28th Annual ISIMS Conference, Juli 2019, S.24, Hannover, Deutschland.
- 8 Schanzmann, H., Surminski, A. L. R. M., Tiemer, J., Arce, L., Sielemann, S.: A linear probability model for the classification of olive oils by HS-GCxIMS. In: International Society for Ion Mobility Spectrometry, 28th Annual ISIMS Conference, Juli 2019, S.85, Hannover, Deutschland.
- 9 Schanzmann, H., Surminski, A. L. R. M., Arce, L., Sielemann, S.: Identifizierung flüchtiger organischer Verbindungen als Marker zur Differenzierung nativer Olivenöle mittels Gaschromatographie –

- Ionenmobilitätsspektrometrie. In: DLG, DLG-Lebensmitteltag: Sensorik 2019, März 2019, Frankfurt am Main, Deutschland.
- 10 M. Luksin, S. Fuchs: «Novel approaches towards halogen-free flame retardant polystyrene foams: Comparative investigations on the synergism of organo-phosphorous flame retardants with disulfides», *3rd Asia-Oceania Symposium on Fire Safety Materials Science and Engineering (AOFSM'3) 2019*, Shanghai, China.
 - 11 Luksin, P. Deglmann, S. Fuchs: «Novel approaches towards halogen-free flame retardant polystyrene foams: Investigations on the interplay of organic phosphates and phosphonates with disulfides», *33rd Polymer Degradation Discussion Group (PDDG) Meeting 2019*, Malta.
 - 12 E. Buchholz, U. Jonas, S. Baldermann, A. Strunk-Westermann, S. Fuchs: «Towards the preparation of novel polymers with permanent antifogging properties for use in greenhouse and food packaging applications», *33rd Polymer Degradation Discussion Group (PDDG) Meeting 2019*, Malta.
 - 13 M. Abbenhaus, B. Hoge, S. Fuchs: «Synergistic halogen-free flame retardant combinations for use in polystyrene foams», *33rd Polymer Degradation Discussion Group (PDDG) Meeting 2019*, Malta.
 - 14 S. Fuchs: «An old acquaintance in new accompaniment: Surprising flame retardant effects in polystyrene and polypropylene by use of synergistic combinations of organo-phosphorous and organo-sulfurous compounds», Colloquium of the Deutsches Textilforschungszentrum Nord-West gGmbH, Jun. 2019, Krefeld, Germany.
 - 15 T. von Zons, S. Frücht, D. M. Weis, S. Fuchs: «Synthetic pathways towards novel organo-phosphorous flame retardants: Cyclotriphosphazenes with flame-retardant activity for use as flame-retardant additives for polystyrene and styrene copolymers», *European Meeting on Fire Retardant Materials (FRPM) 2019*, Turku, Finland.
 - 16 M. Luksin, S. Frücht, U. Jonas, S. Fuchs: «Novel approaches for halogen-free flame retardant polystyrene foams: The interplay of organic phosphates and phosphonates with disulfides», *European Meeting on Fire Retardant Materials (FRPM) 2019*, Turku, Finland.
 - 17 F. Bärmann, D. Dittmann, U. Braun, U. Jonas, S. Fuchs: «Degradation Analysis of polypropylene in the presence of phosphorus and sulfur containing additives», *European Meeting on Fire Retardant Polymeric Materials (FRPM19) 2019*, Turku, Finland.
 - 18 Fabritius, H.-O.: Exploring biomimetic oral care concepts using advanced electron microscopy. The Goettingen Spirit Summer School "Biological Research in Dentistry", Göttingen, Germany, Sep 18-19, **2018**.
 - 19 Fabritius, H.-O.: Small-scale structure-property relations in biological hard tissues by nanoindentation. Indentation 2018, Liège, Belgium, Sep 11-14, **2018**.

- 20 Fabritius-Vilpoux, K., Enax, J., Fabritius, H.-O.: Quantitative analysis of affinity parameters between synthetic hydroxyapatite and enamel. 96th General Session & Exhibition of the International Association for Dental Research (2018 IADR/PER), London, United Kingdom, Jul 25-28, **2018**.
