

Nanshu Lu

List of Publications by Year in Descending Order

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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.

113
papers

15,773
citations

51
h-index

125
g-index

125
ext. papers

18,390
ext. citations

10.1
avg, IF

6.57
L-index

#	Paper	IF	Citations
113	Strategies for body-conformable electronics. <i>Matter</i> , 2022 , 5, 1104-1136	12.7	12
112	Highly Sensitive Capacitive Pressure Sensors over a Wide Pressure Range Enabled by the Hybrid Responses of a Highly Porous Nanocomposite (Adv. Mater. 48/2021). <i>Advanced Materials</i> , 2021 , 33, 2170382	24	0
111	2D Material Bubbles: Fabrication, Characterization, and Applications. <i>Trends in Chemistry</i> , 2021 , 3, 204-217	17.8	5
110	Poking and bulging of suspended thin sheets: Slippage, instabilities, and metrology. <i>Journal of the Mechanics and Physics of Solids</i> , 2021 , 149, 104320	5	8
109	Fabrication, characterization and applications of graphene electronic tattoos. <i>Nature Protocols</i> , 2021 , 16, 2395-2417	18.8	13
108	Elastic wetting: Substrate-supported droplets confined by soft elastic membranes. <i>Journal of the Mechanics and Physics of Solids</i> , 2021 , 151, 104399	5	8
107	Wearable and Implantable Soft Bioelectronics: Device Designs and Material Strategies. <i>Annual Review of Chemical and Biomolecular Engineering</i> , 2021 , 12, 359-391	8.9	28
106	Soft implantable drug delivery device integrated wirelessly with wearable devices to treat fatal seizures. <i>Science Advances</i> , 2021 , 7,	14.3	36
105	Highly Sensitive Capacitive Pressure Sensors over a Wide Pressure Range Enabled by the Hybrid Responses of a Highly Porous Nanocomposite. <i>Advanced Materials</i> , 2021 , 33, e2103320	24	22
104	An aquatic-vision-inspired camera based on a monocentric lens and a silicon nanorod photodiode array. <i>Nature Electronics</i> , 2020 , 3, 546-553	28.4	45
103	Out-of-plane electromechanical coupling in transition metal dichalcogenides. <i>Applied Physics Letters</i> , 2020 , 116, 053101	3.4	11
102	Epidermal electrodes with enhanced breathability and high sensing performance. <i>Materials Today Physics</i> , 2020 , 12, 100191	8	11
101	Radial buckle delamination around 2D material tents. <i>Journal of the Mechanics and Physics of Solids</i> , 2020 , 137, 103843	5	12
100	A 0.025-mm ² 0.8-V 78.5-dB SNDR VCO-Based Sensor Readout Circuit in a Hybrid PLL- $\Delta\Sigma$ M Structure. <i>IEEE Journal of Solid-State Circuits</i> , 2020 , 55, 666-679	5.5	19
99	Mechanics at the interfaces of 2D materials: Challenges and opportunities. <i>Current Opinion in Solid State and Materials Science</i> , 2020 , 24, 100837	12	24
98	Electrically compensated, tattoo-like electrodes for epidermal electrophysiology at scale. <i>Science Advances</i> , 2020 , 6,	14.3	51
97	Flexible and Stretchable Photonics: The Next Stretch of Opportunities. <i>ACS Photonics</i> , 2020 , 7, 2618-2636	3.3	18

