

# Robert Zierold

## List of Publications by Year in descending order

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79  
papers

1,934  
citations

257450

24  
h-index

276875

41  
g-index

81  
all docs

81  
docs citations

81  
times ranked

3096  
citing authors

#	ARTICLE	IF	CITATIONS
1	Thermal and electrical signatures of a hydrodynamic electron fluid in tungsten diphosphide. Nature Communications, 2018, 9, 4093.	12.8	163
2	A Practical, Self-Catalytic, Atomic Layer Deposition of Silicon Dioxide. Angewandte Chemie - International Edition, 2008, 47, 6177-6179.	13.8	127
3	Low temperature silicon dioxide by thermal atomic layer deposition: Investigation of material properties. Journal of Applied Physics, 2010, 107, .	2.5	86
4	Experimental evidence for an angular dependent transition of magnetization reversal modes in magnetic nanotubes. Journal of Applied Physics, 2011, 109, .	2.5	82
5	Thermoelectric properties of topological insulator Bi <sub>2</sub> Te <sub>3</sub> , Sb <sub>2</sub> Te <sub>3</sub> , and Bi <sub>2</sub> Se <sub>3</sub> thin film quantum wells. Applied Physics Letters, 2014, 105, .	3.3	75
6	Magnetic characterization of nickel-rich NiFe nanowires grown by pulsed electrodeposition. Journal of Materials Chemistry, 2012, 22, 8549.	6.7	71
7	Changes in Morphology and Ionic Transport Induced by ALD SiO <sub>2</sub> Coating of Nanoporous Alumina Membranes. ACS Applied Materials & Interfaces, 2013, 5, 3556-3564.	8.0	68
8	TiO <sub>2</sub> , SiO <sub>2</sub> , and Al <sub>2</sub> O <sub>3</sub> coated nanopores and nanotubes produced by ALD in etched ion-track membranes for transport measurements. Nanotechnology, 2015, 26, 335301.	2.6	67
9	Chemistry of Shape-Controlled Iron Oxide Nanocrystal Formation. ACS Nano, 2019, 13, 152-162.	14.6	58
10	Laser-Induced Charge Separation in CdSe Nanowires. Nano Letters, 2011, 11, 2672-2677.	9.1	57
11	Impact of the Topological Surface State on the Thermoelectric Transport in Sb <sub>2</sub> Te <sub>3</sub> Thin Films. ACS Nano, 2015, 9, 4406-4411.	14.6	54
12	Toward Brain-on-a-Chip: Human Induced Pluripotent Stem Cell-Derived Guided Neuronal Networks in Tailor-Made 3D Nanoprinted Microscaffolds. ACS Nano, 2020, 14, 13091-13102.	14.6	44
13	Polymer-Assisted Self-Assembly of Superparamagnetic Iron Oxide Nanoparticles into Well-Defined Clusters: Controlling the Collective Magnetic Properties. Langmuir, 2014, 30, 11190-11196.	3.5	41
14	Thermoelectric performance of classical topological insulator nanowires. Semiconductor Science and Technology, 2015, 30, 015015.	2.0	40
15	Magnetic, Multilayered Nanotubes of Low Aspect Ratios for Liquid Suspensions. Advanced Functional Materials, 2011, 21, 226-232.	14.9	36
16	Berry phase and band structure analysis of the Weyl semimetal NbP. Scientific Reports, 2016, 6, 33859.	3.3	36
17	Synthesis of Iron Oxide Nanorods Using a Template Mediated Approach. Chemistry of Materials, 2015, 27, 4914-4917.	6.7	35
18	Thermal radiation transmission and reflection properties of ceramic 3D photonic crystals. Journal of the Optical Society of America B: Optical Physics, 2012, 29, 450.	2.1	32

