Shadi A Dayeh

List of Publications by Year
in descending order

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120 papers	9,788 citations	76326 40 h-index	34986 98 g-index
125 all docs	125 docs citations	125 times ranked	13517 citing authors

#	Article	IF	Citations
1	Ultraâ€Sharp Nanowire Arrays Natively Permeate, Record, and Stimulate Intracellular Activity in Neuronal and Cardiac Networks. Advanced Functional Materials, 2022, 32, 2108378.	14.9	21
2	Human brain mapping with multithousand-channel PtNRGrids resolves spatiotemporal dynamics. Science Translational Medicine, 2022, 14, eabj1441.	12.4	46
3	Scalable Thousand Channel Penetrating Microneedle Arrays on Flex for Multimodal and Large Area Coverage BrainMachine Interfaces. Advanced Functional Materials, 2022, 32, .	14.9	19
4	Microscale Physiological Events on the Human Cortical Surface. Cerebral Cortex, 2021, 31, 3678-3700.	2.9	29
5	An Analytical Model for Dual Gate Piezoelectrically Sensitive ZnO Thin Film Transistors. Advanced Materials Technologies, 2021, 6, 2100224.	5.8	3
6	Electrochemical safety limits for clinical stimulation investigated using depth and strip electrodes in the pig brain. Journal of Neural Engineering, 2021, 18, 046077.	3.5	12
7	Microscale dynamics of electrophysiological markers of epilepsy. Clinical Neurophysiology, 2021, 132, 2916-2931.	1.5	20
8	Considerations and recent advances in nanoscale interfaces with neuronal and cardiac networks. Applied Physics Reviews, 2021, 8, 041317.	11.3	5
9	Low-Power 256-Channel Nanowire Electrode-on-Chip Neural Interface for Intracellular Electrophysiology. , 2021, , .		1
10	Strain engineering and epitaxial stabilization of halide perovskites. Nature, 2020, 577, 209-215.	27.8	417
11	Physics-Based Device Models and Progress Review for Active Piezoelectric Semiconductor Devices. Sensors, 2020, 20, 3872.	3.8	12
12	Scalable tactile sensor arrays on flexible substrates with high spatiotemporal resolution enabling slip and grip for closed-loop robotics. Science Advances, 2020, 6, .	10.3	77
13	A fabrication process for flexible single-crystal perovskite devices. Nature, 2020, 583, 790-795.	27.8	278
14	Epi-Intra neural probes with glassy carbon microelectrodes help elucidate neural coding and stimulus encoding in 3D volume of tissue. Journal of Neural Engineering, 2020, 17, 046005.	3.5	13
15	Stimulus Driven Single Unit Activity From Micro-Electrocorticography. Frontiers in Neuroscience, 2020, 14, 55.	2.8	9
16	Intrinsically Linear Transistor for Millimeter-Wave Low Noise Amplifiers. Nano Letters, 2020, 20, 2812-2820.	9.1	16
17	Spatially confined responses of mouse visual cortex to intracortical magnetic stimulation from micro-coils. Journal of Neural Engineering, 2020, 17, 056036.	3.5	12
18	Chronic 2-photon calcium imaging through transparent PEDOT:PSS microelectrode arrays in awake mice. , 2020, , .		1

