

# Sheng Xu

## List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

91  
papers

13,339  
citations

49  
h-index

104  
g-index

104  
ext. papers

15,415  
ext. citations

15.6  
avg, IF

6.4  
L-index

#	Paper	IF	Citations
91	Self-powered nanowire devices. <i>Nature Nanotechnology</i> , <b>2010</b> , 5, 366-73	28.7	1279
90	One-dimensional ZnO nanostructures: Solution growth and functional properties. <i>Nano Research</i> , <b>2011</b> , 4, 1013-1098	10	1049
89	Stretchable batteries with self-similar serpentine interconnects and integrated wireless recharging systems. <i>Nature Communications</i> , <b>2013</b> , 4, 1543	17.4	978
88	Soft microfluidic assemblies of sensors, circuits, and radios for the skin. <i>Science</i> , <b>2014</b> , 344, 70-4	33.3	802
87	Piezoelectric BaTiO <sub>3</sub> thin film nanogenerator on plastic substrates. <i>Nano Letters</i> , <b>2010</b> , 10, 4939-43	11.5	597
86	Materials science. Assembly of micro/nanomaterials into complex, three-dimensional architectures by compressive buckling. <i>Science</i> , <b>2015</b> , 347, 154-9	33.3	587
85	Enhancing sensitivity of a single ZnO micro-/nanowire photodetector by piezo-phototronic effect. <i>ACS Nano</i> , <b>2010</b> , 4, 6285-91	16.7	381
84	Piezoelectric-nanowire-enabled power source for driving wireless microelectronics. <i>Nature Communications</i> , <b>2010</b> , 1, 93	17.4	377
83	Monitoring of the central blood pressure waveform via a conformal ultrasonic device. <i>Nature Biomedical Engineering</i> , <b>2018</b> , 2, 687-695	19	299
82	Materials and Structures toward Soft Electronics. <i>Advanced Materials</i> , <b>2018</b> , 30, e1801368	24	298
81	Soft network composite materials with deterministic and bio-inspired designs. <i>Nature Communications</i> , <b>2015</b> , 6, 6566	17.4	289
80	Enhancing light emission of ZnO microwire-based diodes by piezo-phototronic effect. <i>Nano Letters</i> , <b>2011</b> , 11, 4012-7	11.5	283
79	Battery-free, stretchable optoelectronic systems for wireless optical characterization of the skin. <i>Science Advances</i> , <b>2016</b> , 2, e1600418	14.3	266
78	Rugged and breathable forms of stretchable electronics with adherent composite substrates for transcutaneous monitoring. <i>Nature Communications</i> , <b>2014</b> , 5, 4779	17.4	245
77	Patterned growth of vertically aligned ZnO nanowire arrays on inorganic substrates at low temperature without catalyst. <i>Journal of the American Chemical Society</i> , <b>2008</b> , 130, 14958-9	16.4	243
76	Self-assembled three dimensional network designs for soft electronics. <i>Nature Communications</i> , <b>2017</b> , 8, 15894	17.4	238
75	Soft, stretchable, high power density electronic skin-based biofuel cells for scavenging energy from human sweat. <i>Energy and Environmental Science</i> , <b>2017</b> , 10, 1581-1589	35.4	225

