

Paul V Braun

List of Publications by Citations

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99
papers

12,209
citations

47
h-index

99
g-index

99
ext. papers

13,249
ext. citations

14.2
avg, IF

6.46
L-index

#	Paper	IF	Citations
99	Force-induced activation of covalent bonds in mechanoresponsive polymeric materials. <i>Nature</i> , 2009 , 459, 68-72	50.4	1211
98	Nanoscale thermal transport. II. 2003-2012. <i>Applied Physics Reviews</i> , 2014 , 1, 011305	17.3	1050
97	Three-dimensional bicontinuous ultrafast-charge and -discharge bulk battery electrodes. <i>Nature Nanotechnology</i> , 2011 , 6, 277-81	28.7	940
96	Molecular manipulation of microstructures: biomaterials, ceramics, and semiconductors. <i>Science</i> , 1997 , 277, 1242-8	33.3	717
95	Bioresorbable silicon electronic sensors for the brain. <i>Nature</i> , 2016 , 530, 71-6	50.4	582
94	Self-Healing Polymer Coatings. <i>Advanced Materials</i> , 2009 , 21, 645-649	24	575
93	Semiconducting superlattices templated by molecular assemblies. <i>Nature</i> , 1996 , 380, 325-328	50.4	472
92	Effects of chemical bonding on heat transport across interfaces. <i>Nature Materials</i> , 2012 , 11, 502-6	27	458
91	High-power lithium ion microbatteries from interdigitated three-dimensional bicontinuous nanoporous electrodes. <i>Nature Communications</i> , 2013 , 4, 1732	17.4	449
90	Electrochemically grown photonic crystals. <i>Nature</i> , 1999 , 402, 603-604	50.4	387
89	Patterned colloidal deposition controlled by electrostatic and capillary forces. <i>Physical Review Letters</i> , 2000 , 84, 2997-3000	7.4	369
88	Thermal conductance of hydrophilic and hydrophobic interfaces. <i>Physical Review Letters</i> , 2006 , 96, 186101	14	321
87	Colloidal metal particles as probes of nanoscale thermal transport in fluids. <i>Physical Review B</i> , 2002 , 66,	3.3	236
86	Three-dimensional metal scaffold supported bicontinuous silicon battery anodes. <i>Nano Letters</i> , 2012 , 12, 2778-83	11.5	229
85	Force-induced redistribution of a chemical equilibrium. <i>Journal of the American Chemical Society</i> , 2010 , 132, 16107-11	16.4	213
84	Glucose-Sensitive Inverse Opal Hydrogels: Analysis of Optical Diffraction Response. <i>Langmuir</i> , 2004 , 20, 3096-3106	4	213
83	Nanostructure Templating in Inorganic Solids with Organic Lyotropic Liquid Crystals. <i>Journal of the American Chemical Society</i> , 1999 , 121, 7302-7309	16.4	206