96	A Wrist-worn Respiration Monitoring Device using Bio-Impedance. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference, 2020, 2020, 3989-3993</i>	0.9	1
95	Mechanics of Crater-Enabled Soft Dry Adhesives: A Review. <i>Frontiers in Mechanical Engineering, 2020, 6,</i>	2.6	3
94	Stretchability of PMMA-supported CVD graphene and of its electrical contacts. <i>2D Materials, 2020, 7, 014003</i>	5.9	7
93	Soft-packaged sensory glove system for human-like natural interaction and control of prosthetic hands. <i>NPG Asia Materials, 2019, 11,</i>	10.3	22
92	A Chest-Laminated Ultrathin and Stretchable E-Tattoo for the Measurement of Electrocardiogram, Seismocardiogram, and Cardiac Time Intervals. <i>Advanced Science, 2019, 6, 1900290</i>	13.6	79
91	Suction effects of crater arrays. <i>Extreme Mechanics Letters, 2019, 30, 100496</i>	3.9	5
90	Modular and Reconfigurable Wireless E-Tattoos for Personalized Sensing. <i>Advanced Materials Technologies, 2019, 4, 1900117</i>	6.8	57
89	Water Transfer Printing Enhanced by Water-Induced Pattern Expansion: Toward Large-Area 3D Electronics. <i>Advanced Materials Technologies, 2019, 4, 1800600</i>	6.8	22
88	Experimentally and Numerically Validated Analytical Solutions to Nonbuckling Piezoelectric Serpentine Ribbons. <i>Journal of Applied Mechanics, Transactions ASME, 2019, 86,</i>	2.7	13
87	Evidence for moiré excitons in van der Waals heterostructures. <i>Nature, 2019, 567, 71-75</i>	50.4	538
86	Wearable and Implantable Devices for Cardiovascular Healthcare: from Monitoring to Therapy Based on Flexible and Stretchable Electronics. <i>Advanced Functional Materials, 2019, 29, 1808247</i>	15.6	207
85	"Cut-and-paste" method for the rapid prototyping of soft electronics.. <i>Science China Technological Sciences, 2019, 62, 199-208</i>	3.5	3
84	Large scale and integrated platform for digital mass culture of anchorage dependent cells. <i>Nature Communications, 2019, 10, 4824</i>	17.4	12
83	Flexible, sticky, and biodegradable wireless device for drug delivery to brain tumors. <i>Nature Communications, 2019, 10, 5205</i>	17.4	91
82	. <i>IEEE Journal of Solid-State Circuits, 2018, 53, 896-905</i>	5.5	35
81	Low-cost, thin-thick, tape-free electronic tattoo sensors with minimized motion and sweat artifacts. <i>Npj Flexible Electronics, 2018, 2,</i>	10.7	87
80	Monolithically integrated stretchable photonics. <i>Light: Science and Applications, 2018, 7, 17138</i>	16.7	72
79	Extremely Vivid, Highly Transparent, and Ultrathin Quantum Dot Light-Emitting Diodes. <i>Advanced Materials, 2018, 30, 1703279</i>	24	122

78	Imperceptible electrooculography graphene sensor system for human-robot interface. <i>Npj 2D Materials and Applications</i> , 2018 , 2,	8.8	72
77	Stretchable Tattoo-Like Heater with On-Site Temperature Feedback Control. <i>Micromachines</i> , 2018 , 9,	3.3	17
76	Mechanics of spontaneously formed nanoblisters trapped by transferred 2D crystals. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 7884-7889	11.5	80
75	Stretchable Integrated Microphotonics 2018 ,		1
74	Suction effects of craters under water. <i>Soft Matter</i> , 2018 , 14, 8509-8520	3.6	4
73	Interface-Governed Deformation of Nanobubbles and Nanotents Formed by Two-Dimensional Materials. <i>Physical Review Letters</i> , 2018 , 121, 266101	7.4	50
72	Assessment of Dry Epidermal Electrodes for Long-Term Electromyography Measurements. <i>Sensors</i> , 2018 , 18,	3.8	25
71	A review on mechanics and mechanical properties of 2D materials Graphene and beyond. <i>Extreme Mechanics Letters</i> , 2017 , 13, 42-77	3.9	581
70	Elasticity Solutions to Nonbuckling Serpentine Ribbons. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2017 , 84,	2.7	30
69	Epidermal electronic systems for sensing and therapy 2017 ,		3
68	Wearable Force Touch Sensor Array Using a Flexible and Transparent Electrode. <i>Advanced Functional Materials</i> , 2017 , 27, 1605286	15.6	121
67	Suction effects in cratered surfaces. <i>Journal of the Royal Society Interface</i> , 2017 , 14,	4.1	7
66	A Thin Elastic Membrane Conformed to a Soft and Rough Substrate Subjected to Stretching/Compression. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2017 , 84,	2.7	27
65	Graphene Electronic Tattoo Sensors. <i>ACS Nano</i> , 2017 , 11, 7634-7641	16.7	304
64	Effects of surface tension on the suction forces generated by miniature craters. <i>Extreme Mechanics Letters</i> , 2017 , 15, 130-138	3.9	6
63	Out-of-Plane Electromechanical Response of Monolayer Molybdenum Disulfide Measured by Piezoresponse Force Microscopy. <i>Nano Letters</i> , 2017 , 17, 5464-5471	11.5	71
62	Human eye-inspired soft optoelectronic device using high-density MoS-graphene curved image sensor array. <i>Nature Communications</i> , 2017 , 8, 1664	17.4	241
61	A 1V 0.25uW inverter-stacking amplifier with 1.07 noise efficiency factor 2017 ,		1