- 21 S. Fuchs, N. Hemker, U. Braun: «Microplastics generation: Degradation analysis of polypropylene with different antioxidants under marine conditions», *Fachforum Ressourcen – Graduierteninstitut NRW: Kunststoffe und Nachhaltigkeit*, Nov. **2018**, Chempark Leverkusen, Germany.
- 22 Meyer, J.; Schmidt, N.; Hemmerich, M. *Biokunststoffe für optische Komponenten in Leuchten*; Fachforum Ressourcen - Kunststoffe und Nachhaltigkeit: Leverkusen, 2018.
- 23 S. Fuchs, N. Hemker, U. Braun: «Comparative investigations on the degradation behavior of polypropylene formulations containing different antioxidants under marine conditions», *Modification, Degradation and Stabilization of Polymers (MoDeSt) Conference 2018*, Tokyo, Japan.
- 24 Sielemann, S.; Surminski, A.; Budzyńska, E.; Detektion von Inhaltsstoffen in Liquids für E-Zigaretten mittels Gaschromatographie-Ionenmobilitätsspektrometrie (GC-IMS); 7. IMS Anwendertreffen, Reutlingen, 2018
- 25 Fitzky, A.; Sielemann, S.; Vautz, W.; Gebauer, T.; The scent diversity of deciduous and conifer tree species in a tree diversity experiment (IDENT - Freiburg) – Analysis of BVOC profiles using GC-IMS; European Geosciences Union General Assembly, Wien, 2018.
- 26 Fabritius, H.-O., Fabritius-Vilpoux, K., Enax, J.: Quantitative Interaktion von HAP-Partikeln mit standardisierten Schmelzoberflächen in vitro und ultrastrukturelle Untersuchungen von Milchzähnen. Biorepair-Symposium, Bielefeld, Germany, Dec 1-2, **2017**.
- 27 Fabritius, H.-O.: Broadband reflecting fibers with tailored structures inspired by desert ants. SPP 1839 – Retreat, Kostenz, Germany, Sept 18-20, **2017**.
- 28 Fabritius, H.-O., Fabritius-Vilpoux, K. and Enax, J.: In-vitro-Untersuchungen zur Wechselwirkung von synthetischen Hydroxylapatit-Partikeln mit der Zahnschmelzoberfläche. Biorepair-Symposium, Bielefeld, Germany, May 20, **2017**.
- 29 Fuchs, S.; Braun, U.; Wagner, J.; Döring, M.: «Degradation behaviour of polystyrene compounds containing organic disulfides and organic phosphates», *32nd Polymer Degradation Discussion Group (PDDG) Meeting 2017*, Taormina, Italy.
- 30 Hemker, N.; Walper, D.; Braun, U.; Meyer, J.; Fuchs, S.: «An experimental setup for the generation of microplastics: Degradation of polypropylene in the presence of different antioxidants», *32nd Polymer Degradation Discussion Group (PDDG) Meeting 2017*, Taormina, Italy.

- 31 Luksin, M.; Gethmann, T.; Fuchs, S.: «Thermal degradation behaviour of novel sulfurous co-polymers», *32nd Polymer Degradation Discussion Group (PDDG) Meeting 2017*, Taormina, Italy.
- 32 Sielemann, S., C. Hariharan, W. Vautz, M. Weigend, A.C. Fitzky, T. Gebauer: "Plant Diversity Monitoring using GC-Ion Mobility Spectroscopy (GC-IMS)", *26th International Conference for Ion Mobility Spectrometry ISIMS 2017* Warsaw, Polen.
- 33 Fabritius, H.-O., Enax, J., Wu, X., Epple, M., Raabe, D.: Structure-property relations in biological composite materials: An inspiration source for synthetic materials. Flash talk and poster at the 8th Indo-German Frontiers of Engineering Symposium 2016 organized by the Alexander von Humboldt Foundation, Potsdam, Germany, May 19-22, **2016**.
