Seung-Kyun Kang

List of Publications by Year
in descending order

67 papers	6,695 citations	94269 37 h-index	118652 62 g-index
70 all docs	70 docs citations	70 times ranked	6800 citing authors

#	Article	IF	Citations
1	Bioresorbable silicon electronic sensors for the brain. Nature, 2016, 530, 71-76.	13.7	778
2	Bioresorbable silicon electronics for transient spatiotemporal mapping of electrical activity fromÂthe cerebral cortex. Nature Materials, 2016, 15, 782-791.	13.3	400
3	Dissolvable Metals for Transient Electronics. Advanced Functional Materials, 2014, 24, 645-658.	7.8	379
4	Highâ€Performance Biodegradable/Transient Electronics on Biodegradable Polymers. Advanced Materials, 2014, 26, 3905-3911.	11.1	359
5	High-Resolution Patterns of Quantum Dots Formed by Electrohydrodynamic Jet Printing for Light-Emitting Diodes. Nano Letters, 2015, 15, 969-973.	4.5	355
6	Wireless bioresorbable electronic system enables sustained nonpharmacological neuroregenerative therapy. Nature Medicine, 2018, 24, 1830-1836.	15.2	331
7	Biodegradable Elastomers and Silicon Nanomembranes/Nanoribbons for Stretchable, Transient Electronics, and Biosensors. Nano Letters, 2015, 15, 2801-2808.	4.5	281
8	Dissolution Behaviors and Applications of Silicon Oxides and Nitrides in Transient Electronics. Advanced Functional Materials, 2014, 24, 4427-4434.	7.8	206
9	Fully Biodegradable Microsupercapacitor for Power Storage in Transient Electronics. Advanced Energy Materials, 2017, 7, 1700157.	10.2	196
10	Relation between blood pressure and pulse wave velocity for human arteries. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 11144-11149.	3.3	193
11	Bioresorbable pressure sensors protected with thermally grown silicon dioxide for the monitoring of chronic diseases and healing processes. Nature Biomedical Engineering, 2019, 3, 37-46.	11.6	185
12	Triggered Transience of Metastable Poly(phthalaldehyde) for Transient Electronics. Advanced Materials, 2014, 26, 7637-7642.	11.1	173
13	Dissolution Chemistry and Biocompatibility of Single-Crystalline Silicon Nanomembranes and Associated Materials for Transient Electronics. ACS Nano, 2014, 8, 5843-5851.	7.3	171
14	Fully implantable and bioresorbable cardiac pacemakers without leads or batteries. Nature Biotechnology, 2021, 39, 1228-1238.	9.4	163
15	25th Anniversary Article: Materials for Highâ€Performance Biodegradable Semiconductor Devices. Advanced Materials, 2014, 26, 1992-2000.	11.1	161
16	CVD-grown monolayer MoS2 in bioabsorbable electronics and biosensors. Nature Communications, 2018, 9, 1690.	5.8	155
17	Thermally Triggered Degradation of Transient Electronic Devices. Advanced Materials, 2015, 27, 3783-3788.	11.1	153
18	Advanced Materials and Devices for Bioresorbable Electronics. Accounts of Chemical Research, 2018, 51, 988-998.	7.6	152

