

# Shadi A Dayeh

## List of Publications by Year in descending order

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120  
papers

9,788  
citations

76196

40  
h-index

35952

97  
g-index

125  
all docs

125  
docs citations

125  
times ranked

13517  
citing authors

#	ARTICLE	IF	CITATIONS
1	ZnO Nanowire UV Photodetectors with High Internal Gain. Nano Letters, 2007, 7, 1003-1009.	4.5	2,382
2	Anisotropic Swelling and Fracture of Silicon Nanowires during Lithiation. Nano Letters, 2011, 11, 3312-3318.	4.5	691
3	In situ atomic-scale imaging of electrochemical lithiation in silicon. Nature Nanotechnology, 2012, 7, 749-756.	15.6	533
4	Rational Synthesis of p-Type Zinc Oxide Nanowire Arrays Using Simple Chemical Vapor Deposition. Nano Letters, 2007, 7, 323-328.	4.5	433
5	Strain engineering and epitaxial stabilization of halide perovskites. Nature, 2020, 577, 209-215.	13.7	417
6	Adaptable Silicon-Carbon Nanocables Sandwiched between Reduced Graphene Oxide Sheets as Lithium Ion Battery Anodes. ACS Nano, 2013, 7, 1437-1445.	7.3	392
7	Ultrafast Electrochemical Lithiation of Individual Si Nanowire Anodes. Nano Letters, 2011, 11, 2251-2258.	4.5	379
8	Lattice strain effects on the optical properties of MoS <sub>2</sub> nanosheets. Scientific Reports, 2014, 4, 5649.	1.6	297
9	High Electron Mobility InAs Nanowire Field-Effect Transistors. Small, 2007, 3, 326-332.	5.2	293
10	A fabrication process for flexible single-crystal perovskite devices. Nature, 2020, 583, 790-795.	13.7	278
11	Precise Semiconductor Nanowire Placement Through Dielectrophoresis. Nano Letters, 2009, 9, 2260-2266.	4.5	188
12	III-V Nanowire Growth Mechanism: V/III Ratio and Temperature Effects. Nano Letters, 2007, 7, 2486-2490.	4.5	166
13	High Density Individually Addressable Nanowire Arrays Record Intracellular Activity from Primary Rodent and Human Stem Cell Derived Neurons. Nano Letters, 2017, 17, 2757-2764.	4.5	132
14	Direct Observation of Nanoscale Size Effects in Ge Semiconductor Nanowire Growth. Nano Letters, 2010, 10, 4032-4039.	4.5	131
15	Influence of surface states on the extraction of transport parameters from InAs nanowire field effect transistors. Applied Physics Letters, 2007, 90, 162112.	1.5	112
16	Growth, Defect Formation, and Morphology Control of Germanium-Silicon Semiconductor Nanowire Heterostructures. Nano Letters, 2011, 11, 4200-4206.	4.5	110
17	Development and Translation of PEDOT:PSS Microelectrodes for Intraoperative Monitoring. Advanced Functional Materials, 2018, 28, 1700232.	7.8	97
18	Heteroepitaxial Growth of Vertical GaAs Nanowires on Si (111) Substrates by Metal-Organic Chemical Vapor Deposition. Nano Letters, 2008, 8, 3755-3760.	4.5	93