- 34 Fabritius, H.-O., Schwind, B., Wu, X.: Broadband reflecting fibers with tailored structures inspired by desert ants. SPP 1839 Kick-off and Networking Meeting, Wilhelm-Conrad-Roentgen Campus (Bessy II), Berlin, Germany, Feb 26, **2016**.
- 35 Fabritius, H.-O., Wu, X., Schwind, B.: Broadband reflection by desert ants. Living Light Conference 2016, San Diego, CA, USA, May 4-6, **2016**.
- 36 Fuchs, S.; Braun, U.; Ciesielski, M.; Döring, M.: «From organo-phosphorous and organo-sulfurous compounds to flame-retarded polymers: Novel concepts for polystyrene additivation», *Modification, Degradation and Stabilization of Polymers (MoDeSt) 2016*, Cracow, Poland.
- 37 Meyer, J.; Huber, K.; Tappe, F.; Schmidt, N. *Effect of high-intensity irradiance on Poly(lactic acid) under various aging conditions*; Materials Science and Engineering 2016 (MSE): Darmstadt, **2016**.
- 38 Sielemann, S., Hill-Tasli, S., Wortelmann, T.: „On-line Messung von Siloxanen mittels GC-IMS“, 6. IMS Anwendertreffen 2016, Hannover, Deutschland.
- 39 Ogbazghi, T.; Meyer, J.; Thomas, C. *Mikrocharakterisierung von optischen Materialien und Bauelementen*; 19. Arbeitstagung Angewandte Oberflächenanalytik: Soest, **2016**.
- 40 Meyer, J. *Mn(IV) aktivierte Leuchtstoffe für LEDs*; 21. Symposium der DAfP: Würzburg, **2016**.
- 41 Meyer, J.; Schmidt, N.; Tappe, F.; Fuchs, S. *The effect of high intensity irradiance on the durability of polymer compounds*; The Materials Chain from Discovery to Production International Conference: Bochum, **2016**.
- 42 Schmidt, N.; Meyer, J. *PLA for optical components in LED lighting*; 4th PLA World Congress: Munich, **2016**.
- 43 Fabritius, H.-O.: Photonische Strukturen in der Natur: Wie Lebewesen Licht manipulieren. Meilensteintreffen BMBF Nachwuchsgruppe morPHOX, Universität Paderborn, Paderborn, Germany, Dec 16, **2015**.
- 44 Fabritius, H.-O., Enax, J., Huber, J., Ziegler, A., Epple, M., Raabe, D.: Small-scale structure-property relations in structurally graded biological materials.

- Nanobrücken 2015, A Nanomechanical Testing Workshop & Hysitron User Meeting, Potsdam, Germany, Apr 21-23, **2015**.
- 45 Fabritius, H.-O.: Alternative Präparationsmethoden für nichtmetallische Werkstoffe. Fachtagung Mikroskopie und Präparation (mikpräg) der Gesellschaft für Materialografie Rhein Ruhr e.V. (gmr2), Solingen, Germany, Mar 19, **2015**.
- 46 Fabritius, H.-O., Enax, J., Wu, X., Epple, M., Raabe, D.: Structure-property relations in biological composite materials: An inspiration source for synthetic materials. 79th Annual Meeting of the DPG and DPG Spring Meeting 2015, Berlin, Germany, Mar 15-20, **2015**.
- 47 Meyer, J. *Materialien für das Licht der Zukunft – Herausforderungen durch die zweite Halbleiterrevolution*; 24. Frankfurter Sonderkolloquium der DECHEMA: Frankfurt, **2015**.
- 48 Scoul, J.; Deglmann, P.; Fuchs, S.: "Sulfurous Polymers: Changing the thermal degradation behavior of polystyrene in the condensed phase", 31st PDDG Conference, 30. Aug.- 03. Sept. **2015**, Stockholm, Sweden.