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19	Selective Formation of Porous Pt Nanorods for Highly Electrochemically Efficient Neural Electrode Interfaces. Nano Letters, 2019, 19, 6244-6254.	9.1	51
20	Correlation Structure in Micro-ECoG Recordings is Described by Spatially Coherent Components. PLoS Computational Biology, 2019, 15, e1006769.	3.2	32
21	Structural and electrical characterization of thick GaN layers on Si, GaN, and engineered substrates. Journal of Applied Physics, 2019, 125, .	2.5	22
22	Metal-Semiconductor Compound Contacts to Nanowire Transistors. Nanostructure Science and Technology, 2019, , 111-158.	0.1	0
23	Sub-millimeter ECoG pitch in human enables higher fidelity cognitive neural state estimation. NeuroImage, 2018, 176, 454-464.	4.2	36
24	Improved Performance of Zinc Oxide Thin Film Transistor Pressure Sensors and a Demonstration of a Commercial Chip Compatibility with the New Force Sensing Technology. Advanced Materials Technologies, 2018, 3, 1700279.	5.8	43
25	Development and Translation of PEDOT:PSS Microelectrodes for Intraoperative Monitoring. Advanced Functional Materials, 2018, 28, 1700232.	14.9	97
26	Surface Passivation and Carrier Collection in {110}, {100} and Circular Si Microwire Solar Cells. Advanced Energy Materials, 2018, 8, 1802154.	19.5	5
27	Monolithic and Scalable Au Nanorod Substrates Improve PEDOTâ€“Metal Adhesion and Stability in Neural Electrodes. Advanced Healthcare Materials, 2018, 7, e1800923.	7.6	35
28	Design and Analysis of Blue InGaN/GaN Plasmonic LED for High-Speed, High-Efficiency Optical Communications. ACS Photonics, 2018, 5, 3557-3564.	6.6	22
29	Recordings and Analysis of Atomic Ledge and Dislocation Movements in InGaAs to Nickelide Nanowire Phase Transformation. Small, 2017, 13, 1604117.	10.0	2
30	High Density Individually Addressable Nanowire Arrays Record Intracellular Activity from Primary Rodent and Human Stem Cell Derived Neurons. Nano Letters, 2017, 17, 2757-2764.	9.1	132
31	Atomic Scale Dynamics of Contact Formation in the Cross-Section of InGaAs Nanowire Channels. Nano Letters, 2017, 17, 2189-2196.	9.1	14
32	GaP/GaNP Heterojunctions for Efficient Solarâ€Ðriven Water Oxidation. Small, 2017, 13, 1603574.	10.0	11
33	Quasiballistic quantum transport through Ge/Si core/shell nanowires. Nanotechnology, 2017, 28, 385204.	2.6	11
34	Self-catalyzed core-shell GaAs/GaNAs nanowires grown on patterned Si (111) by gas-source molecular beam epitaxy. Applied Physics Letters, 2017, 111, .	3.3	7
35	Si Complies with GaN to Overcome Thermal Mismatches for the Heteroepitaxy of Thick GaN on Si. Advanced Materials, 2017, 29, 1702557.	21.0	53
36			

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37	In situ control of synchronous germanide/silicide reactions with Ge/Si core/shell nanowires to monitor formation and strain evolution in abrupt 2.7â€‰nm channel length. Applied Physics Letters, 2017, 110, .	3.3	1
38	Progress in doping semiconductor nanowires during growth. Materials Science in Semiconductor Processing, 2017, 62, 135-155.	4.0	33
39	(Invited) The Dynamics of Nickelidation for Self-Aligned Contacts to InGaAs Channels. ECS Transactions, 2017, 80, 53-69.	0.5	0
40	Scaling Effects on the Electrochemical Stimulation Performance of Au, Pt, and PEDOT:PSS Electrocorticography Arrays. Advanced Functional Materials, 2017, 27, 1703019.	14.9	61
41	Engineering Heteromaterials to Control Lithium Ion Transport Pathways. Scientific Reports, 2016, 5, 18482.	3.3	8
42	Dilute-nitride GaNP planar and core/shell microwire solar cells. , 2016, , .		0
43	Autoclave Sterilization of PEDOT:PSS Electrophysiology Devices. Advanced Healthcare Materials, 2016, 5, 3094-3098.	7.6	46
44	A clinic compatible, open source electrophysiology system. , 2016, 2016, 4511-4514.		13
45	Radial direct bandgap p-i-n GaNP microwire solar cells with enhanced short circuit current. Journal of Applied Physics, 2016, 120, 055702.	2.5	2
46	Sizeâ€Induced Switching of Nanowire Growth Direction: a New Approach Toward Kinked Nanostructures. Advanced Functional Materials, 2016, 26, 3687-3695.	14.9	9
47	Gibbsâ€“Thomson Effect in Planar Nanowires: Orientation and Doping Modulated Growth. Nano Letters, 2016, 16, 4158-4165.	9.1	24
48	Nanowire/nanotube array tandem cells for overall solar neutral water splitting. Nano Energy, 2016, 19, 289-296.	16.0	30
49	Strong Geometrical Effects in Submillimeter Selective Area Growth and Light Extraction of GaN Light Emitting Diodes on Sapphire. Scientific Reports, 2015, 5, 17314.	3.3	36
50	Enhanced conversion efficiency in wide-bandgap GaNP solar cells. Applied Physics Letters, 2015, 107, .	3.3	23
51	Atomic Scale Analysis of the Enhanced Electro- and Photo-Catalytic Activity in High-Index Faceted Porous NiO Nanowires. Scientific Reports, 2015, 5, 8557.	3.3	12
52	Si Radial p-i-n Junction Photovoltaic Arrays with Built-In Light Concentrators. ACS Nano, 2015, 9, 5154-5163.	14.6	13
53	Size and Orientation Effects on the Kinetics and Structure of Nickelide Contacts to InGaAs Fin Structures. Nano Letters, 2015, 15, 3770-3779.	9.1	23
54	Facet-Selective Nucleation and Conformal Epitaxy of Ge Shells on Si Nanowires. Nano Letters, 2015, 15, 7258-7264.	9.1	17

