

## MNAF List of Publications (updated 02/06/2020)

### 2020

- 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.** (2020) submitted

### 2019

- 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
- S. M. Mostafavi Kashani et al., *X-ray Diffraction Analysis of the Angular Stability of Self-Catalyzed GaAs Nanowires for Future Applications in Solar Light Harvesting and Light Emission Devices*, **ACS Applied Nanoscience** 2 (2019), 2, 689 – 699
- 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-energie dispersiven 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
- K. Fota et al., *Experimentelle Charakterisierung und Simulation der Schädigungsentwicklung in Vorgerüst-Arbeitswalzen*, **Tagung Werkstoffprüfung** (2019), 385-390
- K. Esleben et al., *Effect of Cr and Ni on the microstructural evolution in Co-Re-Cr-Ni alloys*, **International Journal of Materials Research** 110 (2019), 1092-1104
- 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, martensitahärtenden 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
- J. Xu et al., *Catalytic Tar Removal Using TiO<sub>2</sub>/NiWO<sub>4</sub>-Ni<sub>5</sub>TiO<sub>7</sub> Films*, **Appl. Catal. B** 249 (2019), 155-162
- S. Yu et al., *Phosphorus Doped Nanocrystalline Diamond for Supercapacitor Application*, **ChemElectroChem** 6 (2019), 1088-1093
- N. Goonoo et al., *Improved multicellular response, biomimetic mineralization, angiogenesis and reduced foreign body response of modified polydioxanone scaffolds for skeletal tissue regeneration*, **ACS Appl. Mater. Interfaces** 11 (2019), 5834-5850
- J. Xu et al., *Achieving Ultrahigh Energy Densities of Supercapacitors with Titanium Carbide/Boron-doped Diamond Capacitor Electrodes*, **Adv. Energy Mater.** 9 (2019), 1803623
- M. Steuber, H. Schönherr, *Guided assembly, nanostructuring and functionalization with brushes of microscale polymer cubes for tailored 3-D cell microenvironments*, **Eur. Polym. J.** 113 (2019), 47-51
- 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
- N. Yang et al., *Conductive diamond: synthesis, properties, and electrochemical applications*, **Chem. Soc. Rev.** 48 (2019), 157-204

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- M. Wicke et al., *Understanding the near-threshold crack growth behaviour in an aluminium alloy by X-ray tomographie*, **MATEC Web Conf.** 165 (2018), 13007
- A.A. Hassan et al., *Determination of Indium content of GaAs/(In,Ga)As/(GaAs) core-shell(-shell) nanowires by X-ray diffraction and Nano X-ray fluorescence*, **Phys. Rev. Materials** 2 (2018), 014604
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- R. Brandt, A. Busch, *Fracture Toughness and Strength of the Interface of a GFRP-Steel-Laminate*, **Hybrid Materials and Structures** 3 (2018), 56-61
- A. Busch, P. Brix, R. Brandt, *Characterization of Residual Stresses in Fiber-Metal-Laminates by X-Ray Diffraction*, **Hybrid Materials and Structures** 3 (2018), 34-39
- M. Münch, G. Hacker, R. Brandt, *Niedrigtemperaturkriechen martensitischer Federstähle unter Torsionsbelastung*, **Tagung Werkstoffprüfung** 36 (2018), 175-180

