

# Roland KrÄger

## List of Publications by Year in descending order

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74  
papers

2,489  
citations

257450

24  
h-index

206112

48  
g-index

78  
all docs

78  
docs citations

78  
times ranked

3980  
citing authors

#	ARTICLE	IF	CITATIONS
1	Fractal-like hierarchical organization of bone begins at the nanoscale. <i>Science</i> , 2018, 360, .	12.6	390
2	An artificial biomineral formed by incorporation of copolymer micelles in calcite crystals. <i>Nature Materials</i> , 2011, 10, 890-896.	27.5	248
3	Protein sequences bound to mineral surfaces persist into deep time. <i>ELife</i> , 2016, 5, .	6.0	176
4	Enhanced oxidation of nanoparticles through strain-mediated ionic transport. <i>Nature Materials</i> , 2014, 13, 26-30.	27.5	110
5	Capillarity Creates Single-Crystal Calcite Nanowires from Amorphous Calcium Carbonate. <i>Angewandte Chemie - International Edition</i> , 2011, 50, 12572-12577.	13.8	90
6	Investigations of voids in the aragonite platelets of nacre. <i>Acta Biomaterialia</i> , 2009, 5, 3038-3044.	8.3	88
7	The versatility of hot-filament activated chemical vapor deposition. <i>Thin Solid Films</i> , 2006, 515, 1017-1024.	1.8	65
8	Magnesium segregation and the formation of pyramidal defects in p-GaN. <i>Applied Physics Letters</i> , 2002, 81, 4748-4750.	3.3	62
9	Crystallization of citrate-stabilized amorphous calcium phosphate to nanocrystalline apatite: a surface-mediated transformation. <i>CrystEngComm</i> , 2016, 18, 3170-3173.	2.6	60
10	Medieval women's early involvement in manuscript production suggested by lapis lazuli identification in dental calculus. <i>Science Advances</i> , 2019, 5, eaau7126.	10.3	52
11	Mass and optical emission spectroscopy of plasmas for diamond synthesis. <i>Pure and Applied Chemistry</i> , 1994, 66, 1195-1205.	1.9	48
12	Correlation of the orientation of stacked aragonite platelets in nacre and their connection via mineral bridges. <i>Ultramicroscopy</i> , 2009, 109, 230-236.	1.9	48
13	Properties of Copper Films Prepared by Chemical Vapor Deposition for Advanced Metallization of Microelectronic Devices. <i>Journal of the Electrochemical Society</i> , 1999, 146, 3248-3254.	2.9	46
14	Plasma induced microstructural, compositional, and resistivity changes in ultrathin chemical vapor deposited titanium nitride films. <i>Journal of Applied Physics</i> , 2002, 91, 5149-5154.	2.5	46
15	Synthesis and Assembly of Monodisperse High-Coercivity Silica-Capped FePt Nanomagnets of Tunable Size, Composition, and Thermal Stability from Microemulsions. <i>Advanced Materials</i> , 2006, 18, 2569-2573.	21.0	46
16	Exchange Bias in Fe@Cr Core-Shell Nanoparticles. <i>Nano Letters</i> , 2013, 13, 3334-3339.	9.1	42
17	Formation and Structure of Calcium Carbonate Thin Films and Nanofibers Precipitated in the Presence of Poly(Allylamine Hydrochloride) and Magnesium Ions. <i>Chemistry of Materials</i> , 2013, 25, 4994-5003.	6.7	39
18	Defect distribution in a-plane GaN on Al <sub>2</sub> O <sub>3</sub> . <i>Applied Physics Letters</i> , 2007, 90, 121915.	3.3	35

