

Michael S Arnold

List of Publications by Year in descending order

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7160
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#	ARTICLE	IF	CITATIONS
1	Air-stable n-type transistors based on assembled aligned carbon nanotube arrays and their application in complementary metal-oxide-semiconductor electronics. <i>Nano Research</i> , 2022, 15, 864-871.	5.8	10
2	Selective area epitaxy of GaAs films using patterned graphene on Ge. <i>Applied Physics Letters</i> , 2022, 120, .	1.5	3
3	Physics and applications of nanotubes. <i>Journal of Applied Physics</i> , 2022, 131, .	1.1	9
4	Population of Subradiant States in Carbon Nanotube Microcavities in the Ultrastrong Light-Matter Coupling Regime. <i>Journal of Physical Chemistry C</i> , 2022, 126, 8417-8424.	1.5	8
5	Graphene nanoribbons initiated from molecularly derived seeds. <i>Nature Communications</i> , 2022, 13, .	5.8	9
6	Pinhole-seeded lateral epitaxy and exfoliation of GaSb films on graphene-terminated surfaces. <i>Nature Communications</i> , 2022, 13, .	5.8	22
7	Effect of Germanium Surface Orientation on Graphene Chemical Vapor Deposition and Graphene-Induced Germanium Nanofaceting. <i>Chemistry of Materials</i> , 2022, 34, 6769-6778.	3.2	4
8	CVD Synthesis of Graphene Nanomesh on Ge(001). <i>ECS Meeting Abstracts</i> , 2022, MA2022-01, 876-876.	0.0	0
9	Arrays of Bundled Semiconducting Carbon Nanotubes for High Transconductance Field Effect Transistors. <i>ECS Meeting Abstracts</i> , 2022, MA2022-01, 756-756.	0.0	0
10	Chemical and topographical patterns combined with solution shear for selective-area deposition of highly-aligned semiconducting carbon nanotubes. <i>Nanoscale Advances</i> , 2021, 3, 1767-1775.	2.2	2
11	Structure Changes of a Membrane Polypeptide under an Applied Voltage Observed with Surface-Enhanced 2D IR Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2021, 12, 1786-1792.	2.1	8
12	Materials Science Challenges to Graphene Nanoribbon Electronics. <i>ACS Nano</i> , 2021, 15, 3674-3708.	7.3	108
13	Low-energy room-temperature optical switching in mixed-dimensionality nanoscale perovskite heterojunctions. <i>Science Advances</i> , 2021, 7, .	4.7	41
14	Epitaxy, exfoliation, and strain-induced magnetism in rippled Heusler membranes. <i>Nature Communications</i> , 2021, 12, 2494.	5.8	25
15	Cavity-Mediated Hybridization of Bright and Dark Excitons in an Ultrastrongly Coupled Carbon Nanotube Microcavity. <i>ACS Photonics</i> , 2021, 8, 2375-2383.	3.2	5
16	Quantifying Mn Diffusion through Transferred versus Directly Grown Graphene Barriers. <i>ACS Applied Materials & Interfaces</i> , 2021, 13, 42146-42153.	4.0	3
17	Aligned 2D carbon nanotube liquid crystals for wafer-scale electronics. <i>Science Advances</i> , 2021, 7, eabh0640.	4.7	40
18	Confined Shear Alignment of Ultrathin Films of Cellulose Nanocrystals. <i>ACS Applied Bio Materials</i> , 2021, 4, 7961-7966.	2.3	5

