# Michael S Arnold

List of Publications by Year
in descending order

Source: https://exaly.com/author-pdf/3374657/publications.pdf

Version: 2024-02-01

| 92 | 6,117 | 147726 31 | 69214 77 |
|---|---|---|---|
| papers | citations | h-index | g-index |

| 93 | 93 | 93 | 7160 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Sorting carbon nanotubes by electronic structure using density differentiation. Nature Nanotechnology, 2006, 1, 60-65. | 15.6 | 2,075 |
| 2 | Enrichment of Single-Walled Carbon Nanotubes by Diameter in Density Gradients. Nano Letters, 2005, 5, 713-718. | 4.5 | 496 |
| 3 | Carbon Nanotubes and Related Nanomaterials: Critical Advances and Challenges for Synthesis toward Mainstream Commercial Applications. ACS Nano, 2018, 12, 11756-11784. | 7.3 | 388 |
| 4 | Quasi-ballistic carbon nanotube array transistors with current density exceeding Si and GaAs. Science Advances, 2016, 2, e1601240. | 4.7 | 267 |
| 5 | Direct oriented growth of armchair graphene nanoribbons on germanium. Nature Communications, 2015, 6, 8006. | 5.8 | 157 |
| 6 | Highly Stretchable Carbon Nanotube Transistors with Ion Gel Gate Dielectrics. Nano Letters, 2014, 14, 682-686. | 4.5 | 152 |
| 7 | Encapsulation of Carbon Nanotubes by Self-Assembling Peptide Amphiphiles. Langmuir, 2005, 21, 4705-4709. | 1.6 | 139 |
| 8 | Graphene Growth Dynamics on Epitaxial Copper Thin Films. Chemistry of Materials, 2013, 25, 871-877. | 3.2 | 133 |
| 9 | Dose-Controlled, Floating Evaporative Self-assembly and Alignment of Semiconducting Carbon Nanotubes from Organic Solvents. Langmuir, 2014, 30, 3460-3466. | 1.6 | 130 |
| 10 | Layer-Controlled Chemical Vapor Deposition Growth of MoS<sub>2</sub> Vertical Heterostructures via van der Waals Epitaxy. ACS Nano, 2016, 10, 7039-7046. | 7.3 | 122 |
| 11 | Hydrodynamic Characterization of Surfactant Encapsulated Carbon Nanotubes Using an Analytical Ultracentrifuge. ACS Nano, 2008, 2, 2291-2300. | 7.3 | 118 |
| 12 | Materials Science Challenges to Graphene Nanoribbon Electronics. ACS Nano, 2021, 15, 3674-3708. | 7.3 | 108 |
| 13 | Pump-Probe Spectroscopy of Exciton Dynamics in (6,5) Carbon Nanotubes. Journal of Physical Chemistry C, 2007, 111, 3831-3835. | 1.5 | 105 |
| 14 | Electronic and Mechanical Properties of Grapheneâ€“Germanium Interfaces Grown by Chemical Vapor Deposition. Nano Letters, 2015, 15, 7414-7420. | 4.5 | 103 |
| 15 | High performance transistors via aligned polyfluorene-sorted carbon nanotubes. Applied Physics Letters, 2014, 104, . | 1.5 | 79 |
| 16 | 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 |
| 17 | Invariance of Water Permeance through Size-Differentiated Graphene Oxide Laminates. ACS Nano, 2018, 12, 7855-7865. | 7.3 | 71 |
| 18 | Improving Graphene Diffusion Barriers via Stacking Multiple Layers and Grain Size Engineering. Advanced Functional Materials, 2013, 23, 3638-3644. | 7.8 | 68 |

