

# Kenneth H Sandhage

## List of Publications by Year in descending order

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67  
papers

2,989  
citations

172207

29  
h-index

161609

54  
g-index

68  
all docs

68  
docs citations

68  
times ranked

3973  
citing authors

#	ARTICLE	IF	CITATIONS
1	Chemical reduction of three-dimensional silica micro-assemblies into microporous silicon replicas. <i>Nature</i> , 2007, 446, 172-175.	13.7	727
2	High thermal conductivity of chain-oriented amorphous polythiophene. <i>Nature Nanotechnology</i> , 2014, 9, 384-390.	15.6	327
3	Solvent and polymer matrix effects on TIPS-pentacene/polymer blend organic field-effect transistors. <i>Journal of Materials Chemistry</i> , 2012, 22, 5531.	6.7	109
4	Syntheses of Porous Self-Supporting Metal Nanoparticle Assemblies with 3D Morphologies Inherited from Biosilica Templates (Diatom Frustules). <i>Advanced Materials</i> , 2009, 21, 474-478.	11.1	96
5	3D Rutile Titania-Based Structures with Morpho Butterfly Wing Scale Morphologies. <i>Angewandte Chemie - International Edition</i> , 2008, 47, 7921-7923.	7.2	91
6	Thin, Conformal, and Continuous SnO <sub>2</sub> Coatings on Three-Dimensional Biosilica Templates through Hydroxy-Group Amplification and Layer-By-Layer Alkoxide Deposition. <i>Angewandte Chemie - International Edition</i> , 2007, 46, 5724-5727.	7.2	68
7	Anatase assemblies from algae: coupling biological self-assembly of 3-D nanoparticle structures with synthetic reaction chemistry. <i>Chemical Communications</i> , 2004, , 796.	2.2	67
8	Merging Biological Self-Assembly with Synthetic Chemical Tailoring: The Potential for 3-D Genetically Engineered Micro/Nano-Devices (3-D GEMS). <i>International Journal of Applied Ceramic Technology</i> , 2005, 2, 317-326.	1.1	67
9	Three-Dimensional Magnesia-Based Nanocrystal Assemblies Via Low-Temperature Magnesiothermic Reaction of Diatom Microshells. <i>Journal of the American Ceramic Society</i> , 2005, 88, 2005-2010.	1.9	66
10	Direct and Indirect Dissolution of Sapphire in Calcia-Magnesia-Alumina-Silica Melts: Dissolution Kinetics. <i>Journal of the American Ceramic Society</i> , 1990, 73, 3633-3642.	1.9	63
11	Indirect Dissolution of Sapphire into Silicate Melts. <i>Journal of the American Ceramic Society</i> , 1988, 71, 478-489.	1.9	62
12	Protein-Mediated Layer-by-Layer Syntheses of Freestanding Microscale Titania Structures with Biologically Assembled 3-D Morphologies. <i>Chemistry of Materials</i> , 2009, 21, 5704-5710.	3.2	62
13	Biocatalytic Nanoscale Coatings Through Biomimetic Layer-by-Layer Mineralization. <i>Advanced Functional Materials</i> , 2011, 21, 4243-4251.	7.8	61
14	Sol-gel synthesis on self-replicating single-cell scaffolds: applying complex chemistries to nature's 3-D nanostructured templates. <i>Chemical Communications</i> , 2005, , 651.	2.2	60
15	Freestanding monolithic silicon aerogels. <i>Journal of Materials Chemistry</i> , 2012, 22, 16196.	6.7	58
16	Layer-by-Layer Dendritic Growth of Hyperbranched Thin Films for Surface Sol-Gel Syntheses of Conformal, Functional, Nanocrystalline Oxide Coatings on Complex 3D (Bio)silica Templates. <i>Advanced Functional Materials</i> , 2009, 19, 2768-2776.	7.8	55
17	Inkjet catalyst printing and electroless copper deposition for low-cost patterned microwave passive devices on paper. <i>Electronic Materials Letters</i> , 2013, 9, 669-676.	1.0	51
18	Indirect Dissolution of Sapphire into Calcia-Magnesia-Alumina-Silica Melts: Electron Microprobe Analysis of the Dissolution Process. <i>Journal of the American Ceramic Society</i> , 1990, 73, 3643-3649.	1.9	48