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19	Optical Properties of Metal-Molybdenum Disulfide Hybrid Nanosheets and Their Application for Enhanced Photocatalytic Hydrogen Evolution. ACS Nano, 2014, 8, 6979-6985.	7.3	92
20	Micromachined infrared bolometers on flexible polyimide substrates. Sensors and Actuators A: Physical, 2005, 118, 49-56.	2.0	91
21	Carbon Nanotube-Enhanced Growth of Silicon Nanowires as an Anode for High-Performance Lithium-Ion Batteries. Advanced Energy Materials, 2012, 2, 87-93.	10.2	90
22	Structural and Room-Temperature Transport Properties of Zinc Blende and Wurtzite InAs Nanowires. Advanced Functional Materials, 2009, 19, 2102-2108.	7.8	86
23	Electron transport in indium arsenide nanowires. Semiconductor Science and Technology, 2010, 25, 024004.	1.0	80
24	Direct Measurement of Coherency Limits for Strain Relaxation in Heteroepitaxial Core/Shell Nanowires. Nano Letters, 2013, 13, 1869-1876.	4.5	80
25	Scalable tactile sensor arrays on flexible substrates with high spatiotemporal resolution enabling slip and grip for closed-loop robotics. Science Advances, 2020, 6, .	4.7	77
26	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
27	Surface Diffusion and Substrate-Nanowire Adatom Exchange in InAs Nanowire Growth. Nano Letters, 2009, 9, 1967-1972.	4.5	71
28	Ultrashort Channel Silicon Nanowire Transistors with Nickel Silicide Source/Drain Contacts. Nano Letters, 2012, 12, 3979-3985.	4.5	66
29	Transport Coefficients of InAs Nanowires as a Function of Diameter. Small, 2009, 5, 77-81.	5.2	63
30	Scaling Effects on the Electrochemical Stimulation Performance of Au, Pt, and PEDOT:PSS Electrocorticography Arrays. Advanced Functional Materials, 2017, 27, 1703019.	7.8	61
31	Advances in the synthesis of InAs and GaAs nanowires for electronic applications. Nano Today, 2009, 4, 347-358.	6.2	55
32	Si Complies with GaN to Overcome Thermal Mismatches for the Heteroepitaxy of Thick GaN on Si. Advanced Materials, 2017, 29, 1702557.	11.1	53
33	Tailoring Lithiation Behavior by Interface and Bandgap Engineering at the Nanoscale. Nano Letters, 2013, 13, 4876-4883.	4.5	51
34	Selective Formation of Porous Pt Nanorods for Highly Electrochemically Efficient Neural Electrode Interfaces. Nano Letters, 2019, 19, 6244-6254.	4.5	51
35	Advanced core/multishell germanium/silicon nanowire heterostructures: Morphology and transport. Applied Physics Letters, 2011, 98, .	1.5	46
36	Highly Efficient Charge Separation and Collection across in Situ Doped Axial VLS-Grown Si Nanowire p-n Junctions. Nano Letters, 2012, 12, 1965-1971.	4.5	46

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37	Autoclave Sterilization of PEDOT:PSS Electrophysiology Devices. <i>Advanced Healthcare Materials</i> , 2016, 5, 3094-3098.	3.9	46
38	Human brain mapping with multithousand-channel PtNRGrids resolves spatiotemporal dynamics. <i>Science Translational Medicine</i> , 2022, 14, eabj1441.	5.8	46

39

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55	Excess Indium and Substrate Effects on the Growth of InAs Nanowires. <i>Small</i> , 2007, 3, 1683-1687.	5.2	31
56	Nanowire/nanotube array tandem cells for overall solar neutral water splitting. <i>Nano Energy</i> , 2016, 19, 289-296.	8.2	30
57	Microscale Physiological Events on the Human Cortical Surface. <i>Cerebral Cortex</i> , 2021, 31, 3678-3700.	1.6	29
58	Nucleation and Atomic Layer Reaction in Nickel Silicide for Defect-Engineered Si Nanochannels. <i>Nano Letters</i> , 2013, 13, 2748-2753.	4.5	28
59	Electrical Spin Injection and Detection in Silicon Nanowires through Oxide Tunnel Barriers. <i>Nano Letters</i> , 2013, 13, 430-435.	4.5	26
60	Epitaxy of Ge Nanowires Grown from Biotemplated Au Nanoparticle Catalysts. <i>ACS Nano</i> , 2010, 4, 1209-1217.	7.3	25
61	Gibbs-Thomson Effect in Planar Nanowires: Orientation and Doping Modulated Growth. <i>Nano Letters</i> , 2016, 16, 4158-4165.	4.5	24
62	Enhanced conversion efficiency in wide-bandgap GaNP solar cells. <i>Applied Physics Letters</i> , 2015, 107, .	1.5	23
63	Size and Orientation Effects on the Kinetics and Structure of Nickelide Contacts to InGaAs Fin Structures. <i>Nano Letters</i> , 2015, 15, 3770-3779.	4.5	23
64	Design and Analysis of Blue InGaN/GaN Plasmonic LED for High-Speed, High-Efficiency Optical Communications. <i>ACS Photonics</i> , 2018, 5, 3557-3564.	3.2	22
65	Structural and electrical characterization of thick GaN layers on Si, GaN, and engineered substrates. <i>Journal of Applied Physics</i> , 2019, 125, .	1.1	22
66	Growth, electrical rectification, and gate control in axial <i>in situ</i> doped p-n junction germanium nanowires. <i>Applied Physics Letters</i> , 2010, 96, .	1.5	21
67	Ultra-Sharp Nanowire Arrays Natively Permeate, Record, and Stimulate Intracellular Activity in Neuronal and Cardiac Networks. <i>Advanced Functional Materials</i> , 2022, 32, 2108378.	7.8	21
68	Tailoring the Vapor-Liquid-Solid Growth toward the Self-Assembly of GaAs Nanowire Junctions. <i>Nano Letters</i> , 2011, 11, 4947-4952.	4.5	20
69	Microscale dynamics of electrophysiological markers of epilepsy. <i>Clinical Neurophysiology</i> , 2021, 132, 2916-2931.	0.7	20
70	Probing Ultrafast Carrier Dynamics in Silicon Nanowires. <i>IEEE Journal of Selected Topics in Quantum Electronics</i> , 2011, 17, 889-895.	1.9	19
71	Scalable Thousand Channel Penetrating Microneedle Arrays on Flex for Multimodal and Large Area Coverage BrainMachine Interfaces. <i>Advanced Functional Materials</i> , 2022, 32, .	7.8	19
72	Integration of vertical InAs nanowire arrays on insulator-on-silicon for electrical isolation. <i>Applied Physics Letters</i> , 2008, 93, 203109.	1.5	18

