Huanyu Cheng

List of Publications by Year
in descending order

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134	17,648	23567 58	12946 131
papers	citations	h-index	g-index

141	141	141	16447
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Smart bioadhesives for wound healing and closure. Bioactive Materials, 2023, 19, 360-375.	15.6	74
2	Moisture-resistant MXene-sodium alginate sponges with sustained superhydrophobicity for monitoring human activities. Chemical Engineering Journal, 2022, 432, 134370.	12.7	55
3	Heteroâ€Integration of Silicon Nanomembranes with 2D Materials for Bioresorbable, Wireless Neurochemical System. Advanced Materials, 2022, 34, e2108203.	21.0	28
4	Human motion-driven self-powered stretchable sensing platform based on laser-induced graphene foams. Applied Physics Reviews, 2022, 9, .	11.3	77
5	Stretchable 3D Wideband Dipole Antennas from Mechanical Assembly for On-Body Communication. ACS Applied Materials & Interfaces, 2022, 14, 12855-12862.	8.0	12
6	Reconfigurable, Stretchable Strain Sensor with the Localized Controlling of Substrate Modulus by Two-Phase Liquid Metal Cells. Nanomaterials, 2022, 12, 882.	4.1	11
7	Intrinsically Breathable and Flexible NO₂ Gas Sensors Produced by Laser Direct Writing of Self-Assembled Block Copolymers. ACS Applied Materials & Interfaces, 2022, 14, 17818-17825.	8.0	39
8	Standalone stretchable RF systems based on asymmetric 3D microstrip antennas with on-body wireless communication and energy harvesting. Nano Energy, 2022, 96, 107069.	16.0	67
9	Multi-deformable piezoelectric energy nano-generator with high conversion efficiency for subtle body movements. Nano Energy, 2022, 97, 107223.	16.0	16
10	Effects of laser processing parameters on properties of laser-induced graphene by irradiating CO2 laser on polyimide. Science China Technological Sciences, 2022, 65, 41-52.	4.0	24
11	Surface Wettability for Skinâ€Interfaced Sensors and Devices. Advanced Functional Materials, 2022, 32, .	14.9	67
12	Porous graphene foam composite-based dual-mode sensors for underwater temperature and subtle motion detection. Chemical Engineering Journal, 2022, 444, 136631.	12.7	69
13	Spin-polarized transport properties of the FeCl2/WSe2/FeCl2 van der Waals heterostructure. Applied Physics Letters, 2022, 120, .	3.3	3
14	Direct Laser Writing of Microscale Metal Oxide Gas Sensors from Liquid Precursors. ACS Applied Materials & Interfaces, 2022, 14, 28163-28173.	8.0	10
15	Highly sensitive and broadband photodetectors based on WSe2/MoS2 heterostructures with van der Waals contact electrodes. Applied Physics Letters, 2022, 121, .	3.3	8
16	Moisture-resistant, stretchable NOx gas sensors based on laser-induced graphene for environmental monitoring and breath analysis. Microsystems and Nanoengineering, 2022, 8, .	7.0	61
17	Multimodal Sensors with Decoupled Sensing Mechanisms. Advanced Science, 2022, 9, .	11.2	120
18	Collapse of arbitrary-shaped soft microfluidics. International Journal of Solids and Structures, 2022, 252, 111821.	2.7	3