82	Coaxial electrospinning of self-healing coatings. <i>Advanced Materials</i> , 2010 , 22, 496-9	24	201
81	Multidimensional architectures for functional optical devices. <i>Advanced Materials</i> , 2010 , 22, 1084-101	24	154
80	High power rechargeable batteries. <i>Current Opinion in Solid State and Materials Science</i> , 2012 , 16, 186-198	24	145
79	Holographic patterning of high-performance on-chip 3D lithium-ion microbatteries. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 6573-8	11.5	144
78	CdS mineralization of hexagonal, lamellar, and cubic lyotropic liquid crystals. <i>Materials Research Bulletin</i> , 1999 , 34, 463-469	5.1	125
77	AuPd Metal Nanoparticles as Probes of Nanoscale Thermal Transport in Aqueous Solution. <i>Journal of Physical Chemistry B</i> , 2004 , 108, 18870-18875	3.4	121
76	Exploiting Force Sensitive Spiroprans as Molecular Level Probes. <i>Macromolecules</i> , 2013 , 46, 3746-3752	5.5	109
75	Epitaxial growth of three-dimensionally architected optoelectronic devices. <i>Nature Materials</i> , 2011 , 10, 676-81	27	99
74	Double direct templating of periodically nanostructured ZnS hollow microspheres. <i>Journal of the American Chemical Society</i> , 2005 , 127, 16356-7	16.4	92
73	Fabrication of Three-Dimensional Photonic Crystals Using Multibeam Interference Lithography and Electrodeposition. <i>Advanced Materials</i> , 2009 , 21, 3012-3015	24	87
72	Microcapsules containing suspensions of carbon nanotubes. <i>Journal of Materials Chemistry</i> , 2009 , 19, 6093		87
71	3D Scaffolded Nickel-Tin Li-Ion Anodes with Enhanced Cyclability. <i>Advanced Materials</i> , 2016 , 28, 742-7	24	80
70	Interfacial thermal conductance in spun-cast polymer films and polymer brushes. <i>Applied Physics Letters</i> , 2010 , 97, 011908	3.4	79
69	Solvent Swelling Activation of a Mechanophore in a Polymer Network. <i>Macromolecules</i> , 2014 , 47, 2690-2694	3.4	78
68	Unveiling surface redox charge storage of interacting two-dimensional heteronanosheets in hierarchical architectures. <i>Nano Letters</i> , 2015 , 15, 2269-77	11.5	73
67	Photoelectrochemical behavior of hierarchically structured Si/WO ₃ core-shell tandem photoanodes. <i>Nano Letters</i> , 2014 , 14, 2310-7	11.5	71
66	Molecular imprinting of biomineralized CdS nanostructures: crystallographic control using self-assembled DNA-membrane templates. <i>Journal of the American Chemical Society</i> , 2003 , 125, 11786-7	16.4	71
65	Testing the minimum thermal conductivity model for amorphous polymers using high pressure. <i>Physical Review B</i> , 2011 , 83,	3.3	70

64	Graphene Sandwiched Mesostructured Li-Ion Battery Electrodes. <i>Advanced Materials</i> , 2016 , 28, 7696-7024	9.6	68
63	Lyotropic Liquid Crystals as Nanoreactors for Nanoparticle Synthesis. <i>Chemistry of Materials</i> , 2004 , 16, 2201-2207	9.6	68
62	Quasi-ballistic Electronic Thermal Conduction in Metal Inverse Opals. <i>Nano Letters</i> , 2016 , 16, 2754-61	11.5	65
61	Transparent Self-Healing Polymers Based on Encapsulated Plasticizers in a Thermoplastic Matrix. <i>Advanced Functional Materials</i> , 2011 , 21, 4705-4711	15.6	64
60	Three-Dimensionally Mesostructured Fe ₂ O ₃ Electrodes with Good Rate Performance and Reduced Voltage Hysteresis. <i>Chemistry of Materials</i> , 2015 , 27, 2803-2811	9.6	60
59	Ultralow thermal conductivity in organoclay nanolaminates synthesized via simple self-assembly. <i>Nano Letters</i> , 2013 , 13, 2215-9	11.5	60
58	High Volumetric Capacity Three-Dimensionally Sphere-Caged Secondary Battery Anodes. <i>Nano Letters</i> , 2016 , 16, 4501-7	11.5	58
57	Light-triggered thermal conductivity switching in azobenzene polymers. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 5973-5978	11.5	56
56	High-Performance Mesostructured Organic Hybrid Pseudocapacitor Electrodes. <i>Advanced Functional Materials</i> , 2016 , 26, 903-910	15.6	52
55	Lamellar semiconductor/organic nanostructures from self-assembled templates. <i>Advanced Materials</i> , 1996 , 8, 1022-1025	24	52
54	Cu(2)O inverse woodpile photonic crystals by prism holographic lithography and electrodeposition. <i>Advanced Materials</i> , 2011 , 23, 2749-52	24	48
53	Thermally Functional Liquid Crystal Networks by Magnetic Field Driven Molecular Orientation. <i>ACS Macro Letters</i> , 2016 , 5, 955-960	6.6	47
52	Materials Chemistry in 3D Templates for Functional Photonics. <i>Chemistry of Materials</i> , 2014 , 26, 277-286	9.6	46
51	Hydrothermal fabrication of three-dimensional secondary battery anodes. <i>Advanced Materials</i> , 2014 , 26, 7096-101	24	46
50	Room-Temperature Polydimethylsiloxane-Based Self-Healing Polymers. <i>Chemistry of Materials</i> , 2012 , 24, 4209-4214	9.6	46
49	Roles of anionic and cationic template components in biomineralization of CdS nanorods using self-assembled DNA-membrane complexes. <i>Journal of the American Chemical Society</i> , 2004 , 126, 14157-65	16.4	46
48	Electroplating lithium transition metal oxides. <i>Science Advances</i> , 2017 , 3, e1602427	14.3	45
47	Thin Film Condensation on Nanostructured Surfaces. <i>Advanced Functional Materials</i> , 2018 , 28, 1707000	15.6	42