- 49 Sielemann, S., Hill-Tasli, S., Wortelmann, T.: "GC-IMS for the quantitative detection of single siloxanes in biogas", 24th International Conference for Ion Mobility Spectrometry ISIMS 2015, Cordoba, Spanien
- 50 Fabritius, H.-O., Janus, A., Wu, X., Nikolov, S., Eisenlohr, P., Friák, M., Neugebauer, J., Raabe, D.: Structure-property Relations in the Arthropod Exoskeleton, a Multifunctional Biological Composite. Materials Science & Technology (MS&T) 2014, Pittsburgh, PA, USA, Oct 12-16, **2014**.
- 51 Fabritius, H.-O.: Biological Photonic Structures. Keynote at the Kick-Off meeting of the DFG SPP1839, Wilhelm-Conrad-Roentgen Campus (Bessy II), Berlin, Germany, Sep 25, **2014**.
- 52 Enax, J., Fabritius, H., Roters, F., Raabe, D., Epple, M.: Synthetic dental composite materials inspired by the hierarchical organization of shark tooth enameloid. 3rd Winter school within the DFG priority programme 1420 "Biomimetic Materials Research: Functionality by Hierarchical Structuring of Materials", Potsdam, Germany, Mar 17-18, **2014**.
- 53 Willeke, B.; Meyer, J. LASER-basierte Lichtquellen in der Automobilbeleuchtung – Evaluation neuer Konzepte für eine weiße Lichtquelle; 115. DGaO-Jahrestagung: Karlsruhe, 2014.
- 54 Sielemann, S: „Ein IMS als Stand-Alone Modul“, 5. IMS Anwendertreffen 2014, Essen, Deutschland
- 55 Sielemann, S: „GC-IMS Technology for efficient Quality Control“ Analytica München 2014 – Forum Laboratory & Analytics
- 56 Fabritius, H.-O.: Structure-property relations in biological materials – Opportunities and challenges. Summer School of the SPP1420 at the University of Ulm, Ulm, Germany, Jul 25-26, **2013**.
- 57 Fabritius, H., Nikolov, S., Janus, A.M., Eisenlohr, P., Friák, M., Neugebauer, J., Raabe, D.: Comparison of the mechanical behavior of exoskeletal parts

- from different Crustacea – Experiments and Modeling. MRS Fall Meeting 2013, Boston, MA, USA, Dec 1-6, **2013**.
- 58 Fabritius, H.-O., Hennig, S., Hild, S., Soor, C., Ziegler, A.: Influence of Near-Physiological Salines and Organic Matrix Proteins from Sternal ACC-Deposits of *Porcellio scaber* on CaCO₃ Precipitation. 12th International Symposium on Biomineralization, Freiberg, Germany, Aug 27-30, **2013**.
- 59 Fabritius, H., Janus, A.M., Lu, J., Raabe, D., Friák, M., Elstnerová, P., Neugebauer, J., Nikolov, S.: Structural interfaces enable function-related variations of properties exoskeletal elements of Crustacea. MRS Spring Meeting 2013, San Francisco, CA, USA, Apr 1-5, **2013**.
- 60 Wibbeke, M.; Meschut, G.; Wünsche, M.: "Neue Fügetechniken in der Karosserie-Fertigung und Möglichkeiten zur Instandsetzung", 5. Forum Schaden und Technik, 1. Oktober **2013**, Bonn, Deutschland.
- 61 Tappe F.; Meyer, J.: "Behaviour of different luminescent materials towards high power densities", 10th International Symposium on Automotive Lighting (ISAL) 2013, 23-25 September, **2013**, Darmstadt, Deutschland.
- 62 Meyer, J. Phosphors in High Power Semiconductor based Light Sources - Rare Earths, part of the Enabling Technology for Headlights and Beamers, Rare Earth Elements and Compounds Konferenz (REEC-Conference), 2013, 10-12 September, **2013**, Münster, Deutschland.