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19	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.	16.0	148
20	Micro/nanodevices for assessment and treatment in stomatology and ophthalmology. Microsystems and Nanoengineering, 2021, 7, 11.	7.0	19
21	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.	10.3	31
22	Strain-Insensitive Hierarchically Structured Stretchable Microstrip Antennas for Robust Wireless Communication. Nano-Micro Letters, 2021, 13, 108.	27.0	17
23	Design of the Magnetic Stamp Film for Electromagnetic-Assisted Transfer Printing. Journal of Applied Mechanics, Transactions ASME, 2021, 88, .	2.2	9
24	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.	2.6	3
25	Stretchable wideband dipole antennas and rectennas for RF energy harvesting. Materials Today Physics, 2021, 18, 100377.	6.0	41
26	(Invited) Additive Manufacturing of Functional Circuits on 3D Freeform Surfaces. ECS Meeting Abstracts, 2021, MA2021-01, 1107-1107.	0.0	2
27	Conformal manufacturing of soft deformable sensors on the curved surface. International Journal of Extreme Manufacturing, 2021, 3, 042001.	12.7	68
28	Strain-Tunable Microfluidic Devices with Crack and Wrinkle Microvalves for Microsphere Screening and Fluidic Logic Gates. ACS Applied Materials & Interfaces, 2021, 13, 36849-36858.	8.0	12
29	Design of non-dimensional parameters in stretchable microstrip antennas with coupled mechanics-electromagnetics. Materials and Design, 2021, 205, 109721.	7.0	10
30	Fabricating functional circuits on 3D freeform surfaces via intense pulsed light-induced zinc mass transfer. Materials Today, 2021, 50, 24-34.	14.2	98
31	Highly sensitive piezoresistive pressure sensors based on laser-induced graphene with molybdenum disulfide nanoparticles. Science China Technological Sciences, 2021, 64, 2408-2414.	4.0	17
32	Laser-induced graphene non-enzymatic glucose sensors for on-body measurements. Biosensors and Bioelectronics, 2021, 193, 113606.	10.1	112
33	Wearable electronic devices for glaucoma monitoring and therapy. Materials and Design, 2021, 212, 110183.	7.0	9
34	Wearable Pressure Sensors Based on MXene/Tissue Papers for Wireless Human Health Monitoring. ACS Applied Materials & Interfaces, 2021, 13, 60531-60543.	8.0	121
35	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.	10.3	135
36	Circumferential buckling and postbuckling analysis of thin films integrated on a soft cylindrical substrate with surface relief structures. Extreme Mechanics Letters, 2020, 35, 100624.	4.1	4

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37	Bioinspired, multifunctional dual-mode pressure sensors as electronic skin for decoding complex loading processes and human motions. Nano Energy, 2020, 78, 105337.	16.0	121
38	Stretchable, ultrasensitive, and low-temperature NO2 sensors based on MoS2@rGO nanocomposites. Materials Today Physics, 2020, 15, 100265.	6.0	40
39	Stretchable gas sensors for detecting biomarkers from humans and exposed environments. TrAC - Trends in Analytical Chemistry, 2020, 133, 116085.	11.4	32
40	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, .	7.9	32
41	Expandable and implantable bioelectronic complex for analyzing and regulating real-time activity of the urinary bladder. Science Advances, 2020, 6, .	10.3	34
42	Stretchable piezoelectric energy harvesters and self-powered sensors for wearable and implantable devices. Biosensors and Bioelectronics, 2020, 168, 112569.	10.1	225
43	Wearable Circuits Sintered at Room Temperature Directly on the Skin Surface for Health Monitoring. ACS Applied Materials & Interfaces, 2020, 12, 45504-45515.	8.0	65
44	Skin-interfaced microfluidic devices with one-opening chambers and hydrophobic valves for sweat collection and analysis. Lab on A Chip, 2020, 20, 2635-2645.	6.0	66
45	Recent Developments of Flexible and Stretchable Electrochemical Biosensors. Micromachines, 2020, 11, 243.	2.9	57
46	Efficient coupling of semiconductors into metallic MnO2@CoMn2O4 heterostructured electrode with boosted charge transfer for high-performance supercapacitors. Electrochimica Acta, 2020, 347, 136246.	5.2	54
47	3D Printed, Customizable, and Multifunctional Smart Electronic Eyeglasses for Wearable Healthcare Systems and Humanâ€“Machine Interfaces. ACS Applied Materials & Interfaces, 2020, 12, 21424-21432.	8.0	68
48	Inorganic Dissolvable Bioelectronics. , 2020, , 73-100.		0
49	Laser-induced porous graphene gas sensing platform toward the electronic nose. , 2020, , .		1
50	An integrated design approach of piezoelectric vibration energy harvesters. , 2020, , .		0
51	The transport properties of Cl-decorated arsenene controlled by electric field. Electronic Structure, 2020, 2, 045001.	2.8	0
52	Multifunctional Stretchable Sensors for Continuous Monitoring of Long-Term Leaf Physiology and Microclimate. ACS Omega, 2019, 4, 9522-9530.	3.5	76
53	Large-area graphene-nanomesh/carbon-nanotube hybrid membranes for ionic and molecular nanofiltration. Science, 2019, 364, 1057-1062.	12.6	475
54	Integration of biological systems with electronic-mechanical assemblies. Acta Biomaterialia, 2019, 95, 91-111.	8.3	23