46	Mesoporous ZnS nanorattles: programmed size selected access to encapsulated enzymes. <i>Nano Letters</i> , 2009 , 9, 1994-8	11.5	42
45	Improved Performance in Fe ₂ O ₃ Conversion Cathodes through Use of a Conductive 3D Scaffold and Al ₂ O ₃ ALD Coating. <i>Advanced Functional Materials</i> , 2017 , 27, 1702783	15.6	38
44	Flexible Transient Optical Waveguides and Surface-Wave Biosensors Constructed from Monocrystalline Silicon. <i>Advanced Materials</i> , 2018 , 30, e1801584	24	36
43	Programming structure into 3D nanomaterials. <i>Materials Today</i> , 2009 , 12, 28-35	21.8	35
42	High Volumetric and Gravimetric Capacity Electrodeposited Mesostructured Sb ₂ O ₃ Sodium Ion Battery Anodes. <i>Small</i> , 2019 , 15, e1900258	11	34
41	Electrode architectures for high capacity multivalent conversion compounds: iron (II and III) fluoride. <i>RSC Advances</i> , 2014 , 4, 6730	3.7	32
40	Rational Design of Hierarchically Open-Porous Spherical Hybrid Architectures for Lithium-Ion Batteries. <i>Advanced Energy Materials</i> , 2019 , 9, 1802816	21.8	32
39	Self-assembly of monodisperse starburst carbon spheres into hierarchically organized nanostructured supercapacitor electrodes. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 9128-33	9.5	30
38	High strength metallic wood from nanostructured nickel inverse opal materials. <i>Scientific Reports</i> , 2019 , 9, 719	4.9	28
37	High capacity 3D structured tin-based electroplated Li-ion battery anodes. <i>Energy Storage Materials</i> , 2019 , 17, 151-156	19.4	28
36	In Operando Strain Measurement of Bicontinuous Silicon-Coated Nickel Inverse Opal Anodes for Li-Ion Batteries. <i>Advanced Energy Materials</i> , 2015 , 5, 1500466	21.8	27
35	Double Direct Templated Hollow ZnS Microspheres Formed on Chemically Modified Silica Colloids. <i>Chemistry of Materials</i> , 2009 , 21, 628-634	9.6	27
34	Modulating Noncovalent Cross-links with Molecular Switches. <i>Journal of the American Chemical Society</i> , 2019 , 141, 3597-3604	16.4	24
33	Performance Modeling and Design of Ultra-High Power Microbatteries. <i>Journal of the Electrochemical Society</i> , 2017 , 164, E3122-E3131	3.9	21
32	Integration of high capacity materials into interdigitated mesostructured electrodes for high energy and high power density primary microbatteries. <i>Journal of Power Sources</i> , 2016 , 315, 308-315	8.9	21
31	Three-dimensionally scaffolded Co ₃ O ₄ nanosheet anodes with high rate performance. <i>Journal of Power Sources</i> , 2015 , 299, 40-48	8.9	19
30	Molecular tailoring of interfacial failure. <i>Langmuir</i> , 2014 , 30, 11096-102	4	19
29	Anisotropic colloidal templating of 3D ceramic, semiconducting, metallic, and polymeric architectures. <i>Advanced Materials</i> , 2014 , 26, 1740-5	24	18