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55	Ultrafast optical microscopy on single semiconductor nanowires. Proceedings of SPIE, 2014, , .	0.8	0
56	Novel Heterogeneous Integration Technology of IIIâ€“V Layers and InGaAs FinFETs to Silicon. Advanced Functional Materials, 2014, 24, 4420-4426.	14.9	15
57	Strong room-temperature negative transconductance in an axial Si/Ge hetero-nanowire tunneling field-effect transistor. Applied Physics Letters, 2014, 105, .	3.3	13
58	Solid-state reaction of nickel silicide and germanide contacts to semiconductor nanochannels. Semiconductor Science and Technology, 2014, 29, 054004.	2.0	40
59	Size-Dependent Silicon Epitaxy at Mesoscale Dimensions. Nano Letters, 2014, 14, 6121-6126.	9.1	6
60	Diameter-Independent Hole Mobility in Ge/Si Core/Shell Nanowire Field Effect Transistors. Nano Letters, 2014, 14, 585-591.	9.1	43
61	Optical Properties of Metalâ€“Molybdenum Disulfide Hybrid Nanosheets and Their Application for Enhanced Photocatalytic Hydrogen Evolution. ACS Nano, 2014, 8, 6979-6985.	14.6	92
62	Silicon epitaxy in nanoscale for photovoltaic applications. Proceedings of SPIE, 2014, , .	0.8	0
63	In-situ Transmission Electron Microscopy (TEM) Study on the Lithium Ion Transport in Si-Ge heterostructured Nanowires. Microscopy and Microanalysis, 2014, 20, 1534-1535.	0.4	0
64	Lattice strain effects on the optical properties of MoS2 nanosheets. Scientific Reports, 2014, 4, 5649.	3.3	297
65	Origin of Polytype Formation in VLS-Grown Ge Nanowires through Defect Generation and Nanowire Kinking. Nano Letters, 2013, 13, 3947-3952.	9.1	40
66	Tailoring Lithiation Behavior by Interface and Bandgap Engineering at the Nanoscale. Nano Letters, 2013, 13, 4876-4883.	9.1	51
67	Atomic layer deposition of platinum with enhanced nucleation and coalescence by trimethylaluminum pre-pulsing. Applied Physics Letters, 2013, 103, .	3.3	17
68	Electrical Spin Injection and Detection in Silicon Nanowires through Oxide Tunnel Barriers. Nano Letters, 2013, 13, 430-435.	9.1	26
69	Adaptable Siliconâ€“Carbon Nanocables Sandwiched between Reduced Graphene Oxide Sheets as Lithium Ion Battery Anodes. ACS Nano, 2013, 7, 1437-1445.	14.6	392
70	Nucleation and Atomic Layer Reaction in Nickel Silicide for Defect-Engineered Si Nanochannels. Nano Letters, 2013, 13, 2748-2753.	9.1	28
71	Direct Measurement of Coherency Limits for Strain Relaxation in Heteroepitaxial Core/Shell Nanowires. Nano Letters, 2013, 13, 1869-1876.	9.1	80
72	Epitaxial growth of radial Si p-i-n junctions for photovoltaic applications. Applied Physics Letters, 2013, 102, .	3.3	34

