

## MNaF List of Publications (updated 01/04/2022)

### 2022

- A. Heupel et al., Sol-gel synthesis and application of NiO, NiTiO<sub>3</sub> and Ni<sub>5</sub>TiO<sub>4</sub>(BO<sub>3</sub>)<sub>2</sub> on open-cell TiO<sub>2</sub> foams for CO<sub>2</sub> methanation, **Chemical Engineering Science** 248, Part A, (2022), 117151
- R. Vogt, et al., Incubation media modify silver nanoparticle toxicity for whitefish (*Coregonus lavaretus*) and roach (*Rutilus rutilus*) embryos, **Journal of Toxicology and Environmental Health, Part A**, 85:4 (2022), 143-162
- S. Naidu Vakamulla Raghu, et al., Functionalization strategies to facilitate multi-depth, multi-molecule modifications of nanostructured oxides for triggered release applications”, **Surf. Sci.** (2022), accepted
- A. Bablich et al., High-speed focus-induced photoresponse in amorphous silicon photodetectors for optical distance measurements, **Electronic Letters** (2022), 10.1049
- C. Weisenstein et al., Substrate-integrated microfluidics for sensitive biosensing with complementary THz metamaterials in water, *Applied Physics Letters* 120 (5) (2022), 053702
- T. M. Wong et al., Deep Optimization Prior for THz Model Parameter Estimation, **Proceedings of the IEEE/CVF Winter Conference on Applications of Computer Vision** (2022), 3811-3820

### 2021

- S. Naidu Vakamulla Raghu, K. Chuluunbandi, M.S. Killian, Zirconia nanotube coatings - UV-resistant superhydrophobic surfaces, **Surfaces and Interfaces** 26 (2021), 101357
- S. Naidu Vakamulla Raghu, M.S. Killian, “Wetting Behaviour of Zirconia nanotubes”, **RSC Advances** 11 (2021), 29585-29589
- N. Soltani et al., Scanning planar Yagi-Uda antenna for fluorescence detection. **JOSA B**, 38(9) (2021), 2528-2535
- Hoferick Ratka et al., (2021). Enhanced microbial inactivation by carbon dioxide through mechanical effects. **The Journal of Supercritical Fluids** 175, 105273
- C. Hongsuh, et al. Drug Release from Thermo-Responsive Polymer Brush Coatings to Control Bacterial Colonization and Biofilm Growth on Titanium Implants. **Advanced Healthcare Materials**, 10(11) (2021), 2100069
- 5. Das, Dipankar et al., Enzyme-responsive biopolymeric nanogel fibers by extrusion: engineering of high-surface-area hydrogels and application in bacterial enzyme detection. **ACS Applied Materials & Interfaces**, 13(11) (2021), 12928-12940
- E. Yildirim et al., Synthesis of end group-functionalized PGMA-peptide brush platforms for specific cell attachment by interface-mediated dissociative electron transfer reversible addition-fragmentation chain transfer radical (DET-RAFT) polymerization. **European Polymer Journal**, 148 (2021), 110370.
- J.P. Beaupain, et al., A, Reaction of Li<sub>1.3</sub>Al<sub>0.3</sub>Ti<sub>1.7</sub>(PO<sub>4</sub>)<sub>3</sub> and LiNi<sub>0.6</sub>Co<sub>0.2</sub>Mn<sub>0.2</sub>O<sub>2</sub> in Co sintered Composite Cathodes for Solid-State Batteries, **ACS Appl. Mater. Inter.** 13 (2021), 47488–47498
- Q. Wuet al., Medieval nanotechnology: layer thickness determination of Zwischgold samples, **J. Cult. Herit.** 49 (2021), 211–221
- S. Taheriniya, et al., High entropy alloy nanocomposites produced by high pressure torsion, **Acta Mater.** 208 (2021), 116714

- J. Zhang, et al., Tracer Diffusion in the  $\Sigma$ -Phase of the CrMnFeCoNi System, **Acta Mater.** 203 (2021), 116498
- T. Guo, et al, Electrochemistry of nitrogen and boron Bi-element incorporated diamond films. **Carbon**, 178 (2021), 19-25
- S. Afflerbach, et al, Improvement of a semipermeable shell for encapsulation of calcium hydroxide for thermochemical heat storage solutions: Material design and evaluation in laboratory and reactor scale, **Solar Energy** 217 (2021), 208-222
- K. Kaur, et al., Quantitative E. coli enzyme detection in reporter hydrogel-coated paper using a smartphone camera. **Biosensors**, 11(1) (2021), 25
- S. Brück, et al., Analysis of hydrogen-induced changes in the cyclic deformation behavior of AISI 300–series austenitic stainless steels using cyclic indentation testing, **Metals** 11, (2021), 923
- S. Laube, et al., Microstructure tailoring of Al-containing compositionally complex alloys by controlling the sequence of precipitation and ordering, **Acta Materialia** 218, (2021), 117217
- R. Anton, et al., Graded PVD Mo-Si interlayer between Si coating and Mo-Si-B alloys: investigation of oxidation behaviour, **Corrosion Science** 192, (2021), 117217
- S. Schellert, et al., Oxidation mechanism of refractory high entropy alloys Ta-Mo-Cr-Ti-Al with varying Ta content, **Corrosion Science** 192, (2021), 109861
- A. Wildeis, et al., Characterising the fatigue damage in a martensitic spring steel **Steel Research International** 92 (2021); 2100260
- B. Gorr, et al., Current status of research of the oxidation behavior of Refractory High Entropy Alloys, **Advanced Engineering Materials** 23 (2021); 2001047
- A. Abboud, et al., VHCF damage in duplex stainless steel revealed by microbeam energy-dispersive X-ray Laue diffraction, **International Journal of Fatigue** 151 (2021), 106358
- S. Schellert, et al., The effect of Al on the formation of a CrTaO<sub>4</sub> layer in refractory high entropy alloys Ta Mo Cr Ti xAl, **Oxidation of Metals** 96 (2021), 333-345
- B. Dönges, et al., Cyclic deformation induced residual stress evolution and 3d short fatigue crack growth investigated by advanced synchrotron tomography techniques, **Materials** 14 (2021), 1562
- H. Fu et al., *Evolution of type I, II, and III residual stresses of a duplex stainless steel during cyclic loading in high and very high cycle fatigue regimes*, **International Journal of Fatigue** 142 (2021), 105972
- C. Weinstein et al., THz Detection of Biomolecules in Aqueous Environments—Status and Perspectives for Analysis Under Physiological Conditions and Clinical use, **Journal of Infrared, Millimeter, and Terahertz Waves** 42 (6) (2021), 607-646
- J. Klein et al., Architecting more than Moore: wireless plasticity for massive heterogeneous computer architectures (WiPLASH), **Proceedings of the 18th ACM International Conference on Computing Frontiers** (2021), 191-193
- P. Kienitz et al., Photonic mixer device (PMD) based on graphene for high-resolution 3D sensors, **2D Photonic Materials and Devices IV** 11688 (2021), 116880S
- D. Stock, A. K. Wigger, P. H. Bolívar, Reducing errors in THz material parameter determination by model-based time-domain extraction methods, **JOSA B** 38 (3) (2021), 815-824
- N. Sekine et al., Coherent and incoherent excitation of two-dimensional plasmons in AlGaAs/GaAs quantum wells by femtosecond laser pulses, **Compound Semiconductors** 1998 (2021), 845-848

