A Alec Talin

List of Publications by Year
in descending order

71 papers	8,446 citations	117453 34 h-index	91712 69 g-index
72 all docs	72 docs citations	72 times ranked	11558 citing authors

#	Article	IF	Citations
1	Fabrication and field emission properties of vertical, tapered GaN nanowires etched via phosphoric acid. Nanotechnology, 2022, 33, 035301.	1.3	9
2	Single-Event Effects Induced by Heavy Ions in SONOS Charge Trapping Memory Arrays. IEEE Transactions on Nuclear Science, 2022, 69, 406-413.	1.2	3
3	The Role of Electrolyte Composition in Enabling Li Metalâ€Iron Fluoride Fullâ€Cell Batteries. Advanced Science, 2022, 9, e2105803.	5.6	17
4	In Situ UVâ€“Vis Analysis of Polysulfide Shuttling in Ionic Liquid-Based Li-FeS₂ Batteries. Journal of Physical Chemistry C, 2022, 126, 5101-5111.	1.5	7
5	Physical Compact Model for Threeâ€Terminal SONOS Synaptic Circuit Element. Advanced Intelligent Systems, 2022, 4, .	3.3	2
6	Temperature-Dependent Reaction Pathways in FeS₂: Reversibility and the Electrochemical Formation of Fe₃S₄. Chemistry of Materials, 2022, 34, 5422-5432.	3.2	7
7	Understanding the Electrochemical Performance of FeS₂ Conversion Cathodes. ACS Applied Materials & Interfaces, 2022, 14, 26604-26611.	4.0	13
8	Efficient Electronic Tunneling Governs Transport in Conducting Polymer-Insulator Blends. Journal of the American Chemical Society, 2022, 144, 10368-10376.	6.6	26
9	Roadmap on emerging hardware and technology for machine learning. Nanotechnology, 2021, 32, 012002.	1.3	104
10	Ultralow Voltage GaN Vacuum Nanodiodes in Air. Nano Letters, 2021, 21, 1928-1934.	4.5	17
11	In situ Parallel Training of Analog Neural Network Using Electrochemical Random-Access Memory. Frontiers in Neuroscience, 2021, 15, 636127.	1.4	24
12	Identification of localized radiation damage in power MOSFETs using EBIC imaging. Applied Physics Letters, 2021, 118, .	1.5	1
13	Investigating Heavy-Ion Effects on 14-nm Process FinFETs: Displacement Damage Versus Total Ionizing Dose. IEEE Transactions on Nuclear Science, 2021, 68, 724-732.	1.2	8
14	Ionizing Radiation Effects in SONOS-Based Neuromorphic Inference Accelerators. IEEE Transactions on Nuclear Science, 2021, 68, 762-769.	1.2	2
15	From n- to p-Type Material: Effect of Metal Ion on Charge Transport in Metalâ€“Organic Materials. ACS Applied Materials & Interfaces, 2021, 13, 52055-52062.	4.0	10
16	Carrier Diffusion Lengths in Continuously Grown and Etched-and-Regrown GaN Pin Diodes. IEEE Electron Device Letters, 2021, 42, 1041-1044.	2.2	3
17	High-resolution planar electron beam induced current in bulk diodes using high-energy electrons. Applied Physics Letters, 2021, 119, 014103.	1.5	0
18	Scanning ultrafast electron microscopy reveals photovoltage dynamics at a deeply buried <mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML"><mml:mrow><mml:mi>p</mml:mi><mml:mtext>â^’</mml:mtext><mml:mi>Si</mml:mi><mathvariant="normal">O</mml:mi><mml:mn>2</mml:mn></mml:msub></mml:mrow></mml:math> interface. Physical Review B, 2021, 104, .	1.1	6

