# Christopher L Hinkle

List of Publications by Year
in descending order

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| 94 | 5,299 | 37 | 72 |
| --- | --- | --- | --- |
| papers | citations | h-index | g-index |
| | | 94269 | 82410 |

| 94 | 94 | 94 | 7344 |
| --- | --- | --- | --- |
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Defect-Dominated Doping and Contact Resistance in MoS<sub>2</sub>. ACS Nano, 2014, 8, 2880-2888. | 7.3 | 690 |
| 2 | Covalent Nitrogen Doping and Compressive Strain in MoS<sub>2</sub> by Remote N<sub>2</sub> Plasma Exposure. Nano Letters, 2016, 16, 5437-5443. | 4.5 | 323 |
| 3 | Detection of Ga suboxides and their impact on III-V passivation and Fermi-level pinning. Applied Physics Letters, 2009, 94, . | 1.5 | 250 |
| 4 | Impurities and Electronic Property Variations of Natural MoS<sub>2</sub>Crystal Surfaces. ACS Nano, 2015, 9, 9124-9133. | 7.3 | 240 |
| 5 | HfO<sub>2</sub> on MoS<sub>2</sub> by Atomic Layer Deposition: Adsorption Mechanisms and Thickness Scalability. ACS Nano, 2013, 7, 10354-10361. | 7.3 | 237 |
| 6 | Controlled crack propagation for atomic precision handling of wafer-scale two-dimensional materials. Science, 2018, 362, 665-670. | 6.0 | 208 |
| 7 | A roadmap for electronic grade 2D materials. 2D Materials, 2019, 6, 022001. | 2.0 | 205 |
| 8 | HfSe<sub>2</sub> Thin Films: 2D Transition Metal Dichalcogenides Grown by Molecular Beam Epitaxy. ACS Nano, 2015, 9, 474-480. | 7.3 | 195 |
| 9 | Half-cycle atomic layer deposition reaction studies of Al2O3 on In0.2Ga0.8As (100) surfaces. Applied Physics Letters, 2008, 93, . | 1.5 | 138 |
| 10 | van der Waals epitaxy: 2D materials and topological insulators. Applied Materials Today, 2017, 9, 504-515. | 2.3 | 137 |
| 11 | Interfacial chemistry of oxides on InxGa(1â^'x)As and implications for MOSFET applications. Current Opinion in Solid State and Materials Science, 2011, 15, 188-207. | 5.6 | 119 |
| 12 | Contact Metalâ€"MoS<sub>2</sub> Interfacial Reactions and Potential Implications on MoS<sub>2</sub>-Based Device Performance. Journal of Physical Chemistry C, 2016, 120, 14719-14729. | 1.5 | 114 |
| 13 | MoS<sub>2</sub>â€"Titanium Contact Interface Reactions. ACS Applied Materials & Interfaces, 2016, 8, 8289-8294. | 4.0 | 108 |
| 14 | Progression of Solid Electrolyte Interphase Formation on Hydrogenated Amorphous Silicon Anodes for Lithium-Ion Batteries. Journal of Physical Chemistry C, 2012, 116, 9072-9077. | 1.5 | 99 |
| 15 | Nucleation and growth of WSe <sub>2</sub> : enabling large grain transition metal dichalcogenides. 2D Materials, 2017, 4, 045019. | 2.0 | 96 |
| 16 | Frequency dispersion reduction and bond conversion on n-type GaAs by in situ surface oxide removal and passivation. Applied Physics Letters, 2007, 91, 163512. | 1.5 | 88 |
| 17 | Suppression of subcutaneous oxidation during the deposition of amorphous lanthanum aluminate on silicon. Applied Physics Letters, 2004, 84, 4629-4631. | 1.5 | 87 |
| 18 | WSe <sub>2</sub> -contact metal interface chemistry and band alignment under high vacuum and ultra high vacuum deposition conditions. 2D Materials, 2017, 4, 025084. | 2.0 | 77 |

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|---|---|---|---|
