Tobias Kraus

List of Publications by Citations

126 papers	3,719 citations	33 h-index	57 g-index
137 ext. papers	4,421 ext. citations	7.9 avg, IF	5.66 L-index

#	Paper	IF	Citations
126	Nanoparticle printing with single-particle resolution. *Nature Nanotechnology*, **2007**, 2, 570-6	28.7	360
125	Controlled particle placement through convective and capillary assembly. *Langmuir*, **2007**, 23, 11513-21	4	282
124	X-ray imaging with scintillator-sensitized hybrid organic photodetectors. *Nature Photonics*, **2015**, 9, 843-848	33.9	184
123	Templated Self-Assembly of Ultrathin Gold Nanowires by Nanoimprinting for Transparent Flexible Electronics. *Nano Letters*, **2016**, 16, 2921-5	11.5	133
122	Advanced coatings on the basis of Si(C)N precursors for protection of steel against oxidation. *Journal of the European Ceramic Society*, **2009**, 29, 2061-2068	6	126
121	Supraparticles: Functionality from Uniform Structural Motifs. *ACS Nano*, **2018**, 12, 5093-5120	16.7	116
120	Mechanism and determinants of nanoparticle penetration through human skin. *Nanoscale*, **2011**, 3, 4989-99	7.9	110
119	Scaled-Out Multilayer Gas–liquid Microreactor with Integrated Velocimetry Sensors. *Industrial & Engineering Chemistry Research*, **2005**, 44, 8997-9013	3.9	94
118	Printing chemical gradients. *Langmuir*, **2005**, 21, 7796-804	4	82
117	Maximizing Transfection Efficiency of Vertically Aligned Silicon Nanowire Arrays. *Advanced Functional Materials*, **2015**, 25, 7215-7225	15.6	81
116	Hierarchical bioinspired adhesive surfaces-a review. *Bioinspiration and Biomimetics*, **2016**, 11, 051001	2.6	79
115	Gold nanoparticle penetration and reduced metabolism in human skin by toluene. *Pharmaceutical Research*, **2011**, 28, 2931-44	4.5	69
114	High-Resolution Inkjet Printing of Quantum Dot Light-Emitting Microdiode Arrays. *Advanced Optical Materials*, **2020**, 8, 1901429	8.1	69
113	Colloidal Stability of Apolar Nanoparticles: The Role of Particle Size and Ligand Shell Structure. *ACS Nano*, **2018**, 12, 5969-5977	16.7	66
112	Nanoparticle clusters with Lennard-Jones geometries. *Nano Letters*, **2012**, 12, 3279-82	11.5	61
111	Closing the Gap Between Self-Assembly and Microsystems Using Self-Assembly, Transfer, and Integration of Particles. *Advanced Materials*, **2005**, 17, 2438-2442	24	61
110	Colloidal Surface Assemblies: Nanotechnology Meets Bioinspiration. *Advanced Functional Materials*, **2013**, 23, 4529-4541	15.6	59