- 63 Ogbazghi, T.; Tappe, F.; Meyer, J.; Thomas, C. Correlative Light and Electron Microscopy (CLEM) for Characterization of Light Converting Inorganic Phosphors, Microscopy Conference (MC) 2013, 25-30 August, **2013**, Regensburg, Deutschland.
- 64 Sielemann, S; CaoLau, B.; De Bruyn, W.; Sanders, D.: „The true electronic nose: IMS for flavour detection“ 22th International Conference for IonMobilitySpectrometry ISIMS 2013 Boppard, Deutschland
- 65 Janus, A. M., Fabritius, H., Lu, J., Raabe, D., Friák, M., Elstnerová, P., Neugebauer, J., Nikolov, S.: Structural interfaces enable function-related variations of properties in the exoskeleton of Crustacea. Ringberg Symposium 2012: Generation of Inorganic Functional Materials - Implementation of Biomineralization Principles, Schloss Ringberg, Rottach-Egern, Germany, Sep 30 – Okt 3, **2012**.
- 66 Ziegler, A., Ruangchaj, S., Seidl, B., Huber, J., Hild, S., Reisecker, C., Raabe, D., Fabritius, H., Janus, A., Karsten, S., Lu, J., Neugebauer, J., Friák, M., Elstnerová, P., Nikolov, S.: Crustacean skeletal elements: Variations in the constructional morphology at different hierarchical levels. 2nd Winter school within the DFG priority programme 1420 "Biomimetic Materials Research: Functionality by Hierarchical Structuring of Materials", Potsdam, Germany, Mar 19-20, **2012**.

- 67 Meyer, J. Colour Converters: optical elements in Solid State Lighting, International Light Simulation Symposium (ILISIS), **2012**, 7-8 März, Nürnberg, Deutschland.
- 68 Elli, A. F., Thomas, Ch., Wojek, Ch., Böker, Ch.: "Correlative Light and Electron Microscopy – on the way from 2D towards 3D"; Abstracts SSOM 3D-Symposium **2012**, 19-20.
- 69 Sielemann, S., Sanders, D.: „Automatische Auswertung von 3-dimensionalen GC-IMS Chromatogrammen“ 4. IMS Anwendertreffen 2012 BAM Berlin, Deutschland
- 70 Vautz, W.; Sielemann, S.: „Medizinische Anwendungen von IMS: Atemluft und Urin“ 4. IMS Anwendertreffen 2012 BAM Berlin, Deutschland
- 71 Bernthaler, T. Hafner, C., Knoblauch, V., Schneider, G., Thomas, Ch.: "Microscopic Investigations and Characterization of Lithium-Ion Batteries Using Correlative Light and Scanning Electron Microscopy"; MC 2011 Proc. Vol.3 (**2011**) M1 P516.
- 72 Fabritius, H., Nikolov, S., Hild, S., Ziegler, A., Friák, M., Neugebauer, J., Raabe, D.: Design principles of crustacean cuticle: from molecules to skeletal elements. Workshop „From Nanoparticle Assembly to Functional Polymer Components“, Department of Geo- and Environmental Sciences, LMU Munich, München, Germany, Jul 8, **2011**.
- 73 Hennig, S. Hild, S., Fabritius, H.-O., Soor, C., Ziegler, A.: Influence of Near-Physiological Salines and Organic Matrix Proteins from Sternal ACC-Deposits of Porcellio scaber on Calcium Carbonate Precipitation. MRS Fall Meeting 2011, Boston, MA, USA, Nov 28-Dec 2, **2011**.
- 74 Fabritius, H.-O., Nikolov, S., Karsten, S., Ziegler, A., Seidl, B., Friák, M., Elstnerová, P., Hild, S., Huemer, K., Raabe, D., Neugebauer, J.: Function-related Variations in Structure and Composition of Crustacean Cuticle. MRS Fall Meeting 2011, Boston, MA, USA, Nov 28-Dec 2, **2011**.
- 75 Fabritius, H.-O., Karsten, S., Nikolov, S., Hild, S., Ziegler, A., Friák, M., Elstnerová, P., Neugebauer, J., Raabe, D.: Function-related variations in the design principles of cuticle forming the exoskeleton of Crustacea. Euromat 2011, Montpellier, France, Sep 12-15, **2011**.
