Huanyu Cheng

List of Publications by Year in Descending Order

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	Smart bioadhesives for wound healing and closure.. *Bioactive Materials*, **2023**, 19, 360-375	16.7	5
120	Hetero-Integration of Silicon Nanomembranes with 2D Materials for Bioresorbable, Wireless Neurochemical System.. *Advanced Materials*, **2022**, e2108203	24	3
119	Human motion-driven self-powered stretchable sensing platform based on laser-induced graphene foams. *Applied Physics Reviews*, **2022**, 9, 011413	17.3	15
118	Moisture-resistant MXene-sodium alginate sponges with sustained superhydrophobicity for monitoring human activities.. *Chemical Engineering Journal*, **2022**, 432, 134370-134370	14.7	8
117	Standalone stretchable RF systems based on asymmetric 3D microstrip antennas with on-body wireless communication and energy harvesting. *Nano Energy*, **2022**, 96, 107069	17.1	12
116	Multi-deformable piezoelectric energy nano-generator with high conversion efficiency for subtle body movements. *Nano Energy*, **2022**, 97, 107223	17.1	0
115	Effects of laser processing parameters on properties of laser-induced graphene by irradiating CO2 laser on polyimide. *Science China Technological Sciences*, **2022**, 65, 41	3.5	1
114	Porous graphene foam composite-based dual-mode sensors for underwater temperature and subtle motion detection. *Chemical Engineering Journal*, **2022**, 444, 136631	14.7	13
113	Spin-polarized transport properties of the FeCl2/WSe2/FeCl2 van der Waals heterostructure. *Applied Physics Letters*, **2022**, 120, 203505	3.4	1
112	Wearable electronic devices for glaucoma monitoring and therapy. *Materials and Design*, **2021**, 212, 110183	8.3	1
111	Strain-Insensitive Hierarchically Structured Stretchable Microstrip Antennas for Robust Wireless Communication. *Nano-Micro Letters*, **2021**, 13, 108	19.5	6
110	Design of the Magnetic Stamp Film for Electromagnetic-Assisted Transfer Printing. *Journal of Applied Mechanics, Transactions ASME*, **2021**, 88,	2.7	2
109	High-energy all-in-one micro-supercapacitors based on ZnO mesoporous nanosheet-decorated laser-induced porous graphene foams. *Journal of Materials Research*, **2021**, 36, 1927-1936	2.5	0
108	Stretchable wideband dipole antennas and rectennas for RF energy harvesting. *Materials Today Physics*, **2021**, 18, 100377-100377	8	17
107	Conformal manufacturing of soft deformable sensors on the curved surface. *International Journal of Extreme Manufacturing*, **2021**, 3, 042001	7.9	13
106	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. *Nano Energy*, **2021**, 81, 105609	17.1	70
105	Micro/nanodevices for assessment and treatment in stomatology and ophthalmology. *Microsystems and Nanoengineering*, **2021**, 7, 11	7.7	10

104	Significantly improved conductivity of spinel Co3O4 porous nanowires partially substituted by Sn in tetrahedral sites for high-performance quasi-solid-state supercapacitors. *Journal of Materials Chemistry A*, **2021**, 9, 7005-7017	13	12
103	Strain-Tunable Microfluidic Devices with Crack and Wrinkle Microvalves for Microsphere Screening and Fluidic Logic Gates. *ACS Applied Materials & Interfaces*, **2021**, 13, 36849-36858	9.5	2
102	Design of non-dimensional parameters in stretchable microstrip antennas with coupled mechanics-electromagnetics. *Materials and Design*, **2021**, 205, 109721	8.1	3
101	Fabricating functional circuits on 3D freeform surfaces via intense pulsed light-induced zinc mass transfer.. *Materials Today*, **2021**, 50, 24-34	21.8	29
100	Highly sensitive piezoresistive pressure sensors based on laser-induced graphene with molybdenum disulfide nanoparticles. *Science China Technological Sciences*, **2021**, 64, 2408	3.5	1
