

Huanyu Cheng

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.

121
papers

12,802
citations

45
h-index

113
g-index

141
ext. papers

14,974
ext. citations

10.7
avg, IF

6.17
L-index

#	Paper	IF	Citations
121	Stretchable batteries with self-similar serpentine interconnects and integrated wireless recharging systems. <i>Nature Communications</i> , 2013 , 4, 1543	17.4	978
120	A physically transient form of silicon electronics. <i>Science</i> , 2012 , 337, 1640-4	33.3	862
119	Ultrathin conformal devices for precise and continuous thermal characterization of human skin. <i>Nature Materials</i> , 2013 , 12, 938-44	27	826
118	Fractal design concepts for stretchable electronics. <i>Nature Communications</i> , 2014 , 5, 3266	17.4	625
117	Materials science. Assembly of micro/nanomaterials into complex, three-dimensional architectures by compressive buckling. <i>Science</i> , 2015 , 347, 154-9	33.3	587
116	Bioresorbable silicon electronic sensors for the brain. <i>Nature</i> , 2016 , 530, 71-6	50.4	582
115	Materials and optimized designs for human-machine interfaces via epidermal electronics. <i>Advanced Materials</i> , 2013 , 25, 6839-46	24	509
114	3D multifunctional integumentary membranes for spatiotemporal cardiac measurements and stimulation across the entire epicardium. <i>Nature Communications</i> , 2014 , 5, 3329	17.4	384
113	Bioresorbable silicon electronics for transient spatiotemporal mapping of electrical activity from the cerebral cortex. <i>Nature Materials</i> , 2016 , 15, 782-791	27	296
112	Large-area graphene-nanomesh/carbon-nanotube hybrid membranes for ionic and molecular nanofiltration. <i>Science</i> , 2019 , 364, 1057-1062	33.3	291
111	Dissolvable Metals for Transient Electronics. <i>Advanced Functional Materials</i> , 2014 , 24, 645-658	15.6	290
110	Soft network composite materials with deterministic and bio-inspired designs. <i>Nature Communications</i> , 2015 , 6, 6566	17.4	289
109	High-performance biodegradable/transient electronics on biodegradable polymers. <i>Advanced Materials</i> , 2014 , 26, 3905-11	24	283
108	Stretchable, transparent graphene interconnects for arrays of microscale inorganic light emitting diodes on rubber substrates. <i>Nano Letters</i> , 2011 , 11, 3881-6	11.5	281
107	Transient, biocompatible electronics and energy harvesters based on ZnO. <i>Small</i> , 2013 , 9, 3398-404	11	280
106	Graphene Reinforced Carbon Nanotube Networks for Wearable Strain Sensors. <i>Advanced Functional Materials</i> , 2016 , 26, 2078-2084	15.6	276
105	Large-Area Ultrathin Graphene Films by Single-Step Marangoni Self-Assembly for Highly Sensitive Strain Sensing Application. <i>Advanced Functional Materials</i> , 2016 , 26, 1322-1329	15.6	270