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19	Pnictogens Allotropy and Phase Transformation during van der Waals Growth. Nano Letters, 2020, 20, 8258-8266.	4.5	7
20	Exploring driving forces for length growth in graphene nanoribbons during chemical vapor deposition of hydrocarbons on Ge(001) via kinetic Monte Carlo simulations. Applied Surface Science, 2020, 527, 146784.	3.1	8
21	Boundary-directed epitaxy of block copolymers. Nature Communications, 2020, 11, 4151.	5.8	22
22	Rotational self-alignment of graphene seeds for nanoribbon synthesis on Ge(001) via chemical vapor deposition. APL Materials, 2020, 8, .	2.2	5
23	Providing Time to Transfer: Longer Lifetimes Lead to Improved Energy Transfer in Films of Semiconducting Carbon Nanotubes. Journal of Physical Chemistry Letters, 2020, 11, 6016-6024.	2.1	13
24	Van Der Waals Growth of III-V Semiconductors on Graphene. ECS Meeting Abstracts, 2020, MA2020-01, 835-835.	0.0	1
25	Globally Aligned, Wafer-Scale Deposition of Carbon Nanotubes Via Interfacial Assembly. ECS Meeting Abstracts, 2020, MA2020-01, 707-707.	0.0	0
26	(Invited) Increasing the Efficiency of Semiconducting Carbon Nanotube Photoabsorber-Based Photovoltaics. ECS Meeting Abstracts, 2020, MA2020-01, 686-686.	0.0	0
27	Link among array non-uniformity, threshold voltage, and subthreshold swing degradation in aligned array carbon nanotube field effect transistors. Journal of Applied Physics, 2020, 128, .	1.1	3
28	Non-fullerene Acceptors for Harvesting Excitons from Semiconducting Carbon Nanotubes. Journal of Physical Chemistry C, 2019, 123, 21395-21402.	1.5	12
29	Anisotropic Synthesis of Armchair Graphene Nanoribbon Arrays from Sub-5 nm Seeds at Variable Pitches on Germanium. Journal of Physical Chemistry Letters, 2019, 10, 4266-4272.	2.1	17
30	Synthesis of Armchair Graphene Nanoribbons on Germanium-on-Silicon. Journal of Physical Chemistry C, 2019, 123, 18445-18454.	1.5	12
31	Scalable Alignment of Carbon Nanotubes via Shear. ECS Transactions, 2019, 93, 117-120.	0.3	3
32	Solvent-Mediated Affinity of Polymer-Wrapped Single-Walled Carbon Nanotubes for Chemically Modified Surfaces. Langmuir, 2019, 35, 12492-12500.	1.6	8
33	Enhancing the signal strength of surface sensitive 2D IR spectroscopy. Journal of Chemical Physics, 2019, 150, 024707.	1.2	21
34	Passivation of Germanium by Graphene for Stable Graphene/Germanium Heterostructure Devices. ACS Applied Nano Materials, 2019, 2, 4313-4322.	2.4	11
35	Monolayer Sensitivity Enables a 2D IR Spectroscopic Immuno-biosensor for Studying Protein Structures: Application to Amyloid Polymorphs. Journal of Physical Chemistry Letters, 2019, 10, 3836-3842.	2.1	12
36	Removable Nonconjugated Polymers To Debundle and Disperse Carbon Nanotubes. Macromolecules, 2019, 52, 4278-4286.	2.2	10

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37	Channel length scaling of over 100% biaxially stretchable carbon nanotube transistors. Applied Physics Letters, 2019, 114, .	1.5	4
38	Dynamics of Antimoneneâ€“Graphene Van Der Waals Growth. Advanced Materials, 2019, 31, e1900569.	11.1	30
39	Alignment of semiconducting graphene nanoribbons on vicinal Ge(001). Nanoscale, 2019, 11, 4864-4875.	2.8	26
40	Tightly Pitched sub-10 nm Graphene Nanoribbon Arrays via Seed Mediated Growth on Ge (001). ECS Transactions, 2019, 93, 121-124.	0.3	3
41	Synthesis of Semiconducting Graphene Nanoribbons on Ge and Ge/Si via Chemical Vapor Deposition. ECS Transactions, 2019, 93, 129-132.	0.3	2
42	Substrateâ€“Wide Confined Shear Alignment of Carbon Nanotubes for Thin Film Transistors. Advanced Electronic Materials, 2019, 5, 1800593.	2.6	34
43	Seed-Initiated Anisotropic Growth of Unidirectional Armchair Graphene Nanoribbon Arrays on Germanium. Nano Letters, 2018, 18, 898-906.	4.5	43
44	Driving chemical interactions at graphene-germanium van der Waals interfaces via thermal annealing. Applied Physics Letters, 2018, 113, .	1.5	9
45	Carbon Nanotubes and Related Nanomaterials: Critical Advances and Challenges for Synthesis toward Mainstream Commercial Applications. ACS Nano, 2018, 12, 11756-11784.	7.3	388
46	Less severe processing improves carbon nanotube photovoltaic performance. APL Materials, 2018, 6, .	2.2	15
47	Invariance of Water Permeance through Size-Differentiated Graphene Oxide Laminates. ACS Nano, 2018, 12, 7855-7865.	7.3	71
48	Epitaxial graphene-encapsulated surface reconstruction of Ge(110). Physical Review Materials, 2018, 2, .	0.9	16
49	Triplet exciton dissociation and electron extraction in graphene-templated pentacene observed with ultrafast spectroscopy. Physical Chemistry Chemical Physics, 2017, 19, 4809-4820.	1.3	11
50	Channel length scaling behavior in transistors based on individual versus dense arrays of carbon nanotubes. Journal of Applied Physics, 2017, 122, .	1.1	18
51	Structurally Analogous Degradable Version of Fluoreneâ€“Bipyridine Copolymer with Exceptional Selectivity for Large-Diameter Semiconducting Carbon Nanotubes. ACS Applied Materials & Interfaces, 2017, 9, 40734-40742.	4.0	21
52	Biaxially stretchable carbon nanotube transistors. Journal of Applied Physics, 2017, 122, 124901.	1.1	15
53	High-Performance Charge Transport in Semiconducting Armchair Graphene Nanoribbons Grown Directly on Germanium. ACS Nano, 2017, 11, 8924-8929.	7.3	38
54	Polymer-Free Electronic-Grade Aligned Semiconducting Carbon Nanotube Array. ACS Applied Materials & Interfaces, 2017, 9, 28859-28867.	4.0	33