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55	Effects of material properties and geometric parameters on electromagnetic-assisted transfer printing. Journal Physics D: Applied Physics, 2019, 52, 255302.	2.8	8
56	Transfer Printing and its Applications in Flexible Electronic Devices. Nanomaterials, 2019, 9, 283.	4.1	78
57	Structural Design for Stretchable Microstrip Antennas. ACS Applied Materials & Interfaces, 2019, 11, 8867-8877.	8.0	61
58	Flexible and stretchable metal oxide gas sensors for healthcare. Science China Technological Sciences, 2019, 62, 209-223.	4.0	44
59	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.	2.7	14
60	Rapid preparation and medical application of wearable Flexible electronics. Guangxue Jingmi Gongcheng/Optics and Precision Engineering, 2019, 27, 1362-1369.	0.5	0
61	Recent Development of Flexible and Stretchable Antennas for Bio-Integrated Electronics. Sensors, 2018, 18, 4364.	3.8	42
62	Fully Water-Soluble, High-Performance Transient Sensors on a Versatile Galactomannan Substrate Derived from the Endosperm. ACS Applied Materials & Interfaces, 2018, 10, 36664-36674.	8.0	26
63	Tunable Adhesion for Bio-Integrated Devices. Micromachines, 2018, 9, 529.	2.9	15
64	Design and Analysis of Magnetic-Assisted Transfer Printing. Journal of Applied Mechanics, Transactions ASME, 2018, 85, .	2.2	18
65	Real Time Analysis of Bioanalytes in Healthcare, Food, Zoology and Botany. Sensors, 2018, 18, 5.	3.8	32
66	Flexible Conductive Composite Integrated with Personal Earphone for Wireless, Real-Time Monitoring of Electrophysiological Signs. ACS Applied Materials & Interfaces, 2018, 10, 21184-21190.	8.0	52
67	Water-driven actuation of Ornithoctonus huwena spider silk fibers. Applied Physics Letters, 2017, 110, .	3.3	8
68	Synthetic Melanin E-Ink. ACS Applied Materials & Interfaces, 2017, 9, 16553-16560.	8.0	39
69	Assembly of Heterogeneous Materials for Biology and Electronics: From Bio-Inspiration to Bio-Integration. Journal of Electronic Packaging, Transactions of the ASME, 2017, 139, .	1.8	12
70	Buckling analysis of stiff thin films suspended on a substrate with tripod surface relief structure. Applied Physics Letters, 2017, 111, .	3.3	13
71	Reconfigurable systems for multifunctional electronics. Npj Flexible Electronics, 2017, 1, .	10.7	27
72	Dissolvable tattoo sensors: from science fiction to a viable technology. Physica Scripta, 2017, 92, 013001.	2.5	20

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73	Transfer Printing for Cyber-Manufacturing Systems. Springer Series in Wireless Technology, 2017, , 671-690.	1.1	1
74	Graphene Reinforced Carbon Nanotube Networks for Wearable Strain Sensors. Advanced Functional Materials, 2016, 26, 2078-2084.	14.9	328
75	Inorganic dissolvable electronics: materials and devices for biomedicine and environment. Journal of Materials Research, 2016, 31, 2549-2570.	2.6	28
76	Strain Sensors: Largeâ€Area Ultrathin Graphene Films by Singleâ€Step Marangoni Selfâ€Assembly for Highly Sensitive Strain Sensing Application (Adv. Funct. Mater. 9/2016). Advanced Functional Materials, 2016, 26, 1488-1488.	14.9	2
77	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.	4.8	220
78	Bioresorbable silicon electronics for transient spatiotemporal mapping of electrical activity fromÂthe cerebral cortex. Nature Materials, 2016, 15, 782-791.	27.5	400
79	Strain Sensing: Graphene Reinforced Carbon Nanotube Networks for Wearable Strain Sensors (Adv.) Tj ETQq1 1 0.784314 rgBT /Over	14.9	3
80	Largeâ€Area Ultrathin Graphene Films by Singleâ€Step Marangoni Selfâ€Assembly for Highly Sensitive Strain Sensing Application. Advanced Functional Materials, 2016, 26, 1322-1329.	14.9	326
81	Bioresorbable silicon electronic sensors for the brain. Nature, 2016, 530, 71-76.	27.8	778
82	Recent development of transient electronics. Theoretical and Applied Mechanics Letters, 2016, 6, 21-31.	2.8	61
83	Assembly of micro/nanomaterials into complex, three-dimensional architectures by compressive buckling. Science, 2015, 347, 154-159.	12.6	745
84	Stretchable Electronics: Epidermal Electronics with Advanced Capabilities in Near-Field Communication (Small 8/2015). Small, 2015, 11, 905-905.	10.0	8
85	Soft network composite materials with deterministic and bio-inspired designs. Nature Communications, 2015, 6, 6566.	12.8	392
86	Soft, curved electrode systems capable of integration on the auricle as a persistent brainâ€“computer interface. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 3920-3925.	7.1	319
87	Biodegradable Elastomers and Silicon Nanomembranes/Nanoribbons for Stretchable, Transient Electronics, and Biosensors. Nano Letters, 2015, 15, 2801-2808.	9.1	281
88	Dissolution Chemistry and Biocompatibility of Silicon- and Germanium-Based Semiconductors for Transient Electronics. ACS Applied Materials & Interfaces, 2015, 7, 9297-9305.	8.0	147
89	Modulated Degradation of Transient Electronic Devices through Multilayer Silk Fibroin Pockets. ACS Applied Materials & Interfaces, 2015, 7, 19870-19875.	8.0	66
90	Epidermal Electronics with Advanced Capabilities in Near-Field Communication. Small, 2015, 11, 906-912.	10.0	224