99	Laser-induced graphene non-enzymatic glucose sensors for on-body measurements. *Biosensors and Bioelectronics*, **2021**, 193, 113606	11.8	28
98	Wearable Pressure Sensors Based on MXene/Tissue Papers for Wireless Human Health Monitoring.. *ACS Applied Materials & Interfaces*, **2021**, 13, 60531-60543	9.5	29
97	Skin-interfaced microfluidic devices with one-opening chambers and hydrophobic valves for sweat collection and analysis. *Lab on A Chip*, **2020**, 20, 2635-2645	7.2	35
96	Recent Developments of Flexible and Stretchable Electrochemical Biosensors. *Micromachines*, **2020**, 11,	3.3	34
95	Efficient coupling of semiconductors into metallic MnO2@CoMn2O4 heterostructured electrode with boosted charge transfer for high-performance supercapacitors. *Electrochimica Acta*, **2020**, 347, 136246	6.7	30
94	3D Printed, Customizable, and Multifunctional Smart Electronic Eyeglasses for Wearable Healthcare Systems and Human-Machine Interfaces. *ACS Applied Materials & Interfaces*, **2020**, 12, 21424-21432	9.5	23
93	Inorganic Dissolvable Bioelectronics **2020**, 73-100		
92	The transport properties of Cl-decorated arsenene controlled by electric field. *Electronic Structure*, **2020**, 2, 045001	2.6	
91	Novel gas sensing platform based on a stretchable laser-induced graphene pattern with self-heating capabilities. *Journal of Materials Chemistry A*, **2020**, 8, 6487-6500	13	72
90	Circumferential buckling and postbuckling analysis of thin films integrated on a soft cylindrical substrate with surface relief structures. *Extreme Mechanics Letters*, **2020**, 35, 100624	3.9	3
89	Bioinspired, multifunctional dual-mode pressure sensors as electronic skin for decoding complex loading processes and human motions. *Nano Energy*, **2020**, 78, 105337	17.1	57
88	Stretchable, ultrasensitive, and low-temperature NO2 sensors based on MoS2@rGO nanocomposites. *Materials Today Physics*, **2020**, 15, 100265	8	23
87	Stretchable gas sensors for detecting biomarkers from humans and exposed environments. *TrAC - Trends in Analytical Chemistry*, **2020**, 133, 116085-116085	14.6	10

86	Biodegradable, flexible silicon nanomembrane-based NOx gas sensor system with record-high performance for transient environmental monitors and medical implants. *NPG Asia Materials*, **2020**, 12,	10.3	7
85	Expandable and implantable bioelectronic complex for analyzing and regulating real-time activity of the urinary bladder. *Science Advances*, **2020**, 6,	14.3	10
84	Stretchable piezoelectric energy harvesters and self-powered sensors for wearable and implantable devices. *Biosensors and Bioelectronics*, **2020**, 168, 112569	11.8	98
83	Wearable Circuits Sintered at Room Temperature Directly on the Skin Surface for Health Monitoring. *ACS Applied Materials & Interfaces*, **2020**, 12, 45504-45515	9.5	29
82	Multifunctional Stretchable Sensors for Continuous Monitoring of Long-Term Leaf Physiology and Microclimate. *ACS Omega*, **2019**, 4, 9522-9530	3.9	34
81	Large-area graphene-nanomesh/carbon-nanotube hybrid membranes for ionic and molecular nanofiltration. *Science*, **2019**, 364, 1057-1062	33.3	291
80	Integration of biological systems with electronic-mechanical assemblies. *Acta Biomaterialia*, **2019**, 95, 91-111	10.8	16
79	Effects of material properties and geometric parameters on electromagnetic-assisted transfer printing. *Journal Physics D: Applied Physics*, **2019**, 52, 255302	3	3
78	Transfer Printing and its Applications in Flexible Electronic Devices. *Nanomaterials*, **2019**, 9,	5.4	35
77	Structural Design for Stretchable Microstrip Antennas. *ACS Applied Materials & Interfaces*, **2019**, 11, 8867-8877	9.5	32
76	Flexible and stretchable metal oxide gas sensors for healthcare. *Science China Technological Sciences*, **2019**, 62, 209-223	3.5	27