104	Rugged and breathable forms of stretchable electronics with adherent composite substrates for transcutaneous monitoring. <i>Nature Communications</i> , 2014 , 5, 4779	17.4	245
103	Soft, curved electrode systems capable of integration on the auricle as a persistent brain-computer interface. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 3920-5	11.5	238
102	Materials and Designs for Wireless Epidermal Sensors of Hydration and Strain. <i>Advanced Functional Materials</i> , 2014 , 24, 3846-3854	15.6	230
101	Biodegradable elastomers and silicon nanomembranes/nanoribbons for stretchable, transient electronics, and biosensors. <i>Nano Letters</i> , 2015 , 15, 2801-8	11.5	226
100	Si/Ge double-layered nanotube array as a lithium ion battery anode. <i>ACS Nano</i> , 2012 , 6, 303-9	16.7	209
99	Capacitive epidermal electronics for electrically safe, long-term electrophysiological measurements. <i>Advanced Healthcare Materials</i> , 2014 , 3, 642-8	10.1	200
98	Epidermal electronics with advanced capabilities in near-field communication. <i>Small</i> , 2015 , 11, 906-12	11	191
97	Multifunctional skin-like electronics for quantitative, clinical monitoring of cutaneous wound healing. <i>Advanced Healthcare Materials</i> , 2014 , 3, 1597-607	10.1	175
96	Dissolution Behaviors and Applications of Silicon Oxides and Nitrides in Transient Electronics. <i>Advanced Functional Materials</i> , 2014 , 24, 4427-4434	15.6	170
95	Silicon nanomembranes for fingertip electronics. <i>Nanotechnology</i> , 2012 , 23, 344004	3.4	168
94	A nonlinear mechanics model of bio-inspired hierarchical lattice materials consisting of horseshoe microstructures. <i>Journal of the Mechanics and Physics of Solids</i> , 2016 , 90, 179-202	5	155
93	Mechanics of ultra-stretchable self-similar serpentine interconnects. <i>Acta Materialia</i> , 2013 , 61, 7816-7828	8.4	147
92	Dissolution chemistry and biocompatibility of single-crystalline silicon nanomembranes and associated materials for transient electronics. <i>ACS Nano</i> , 2014 , 8, 5843-51	16.7	145
91	25th anniversary article: materials for high-performance biodegradable semiconductor devices. <i>Advanced Materials</i> , 2014 , 26, 1992-2000	24	130
90	Dissolution chemistry and biocompatibility of silicon- and germanium-based semiconductors for transient electronics. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 9297-305	9.5	113
89	Shear-enhanced adhesiveless transfer printing for use in deterministic materials assembly. <i>Applied Physics Letters</i> , 2011 , 98, 264104	3.4	106
88	Stretchable piezoelectric energy harvesters and self-powered sensors for wearable and implantable devices. <i>Biosensors and Bioelectronics</i> , 2020 , 168, 112569	11.8	98
87	Elastomer surfaces with directionally dependent adhesion strength and their use in transfer printing with continuous roll-to-roll applications. <i>Advanced Materials</i> , 2012 , 24, 2117-22	24	85

86	Epidermal impedance sensing sheets for precision hydration assessment and spatial mapping. <i>IEEE Transactions on Biomedical Engineering</i> , 2013 , 60, 2848-57	5	76
85	Novel gas sensing platform based on a stretchable laser-induced graphene pattern with self-heating capabilities. <i>Journal of Materials Chemistry A</i> , 2020 , 8, 6487-6500	13	72
84	Electrochemical Properties of Si-Ge Heterostructures as an Anode Material for Lithium Ion Batteries. <i>Advanced Functional Materials</i> , 2014 , 24, 1458-1464	15.6	71
83	High-energy all-in-one stretchable micro-supercapacitor arrays based on 3D laser-induced graphene foams decorated with mesoporous ZnP nanosheets for self-powered stretchable systems. <i>Nano Energy</i> , 2021 , 81, 105609	17.1	70
82	An Analytical Model of Reactive Diffusion for Transient Electronics. <i>Advanced Functional Materials</i> , 2013 , 23, 3106-3114	15.6	63
81	Facile synthesis of free-standing silicon membranes with three-dimensional nanoarchitecture for anodes of lithium ion batteries. <i>Nano Letters</i> , 2013 , 13, 3340-6	11.5	63
80	Modulated Degradation of Transient Electronic Devices through Multilayer Silk Fibroin Pockets. <i>ACS Applied Materials & Interfaces</i> , 2015 , 7, 19870-5	9.5	57
79	Bioinspired, multifunctional dual-mode pressure sensors as electronic skin for decoding complex loading processes and human motions. <i>Nano Energy</i> , 2020 , 78, 105337	17.1	57
78	Enhanced adhesion with pedestal-shaped elastomeric stamps for transfer printing. <i>Applied Physics Letters</i> , 2012 , 100, 171909	3.4	47
77	Buckling of a stiff thin film on a pre-strained bi-layer substrate. <i>International Journal of Solids and Structures</i> , 2014 , 51, 3113-3118	3.1	45
76	Recent development of transient electronics. <i>Theoretical and Applied Mechanics Letters</i> , 2016 , 6, 21-31	1.8	43
75	Mechanics of Interfacial Delamination in Epidermal Electronics Systems. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2014 , 81,	2.7	41
74	An analytical model for shear-enhanced adhesiveless transfer printing. <i>Mechanics Research Communications</i> , 2012 , 43, 46-49	2.2	40
73	An analytical model of strain isolation for stretchable and flexible electronics. <i>Applied Physics Letters</i> , 2011 , 98, 061902	3.4	38
72	Flexible Conductive Composite Integrated with Personal Earphone for Wireless, Real-Time Monitoring of Electrophysiological Signs. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 21184-21190	9.5	37
71	Skin-interfaced microfluidic devices with one-opening chambers and hydrophobic valves for sweat collection and analysis. <i>Lab on A Chip</i> , 2020 , 20, 2635-2645	7.2	35
70	Transfer Printing and its Applications in Flexible Electronic Devices. <i>Nanomaterials</i> , 2019 , 9,	5.4	35
69	Multifunctional Stretchable Sensors for Continuous Monitoring of Long-Term Leaf Physiology and Microclimate. <i>ACS Omega</i> , 2019 , 4, 9522-9530	3.9	34