| # | Article | IF | Citations |
|---|---|---|---|
| 19 | Radio Frequency Transistors Using Aligned Semiconducting Carbon Nanotubes with Current-Gain Cutoff Frequency and Maximum Oscillation Frequency Simultaneously Greater than 70 GHz. ACS Nano, 2016, 10, 6782-6790. | 7.3 | 63 |
| 20 | Semiconducting carbon nanotube/fullerene blended heterojunctions for photovoltaic near-infrared photon harvesting. Nano Research, 2011, 4, 1174-1179. | 5.8 | 58 |
| 21 | Simple Graphene Synthesis via Chemical Vapor Deposition. Journal of Chemical Education, 2015, 92, 1903-1907. | 1.1 | 57 |
| 22 | 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 |
| 23 | Seed-Initiated Anisotropic Growth of Unidirectional Armchair Graphene Nanoribbon Arrays on Germanium. Nano Letters, 2018, 18, 898-906. | 4.5 | 43 |
| 24 | Low-energy room-temperature optical switching in mixed-dimensionality nanoscale perovskite heterojunctions. Science Advances, 2021, 7, . | 4.7 | 41 |
| 25 | Aligned 2D carbon nanotube liquid crystals for wafer-scale electronics. Science Advances, 2021, 7, eabh0640. | 4.7 | 40 |
| 26 | High-Performance Charge Transport in Semiconducting Armchair Graphene Nanoribbons Grown Directly on Germanium. ACS Nano, 2017, 11, 8924-8929. | 7.3 | 38 |
| 27 | Graphene-induced Ge (001) surface faceting. Surface Science, 2016, 647, 90-95. | 0.8 | 35 |
| 28 | Substrateâ€Wide Confined Shear Alignment of Carbon Nanotubes for Thin Film Transistors. Advanced Electronic Materials, 2019, 5, 1800593. | 2.6 | 34 |
| 29 | Polymer-Free Electronic-Grade Aligned Semiconducting Carbon Nanotube Array. ACS Applied Materials & Interfaces, 2017, 9, 28859-28867. | 4.0 | 33 |
| 30 | Nanotube Alignment Mechanism in Floating Evaporative Self-Assembly. Langmuir, 2017, 33, 13407-13414. | 1.6 | 33 |
| 31 | Effect of Dipolar Molecule Structure on the Mechanism of Graphene-Enhanced Raman Scattering. Journal of Physical Chemistry C, 2016, 120, 13815-13824. | 1.5 | 32 |
| 32 | Ultrafast Exciton Hopping Observed in Bare Semiconducting Carbon Nanotube Thin Films with Two-Dimensional White-Light Spectroscopy. Journal of Physical Chemistry Letters, 2016, 7, 2024-2031. | 2.1 | 32 |
| 33 | Trap-limited carrier recombination in single-walled carbon nanotube heterojunctions with fullerene acceptor layers. Physical Review B, 2015, 91, . | 1.1 | 31 |
| 34 | Vertical and Lateral Copper Transport through Graphene Layers. ACS Nano, 2015, 9, 8361-8367. | 7.3 | 31 |
| 35 | Sub-5â€‰nm, globally aligned graphene nanoribbons on Ge(001). Applied Physics Letters, 2016, 108, . | 1.5 | 31 |
| 36 | Raman Enhancement of a Dipolar Molecule on Graphene. Journal of Physical Chemistry C, 2014, 118, 2077-2084. | 1.5 | 30 |

| # | Article | IF | Citations |
|---|---|---|---|
| 37 | Dynamics of Antimoneneâ€“Graphene Van Der Waals Growth. Advanced Materials, 2019, 31, e1900569. | 11.1 | 30 |
| 38 | Synthesis of Molybdenum Disulfide Nanowire Arrays Using a Block Copolymer Template. Chemistry of Materials, 2016, 28, 4017-4023. | 3.2 | 28 |
| 39 | Alignment of semiconducting graphene nanoribbons on vicinal Ge(001). Nanoscale, 2019, 11, 4864-4875. | 2.8 | 26 |
| 40 | Epitaxy, exfoliation, and strain-induced magnetism in rippled Heusler membranes. Nature Communications, 2021, 12, 2494. | 5.8 | 25 |
| 41 | Passivation of Germanium by Graphene. ACS Applied Materials & Interfaces, 2017, 9, 17629-17636. | 4.0 | 25 |
| 42 | Experimentally determined model of atmospheric pressure CVD of graphene on Cu. Journal of Materials Chemistry C, 2014, 2, 744-755. | 2.7 | 22 |
| 43 | Boundary-directed epitaxy of block copolymers. Nature Communications, 2020, 11, 4151. | 5.8 | 22 |
| 44 | Pinhole-seeded lateral epitaxy and exfoliation of GaSb films on graphene-terminated surfaces. Nature Communications, 2022, 13, . | 5.8 | 22 |
| 45 | 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 |
| 46 | Enhancing the signal strength of surface sensitive 2D IR spectroscopy. Journal of Chemical Physics, 2019, 150, 024707. | 1.2 | 21 |
| 47 | Directed self-assembly of block copolymer films on atomically-thin graphene chemical patterns. Scientific Reports, 2016, 6, 31407. | 1.6 | 20 |
| 48 | Channel length scaling behavior in transistors based on individual versus dense arrays of carbon nanotubes. Journal of Applied Physics, 2017, 122, . | 1.1 | 18 |
| 49 | Design length scales for carbon nanotube photoabsorber based photovoltaic materials and devices. Journal of Applied Physics, 2013, 113, 204504. | 1.1 | 17 |
| 50 | 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 |
| 51 | Cu diffusion barrier: Graphene benchmarked to TaN for ultimate interconnect scaling. , 2015, , . | | 16 |
| 52 | Orientation Control of Selected Organic Semiconductor Crystals Achieved by Monolayer Graphene Templates. Advanced Materials Interfaces, 2016, 3, 1600621. | 1.9 | 16 |
| 53 | Epitaxial graphene-encapsulated surface reconstruction of Ge(110). Physical Review Materials, 2018, 2, . | 0.9 | 16 |
| 54 | Biaxially stretchable carbon nanotube transistors. Journal of Applied Physics, 2017, 122, 124901. | 1.1 | 15 |