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19	Constrained Order in Nanoporous Alumina with High Aspect Ratio: Smart Combination of Interference Lithography and Hard Anodization. <i>Advanced Functional Materials</i> , 2014, 24, 1857-1863.	14.9	31
20	Resolving the Dirac cone on the surface of Bi <sub>2</sub> Te <sub>3</sub> topological insulator nanowires by field-effect measurements. <i>Applied Physics Letters</i> , 2014, 104, .	3.3	30
21	Highly porous $\gamma$ -Al <sub>2</sub> O <sub>3</sub> ceramics obtained by sintering atomic layer deposited inverse opals. <i>Ceramics International</i> , 2017, 43, 11260-11264.	4.8	28
22	Composition and diameter modulation of magnetic nanowire arrays fabricated by a novel approach. <i>Nanotechnology</i> , 2018, 29, 065602.	2.6	27
23	Tubular magnetic nanostructures based on glancing angle deposited templates and atomic layer deposition. <i>Physica Status Solidi (B): Basic Research</i> , 2010, 247, 1365-1371.	1.5	25
24	Stacking of Ceramic Inverse Opals with Different Lattice Constants. <i>Journal of the American Ceramic Society</i> , 2012, 95, 2226-2235.	3.8	24
25	Thermoelectric Properties of Band Structure Engineered Topological Insulator (Bi <sub>1-x</sub> Sb <sub>x</sub> ) <sub>2</sub> Te <sub>3</sub> Nanowires. <i>Advanced Energy Materials</i> , 2015, 5, 1500280.	19.5	24
26	Bottom-up Fabrication of Multilayer Stacks of 3D Photonic Crystals from Titanium Dioxide. <i>ACS Applied Materials &amp; Interfaces</i> , 2016, 8, 10466-10476.	8.0	24
27	Intra-wire coupling in segmented Ni/Cu nanowires deposited by electrodeposition. <i>Nanotechnology</i> , 2017, 28, 065709.	2.6	24
28	Harnessing Slow Light in Optoelectronically Engineered Nanoporous Photonic Crystals for Visible Light-Enhanced Photocatalysis. <i>ACS Catalysis</i> , 2021, 11, 12947-12962.	11.2	24
29	Microscaffolds by Direct Laser Writing for Neurite Guidance Leading to Tailor-Made Neuronal Networks. <i>Advanced Biology</i> , 2019, 3, e1800329.	3.0	23
30	Magnetic and electrical characterization of nickel-rich NiFe thin films synthesized by atomic layer deposition and subsequent thermal reduction. <i>Nanotechnology</i> , 2016, 27, 345707.	2.6	22
31	Gate voltage induced phase transition in magnetite nanowires. <i>Applied Physics Letters</i> , 2013, 102, 073112.	3.3	21
32	NMR relaxation unravels interdomain crosstalk of the two domain prolyl isomerase and chaperone SlyD. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2011, 1814, 873-881.	2.3	20
33	Photonic properties of titania inverse opal heterostructures. <i>Optical Materials Express</i> , 2013, 3, 1007.	3.0	20
34	Enhanced structural and phase stability of titania inverse opals. <i>Journal of the European Ceramic Society</i> , 2015, 35, 3103-3109.	5.7	20
35	Preparation and magnetoviscosity of nanotube ferrofluids by viral scaffolding and ALD on porous templates. <i>Physica Status Solidi (B): Basic Research</i> , 2010, 247, 2412-2423.	1.5	19
36	Magnetic characterization and electrical field-induced switching of magnetite thin films synthesized by atomic layer deposition and subsequent thermal reduction. <i>Journal Physics D: Applied Physics</i> , 2014, 47, 485001.	2.8	19