| 19 | Optimisation of the ammonium sulphide (NH4)2S passivation process on In0.53Ga0.47As. Applied Surface Science, 2011, 257, 4082-4090. | 3.1 | 71 |
| 20 | Interface Chemistry of Contact Metals and Ferromagnets on the Topological Insulator Bi<sub>2</sub>Se<sub>3</sub>. Journal of Physical Chemistry C, 2017, 121, 23551-23563. | 1.5 | 71 |
| 21 | Highâ€Mobility Helical Tellurium Fieldâ€Effect Transistors Enabled by Transferâ€Free, Lowâ€Temperature Direct Growth. Advanced Materials, 2018, 30, e1803109. | 11.1 | 71 |
| 22 | Evaluation of border traps and interface traps in HfO <sub>2</sub> /MoS <sub>2</sub> gate stacks by capacitanceâ€"voltage analysis. 2D Materials, 2018, 5, 031002. | 2.0 | 63 |
| 23 | Indium stability on InGaAs during atomic H surface cleaning. Applied Physics Letters, 2008, 92, . | 1.5 | 62 |
| 24 | Is interfacial chemistry correlated to gap states for high-k/IIIâ€"V interfaces?. Microelectronic Engineering, 2011, 88, 1061-1065. | 1.1 | 62 |
| 25 | Nitrogen bonding, stability, and transport in AlON films on Si. Applied Physics Letters, 2004, 84, 4992-4994. | 1.5 | 56 |
| 26 | Comparison of n-type and p-type GaAs oxide growth and its effects on frequency dispersion characteristics. Applied Physics Letters, 2008, 93, 113506. | 1.5 | 55 |
| 27 | Performance enhancement of n-channel inversion type InxGa1âˆ'xAs metal-oxide-semiconductor field effect transistor using <i>ex situ</i> deposited thin amorphous silicon layer. Applied Physics Letters, 2008, 93, . | 1.5 | 54 |
| 28 | Effect of post deposition anneal on the characteristics of HfO2/InP metal-oxide-semiconductor capacitors. Applied Physics Letters, 2011, 99, . | 1.5 | 51 |
| 29 | The significance of core-level electron binding energies on the proper analysis of InGaAs interfacial bonding. Applied Physics Letters, 2009, 95, 151905. | 1.5 | 50 |
| 30 | Wâ€‰Te <sub>2</sub> thin films grown by beam-interrupted molecular beam epitaxy. 2D Materials, 2017, 4, 025044. | 2.0 | 48 |
| 31 | A novel approach for determining the effective tunneling mass of electrons in HfO2 and other high-K alternative gate dielectrics for advanced CMOS devices. Microelectronic Engineering, 2004, 72, 257-262. | 1.1 | 47 |
| 32 | Interfacial oxide re-growth in thin film metal oxide III-V semiconductor systems. Applied Physics Letters, 2012, 100, . | 1.5 | 47 |
| 33 | Transition metal dichalcogenide and hexagonal boron nitride heterostructures grown by molecular beam epitaxy. Microelectronic Engineering, 2015, 147, 306-309. | 1.1 | 46 |
| 34 | Dual-gate MoS2 transistors with sub-10â€‰nm top-gate high-k dielectrics. Applied Physics Letters, 2018, 112, . | 1.5 | 42 |
| 35 | Surface passivation and implications on high mobility channel performance (Invited Paper). Microelectronic Engineering, 2009, 86, 1544-1549. | 1.1 | 41 |
| 36 | Contact Engineering for Dual-Gate MoS<sub>2</sub> Transistors Using O<sub>2</sub> Plasma Exposure. ACS Applied Electronic Materials, 2019, 1, 210-219. | 2.0 | 40 |

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|---|---|---|---|
| 37 | Extraction of the Effective Mobility of $ hbox{In}_{0.53}hbox{Ga}_{0.47}hbox{As}$MOSFETs. IEEE Electron Device Letters, 2009, 30, 316-318. | 2.2 | 39 |
