# Anton Hohenwarter

List of Publications by Year
in descending order

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|---|---|---|---|
| 115 papers | 10,244 citations | 101543 36 h-index | 33894 99 g-index |
| 117 all docs | 117 docs citations | 117 times ranked | 5502 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | A fracture-resistant high-entropy alloy for cryogenic applications. Science, 2014, 345, 1153-1158. | 12.6 | 3,982 |
| 2 | Exceptional damage-tolerance of a medium-entropy alloy CrCoNi at cryogenic temperatures. Nature Communications, 2016, 7, 10602. | 12.8 | 1,175 |
| 3 | Mechanical properties, microstructure and thermal stability of a nanocrystalline CoCrFeMnNi high-entropy alloy after severe plastic deformation. Acta Materialia, 2015, 96, 258-268. | 7.9 | 952 |
| 4 | Saturation of Fragmentation During Severe Plastic Deformation. Annual Review of Materials Research, 2010, 40, 319-343. | 9.3 | 460 |
| 5 | Fatigue crack closure: a review of the physical phenomena. Fatigue and Fracture of Engineering Materials and Structures, 2017, 40, 471-495. | 3.4 | 225 |
| 6 | Nanomaterials by severe plastic deformation: review of historical developments and recent advances. Materials Research Letters, 2022, 10, 163-256. | 8.7 | 215 |
| 7 | Thermodynamic instability of a nanocrystalline, single-phase TiZrNbHfTa alloy and its impact on the mechanical properties. Acta Materialia, 2018, 142, 201-212. | 7.9 | 196 |
| 8 | Effect of temperature on the fatigue-crack growth behavior of the high-entropy alloy CrMnFeCoNi. Intermetallics, 2017, 88, 65-72. | 3.9 | 160 |
| 9 | Technical parameters affecting grain refinement by high pressure torsion. International Journal of Materials Research, 2009, 100, 1653-1661. | 0.3 | 159 |
| 10 | Advantages and Limitations of HPT: A Review. Materials Science Forum, 0, 584-586, 16-21. | 0.3 | 115 |
| 11 | The use of femtosecond laser ablation as a novel tool for rapid micro-mechanical sample preparation. Materials and Design, 2017, 121, 109-118. | 7.0 | 92 |
| 12 | Increasing the strength of nanocrystalline steels by annealing: Is segregation necessary?. Scripta Materialia, 2015, 95, 27-30. | 5.2 | 89 |
| 13 | The importance of fracture toughness in ultrafine and nanocrystalline bulk materials. Materials Research Letters, 2016, 4, 127-136. | 8.7 | 82 |
| 14 | Anisotropic deformation characteristics of an ultrafine- and nanolamellar pearlitic steel. Acta Materialia, 2016, 106, 239-248. | 7.9 | 82 |
| 15 | Fracture toughness evaluation of ultrafine-grained nickel. Scripta Materialia, 2011, 64, 982-985. | 5.2 | 80 |
| 16 | New procedure to generate stable nanocrystallites by severe plastic deformation. Scripta Materialia, 2009, 61, 1016-1019. | 5.2 | 74 |
| 17 | Effect of Large Shear Deformations on the Fracture Behavior of a Fully Pearlitic Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2011, 42, 1609-1618. | 2.2 | 72 |
| 18 | Nearâ€threshold behaviour of shearâ€mode fatigue cracks in metallic materials. Fatigue and Fracture of Engineering Materials and Structures, 2014, 37, 232-254. | 3.4 | 68 |

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|---|---|---|---|
| 19 | Nanoindentation testing as a powerful screening tool for assessing phase stability of nanocrystalline high-entropy alloys. Materials and Design, 2017, 115, 479-485. | 7.0 | 68 |
| 20 | Incremental high pressure torsion as a novel severe plastic deformation process: Processing features and application to copper. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 626, 80-85. | 5.6 | 67 |
| 21 | Anisotropic fracture behavior of ultrafine-grained iron. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2010, 527, 2649-2656. | 5.6 | 64 |
| 22 | Fracture of ECAP-deformed iron and the role of extrinsic toughening mechanisms. Acta Materialia, 2013, 61, 2973-2983. | 7.9 | 60 |
| 23 | Fracture and fracture toughness of nanopolycrystalline metals produced by severe plastic deformation. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140366. | 3.4 | 60 |