28	Template-Directed Solidification of Eutectic Optical Materials. <i>Advanced Optical Materials</i> , 2018 , 6, 1800871	15
27	Deterministic Design of Chemistry and Mesostructure in Li-Ion Battery Electrodes. <i>ACS Nano</i> , 2018 , 12, 3060-3064	16.7 15
26	Enabling New Classes of Templated Materials through Mesoporous Carbon Colloidal Crystals. <i>Advanced Optical Materials</i> , 2013 , 1, 300-304	8.1 14
25	Holographically defined nanoparticle placement in 3D colloidal crystals. <i>Journal of the American Chemical Society</i> , 2010 , 132, 9958-9	16.4 14
24	Batteries: Knowing when small is better. <i>Nature Nanotechnology</i> , 2014 , 9, 962-3	28.7 13
23	High Full-Electrode Basis Capacity Template-Free 3D Nanocomposite Secondary Battery Anodes. <i>Small</i> , 2015 , 11, 6265-71	11 13
22	Epitaxial Growth of Three-Dimensionally Mesostructured Single-Crystalline Cu ₂ O via Templated Electrodeposition. <i>Chemistry of Materials</i> , 2014 , 26, 7051-7058	9.6 13
21	Electrodeposited high strength, thermally stable spectrally selective rhenium nickel inverse opals. <i>Nanoscale</i> , 2017 , 9, 11187-11194	7.7 12
20	Archimedean lattices emerge in template-directed eutectic solidification. <i>Nature</i> , 2020 , 577, 355-358	50.4 11
19	Size control of cross-linked carboxy-functionalized polystyrene particles: Four orders of magnitude of dimensional versatility. <i>European Polymer Journal</i> , 2018 , 101, 202-210	5.2 11
18	Functional materials and devices by self-assembly. <i>MRS Bulletin</i> , 2020 , 45, 799-806	3.2 11
17	Pack Aluminization Assisted Enhancement of Thermo-mechanical Properties in Nickel Inverse Opal Structures. <i>Chemistry of Materials</i> , 2018 , 30, 1648-1654	9.6 10
16	Self-Healing Polymers 2010 ,	8
15	Epitaxial growth of three dimensionally structured III-V photonic crystal via hydride vapor phase epitaxy. <i>Journal of Applied Physics</i> , 2015 , 118, 224303	2.5 7
14	Natural Nanobiocomposites, Biomimetic Nanocomposites, and Biologically Inspired Nanocomposites 2003 , 155-214	7
13	Reconfigurable nanoscale soft materials. <i>Current Opinion in Solid State and Materials Science</i> , 2019 , 23, 41-49	12 7
12	Force-Modulated Equilibria of Mechanophore-Metal Coordinate Bonds. <i>Chemistry of Materials</i> , 2020 , 32, 3869-3878	9.6 6
11	Template directed assembly of dynamic micellar nanoparticles. <i>Soft Matter</i> , 2011 , 7, 10252	3.6 6

10	High power primary lithium ion microbatteries. <i>Journal of Physics: Conference Series</i> , 2013 , 476, 012087	0.3	3
9	Fiber Electrodes Mesostructured on Carbon Fibers for Energy Storage. <i>ACS Applied Energy Materials</i> ,	6.1	3
8	Ultralow Thermal Conductivity in Nanoporous Crystalline Fe ₃ O ₄ . <i>Journal of Physical Chemistry C</i> , 2021 , 125, 6897-6908	3.8	3
7	Electrodeposition of atmosphere-sensitive ternary sodium transition metal oxide films for sodium-based electrochemical energy storage. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2021 , 118,	11.5	3
6	Enhanced Secondary Battery Anodes Based on Si and Fe ₃ O ₄ Nanoparticle Infilled Monodisperse Carbon Starburst Colloidal Crystals. <i>Particle and Particle Systems Characterization</i> , 2015 , 32, 928-933	3.1	2
5	Programmed size-selected permeation of ssDNA into ZnS mesoporous hollow spheres. <i>Soft Matter</i> , 2012 , 8, 4396	3.6	2
4	Control of lamellar eutectic orientation via template-directed solidification. <i>Acta Materialia</i> , 2019 , 166, 715-722	8.4	2
3	Dendritic nanostructured FeS-based high stability and capacity Li-ion cathodes.. <i>RSC Advances</i> , 2018 , 8, 38745-38750	3.7	2
2	Three-dimensional mesostructured binder-free nickel-based TiO ₂ /RGO lithium-ion battery negative electrodes with enhanced volumetric capacity. <i>Ceramics International</i> , 2021 , 47, 21381-21387	5.1	2
1	Salt Water-Triggered Ionic Cross-Linking of Polymer Composites by Controlled Release of Functional Ions. <i>ACS Omega</i> , 2018 , 3, 16127-16133	3.9	