| 38 | Tellurium as a successor of silicon for extremely scaled nanowires: a first-principles study. Npj 2D Materials and Applications, 2020, 4, . | 3.9 | 39 |
| 39 | Impact of Semiconductor and Interface-State Capacitance on Metal/High-k/GaAs Capacitanceâ€“Voltage Characteristics. IEEE Transactions on Electron Devices, 2010, 57, 2599-2606. | 1.6 | 38 |
| 40 | Probing Interface Defects in Top-Gated MoS<sub>2</sub> Transistors with Impedance Spectroscopy. ACS Applied Materials & Interfaces, 2017, 9, 24348-24356. | 4.0 | 38 |
| 41 | Electrical and chemical characteristics of Al2O3/InP metal-oxide-semiconductor capacitors. Applied Physics Letters, 2013, 102, 132903. | 1.5 | 37 |
| 42 | Fermi Level Manipulation through Native Doping in the Topological Insulator Bi<sub>2</sub>Se<sub>3</sub>. ACS Nano, 2018, 12, 6310-6318. | 7.3 | 37 |
| 43 | Schottky Barrier Height of Pd/MoS<sub>2</sub> Contact by Large Area Photoemission Spectroscopy. ACS Applied Materials & Interfaces, 2017, 9, 38977-38983. | 4.0 | 36 |
| 44 | Materials for interconnects. MRS Bulletin, 2021, 46, 959-966. | 1.7 | 33 |
| 45 | Effects of annealing on top-gated MoS2 transistors with HfO2 dielectric. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2017, 35, . | 0.6 | 31 |
| 46 | Interfacial oxygen and nitrogen induced dipole formation and vacancy passivation for increased effective work functions in TiN/HfO2 gate stacks. Applied Physics Letters, 2010, 96, . | 1.5 | 29 |
| 47 | <i>In situ</i> surface pre-treatment study of GaAs and In0.53Ga0.47As. Applied Physics Letters, 2012, 100, . | 1.5 | 28 |
| 48 | Remote phonon and surface roughness limited universal electron mobility of In0.53Ga0.47As surface channel MOSFETs. Microelectronic Engineering, 2011, 88, 1083-1086. | 1.1 | 27 |
| 49 | Two-dimensional electric-double-layer Esaki diode. Npj 2D Materials and Applications, 2019, 3, . | 3.9 | 27 |
| 50 | Surface Studies of III-V Materials: Oxidation Control and Device Implications. ECS Transactions, 2009, 19, 387-403. | 0.3 | 24 |
| 51 | Dislocation driven spiral and non-spiral growth in layered chalcogenides. Nanoscale, 2018, 10, 15023-15034. | 2.8 | 24 |
| 52 | Engineering the Palladiumâ€“WSe2 Interface Chemistry for Field Effect Transistors with High-Performance Hole Contacts. ACS Applied Nano Materials, 2019, 2, 75-88. | 2.4 | 24 |
| 53 | Chemical and electrical characterization of the HfO2/InAlAs interface. Journal of Applied Physics, 2013, 114, . | 1.1 | 22 |
| 54 | Covalent nitrogen doping in molecular beam epitaxy-grown and bulk WSe2. APL Materials, 2018, 6, . | 2.2 | 21 |

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|---|---|---|---|
| 55 | Origins of Fermi-Level Pinning between Molybdenum Dichalcogenides (MoSe<sub>2</sub>,) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf Physical Chemistry C, 2019, 123, 23919-23930. | 1.5 | 20 |
| 56 | WSe <sub> (2â^’ <i>x</i> ) </sub> Te <sub> <i>x</i> </sub> alloys grown by molecular beam epitaxy. 2D Materials, 2019, 6, 045027. | 2.0 | 20 |
| 57 | <i>In situ</i> study of HfO2 atomic layer deposition on InP(100). Applied Physics Letters, 2013, 102, . | 1.5 | 19 |