- 76 Sielemann, S: "Headspace analysis by Ion Mobility Spectrometry" 20th International Conference for IonMobilitySpectrometry ISIMS 2011 Edinburgh, Schottland
- 77 Fabritius, H., Nikolov, S., Hild, S., Ziegler, A., Friak, M., Neugebauer J., Raabe, D.: Design principles of Arthropod cuticle evaluated experimentally and by ab initio-based multiscale simulations. Ringberg Symposium 2010: Molecular Bionics - From Biomineralization to Functional Materials, Schloss Ringberg, Rottach-Egern, Germany, Okt 3-6, **2010**.
- 78 Ziegler, A., Ruangchaj, S., Seidl, B., Hild, S., Huemer, K., Raabe, D., Fabritius, H., Balasundaram, K., Karsten, S., Neugebauer, J., Friák, M., Elsternova, P.,

- Nikolov, S.: Crustacean skeletal elements: Variations in the constructional morphology at different hierarchical levels. 1st Winter school within the DFG priority programme 1420 "Biomimetic Materials Research: Functionality by Hierarchical Structuring of Materials", Kerkrade, Netherlands, Mar 23-26, **2010**.
- 79 Fabritius, H., Nikolov, S., Hild, S., Ziegler, A., Friák, M., Neugebauer, J., Raabe, D.: Design Principles of Load-bearing Cuticle from different Crustacean Species evaluated experimentally and by Ab initio-based Multiscale Simulations. MRS Fall Meeting 2010, Boston, MA, USA, Nov 29-Dec 3, **2010**.
- 80 Wibbeke, M; Hahn, O.; Somasundaram, S.: „Verbindungstechniken für das Multi-Material-Design“, Hybridica-Forum „Hybridbauweisen und Multimaterialsysteme für innovative Leichtbaulösungen“, 9. November **2010**, München, Deutschland.
- 81 Tikhomirov, D., Wessels, H., Weiher, J., Eßer, G.: „Industrial challenges of virtual manufacturing process chains for sheet metal automotive components“, Proceedings of the International Conference on Multiphysics Simulation, 22-23 Juni **2010**, Bonn, Germany.
- 82 Sielemann, S.: „Einsatz der Ionenmobilitätsspektrometrie zur schnellen Untersuchung von Lebensmitteln“ Analytica München 2010 – Forum Laboratory & Analytics
- 83 Fabritius, H., Nikolov, S., Sachs, C., Hild, S., Raabe, D., Petrov, M., Lymperakis, L., Friák, M., Neugebauer, J.: Arthropod cuticle: a biological multifunctional composite used as template for multiscale modelling. 11th National Congress on Theoretical and Applied Mechanics, Borovets, Bulgaria, Sep 2-5, **2009**.
- 84 Fabritius, H., Hild, S., Nikolov, S., Ziegler, A., Raabe, D., Friák, M., Neugebauer, J.: Variations in the constructional morphology of crustacean skeletal elements at different hierarchical levels. ICMOBT 2009: 3rd International Conference on Mechanics of Biomaterials & Tissues, Clearwater, FL, USA, Dec 13-17, **2009**.
- 85 Tikhomirov, D., Weiher, J., Roll, K., Franz, T., Kröger, M.: „Fast welding distortion prediction for the production planning in automotive industry“, Große Schweißtechnische Tagung, Industrie- und Forschungsforum, 14-19 September **2009**, Essen, Germany.
- 86 Doig, M., Tikhomirov, D., Kraska, M., Roll, K.: “Industrial challenges for finite element and multi-scale methods for material modelling”, Conference ESAFORM-2009, 27-29 April **2009**, Twente, The Netherlands.