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55	Nanotube Alignment Mechanism in Floating Evaporative Self-Assembly. <i>Langmuir</i> , 2017, 33, 13407-13414.	1.6	33
56	Passivation of Germanium by Graphene. <i>ACS Applied Materials & Interfaces</i> , 2017, 9, 17629-17636.	4.0	25
57	Layer-Controlled Chemical Vapor Deposition Growth of MoS ₂ Vertical Heterostructures via van der Waals Epitaxy. <i>ACS Nano</i> , 2016, 10, 7039-7046.	7.3	122
58	Sub-5-nm, globally aligned graphene nanoribbons on Ge(001). <i>Applied Physics Letters</i> , 2016, 108, .	1.5	31
59	Synthesis of Molybdenum Disulfide Nanowire Arrays Using a Block Copolymer Template. <i>Chemistry of Materials</i> , 2016, 28, 4017-4023.	3.2	28
60	Quasi-ballistic carbon nanotube array transistors with current density exceeding Si and GaAs. <i>Science Advances</i> , 2016, 2, e1601240.	4.7	267
61	Directed self-assembly of block copolymer films on atomically-thin graphene chemical patterns. <i>Scientific Reports</i> , 2016, 6, 31407.	1.6	20
62	Orientation Control of Selected Organic Semiconductor Crystals Achieved by Monolayer Graphene Templates. <i>Advanced Materials Interfaces</i> , 2016, 3, 1600621.	1.9	16
63	Effect of Dipolar Molecule Structure on the Mechanism of Graphene-Enhanced Raman Scattering. <i>Journal of Physical Chemistry C</i> , 2016, 120, 13815-13824.	1.5	32
64	Radio Frequency Transistors Using Aligned Semiconducting Carbon Nanotubes with Current-Gain Cutoff Frequency and Maximum Oscillation Frequency Simultaneously Greater than 70 GHz. <i>ACS Nano</i> , 2016, 10, 6782-6790.	7.3	63
65	Graphene-induced Ge (001) surface faceting. <i>Surface Science</i> , 2016, 647, 90-95.	0.8	35
66	Ultrafast Exciton Hopping Observed in Bare Semiconducting Carbon Nanotube Thin Films with Two-Dimensional White-Light Spectroscopy. <i>Journal of Physical Chemistry Letters</i> , 2016, 7, 2024-2031.	2.1	32
67	Trap-limited carrier recombination in single-walled carbon nanotube heterojunctions with fullerene acceptor layers. <i>Physical Review B</i> , 2015, 91, .	1.1	31
68	AlGaAs/Si dual-junction tandem solar cells fabricated by epitaxial lift-off and print transfer-assisted bonding. , 2015, , .		2
69	Cu diffusion barrier: Graphene benchmarked to TaN for ultimate interconnect scaling. , 2015, , .		16
70	Observing Electron Extraction by Monolayer Graphene Using Time-Resolved Surface Photoresponse Measurements. <i>ACS Nano</i> , 2015, 9, 2510-2517.	7.3	10
71	Vertical and Lateral Copper Transport through Graphene Layers. <i>ACS Nano</i> , 2015, 9, 8361-8367.	7.3	31
72	Simple Graphene Synthesis via Chemical Vapor Deposition. <i>Journal of Chemical Education</i> , 2015, 92, 1903-1907.	1.1	57

