Nanshu Lu

List of Publications by Year
in descending order

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122 papers	20,967 citations	23500 58 h-index	22764 112 g-index
125 all docs	125 docs citations	125 times ranked	22883 citing authors

#	Article	IF	Citations
1	Soft Capacitive Pressure Sensors: Trends, Challenges, and Perspectives. ACS Nano, 2022, 16, 3442-3448.	7.3	78
2	Strategies for body-conformable electronics. Matter, 2022, 5, 1104-1136.	5.0	90
3	Two-dimensional crystals on adhesive substrates subjected to uniform transverse pressure. International Journal of Solids and Structures, 2022, 257, 111829.	1.3	11
4	An amphibious artificial vision system with a panoramic visual field. Nature Electronics, 2022, 5, 452-459.	13.1	40
5	Soft implantable drug delivery device integrated wirelessly with wearable devices to treat fatal seizures. Science Advances, 2021, 7, .	4.7	107
6	2D Material Bubbles: Fabrication, Characterization, and Applications. Trends in Chemistry, 2021, 3, 204-217.	4.4	31
7	Poking and bulging of suspended thin sheets: Slippage, instabilities, and metrology. Journal of the Mechanics and Physics of Solids, 2021, 149, 104320.	2.3	32
8	Fabrication, characterization and applications of graphene electronic tattoos. Nature Protocols, 2021, 16, 2395-2417.	5.5	59
9	Elastic wetting: Substrate-supported droplets confined by soft elastic membranes. Journal of the Mechanics and Physics of Solids, 2021, 151, 104399.	2.3	24
10	Soft Electronics for Human-Centered Robotics. , 2021, , .		0
11	Wearable and Implantable Soft Bioelectronics: Device Designs and Material Strategies. Annual Review of Chemical and Biomolecular Engineering, 2021, 12, 359-391.	3.3	81
12	Highly Sensitive Capacitive Pressure Sensors over a Wide Pressure Range Enabled by the Hybrid Responses of a Highly Porous Nanocomposite. Advanced Materials, 2021, 33, e2103320.	11.1	133
13	Highly Sensitive Capacitive Pressure Sensors over a Wide Pressure Range Enabled by the Hybrid Responses of a Highly Porous Nanocomposite (Adv. Mater. 48/2021). Advanced Materials, 2021, 33, .	11.1	2
14	Stretchability of PMMA-supported CVD graphene and of its electrical contacts. 2D Materials, 2020, 7, 014003.	2.0	17
15	A 0.025-mm² 0.8-V 78.5-dB SNDR VCO-Based Sensor Readout Circuit in a Hybrid PLL-$DeltaSigma$ M Structure. IEEE Journal of Solid-State Circuits, 2020, 55, 666-679.	3.5	37
16	Mechanics at the interfaces of 2D materials: Challenges and opportunities. Current Opinion in Solid State and Materials Science, 2020, 24, 100837.	5.6	61
17	Electrically compensated, tattoo-like electrodes for epidermal electrophysiology at scale. Science Advances, 2020, 6, .	4.7	99
18	Flexible and Stretchable Photonics: The Next Stretch of Opportunities. ACS Photonics, 2020, 7, 2618-2635.	3.2	49

