Sheng Xu

List of Publications by Year in descending order

98 papers	17,594 citations	29994 54 h-index	51492 86 g-index
104 all docs	104 docs citations	104 times ranked	19169 citing authors

#	Article	IF	Citations
1	Self-powered nanowire devices. Nature Nanotechnology, 2010, 5, 366-373.	15.6	1,462
2	One-dimensional ZnO nanostructures: Solution growth and functional properties. Nano Research, 2011, 4, 1013-1098.	5.8	1,201
3	Stretchable batteries with self-similar serpentine interconnects and integrated wireless recharging systems. Nature Communications, 2013, 4, 1543.	5.8	1,169
4	Soft Microfluidic Assemblies of Sensors, Circuits, and Radios for the Skin. Science, 2014, 344, 70-74.	6.0	982
5	Assembly of micro/nanomaterials into complex, three-dimensional architectures by compressive buckling. Science, 2015, 347, 154-159.	6.0	745
6	Piezoelectric BaTiO₃Thin Film Nanogenerator on Plastic Substrates. Nano Letters, 2010, 10, 4939-4943.	4.5	711
7	Monitoring of the central blood pressure waveform via a conformal ultrasonic device. Nature Biomedical Engineering, 2018, 2, 687-695.	11.6	520
8	Enhancing Sensitivity of a Single ZnO Micro-/Nanowire Photodetector by Piezo-phototronic Effect. ACS Nano, 2010, 4, 6285-6291.	7.3	466
9	Piezoelectric-nanowire-enabled power source for driving wireless microelectronics. Nature Communications, 2010, 1, 93.	5.8	449
10	Materials and Structures toward Soft Electronics. Advanced Materials, 2018, 30, e1801368.	11.1	445
11	Strain engineering and epitaxial stabilization of halide perovskites. Nature, 2020, 577, 209-215.	13.7	417
12	Soft network composite materials with deterministic and bio-inspired designs. Nature Communications, 2015, 6, 6566.	5.8	392
13	Three-dimensional integrated stretchable electronics. Nature Electronics, 2018, 1, 473-480.	13.1	345
14	Battery-free, stretchable optoelectronic systems for wireless optical characterization of the skin. Science Advances, 2016, 2, e1600418.	4.7	336
15	Enhancing Light Emission of ZnO Microwire-Based Diodes by Piezo-Phototronic Effect. Nano Letters, 2011, 11, 4012-4017.	4.5	326
16	Self-assembled three dimensional network designs for soft electronics. Nature Communications, 2017, 8, 15894.	5.8	325
17	Rugged and breathable forms of stretchable electronics with adherent composite substrates for transcutaneous monitoring. Nature Communications, 2014, 5, 4779.	5.8	309
18	Soft, stretchable, high power density electronic skin-based biofuel cells for scavenging energy from human sweat. Energy and Environmental Science, 2017, 10, 1581-1589.	15.6	309