- 87 Wibbeke, M.; Rostek, W.: „Fügen von kalt- und warmgeformten Strukturkomponenten“, Fachkolloquium der Salzgitter Mannesmann

Forschung, *Stahlforschung Insight: Warmgewalzte Stähle, Schweißtechnische Verarbeitung- Trends*, 12. Februar **2009**, Salzgitter, Deutschland.

- 88 Fabritius, H., Sachs, C, Nikolov, S., Romano, P., Hild, S., Raabe, D.: Influence of structural principles at different length scales on the mechanics and functional efficiency of biological materials. Ringberg Symposium 2008: Biological Approaches in Materials Sciences, Schloß Ringberg, Rottach-Egern, Germany, Okt 1-4, **2008**.
-

Buchkapitel und andere Veröffentlichungen

- 1 Hemmerich, M.; Scholz, R.; Saha, S.; Walther, F.; Meyer, J. Polylactid – ein geeigneter Biokunststoff für optische Anwendungen? – Versuchsaufbau zur zeitgerafften optischen und thermischen Alterung. *chrom+food FORUM* **2019**, No. 3, 43–45.
- 2 Politi, Y., Bar-On, B., Fabritius, H.-O.: Mechanics of Arthropod Cuticle – Versatility by Structural and Compositional Variation, in Estrin, Y., R., Bréchet, Y., Dunlop, J. and Fratzl, P. (Eds.): *Architected Materials in Nature and Engineering*. Springer Series in Materials Science 282, Springer, Cham, pp. 287-327, **2019**.
- 3 Fabritius, H.-O., Meyer, F., Enax, J.: “Biomimetik: Die Natur als Vorbild“, *Spektrum der Wissenschaft Spezial „Biologie – Medizin – Hirnforschung“*. Ausgabe 04.19 „Der Mensch: Ein einzigartiges Wesen“, pp. 46-53, **2019**.
- 4 Fabritius, H.-O., Meyer, F., Enax, J.: “Biomimetik: Die Natur als Vorbild“, *Spektrum der Wissenschaft* Ausgabe 12.18, pp. 46-53, **2018**.
- 5 Meyer, F., Fabritius, H.-O., Enax, J.: Spezielle Zahnpflege bei Dentinhypersensibilität. *ZMK Zahnmedizin* 33: 12, **2017**.
- 6 Fabritius, H.-O.: “Tierisch gute Werkstoffe: Was wir von Krebsen lernen können.“, contribution to the program „Campus Talks“, ARD alpha, recorded on 15.02.2017, broadcasted July **2017**, <https://www.br.de/fernsehen/ard-alpha/sendungen/campus/talks/campus-talks-fabritius-helge100.html>.
- 7 Meyer, J.; Hemker, N.; Wilke, D.; Lacombe, J. Photometrische Reflexionsgrade messen. *Licht [Online]* **2016**, 68 (4), 60–62.
- 8 Meyer, J.; Tappe, F.; Schmidt, N.: „The Future of Lighting.“ *ChemViews* **2015**.
- 9 Ogbazghi, T., Willeke, B., Thomas, Ch.: "Characterization of blue laser diodes by X-ray computer tomography and correlative microscopy"; *MC2015 Proc.* **2015**, IM7.P180, 675-677.

- 10 Dell, A., Enax, J., Fabritius, H., Prymak, O., Raabe D., Epple, M.: Struktur und Zusammensetzung von fossilen Haifischzähnen. *BioNanoMaterials* 15(S1):72, **2014**.
- 11 Meyer, J.; Sandfuchs, O.; Thomas, C.: „Moderne Lichtquellen: Materialien, Optische Mikrostrukturen und Prüfverfahren.“ (**2014**) in: *LED 2014 : Beiträge zur Technologie*, (Köhler, D.; Hrsg.) 75-83, Rüthen: Highlight-Verl.-Ges.
- 12 Enax, J., Fabritius, H., Prymak, O., Raabe, D., Epple, M.: Synthetische Fluorapatit/Polymer-Dentalkomposite, basierend auf dem Vorbild Haizahn-Enameloid. *BioNanoMaterials* 14:136, **2013**.