| 24 | Tailoring bimodal grain size structures in nanocrystalline compositionally complex alloys to improve ductility. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2019, 748, 379-385. | 5.6 | 54 |
| 25 | Direct evidence for grain boundary motion as the dominant restoration mechanism in the steady-state regime of extremely cold-rolled copper. Acta Materialia, 2014, 77, 401-410. | 7.9 | 52 |
| 26 | Grain boundary excess volume and defect annealing of copper after high-pressure torsion. Acta Materialia, 2014, 68, 189-195. | 7.9 | 51 |
| 27 | Thermally activated deformation processes in body-centered cubic Cr â€“ How microstructure influences strain-rate sensitivity. Scripta Materialia, 2015, 106, 42-45. | 5.2 | 50 |
| 28 | Ultra-strong and damage tolerant metallic bulk materials: A lesson from nanostructured pearlitic steel wires. Scientific Reports, 2016, 6, 33228. | 3.3 | 49 |
| 29 | Influence of Annealing on Microstructure and Mechanical Properties of a Nanocrystalline CrCoNi Medium-Entropy Alloy. Materials, 2018, 11, 662. | 2.9 | 48 |
| 30 | Medium-range order dictates local hardness in bulk metallic glasses. Materials Today, 2021, 44, 48-57. | 14.2 | 47 |
| 31 | The ductile to brittle transition of ultrafine-grained Armco iron: an experimental study. Journal of Materials Science, 2010, 45, 4805-4812. | 3.7 | 45 |
| 32 | Enhanced fatigue endurance of metallic glasses through a staircase-like fracture mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 18419-18424. | 7.1 | 43 |
| 33 | Microstructure and metallic ion release of pure titanium and Tiâ€“13Nbâ€“13Zr alloy processed by high pressure torsion. Materials and Design, 2016, 91, 340-347. | 7.0 | 43 |
| 34 | Revisiting fatigue crack growth in various grain size regimes of Ni. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2015, 646, 294-305. | 5.6 | 41 |
| 35 | A comprehensive study on the damage tolerance of ultrafine-grained copper. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 540, 89-96. | 5.6 | 40 |
| 36 | Insights into the deformation behavior of the CrMnFeCoNi high-entropy alloy revealed by elevated temperature nanoindentation. Journal of Materials Research, 2017, 32, 2658-2667. | 2.6 | 40 |

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|---|---|---|---|
| 37 | Strain effects on the coarsening and softening of electrodeposited nanocrystalline Ni subjected to high pressure torsion. Scripta Materialia, 2008, 58, 790-793. | 5.2 | 39 |
| 38 | Microstructure, Texture, and Strength Development during High-Pressure Torsion of CrMnFeCoNi High-Entropy Alloy. Crystals, 2020, 10, 336. | 2.2 | 39 |
| 39 | Phase Decomposition of a Singleâ€Phase AlTiVNb Highâ€Entropy Alloy after Severe Plastic Deformation and Annealing. Advanced Engineering Materials, 2017, 19, 1600674. | 3.5 | 36 |
| 40 | Influence of morphology and structural size on the fracture behavior of a nanostructured pearlitic steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 585, 190-196. | 5.6 | 35 |
| 41 | On the Room-Temperature Mechanical Properties of an Ion-Irradiated TiZrNbHfTa Refractory High Entropy Alloy. Jom, 2020, 72, 130-138. | 1.9 | 34 |
| 42 | Fatigue crack growth anisotropy in ultrafine-grained iron. Acta Materialia, 2017, 126, 154-165. | 7.9 | 33 |
| 43 | Influence of grain shape and orientation on the mechanical properties of high pressure torsion deformed nickel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2013, 560, 224-231. | 5.6 | 32 |
| 44 | Near-threshold propagation of mode II and mode III fatigue cracks in ferrite and austenite. Acta Materialia, 2013, 61, 4625-4635. | 7.9 | 30 |
| 45 | Influence of severe plastic deformation and specimen orientation on the fatigue crack propagation behavior of a pearlitic steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2018, 710, 260-270. | 5.6 | 27 |
| 46 | Microstructure and texture evolution during severe plastic deformation of CrMnFeCoNi high-entropy alloy. IOP Conference Series: Materials Science and Engineering, 2017, 194, 012028. | 0.6 | 24 |