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19	Rapid Hydrolysis of Organophosphorous Esters Induced by Nanostructured, Fluorine-Doped Titania Replicas of Diatom Frustules. <i>Journal of the American Ceramic Society</i> , 2007, 90, 1632-1636.	1.9	47
20	Oriented Growth of Al <sub>2</sub> O <sub>3</sub> :ZnO Nanolaminates for Use as Electron-Selective Electrodes in Inverted Polymer Solar Cells. <i>Advanced Functional Materials</i> , 2012, 22, 1531-1538.	7.8	47
21	Free-standing microscale structures of nanocrystalline zirconia with biologically replicable three-dimensional shapes. <i>Journal of Materials Research</i> , 2005, 20, 282-287.	1.2	46
22	Freestanding microscale 3D polymeric structures with biologically-derived shapes and nanoscale features. <i>Journal of Materials Research</i> , 2004, 19, 2541-2545.	1.2	42
23	Three-Dimensional Assemblies of Zirconia Nanocrystals Via Shape-Preserving Reactive Conversion of Diatom Microshells. <i>Journal of the American Ceramic Society</i> , 2006, 89, 694-698.	1.9	42
24	Conversion of Pollen Particles into Three-Dimensional Ceramic Replicas Tailored for Multimodal Adhesion. <i>Chemistry of Materials</i> , 2013, 25, 4529-4536.	3.2	41
25	Biologically Enabled Syntheses of Freestanding Metallic Structures Possessing Subwavelength Pore Arrays for Extraordinary (Surface Plasmon-Mediated) Infrared Transmission. <i>Advanced Functional Materials</i> , 2012, 22, 2550-2559.	7.8	38
26	Identification of peptides capable of inducing the formation of titania but not silica via a subtractive bacteriophage display approach. <i>Journal of Materials Chemistry</i> , 2008, 18, 3871.	6.7	35
27	Roles of thermally-induced vertical phase segregation and crystallization on the photovoltaic performance of bulk heterojunction inverted polymer solar cells. <i>Energy and Environmental Science</i> , 2011, 4, 3456.	15.6	34
28	Rapid Flow-Through Biocatalysis with High Surface Area, Enzyme-Loaded Carbon and Gold-Bearing Diatom Frustule Replicas. <i>Advanced Functional Materials</i> , 2013, 23, 4611-4620.	7.8	32
29	Zn <sub>2</sub> SiO <sub>4</sub> -coated microparticles with biologically-controlled 3D shapes. <i>Physica Status Solidi A</i> , 2005, 202, R105-R107.	1.7	30
30	Syntheses of nanostructured Cu- and Ni-based micro-assemblies with selectable 3-D hierarchical biogenic morphologies. <i>Journal of Materials Chemistry</i> , 2012, 22, 1305-1312.	6.7	28
31	Indirect Dissolution of (Al, Cr) <sub>2</sub> O <sub>3</sub> in CaO-MgO-Al <sub>2</sub> O <sub>3</sub> -SiO <sub>2</sub> (CMAS) Melts. <i>Journal of the American Ceramic Society</i> , 1991, 74, 1941-1954.	1.9	27
32	Manganese-Doped Zinc Orthosilicate-Bearing Phosphor Microparticles with Controlled Three-Dimensional Shapes Derived from Diatom Frustules. <i>Journal of the American Ceramic Society</i> , 2007, 90, 1304-1308.	1.9	25
33	Phosphor Microparticles of Controlled Three-Dimensional Shape from Phytoplankton. <i>Journal of the Electrochemical Society</i> , 2006, 153, H34.	1.3	24
34	Protein-Enabled Layer-by-Layer Syntheses of Aligned, Porous-Wall, High-Aspect-Ratio TiO <sub>2</sub> Nanotube Arrays. <i>Advanced Functional Materials</i> , 2011, 21, 1693-1700.	7.8	24
35	A novel, facile, layer-by-layer substrate surface modification for the fabrication of all-inkjet-printed flexible electronic devices on Kapton. <i>Journal of Materials Chemistry C</i> , 2016, 4, 7052-7060.	2.7	23
36	Containment materials for liquid tin at 1350°C as a heat transfer fluid for high temperature concentrated solar power. <i>Solar Energy</i> , 2018, 164, 47-57.	2.9	20