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19	Dissolution Chemistry and Biocompatibility of Silicon- and Germanium-Based Semiconductors for Transient Electronics. ACS Applied Materials & Interfaces, 2015, 7, 9297-9305.	4.0	147
20	Biodegradable Materials for Multilayer Transient Printed Circuit Boards. Advanced Materials, 2014, 26, 7371-7377.	11.1	136
21	Biodegradable Thin Metal Foils and Spinâ€On Glass Materials for Transient Electronics. Advanced Functional Materials, 2015, 25, 1789-1797.	7.8	135
22	Influence of surface-roughness on indentation size effect. Acta Materialia, 2007, 55, 3555-3562.	3.8	134
23	Water-Soluble Thin Film Transistors and Circuits Based on Amorphous Indiumâ€"Galliumâ€"Zinc Oxide. ACS Applied Materials & Interfaces, 2015, 7, 8268-8274.	4.0	113
24	Stretchable multichannel antennas in soft wireless optoelectronic implants for optogenetics. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E8169-E8177.	3.3	111
25	Wirelessly controlled, bioresorbable drug delivery device with active valves that exploit electrochemically triggered crevice corrosion. Science Advances, 2020, 6, eabb1093.	4.7	87
26	Extended expanding cavity model for measurement of flow properties using instrumented spherical indentation. International Journal of Plasticity, 2013, 49, 1-15.	4.1	81
27	Materials for Programmed, Functional Transformation in Transient Electronic Systems. Advanced Materials, 2015, 27, 47-52.	11.1	81
28	Biological lipid membranes for on-demand, wireless drug delivery from thin, bioresorbable electronic implants. NPG Asia Materials, 2015, 7, e227-e227.	3.8	80
29	Biodegradable Polyanhydrides as Encapsulation Layers for Transient Electronics. Advanced Functional Materials, 2020, 30, 2000941.	7.8	67
30	Metal microparticle â€" Polymer composites as printable, bio/ecoresorbable conductive inks. Materials Today, 2018, 21, 207-215.	8.3	64
31	Flexible Transient Optical Waveguides and Surfaceâ€Wave Biosensors Constructed from Monocrystalline Silicon. Advanced Materials, 2018, 30, e1801584.	11.1	55
32	Materials, Mechanics Designs, and Bioresorbable Multisensor Platforms for Pressure Monitoring in the Intracranial Space. Advanced Functional Materials, 2020, 30, 1910718.	7.8	53
33	Conventional Vickers and true instrumented indentation hardness determined by instrumented indentation tests. Journal of Materials Research, 2010, 25, 337-343.	1.2	49
34	Ultrathin Injectable Sensors of Temperature, Thermal Conductivity, and Heat Capacity for Cardiac Ablation Monitoring. Advanced Healthcare Materials, 2016, 5, 373-381.	3.9	47
35	Evaluating plastic flow properties by characterizing indentation size effect using a sharp indenter. Acta Materialia, 2008, 56, 3338-3343.	3.8	46
36	Physically transient electronic materials and devices. Materials Science and Engineering Reports, 2021, 145, 100624.	14.8	46

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37	Materials and Wireless Microfluidic Systems for Electronics Capable of Chemical Dissolution on Demand. Advanced Functional Materials, 2015, 25, 1338-1343.	7.8	41
38	The emergence of transient electronic devices. MRS Bulletin, 2020, 45, 87-95.	1.7	39
39	Wireless Microfluidic Systems for Programmed, Functional Transformation of Transient Electronic Devices. Advanced Functional Materials, 2015, 25, 5100-5106.	7.8	37
40	Porous Silicon Gradient Refractive Index Micro-Optics. Nano Letters, 2016, 16, 7402-7407.	4.5	30
41	Biodegradable Molybdenum/Polybutylene Adipate Terephthalate Conductive Paste for Flexible and Stretchable Transient Electronics. Advanced Materials Technologies, 2022, 7, 2001297.	3.0	22
42	Biodegradable Metallic Glass for Stretchable Transient Electronics. Advanced Science, 2021, 8, 2004029.	5.6	21
43	Effective indenter radius and frame compliance in instrumented indentation testing using a spherical indenter. Journal of Materials Research, 2009, 24, 2965-2973.	1.2	20
44	Principles for Controlling the Shape Recovery and Degradation Behavior of Biodegradable Shape-Memory Polymers in Biomedical Applications. Micromachines, 2021, 12, 757.	1.4	18
45	Constitutive equations optimized for determining strengths of metallic alloys. Mechanics of Materials, 2014, 73, 51-57.	1.7	16
46	Contact morphology and constitutive equation in evaluating tensile properties of austenitic stainless steels through instrumented spherical indentation. Journal of Materials Science, 2013, 48, 232-239.	1.7	15
47	The light triggered dissolution of gold wires using potassium ferrocyanide solutions enables cumulative illumination sensing. Sensors and Actuators B: Chemical, 2019, 282, 52-59.	4.0	14
48	Evaluation of nonequibiaxial residual stress using Knoop indenter. Journal of Materials Research, 2012, 27, 121-125.	1.2	13
49	Evaluation of high-temperature Vickers hardness using instrumented indentation system. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2016, 650, 15-19.	2.6	12
50	Effect of contact angle on contact morphology and Vickers hardness measurement in instrumented indentation testing. International Journal of Mechanical Sciences, 2014, 85, 104-109.	3.6	11
51	Monitoring rehabilitation with transient sensors. Nature Electronics, 2018, 1, 272-273.	13.1	11
52	Determining effective radius and frame compliance in spherical nanoindentation. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 538, 58-62.	2.6	10
53	Characterization of elastic modulus and work of adhesion in elastomeric polymers using microinstrumented indentation technique. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2008, 496, 494-500.	2.6	8
54	Ultrasensitive crack-based strain sensors: mechanism, performance, and biomedical applications. Journal of Mechanical Science and Technology, 2022, 36, 1059-1077.	0.7	8