| 47 | Analysis of fatigue crack propagation under mixed mode II+III in ARMCO iron. International Journal of Fatigue, 2015, 76, 47-52. | 5.7 | 22 |
| 48 | The effect of severe grain refinement on the damage tolerance of a superelastic NiTi shape memory alloy. Journal of the Mechanical Behavior of Biomedical Materials, 2017, 71, 337-348. | 3.1 | 22 |
| 49 | Influence of testing orientation on mechanical properties of Ti45Nb deformed by high pressure torsion. Materials and Design, 2017, 114, 40-46. | 7.0 | 22 |
| 50 | On the onset of deformation twinning in the CrFeMnCoNi high-entropy alloy using a novel tensile specimen geometry. Intermetallics, 2019, 110, 106469. | 3.9 | 21 |
| 51 | Three-dimensional morphology of fracture surfaces generated by modes II and III fatigue loading in ferrite and austenite. Engineering Fracture Mechanics, 2013, 108, 285-293. | 4.3 | 20 |
| 52 | Gradient residual strain and stress distributions in a high pressure torsion deformed iron disk revealed by high energy X-ray diffraction. Scripta Materialia, 2018, 146, 178-181. | 5.2 | 20 |
| 53 | Microstructure-dependent phase stability and precipitation kinetics in equiatomic CrMnFeCoNi high-entropy alloy: Role of grain boundaries. Acta Materialia, 2022, 223, 117470. | 7.9 | 20 |
| 54 | Simultaneous enhancement of strength and fatigue crack growth behavior of nanocrystalline steels by annealing. Scripta Materialia, 2017, 139, 39-43. | 5.2 | 19 |

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| 55 | Effect of processing temperature on the microstructural characteristics of Cu-Ag nanocomposites: From supersaturation to complete phase decomposition. Acta Materialia, 2018, 154, 33-44. | 7.9 | 19 |
| 56 | Influence of annealing on microstructure and mechanical properties of ultrafine-grained Ti45Nb. Materials and Design, 2019, 179, 107864. | 7.0 | 19 |
| 57 | Cyclic Deformation Behavior of a 316L Austenitic Stainless Steel Processed by High Pressure Torsion. Advanced Engineering Materials, 2012, 14, 948-954. | 3.5 | 18 |
| 58 | Hardening by annealing: insights from different alloys. IOP Conference Series: Materials Science and Engineering, 2015, 89, 012043. | 0.6 | 18 |
| 59 | Sample Size and Strain-Rate-Sensitivity Effects on the Homogeneity of High-Pressure Torsion Deformed Disks. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2019, 50, 601-608. | 2.2 | 18 |
| 60 | Experimental evidence of a common local mode II growth mechanism of fatigue cracks loaded in modes II, III and II + III in niobium and titanium. International Journal of Fatigue, 2016, 92, 470-477. | 5.7 | 17 |
| 61 | Evaluation of the intergranular crack growth resistance of ultrafine grained tungsten materials. Acta Materialia, 2019, 176, 330-340. | 7.9 | 17 |
| 62 | Direct measurement of vacancy relaxation by dilatometry. Applied Physics Letters, 2016, 109, . | 3.3 | 16 |
| 63 | Femtosecond laser machining for characterization of local mechanical properties of biomaterials: a case study on wood. Science and Technology of Advanced Materials, 2017, 18, 574-583. | 6.1 | 16 |
| 64 | Impact of severe plastic deformation on microstructure and fracture toughness evolution of a duplex-steel. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2017, 703, 173-179. | 5.6 | 16 |
| 65 | Precipitation behavior of a Co-free Fe-Ni-Cr-Mo-Ti-Al maraging steel after severe plastic deformation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 833, 142416. | 5.6 | 15 |
| 66 | Ultimate Strength of a Tungsten Heavy Alloy after Severe Plastic Deformation at Quasi-Static and Dynamic Loading. Materials Science Forum, 0, 584-586, 405-410. | 0.3 | 14 |
| 67 | Influence of heat treatment on the microstructural evolution of Alâ€“3â€‰wt.% Cu during high-pressure torsion. Philosophical Magazine Letters, 2014, 94, 342-350. | 1.2 | 14 |
| 68 | Progress in understanding of intrinsic resistance to shear-mode fatigue crack growth in metallic materials. International Journal of Fatigue, 2016, 89, 36-42. | 5.7 | 14 |