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91	A Simply Analytic Study of Buckled Thin Films on Compliant Substrates. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	2.2	27
92	Mechanics of Interfacial Delamination in Epidermal Electronics Systems. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	2.2	46
93	Mechanics of Solar Module on Structured Substrates. Journal of Applied Mechanics, Transactions ASME, 2014, 81, .	2.2	18
94	Multifunctional Skinâ€Like Electronics for Quantitative, Clinical Monitoring of Cutaneous Wound Healing. Advanced Healthcare Materials, 2014, 3, 1597-1607.	7.6	226
95	Dissolution Behaviors and Applications of Silicon Oxides and Nitrides in Transient Electronics. Advanced Functional Materials, 2014, 24, 4427-4434.	14.9	206
96	Capacitive Epidermal Electronics for Electrically Safe, Longâ€Term Electrophysiological Measurements. Advanced Healthcare Materials, 2014, 3, 642-648.	7.6	231
97	Surfaceâ€Coverageâ€Dependent Cycle Stability of Coreâ€Shell Nanostructured Electrodes for Use in Lithium Ion Batteries. Advanced Energy Materials, 2014, 4, 1300472.	19.5	18
98	Fractal design concepts for stretchable electronics. Nature Communications, 2014, 5, 3266.	12.8	821
99	3D multifunctional integumentary membranes for spatiotemporal cardiac measurements and stimulation across the entire epicardium. Nature Communications, 2014, 5, 3329.	12.8	485
100	Highâ€Performance Biodegradable/Transient Electronics on Biodegradable Polymers. Advanced Materials, 2014, 26, 3905-3911.	21.0	359
101	Materials and Designs for Wireless Epidermal Sensors of Hydration and Strain. Advanced Functional Materials, 2014, 24, 3846-3854.	14.9	263
102	Electrochemical Properties of Siâ€Ge Heterostructures as an Anode Material for Lithium Ion Batteries. Advanced Functional Materials, 2014, 24, 1458-1464.	14.9	78
103	Transient Electronics: Dissolvable Metals for Transient Electronics (Adv. Funct. Mater. 5/2014). Advanced Functional Materials, 2014, 24, 644-644.	14.9	5
104	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.	14.9	4
105	Dissolution Chemistry and Biocompatibility of Single-Crystalline Silicon Nanomembranes and Associated Materials for Transient Electronics. ACS Nano, 2014, 8, 5843-5851.	14.6	171
106	Rugged and breathable forms of stretchable electronics with adherent composite substrates for transcutaneous monitoring. Nature Communications, 2014, 5, 4779.	12.8	309
107	Dissolvable Metals for Transient Electronics. Advanced Functional Materials, 2014, 24, 645-658.	14.9	379
108	25th Anniversary Article: Materials for Highâ€Performance Biodegradable Semiconductor Devices. Advanced Materials, 2014, 26, 1992-2000.	21.0	161