75	Controlled buckling and postbuckling behaviors of thin film devices suspended on an elastomeric substrate with trapezoidal surface relief structures. *International Journal of Solids and Structures*, **2019**, 160, 96-102	3.1	7
74	Design and Analysis of Magnetic-Assisted Transfer Printing. *Journal of Applied Mechanics, Transactions ASME*, **2018**, 85,	2.7	13
73	Flexible Conductive Composite Integrated with Personal Earphone for Wireless, Real-Time Monitoring of Electrophysiological Signs. *ACS Applied Materials & Interfaces*, **2018**, 10, 21184-21190	9.5	37
72	Recent Development of Flexible and Stretchable Antennas for Bio-Integrated Electronics. *Sensors*, **2018**, 18,	3.8	28
71	Fully Water-Soluble, High-Performance Transient Sensors on a Versatile Galactomannan Substrate Derived from the Endosperm. *ACS Applied Materials & Interfaces*, **2018**, 10, 36664-36674	9.5	23
70	Tunable Adhesion for Bio-Integrated Devices. *Micromachines*, **2018**, 9,	3.3	11
69	Water-driven actuation of Ornithoctonus huwena spider silk fibers. *Applied Physics Letters*, **2017**, 110, 053103	3.4	6

68	Synthetic Melanin E-Ink. *ACS Applied Materials & Interfaces*, **2017**, 9, 16553-16560	9.5	33
67	Assembly of Heterogeneous Materials for Biology and Electronics: From Bio-Inspiration to Bio-Integration. *Journal of Electronic Packaging, Transactions of the ASME*, **2017**, 139,	2	12
66	Buckling analysis of stiff thin films suspended on a substrate with tripod surface relief structure. *Applied Physics Letters*, **2017**, 111, 121904	3.4	9
65	Real Time Analysis of Bioanalytes in Healthcare, Food, Zoology and Botany. *Sensors*, **2017**, 18,	3.8	15
64	Reconfigurable systems for multifunctional electronics. *Npj Flexible Electronics*, **2017**, 1,	10.7	22
63	Dissolvable tattoo sensors: from science fiction to a viable technology. *Physica Scripta*, **2017**, 92, 013001	2.6	16
62	Transfer Printing for Cyber-Manufacturing Systems. *Springer Series in Wireless Technology*, **2017**, 671-690	0.5	1
61	Models of Reactive Diffusion for Resorbable Electronics **2016**, 37-56		
60	Strain Sensing: Graphene Reinforced Carbon Nanotube Networks for Wearable Strain Sensors (Adv. Funct. Mater. 13/2016). *Advanced Functional Materials*, **2016**, 26, 2038-2038	15.6	2
59	Large-Area Ultrathin Graphene Films by Single-Step Marangoni Self-Assembly for Highly Sensitive Strain Sensing Application. *Advanced Functional Materials*, **2016**, 26, 1322-1329	15.6	270
58	Bioresorbable silicon electronic sensors for the brain. *Nature*, **2016**, 530, 71-6	50.4	582
57	Recent development of transient electronics. *Theoretical and Applied Mechanics Letters*, **2016**, 6, 21-31	1.8	43
56	Graphene Reinforced Carbon Nanotube Networks for Wearable Strain Sensors. *Advanced Functional Materials*, **2016**, 26, 2078-2084	15.6	276
55	Inorganic dissolvable electronics: materials and devices for biomedicine and environment. *Journal of Materials Research*, **2016**, 31, 2549-2570	2.5	26
54	Strain Sensors: Large-Area Ultrathin Graphene Films by Single-Step Marangoni Self-Assembly for Highly Sensitive Strain Sensing Application (Adv. Funct. Mater. 9/2016). *Advanced Functional Materials*, **2016**, 26, 1488-1488	15.6	1
53	A nonlinear mechanics model of bio-inspired hierarchical lattice materials consisting of horseshoe microstructures. *Journal of the Mechanics and Physics of Solids*, **2016**, 90, 179-202	5	155
52	Bioresorbable silicon electronics for transient spatiotemporal mapping of electrical activity from the cerebral cortex. *Nature Materials*, **2016**, 15, 782-791	27	296
51	Stretchable Electronics: Epidermal Electronics with Advanced Capabilities in Near-Field Communication (Small 8/2015). *Small*, **2015**, 11, 905-905	11	8