60	Ultrathin flexible coils for wireless power and data link in biomedical sensors 2017 ,		0
59	NFC-enabled, tattoo-like stretchable biosensor manufactured by "cut-and-paste" method. <i>Annual International Conference of the IEEE Engineering in Medicine and Biology Society IEEE Engineering in Medicine and Biology Society Annual International Conference</i> , 2017 , 2017, 4094-4097	0.9	14
58	Reversible Dry Adhesives. <i>Soft Robotics</i> , 2016 , 3, 99-100	9.2	1
57	Electromechanical cardioplasty using a wrapped elasto-conductive epicardial mesh. <i>Science Translational Medicine</i> , 2016 , 8, 344ra86	17.5	136
56	Stretchable and Transparent Biointerface Using Cell-Sheet/Graphene Hybrid for Electrophysiology and Therapy of Skeletal Muscle. <i>Advanced Functional Materials</i> , 2016 , 26, 3207-3217	15.6	103
55	Conformability of a Thin Elastic Membrane Laminated on a Soft Substrate With Slightly Wavy Surface. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2016 , 83,	2.7	42
54	A graphene-based electrochemical device with thermoresponsive microneedles for diabetes monitoring and therapy. <i>Nature Nanotechnology</i> , 2016 , 11, 566-572	28.7	1093
53	Stress analysis for nanomembranes under stamp compression. <i>Extreme Mechanics Letters</i> , 2016 , 7, 136-144	1.4	2
52	Thickness ratio and effects on flexible piezoelectric unimorph energy conversion. <i>Smart Materials and Structures</i> , 2016 , 25, 035037	3.4	7
51	Variational formulations, instabilities and critical loadings of space curved beams. <i>International Journal of Solids and Structures</i> , 2016 , 87, 48-60	3.1	14
50	Stretchability, Conformability, and Low-Cost Manufacture of Epidermal Sensors. <i>Microsystems and Nanosystems</i> , 2016 , 31-51	0.4	2
49	Large-Area Monolayer MoS ₂ for Flexible Low-Power RF Nanoelectronics in the GHz Regime. <i>Advanced Materials</i> , 2016 , 28, 1818-23	24	122
48	Stretchable Electronics: Stretchable and Transparent Biointerface Using Cell-Sheet/Graphene Hybrid for Electrophysiology and Therapy of Skeletal Muscle (Adv. Funct. Mater. 19/2016). <i>Advanced Functional Materials</i> , 2016 , 26, 3182-3182	15.6	3
47	Epidermal Electronics: Cephalopod-Inspired Miniaturized Suction Cups for Smart Medical Skin (Adv. Healthcare Mater. 1/2016). <i>Advanced Healthcare Materials</i> , 2016 , 5, 186-186	10.1	4
46	Cephalopod-Inspired Miniaturized Suction Cups for Smart Medical Skin. <i>Advanced Healthcare Materials</i> , 2016 , 5, 80-7	10.1	147
45	Flexible black phosphorus ambipolar transistors, circuits and AM demodulator. <i>Nano Letters</i> , 2015 , 15, 1883-90	11.5	341
44	Bioresorbable Electronic Stent Integrated with Therapeutic Nanoparticles for Endovascular Diseases. <i>ACS Nano</i> , 2015 , 9, 5937-46	16.7	158
43	. <i>IEEE Transactions on Components, Packaging and Manufacturing Technology</i> , 2015 , 5, 1237-1243	1.7	13