| 69 | Fracture properties of ultrafine grain chromium correlated to single dislocation processes at room temperature. Journal of Materials Research, 2019, 34, 2370-2383. | 2.6 | 14 |
| 70 | Anisotropy in fracture and fatigue resistance of pearlitic steels and its effect on the crack path. International Journal of Fatigue, 2019, 124, 528-536. | 5.7 | 14 |
| 71 | Electrochemical and biocompatibility examinations of highâ€pressure torsion processed titanium and T iâ€“13 N bâ€“13 Z r alloy. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2018, 106, 1097-1107. | 3.4 | 13 |
| 72 | Crack path identification in a nanostructured pearlitic steel using atom probe tomography. Scripta Materialia, 2018, 142, 66-69. | 5.2 | 13 |

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|---|---|---|---|
| 73 | Microstructures, Mechanical Properties, and Corrosion Behaviors of Refractory High-Entropy ReTaWNbMo Alloys. Journal of Materials Engineering and Performance, 2020, 29, 399-409. | 2.5 | 13 |
| 74 | An SEM compatible plasma cell for in situ studies of hydrogen-material interaction. Review of Scientific Instruments, 2020, 91, 043705. | 1.3 | 13 |
| 75 | Deformation and fracture characteristics of ultrafine-grained vanadium. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 650, 492-496. | 5.6 | 12 |
| 76 | Introduction of Planar High Pressure Torsion (Pâ€HPT) for Fabrication of Nanostructured Sheets. Advanced Engineering Materials, 2018, 20, 1800050. | 3.5 | 12 |
| 77 | High pressure torsion processing of maraging steel 250: Microstructure and mechanical behaviour evolution. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 802, 140665. | 5.6 | 12 |
| 78 | A novel laboratory test rig for probing the sensitivity of rail steels to RCF and wear â€“ first experimental results. Wear, 2014, 316, 101-108. | 3.1 | 11 |
| 79 | Anisotropy of Tensile and Fracture Behavior of Pure Titanium after Hydrostatic Extrusion. Materials Transactions, 2019, 60, 2160-2167. | 1.2 | 11 |
| 80 | Grain refinement effect on the Ti-45Nb alloy electrochemical behavior in simulated physiological solution. Surface and Coatings Technology, 2021, 423, 127609. | 4.8 | 11 |
| 81 | Influence of cold rolling on the fatigue crack growth behavior of tungsten. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2021, 805, 140791. | 5.6 | 10 |
| 82 | The Role of Phase Hardness Differential on the Non-uniform Elongation of a Ferrite-Martensite Dual Phase Steel. Metallurgical and Materials Transactions A: Physical Metallurgy and Materials Science, 2021, 52, 4018-4032. | 2.2 | 10 |
| 83 | Prediction of effective mode II fatigue crack growth threshold for metallic materials. Engineering Fracture Mechanics, 2017, 174, 117-126. | 4.3 | 9 |
| 84 | Optimizing mechanical properties of Fe26.7Co26.7Ni26.7Si8.9B11 high entropy alloy by inducing hypoeutectic to quasi-duplex microstructural transition. Scientific Reports, 2019, 9, 360. | 3.3 | 9 |
| 85 | Quasi-static and dynamic fracture toughness of a Î³-TiAl alloy: Measurement techniques, fractography and interpretation. Engineering Fracture Mechanics, 2021, 258, 108081. | 4.3 | 9 |
| 86 | Structural anisotropy in equal-channel angular extruded nickel revealed by dilatometric study of excess volume. International Journal of Materials Research, 2017, 108, 81-88. | 0.3 | 8 |
| 87 | Mechanical Behavior and In Vitro Corrosion of Cubic Scaffolds of Pure Magnesium Processed by Severe Plastic Deformation. Metals, 2021, 11, 1791. | 2.3 | 8 |
| 88 | Fatigue Crack Growth Behavior of Ultrafine-grained Nickel Produced by High Pressure Torsion. , 2014, 3, 1044-1049. | | 7 |
| 89 | Electron Irradiation Effects on Strength and Ductility of Polymer Foils Studied by Femtosecond Laser-Processed Micro-Tensile Specimens. Materials, 2019, 12, 1468. | 2.9 | 7 |
| 90 | Corrosion in Hank's Solution and Mechanical Strength of Ultrafineâ€Grained Pure Iron. Advanced Engineering Materials, 2020, 22, 2000183. | 3.5 | 7 |