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19	An epidermal patch for the simultaneous monitoring of haemodynamic and metabolic biomarkers. Nature Biomedical Engineering, 2021, 5, 737-748.	11.6	309
20	Wearable thermoelectrics for personalized thermoregulation. Science Advances, 2019, 5, eaaw0536.	4.7	299
21	A fabrication process for flexible single-crystal perovskite devices. Nature, 2020, 583, 790-795.	13.7	278
22	Experimental and Theoretical Studies of Serpentine Microstructures Bonded To Prestrained Elastomers for Stretchable Electronics. Advanced Functional Materials, 2014, 24, 2028-2037.	7.8	273
23	Patterned Growth of Vertically Aligned ZnO Nanowire Arrays on Inorganic Substrates at Low Temperature without Catalyst. Journal of the American Chemical Society, 2008, 130, 14958-14959.	6.6	270
24	Buckling in serpentine microstructures and applications in elastomer-supported ultra-stretchable electronics with high areal coverage. Soft Matter, 2013, 9, 8062.	1.2	248
25	Density-controlled growth of aligned ZnO nanowire arrays by seedless chemical approach on smooth surfaces. Journal of Materials Research, 2008, 23, 2072-2077.	1.2	240
26	Epidermal Electronics with Advanced Capabilities in Near-Field Communication. Small, 2015, 11, 906-912.	5.2	224
27	Lateral nanowire/nanobelt based nanogenerators, piezotronics and piezo-phototronics. Materials Science and Engineering Reports, 2010, 70, 320-329.	14.8	223
28	Ordered Nanowire Array Blue/Nearâ€UV Light Emitting Diodes. Advanced Materials, 2010, 22, 4749-4753.	11.1	206
29	Stretchable ultrasonic transducer arrays for three-dimensional imaging on complex surfaces. Science Advances, 2018, 4, eaar3979.	4.7	204
30	Biomembrane-Modified Field Effect Transistors for Sensitive and Quantitative Detection of Biological Toxins and Pathogens. ACS Nano, 2019, 13, 3714-3722.	7.3	197
31	Imprintable, Bendable, and Shapeâ€Conformable Polymer Electrolytes for Versatileâ€Shaped Lithiumâ€Ion Batteries. Advanced Materials, 2013, 25, 1395-1400.	11.1	183
32	Mechanics of ultra-stretchable self-similar serpentine interconnects. Acta Materialia, 2013, 61, 7816-7827.	3.8	183
33	Growth of ZnO nanotube arrays and nanotube based piezoelectric nanogenerators. Journal of Materials Chemistry, 2009, 19, 9260.	6.7	181
34	Holographic patterning of high-performance on-chip 3D lithium-ion microbatteries. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 6573-6578.	3.3	179
35	A self-sustainable wearable multi-modular E-textile bioenergy microgrid system. Nature Communications, 2021, 12, 1542.	5.8	164
36	Miniaturized Flexible Electronic Systems with Wireless Power and Nearâ€Field Communication Capabilities. Advanced Functional Materials, 2015, 25, 4761-4767.	7.8	148

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37	Integrated Multilayer Nanogenerator Fabricated Using Paired Nanotip-to-Nanowire Brushes. Nano Letters, 2008, 8, 4027-4032.	4.5	146
38	Optimizing and Improving the Growth Quality of ZnO Nanowire Arrays Guided by Statistical Design of Experiments. ACS Nano, 2009, 3, 1803-1812.	7.3	140
39	Soft, thin skin-mounted power management systems and their use in wireless thermography. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 6131-6136.	3.3	139
40	Piezoelectric Potential Gated Field-Effect Transistor Based on a Free-Standing ZnO Wire. Nano Letters, 2009, 9, 3435-3439.	4.5	132
41	Stretchable and Flexible Buckypaperâ€Based Lactate Biofuel Cell for Wearable Electronics. Advanced Functional Materials, 2019, 29, 1905785.	7.8	132
42	A hierarchical computational model for stretchable interconnects with fractal-inspired designs. Journal of the Mechanics and Physics of Solids, 2014, 72, 115-130.	2.3	115
43	Stretchable Nanolayered Thermoelectric Energy Harvester on Complex and Dynamic Surfaces. Nano Letters, 2020, 20, 4445-4453.	4.5	106
44	Soft wearable devices for deep-tissue sensing. Nature Reviews Materials, 2022, 7, 850-869.	23.3	103
45	Continuous monitoring of deep-tissue haemodynamics with stretchable ultrasonic phased arrays. Nature Biomedical Engineering, 2021, 5, 749-758.	11.6	100
46	Planar Waveguideâ^'Nanowire Integrated Three-Dimensional Dye-Sensitized Solar Cells. Nano Letters, 2010, 10, 2092-2096.	4.5	99
47	Patterned Growth of Horizontal ZnO Nanowire Arrays. Journal of the American Chemical Society, 2009, 131, 6670-6671.	6.6	97
48	Hybridizing ZnO Nanowires with Micropyramid Silicon Wafers as Superhydrophobic Highâ€Efficiency Solar Cells. Advanced Energy Materials, 2012, 2, 47-51.	10.2	89
49	A passive perspiration biofuel cell: High energy return on investment. Joule, 2021, 5, 1888-1904.	11.7	89
50	Controlled Homoepitaxial Growth of Hybrid Perovskites. Advanced Materials, 2018, 30, e1705992.	11.1	82
51	Merging of Thinâ€•and Thickâ€Film Fabrication Technologies: Toward Soft Stretchable â€œIslandâ€“Bridgeâ€• Devices. Advanced Materials Technologies, 2017, 2, 1600284.	3.0	71
52	Growth and replication of ordered ZnO nanowire arrays on general flexible substrates. Journal of Materials Chemistry, 2010, 20, 10606.	6.7	69
53	Electroplating lithium transition metal oxides. Science Advances, 2017, 3, e1602427.	4.7	62
54	Modifying the anti-wetting property of butterfly wings and water strider legs by atomic layer deposition coating: surface materials versus geometry. Nanotechnology, 2008, 19, 355708.	1.3	55