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73	Gold Catalyzed Nickel Disilicide Formation: A New Solidâ€“Liquidâ€“Solid Phase Growth Mechanism. Nano Letters, 2013, 13, 6009-6015.	9.1	6
74	Ultra-short channel field effect transistors based on Ge/Si core/shell nanowires. , 2013, , .		1
75	Photovoltaic Performances of Three-dimensional Architecture Si Radial P-I-N Junction Nanowire Arrays. , 2013, , .		0
76	Tracking charge carriers through space and time in single silicon core-shell nanowires. , 2012, , .		0
77	In situ atomic-scale imaging of electrochemical lithiation in silicon. Nature Nanotechnology, 2012, 7, 749-756.	31.5	533
78	Axial SiGe Heteronanowire Tunneling Field-Effect Transistors. Nano Letters, 2012, 12, 5850-5855.	9.1	40
79	Ultrashort Channel Silicon Nanowire Transistors with Nickel Silicide Source/Drain Contacts. Nano Letters, 2012, 12, 3979-3985.	9.1	66
80	Highly Efficient Charge Separation and Collection across in Situ Doped Axial VLS-Grown Si Nanowire pâ€“n Junctions. Nano Letters, 2012, 12, 1965-1971.	9.1	46
81	Rocking chair defect generation in nanowire growth. Applied Physics Letters, 2012, 101, 053121.	3.3	5
82	Carbon Nanotubeâ€Enhanced Growth of Silicon Nanowires as an Anode for Highâ€Performance Lithiumâ€Ion Batteries. Advanced Energy Materials, 2012, 2, 87-93.	19.5	90
83	Tailoring the Vaporâ€“Liquidâ€“Solid Growth toward the Self-Assembly of GaAs Nanowire Junctions. Nano Letters, 2011, 11, 4947-4952.	9.1	20
84	Anisotropic Swelling and Fracture of Silicon Nanowires during Lithiation. Nano Letters, 2011, 11, 3312-3318.	9.1	691
85	Growth, Defect Formation, and Morphology Control of Germaniumâ€“Silicon Semiconductor Nanowire Heterostructures. Nano Letters, 2011, 11, 4200-4206.	9.1	110
86	Ultrafast Electrochemical Lithiation of Individual Si Nanowire Anodes. Nano Letters, 2011, 11, 2251-2258.	9.1	379
87	Probing Ultrafast Carrier Dynamics in Silicon Nanowires. IEEE Journal of Selected Topics in Quantum Electronics, 2011, 17, 889-895.	2.9	19
88	Advanced core/multishell germanium/silicon nanowire heterostructures: The Au-diffusion bottleneck. Applied Physics Letters, 2011, 99, .	3.3	35
89	Advanced core/multishell germanium/silicon nanowire heterostructures: Morphology and transport. Applied Physics Letters, 2011, 98, .	3.3	46
90	Axial bandgap engineering in germanium-silicon heterostructured nanowires. Applied Physics Letters, 2011, 99, 113105.	3.3	18