74	Experimental and Theoretical Studies of Serpentine Microstructures Bonded To Prestrained Elastomers for Stretchable Electronics. <i>Advanced Functional Materials</i> , <b>2014</b> , 24, 2028-2037	15.6	220
73	Density-controlled growth of aligned ZnO nanowire arrays by seedless chemical approach on smooth surfaces. <i>Journal of Materials Research</i> , <b>2008</b> , 23, 2072-2077	2.5	216
72	Strain engineering and epitaxial stabilization of halide perovskites. <i>Nature</i> , <b>2020</b> , 577, 209-215	50.4	213
71	Three-dimensional integrated stretchable electronics. <i>Nature Electronics</i> , <b>2018</b> , 1, 473-480	28.4	201
70	Buckling in serpentine microstructures and applications in elastomer-supported ultra-stretchable electronics with high areal coverage. <i>Soft Matter</i> , <b>2013</b> , 9, 8062-8070	3.6	192
69	Ordered nanowire array blue/near-UV light emitting diodes. <i>Advanced Materials</i> , <b>2010</b> , 22, 4749-53	24	192
68	Epidermal electronics with advanced capabilities in near-field communication. <i>Small</i> , <b>2015</b> , 11, 906-12	11	191
67	Lateral nanowire/nanobelt based nanogenerators, piezotronics and piezo-phototronics. <i>Materials Science and Engineering Reports</i> , <b>2010</b> , 70, 320-329	30.9	185
66	Imprintable, bendable, and shape-conformable polymer electrolytes for versatile-shaped lithium-ion batteries. <i>Advanced Materials</i> , <b>2013</b> , 25, 1395-400	24	165
65	Growth of ZnO nanotube arrays and nanotube based piezoelectric nanogenerators. <i>Journal of Materials Chemistry</i> , <b>2009</b> , 19, 9260		161
64	Wearable thermoelectrics for personalized thermoregulation. <i>Science Advances</i> , <b>2019</b> , 5, eaaw0536	14.3	154
63	Biomembrane-Modified Field Effect Transistors for Sensitive and Quantitative Detection of Biological Toxins and Pathogens. <i>ACS Nano</i> , <b>2019</b> , 13, 3714-3722	16.7	147
62	Mechanics of ultra-stretchable self-similar serpentine interconnects. <i>Acta Materialia</i> , <b>2013</b> , 61, 7816-7828	28.4	147
61	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> , <b>2015</b> , 112, 6573-8	11.5	144
60	A fabrication process for flexible single-crystal perovskite devices. <i>Nature</i> , <b>2020</b> , 583, 790-795	50.4	143
59	Optimizing and Improving the Growth Quality of ZnO Nanowire Arrays Guided by Statistical Design of Experiments. <i>ACS Nano</i> , <b>2009</b> , 3, 1803-12	16.7	128
58	Integrated multilayer nanogenerator fabricated using paired nanotip-to-nanowire brushes. <i>Nano Letters</i> , <b>2008</b> , 8, 4027-32	11.5	124
57	Piezoelectric potential gated field-effect transistor based on a free-standing ZnO wire. <i>Nano Letters</i> , <b>2009</b> , 9, 3435-9	11.5	121

56	Stretchable ultrasonic transducer arrays for three-dimensional imaging on complex surfaces. <i>Science Advances</i> , <b>2018</b> , 4, eaar3979	14.3	119
55	An epidermal patch for the simultaneous monitoring of haemodynamic and metabolic biomarkers. <i>Nature Biomedical Engineering</i> , <b>2021</b> , 5, 737-748	19	119
54	Miniaturized Flexible Electronic Systems with Wireless Power and Near-Field Communication Capabilities. <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 4761-4767	15.6	114
53	Soft, thin skin-mounted power management systems and their use in wireless thermography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2016</b> , 113, 6131-6	11.5	108
52	Planar waveguide-nanowire integrated three-dimensional dye-sensitized solar cells. <i>Nano Letters</i> , <b>2010</b> , 10, 2092-6	11.5	92
51	Patterned growth of horizontal ZnO nanowire arrays. <i>Journal of the American Chemical Society</i> , <b>2009</b> , 131, 6670-1	16.4	91
50	A hierarchical computational model for stretchable interconnects with fractal-inspired designs. <i>Journal of the Mechanics and Physics of Solids</i> , <b>2014</b> , 72, 115-130	5	89
49	Stretchable and Flexible Buckypaper-Based Lactate Biofuel Cell for Wearable Electronics. <i>Advanced Functional Materials</i> , <b>2019</b> , 29, 1905785	15.6	81
48	Hybridizing ZnO Nanowires with Micropyramid Silicon Wafers as Superhydrophobic High-Efficiency Solar Cells. <i>Advanced Energy Materials</i> , <b>2012</b> , 2, 47-51	21.8	81
47	Growth and replication of ordered ZnO nanowire arrays on general flexible substrates. <i>Journal of Materials Chemistry</i> , <b>2010</b> , 20, 10606		60
46	Merging of Thin- and Thick-Film Fabrication Technologies: Toward Soft Stretchable Island-Bridge Devices. <i>Advanced Materials Technologies</i> , <b>2017</b> , 2, 1600284	6.8	57
45	A self-sustainable wearable multi-modular E-textile bioenergy microgrid system. <i>Nature Communications</i> , <b>2021</b> , 12, 1542	17.4	56
44	Stretchable Nanolayered Thermoelectric Energy Harvester on Complex and Dynamic Surfaces. <i>Nano Letters</i> , <b>2020</b> , 20, 4445-4453	11.5	55
43	Controlled Homoepitaxial Growth of Hybrid Perovskites. <i>Advanced Materials</i> , <b>2018</b> , 30, e1705992	24	51
42	Modifying the anti-wetting property of butterfly wings and water strider legs by atomic layer deposition coating: surface materials versus geometry. <i>Nanotechnology</i> , <b>2008</b> , 19, 355708	3.4	48
41	Electroplating lithium transition metal oxides. <i>Science Advances</i> , <b>2017</b> , 3, e1602427	14.3	45
40	Ferromagnetic, folded electrode composite as a soft interface to the skin for long-term electrophysiological recording. <i>Advanced Functional Materials</i> , <b>2016</b> , 26, 7281-7290	15.6	40
39	Lateral buckling and mechanical stretchability of fractal interconnects partially bonded onto an elastomeric substrate. <i>Applied Physics Letters</i> , <b>2015</b> , 106, 091902	3.4	37