- 13 Fabritius, H.-O.: “The lobster as a packaging artist“, *Sulzer Technical Review Magazine*, Edition 2.2013, p. 9, **2013**.
- 14 Friák, M., Fabritius, H.-O., Nikolov, S., Petrov, M., Lymperakis, L., Sachs, C., Elstnerová, P., Neugebauer, J., Raabe, D.: Multi-scale Modelling of a Biological Material: The Arthropod Exoskeleton; in Fratzl, P., Dunlop, J.W.C. and Weinkamer, R. (Eds.): *Materials Design Inspired by Nature: Function Through Inner Architecture*, RSC Publishing, pp. 197-218, **2013**.
- 15 Nikolov, S., Fabritius, H., Friák, M., Raabe, D.: Hierarchical modeling of biological nanocomposites; in Kavardzhikov, V., Parashkevova, L. and Baltov A. (Eds.): *Mechanics of Nanomaterials and Nanotechnology (Series in Applied Mathematics and Mechanics, vol. 3)*, Institute of Mechanics - BAS, Sofia, pp. 199-224, **2012**.
- 16 M. Wibbeke u. a.: „Merkblatt 382 - Kleben von Stahl und Edelstahl Rostfrei“, Ausgabe **2012**, ISSN 0175-2006, *Stahl-Information-Zentrum und Informationsstelle Edelstahl Rostfrei*, Düsseldorf.
- 17 Enax, J., Prymak, O., Epple, M., Fabritius, H., Raabe, D.: Strukturhierarchie, chemische Zusammensetzung und mechanische Eigenschaften von Haifischzähnen. *BioNanoMaterials* 13:57, **2012**.
- 18 Fabritius, H.-O.: “The Formula for Lobster Shell“, *Max Planck Research Magazine*, Edition 1.**2012**, pp. 72-79.
- 19 Fabritius, H.-O.: “Den Hummer im Kreuzverhör“, *Forschung & Entwicklung, Zeitschrift der Wissenschaftsstatistik im Stifterverband für die Deutsche Wissenschaft*, Edition 2012, pp. 24-25, **2012**.
- 20 Fabritius, H., Sachs, C., Raabe, D., Nikolov, S., Friák, M., Neugebauer, J.: Chitin in the exoskeletons of Arthropoda: From ancient design to novel materials science; in Gupta, S.N. (Ed.): *Chitin: formation and diagenesis*, Springer, Germany, **2011**.
- 21 Fabritius, H.-O.: “Die Rezeptur der Hummerschale“, *Max Planck Forschung Magazin*, Edition 4.2011, pp. 72-79, **2011**.
- 22 Elstnerová, P., Friák, M., Fabritius, H. O., Lymperakis, L., Hickel, T., Petrov, M., Nikolov, S., Raabe, D., Ziegler, A., Hild, S., Neugebauer, J.: Enhancing mechanical properties of calcite by Mg substitutions: a quantum-mechanical

- study (in Czech), In Sborník doktorské konference: Víceúrovňový design pokrokových materiálů. Brno: Ústav fyziky materiálů AVČR, 13-20, **2010**.
- 23 Raue, L., Klein, H., Raabe, D., Fabritius, H.: Crystallographic Textures from the Exoskeleton of the Lobster *Homarus Americanus* and Calculation of the Mechanical Properties of the Calcite Phase; in A.D. Rollett (ed.): *Proc. 15th Intern. Conf. on Textures of Materials (ICOTOM 15)*, Part 2. Ceramic Transactions Vol. 201, John Wiley & Sons Inc., Hoboken, New Jersey, 637-655, **2009**.
- 24 Nikolov, S., Sachs, C., Fabritius, H., Raabe, D., Petrov, M., Friák, M., Neugebauer, J., Lymperakis, L., Ma, D.: Hierarchical modeling of the mechanical properties of lobster cuticle from nano- up to macroscale: The influence of the mineral content and the microstructure. *Proceedings of the 4th International Conference Multiscale Materials Modeling*, 667-670, **2008**.
-