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91	Silicon and germanium nanowires: Growth, properties, and integration. Jom, 2010, 62, 35-43.	1.9	32
92	Ge/Si Core/Multishell Heterostructure FETs. ECS Transactions, 2010, 33, 681-686.	0.5	2
93	Growth, electrical rectification, and gate control in axial in situ doped p-n junction germanium nanowires. Applied Physics Letters, 2010, 96, .	3.3	21
94	Synthesis, fabrication, and characterization of Ge/Si axial nanowire heterostructure tunnel FETs. , 2010, , .		3
95	Axial Ge/Si Nanowire Heterostructure Tunnel FETs. ECS Transactions, 2010, 33, 373-378.	0.5	5
96	Direct Observation of Nanoscale Size Effects in Ge Semiconductor Nanowire Growth. Nano Letters, 2010, 10, 4032-4039.	9.1	131
97	Electron transport in indium arsenide nanowires. Semiconductor Science and Technology, 2010, 25, 024004.	2.0	80
98	Epitaxy of Ge Nanowires Grown from Biotemplated Au Nanoparticle Catalysts. ACS Nano, 2010, 4, 1209-1217.	14.6	25
99	Structural and Roomâ€Temperature Transport Properties of Zinc Blende and Wurtzite InAs Nanowires. Advanced Functional Materials, 2009, 19, 2102-2108.	14.9	86
100	Advances in the synthesis of InAs and GaAs nanowires for electronic applications. Nano Today, 2009, 4, 347-358.	11.9	55
101	Transport Coefficients of InAs Nanowires as a Function of Diameter. Small, 2009, 5, 77-81.	10.0	63
102	Precise Semiconductor Nanowire Placement Through Dielectrophoresis. Nano Letters, 2009, 9, 2260-2266.	9.1	188
103	Surface Diffusion and Substrateâ^'Nanowire Adatom Exchange in InAs Nanowire Growth. Nano Letters, 2009, 9, 1967-1972.	9.1	71
104	Field Dependent Transport Properties in InAs Nanowire Field Effect Transistors. Nano Letters, 2008, 8, 3114-3119.	9.1	33
105	Integration of vertical InAs nanowire arrays on insulator-on-silicon for electrical isolation. Applied Physics Letters, 2008, 93, 203109.	3.3	18
106	Heteroepitaxial Growth of Vertical GaAs Nanowires on Si (111) Substrates by Metalâ^'Organic Chemical Vapor Deposition. Nano Letters, 2008, 8, 3755-3760.	9.1	93
107	Scanning Capacitance Characterization of Potential Screening in InAs Nanowire Devices. , 2008, , .		0
108	Optimal Control over the InAs Nanowire Growth for System Integration and their Structural and Transport Properties. , 2008, , .		0

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109	Scanning gate microscopy of InAs nanowires. Applied Physics Letters, 2007, 90, 233118.	3.3	17
110	Influence of surface states on the extraction of transport parameters from InAs nanowire field effect transistors. Applied Physics Letters, 2007, 90, 162112.	3.3	112
111	Growth of InAs Nanowires on SiO₂ Substrates:â€‰ Nucleation, Evolution, and the Role of Au Nanoparticles. Journal of Physical Chemistry C, 2007, 111, 13331-13336.	3.1	38
112	Rational Synthesis of p-Type Zinc Oxide Nanowire Arrays Using Simple Chemical Vapor Deposition. Nano Letters, 2007, 7, 323-328.	9.1	433
113	IIIâ^'V Nanowire Growth Mechanism:â€‰ V/III Ratio and Temperature Effects. Nano Letters, 2007, 7, 2486-2490.	9.1	166
114	High Electron Mobility InAs Nanowire Field-Effect Transistors. Small, 2007, 3, 326-332.	10.0	293
115	Excess Indium and Substrate Effects on the Growth of InAs Nanowires. Small, 2007, 3, 1683-1687.	10.0	31
116	Transport properties of InAs nanowire field effect transistors: The effects of surface states. Journal of Vacuum Science & Technology B, 2007, 25, 1432.	1.3	74
117	ZnO Nanowire UV Photodetectors with High Internal Gain. Nano Letters, 2007, 7, 1003-1009.	9.1	2,382
118	Micromachined infrared bolometers on flexible polyimide substrates. Sensors and Actuators A: Physical, 2005, 118, 49-56.	4.1	91
119	Uncooled micromachined bolometer arrays on flexible substrates. , 2003, 5074, 537.		2
120	Design of Radial p-i-n Silicon Nanowires for High-Performance Solar Cells. , 0, , .		0