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19	Preparation of hydrosol suspensions of elemental and core-shell nanoparticles by co-deposition with water vapour from the gas-phase in ultra-high vacuum conditions. <i>Journal of Nanoparticle Research</i> , 2012, 14, 1.	1.9	33
20	An Oligomeric C-RING Nacre Protein Influences Prenucleation Events and Organizes Mineral Nanoparticles. <i>Biochemistry</i> , 2014, 53, 7259-7268.	2.5	33
21	Green monolithic $\text{InGaAsP}$ vertical-cavity surface-emitting laser operating at room temperature. <i>Physica Status Solidi (B): Basic Research</i> , 2004, 241, 731-738.	1.5	32
22	Surfactant-mediated epitaxy of Ge on Si(111): Beyond the surface. <i>Applied Physics Letters</i> , 2005, 86, 111910.	3.3	31
23	Colloidal Synthesis of Pt Nanoparticles: On the Formation and Stability of Nanowires. <i>Langmuir</i> , 2008, 24, 9011-9016.	3.5	31
24	In situ mechanical and molecular investigations of collagen/apatite biomimetic composites combining Raman spectroscopy and stress-strain analysis. <i>Acta Biomaterialia</i> , 2016, 46, 278-285.	8.3	29
25	Liquid Cell Transmission Electron Microscopy and the Impact of Confinement on the Precipitation from Supersaturated Solutions. <i>Minerals (Basel, Switzerland)</i> , 2018, 8, 21.	2.0	29
26	Synergistic Biomineralization Phenomena Created by a Combinatorial Nacre Protein Model System. <i>Biochemistry</i> , 2016, 55, 2401-2410.	2.5	25
27	Metal pollution as a potential threat to shell strength and survival in marine bivalves. <i>Science of the Total Environment</i> , 2021, 755, 143019.	8.0	25
28	On demand-triggered crystallization of $\text{CaCO}_3$ from solute precursor species stabilized by the water-in-oil microemulsion. <i>Physical Chemistry Chemical Physics</i> , 2018, 20, 13825-13835.	2.8	24
29	On Biomineralization: Enzymes Switch on Mesocrystal Assembly. <i>ACS Central Science</i> , 2019, 5, 357-364.	11.3	24
30	In situ electron microscopy studies of calcium carbonate precipitation from aqueous solution with and without organic additives. <i>Journal of Structural Biology</i> , 2013, 183, 270-277.	2.8	23
31	Trace and major element incorporation into amorphous calcium carbonate (ACC) precipitated from seawater. <i>Geochimica Et Cosmochimica Acta</i> , 2020, 290, 293-311.	3.9	23
32	Testing the effect of bleaching on the bivalve <i>Glycymeris</i> : A case study of amino acid geochronology on key Mediterranean raised beach deposits. <i>Quaternary Geochronology</i> , 2015, 25, 49-65.	1.4	22
33	Biomineralization of a titanium-modified hydroxyapatite semiconductor on conductive wool fibers. <i>Journal of Materials Chemistry B</i> , 2017, 5, 7608-7621.	5.8	21
34	The Characteristics and Biological Relevance of Inorganic Amorphous Calcium Carbonate (ACC) Precipitated from Seawater. <i>Crystal Growth and Design</i> , 2019, 19, 4300-4313.	3.0	20
35	Engineering of crystal surfaces and subsurfaces by framework biomineralization protein phases. <i>CrystEngComm</i> , 2014, 16, 7406-7409.	2.6	19
36	Optical Gain of CdSe Quantum Dot Stacks. <i>Physica Status Solidi A</i> , 2002, 190, 593-597.	1.7	17

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37	ZnSe-based laser diodes: New approaches. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2005, 2, 1098-1105.	0.8	17
38	Ultrastructure and Crystallography of Nanoscale Calcite Building Blocks in <i>Rhabdosphaera clavigera</i> Coccolith Spines. <i>Crystal Growth and Design</i> , 2014, 14, 1710-1718.	3.0	17
39	Polar and nonpolar HVPE GaN substrates: impact of doping on the structural, electrical and optical characteristics. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2009, 6, S344.	0.8	16
40	Glycans modify mesenchymal stem cell differentiation to impact the function of resulting osteoblasts. <i>Journal of Cell Science</i> , 2018, 131, .	2.0	16
41	The role of kinetics in the nucleation and void formation in copper films produced by chemical vapor deposition. <i>Journal of Applied Physics</i> , 2000, 88, 1867-1872.	2.5	15
42	Control of gas phase nanoparticle shape and its effect on MRI relaxivity. <i>Materials Research Express</i> , 2015, 2, 035002.	1.6	15
43	Capacitance-Assisted Sustainable Electrochemical Carbon Dioxide Mineralisation. <i>ChemSusChem</i> , 2018, 11, 137-148.	6.8	15
44	Influence of diffusion barriers on the nucleation and growth of CVD Cu for interconnect applications. <i>Microelectronic Engineering</i> , 2000, 50, 375-381.	2.4	14
45	Determination of the anisotropic optical properties for perfluorinated vanadyl phthalocyanine thin films. <i>Journal of Materials Research</i> , 2004, 19, 2008-2013.	2.6	14
46	The role of the growth temperature for the SiN interlayer deposition in GaN. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2003, 0, 2039-2042.	0.8	13
47	Hierarchical organization of bone in three dimensions: A twist of twists. <i>Journal of Structural Biology: X</i> , 2022, 6, 100057.	1.3	13
48	Enhanced Diamond Film Growth by Hot-Filament CVD Using Forced Convection. <i>Physica Status Solidi A</i> , 1996, 154, 33-42.	1.7	12
49	Ion binding and nucleation. <i>Nature Materials</i> , 2015, 14, 369-370.	27.5	11
50	Semiconductor-Metal Nanofloret Hybrid Structures by Self-Processing Synthesis. <i>Journal of the American Chemical Society</i> , 2016, 138, 4079-4086.	13.7	11
51	Optoelectronic devices on bulk GaN. <i>Journal of Crystal Growth</i> , 2005, 281, 101-106.	1.5	9
52	Misleading residues on lithics from Star Carr: Identification with Raman microspectroscopy. <i>Journal of Archaeological Science: Reports</i> , 2018, 19, 430-438.	0.5	9
53	Shape-controlled synthesis and <i>in situ</i> characterisation of anisotropic Au nanomaterials using liquid cell transmission electron microscopy. <i>Nanoscale</i> , 2019, 11, 16801-16809.	5.6	9
54	Correlation between Anisotropy and Lattice Distortions in Single Crystal Calcite Nanowires Grown in Confinement. <i>Small</i> , 2014, 10, 2697-2702.	10.0	8