| 58 | Chemical bonding and defect states of LPCVD grown silicon-rich Si3N4 for quantum dot applications. Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films, 2014, 32, . | 0.9 | 19 |
| 59 | Molecular Beam Epitaxy of Transition Metal Dichalcogenides. , 2018, , 515-531. | | 19 |
| 60 | Origins of Fermi Level Pinning between Tungsten Dichalcogenides (WS2, WTe2) and Bulk Metal Contacts: Interface Chemistry and Band Alignment. Journal of Physical Chemistry C, 2020, 124, 14550-14563. | 1.5 | 19 |
| 61 | Remote plasma-assisted nitridation (RPN): applications to Zr and Hf silicate alloys and Al2O3. Applied Surface Science, 2003, 216, 124-132. | 3.1 | 17 |
| 62 | Understanding the Impact of Annealing on Interface and Border Traps in the Cr/HfO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub>/MoS<sub>2</sub> System. ACS Applied Electronic Materials, 2019, 1, 1372-1377. | 2.0 | 16 |
| 63 | Electrical characterization of top-gated molybdenum disulfide metalâ€“oxideâ€“semiconductor capacitors with high-k dielectrics. Microelectronic Engineering, 2015, 147, 151-154. | 1.1 | 15 |
| 64 | Electron trapping in non-crystalline Ta- and Hf-Aluminates for gate dielectric applications in aggressively scaled silicon devices. Solid-State Electronics, 2002, 46, 1799-1805. | 0.8 | 14 |
| 65 | In situ study of the role of substrate temperature during atomic layer deposition of HfO2 on InP. Journal of Applied Physics, 2013, 114, 154105. | 1.1 | 14 |
| 66 | <i>In situ</i> atomic layer deposition study of HfO2 growth on NH4OH and atomic hydrogen treated Al0.25Ga0.75N. Journal of Applied Physics, 2013, 113, . | 1.1 | 14 |
| 67 | Silicon Interfacial Passivation Layer Chemistry for High-<i>k</i>/InP Interfaces. ACS Applied Materials & Interfaces, 2014, 6, 7340-7345. | 4.0 | 14 |
| 68 | Gate-last TiN/HfO2 band edge effective work functions using low-temperature anneals and selective cladding to control interface composition. Applied Physics Letters, 2012, 100, . | 1.5 | 13 |
| 69 | Engineering the interface chemistry for scandium electron contacts in WSe<sub>2</sub> transistors and diodes. 2D Materials, 2019, 6, 045020. | 2.0 | 13 |
| 70 | Thermal stability of plasma-nitrided aluminum oxide films on Si. Applied Physics Letters, 2004, 84, 97-99. | 1.5 | 11 |
| 71 | <i>In situ</i>study of atomic layer deposition Al<sub>2</sub>O<sub>3</sub>on GaP (100). Applied Physics Letters, 2013, 103, 121604. | 1.5 | 10 |
| 72 | Oxide-related defects in quantum dot containing Si-rich silicon nitride films. Thin Solid Films, 2017, 636, 267-272. | 0.8 | 10 |

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|---|---|---|---|
| 73 | Controlling the Pd Metal Contact Polarity to Trigonal Tellurium by Atomic Hydrogenâ€Removal of the Native Tellurium Oxide. Advanced Materials Interfaces, 2021, 8, 2002050. | 1.9 | 10 |
| 74 | A spectroscopic study distinguishing between chemical phase separation with different degrees of crystallinity in Hf(Zr) silicate alloys. Applied Surface Science, 2004, 234, 429-433. | 3.1 | 9 |
| 75 | Impact of Etch Processes on the Chemistry and Surface States of the Topological Insulator Bi<sub>2</sub>Se<sub>3</sub>. ACS Applied Materials & Interfaces, 2019, 11, 32144-32150. | 4.0 | 9 |