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55	Correlation between the plastic strain and the plastic pileup of the instrumented indentation by utilizing the interrupted tensile test. Materials Science & Engineering A: Structural Materials: Properties, Microstructure and Processing, 2012, 535, 197-201.	2.6	5
56	Transient Electronics: Dissolvable Metals for Transient Electronics (Adv. Funct. Mater. 5/2014). Advanced Functional Materials, 2014, 24, 644-644.	7.8	5
57	Transient Electronics: Materials for Programmed, Functional Transformation in Transient Electronic Systems (Adv. Mater. 1/2015). Advanced Materials, 2015, 27, 187-187.	11.1	3
58	Integration of Ultrathin Silicon and Metal Nanowires for Highâ€Performance Transparent Electronics. Advanced Materials Technologies, 2020, 5, 1900962.	3.0	2
59	Development of Organic/Inorganic Hybrid Materials for Fully Degradable Reactive Oxygen Species-Releasing Stents for Antirestenosis. Langmuir, 0, , .	1.6	2
60	Electrochemical Fabrication of Flat, Polymerâ€Embedded Porous Silicon 1D Gradient Refractive Index Microlens Arrays. Physica Status Solidi (A) Applications and Materials Science, 2018, 215, 1800088.	0.8	1
61	Optical Waveguides: Flexible Transient Optical Waveguides and Surface-Wave Biosensors Constructed from Monocrystalline Silicon (Adv. Mater. 32/2018). Advanced Materials, 2018, 30, 1870239.	11.1	1
62	Mechanical Characterization of Interfacial Adhesion in Elastomeric Material for Microelectronic Device through JKR Model Combined with Micro-to-Nano IIT. Materials Research Society Symposia Proceedings, 2009, 1159, 6051.	0.1	0
63	Transient Electronics: Thermally Triggered Degradation of Transient Electronic Devices (Adv. Mater.) Tj ETQq1 1 0.784314 rgBT /Overlo	11.1	0
64	Transient Eletronics: Biodegradable Thin Metal Foils and Spin-On Glass Materials for Transient Electronics (Adv. Funct. Mater. 12/2015). Advanced Functional Materials, 2015, 25, 1904-1904.	7.8	0
65	Ultrathin Injectable Sensors: Ultrathin Injectable Sensors of Temperature, Thermal Conductivity, and Heat Capacity for Cardiac Ablation Monitoring (Adv. Healthcare Mater. 3/2016). Advanced Healthcare Materials, 2016, 5, 394-394.	3.9	0
66	Transparent Electronics: Integration of Ultrathin Silicon and Metal Nanowires for Highâ€Performance Transparent Electronics (Adv. Mater. Technol. 4/2020). Advanced Materials Technologies, 2020, 5, 2070021.	3.0	0
67	Biodegradable Organic Materials for Bioelectronics. , 2022, , 481-533.		0