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| 91 | Extracting information from noisy data: strain mapping during dynamic in situ SEM experiments. Journal of Materials Research, 2021, 36, 2291-2304. | 2.6 | 7 |
| 92 | Fracture of severely plastically deformed Ta and Nb. International Journal of Refractory Metals and Hard Materials, 2017, 64, 143-150. | 3.8 | 6 |
| 93 | Strength and ductility of heavily deformed pearlitic microstructures. IOP Conference Series: Materials Science and Engineering, 2017, 219, 012003. | 0.6 | 6 |
| 94 | Achieving 1 GPa fatigue strength in nanocrystalline 316L steel through recovery annealing. Scripta Materialia, 2022, 217, 114773. | 5.2 | 6 |
| 95 | An Overview on the Fracture Behavior of Metals Processed by High Pressure Torsion. Materials Science Forum, 2010, 667-669, 671-676. | 0.3 | 4 |
| 96 | The corrosion resistance in artificial saliva of titanium and Ti-13Nb-13Zr alloy processed by high pressure torsion. Procedia Structural Integrity, 2018, 13, 1834-1839. | 0.8 | 4 |
| 97 | Microstructure, strength and fracture toughness of CuNb nanocomposites processed with high pressure torsion using multi-sector disks. Scripta Materialia, 2020, 189, 48-52. | 5.2 | 4 |
| 98 | Influence of grain aspect-ratio on the fracture properties of ultrafine-grained tantalum. Materials and Design, 2022, 216, 110545. | 7.0 | 4 |
| 99 | Deformation-induced medium-range order changes in bulk metallic glasses. Physical Review Materials, 2022, 6, . | 2.4 | 4 |
| 100 | Crack path investigations in a pearlitic rail steel after pre-deformation under cyclic Mode-II loading. Engineering Failure Analysis, 2022, 140, 106567. | 4.0 | 4 |
| 101 | 3D Morphology of Fracture Surfaces Created by Mixed-mode II+III Fatigue Loading in Metallic Materials. Procedia Engineering, 2014, 74, 74-77. | 1.2 | 3 |
| 102 | Internal stress and defect-related free volume in submicrocrystalline Ni studied by neutron diffraction and difference dilatometry. Philosophical Magazine Letters, 2017, 97, 450-458. | 1.2 | 3 |
| 103 | Influence of Secondary Phase on Intrinsic Threshold and Path of Shear-Mode Fatigue Cracks in Metals. Acta Physica Polonica A, 2018, 134, 699-702. | 0.5 | 3 |
| 104 | Load history effects on fatigue crack propagation: Its effect on the R-curve for threshold. Frattura Ed Integrita Strutturale, 2015, 9, 209-214. | 0.9 | 3 |
| 105 | Fatigue crack growth of deformed pearlitic rail steels under multiaxial loading. Procedia Structural Integrity, 2022, 39, 313-326. | 0.8 | 3 |
| 106 | Soft Magnetic Properties of Ultra-Strong and Nanocrystalline Pearlitic Wires. Nanomaterials, 2022, 12, 23. | 4.1 | 3 |
| 107 | Microstructural Impact on Fatigue Crack Growth Behavior of Alloy 718. Metals, 2022, 12, 710. | 2.3 | 3 |
| 108 | Microstructure and Failure Characteristics of Nanostructured Molybdenumâ€“Copper Composites. Advanced Engineering Materials, 2020, 22, 1900474. | 3.5 | 2 |

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|---|---|---|---|
| 109 | The beneficial effect of rolling on the fracture toughness and R-curve behavior of pure tungsten. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2022, 838, 142756. | 5.6 | 2 |
| 110 | Effects of microstructure and crystallography on crack path and intrinsic resistance to shear-mode fatigue crack growth. Frattura Ed Integrita Strutturale, 2015, 9, . | 0.9 | 1 |
| 111 | Fatigue Crack-Growth Properties of SPD-Metals. Structural Integrity, 2019, , 347-349. | 1.4 | 1 |
| 112 | Fracture of severely plastically deformed titanium. Materials Letters, 2021, 309, 131382. | 2.6 | 1 |
| 113 | Effect of a single overload on the cyclic R-curve behaviour of a Î³-TiAl TNM alloy. International Journal of Fatigue, 2022, 163, 107083. | 5.7 | 1 |
| 114 | Nanostructured Metallic Materials and Composites: Processes, Properties and Microstructures. Advanced Engineering Materials, 2019, 21, 1801073. | 3.5 | 0 |
| 115 | Propagation of Long Fatigue Cracks under Remote Modes II and III in Ferritic-Pearlitic Steel. Acta Physica Polonica A, 2015, 128, 611-614. | 0.5 | 0 |