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55	A Unique Engraved Shale Pendant from the Site of Star Carr: the oldest Mesolithic art in Britain. <i>Internet Archaeology</i> , 2016, , .	0.4	8
56	Relaxation in crack-free AlN/GaN superlattices. <i>Physica Status Solidi (B): Basic Research</i> , 2006, 243, 1533-1536.	1.5	7
57	Structural investigation of growth and dissolution of nano-islands grown by molecular beam epitaxy. <i>Journal of Crystal Growth</i> , 2008, 310, 748-756.	1.5	7
58	The role of aspartic acid in reducing coral calcification under ocean acidification conditions. <i>Scientific Reports</i> , 2020, 10, 12797.	3.3	7
59	The role of sub-contact layers in the optimization of low-resistivity contacts to p-type GaN. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2004, 1, 2537-2540.	0.8	6
60	Texture and magnetic properties of exchange bias systems. <i>Journal of Applied Physics</i> , 2010, 107, .	2.5	5
61	The application of micro-Raman for the analysis of ochre artefacts from Mesolithic palaeo-lake Flixton. <i>Journal of Archaeological Science: Reports</i> , 2018, 17, 650-656.	0.5	5
62	Enhancing strength in mineralized collagen. <i>Science</i> , 2022, 376, 137-138.	12.6	5
63	Pyramidal Defect Formation in View of Magnesium Segregation. <i>Physica Status Solidi A</i> , 2002, 192, 456-460.	1.7	4
64	Surface Spin Polarization of Fe Nanoclusters. <i>IEEE Transactions on Magnetics</i> , 2010, 46, 1660-1662.	2.1	4
65	Mapping strain gradients in the FIB-structured InGaN/GaN multilayered films with 3D X-ray microbeam. <i>Materials Science &amp; Engineering A: Structural Materials: Properties, Microstructure and Processing</i> , 2010, 528, 52-57.	5.6	4
66	Nanostructure of mouse otoconia. <i>Journal of Structural Biology</i> , 2020, 210, 107489.	2.8	4
67	Investigations concerning the role of hydrogen in the deposition of diamond films. <i>Surface and Coatings Technology</i> , 1993, 59, 310-315.	4.8	3
68	Microstructural study of quantum well degradation in ZnSe-based laser diodes. <i>Physica Status Solidi C: Current Topics in Solid State Physics</i> , 2004, 1, 1005-1009.	0.8	3
69	Structural investigations of spatial correlation of CdSe/ZnSe quantum dot stacks grown by molecular beam epitaxy. <i>Journal of Crystal Growth</i> , 2005, 278, 316-319.	1.5	2
70	Crack free monolithic nitride vertical-cavity surface-emitting laser structures and pillar microcavities. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2006, 203, 1749-1753.	1.8	2
71	Microstructure of Aragonite Platelets in Nacre. <i>Microscopy and Microanalysis</i> , 2009, 15, 900-901.	0.4	1
72	Time-Resolved in situ Raman Spectroscopic Observations of a Biomineralization Model System. <i>Microscopy and Microanalysis</i> , 2019, 25, 826-827.	0.4	1

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73	Mg related Defect Formation during MOVPE Growth of GaN based Films studied by Transmission Electron Microscopy. Materials Research Society Symposia Proceedings, 2001, 693, 110.	0.1	0
74	TEM investigation of defect reduction and etch pit formation in GaN. Materials Research Society Symposia Proceedings, 2003, 798, 484.	0.1	0