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73	Axial bandgap engineering in germanium-silicon heterostructured nanowires. Applied Physics Letters, 2011, 99, 113105.	1.5	18
74	Scanning gate microscopy of InAs nanowires. Applied Physics Letters, 2007, 90, 233118.	1.5	17
75	Atomic layer deposition of platinum with enhanced nucleation and coalescence by trimethylaluminum pre-pulsing. Applied Physics Letters, 2013, 103, .	1.5	17
76	Facet-Selective Nucleation and Conformal Epitaxy of Ge Shells on Si Nanowires. Nano Letters, 2015, 15, 7258-7264.	4.5	17
77	Intrinsically Linear Transistor for Millimeter-Wave Low Noise Amplifiers. Nano Letters, 2020, 20, 2812-2820.	4.5	16
78	Novel Heterogeneous Integration Technology of III-V Layers and InGaAs FinFETs to Silicon. Advanced Functional Materials, 2014, 24, 4420-4426.	7.8	15
79	Atomic Scale Dynamics of Contact Formation in the Cross-Section of InGaAs Nanowire Channels. Nano Letters, 2017, 17, 2189-2196.	4.5	14
80	Strong room-temperature negative transconductance in an axial Si/Ge hetero-nanowire tunneling field-effect transistor. Applied Physics Letters, 2014, 105, .	1.5	13
81	Si Radial p-i-n Junction Photovoltaic Arrays with Built-In Light Concentrators. ACS Nano, 2015, 9, 5154-5163.	7.3	13
82	A clinic compatible, open source electrophysiology system. , 2016, 2016, 4511-4514.		13
83	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.	1.8	13
84	Atomic Scale Analysis of the Enhanced Electro- and Photo-Catalytic Activity in High-Index Faceted Porous NiO Nanowires. Scientific Reports, 2015, 5, 8557.	1.6	12
85	Physics-Based Device Models and Progress Review for Active Piezoelectric Semiconductor Devices. Sensors, 2020, 20, 3872.	2.1	12
86	Electrochemical safety limits for clinical stimulation investigated using depth and strip electrodes in the pig brain. Journal of Neural Engineering, 2021, 18, 046077.	1.8	12
87	Spatially confined responses of mouse visual cortex to intracortical magnetic stimulation from micro-coils. Journal of Neural Engineering, 2020, 17, 056036.	1.8	12
88	GaP/GaN Heterojunctions for Efficient Solar-Driven Water Oxidation. Small, 2017, 13, 1603574.	5.2	11
89	Quasiballistic quantum transport through Ge/Si core/shell nanowires. Nanotechnology, 2017, 28, 385204.	1.3	11
90	Size-Induced Switching of Nanowire Growth Direction: a New Approach Toward Kinked Nanostructures. Advanced Functional Materials, 2016, 26, 3687-3695.	7.8	9