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19	A Wrist-worn Respiration Monitoring Device using Bio-Impedance. , 2020, 2020, 3989-3993.		9
20	Mechanics of Crater-Enabled Soft Dry Adhesives: A Review. Frontiers in Mechanical Engineering, 2020, 6, .	0.8	7
21	An aquatic-vision-inspired camera based on a monocentric lens and a silicon nanorod photodiode array. Nature Electronics, 2020, 3, 546-553.	13.1	100
22	Out-of-plane electromechanical coupling in transition metal dichalcogenides. Applied Physics Letters, 2020, 116, .	1.5	21
23	Epidermal electrodes with enhanced breathability and high sensing performance. Materials Today Physics, 2020, 12, 100191.	2.9	19
24	Radial buckle delamination around 2D material tents. Journal of the Mechanics and Physics of Solids, 2020, 137, 103843.	2.3	34
25	Large scale and integrated platform for digital mass culture of anchorage dependent cells. Nature Communications, 2019, 10, 4824.	5.8	17
26	Soft-packaged sensory glove system for human-like natural interaction and control of prosthetic hands. NPG Asia Materials, 2019, 11, .	3.8	30
27	A Chestâ€Laminated Ultrathin and Stretchable Eâ€Tattoo for the Measurement of Electrocardiogram, Seismocardiogram, and Cardiac Time Intervals. Advanced Science, 2019, 6, 1900290.	5.6	137
28	Suction effects of crater arrays. Extreme Mechanics Letters, 2019, 30, 100496.	2.0	7
29	Modular and Reconfigurable Wireless Eâ€Tattoos for Personalized Sensing. Advanced Materials Technologies, 2019, 4, 1900117.	3.0	86
30	Water Transfer Printing Enhanced by Waterâ€Induced Pattern Expansion: Toward Largeâ€Area 3D Electronics. Advanced Materials Technologies, 2019, 4, 1800600.	3.0	29
31	Experimentally and Numerically Validated Analytical Solutions to Nonbuckling Piezoelectric Serpentine Ribbons. Journal of Applied Mechanics, Transactions ASME, 2019, 86, .	1.1	16
32	Evidence for moirÃ© excitons in van der Waals heterostructures. Nature, 2019, 567, 71-75.	13.7	933
33	Wearable and Implantable Devices for Cardiovascular Healthcare: from Monitoring to Therapy Based on Flexible and Stretchable Electronics. Advanced Functional Materials, 2019, 29, 1808247.	7.8	345
34	â€œCut-and-pasteâ€•method for the rapid prototyping of soft electronics. Science China Technological Sciences, 2019, 62, 199-208.	2.0	5
35	Flexible, sticky, and biodegradable wireless device for drug delivery to brain tumors. Nature Communications, 2019, 10, 5205.	5.8	148
36	Integrated photonics put at full stretch: flexible and stretchable photonic devices enabled by optical and mechanical co-design. , 2019, , .		0

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37	Electronic tattoos: the most multifunctional but imperceptible wearables. , 2019, , .		3
38	A 1-V 0.25- $mu ext{W}$ Inverter Stacking Amplifier With 1.07 Noise Efficiency Factor. IEEE Journal of Solid-State Circuits, 2018, 53, 896-905.	3.5	56
39	Low-cost, Î¼m-thick, tape-free electronic tattoo sensors with minimized motion and sweat artifacts. Npj Flexible Electronics, 2018, 2, .	5.1	132
40	Monolithically integrated stretchable photonics. Light: Science and Applications, 2018, 7, 17138-17138.	7.7	94
41	Extremely Vivid, Highly Transparent, and Ultrathin Quantum Dot Lightâ€Emitting Diodes. Advanced Materials, 2018, 30, 1703279.	11.1	157
42	Suction effects of craters under water. Soft Matter, 2018, 14, 8509-8520.	1.2	7
43	Interface-Governed Deformation of Nanobubbles and Nanotents Formed by Two-Dimensional Materials. Physical Review Letters, 2018, 121, 266101.	2.9	86
44	Assessment of Dry Epidermal Electrodes for Long-Term Electromyography Measurements. Sensors, 2018, 18, 1269.	2.1	34
45	Imperceptible electrooculography graphene sensor system for humanâ€“robot interface. Npj 2D Materials and Applications, 2018, 2, .	3.9	114
46	Stretchable Tattoo-Like Heater with On-Site Temperature Feedback Control. Micromachines, 2018, 9, 170.	1.4	23
47	Mechanics of spontaneously formed nanoblisters trapped by transferred 2D crystals. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7884-7889.	3.3	130
48	Stretchable Integrated Microphotonics. , 2018, , .		1
49	A review on mechanics and mechanical properties of 2D materialsâ€”Graphene and beyond. Extreme Mechanics Letters, 2017, 13, 42-77.	2.0	920
50	Elasticity Solutions to Nonbuckling Serpentine Ribbons. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	1.1	37
51	Epidermal electronic systems for sensing and therapy. Proceedings of SPIE, 2017, , .	0.8	6
52	Wearable Force Touch Sensor Array Using a Flexible and Transparent Electrode. Advanced Functional Materials, 2017, 27, 1605286.	7.8	151
53	Suction effects in cratered surfaces. Journal of the Royal Society Interface, 2017, 14, 20170377.	1.5	12
54	A Thin Elastic Membrane Conformed to a Soft and Rough Substrate Subjected to Stretching/Compression. Journal of Applied Mechanics, Transactions ASME, 2017, 84, .	1.1	36