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55	Ferromagnetic, Folded Electrode Composite as a Soft Interface to the Skin for Longâ€Term Electrophysiological Recording. Advanced Functional Materials, 2016, 26, 7281-7290.	7.8	53
56	A Biomimetic Soft Lens Controlled by Electrooculographic Signal. Advanced Functional Materials, 2019, 29, 1903762.	7.8	50
57	Smart Contact Lenses for Biosensing Applications. Advanced Intelligent Systems, 2021, 3, 2000263.	3.3	50
58	Structural colors from Morpho peleides butterfly wing scales. Journal of Applied Physics, 2009, 106, .	1.1	47
59	Wearable Biosupercapacitor: Harvesting and Storing Energy from Sweat. Advanced Functional Materials, 2021, 31, 2102915.	7.8	47
60	Lateral buckling and mechanical stretchability of fractal interconnects partially bonded onto an elastomeric substrate. Applied Physics Letters, 2015, 106, .	1.5	44
61	Growth and Transfer of Monolithic Horizontal ZnO Nanowire Superstructures onto Flexible Substrates. Advanced Functional Materials, 2010, 20, 1493-1497.	7.8	38
62	Facile one-step fabrication of glucose oxidase loaded polymeric nanoparticles decorating MWCNTs for constructing glucose biosensing platform: Structure matters. Biosensors and Bioelectronics, 2019, 135, 153-159.	5.3	37
63	Nanomaterial Biointerfacing via Mitochondrial Membrane Coating for Targeted Detoxification and Molecular Detection. Nano Letters, 2021, 21, 2603-2609.	4.5	37
64	Growth of Vertically Aligned ZnO Nanobelt Arrays on GaN Substrate. Journal of Physical Chemistry C, 2008, 112, 18935-18937.	1.5	35
65	Highly Stable Battery Pack via Insulated, Reinforced, Bucklingâ€Enabled Interconnect Array. Small, 2018, 14, e1800938.	5.2	35
66	Single-crystal halide perovskites: Opportunities and challenges. Matter, 2021, 4, 2266-2308.	5.0	35
67	Three-dimensional transistor arrays for intra- and inter-cellular recording. Nature Nanotechnology, 2022, 17, 292-300.	15.6	30
68	Silver Nanoparticle-Enzyme Composite Films for Hydrogen Peroxide Detection. ACS Applied Nano Materials, 2019, 2, 5910-5921.	2.4	29
69	A General Approach for Fabricating Arcâ€Shaped Composite Nanowire Arrays by Pulsed Laser Deposition. Advanced Functional Materials, 2010, 20, 703-707.	7.8	27
70	Hierarchical 0D-2D bio-composite film based on enzyme-loaded polymeric nanoparticles decorating graphene nanosheets as a high-performance bio-sensing platform. Biosensors and Bioelectronics, 2020, 156, 112134.	5.3	25
71	Instant, multiscale dry transfer printing by atomic diffusion control at heterogeneous interfaces. Science Advances, 2021, 7, .	4.7	22
72	Role of the Metalâ€“Semiconductor Interface in Halide Perovskite Devices for Radiation Photon Counting. ACS Applied Materials & Interfaces, 2020, 12, 45533-45540.	4.0	21