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91	Stimulus Driven Single Unit Activity From Micro-Electrocorticography. <i>Frontiers in Neuroscience</i> , 2020, 14, 55.	1.4	9
92	Engineering Heteromaterials to Control Lithium Ion Transport Pathways. <i>Scientific Reports</i> , 2016, 5, 18482.	1.6	8
93	Self-catalyzed core-shell GaAs/GaNAs nanowires grown on patterned Si (111) by gas-source molecular beam epitaxy. <i>Applied Physics Letters</i> , 2017, 111, .	1.5	7
94	Gold Catalyzed Nickel Disilicide Formation: A New Solidâ€“Liquidâ€“Solid Phase Growth Mechanism. <i>Nano Letters</i> , 2013, 13, 6009-6015.	4.5	6
95	Size-Dependent Silicon Epitaxy at Mesoscale Dimensions. <i>Nano Letters</i> , 2014, 14, 6121-6126.	4.5	6
96	Axial Ge/Si Nanowire Heterostructure Tunnel FETs. <i>ECS Transactions</i> , 2010, 33, 373-378.	0.3	5
97	Rocking chair defect generation in nanowire growth. <i>Applied Physics Letters</i> , 2012, 101, 053121.	1.5	5
98	Surface Passivation and Carrier Collection in {110}, {100} and Circular Si Microwire Solar Cells. <i>Advanced Energy Materials</i> , 2018, 8, 1802154.	10.2	5
99	Considerations and recent advances in nanoscale interfaces with neuronal and cardiac networks. <i>Applied Physics Reviews</i> , 2021, 8, 041317.	5.5	5
100	Synthesis, fabrication, and characterization of Ge/Si axial nanowire heterostructure tunnel FETs. , 2010, , .		3
101	An Analytical Model for Dual Gate Piezoelectrically Sensitive ZnO Thin Film Transistors. <i>Advanced Materials Technologies</i> , 2021, 6, 2100224.	3.0	3
102	Uncooled micromachined bolometer arrays on flexible substrates. , 2003, 5074, 537.		2
103	Ge/Si Core/Multishell Heterostructure FETs. <i>ECS Transactions</i> , 2010, 33, 681-686.	0.3	2
104	Radial direct bandgap p-i-n GaNP microwire solar cells with enhanced short circuit current. <i>Journal of Applied Physics</i> , 2016, 120, 055702.	1.1	2
105	Recordings and Analysis of Atomic Ledge and Dislocation Movements in InGaAs to Nickelide Nanowire Phase Transformation. <i>Small</i> , 2017, 13, 1604117.	5.2	2
106	Ultra-short channel field effect transistors based on Ge/Si core/shell nanowires. , 2013, , .		1
107	<i>In situ</i> 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. <i>Applied Physics Letters</i> , 2017, 110, .	1.5	1
108	Chronic 2-photon calcium imaging through transparent PEDOT:PSS microelectrode arrays in awake mice. , 2020, , .		1

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109	Low-Power 256-Channel Nanowire Electrode-on-Chip Neural Interface for Intracellular Electrophysiology. , 2021, , .		1
110	Scanning Capacitance Characterization of Potential Screening in InAs Nanowire Devices. , 2008, , .		0
111	Optimal Control over the InAs Nanowire Growth for System Integration and their Structural and Transport Properties. , 2008, , .		0
112	Tracking charge carriers through space and time in single silicon core-shell nanowires. , 2012, , .		0
113	Ultrafast optical microscopy on single semiconductor nanowires. Proceedings of SPIE, 2014, , .	0.8	0
114	Silicon epitaxy in nanoscale for photovoltaic applications. Proceedings of SPIE, 2014, , .	0.8	0
115	In-situ Transmission Electron Microscopy (TEM) Study on the Lithium Ion Transport in Si-Ge heterostructured Nanowires. Microscopy and Microanalysis, 2014, 20, 1534-1535.	0.2	0
116	Dilute-nitride GaNP planar and core/shell microwire solar cells. , 2016, , .		0
117	(Invited) The Dynamics of Nickelidation for Self-Aligned Contacts to InGaAs Channels. ECS Transactions, 2017, 80, 53-69.	0.3	0
118	Metal-Semiconductor Compound Contacts to Nanowire Transistors. Nanostructure Science and Technology, 2019, , 111-158.	0.1	0
119	Photovoltaic Performances of Three-dimensional Architecture Si Radial P-I-N Junction Nanowire Arrays. , 2013, , .		0
120	Design of Radial p-i-n Silicon Nanowires for High-Performance Solar Cells. , 0, , .		0