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55	Graphene Electronic Tattoo Sensors. ACS Nano, 2017, 11, 7634-7641.	7.3	476
56	Mobile Monitoring of Traumatic Brain Injury in Older Adults: Challenges and Opportunities. Neuroinformatics, 2017, 15, 227-230.	1.5	2
57	Effects of surface tension on the suction forces generated by miniature craters. Extreme Mechanics Letters, 2017, 15, 130-138.	2.0	7
58	Out-of-Plane Electromechanical Response of Monolayer Molybdenum Disulfide Measured by Piezoresponse Force Microscopy. Nano Letters, 2017, 17, 5464-5471.	4.5	94
59	Human eye-inspired soft optoelectronic device using high-density MoS2-graphene curved image sensor array. Nature Communications, 2017, 8, 1664.	5.8	381
60	A 1V 0.25uW inverter-stacking amplifier with 1.07 noise efficiency factor. , 2017, , .		10
61	Ultrathin flexible coils for wireless power and data link in biomedical sensors. , 2017, , .		1
62	NFC-enabled, tattoo-like stretchable biosensor manufactured by â€œcut-and-pasteâ€•method. , 2017, 2017, 4094-4097.		19
63	Largeâ€Area Monolayer MoS₂ for Flexible Lowâ€Power RF Nanoelectronics in the GHz Regime. Advanced Materials, 2016, 28, 1818-1823.	11.1	161
64	Stretchable Electronics: Stretchable and Transparent Biointerface Using Cellâ€Sheetâ€“Graphene Hybrid for Electrophysiology and Therapy of Skeletal Muscle (Adv. Funct. Mater. 19/2016). Advanced Functional Materials, 2016, 26, 3182-3182.	7.8	4
65	Epidermal Electronics: Cephalopodâ€Inspired Miniaturized Suction Cups for Smart Medical Skin (Adv.) Tj ETQq1 1 0.784314 rgBT /Ov	3.9	4
66	Cephalopodâ€Inspired Miniaturized Suction Cups for Smart Medical Skin. Advanced Healthcare Materials, 2016, 5, 80-87.	3.9	175
67	Reversible Dry Adhesives. Soft Robotics, 2016, 3, 99-100.	4.6	1
68	Electromechanical cardioplasty using a wrapped elasto-conductive epicardial mesh. Science Translational Medicine, 2016, 8, 344ra86.	5.8	181
69	"Cut-and-paste" manufacture of multiparametric epidermal electronic systems. Proceedings of SPIE, 2016, , .	0.8	0
70	Stretchable and Transparent Biointerface Using Cellâ€Sheetâ€“Graphene Hybrid for Electrophysiology and Therapy of Skeletal Muscle. Advanced Functional Materials, 2016, 26, 3207-3217.	7.8	123
71	Conformability of a Thin Elastic Membrane Laminated on a Soft Substrate With Slightly Wavy Surface. Journal of Applied Mechanics, Transactions ASME, 2016, 83, .	1.1	58
72	A graphene-based electrochemical device with thermoresponsive microneedles for diabetes monitoring and therapy. Nature Nanotechnology, 2016, 11, 566-572.	15.6	1,394