38	Structural colors from Morpho peleides butterfly wing scales. <i>Journal of Applied Physics</i> , <b>2009</b> , 106, 074703	37
37	Growth and Transfer of Monolithic Horizontal ZnO Nanowire Superstructures onto Flexible Substrates. <i>Advanced Functional Materials</i> , <b>2010</b> , 20, 1493-1497	15.6 35
36	Growth of Vertically Aligned ZnO Nanobelt Arrays on GaN Substrate. <i>Journal of Physical Chemistry C</i> , <b>2008</b> , 112, 18935-18937	3.8 31
35	A Biomimetic Soft Lens Controlled by Electrooculographic Signal. <i>Advanced Functional Materials</i> , <b>2019</b> , 29, 1903762	15.6 30
34	A passive perspiration biofuel cell: High energy return on investment. <i>Joule</i> , <b>2021</b> , 5, 1888-1904	27.8 30
33	Facile one-step fabrication of glucose oxidase loaded polymeric nanoparticles decorating MWCNTs for constructing glucose biosensing platform: Structure matters. <i>Biosensors and Bioelectronics</i> , <b>2019</b> , 135, 153-159	11.8 25
32	Highly Stable Battery Pack via Insulated, Reinforced, Buckling-Enabled Interconnect Array. <i>Small</i> , <b>2018</b> , 14, e1800938	11 25
31	A General Approach for Fabricating Arc-Shaped Composite Nanowire Arrays by Pulsed Laser Deposition. <i>Advanced Functional Materials</i> , <b>2010</b> , 20, 703-707	15.6 24
30	Continuous monitoring of deep-tissue haemodynamics with stretchable ultrasonic phased arrays. <i>Nature Biomedical Engineering</i> , <b>2021</b> , 5, 749-758	19 23
29	Silver Nanoparticle-Enzyme Composite Films for Hydrogen Peroxide Detection. <i>ACS Applied Nano Materials</i> , <b>2019</b> , 2, 5910-5921	5.6 19
28	Hierarchical 0D-2D bio-composite film based on enzyme-loaded polymeric nanoparticles decorating graphene nanosheets as a high-performance bio-sensing platform. <i>Biosensors and Bioelectronics</i> , <b>2020</b> , 156, 112134	11.8 18
27	Smart Contact Lenses for Biosensing Applications. <i>Advanced Intelligent Systems</i> , <b>2021</b> , 3, 2000263	6 18
26	Nanomaterial Biointerfacing via Mitochondrial Membrane Coating for Targeted Detoxification and Molecular Detection. <i>Nano Letters</i> , <b>2021</b> , 21, 2603-2609	11.5 17
25	Wearable Biosupercapacitor: Harvesting and Storing Energy from Sweat. <i>Advanced Functional Materials</i> , <b>2021</b> , 31, 2102915	15.6 16
24	Frequency- and Power-Dependent Photoresponse of a Perovskite Photodetector Down to the Single-Photon Level. <i>Nano Letters</i> , <b>2020</b> , 20, 2144-2151	11.5 15
23	Syntheses and crystal structures of three Mn(II) complexes with 2-hydroxynicotinate. <i>Inorganica Chimica Acta</i> , <b>2007</b> , 360, 1466-1473	2.7 15
22	Structures and/or magnetic properties of three 1D ladder-type manganic and cadmium compounds with open-chain diazine Schiff-base ligands. <i>Journal of Molecular Structure</i> , <b>2007</b> , 841, 67-72	3.4 15
21	Deterministic Integration of Biological and Soft Materials onto 3D Microscale Cellular Frameworks. <i>Advanced Biology</i> , <b>2017</b> , 1, 1700068	3.5 12