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37	Morphology-Preserving Conversion of a 3D Bioorganic Template into a Nanocrystalline Multicomponent Oxide Compound. <i>Angewandte Chemie - International Edition</i> , 2010, 49, 7765-7768.	7.2	19
38	High surface area, micro/mesoporous carbon particles with selectable 3-D biogenic morphologies for tailored catalysis, filtration, or adsorption. <i>Energy and Environmental Science</i> , 2011, 4, 3980.	15.6	19
39	Materials "alchemy": Shape-preserving chemical transformation of micro-to-macroscopic 3-D structures. <i>Jom</i> , 2010, 62, 32-43.	0.9	17
40	Three-dimensional magnetite replicas of pollen particles with tailorable and predictable multimodal adhesion. <i>Journal of Materials Chemistry C</i> , 2015, 3, 632-643.	2.7	17
41	Surface modification of bulk titanium substrates for biomedical applications via low-temperature microwave hydrothermal oxidation. <i>Journal of Biomedical Materials Research - Part A</i> , 2018, 106, 782-796.	2.1	16
42	Kinetic mechanism of TiO <sub>2</sub> nanocarving via reaction with hydrogen gas. <i>Journal of Materials Research</i> , 2006, 21, 1822-1829.	1.2	15
43	Enhanced hydrothermal conversion of surfactant-modified diatom microshells into barium titanate replicas. <i>Journal of Materials Research</i> , 2007, 22, 1121-1127.	1.2	13
44	Nanomanufacturing: Direct Fabrication of Arbitrary-Shaped Ferroelectric Nanostructures on Plastic, Glass, and Silicon Substrates ( <i>Adv. Mater.</i> 33/2011). <i>Advanced Materials</i> , 2011, 23, 3740-3740.	11.1	13
45	Intragranular Tungsten/Zirconium Carbide Nanocomposites via a Selective Liquid/Solid Displacement Reaction. <i>Journal of the American Ceramic Society</i> , 2012, 95, 2769-2772.	1.9	13
46	The kinetics of incongruent reduction of tungsten carbide via reaction with a hafnium-copper melt. <i>Acta Materialia</i> , 2009, 57, 3924-3931.	3.8	12
47	3D photoluminescent lanthanide-doped barium titanate structures synthesized by coating and shape-preserving reaction of complex-shaped bioorganic templates. <i>Journal of Materials Chemistry</i> , 2012, 22, 10435.	6.7	12
48	Individually Dispersed Gold Nanoshell-Bearing Cellulose Nanocrystals with Tailorable Plasmon Resonance. <i>Langmuir</i> , 2018, 34, 4427-4436.	1.6	11
49	Magnesiumthermally Formed Porous Silicon Thin Films on Silicon-Insulator Optical Microresonators for High-Sensitivity Detection. <i>Advanced Optical Materials</i> , 2014, 2, 235-239.	3.6	10
50	Tunable multimodal adhesion of 3D, nanocrystalline CoFe <sub>2</sub> O <sub>4</sub> pollen replicas. <i>Bioinspiration and Biomimetics</i> , 2017, 12, 066009.	1.5	10
51	Unlocking the Latent Antimicrobial Potential of Biomimetically Synthesized Inorganic Materials. <i>Advanced Functional Materials</i> , 2013, 23, 4236-4245.	7.8	9
52	Reactive conversion of polycrystalline SnO <sub>2</sub> into single-crystal nanofiber arrays at low oxygen partial pressure. <i>Journal of Materials Research</i> , 2008, 23, 2639-2644.	1.2	8
53	Graphene enhanced wireless sensors. , 2012, , .		7
54	Conversion of porous anodic Al <sub>2</sub> O <sub>3</sub> into freestanding, uniformly aligned, multi-wall TiO <sub>2</sub> nanotube arrays for electrode applications. <i>Journal of Materials Chemistry A</i> , 2013, 1, 128-134.	5.2	6