68	Recent Developments of Flexible and Stretchable Electrochemical Biosensors. <i>Micromachines</i> , 2020 , 11,	3.3	34
67	Synthetic Melanin E-Ink. <i>ACS Applied Materials & Interfaces</i> , 2017 , 9, 16553-16560	9.5	33
66	Structural Design for Stretchable Microstrip Antennas. <i>ACS Applied Materials & Interfaces</i> , 2019 , 11, 8867-8877	9.5	32
65	Efficient coupling of semiconductors into metallic MnO ₂ @CoMn ₂ O ₄ heterostructured electrode with boosted charge transfer for high-performance supercapacitors. <i>Electrochimica Acta</i> , 2020 , 347, 136246	6.7	30
64	Wearable Circuits Sintered at Room Temperature Directly on the Skin Surface for Health Monitoring. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 45504-45515	9.5	29
63	Fabricating functional circuits on 3D freeform surfaces via intense pulsed light-induced zinc mass transfer.. <i>Materials Today</i> , 2021 , 50, 24-34	21.8	29
62	Wearable Pressure Sensors Based on MXene/Tissue Papers for Wireless Human Health Monitoring.. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 60531-60543	9.5	29
61	Recent Development of Flexible and Stretchable Antennas for Bio-Integrated Electronics. <i>Sensors</i> , 2018 , 18,	3.8	28
60	Laser-induced graphene non-enzymatic glucose sensors for on-body measurements. <i>Biosensors and Bioelectronics</i> , 2021 , 193, 113606	11.8	28
59	Flexible and stretchable metal oxide gas sensors for healthcare. <i>Science China Technological Sciences</i> , 2019 , 62, 209-223	3.5	27
58	Inorganic dissolvable electronics: materials and devices for biomedicine and environment. <i>Journal of Materials Research</i> , 2016 , 31, 2549-2570	2.5	26
57	Analysis of a concentric coplanar capacitor for epidermal hydration sensing. <i>Sensors and Actuators A: Physical</i> , 2013 , 203, 149-153	3.9	25
56	A Simply Analytic Study of Buckled Thin Films on Compliant Substrates. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2014 , 81,	2.7	24
55	3D Printed, Customizable, and Multifunctional Smart Electronic Eyeglasses for Wearable Healthcare Systems and Human-Machine Interfaces. <i>ACS Applied Materials & Interfaces</i> , 2020 , 12, 21424-21432	9.5	23
54	Stretchable, ultrasensitive, and low-temperature NO ₂ sensors based on MoS ₂ @rGO nanocomposites. <i>Materials Today Physics</i> , 2020 , 15, 100265	8	23
53	Fully Water-Soluble, High-Performance Transient Sensors on a Versatile Galactomannan Substrate Derived from the Endosperm. <i>ACS Applied Materials & Interfaces</i> , 2018 , 10, 36664-36674	9.5	23
52	Reconfigurable systems for multifunctional electronics. <i>Npj Flexible Electronics</i> , 2017 , 1,	10.7	22
51	A Viscoelastic Model for the Rate Effect in Transfer Printing. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2013 , 80,	2.7	22