20	Integration Techniques for Micro/Nanostructure-based Large-Area Electronics <b>2018</b> ,		12
19	Role of the Metal-Semiconductor Interface in Halide Perovskite Devices for Radiation Photon Counting. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2020</b> , 12, 45533-45540	9.5	11
18	Soft wearable devices for deep-tissue sensing. <i>Nature Reviews Materials</i> ,	73.3	10
17	Array atomic force microscopy for real-time multiparametric analysis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2019</b> , 116, 5872-5877	11.5	8
16	Stretchable Electronics: Epidermal Electronics with Advanced Capabilities in Near-Field Communication (Small 8/2015). <i>Small</i> , <b>2015</b> , 11, 905-905	11	8
15	Single-crystal halide perovskites: Opportunities and challenges. <i>Matter</i> , <b>2021</b> , 4, 2266-2308	12.7	8
14	Three-dimensional transistor arrays for intra- and inter-cellular recording.. <i>Nature Nanotechnology</i> , <b>2021</b> ,	28.7	8
13	Four thiocyanato-bridged cadmium(II) polymeric complexes based on open chain diazine ligands. <i>Journal of Molecular Structure</i> , <b>2008</b> , 875, 80-85	3.4	7
12	Time management in distributed factory simulation, a case study using HLA		7
11	Oxide nanowire arrays for light-emitting diodes and piezoelectric energy harvesters. <i>Pure and Applied Chemistry</i> , <b>2011</b> , 83, 2171-2198	2.1	5
10	Instant, multiscale dry transfer printing by atomic diffusion control at heterogeneous interfaces. <i>Science Advances</i> , <b>2021</b> , 7,	14.3	4
9	Zinc Oxide Nanowire Arrays on Flexible Substrates <b>2010</b> , 197-226		3
8	Evaluate simulation design alternatives for large scale manufacturing systems <b>2005</b> ,		3
7	Fabric-substrated capacitive biopotential sensors enhanced by dielectric nanoparticles. <i>Nano Research</i> , <b>2021</b> , 14, 3248-3252	10	3
6	Epidermal Electronics: Miniaturized Flexible Electronic Systems with Wireless Power and Near-Field Communication Capabilities (Adv. Funct. Mater. 30/2015). <i>Advanced Functional Materials</i> , <b>2015</b> , 25, 4919-4919	15.6	2
5	Polymer Electrolytes: Imprintable, Bendable, and Shape-Conformable Polymer Electrolytes for Versatile-Shaped Lithium-Ion Batteries (Adv. Mater. 10/2013). <i>Advanced Materials</i> , <b>2013</b> , 25, 1512-1512	24	1
4	Demystifying phase transformations in metal halide perovskites. <i>Matter</i> , <b>2021</b> , 4, 2627-2629	12.7	1
3	Chapter 5:Nanowires for Piezoelectric Nanogenerators. <i>RSC Smart Materials</i> , <b>2014</b> , 200-276	0.6	

- 2 Deciphering facial movements. *Nature Biomedical Engineering*, **2020**, 4, 935-936 19
- 1 Smart Contact Lenses for Biosensing Applications. *Advanced Intelligent Systems*, **2021**, 3, 2170047 6