#	Article	IF	Citations
19	Electrochemical Modeling of GITT Measurements for Improved Solid-State Diffusion Coefficient Evaluation. ACS Applied Energy Materials, 2021, 4, 11460-11469.	2.5	34
20	Spatially Resolved Potential and Li-Ion Distributions Reveal Performance-Limiting Regions in Solid-State Batteries. ACS Energy Letters, 2021, 6, 3944-3951.	8.8	18
21	High-Performance Solid-State Lithium-Ion Battery with Mixed 2D and 3D Electrodes. ACS Applied Energy Materials, 2020, 3, 8402-8409.	2.5	35
22	Filamentâ€Free Bulk Resistive Memory Enables Deterministic Analogue Switching. Advanced Materials, 2020, 32, e2003984.	11.1	83
23	Evaluation of The Electrochemo-Mechanically Induced Stress in All-Solid-State Li-Ion Batteries. Journal of the Electrochemical Society, 2020, 167, 090541.	1.3	43
24	Origami Terahertz Detectors Realized by Inkjet Printing of Carbon Nanotube Inks. ACS Applied Nano Materials, 2020, 3, 2920-2927.	2.4	18
25	Dynamic Tuning of Gap Plasmon Resonances Using a Solid-State Electrochromic Device. Nano Letters, 2019, 19, 7988-7995.	4.5	65
26	Low-Voltage, CMOS-Free Synaptic Memory Based on Li_XTiO₂ Redox Transistors. ACS Applied Materials & Interfaces, 2019, 11, 38982-38992.	4.0	78
27	Parallel programming of an ionic floating-gate memory array for scalable neuromorphic computing. Science, 2019, 364, 570-574.	6.0	484
28	Redox transistors for neuromorphic computing. IBM Journal of Research and Development, 2019, 63, 9:1-9:9.	3.2	28
29	Optimized pulsed write schemes improve linearity and write speed for low-power organic neuromorphic devices. Journal Physics D: Applied Physics, 2018, 51, 224002.	1.3	53
30	Three-Dimensional Solid-State Lithium-Ion Batteries Fabricated by Conformal Vapor-Phase Chemistry. ACS Nano, 2018, 12, 4286-4294.	7.3	96
31	Kineticsâ€Controlled Degradation Reactions at Crystalline LiPON/Li_xCoO₂ and Crystalline LiPON/Liâ€Metal Interfaces. ChemSusChem, 2018, 11, 1956-1969.	3.6	32
32	From Microparticles to Nanowires and Back: Radical Transformations in Plated Li Metal Morphology Revealed via in Situ Scanning Electron Microscopy. Nano Letters, 2018, 18, 1644-1650.	4.5	47
33	Unraveling the Semiconducting/Metallic Discrepancy in Ni₃(HITP)₂. Journal of Physical Chemistry Letters, 2018, 9, 481-486.	2.1	70
34	Tin Oxynitride Anodes by Atomic Layer Deposition for Solid-State Batteries. Chemistry of Materials, 2018, 30, 2526-2534.	3.2	16
35	Surface Morphology and Electrical Properties of Cu₃BTC₂ Thin Films Before and After Reaction with TCNQ. ACS Applied Materials & Interfaces, 2018, 10, 39400-39410.	4.0	30
36	Allâ€Solidâ€State Synaptic Transistor with Ultralow Conductance for Neuromorphic Computing. Advanced Functional Materials, 2018, 28, 1804170.	7.8	335

#	Article	IF	Citations
37	Hybrid Polymer/Metalâ€“Organic Framework Films for Colorimetric Water Sensing over a Wide Concentration Range. ACS Applied Materials & Interfaces, 2018, 10, 24201-24208.	4.0	46
38	High electrical conductivity and high porosity in a Guest@MOF material: evidence of TCNQ ordering within Cu₃BTC₂ micropores. Chemical Science, 2018, 9, 7405-7412.	3.7	73
39	A non-volatile organic electrochemical device as a low-voltage artificial synapse for neuromorphic computing. Nature Materials, 2017, 16, 414-418.	13.3	1,234
40	Correction: An updated roadmap for the integration of metalâ€“organic frameworks with electronic devices and chemical sensors. Chemical Society Reviews, 2017, 46, 3853-3853.	18.7	30
41	Imaging the Impact of Proton Irradiation on Edge Terminations in Vertical GaN PIN Diodes. IEEE Electron Device Letters, 2017, 38, 945-948.	2.2	7
42	Nanoscale Solid State Batteries Enabled by Thermal Atomic Layer Deposition of a Lithium Polyphosphazene Solid State Electrolyte. Chemistry of Materials, 2017, 29, 3740-3753.	3.2	122
43	Strong Photothermoelectric Response and Contact Reactivity of the Dirac Semimetal ZrTe₅. ACS Applied Materials & Interfaces, 2017, 9, 37041-37047.	4.0	11
44	Microscale 2.5D Batteries. Journal of the Electrochemical Society, 2017, 164, A2500-A2503.	1.3	12
45	A Microporous and Naturally Nanostructured Thermoelectric Metal-Organic Framework with Ultralow Thermal Conductivity. Joule, 2017, 1, 168-177.	11.7	159
46	Two-dimensional metalâ€“organic frameworks with high thermoelectric efficiency through metal ion selection. Physical Chemistry Chemical Physics, 2017, 19, 19461-19467.	1.3	30
47	Nanophotonic Atomic Force Microscope Transducers Enable Chemical Composition and Thermal Conductivity Measurements at the Nanoscale. Nano Letters, 2017, 17, 5587-5594.	4.5	93
48	Achieving ideal accuracies in analog neuromorphic computing using periodic carry. , 2017, , .		39
49	Orderâ€“Disorder Transitions and Superionic Conductivity in the Sodium nido-Undeca(carba)borates. Chemistry of Materials, 2017, 29, 10496-10509.	3.2	53
50	Liâ€ion Synaptic Transistor for Low Power Analog Computing. Advanced Materials, 2017, 29, 1604310.	11.1	425
51	Proton irradiation effects on minority carrier diffusion length and defect introduction in homoepitaxial and heteroepitaxial n-GaN. Journal of Applied Physics, 2017, 122, .	1.1	17
52	Thermoelectric Properties of 2D Ni₃(hitp)₂and 3D Cu₃(btc)₂MOFs: First-Principles Studies. ECS Journal of Solid State Science and Technology, 2017, 6, N236-N242.	0.9	7
53	Thermoelectric Properties of 2D Ni3(HITP)2and 3D Cu3(BTC)2MOFs: First-Principles Studies. ECS Transactions, 2017, 80, 47-56.	0.3	5
54	Liquidâ€Like Ionic Conduction in Solid Lithium and Sodium Monocarbaâ€closoâ€Decaborates Near or at Room Temperature. Advanced Energy Materials, 2016, 6, 1502237.	10.2	190