| 76 | High-k Oxide Growth on III-V Surfaces: Chemical Bonding and MOSFET Performance. ECS Transactions, 2011, 35, 403-413. | 0.3 | 6 |
| 77 | PtSi dominated Schottky barrier heights of Ni(Pt)Si contacts due to Pt segregation. Applied Physics Letters, 2013, 102, . | 1.5 | 6 |
| 78 | On the calculation of effective electric field in In0.53Ga0.47As surface channel metal-oxide-semiconductor field-effect-transistors. Applied Physics Letters, 2011, 98, 193501. | 1.5 | 5 |
| 79 | Chemical phase separation in Zr silicate alloys: a spectroscopic study distinguishing between chemical phase separation with different degree of micro- and nano-crystallinity. Microelectronic Engineering, 2004, 72, 304-309. | 1.1 | 4 |
| 80 | Formation of pre-silicide layers below Ni1â^'xPtxSi/Si interfaces. Acta Materialia, 2013, 61, 2481-2488. | 3.8 | 4 |
| 81 | Comprehensive Capacitanceâ€"Voltage Simulation and Extraction Tool Including Quantum Effects for High- $k$ on SixGe1â^'x and InxGa1â^'xAs: Part IIâ€"Fits and Extraction From Experimental Data. IEEE Transactions on Electron Devices, 2017, 64, 3794-3801. | 1.6 | 4 |
| 82 | (Invited) Electrical and Physical Properties of High-k Gate Dielectrics on In<sub>x</sub>Ga<sub>1-x</sub>As. ECS Transactions, 2010, 28, 209-219. | 0.3 | 3 |
| 83 | (Invited) Band-Edge Effective Work Functions by Controlling HfO<sub>2</sub>/TiN Interfacial Composition for Gate-Last CMOS. ECS Transactions, 2011, 35, 285-295. | 0.3 | 3 |
| 84 | (Invited) Investigation of Critical Interfaces in Few-Layer MoS2Field Effect Transistors with High-k Dielectrics. ECS Transactions, 2017, 80, 219-225. | 0.3 | 3 |
| 85 | Comprehensive Capacitanceâ€"Voltage Simulation and Extraction Tool Including Quantum Effects for High-k on Si<italic>x</italic>Ge1â^'<italic>x</italic> and In<italic>x</italic>Ga1â^'<italic>x</italic>As: Part Iâ€"Model Description and Validation. IEEE Transactions on Electron Devices, 2017, 64, 3786-3793. | 1.6 | 3 |
| 86 | Electric Double Layer Esaki Tunnel Junction in a 40-nm-Length, WSe2 Channel Grown by Molecular Beam Epitaxy on Al2O3. , 2018, , . | | 3 |
| 87 | Enhanced tunneling in stacked gate dielectrics with ultra-thin HfO2 layers sandwiched between thicker SiO2 layers. Applied Surface Science, 2004, 234, 240-245. | 3.1 | 2 |
| 88 | Quantum Confinement and Interface States in ZnO Nanocrystalline Thin-Film Transistors. IEEE Transactions on Electron Devices, 2018, 65, 1787-1795. | 1.6 | 2 |
| 89 | Interfacial Chemistry of Oxides on III-V Compound Semiconductors. , 2010, , 131-172. | | 2 |
| 90 | Characterization of Electrically Active Interfacial Defects in High-k Gate Dielectrics. ECS Transactions, 2007, 11, 393-406. | 0.3 | 1 |

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| 91 | Trigonal Tellurium Nanostructure Formation Energy and Band gap. , 2019, , . | | 1 |
| 92 | Substitutional and Interstitial Diffusion of Ni across the NiSi/Si interface. Microscopy and Microanalysis, 2012, 18, 344-345. | 0.2 | 0 |
| 93 | Electrical characterization of process induced effects on non-silicon devices. , 2018, , . | | 0 |
| 94 | Materials and Device Strategies for Nanoelectronic 3D Heterogeneous Integration. , 2021, , . | | 0 |