| # | Article | IF | Citations |
|---|---|---|---|
| 55 | Less severe processing improves carbon nanotube photovoltaic performance. APL Materials, 2018, 6, . | 2.2 | 15 |
| 56 | Tailoring the Growth Rate and Surface Facet for Synthesis of High-Quality Continuous Graphene Films from CH<sub>4</sub> at 750 Â°C via Chemical Vapor Deposition. Journal of Physical Chemistry C, 2015, 119, 11516-11523. | 1.5 | 14 |
| 57 | 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 |
| 58 | Non-fullerene Acceptors for Harvesting Excitons from Semiconducting Carbon Nanotubes. Journal of Physical Chemistry C, 2019, 123, 21395-21402. | 1.5 | 12 |
| 59 | Synthesis of Armchair Graphene Nanoribbons on Germanium-on-Silicon. Journal of Physical Chemistry C, 2019, 123, 18445-18454. | 1.5 | 12 |
| 60 | 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 |
| 61 | 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 |
| 62 | Passivation of Germanium by Graphene for Stable Graphene/Germanium Heterostructure Devices. ACS Applied Nano Materials, 2019, 2, 4313-4322. | 2.4 | 11 |
| 63 | Observing Electron Extraction by Monolayer Graphene Using Time-Resolved Surface Photoresponse Measurements. ACS Nano, 2015, 9, 2510-2517. | 7.3 | 10 |
| 64 | Removable Nonconjugated Polymers To Debundle and Disperse Carbon Nanotubes. Macromolecules, 2019, 52, 4278-4286. | 2.2 | 10 |
| 65 | Air-stable n-type transistors based on assembled aligned carbon nanotube arrays and their application in complementary metal-oxide-semiconductor electronics. Nano Research, 2022, 15, 864-871. | 5.8 | 10 |
| 66 | Driving chemical interactions at graphene-germanium van der Waals interfaces via thermal annealing. Applied Physics Letters, 2018, 113, . | 1.5 | 9 |
| 67 | Physics and applications of nanotubes. Journal of Applied Physics, 2022, 131, . | 1.1 | 9 |
| 68 | Graphene nanoribbons initiated from molecularly derived seeds. Nature Communications, 2022, 13, . | 5.8 | 9 |
| 69 | Solvent-Mediated Affinity of Polymer-Wrapped Single-Walled Carbon Nanotubes for Chemically Modified Surfaces. Langmuir, 2019, 35, 12492-12500. | 1.6 | 8 |
| 70 | Exploring driving forces for length growth in graphene nanoribbons during chemical vapor deposition of hydrocarbons on Ge(0Â0Â1) via kinetic Monte Carlo simulations. Applied Surface Science, 2020, 527, 146784. | 3.1 | 8 |
| 71 | Structure Changes of a Membrane Polypeptide under an Applied Voltage Observed with Surface-Enhanced 2D IR Spectroscopy. Journal of Physical Chemistry Letters, 2021, 12, 1786-1792. | 2.1 | 8 |
| 72 | Population of Subradiant States in Carbon Nanotube Microcavities in the Ultrastrong Lightâ€“Matter Coupling Regime. Journal of Physical Chemistry C, 2022, 126, 8417-8424. | 1.5 | 8 |