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37	Photonic materials for high-temperature applications: Synthesis and characterization by X-ray ptychographic tomography. <i>Applied Materials Today</i> , 2018, 13, 359-369.	4.3	18
38	Electrochemical Engineering of Nanoporous Materials for Photocatalysis: Fundamentals, Advances, and Perspectives. <i>Catalysts</i> , 2019, 9, 988.	3.5	18
39	Understanding the Growth Mechanisms of Multilayered Systems in Atomic Layer Deposition Process. <i>Chemistry of Materials</i> , 2018, 30, 1971-1979.	6.7	17
40	Long-Range Hexagonal Arrangement of TiO <sub>2</sub> Nanotubes by Soft Lithography-Guided Anodization. <i>Electrochimica Acta</i> , 2016, 203, 51-58.	5.2	16
41	Interfacing human induced pluripotent stem cell-derived neurons with designed nanowire arrays as a future platform for medical applications. <i>Biomaterials Science</i> , 2020, 8, 2434-2446.	5.4	15
42	Strain-induced Dirac state shift in topological insulator Bi <sub>2</sub> Se <sub>3</sub> nanowires. <i>Applied Physics Letters</i> , 2017, 111, 171601.	3.3	14
43	One-dimensional edge transport on the surface of cylindrical Bi <sub>x</sub> Te <sub>3-y</sub> Se <sub>y</sub> nanowires in transverse magnetic fields. <i>Applied Physics Letters</i> , 2015, 107, 181602.	3.3	13
44	A micron-sized nanoporous multifunction sensing device. <i>Physica Status Solidi (A) Applications and Materials Science</i> , 2009, 206, 435-441.	1.8	12
45	Temperature-Dependent Solid-State Reactions With and Without Kirkendall Effect in Al <sub>2</sub> O <sub>3</sub> /ZnO, Fe <sub>2</sub> O <sub>3</sub> /ZnO, and Co <sub>X</sub> O <sub>Y</sub> /ZnO Oxide Thin Film Systems. <i>Advanced Engineering Materials</i> , 2010, 12, 509-516.	3.5	12
46	Low-Temperature Mullite Formation in Ternary Oxide Coatings Deposited by ALD for High-Temperature Applications. <i>Advanced Materials Interfaces</i> , 2017, 4, 1700912.	3.7	12
47	Multisegmented nanotubes by surface-selective atomic layer deposition. <i>Journal of Materials Chemistry C</i> , 2013, 1, 621-625.	5.5	11
48	Symmetry breaking of the surface mediated quantum Hall Effect in Bi <sub>2</sub> Se <sub>3</sub> nanoplates using Fe <sub>3</sub> O <sub>4</sub> substrates. <i>2D Materials</i> , 2017, 4, 015044.	4.4	11
49	Resonant Tunneling Induced Enhancement of Electron Field Emission by Ultra-Thin Coatings. <i>Scientific Reports</i> , 2019, 9, 6840.	3.3	11
50	Approaching Integrated Hybrid Neural Circuits: Axon Guiding on Optically Active Semiconductor Microtube Arrays. <i>Advanced Materials Interfaces</i> , 2016, 3, 1600746.	3.7	10
51	Effects of processing parameters on 3D structural ordering and optical properties of inverse opal photonic crystals produced by atomic layer deposition. <i>International Journal of Ceramic Engineering &amp; Science</i> , 2019, 1, 68-76.	1.2	10
52	Mechanism that governs the electro-optic response of second-order nonlinear polymers on silicon substrates. <i>Optical Materials Express</i> , 2015, 5, 1653.	3.0	9
53	Culturing and patch clamping of Jurkat T cells and neurons on Al <sub>2</sub> O <sub>3</sub> coated nanowire arrays of altered morphology. <i>RSC Advances</i> , 2019, 9, 11194-11201.	3.6	9
54	Temperature and bias-voltage dependence of atomic-layer-deposited HfO <sub>2</sub> -based magnetic tunnel junctions. <i>Applied Physics Letters</i> , 2014, 105, .	3.3	8