- A. Wildeis, R. Brandt, *Untersuchung der Rissinitiierung und der Ermüdungskurzrissausbreitung in einem hochfesten, martensitischen Federstahl*, **Tagung Werkstoffprüfung** 36 (2018), 243–248
- S.E. Hosseinijad et al., *Reconfigurable THz Plasmonic Antenna Based on Few-Layer Graphene with High Radiation Efficiency*, **Nanomaterials** 8 (2018), E577
- K. Esleben et al., *The effect of Ni-addition on the oxidation behavior of Co-Re-Cr high-temperature alloys*, **Mater. High Temp.** 35 (2018), 177-186
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- H. Chen et al., *Contribution of lattice distortion to solid solution strengthening in a series of refractory high entropy alloys*, **Metall. Mater. Trans. A** 49 (2018), 772-781
- B. Gorr et al., *Development of oxidation resistant refractory high entropy alloys for high temperature application: Recent results and development strategy*, **TMS Annual Meeting & Exhibition** 147 (2018), 647-660
- S. Brück et al., *Hydrogen embrittlement mechanism in fatigue behavior of austenitic and martensitic stainless steels*, **Metals** 8 (2018), 339
- M. Zimmermann et al., *Lebensdauervorhersage im VHCF-Bereich unter Berücksichtigung des Mikrostruktureinflusses*, **Neue Entwicklungen für die Bauteilfestigkeitsnachweise** (2018), 83-90
- H.J. Christ, *Thermomechanical fatigue – Mechanism-based considerations on the challenge of life assessment*, **MATEC Web Conf.** 165 (2018), 01002
- T. Kirsten et al., *Influence of microstructural discontinuities on the behaviour of long cracks in the VHCF regime for the aluminium alloys EN AW 6082 and EN AW 5083*, **MATEC Web Conf.** 165 (2018), 20005
- 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
- V. Schippl et al., *Modeling of hydrogen effects on short crack propagation in a metastable austenitic stainless steel ( $X_2CrNi_{19-11}$ )*, **MATEC Web Conf.** 165 (2018), 22005
- 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
- S. Brück, V. Schippl, H.J. Christ, *Wasserstoffeinfluss auf das Ermüdungsverhalten von austenitischen und martensitischen Edelmetallen*, **Tagung Werkstoffprüfung** 36 (2018), 69-74
- 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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- P.M. Hilgendorff et al., *Simulation of the VHCF deformation of austenitic stainless steels and its effect on the resonant behavior*, **Fatigue of Materials at Very High Number of Loading Cycles** (2018), 73-94
- 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

- B. Dönges et al., *Fatigue mechanisms and its modelling of an austenitic-ferritic duplex stainless steel under HCF and VHCF loading conditions*, **Fatigue of Materials at Very High Number of Loading Cycles** (2018), 111-131
- A.K. Kolyshkin et al., *Development of a fatigue life prediction concept in the very high cycle fatigue range based on covariate microstructural features*, **Fatigue of Materials at Very High Number of Loading Cycles** (2018), 343-364
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- H. Ihmels et al., *Fluorimetric detection of G-quadruplex DNA in solution and adsorbed on surfaces with a selective trinuclear cyanine dye*, **Langmuir** 34 (2018), 11866-11877
- S. Heuser et al., *Vertically Aligned 3C-SiC/Graphene Hybrid Nanolaminate Films for High-Performance Supercapacitors*, **Small** 14 (2018), 1801857
- P. Li et al., *Enhanced Cell Adhesion on a Bio-Inspired Hierarchically Structured Polyester Modified with Gelatin-Methacrylate*, **Biomater. Sci** 6 (2018), 785-792
- S. Yu et al., *Battery-like Supercapacitors from Vertically Aligned Carbon Nanofibers Coated Diamond: Design and Demonstrator*, **Adv. Energy Mater.** 8 (2018), 1702947
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- T. Müller et al., *Influence of cocamidopropyl betaine on the formation and carbonation of portlandite - A microscopy study*, **Constr. Build. Mater.** 163 (2018), 793-797
- T.A.P. Tran, P.H. Bolivar, *Terahertz Modulator Based on Vertically Coupled Fano Metamaterial*, **IEEE Trans. Terahertz Sci. Technol.** 8 (2018), 502-508

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- A. Busch, R. Brandt, *Characterization of the Bonded Connection in Hybrid-Steel-GFRP-Laminates*, **KEM 742** (2017), 408-415
- A. Busch, R. Brandt, *Development and Characterization of a Composite Material made up by Glass Fiber Reinforced Plastics and High Strength Steel*, **ICCM21** (2017), 3541
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- H.J. Christ, A. El-Chaikh, B. Wollny, *A unified approach for isothermal and thermomechanical fatigue life assessment of TiAl-based alloy TNB-V2*, **LCF8** (2017), 87-92
- A. Giertler et al., *Evaluation of three-dimensional microstructural effects on damage evolution during VHCF loading of a duplex stainless steel – Mechanisms of damage evolution and corresponding fatigue life*, **VHCF7** (2017), 87-92
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- B. Dönges, C.P. Fritzen, H.J. Christ, *Evaluation of three-dimensional microstructural effects on damage evolution during VHCF loading of duplex stainless steel – Microstructure-sensitive fatigue life assessment*, **VHCF7** (2017), 160-166
- M. Zimmermann et al., *Development of a probabilistic model for the prediction of fatigue life in the very high cycle fatigue (VHCF) range based on microstructural properties*, **VHCF7** (2017), 389-394
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- F. Bülbül et al., *Risswachstumsverhalten der Aluminiumknetlegierungen unter zyklischer Beanspruchung im Bereich Very High Cycle Fatigue*, **Tagung Werkstoffprüfung 35** (2017), 103-108
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