109	Role of the meniscus shape in large-area convective particle assembly. *Langmuir*, **2011**, 27, 8621-33	4	59
108	Dendritic gold nanowire growth observed in liquid with transmission electron microscopy. *Langmuir*, **2013**, 29, 8427-32	4	58
107	Formation Mechanism for Stable Hybrid Clusters of Proteins and Nanoparticles. *ACS Nano*, **2015**, 9, 6696-705	16.7	56
106	Gold nanorods with conjugated polymer ligands: sintering-free conductive inks for printed electronics. *Chemical Science*, **2016**, 7, 4190-4196	9.4	55
105	Particle-Filled PHPS Silazane-Based Coatings on Steel. *International Journal of Applied Ceramic Technology*, **2009**, 6, 373-380	2	52
104	Versatile Particle-Based Route to Engineer Vertically Aligned Silicon Nanowire Arrays and Nanoscale Pores. *ACS Applied Materials & Interfaces*, **2015**, 7, 23717-24	9.5	45
103	Flexible Pseudocapacitive Electrochromics via Inkjet Printing of Additive-Free Tungsten Oxide Nanocrystal Ink. *Advanced Energy Materials*, **2020**, 10, 2000142	21.8	45
102	Dense arrays of uniform submicron pores in silicon and their applications. *ACS Applied Materials & Interfaces*, **2015**, 7, 1160-9	9.5	45
101	Sintering of ultrathin gold nanowires for transparent electronics. *ACS Applied Materials & Interfaces*, **2015**, 7, 7838-42	9.5	44
100	Combined multiphoton imaging-pixel analysis for semiquantitation of skin penetration of gold nanoparticles. *International Journal of Pharmaceutics*, **2011**, 413, 279-82	6.5	42
99	Oriented Gold Nanorods and Gold Nanorod Chains within Smectic Liquid Crystal Topological Defects. *ACS Nano*, **2017**, 11, 6728-6738	16.7	38
98	Pressure-controlled formation of crystalline, Janus, and core-shell supraparticles. *Nanoscale*, **2016**, 8, 13377-84	7.7	38
97	A MACEing silicon: Towards single-step etching of defined porous nanostructures for biomedicine. *Progress in Materials Science*, **2021**, 116, 100636	42.2	38
96	Crystallization mechanisms in convective particle assembly. *Langmuir*, **2012**, 28, 8300-8	4	37
95	An integrated multiphase flow sensor for microchannels. *Experiments in Fluids*, **2004**, 36, 819-832	2.5	37
94	Switching between crystallization and amorphous agglomeration of alkyl thiol-coated gold nanoparticles. *Physical Review Letters*, **2012**, 109, 128302	7.4	34
93	Ordered Mesoporous TiO2 Gyroids: Effects of Pore Architecture and Nb-Doping on Photocatalytic Hydrogen Evolution under UV and Visible Irradiation. *Advanced Energy Materials*, **2018**, 8, 1802566	21.8	32
92	Fabrication of silicon nanowire arrays by near-field laser ablation and metal-assisted chemical etching. *Nanotechnology*, **2016**, 27, 075301	3.4	31

91	Biphasic synthesis of Au@SiO2 core-shell particles with stepwise ligand exchange. *Langmuir*, **2011**, 27, 727-32	4	31
90	Kinetic Control over Self-Assembly of Semiconductor Nanoplatelets. *Nano Letters*, **2020**, 20, 4102-4110	11.5	30
89	Protein Identity and Environmental Parameters Determine the Final Physicochemical Properties of Protein-Coated Metal Nanoparticles. *Journal of Physical Chemistry C*, **2015**, 119, 25482-25492	3.8	28
88	On the behaviour of nanoparticles in oil-in-water emulsions with different surfactants. *Soft Matter*, **2014**, 10, 1696-704	3.6	28
87	PbS quantum dot based hybrid-organic photodetectors for X-ray sensing. *Organic Electronics*, **2016**, 33, 201-206	3.5	28
86	Spinning Hierarchical Gold Nanowire Microfibers by Shear Alignment and Intermolecular Self-Assembly. *ACS Nano*, **2017**, 11, 4934-4942	16.7	27
85	cBN particle filled SiCN precursor coatings. *Advances in Applied Ceramics*, **2009**, 108, 476-482	2.3	27
84	Colloidal Stability of Apolar Nanoparticles: Role of Ligand Length. *Langmuir*, **2018**, 34, 12982-12989	4	26
83	Multivalent bonds in self-assembled bundles of ultrathin gold nanowires. *Physical Chemistry Chemical Physics*, **2016**, 18, 27165-27169	3.6	24
82	Self-Assembled Block Copolymer Electrolytes: Enabling Superior Ambient Cationic Conductivity and Electrochemical Stability. *Chemistry of Materials*, **2019**, 31, 277-285	9.6	24
81	Templated silver nanocube arrays for single-molecule SERS detection. *RSC Advances*, **2013**, 3, 4288	3.7	23
80	Direct Nanoimprinting of a Colloidal Self-Organizing Nanowire Ink for Flexible, Transparent Electrodes. *Advanced Materials Technologies*, **2017**, 2, 1700034	6.8	21
79	An Ambient Temperature Electrolyte with Superior Lithium Ion Conductivity based on a Self-Assembled Block Copolymer. *Chemistry - A European Journal*, **2018**, 24, 8061-8065	4.8	21
78	Characterization of a microfluidic dispensing system for localised stimulation of cellular networks. *Lab on A Chip*, **2006**, 6, 218-29	7.2	20
77	Colloidal Solubility and Agglomeration of Apolar Nanoparticles in Different Solvents. *Nano Letters*, **2019**, 19, 5246-5252	11.5	19
76	Lamellar structures in fluorinated phosphonium ionic liquids: the roles of fluorination and chain length. *Physical Chemistry Chemical Physics*, **2017**, 19, 27251-27258	3.6	19
75	Convective Assembly of a Particle Monolayer. *Langmuir*, **2015**, 31, 13655-63	4	19
74	Colloidal Mechanisms of Gold Nanoparticle Loss in Asymmetric Flow Field-Flow Fractionation. *Analytical Chemistry*, **2016**, 88, 10065-10073	7.8	18