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55	Local Magnetic Suppression of Topological Surface States in Bi <sub>2</sub> Te <sub>3</sub> Nanowires. ACS Nano, 2016, 10, 7180-7188.	14.6	8
56	Neurite guidance and neuro-caging on steps and grooves in 2.5 dimensions. Nanoscale Advances, 2020, 2, 5192-5200.	4.6	8
57	Influence of Alumina Addition on the Optical Properties and the Thermal Stability of Titania Thin Films and Inverse Opals Produced by Atomic Layer Deposition. Nanomaterials, 2021, 11, 1053.	4.1	8
58	Improved thermal stability of zirconia macroporous structures via homogeneous aluminum oxide doping and nanostructuring using atomic layer deposition. Journal of the European Ceramic Society, 2021, 41, 4302-4312.	5.7	8
59	Robust neuronal differentiation of human iPSC-derived neural progenitor cells cultured on densely-spaced spiky silicon nanowire arrays. Scientific Reports, 2021, 11, 18819.	3.3	8
60	Electrochemical synthesis of highly ordered nanowires with a rectangular cross section using an in-plane nanochannel array. Nanotechnology, 2014, 25, 504002.	2.6	7
61	Temperature gradient-induced magnetization reversal of single ferromagnetic nanowires. Journal Physics D: Applied Physics, 2017, 50, 494007.	2.8	7
62	Low-Temperature Vapor-Solid Growth of ZnO Nanowhiskers for Electron Field Emission. Coatings, 2019, 9, 698.	2.6	7
63	(Invited) Tailor-Made, Magnetic Nanotubes by Template-Directed Atomic Layer Deposition. ECS Transactions, 2011, 41, 111-121.	0.5	6
64	Nanotomography of Inverse Photonic Crystals Using Zernike Phase Contrast. Microscopy and Microanalysis, 2018, 24, 148-149.	0.4	5
65	A Temperature-Controlled Patch Clamp Platform Demonstrated on Jurkat T Lymphocytes and Human Induced Pluripotent Stem Cell-Derived Neurons. Bioengineering, 2020, 7, 46.	3.5	5
66	Field emission characteristics of ZnO nanowires grown by catalyst-assisted MOCVD on free-standing inorganic nanomembranes. Journal Physics D: Applied Physics, 2022, 55, 255104.	2.8	5
67	Dataset of ptychographic X-ray computed tomography of inverse opal photonic crystals produced by atomic layer deposition. Data in Brief, 2018, 21, 1924-1936.	1.0	4
68	Transparency induced in opals via nanometer thick conformal coating. Scientific Reports, 2019, 9, 11379.	3.3	4
69	Carrier Injection Observed by Interface-Enhanced Raman Scattering from Topological Insulators on Gold Substrates. ACS Applied Materials & Interfaces, 2022, 14, 32625-32633.	8.0	4
70	Culturing human iPSC-derived neural progenitor cells on nanowire arrays: mapping the impact of nanowire length and array pitch on proliferation, viability, and membrane deformation. Nanoscale, 2021, 13, 20052-20066.	5.6	3
71	Ion Selective Transport of Alkali Ions through a Polyelectrolyte Membrane. Advanced Materials Interfaces, 2020, 7, 2000419.	3.7	2
72	Kinetics of the charge ordering in magnetite below the Verwey temperature. Journal of Physics Condensed Matter, 2014, 26, 472202.	1.8	1

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73	Photonic Materials: Low-Temperature Mullite Formation in Ternary Oxide Coatings Deposited by ALD for High-Temperature Applications (Adv. Mater. Interfaces 23/2017). Advanced Materials Interfaces, 2017, 4, 1770122.	3.7	1
74	3D Micro Scaffolds for Tailor-Made Three-Dimensional Neural Network Studies. Biophysical Journal, 2018, 114, 672a-673a.	0.5	1
75	Surface Modification of $\text{V}^{\text{VI}}$ Semiconductors Using Exchange Reactions within ALD Half-Cycles. Advanced Materials Interfaces, 2018, 5, 1701155.	3.7	1
76	Subtractive Low-Temperature Preparation Route for Porous $\text{SiO}_2$ Used for the Catalyst-Assisted Growth of ZnO Field Emitters. Nanomaterials, 2021, 11, 3357.	4.1	1
77	Spin- and Stress-Dependent Electrical Transport in Nanoparticle Supercrystals: Sensing Elastic Properties of Organic Tunnel Barriers via Tunneling Magnetoresistance. Advanced Electronic Materials, 0, , 2200082.	5.1	1
78	Optical Microresonators: Approaching Integrated Hybrid Neural Circuits: Axon Guiding on Optically Active Semiconductor Microtube Arrays (Adv. Mater. Interfaces 24/2016). Advanced Materials Interfaces, 2016, 3, .	3.7	0
79	Solar Cell Nanowires as Approach for Single Cell Direct Activation. Biophysical Journal, 2018, 114, 669a.	0.5	0