50	A Finite-Deformation Mechanics Theory for Kinetically Controlled Transfer Printing. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2013 , 80,	2.7	19
49	Surface-Coverage-Dependent Cycle Stability of Core-Shell Nanostructured Electrodes for Use in Lithium Ion Batteries. <i>Advanced Energy Materials</i> , 2014 , 4, 1300472	21.8	17
48	Stretchable wideband dipole antennas and rectennas for RF energy harvesting. <i>Materials Today Physics</i> , 2021 , 18, 100377-100377	8	17
47	Integration of biological systems with electronic-mechanical assemblies. <i>Acta Biomaterialia</i> , 2019 , 95, 91-111	10.8	16
46	Mechanics of finger-tip electronics. <i>Journal of Applied Physics</i> , 2013 , 114, 164511	2.5	16
45	Dissolvable tattoo sensors: from science fiction to a viable technology. <i>Physica Scripta</i> , 2017 , 92, 013001	2.6	16
44	Mechanics of Solar Module on Structured Substrates. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2014 , 81,	2.7	16
43	Real Time Analysis of Bioanalytes in Healthcare, Food, Zoology and Botany. <i>Sensors</i> , 2017 , 18,	3.8	15
42	Human motion-driven self-powered stretchable sensing platform based on laser-induced graphene foams. <i>Applied Physics Reviews</i> , 2022 , 9, 011413	17.3	15
41	Design and Analysis of Magnetic-Assisted Transfer Printing. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2018 , 85,	2.7	13
40	Conformal manufacturing of soft deformable sensors on the curved surface. <i>International Journal of Extreme Manufacturing</i> , 2021 , 3, 042001	7.9	13
39	Porous graphene foam composite-based dual-mode sensors for underwater temperature and subtle motion detection. <i>Chemical Engineering Journal</i> , 2022 , 444, 136631	14.7	13
38	Assembly of Heterogeneous Materials for Biology and Electronics: From Bio-Inspiration to Bio-Integration. <i>Journal of Electronic Packaging, Transactions of the ASME</i> , 2017 , 139,	2	12
37	Significantly improved conductivity of spinel Co ₃ O ₄ porous nanowires partially substituted by Sn in tetrahedral sites for high-performance quasi-solid-state supercapacitors. <i>Journal of Materials Chemistry A</i> , 2021 , 9, 7005-7017	13	12
36	Standalone stretchable RF systems based on asymmetric 3D microstrip antennas with on-body wireless communication and energy harvesting. <i>Nano Energy</i> , 2022 , 96, 107069	17.1	12
35	Tunable Adhesion for Bio-Integrated Devices. <i>Micromachines</i> , 2018 , 9,	3.3	11
34	Stretchable gas sensors for detecting biomarkers from humans and exposed environments. <i>TrAC - Trends in Analytical Chemistry</i> , 2020 , 133, 116085-116085	14.6	10
33	Expandable and implantable bioelectronic complex for analyzing and regulating real-time activity of the urinary bladder. <i>Science Advances</i> , 2020 , 6,	14.3	10