50	Soft network composite materials with deterministic and bio-inspired designs. *Nature Communications*, **2015**, 6, 6566	17.4	289
49	Soft, curved electrode systems capable of integration on the auricle as a persistent brain-computer interface. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 3920-5	11.5	238
48	Biodegradable elastomers and silicon nanomembranes/nanoribbons for stretchable, transient electronics, and biosensors. *Nano Letters*, **2015**, 15, 2801-8	11.5	226
47	Dissolution chemistry and biocompatibility of silicon- and germanium-based semiconductors for transient electronics. *ACS Applied Materials & Interfaces*, **2015**, 7, 9297-305	9.5	113
46	Modulated Degradation of Transient Electronic Devices through Multilayer Silk Fibroin Pockets. *ACS Applied Materials & Interfaces*, **2015**, 7, 19870-5	9.5	57
45	Epidermal electronics with advanced capabilities in near-field communication. *Small*, **2015**, 11, 906-12	11	191
44	Materials science. Assembly of micro/nanomaterials into complex, three-dimensional architectures by compressive buckling. *Science*, **2015**, 347, 154-9	33.3	587
43	Fractal design concepts for stretchable electronics. *Nature Communications*, **2014**, 5, 3266	17.4	625
42	3D multifunctional integumentary membranes for spatiotemporal cardiac measurements and stimulation across the entire epicardium. *Nature Communications*, **2014**, 5, 3329	17.4	384
41	High-performance biodegradable/transient electronics on biodegradable polymers. *Advanced Materials*, **2014**, 26, 3905-11	24	283
40	Materials and Designs for Wireless Epidermal Sensors of Hydration and Strain. *Advanced Functional Materials*, **2014**, 24, 3846-3854	15.6	230
39	Electrochemical Properties of Si-Ge Heterostructures as an Anode Material for Lithium Ion Batteries. *Advanced Functional Materials*, **2014**, 24, 1458-1464	15.6	71
38	Transient Electronics: Dissolvable Metals for Transient Electronics (Adv. Funct. Mater. 5/2014). *Advanced Functional Materials*, **2014**, 24, 644-644	15.6	3
37	Biomedical Sensors: Materials and Designs for Wireless Epidermal Sensors of Hydration and Strain (Adv. Funct. Mater. 25/2014). *Advanced Functional Materials*, **2014**, 24, 3845-3845	15.6	4
36	Dissolution chemistry and biocompatibility of single-crystalline silicon nanomembranes and associated materials for transient electronics. *ACS Nano*, **2014**, 8, 5843-51	16.7	145
35	Rugged and breathable forms of stretchable electronics with adherent composite substrates for transcutaneous monitoring. *Nature Communications*, **2014**, 5, 4779	17.4	245
34	Dissolvable Metals for Transient Electronics. *Advanced Functional Materials*, **2014**, 24, 645-658	15.6	290
33	25th anniversary article: materials for high-performance biodegradable semiconductor devices. *Advanced Materials*, **2014**, 26, 1992-2000	24	130

32	Buckling of a stiff thin film on a pre-strained bi-layer substrate. *International Journal of Solids and Structures*, **2014**, 51, 3113-3118	3.1	45
31	A Simply Analytic Study of Buckled Thin Films on Compliant Substrates. *Journal of Applied Mechanics, Transactions ASME*, **2014**, 81,	2.7	24
30	Mechanics of Interfacial Delamination in Epidermal Electronics Systems. *Journal of Applied Mechanics, Transactions ASME*, **2014**, 81,	2.7	41
29	Mechanics of Solar Module on Structured Substrates. *Journal of Applied Mechanics, Transactions ASME*, **2014**, 81,	2.7	16
28	Multifunctional skin-like electronics for quantitative, clinical monitoring of cutaneous wound healing. *Advanced Healthcare Materials*, **2014**, 3, 1597-607	10.1	175
27	Dissolution Behaviors and Applications of Silicon Oxides and Nitrides in Transient Electronics. *Advanced Functional Materials*, **2014**, 24, 4427-4434	15.6	170