| # | Article | IF | Citations |
|---|---|---|---|
| 73 | Pnictogens Allotropy and Phase Transformation during van der Waals Growth. Nano Letters, 2020, 20, 8258-8266. | 4.5 | 7 |
| 74 | Rotational self-alignment of graphene seeds for nanoribbon synthesis on Ge(001) via chemical vapor deposition. APL Materials, 2020, 8, . | 2.2 | 5 |
| 75 | Cavity-Mediated Hybridization of Bright and Dark Excitons in an Ultrastrongly Coupled Carbon Nanotube Microcavity. ACS Photonics, 2021, 8, 2375-2383. | 3.2 | 5 |
| 76 | Confined Shear Alignment of Ultrathin Films of Cellulose Nanocrystals. ACS Applied Bio Materials, 2021, 4, 7961-7966. | 2.3 | 5 |
| 77 | Channel length scaling of over 100% biaxially stretchable carbon nanotube transistors. Applied Physics Letters, 2019, 114, . | 1.5 | 4 |
| 78 | Effect of Germanium Surface Orientation on Graphene Chemical Vapor Deposition and Graphene-Induced Germanium Nanofaceting. Chemistry of Materials, 2022, 34, 6769-6778. | 3.2 | 4 |
| 79 | Scalable Alignment of Carbon Nanotubes via Shear. ECS Transactions, 2019, 93, 117-120. | 0.3 | 3 |
| 80 | Tightly Pitched sub-10 nm Graphene Nanoribbon Arrays via Seed Mediated Growth on Ge (001). ECS Transactions, 2019, 93, 121-124. | 0.3 | 3 |
| 81 | Quantifying Mn Diffusion through Transferred versus Directly Grown Graphene Barriers. ACS Applied Materials & Interfaces, 2021, 13, 42146-42153. | 4.0 | 3 |
| 82 | 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 |
| 83 | Selective area epitaxy of GaAs films using patterned graphene on Ge. Applied Physics Letters, 2022, 120, . | 1.5 | 3 |
| 84 | AlGaAs/Si dual-junction tandem solar cells fabricated by epitaxial lift-off and print transfer-assisted bonding. , 2015, , . | | 2 |
| 85 | Synthesis of Semiconducting Graphene Nanoribbons on Ge and Ge/Si via Chemical Vapor Deposition. ECS Transactions, 2019, 93, 129-132. | 0.3 | 2 |
| 86 | Chemical and topographical patterns combined with solution shear for selective-area deposition of highly-aligned semiconducting carbon nanotubes. Nanoscale Advances, 2021, 3, 1767-1775. | 2.2 | 2 |
| 87 | Van Der Waals Growth of III-V Semiconductors on Graphene. ECS Meeting Abstracts, 2020, MA2020-01, 835-835. | 0.0 | 1 |
| 88 | Globally Aligned, Wafer-Scale Deposition of Carbon Nanotubes Via Interfacial Assembly. ECS Meeting Abstracts, 2020, MA2020-01, 707-707. | 0.0 | 0 |
| 89 | (Invited) Increasing the Efficiency of Semiconducting Carbon Nanotube Photoabsorber-Based Photovoltaics. ECS Meeting Abstracts, 2020, MA2020-01, 686-686. | 0.0 | 0 |
| 90 | A simple simulation-derived descriptor for the deposition of polymer-wrapped carbon nanotubes on functionalized substrates. Soft Matter, 0, , . | 1.2 | 0 |

| # | Article | IF | Citations |
|---|---|---|---|
| 91 | CVD Synthesis of Graphene Nanomesh on Ge(001). ECS Meeting Abstracts, 2022, MA2022-01, 876-876. | 0.0 | 0 |
| 92 | Arrays of Bundled Semiconducting Carbon Nanotubes for High Transconductance Field Effect Transistors. ECS Meeting Abstracts, 2022, MA2022-01, 756-756. | 0.0 | 0 |