32	Micro/nanodevices for assessment and treatment in stomatology and ophthalmology. <i>Microsystems and Nanoengineering</i> , 2021 , 7, 11	7.7	10
31	Buckling analysis of stiff thin films suspended on a substrate with tripod surface relief structure. <i>Applied Physics Letters</i> , 2017 , 111, 121904	3.4	9
30	Epidermal Electronics: Materials and Optimized Designs for Human-Machine Interfaces Via Epidermal Electronics (Adv. Mater. 47/2013). <i>Advanced Materials</i> , 2013 , 25, 6776-6776	24	9
29	Process and wear behavior of monolithic SiC and short carbon fiber-SiC matrix composite. <i>Journal of Materials Science</i> , 2000 , 35, 4477-4484	4.3	9
28	Stretchable Electronics: Epidermal Electronics with Advanced Capabilities in Near-Field Communication (Small 8/2015). <i>Small</i> , 2015 , 11, 905-905	11	8
27	Moisture-resistant MXene-sodium alginate sponges with sustained superhydrophobicity for monitoring human activities.. <i>Chemical Engineering Journal</i> , 2022 , 432, 134370-134370	14.7	8
26	Surface Wettability for Skin-Interfaced Sensors and Devices. <i>Advanced Functional Materials</i> , 2200260	15.6	8
25	Biodegradable, flexible silicon nanomembrane-based NOx gas sensor system with record-high performance for transient environmental monitors and medical implants. <i>NPG Asia Materials</i> , 2020 , 12,	10.3	7
24	Controlled buckling and postbuckling behaviors of thin film devices suspended on an elastomeric substrate with trapezoidal surface relief structures. <i>International Journal of Solids and Structures</i> , 2019 , 160, 96-102	3.1	7
23	Water-driven actuation of Ornithoctonus huwena spider silk fibers. <i>Applied Physics Letters</i> , 2017 , 110, 053103	3.4	6
22	Strain-Insensitive Hierarchically Structured Stretchable Microstrip Antennas for Robust Wireless Communication. <i>Nano-Micro Letters</i> , 2021 , 13, 108	19.5	6
21	Smart bioadhesives for wound healing and closure.. <i>Bioactive Materials</i> , 2023 , 19, 360-375	16.7	5
20	Biomedical Sensors: Materials and Designs for Wireless Epidermal Sensors of Hydration and Strain (Adv. Funct. Mater. 25/2014). <i>Advanced Functional Materials</i> , 2014 , 24, 3845-3845	15.6	4
19	Effects of material properties and geometric parameters on electromagnetic-assisted transfer printing. <i>Journal Physics D: Applied Physics</i> , 2019 , 52, 255302	3	3
18	Transient Electronics: Dissolvable Metals for Transient Electronics (Adv. Funct. Mater. 5/2014). <i>Advanced Functional Materials</i> , 2014 , 24, 644-644	15.6	3
17	Hetero-Integration of Silicon Nanomembranes with 2D Materials for Bioresorbable, Wireless Neurochemical System.. <i>Advanced Materials</i> , 2022 , e2108203	24	3
16	Circumferential buckling and postbuckling analysis of thin films integrated on a soft cylindrical substrate with surface relief structures. <i>Extreme Mechanics Letters</i> , 2020 , 35, 100624	3.9	3
15	Design of non-dimensional parameters in stretchable microstrip antennas with coupled mechanics-electromagnetics. <i>Materials and Design</i> , 2021 , 205, 109721	8.1	3

14	Strain Sensing: Graphene Reinforced Carbon Nanotube Networks for Wearable Strain Sensors (Adv. Funct. Mater. 13/2016). <i>Advanced Functional Materials</i> , 2016 , 26, 2038-2038	15.6	2
13	Design of the Magnetic Stamp Film for Electromagnetic-Assisted Transfer Printing. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2021 , 88,	2.7	2
12	Strain-Tunable Microfluidic Devices with Crack and Wrinkle Microvalves for Microsphere Screening and Fluidic Logic Gates. <i>ACS Applied Materials & Interfaces</i> , 2021 , 13, 36849-36858	9.5	2
11	Wearable electronic devices for glaucoma monitoring and therapy. <i>Materials and Design</i> , 2021 , 212, 110183	1.3	1
10	Transfer Printing for Cyber-Manufacturing Systems. <i>Springer Series in Wireless Technology</i> , 2017 , 671-690.	0.5	1
9	Strain Sensors: Large-Area Ultrathin Graphene Films by Single-Step Marangoni Self-Assembly for Highly Sensitive Strain Sensing Application (Adv. Funct. Mater. 9/2016). <i>Advanced Functional Materials</i> , 2016 , 26, 1488-1488	15.6	1
8	Highly sensitive piezoresistive pressure sensors based on laser-induced graphene with molybdenum disulfide nanoparticles. <i>Science China Technological Sciences</i> , 2021 , 64, 2408	3.5	1
7	Effects of laser processing parameters on properties of laser-induced graphene by irradiating CO ₂ laser on polyimide. <i>Science China Technological Sciences</i> , 2022 , 65, 41	3.5	1
6	Spin-polarized transport properties of the FeCl ₂ /WSe ₂ /FeCl ₂ van der Waals heterostructure. <i>Applied Physics Letters</i> , 2022 , 120, 203505	3.4	1
5	High-energy all-in-one micro-supercapacitors based on ZnO mesoporous nanosheet-decorated laser-induced porous graphene foams. <i>Journal of Materials Research</i> , 2021 , 36, 1927-1936	2.5	0
4	Multi-deformable piezoelectric energy nano-generator with high conversion efficiency for subtle body movements. <i>Nano Energy</i> , 2022 , 97, 107223	17.1	0
3	Models of Reactive Diffusion for Resorbable Electronics 2016 , 37-56		
2	Inorganic Dissolvable Bioelectronics 2020 , 73-100		
1	The transport properties of Cl-decorated arsenene controlled by electric field. <i>Electronic Structure</i> , 2020 , 2, 045001	2.6	