# Dana ZÃ¶llner

List of Publications by Year
in descending order



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|---|---|---|---|
| 62 papers | 1,186 citations | 361296 20 h-index | 434063 31 g-index |
| 64 all docs | 64 docs citations | 64 times ranked | 844 citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Three-dimensional normal grain growth: Monte Carlo Potts model simulation and analytical mean field theory. Scripta Materialia, 2006, 54, 1697-1702. | 2.6 | 102 |
| 2 | Self-similar mesostructure evolution of the growing mollusc shell reminiscent of thermodynamically driven grain growth. Nature Materials, 2014, 13, 1102-1107. | 13.3 | 72 |
| 3 | A new point of view to determine the simulation temperature for the Potts model simulation of grain growth. Computational Materials Science, 2014, 86, 99-107. | 1.4 | 62 |
| 4 | A Potts model for junction limited grain growth. Computational Materials Science, 2011, 50, 2712-2719. | 1.4 | 61 |
| 5 | Control of biosilica morphology and mechanical performance by the conserved diatom gene Silicanin-1. Communications Biology, 2019, 2, 245. | 2.0 | 51 |
| 6 | Evolution equations and size distributions in nanocrystalline grain growth. Acta Materialia, 2011, 59, 4235-4243. | 3.8 | 48 |
| 7 | Effective growth law from three-dimensional grain growth simulations and new analytical grain size distribution. Scripta Materialia, 2006, 55, 461-464. | 2.6 | 47 |
| 8 | The envelope of size distributions in Ostwald ripening and grain growth. Acta Materialia, 2015, 88, 334-345. | 3.8 | 42 |
| 9 | Crystal growth kinetics as an architectural constraint on the evolution of molluscan shells. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 20388-20397. | 3.3 | 39 |
| 10 | Critical assessment 30: Grain growth â€“ Unresolved issues. Materials Science and Technology, 2018, 34, 629-638. | 0.8 | 36 |
| 11 | Shedding some light on the early grain growth regime: About the effect of the initial microstructure on normal grain growth. Computational Materials Science, 2016, 113, 11-20. | 1.4 | 28 |
| 12 | Triple junction controlled grain growth in two-dimensional polycrystals and thin films: Self-similar growth laws and grain size distributions. Acta Materialia, 2014, 78, 114-124. | 3.8 | 27 |
| 13 | Materials Nanoarchitecturing via Cationâ€Mediated Protein Assembly: Making Limpet Teeth without Mineral. Advanced Materials, 2017, 29, 1701171. | 11.1 | 27 |
| 14 | Thermodynamic Aspects of Molluscan Shell Ultrastructural Morphogenesis. Advanced Functional Materials, 2017, 27, 1700506. | 7.8 | 27 |
| 15 | Biomineralization as a Paradigm of Directional Solidification: A Physical Model for Molluscan Shell Ultrastructural Morphogenesis. Advanced Materials, 2018, 30, e1803855. | 11.1 | 27 |
| 16 | On the Aboavâ€“Weaire-law for junction limited grain growth in two dimensions. Computational Materials Science, 2013, 79, 759-762. | 1.4 | 25 |
| 17 | Investigating the von Neumannâ€“Mullins relation under triple junction dragging. Acta Materialia, 2014, 70, 290-297. | 3.8 | 23 |
| 18 | Shaping highly regular glass architectures: A lesson from nature. Science Advances, 2017, 3, eaao2047. | 4.7 | 23 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Grain microstructure evolution in two-dimensional polycrystals under limited junction mobility. Scripta Materialia, 2012, 67, 41-44. | 2.6 | 22 |
| 20 | Grain microstructural evolution in 2D and 3D polycrystals under triple junction energy and mobility control. Computational Materials Science, 2016, 118, 325-337. | 1.4 | 21 |
| 21 | 3D microstructural evolution of primary recrystallization and grain growth in cold rolled single-phase aluminum alloys. Modelling and Simulation in Materials Science and Engineering, 2018, 26, 035011. | 0.8 | 21 |
| 22 | Treating grain growth in thin films in three dimensions: A simulation study. Computational Materials Science, 2016, 125, 51-60. | 1.4 | 17 |
| 23 | Finite Element Analysis as a Method to Study Molluscan Shell Mechanics. Advanced Engineering Materials, 2018, 20, 1700939. | 1.6 | 16 |
| 24 | High-Throughput Segmentation of Tiled Biological Structures using Random-Walk Distance Transforms. Integrative and Comparative Biology, 2019, 59, 1700-1712. | 0.9 | 16 |
| 25 | Quantification of sheet nacre morphogenesis using X-ray nanotomography and deep learning. Journal of Structural Biology, 2020, 209, 107432. | 1.3 | 16 |
| 26 | Natural hybrid silica/protein superstructure at atomic resolution. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 31088-31093. | 3.3 | 16 |
| 27 | Dynamics of topological defects and structural synchronization in a forming periodic tissue. Nature Physics, 2021, 17, 410-415. | 6.5 | 16 |
| 28 | Morphological and textural evolution of the prismatic ultrastructure in mollusc shells: A comparative study of Pinnidae species. Acta Biomaterialia, 2019, 85, 272-281. | 4.1 | 15 |
| 29 | Topological changes in coarsening networks. Acta Materialia, 2017, 130, 147-154. | 3.8 | 14 |
| 30 | Crystallization by Amorphous Particle Attachment: On the Evolution of Texture. Advanced Materials, 2021, 33, e2101358. | 11.1 | 13 |
| 31 | Computer Simulations and Statistical Theory of Normal Grain Growth in Two and Three Dimensions. Materials Science Forum, 2004, 467-470, 1129-1136. | 0.3 | 12 |
| 32 | Morphogenesis of Biomineralized Calcitic Prismatic Tissue in Mollusca Fully Described by Classical Hierarchical Grain Boundary Motion. Crystal Growth and Design, 2017, 17, 5023-5027. | 1.4 | 12 |
| 33 | Modelling texture dependent grain growth by 2D Potts model simulations: A detailed analysis. Computational Materials Science, 2018, 155, 180-196. | 1.4 | 12 |
| 34 | Grain Size Distributions in Normal Grain Growth. Praktische Metallographie/Practical Metallography, 2010, 47, 618-639. | 0.1 | 12 |
| 35 | Topology of grain microstructures in two dimensions: a comparison of grain boundary and triple junction controlled grain growth. Modelling and Simulation in Materials Science and Engineering, 2014, 22, 025028. | 0.8 | 11 |
| 36 | On the topology and size advantage of potentially abnormal grains. Computational Materials Science, 2018, 153, 382-391. | 1.4 | 11 |