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55	In situ high-temperature X-ray diffraction analysis of Mg <sub>2</sub> Si formation kinetics via reaction of Mg films with Si single crystal substrates. <i>Intermetallics</i> , 2018, 94, 200-209.	1.8	5
56	Corrosion of Al <sub>2</sub> O <sub>3</sub> /Cr and Ti <sub>2</sub> O <sub>3</sub> /Cr composites in flowing air and CO <sub>2</sub> at 750°C. <i>Corrosion Science</i> , 2021, 179, 109115.	3.0	4
57	3-D Microparticles of BaTiO <sub>3</sub> and Zn <sub>2</sub> SiO <sub>4</sub> Via the Chemical (Sol-Gel, Acetate, or Hydrothermal) Conversion of Biological (Diatom) Templates. <i>Ceramic Engineering and Science Proceedings</i> , 0, , 49-56.	0.1	3
58	Validation of the Porous Medium Approximation for Hydrodynamics Analysis in Compact Heat Exchangers. <i>Journal of Fluids Engineering, Transactions of the ASME</i> , 2022, 144, .	0.8	3
59	Kinetic mechanism of conformal magnesium silicide (Mg <sub>2</sub> Si) film formation via reaction of Si single crystals with Mg vapor. <i>Journal of Materials Science</i> , 2020, 55, 1107-1116.	1.7	2
60	Sequence Specific Morphological Control Over the Formation of Germanium Oxide During Peptide Mediated Synthesis. <i>Ceramic Engineering and Science Proceedings</i> , 0, , 25-32.	0.1	1
61	Corrosion of a dense, co-continuous SiC/Si composite in CO <sub>2</sub> and synthetic air at 750°C. <i>Journal of Materials Research and Technology</i> , 2021, 15, 4852-4859.	2.6	1
62	Perovskite Particles from Phytoplankton. <i>Materials Research Society Symposia Proceedings</i> , 2005, 873, 1.	0.1	0
63	Template Routes to Non-Oxide Ceramic Nano- and Micro-Structures. <i>Materials Research Society Symposia Proceedings</i> , 2006, 921, 1.	0.1	0
64	Titania Nanotubes: Protein-Enabled Layer-by-Layer Syntheses of Aligned, Porous-Wall, High-Aspect-Ratio TiO <sub>2</sub> Nanotube Arrays ( <i>Adv. Funct. Mater.</i> 9/2011). <i>Advanced Functional Materials</i> , 2011, 21, 1537-1537.	7.8	0
65	Gold Nanostructures: Biologically-Enabled Syntheses of Freestanding Metallic Structures Possessing Subwavelength Pore Arrays for Extraordinary (Surface Plasmon-Mediated) Infrared Transmission ( <i>Adv. Funct. Mater.</i> 12/2012). <i>Advanced Functional Materials</i> , 2012, 22, 2655-2655.	7.8	0
66	Biomimetics: Unlocking the Latent Antimicrobial Potential of Biomimetically Synthesized Inorganic Materials ( <i>Adv. Funct. Mater.</i> 34/2013). <i>Advanced Functional Materials</i> , 2013, 23, 4166-4166.	7.8	0
67	Surface-Enhanced Two-Photon Excitation Fluorescence of Various Fluorophores Evaluated Using a Multiphoton Microscope. <i>Journal of Lightwave Technology</i> , 2015, 33, 3446-3452.	2.7	0