73	Fabrication of metal nanoparticle arrays by controlled decomposition of polymer particles. *Nanotechnology*, **2013**, 24, 085304	3.4	17
72	Enhancement of the antimicrobial properties of orthorhombic molybdenum trioxide by thermal induced fracturing of the hydrates. *Materials Science and Engineering C*, **2016**, 58, 1064-70	8.3	16
71	Ligand-dominated temperature dependence of agglomeration kinetics and morphology in alkyl-thiol-coated gold nanoparticles. *Physical Review E*, **2013**, 87, 062313	2.4	16
70	Microwave Heating of Poly(N-isopropylacrylamide)-Conjugated Gold Nanoparticles for Temperature-Controlled Display of Concanavalin A. *ACS Applied Materials & Interfaces*, **2015**, 7, 27755-64	9.5	16
69	PhysioSkin: Rapid Fabrication of Skin-Conformal Physiological Interfaces **2020**,		16
68	Single-Particle Mass Spectrometry of Titanium and Niobium Carbonitride Precipitates in Steels. *Analytical Chemistry*, **2019**, 91, 943-950	7.8	16
67	Synthesis of Monodisperse Silica Nanoparticles Dispersable in Non-Polar Solvents. *Advanced Engineering Materials*, **2010**, 12, 374-378	3.5	15
66	An interaction-mediating strategy towards enhanced solubility and redox properties of organics for aqueous flow batteries. *Nano Energy*, **2020**, 69, 104464	17.1	15
65	The role of ligands in coinage-metal nanoparticles for electronics. *Beilstein Journal of Nanotechnology*, **2017**, 8, 2625-2639	3	14
64	Ether functionalisation, ion conformation and the optimisation of macroscopic properties in ionic liquids. *Physical Chemistry Chemical Physics*, **2020**, 22, 23038-23056	3.6	13
63	Electron microscopy of nanoparticle superlattice formation at a solid-liquid interface in nonpolar liquids. *Science Advances*, **2020**, 6, eaba1404	14.3	13
62	Thermoresponsive and Photoluminescent Hybrid Silicon Nanoparticles by Surface-Initiated Group Transfer Polymerization of Diethyl Vinylphosphonate. *Angewandte Chemie*, **2014**, 126, 12702-12705	3.6	13
61	Anisotropic nanoparticles as templates for the crystalline structure of an injection-molded isotactic polypropylene/TiO 2 nanocomposite. *Polymer*, **2017**, 130, 161-169	3.9	12
60	Soft Inkjet Circuits **2019**,		12
59	Ultrathin Gold Nanowires for Transparent Electronics: Breaking Barriers. *Procedia Engineering*, **2016** , 141, 152-156		12
58	When Like Destabilizes Like: Inverted Solvent Effects in Apolar Nanoparticle Dispersions. *ACS Nano*, **2020**, 14, 5278-5287	16.7	12
57	Ligand-Dependent Nanoparticle Assembly and Its Impact on the Printing of Transparent Electrodes. *ACS Applied Materials & Interfaces*, **2018**, 10, 6079-6083	9.5	11
56	Thermoresponsive and photoluminescent hybrid silicon nanoparticles by surface-initiated group transfer polymerization of diethyl vinylphosphonate. *Angewandte Chemie - International Edition*, **2014**, 53, 12494-7	16.4	11

