

## MNaF List of Publications (updated 08/03/2021)

### 2021

- 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
- H. Kambalathmana et al., *Optical properties of silicon-implanted polycrystalline diamond membranes*, **Carbon** 174 (2021), 295-304

### 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
- A. Schulte; Q. F. M Alhusaini, H. Schönherr, *Anodic Aluminum Oxide Nanopore Template-Assisted Fabrication of Nanostructured Poly(Vinyl Alcohol) Hydrogels for Cell Studies*, **ACS Appl. Bio Mater.** 3 (2020), 2419–2427
- 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
- H. Bayat et al., *Poly(Diethylene Glycol Methyl ether Methacrylate) Brush-Functionalized Anodic Alumina Nanopores: Curvature-Dependent Polymerization Kinetics and Nanopore Filling*, **Langmuir** 36 (2020), 2663–2672.
- Z. Jian, *Tunable Photo-Electrochemistry of Patterned TiO<sub>2</sub>/BDD Heterojunctions*, **Small Methods** 4 (2020), 2000257
- V. Galhano et al., *Impact of Wastewater-Borne Nanoparticles of Silver and Titanium Dioxide on the Swimming Behaviour and Biochemical Markers of Daphnia Magna: An Integrated Approach*, **Aquat. Toxicol. Amst. Neth.** 220 (2020), 105404
- R. Poreba, *“Clickable” and Antifouling Block Copolymer Brushes as a Versatile Platform for Peptide-Specific Cell Attachment*, **Macromol. Biosci.** 4 (2020), 1900354
- C. Kunzler et al., *Giant Biodegradable Poly(Ethylene Glycol)-Block-Poly( $\epsilon$ -Caprolactone) Polymersomes by Electroformation*, **Macromol. Biosci.** 6 (2020), 2000014
- B. Gorr et al., *A new strategy to intrinsically protect refractory metal based alloys at ultra high temperatures*, **Corrosion Science** 166 (2020), 108475

- 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
- M. Weber et al., *Effect of water vapor on the oxidation behavior of the eutectic high-temperature alloy Mo-20Si-52.8Ti*, **Advanced Engineering Materials** 22 (2020), 2000219
- S. Obert et al., *On the chemical and microstructural requirements for the pesting-resistance of Mo-Si-Ti alloys*, **Journal of Materials Research and Technology** 9 (2020), 8556-8567
- C. D. Schmidt et al., *Generation of microstructural gradients for improved mechanical properties via thermohydrogen treatment of the metastable beta titanium alloys Beta CTM and Ti 10V 2Fe 3Al*, 14th World Conference on Titanium, 10-14. Juni 2019, Nantes, Frankreich, **MATEC Web of Conference** 321 (2020) 12017
- F. Müller et al., *Formation of complex intermetallic phases in novel refractory high-entropy alloys NbMoCrTiAl and TaMoCrTiAl: thermodynamic assessment and experimental validation*, **Journal of Alloys and Compounds** 842 (2020), 155726
- F. Müller et al., *Effect of Y-additions on the oxidation behavior of novel refractory high-entropy alloy NbMoCrTiAl at 1000°C in air*, **Oxidation of Metals** 94, 2020, 147-163
- F. Müller et al., *Effect of Y-additions on the oxidation behavior of novel refractory high-entropy alloy NbMoCrTiAl at 1000°C in air*, **Oxidation of Metals** 94 (2020), 147-163
- H. Fu et al., *Microcrack Initiation mechanism of a duplex stainless steel under very high cycle fatigue loading conditions: The significance of load partitioning and micro residual stresses*, **Acta Materialia** 199 (2020), 278-287
- U. Sultan et al., *A High-Field Anodic NiO Nanosponge with Tunable Thickness for Application in p-Type Dye-Sensitized Solar Cells*, **ACS Appl. Energy Mater.** 3 (2020)
- Davtyan et al., *X-ray diffraction reveals the amount of strain and homogeneity of extremely bent single nanowires*, **J.Appl. Cryst.** 53 (2020), 1310–1320
- Al Hassan et al., *Spatially-resolved luminescence and structure of single core-shell nanowires measured in the as-grown geometry*, **Nanotechnology** 31 (2020), 214002
- D. Bahrami et al., *High yield of self-catalyzed GaAs nanowire growth on silicon (111) substrate templated by focused ion beam patterning*, **Nanotechnology** 31 (2020), 185302
- A. Al Hassan et al., *Beam damage of single semiconductor nanowires during X-ray nano beam diffraction experiment*, **J.Synch. Rad.** 27 (2020), 1200-1208
- R. Brandt et al., *InHyb – An Intrinsic Hybrid Laminate for Cyclically Loaded Components*, **4. Internationale Konferenz Hybrid Materials and Structures**. Karlsruhe (2020), DGM, S. 8–13.
- R. Brandt et al., *The Application of a Stainless Martensitic Precipitation Hardening Steel to an Elastic Connecting Element*, **ICST2020**. VDFI, (2020)