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73	Tailoring the Growth Rate and Surface Facet for Synthesis of High-Quality Continuous Graphene Films from CH ₄ at 750 Å°C via Chemical Vapor Deposition. Journal of Physical Chemistry C, 2015, 119, 11516-11523.	1.5	14
74	Electronic and Mechanical Properties of Graphene-Germanium Interfaces Grown by Chemical Vapor Deposition. Nano Letters, 2015, 15, 7414-7420.	4.5	103
75	Direct oriented growth of armchair graphene nanoribbons on germanium. Nature Communications, 2015, 6, 8006.	5.8	157
76	Isolation of Pristine Electronics Grade Semiconducting Carbon Nanotubes by Switching the Rigidity of the Wrapping Polymer Backbone on Demand. ACS Nano, 2015, 9, 10203-10213.	7.3	78
77	High performance transistors via aligned polyfluorene-sorted carbon nanotubes. Applied Physics Letters, 2014, 104, .	1.5	79
78	Dose-Controlled, Floating Evaporative Self-assembly and Alignment of Semiconducting Carbon Nanotubes from Organic Solvents. Langmuir, 2014, 30, 3460-3466.	1.6	130
79	Experimentally determined model of atmospheric pressure CVD of graphene on Cu. Journal of Materials Chemistry C, 2014, 2, 744-755.	2.7	22
80	Raman Enhancement of a Dipolar Molecule on Graphene. Journal of Physical Chemistry C, 2014, 118, 2077-2084.	1.5	30
81	Highly Stretchable Carbon Nanotube Transistors with Ion Gel Gate Dielectrics. Nano Letters, 2014, 14, 682-686.	4.5	152
82	Graphene Growth Dynamics on Epitaxial Copper Thin Films. Chemistry of Materials, 2013, 25, 871-877.	3.2	133
83	Design length scales for carbon nanotube photoabsorber based photovoltaic materials and devices. Journal of Applied Physics, 2013, 113, 204504.	1.1	17
84	Improving Graphene Diffusion Barriers via Stacking Multiple Layers and Grain Size Engineering. Advanced Functional Materials, 2013, 23, 3638-3644.	7.8	68
85	Templating Highly Crystalline Organic Semiconductors Using Atomic Membranes of Graphene at the Anode/Organic Interface. Journal of Physical Chemistry Letters, 2012, 3, 873-878.	2.1	48
86	Semiconducting carbon nanotube/fullerene blended heterojunctions for photovoltaic near-infrared photon harvesting. Nano Research, 2011, 4, 1174-1179.	5.8	58
87	Hydrodynamic Characterization of Surfactant Encapsulated Carbon Nanotubes Using an Analytical Ultracentrifuge. ACS Nano, 2008, 2, 2291-2300.	7.3	118
88	Pump-Probe Spectroscopy of Exciton Dynamics in (6,5) Carbon Nanotubes. Journal of Physical Chemistry C, 2007, 111, 3831-3835.	1.5	105
89	Sorting carbon nanotubes by electronic structure using density differentiation. Nature Nanotechnology, 2006, 1, 60-65.	15.6	2,075
90	Enrichment of Single-Walled Carbon Nanotubes by Diameter in Density Gradients. Nano Letters, 2005, 5, 713-718.	4.5	496

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91	Encapsulation of Carbon Nanotubes by Self-Assembling Peptide Amphiphiles. Langmuir, 2005, 21, 4705-4709.	1.6	139
92	A simple simulation-derived descriptor for the deposition of polymer-wrapped carbon nanotubes on functionalized substrates. Soft Matter, 0, , .	1.2	0