42	Work of adhesion/separation between soft elastomers of different mixing ratios. <i>Journal of Materials Research</i> , 2015 , 30, 2702-2712	2.5	34
41	"Cut-and-Paste" Manufacture of Multiparametric Epidermal Sensor Systems. <i>Advanced Materials</i> , 2015 , 27, 6423-30	24	201
40	Interface Adhesion between 2D Materials and Elastomers Measured by Buckle Delaminations. <i>Advanced Materials Interfaces</i> , 2015 , 2, 1500176	4.6	66
39	Indium Tin Oxide (ITO) serpentine ribbons on soft substrates stretched beyond 100%. <i>Extreme Mechanics Letters</i> , 2015 , 2, 37-45	3.9	51
38	Analytical solutions for bonded elastically compressible layers. <i>International Journal of Solids and Structures</i> , 2015 , 58, 353-365	3.1	13
37	Multifunctional cell-culture platform for aligned cell sheet monitoring, transfer printing, and therapy. <i>ACS Nano</i> , 2015 , 9, 2677-88	16.7	58
36	Mechanics for stretchable sensors. <i>Current Opinion in Solid State and Materials Science</i> , 2015 , 19, 149-159	12	57
35	3D multifunctional integumentary membranes for spatiotemporal cardiac measurements and stimulation across the entire epicardium. <i>Nature Communications</i> , 2014 , 5, 3329	17.4	384
34	Flexible and Stretchable Electronics Paving the Way for Soft Robotics. <i>Soft Robotics</i> , 2014 , 1, 53-62	9.2	358
33	Stretchability of indium tin oxide (ITO) serpentine thin films supported by Kapton substrates. <i>International Journal of Fracture</i> , 2014 , 190, 99-110	2.3	22
32	Next-generation flexible neural and cardiac electrode arrays. <i>Biomedical Engineering Letters</i> , 2014 , 4, 95-108	3.6	27
31	Stretchability and compliance of freestanding serpentine-shaped ribbons. <i>International Journal of Solids and Structures</i> , 2014 , 51, 4026-4037	3.1	108
30	Integrated flexible chalcogenide glass photonic devices. <i>Nature Photonics</i> , 2014 , 8, 643-649	33.9	216
29	Versatile, kinetically controlled, high precision electrohydrodynamic writing of micro/nanofibers. <i>Scientific Reports</i> , 2014 , 4, 5949	4.9	59
28	At the Crossroads: Interdisciplinary Paths to Soft Robots. <i>Soft Robotics</i> , 2014 , 1, 63-69	9.2	12
27	Flexible single-crystal silicon nanomembrane photonic crystal cavity. <i>ACS Nano</i> , 2014 , 8, 12265-71	16.7	29
26	Mechanics of flexible electronics and photonics based on inorganic micro- and nanomaterials 2014 ,		2
25	Multifunctional wearable devices for diagnosis and therapy of movement disorders. <i>Nature Nanotechnology</i> , 2014 , 9, 397-404	28.7	1037