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- Q. Song, S. I. Druzhinin, H. Schönherr, *Asymmetric Multifunctional 3D Cell Microenvironments by Capillary Force Assembly*, **J. Mater. Chem. B.** 7 (2019), 3560-3568
- S. Jiang, M. Müller, H. Schönherr, *Toward Label-Free Selective Cell Separation of Different Eukaryotic Cell Lines Using Thermoresponsive Homopolymer Layers*, **ACS Applied Biomaterials** 2 (2019), 2557-2566
- S. Jiang, M. Müller, H. Schönherr, *Propagation and Purification of Human Induced Pluripotent Stem Cells with Selective Homopolymer Release Surfaces*, **Angew. Chem. Int. Ed. Engl.** 53 (2019), 10563-10566
- X. Dou et al., *The Effect of Chirality on Cell Spreading and Differentiation: From Chiral Molecules to Chiral Self-Assembly*, **ACS Appl. Mater. Interf.** 11 (2019), 38568-38577

- P. Schroth et al., *Impact of the shadowing effect on crystal structure of patterned self-catalyzed GaAs nanowires*, **Nano Lett.** 19 (2019), 7, 4263-4271
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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
- F. Mueller et al., *On the oxidation mechanism of refractory high entropy alloys*, **Corrosion Science**. 159 (2019), 108161
- C. Leidigkeit et al., *Untersuchungen der Ermüdungsschädigungsentwicklung in metallischen Strukturwerkstoffen mittels  $\mu$ Laue-Beugung unter Nutzung eines 3D-energiesdispersiven Detektors*, **Tagung Werkstoffprüfung** (2019), 75-80
- C. D. Schmidt, H.-J. Christ, *Kennwertermittlung zur Wasserstoffaufnahme und –abgabe von Titanlegierungen als Basis für die Gestaltung eines THT-Prozesses*, **Tagung Werkstoffprüfung** (2019), 257-262
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- K. Esleben et al., *The effect of different Cr and Ni additions on the oxidation behavior of Co-Re-based alloys*, **JOM**. 72 (2019), 393-402
- M. Lindner, R. Brandt, *Über den Einfluss von Mn auf die mechanischen Eigenschaften von nichtrostenden, martensitushärtenden Stählen*, **Tagung Werkstoffprüfung** (2019), 181-186
- S. Hartmann et al., *Comparative multi-generation study on long-term effects of pristine and wastewater-borne silver and titanium dioxide nanoparticles on key lifecycle parameters in *Daphnia magna**, **NanoImpact** 14 (2019), 100163
- D. Schliephake et al., *Constitution, oxidation and creep of eutectic and eutectoid Mo-Si-Ti alloys*, **Intermetallics** 104 (2019), 133-142
- J. Aman et al., *Thermal hardening and defects in anodic aluminum oxide obtained in oxalic acid - Implications for the Template Synthesis of Low-Dimensional Nanostructures*, **ACS Appl. Nano Mater.** 2 (2019), 1986-1994
- Q. Song et al., *Tailored combinatorial microcompartments via self-organization of microobjects: Assembly, characterization and cell studies*, **Angew. Chem. Int. Ed.** 58 (2019), 5246-5250
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- S. Yu et al., *Phosphorus Doped Nanocrystalline Diamond for Supercapacitor Application*, **ChemElectroChem** 6 (2019), 1088-1093
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- J. Xu et al., *Achieving Ultrahigh Energy Densities of Supercapacitors with Titanium Carbide/Boron-doped Diamond Capacitor Electrodes*, **Adv. Energy Mater.** 9 (2019), 1803623

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- Y. Guo et al., *A novel way to quantitatively determine the mechanical properties of thin films from the initial-grown surface by nanoindentation*, **Appl. Surf. Sci.** 479 (2019), 253-259
- J. Xu et al., *Achieving Ultrahigh Energy Densities of Supercapacitors with Porous Titanium Carbide/Boron-Doped Diamond Composite Electrodes*, **Adv. Energy. Mater.** 9 (2019), 1803623
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- S. Brück et al., *Hydrogen embrittlement mechanism in fatigue behaviour of austenitic and martensitic steels*, **MATEC Web Conf.** 165 (2018), 22002
- F. Buelbuel et al., *Crack growth behaviour of aluminium wrought alloys in the Very High Cycle Fatigue regime*, **MATEC Web Conf.** 165 (2018), 20007
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- K. Dörries et al., *Influence of  $\sigma$  phase on the allotropic transformation of the matrix in Co-Re-Cr based alloys with Ni addition*, **Metals** 8 (2018), 706-720
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- F. Bülbül et al., *Einfluss des Spannungsverhältnisses auf die Langrissausbreitung einer aushärtbaren Aluminiumknetlegierung im Very High Cycle Fatigue Bereich*, **Tagung Werkstoffprüfung** 36 (2018), 93-98
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- T. Waurischk et al., *Slip band formation and crack initiation during very high cycle fatigue of duplex stainless steel – Part 1: Mechanical testing and microstructural investigations*, **Fatigue of Materials at Very High Number of Loading Cycles** (2018), 95-110
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