26	Capacitive epidermal electronics for electrically safe, long-term electrophysiological measurements. *Advanced Healthcare Materials*, **2014**, 3, 642-8	10.1	200
25	Surface-Coverage-Dependent Cycle Stability of Core-Shell Nanostructured Electrodes for Use in Lithium Ion Batteries. *Advanced Energy Materials*, **2014**, 4, 1300472	21.8	17
24	Mechanics of finger-tip electronics. *Journal of Applied Physics*, **2013**, 114, 164511	2.5	16
23	Analysis of a concentric coplanar capacitor for epidermal hydration sensing. *Sensors and Actuators A: Physical*, **2013**, 203, 149-153	3.9	25
22	Epidermal impedance sensing sheets for precision hydration assessment and spatial mapping. *IEEE Transactions on Biomedical Engineering*, **2013**, 60, 2848-57	5	76
21	Ultrathin conformal devices for precise and continuous thermal characterization of human skin. *Nature Materials*, **2013**, 12, 938-44	27	826
20	Materials and optimized designs for human-machine interfaces via epidermal electronics. *Advanced Materials*, **2013**, 25, 6839-46	24	509
19	Mechanics of ultra-stretchable self-similar serpentine interconnects. *Acta Materialia*, **2013**, 61, 7816-7823	3.4	147
18	An Analytical Model of Reactive Diffusion for Transient Electronics. *Advanced Functional Materials*, **2013**, 23, 3106-3114	15.6	63
17	Stretchable batteries with self-similar serpentine interconnects and integrated wireless recharging systems. *Nature Communications*, **2013**, 4, 1543	17.4	978
16	Transient, biocompatible electronics and energy harvesters based on ZnO. *Small*, **2013**, 9, 3398-404	11	280
15	Facile synthesis of free-standing silicon membranes with three-dimensional nanoarchitecture for anodes of lithium ion batteries. *Nano Letters*, **2013**, 13, 3340-6	11.5	63

14	Epidermal Electronics: Materials and Optimized Designs for Human-Machine Interfaces Via Epidermal Electronics (Adv. Mater. 47/2013). *Advanced Materials*, **2013**, 25, 6776-6776	24	9
13	A Finite-Deformation Mechanics Theory for Kinetically Controlled Transfer Printing. *Journal of Applied Mechanics, Transactions ASME*, **2013**, 80,	2.7	19
12	A Viscoelastic Model for the Rate Effect in Transfer Printing. *Journal of Applied Mechanics, Transactions ASME*, **2013**, 80,	2.7	22
11	An analytical model for shear-enhanced adhesiveless transfer printing. *Mechanics Research Communications*, **2012**, 43, 46-49	2.2	40
10	Si/Ge double-layered nanotube array as a lithium ion battery anode. *ACS Nano*, **2012**, 6, 303-9	16.7	209
9	A physically transient form of silicon electronics. *Science*, **2012**, 337, 1640-4	33.3	862
8	Silicon nanomembranes for fingertip electronics. *Nanotechnology*, **2012**, 23, 344004	3.4	168
7	Elastomer surfaces with directionally dependent adhesion strength and their use in transfer printing with continuous roll-to-roll applications. *Advanced Materials*, **2012**, 24, 2117-22	24	85
6	Enhanced adhesion with pedestal-shaped elastomeric stamps for transfer printing. *Applied Physics Letters*, **2012**, 100, 171909	3.4	47
5	Stretchable, transparent graphene interconnects for arrays of microscale inorganic light emitting diodes on rubber substrates. *Nano Letters*, **2011**, 11, 3881-6	11.5	281
4	An analytical model of strain isolation for stretchable and flexible electronics. *Applied Physics Letters*, **2011**, 98, 061902	3.4	38
3	Shear-enhanced adhesiveless transfer printing for use in deterministic materials assembly. *Applied Physics Letters*, **2011**, 98, 264104	3.4	106
2	Process and wear behavior of monolithic SiC and short carbon fiber-SiC matrix composite. *Journal of Materials Science*, **2000**, 35, 4477-4484	4.3	9
1	Surface Wettability for Skin-Interfaced Sensors and Devices. *Advanced Functional Materials*,2200260	15.6	8