- C. Suessmeier et al., Material-Dependencies of the THz emission from plasmonic graphene-based photoconductive antenna structures, **42nd International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz)** (2021), 1-2
- H. Kambalathmana et al., *Optical properties of silicon-implanted polycrystalline diamond membranes*, **Carbon** 174 (2021), 295-304
- C. Leidigkeit, et. al., Untersuchungen der Ermüdungsschädigung in Nimonic 75 mithilfe der mLaue-Röntgenbeugung unter Verwendung eines energiedispersiven Detektors Werkstoffe und Bauteile auf dem Prüfstand (Hrg.: S. Brockmann und U. Krupp), Tagung Werkstoffprüfung 2021, 02.-03. Dez. 2021 online, **Stahlinstitut VDEh, Düsseldorf** (2021), 265-270
- A. Wildeis, et al., Einfluss der ehemaligen Austenitkorngröße auf die Ermüdungskurzrissausbreitung in einem martensitischen Federstahl Werkstoffe und Bauteile auf dem Prüfstand (Hrg.: S. Brockmann und U. Krupp), Tagung Werkstoffprüfung 2021, 02.-03. Dez. 2021 online, **Stahlinstitut VDEh, Düsseldorf** (2021), 277-282
- C. D. Schmidt, H.-J. Christ, A. von Hehl, Wasserstoff als temporäres Legierungselement zur Einstellung spezifischer Gefügegradienten in der (Alpha+Beta) -Titanlegierung Ti-6Al-4V Werkstoffe und Bauteile auf dem Prüfstand (Hrg.: S. Brockmann und U. Krupp), Tagung Werkstoffprüfung 2021, 02.-03. Dez. 2021 online, **Stahlinstitut VDEh, Düsseldorf** (2021), 295-300
- A. Wildeis, et al, Miniaturised fatigue testing devices to characterise fatigue damage evolution in: 1st Compendium of Modern Spring Technologies 2021, **Verband der deutschen Federnverband e.V.**, Hagen (2021), ISBN 978-3-00-069928-3

## 2020

- Z. Jian et al., *Flexible Diamond Fibers for High-Energy-Density Zinc-Ion Supercapacitors*, **Adv. Energy Mater.** 10 (2020), 2002202
- B. Steinhoff et al., *Investigation of the Fate of Silver and Titanium Dioxide Nanoparticles in Model Wastewater Effluents via Selected Area Electron Diffraction*, **Environ. Sci. Technol.** 54 (2020), 8681–8689
- Y. Guo et al., *A detailed analysis of the determination of fracture toughness by nanoindentation induced radial cracks*, **Eur. Ceram. Soc.** 40 (2019), 276–289,
- S. Laube, et al., *Controlling crystallographic ordering in Mo–Cr–Ti–Al high entropy alloys to enhance ductility*, **J. Alloy. Compd.** 823 (2020), 153805
- J. Xu et al., *Ultra-High Energy Density Supercapacitors Using a Nickel Phosphide/Nickel/Titanium Carbide Nanocomposite Capacitor Electrode*, **Nanoscale** 12 (2020), 13618–13625
- H. Bayat et al., *Geometrical Constraints of Poly (Diethylene Glycol Methyl Ether Methacrylate) Brushes on Spherical Nanoparticles and Cylindrical Nanowires: Implications for Thermoresponsive Brushes on Nanoobjects*, **ACS Appl. Nano Mater.** 3 (2020), 3693–3705
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- C. Kunzler et al., *Giant Biodegradable Poly(Ethylene Glycol)-Block-Poly(ε-Caprolactone) Polymersomes by Electroformation*, **Macromol. Biosci.** 6 (2020), 2000014
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- S. Laube et al., *Controlling crystallographic ordering in Mo-Cr-Ti-Al high entropy alloys to enhance ductility*, **Journal of Alloys and Compounds** 823 (2020), 153805
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- K. Esleben et al., *The effect of Ni and Si additions on the oxidation behavior of Co-17Re-18Cr alloys*, **Corrosion Science.** 159 (2019), 108135
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