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73	Frequency- and Power-Dependent Photoresponse of a Perovskite Photodetector Down to the Single-Photon Level. Nano Letters, 2020, 20, 2144-2151.	4.5	20
74	Deterministic Integration of Biological and Soft Materials onto 3D Microscale Cellular Frameworks. Advanced Biology, 2017, 1, 1700068.	3.0	18
75	Array atomic force microscopy for real-time multiparametric analysis. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 5872-5877.	3.3	18
76	Syntheses and crystal structures of three Mn(II) complexes with 2-hydroxynicotinate. Inorganica Chimica Acta, 2007, 360, 1466-1473.	1.2	17
77	Structures and/or magnetic properties of three 1D ladder-type manganic and cadmium compounds with open-chain diazine Schiff-base ligands. Journal of Molecular Structure, 2007, 841, 67-72.	1.8	16
78	Fabric-substrated capacitive biopotential sensors enhanced by dielectric nanoparticles. Nano Research, 2021, 14, 3248-3252.	5.8	13
79	Time Management in Distributed Factory Simulation, a Case Study Using HLA. , 0, , .		8
80	Four thiocyanato-bridged cadmium(II) polymeric complexes based on open chain diazine ligands. Journal of Molecular Structure, 2008, 875, 80-85.	1.8	8
81	Stretchable Electronics: Epidermal Electronics with Advanced Capabilities in Near-Field Communication (Small 8/2015). Small, 2015, 11, 905-905.	5.2	8
82	Soft sensors form a network. Nature Electronics, 2019, 2, 327-328.	13.1	8
83	Evaluate simulation design alternatives for large scale manufacturing systems. , 2005, , .		5
84	Oxide nanowire arrays for light-emitting diodes and piezoelectric energy harvesters. Pure and Applied Chemistry, 2011, 83, 2171-2198.	0.9	5
85	Zinc Oxide Nanowire Arrays on Flexible Substrates. , 2010, , 197-226.		4
86	Epidermal Electronics: Miniaturized Flexible Electronic Systems with Wireless Power and Nearâ€Field Communication Capabilities (Adv. Funct. Mater. 30/2015). Advanced Functional Materials, 2015, 25, 4919-4919.	7.8	3
87	Smart Contact Lenses for Biosensing Applications. Advanced Intelligent Systems, 2021, 3, 2170047.	3.3	3
88	Demystifying phase transformations in metal halide perovskites. Matter, 2021, 4, 2627-2629.	5.0	3
89	Polymer Electrolytes: Imprintable, Bendable, and Shapeâ€Conformable Polymer Electrolytes for Versatileâ€Shaped Lithiumâ€Ion Batteries (Adv. Mater. 10/2013). Advanced Materials, 2013, 25, 1512-1512.	11.1	1
90	Advanced Decision Logic in Simulation of Material Flow Processing Networks. , 0, , .		0

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91	Growth and characterization of ZnO nanostructures for UV sensor applications. , 2011, , .		0
92	Nanowires for Piezoelectric Nanogenerators. RSC Smart Materials, 2014, , 200-276.	0.1	0
93	Deciphering facial movements. Nature Biomedical Engineering, 2020, 4, 935-936.	11.6	0
94	(Invited) Adding a New Sensing Dimension to Soft Electronics: From the Skin to below the Skin. ECS Meeting Abstracts, 2021, MA2021-01, 1129-1129.	0.0	0
95	(Invited) A Soft Approach to Electronics: From Stretchable Systems to 3D Structures. ECS Meeting Abstracts, 2016, , .	0.0	0
96	(Invited) Soft Electronic Devices for Noninvasive Health Monitoring: From the Skin to the Deep Tissues. ECS Meeting Abstracts, 2018, , .	0.0	0
97	(Invited) Controlled Homo-Epitaxial Growth of Hybrid Halide Perovskites. ECS Meeting Abstracts, 2019, , .	0.0	0
98	(Invited) Hybridized Electronics for Wearable Healthcare: From the Skin to below the Skin. ECS Meeting Abstracts, 2019, , .	0.0	0