55	Precision patterning with luminescent nanocrystal-functionalized beads. *Langmuir*, **2010**, 26, 14294-300	4	11
54	Analysis of polyethylene-particle filled SiCN precursor and the resulting porous ceramics with emphasis on using micro computed tomography. *Journal of the Ceramic Society of Japan*, **2011**, 119, 477-482	1	10
53	Microfluidics/CMOS orthogonal capabilities for cell biology. *Biomedical Microdevices*, **2006**, 8, 159-66	3.7	10
52	Self-assembly of gold nanoparticles at the oil-vapor interface: from mono- to multilayers. *Langmuir*, **2014**, 30, 13176-81	4	9
51	Increased fluorescence of PbS quantum dots in photonic crystals by excitation enhancement. *Applied Physics Letters*, **2017**, 111, 031111	3.4	9
50	Influence of Water on Tribolayer Growth When Lubricating Steel with a Fluorinated Phosphonium Dicyanamide Ionic Liquid. *Lubricants*, **2019**, 7, 27	3.1	8
49	Functional Coatings Based on Preceramic Polymers . *Advanced Engineering Materials*, **2016**, 18, 746-753	3.5	8
48	A Translucent Nanocomposite with Liquid Inclusions of a Responsive Nanoparticle Dispersion. *Advanced Materials*, **2018**, 30, e1803159	24	8
47	Ultrathin gold nanowires for transparent electronics: Soft sintering and temperature stability. *Physica Status Solidi (A) Applications and Materials Science*, **2016**, 213, 2336-2340	1.6	8
46	On the geometric stability of an inorganic nanowire and an organic ligand shell. *Journal of the Mechanics and Physics of Solids*, **2019**, 123, 3-19	5	7
45	Design and Fabrication of Transparent and Stretchable Zinc Ion Batteries. *ACS Applied Energy Materials*, **2021**, 4, 6166-6179	6.1	7
44	Drying of electrically conductive hybrid polymer-gold nanorods studied with in situ microbeam GISAXS. *Nanoscale*, **2019**, 11, 6538-6543	7.7	6
43	Analysis of complex particle mixtures by asymmetrical flow field-flow fractionation coupled to inductively coupled plasma time-of-flight mass spectrometry. *Journal of Chromatography A*, **2021**, 1641, 461981	4.5	6
42	Synthesis and Conjugation of Alkyne-Functional Hyperbranched Polyglycerols. *Macromolecular Chemistry and Physics*, **2016**, 217, 2252-2261	2.6	6
41	Entropy Can Bundle Nanowires in Good Solvents. *Nano Letters*, **2019**, 19, 6993-6999	11.5	5
40	Gyroidal Niobium Sulfide/Carbon Hybrid Monoliths for Electrochemical Energy Storage. *Batteries and Supercaps*, **2019**, 2, 668-672	5.6	5
39	Structure diagram of binary Lennard-Jones clusters. *Journal of Chemical Physics*, **2016**, 145, 024302	3.9	5
38	An improved method for the matrix dissolution extraction of nanoparticles from microalloyed steel. *Journal of Materials Science*, **2019**, 54, 5813-5824	4.3	5

37	Reversible Conductive Inkjet Printing of Healable and Recyclable Electrodes on Cardboard and Paper. *Small*, **2020**, 16, e2000928	11	4
36	Influence of core size and capping ligand of gold nanoparticles on the desorption/ionization efficiency of small biomolecules in AP-SALDI-MS. *Analytical Science Advances*, **2020**, 1, 210-220	1.1	4
35	Ageing of Alkylthiol-Stabilized Gold Nanoparticles. *Particle and Particle Systems Characterization*, **2015**, 32, 458-466	3.1	4
34	Size and shape evolution of PS particle layers during etching. *Bioinspired, Biomimetic and Nanobiomaterials*, **2013**, 2, 130-140	1.3	4
33	Matrix effects on the surface plasmon resonance of dry supported gold nanocrystals. *Optics Letters*, **2008**, 33, 806-8	3	4
32	Microfabricated platforms for the study of neuronal and cellular networks. *Journal of Physics: Conference Series*, **2006**, 34, 1-6	0.3	4
31	Bundling of Nanowires Induced by Unbound Ligand. *Journal of Physical Chemistry C*, **2021**, 125, 3590-3598	3.8	4
30	Plasmon-Coupled Gold Nanoparticles in Stretched Shape-Memory Polymers for Mechanical/Thermal Sensing. *ACS Applied Nano Materials*, **2021**, 4, 3911-3921	5.6	4
29	Reversible magnetism switching of iron oxide nanoparticle dispersions by controlled agglomeration. *Nanoscale Advances*, **2021**, 3, 2822-2829	5.1	4
28	Molecular Origin of Electrical Conductivity in Gold-Polythiophene Hybrid Particle Films. *Journal of Physical Chemistry Letters*, **2020**, 11, 10538-10547	6.4	3
27	Nanorod-Depolarized Dynamic Light Scattering in a Gelling Liquid. *Journal of Physical Chemistry C*, **2012**, 116, 16766-16775	3.8	3
26	Templated Self-Assembly of Particles **2010**, 187-210		3
25	Temperature-induced particle self-assembly. *Journal of Physics and Chemistry of Solids*, **2010**, 71, 95-99	3.9	3
24	Large-Scale Synthesis of Hybrid Conductive Polymer-Gold Nanoparticles Using "Sacrificial" Weakly Binding Ligands for Printing Electronics. *Inorganic Chemistry*, **2021**, 60, 17103-17113	5.1	3
23	Computational design and optimization of electro-physiological sensors. *Nature Communications*, **2021**, 12, 6351	17.4	3
22	Reprint of: A MACEing silicon: Towards single-step etching of defined porous nanostructures for biomedicine. *Progress in Materials Science*, **2021**, 120, 100817	42.2	3
21	Curled cation structures accelerate the dynamics of ionic liquids. *Physical Chemistry Chemical Physics*, **2021**, 23, 21042-21064	3.6	3
20	Hybrid Dielectric Films of Inkjet-Printable Core-Shell Nanoparticles. *Advanced Materials*, **2021**, 33, e2103287	27	3