#	Article	IF	Citations
55	Metalâ€“organic frameworks for thermoelectric energy-conversion applications. MRS Bulletin, 2016, 41, 877-882.	1.7	26
56	Fabrication, Testing, and Simulation of All-Solid-State Three-Dimensional Li-Ion Batteries. ACS Applied Materials & Interfaces, 2016, 8, 32385-32391.	4.0	99
57	High-contrast and fast electrochromic switching enabled by plasmonics. Nature Communications, 2016, 7, 10479.	5.8	226
58	Thin Film Thermoelectric Metalâ€“Organic Framework with High Seebeck Coefficient and Low Thermal Conductivity. Advanced Materials, 2015, 27, 3453-3459.	11.1	227
59	Guest-Induced Emergent Properties in Metalâ€“Organic Frameworks. Journal of Physical Chemistry Letters, 2015, 6, 1182-1195.	2.1	150
60	Superlinear Composition-Dependent Photocurrent in CVD-Grown Monolayer MoS_{2(1â€“x)}Se_{2x} Alloy Devices. Nano Letters, 2015, 15, 2612-2619.	4.5	118
61	Figure of Merit for Carbon Nanotube Photothermoelectric Detectors. ACS Nano, 2015, 9, 11618-11627.	7.3	51
62	Surface/Interface Effects on High-Performance Thin-Film All-Solid-State Li-Ion Batteries. ACS Applied Materials & Interfaces, 2015, 7, 26007-26011.	4.0	26
63	Insights into capacity loss mechanisms of all-solid-state Li-ion batteries with Al anodes. Journal of Materials Chemistry A, 2014, 2, 20552-20559.	5.2	39
64	Tunable Electrical Conductivity in Metal-Organic Framework Thin-Film Devices. Science, 2014, 343, 66-69.	6.0	1,061
65	MOF-based electronic and opto-electronic devices. Chemical Society Reviews, 2014, 43, 5994-6010.	18.7	1,145
66	Carbon Nanotube Terahertz Detector. Nano Letters, 2014, 14, 3953-3958.	4.5	223
67	Electrolyte Stability Determines Scaling Limits for Solid-State 3D Li Ion Batteries. Nano Letters, 2012, 12, 505-511.	4.5	121
68	Pooleâ€“Frenkel Effect and Phonon-Assisted Tunneling in GaAs Nanowires. Nano Letters, 2010, 10, 4935-4938.	4.5	37
69	Stress-Induced Chemical Detection Using Flexible Metalâ€“Organic Frameworks. Journal of the American Chemical Society, 2008, 130, 14404-14405.	6.6	469
70	Light modulation with nanopatterned diffractive microelectromechanical system pixels. Journal of Vacuum Science & Technology B, 2008, 26, 2139-2144.	1.3	6
71	Nanometer-resolved spatial variations in the Schottky barrier height of a Au/n-type GaAs diode. Physical Review B, 1994, 49, 16474-16479.	1.1	45