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109	Buckling of a stiff thin film on a pre-strained bi-layer substrate. International Journal of Solids and Structures, 2014, 51, 3113-3118.	2.7	52
110	Mechanics of finger-tip electronics. Journal of Applied Physics, 2013, 114, 164511.	2.5	19
111	Analysis of a concentric coplanar capacitor for epidermal hydration sensing. Sensors and Actuators A: Physical, 2013, 203, 149-153.	4.1	33
112	Epidermal Impedance Sensing Sheets for Precision Hydration Assessment and Spatial Mapping. IEEE Transactions on Biomedical Engineering, 2013, 60, 2848-2857.	4.2	95
113	Ultrathin conformal devices for precise and continuous thermal characterization of humanÂskin. Nature Materials, 2013, 12, 938-944.	27.5	1,002
114	Materials and Optimized Designs for Humanâ€Machine Interfaces Via Epidermal Electronics. Advanced Materials, 2013, 25, 6839-6846.	21.0	649
115	Mechanics of ultra-stretchable self-similar serpentine interconnects. Acta Materialia, 2013, 61, 7816-7827.	7.9	183
116	An Analytical Model of Reactive Diffusion for Transient Electronics. Advanced Functional Materials, 2013, 23, 3106-3114.	14.9	74
117	Stretchable batteries with self-similar serpentine interconnects and integrated wireless recharging systems. Nature Communications, 2013, 4, 1543.	12.8	1,169
118	Transient, Biocompatible Electronics and Energy Harvesters Based on ZnO. Small, 2013, 9, 3398-3404.	10.0	342
119	Facile Synthesis of Free-Standing Silicon Membranes with Three-Dimensional Nanoarchitecture for Anodes of Lithium Ion Batteries. Nano Letters, 2013, 13, 3340-3346.	9.1	69
120	Epidermal Electronics: Materials and Optimized Designs for Humanâ€Machine Interfaces Via Epidermal Electronics (Adv. Mater. 47/2013). Advanced Materials, 2013, 25, 6776-6776.	21.0	11
121	A Finite-Deformation Mechanics Theory for Kinetically Controlled Transfer Printing. Journal of Applied Mechanics, Transactions ASME, 2013, 80, .	2.2	29
122	A Viscoelastic Model for the Rate Effect in Transfer Printing. Journal of Applied Mechanics, Transactions ASME, 2013, 80, .	2.2	34
123	Enhanced adhesion with pedestal-shaped elastomeric stamps for transfer printing. Applied Physics Letters, 2012, 100, .	3.3	57
124	Si/Ge Double-Layered Nanotube Array as a Lithium Ion Battery Anode. ACS Nano, 2012, 6, 303-309.	14.6	225
125	A Physically Transient Form of Silicon Electronics. Science, 2012, 337, 1640-1644.	12.6	1,085
126	Silicon nanomembranes for fingertip electronics. Nanotechnology, 2012, 23, 344004.	2.6	196

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127	Elastomer Surfaces with Directionally Dependent Adhesion Strength and Their Use in Transfer Printing with Continuous Rollâ€toâ€Roll Applications. Advanced Materials, 2012, 24, 2117-2122.	21.0	115
128	An analytical model for shear-enhanced adhesiveless transfer printing. Mechanics Research Communications, 2012, 43, 46-49.	1.8	52
129	Stretchable, Transparent Graphene Interconnects for Arrays of Microscale Inorganic Light Emitting Diodes on Rubber Substrates. Nano Letters, 2011, 11, 3881-3886.	9.1	307
130	An analytical model of strain isolation for stretchable and flexible electronics. Applied Physics Letters, 2011, 98, .	3.3	45
131	Shear-enhanced adhesiveless transfer printing for use in deterministic materials assembly. Applied Physics Letters, 2011, 98, .	3.3	127
132	Process and wear behavior of monolithic SiC and short carbon fiber-SiC matrix composite. Journal of Materials Science, 2000, 35, 4477-4484.	3.7	9
133	Fabrication Procedure for Rugged and Breathable Forms of Stretchable Electronics with Adherent and Composite Substrates. Protocol Exchange, 0, , .	0.3	0
134	Controlled Bi-Axial Buckling and Postbuckling of Thin Films Suspended on a Stretchable Substrate With Square Prism Relief Structures. International Journal of Applied Mechanics, 0, , .	2.2	4