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|---|---|---|---|
| 37 | Texture Controlled Grain Growth inÂThin Films Studied byÂ3D Potts Model. Advanced Theory and Simulations, 2019, 2, 1900064. | 1.3 | 10 |
| 38 | Phase-Field Modeling of Biomineralization in Mollusks and Corals: Microstructure vs Formation Mechanism. Jacs Au, 2021, 1, 1014-1033. | 3.6 | 10 |
| 39 | The Kinetics of Individual Grains in Polycrystalline Materials. Praktische Metallographie/Practical Metallography, 2012, 49, 428-445. | 0.1 | 10 |
| 40 | von Neumannâ€“Mullins-type evolution equations for triple and quadruple junction controlled grain growth. Scripta Materialia, 2015, 109, 52-55. | 2.6 | 9 |
| 41 | Coarsening kinetics and the envelope theorem. Acta Materialia, 2016, 111, 210-219. | 3.8 | 9 |
| 42 | Influence of the local topology on the von Neumann-Mullins-relation. Computational Materials Science, 2017, 137, 67-74. | 1.4 | 8 |
| 43 | Static recrystallization and grain growth of accumulative roll bonded aluminum laminates. Journal of Materials Research, 2017, 32, 4503-4513. | 1.2 | 8 |
| 44 | Topological transitions: A topological random walk or pure geometric necessity?. Computational Materials Science, 2019, 166, 42-56. | 1.4 | 7 |
| 45 | A phenomenological approach to investigate nanocrystalline grain growth. Computational Materials Science, 2014, 92, 114-119. | 1.4 | 6 |
| 46 | Triple junction controlled grain growth in thin films. Computational Materials Science, 2021, 187, 110104. | 1.4 | 6 |
| 47 | Wet shells and dry tales: the evolutionary â€˜Just-Soâ€™ stories behind the structureâ€“function of biominerals. Journal of the Royal Society Interface, 2022, 19, . | 1.5 | 6 |
| 48 | Grain Size Distributions and Evolution Equations in Nanocrystalline Grain Growth. Materials Science Forum, 2012, 715-716, 806-811. | 0.3 | 5 |
| 49 | Biomineralized tissue formation as an archetype of ideal grain growth. Materials Horizons, 2019, 6, 751-757. | 6.4 | 5 |
| 50 | The role of mural mechanics on cephalopod palaeoecology. Journal of the Royal Society Interface, 2020, 17, 20200009. | 1.5 | 5 |
| 51 | Topological evolution of thin films during grain growth. Computational Materials Science, 2021, 200, 110803. | 1.4 | 5 |
| 52 | Self-Similarity as a Feature of Nanocrystalline Grain Growth. Materials Science Forum, 2013, 753, 349-352. | 0.3 | 4 |
| 53 | Studying the influence of triple junction energy and mobility on annealing processes. IOP Conference Series: Materials Science and Engineering, 2015, 89, 012061. | 0.3 | 4 |
| 54 | Influence of subgrain boundaries on coarsening of grain structures. IOP Conference Series: Materials Science and Engineering, 2017, 194, 012049. | 0.3 | 4 |

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|---|---|---|---|
| 55 | Growth History of Individual Grains in Polycrystals: Theoretical Model and Simulation Studies. Materials Science Forum, 2012, 715-716, 877-882. | 0.3 | 3 |
| 56 | Serial sectioning of grain microstructures under junction control: An old problem in a new guise. IOP Conference Series: Materials Science and Engineering, 2015, 82, 012080. | 0.3 | 3 |
| 57 | Grain Growth. , 2016, , . | | 3 |
| 58 | Abnormal grain growth in thin wires of commercially pure iron with anisotropic microstructure. Journal of Materials Research and Technology, 2020, 9, 11099-11110. | 2.6 | 3 |
| 59 | Impact of a strong temperature gradient on grain growth in films. Modelling and Simulation in Materials Science and Engineering, 2022, 30, 025010. | 0.8 | 3 |
| 60 | Untangling the mechanisms of lattice distortions in biogenic crystals across scales. Advanced Materials, 2022, , 2200690. | 11.1 | 3 |
| 61 | Topology Based Growth Law and New Analytical Grain Size Distribution Function of 3D Grain Growth. Materials Science Forum, 2007, 558-559, 1183-1188. | 0.3 | 1 |
| 62 | Potts Model Simulation of Grain Boundary Junction Limited Grain Growth. Materials Science Forum, 2012, 715-716, 623-628. | 0.3 | 1 |