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73	Stress analysis for nanomembranes under stamp compression. Extreme Mechanics Letters, 2016, 7, 136-144.	2.0	2
74	Thickness ratio andd₃₃effects on flexible piezoelectric unimorph energy conversion. Smart Materials and Structures, 2016, 25, 035037.	1.8	8
75	Variational formulations, instabilities and critical loadings of space curved beams. International Journal of Solids and Structures, 2016, 87, 48-60.	1.3	16
76	Stretchability, Conformability, and Low-Cost Manufacture of Epidermal Sensors. Microsystems and Nanosystems, 2016, , 31-51.	0.1	3
77	Work of adhesion/separation between soft elastomers of different mixing ratios. Journal of Materials Research, 2015, 30, 2702-2712.	1.2	47
78	â€œCutâ€•andâ€Pasteâ€•Manufacture of Multiparametric Epidermal Sensor Systems. Advanced Materials, 2015, 27, 6423-6430.	11.1	254
79	Interface Adhesion between 2D Materials and Elastomers Measured by Buckle Delaminations. Advanced Materials Interfaces, 2015, 2, 1500176.	1.9	85
80	Indium Tin Oxide (ITO) serpentine ribbons on soft substrates stretched beyond 100%. Extreme Mechanics Letters, 2015, 2, 37-45.	2.0	65
81	Analytical solutions for bonded elastically compressible layers. International Journal of Solids and Structures, 2015, 58, 353-365.	1.3	21
82	Multifunctional Cell-Culture Platform for Aligned Cell Sheet Monitoring, Transfer Printing, and Therapy. ACS Nano, 2015, 9, 2677-2688.	7.3	72
83	Mechanics for stretchable sensors. Current Opinion in Solid State and Materials Science, 2015, 19, 149-159.	5.6	70
84	Flexible Black Phosphorus Ambipolar Transistors, Circuits and AM Demodulator. Nano Letters, 2015, 15, 1883-1890.	4.5	394
85	Bioresorbable Electronic Stent Integrated with Therapeutic Nanoparticles for Endovascular Diseases. ACS Nano, 2015, 9, 5937-5946.	7.3	203
86	Conformability of a Thin Elastic Membrane Laminated on a Rigid Substrate With Corrugated Surface. IEEE Transactions on Components, Packaging and Manufacturing Technology, 2015, 5, 1237-1243.	1.4	17
87	At the Crossroads: Interdisciplinary Paths to Soft Robots. Soft Robotics, 2014, 1, 63-69.	4.6	17
88	Flexible Single-Crystal Silicon Nanomembrane Photonic Crystal Cavity. ACS Nano, 2014, 8, 12265-12271.	7.3	35
89	Mechanics of flexible electronics and photonics based on inorganic micro- and nanomaterials. , 2014, , .		2
90	Multifunctional wearable devices for diagnosis and therapy of movement disorders. Nature Nanotechnology, 2014, 9, 397-404.	15.6	1,246