24	High-performance, highly bendable MoS ₂ transistors with high-k dielectrics for flexible low-power systems. <i>ACS Nano</i> , 2013 , 7, 5446-52	16.7	386
23	Gauge factor and stretchability of silicon-on-polymer strain gauges. <i>Sensors</i> , 2013 , 13, 8577-94	3.8	76
22	Islands stretch test for measuring the interfacial fracture energy between a hard film and a soft substrate. <i>Journal of Applied Physics</i> , 2013 , 113, 223702	2.5	10
21	Corrections to Piezoresistive Strain Sensors and Multiplexed Arrays Using Assemblies of Single-Crystalline Silicon Nanoribbons on Plastic Substrates[Nov 11 4074-4078]. <i>IEEE Transactions on Electron Devices</i> , 2012 , 59, 520-520	2.9	
20	Singular stress fields at corners in flip-chip packages. <i>Engineering Fracture Mechanics</i> , 2012 , 86, 38-47	4.2	8
19	Stretchable Electronic and Optoelectronic Devices Using Single-Crystal Inorganic Semiconductor Materials 2012 , 235-269		1
18	Inorganic semiconductor nanomaterials for flexible and stretchable bio-integrated electronics. <i>NPG Asia Materials</i> , 2012 , 4, e15-e15	10.3	116
17	Silicon nanomembranes for fingertip electronics. <i>Nanotechnology</i> , 2012 , 23, 344004	3.4	168
16	Highly Sensitive Skin-Mountable Strain Gauges Based Entirely on Elastomers. <i>Advanced Functional Materials</i> , 2012 , 22, 4044-4050	15.6	577
15	Flexible and stretchable electronics for biointegrated devices. <i>Annual Review of Biomedical Engineering</i> , 2012 , 14, 113-28	12	546
14	Mechanics of Epidermal Electronics. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2012 , 79,	2.7	129
13	Electronic sensor and actuator webs for large-area complex geometry cardiac mapping and therapy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 19910-5	11.5	190
12	Materials for stretchable electronics in bioinspired and biointegrated devices. <i>MRS Bulletin</i> , 2012 , 37, 226-235	3.2	166
11	Debonding and fracture of ceramic islands on polymer substrates. <i>Journal of Applied Physics</i> , 2012 , 111, 013517	2.5	22
10	Epidermal electronics. <i>Science</i> , 2011 , 333, 838-43	33.3	3216
9	Materials for multifunctional balloon catheters with capabilities in cardiac electrophysiological mapping and ablation therapy. <i>Nature Materials</i> , 2011 , 10, 316-23	27	580
8	Piezoresistive Strain Sensors and Multiplexed Arrays Using Assemblies of Single-Crystalline Silicon Nanoribbons on Plastic Substrates. <i>IEEE Transactions on Electron Devices</i> , 2011 , 58, 4074-4078	2.9	54
7	The effect of film thickness on the failure strain of polymer-supported metal films. <i>Acta Materialia</i> , 2010 , 58, 1679-1687	8.4	178

6	Foldable Printed Circuit Boards on Paper Substrates. <i>Advanced Functional Materials</i> , 2010 , 20, 28-35	15.6	553
5	Failure by simultaneous grain growth, strain localization, and interface debonding in metal films on polymer substrates. <i>Journal of Materials Research</i> , 2009 , 24, 379-385	2.5	90
4	Inorganic islands on a highly stretchable polyimide substrate. <i>Journal of Materials Research</i> , 2009 , 24, 3338-3342	2.5	45
3	The effect of coating in increasing the critical size of islands on a compliant substrate. <i>Applied Physics Letters</i> , 2007 , 90, 211912	3.4	7
2	Metal films on polymer substrates stretched beyond 50%. <i>Applied Physics Letters</i> , 2007 , 91, 221909	3.4	305
1	Delamination of stiff islands patterned on stretchable substrates. <i>International Journal of Materials Research</i> , 2007 , 98, 717-722	0.5	60