19	Rapid nanoparticle self-assembly at elevated temperatures. *Nanoscale*, **2018**, 10, 8009-8013	7.7	2
18	Determination of the Surface Facets of Gold Nanorods in Wet-Coated Thin Films with Grazing-Incidence Wide Angle X-Ray Scattering. *Particle and Particle Systems Characterization*, **2019**, 36, 1900323	3.1	2
17	Robust, ultrasmall organosilica nanoparticles without silica shells. *Journal of Nanoparticle Research*, **2014**, 16, 1	2.3	2
16	Ultrathin Homogenous AuNP Monolayers as Tunable Functional Substrates for Surface-Assisted Laser Desorption/Ionization of Small Biomolecules. *Journal of the American Society for Mass Spectrometry*, **2020**, 31, 47-57	3.5	2
15	Particle encapsulation techniques for atom probe tomography of precipitates in microalloyed steels. *Ultramicroscopy*, **2021**, 223, 113219	3.1	2
14	The effect of THF and the chelating modifier DTHFP on the copolymerisation of Ɓmyrcene and styrene: kinetics, microstructures, morphologies, and mechanical properties. *Polymer Chemistry*, **2021**, 12, 4632-4642	4.9	2
13	Nanoscale Faceting and Ligand Shell Structure Dominate the Self-Assembly of Non-Polar Nanoparticles into Superlattices.. *Advanced Materials*, **2022**, e2109093	24	2
12	Micro- and Nanopatterning of Biomaterial Surfaces **2013**, 285-309		1
11	Colloidal Analysis of Particles Extracted from Microalloyed Steels. *Particle and Particle Systems Characterization*, **2021**, 38, 2000236	3.1	1
10	Ionic glue. *Nature Chemistry*, **2021**, 13, 925-926	17.6	1
9	Dynamic Light Scattering on Nanoparticles in Microgravity in a Drop Tower. *Microgravity Science and Technology*, **2022**, 34, 1	1.6	1
8	Stabilization of ultrathin nanowires by self-assembly into bundles. *Acta Materialia*, **2022**, 117799	8.4	1
7	An Outer Membrane Vesicle-Based Permeation Assay (OMPA) for Assessing Bacterial Bioavailability. *Advanced Healthcare Materials*, **2021**, e2101180	10.1	0
6	Influence of core size and capping ligand of gold nanoparticles on the desorption/ionization efficiency of small biomolecules in AP-SALDI-MS. *Analytical Science Advances*, **2020**, 1, 209-209	1.1	0
5	In situ investigation of temperature induced agglomeration in non-polar magnetic nanoparticle dispersions by small angle X-ray scattering. *Nanoscale*, **2021**, 13, 6916-6920	7.7	0
4	Electronic Multiscale Hybrid Materials: Sinter-Free Inks, Printed Transparent Grids, and Soft Devices. *Proceedings (mdpi)*, **2020**, 56, 24	0.3	
3	Colloidal Polymer Patterning **2011**, 169-198		
2	The scale-up of material microstructuring: from scanning probes to self-assembly. *Monatshefte Fü Chemie*, **2010**, 141, 1267-1272	1.4	

1	In Situ Observation of Gold Nanoparticles Self-assembly at the Solid-Liquid Interface Using Liquid-Phase STEM. *Microscopy and Microanalysis*, **2021**, 27, 2226-2227	0.5