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91	3D multifunctional integumentary membranes for spatiotemporal cardiac measurements and stimulation across the entire epicardium. Nature Communications, 2014, 5, 3329.	5.8	485
92	Flexible and Stretchable Electronics Paving the Way for Soft Robotics. Soft Robotics, 2014, 1, 53-62.	4.6	436
93	Stretchability of indium tin oxide (ITO) serpentine thin films supported by Kapton substrates. International Journal of Fracture, 2014, 190, 99-110.	1.1	29
94	Next-generation flexible neural and cardiac electrode arrays. Biomedical Engineering Letters, 2014, 4, 95-108.	2.1	33
95	Bio-integrated electronics. , 2014, , .		0
96	Stretchability and compliance of freestanding serpentine-shaped ribbons. International Journal of Solids and Structures, 2014, 51, 4026-4037.	1.3	142
97	Integrated flexible chalcogenide glass photonic devices. Nature Photonics, 2014, 8, 643-649.	15.6	291
98	Versatile, kinetically controlled, high precision electrohydrodynamic writing of micro/nanofibers. Scientific Reports, 2014, 4, 5949.	1.6	70
99	High-Performance, Highly Bendable MoS₂ Transistors with High-K Dielectrics for Flexible Low-Power Systems. ACS Nano, 2013, 7, 5446-5452.	7.3	445
100	Gauge Factor and Stretchability of Silicon-on-Polymer Strain Gauges. Sensors, 2013, 13, 8577-8594.	2.1	97
101	Islands stretch test for measuring the interfacial fracture energy between a hard film and a soft substrate. Journal of Applied Physics, 2013, 113, .	1.1	12
102	Mechanics of Epidermal Electronics. Journal of Applied Mechanics, Transactions ASME, 2012, 79, .	1.1	161
103	Electronic sensor and actuator webs for large-area complex geometry cardiac mapping and therapy. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19910-19915.	3.3	209
104	Materials for stretchable electronics in bioinspired and biointegrated devices. MRS Bulletin, 2012, 37, 226-235.	1.7	184
105	Debonding and fracture of ceramic islands on polymer substrates. Journal of Applied Physics, 2012, 111, .	1.1	25
106	Singular stress fields at corners in flip-chip packages. Engineering Fracture Mechanics, 2012, 86, 38-47.	2.0	11
107	Inorganic semiconductor nanomaterials for flexible and stretchable bio-integrated electronics. NPG Asia Materials, 2012, 4, e15-e15.	3.8	134
108	Silicon nanomembranes for fingertip electronics. Nanotechnology, 2012, 23, 344004.	1.3	196

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109	Highly Sensitive Skinâ€Mountable Strain Gauges Based Entirely on Elastomers. Advanced Functional Materials, 2012, 22, 4044-4050.	7.8	709
110	Flexible and Stretchable Electronics for Biointegrated Devices. Annual Review of Biomedical Engineering, 2012, 14, 113-128.	5.7	631
111	Corrections to â€œPiezoresistive Strain Sensors and Multiplexed Arrays Using Assemblies of Single-Crystalline Silicon Nanoribbons on Plastic Substratesâ€•[Nov 11 4074-4078]. IEEE Transactions on Electron Devices, 2012, 59, 520-520.	1.6	1
112	Epidermal Electronics. Science, 2011, 333, 838-843.	6.0	3,944
113	Materials for multifunctional balloon catheters with capabilities in cardiac electrophysiological mapping and ablation therapy. Nature Materials, 2011, 10, 316-323.	13.3	670
114	Piezoresistive Strain Sensors and Multiplexed Arrays Using Assemblies of Single-Crystalline Silicon Nanoribbons on Plastic Substrates. IEEE Transactions on Electron Devices, 2011, 58, 4074-4078.	1.6	68
115	The effect of film thickness on the failure strain of polymer-supported metal films. Acta Materialia, 2010, 58, 1679-1687.	3.8	221
116	Foldable Printed Circuit Boards on Paper Substrates. Advanced Functional Materials, 2010, 20, 28-35.	7.8	630
117	Failure by simultaneous grain growth, strain localization, and interface debonding in metal films on polymer substrates. Journal of Materials Research, 2009, 24, 379-385.	1.2	105
118	Inorganic islands on a highly stretchable polyimide substrate. Journal of Materials Research, 2009, 24, 3338-3342.	1.2	54
119	The effect of coating in increasing the critical size of islands on a compliant substrate. Applied Physics Letters, 2007, 90, 211912.	1.5	7
120	Metal films on polymer substrates stretched beyond 50%. Applied Physics Letters, 2007, 91, .	1.5	345
121	Delamination of stiff islands patterned on stretchable substrates. International Journal of Materials Research, 2007, 98, 717-722.	0.1	73
122	â€˜Cut-and-pasteâ€™ manufacture of multiparametric epidermal electronic systems. SPIE Newsroom, 0, , .	0.1	0