

# Christopher L Hinkle

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

91  
papers

4,280  
citations

35  
h-index

64  
g-index

94  
ext. papers

4,819  
ext. citations

5.4  
avg, IF

5.42  
L-index

| #  | Paper   | IF  | Citations |
|----|---|-----|-----------|
| 91 | Materials for interconnects. <i>MRS Bulletin</i> , <b>2021</b> , 46, 959  | 3.2 | 9         |
| 90 | Controlling the Pd Metal Contact Polarity to Trigonal Tellurium by Atomic Hydrogen-Removal of the Native Tellurium Oxide. <i>Advanced Materials Interfaces</i> , <b>2021</b> , 8, 2002050   | 4.6 | 1         |
| 89 | Tellurium as a successor of silicon for extremely scaled nanowires: a first-principles study. <i>Npj 2D Materials and Applications</i> , <b>2020</b> , 4,   | 8.8 | 19        |
| 88 | Origins of Fermi Level Pinning between Tungsten Dichalcogenides (WS <sub>2</sub> , WTe <sub>2</sub> ) and Bulk Metal Contacts: Interface Chemistry and Band Alignment. <i>Journal of Physical Chemistry C</i> , <b>2020</b> , 124, 14550-14563      | 3.8 | 12        |
| 87 | Engineering the interface chemistry for scandium electron contacts in WSe <sub>2</sub> transistors and diodes. <i>2D Materials</i> , <b>2019</b> , 6, 045020  | 5.9 | 9         |
| 86 | Two-dimensional electric-double-layer Esaki diode. <i>Npj 2D Materials and Applications</i> , <b>2019</b> , 3,  | 8.8 | 22        |
| 85 | Impact of Etch Processes on the Chemistry and Surface States of the Topological Insulator BiSe <sub>3</sub> . <i>ACS Applied Materials &amp; Interfaces</i> , <b>2019</b> , 11, 32144-32150   | 9.5 | 4         |
| 84 | Origins of Fermi-Level Pinning between Molybdenum Dichalcogenides (MoSe <sub>2</sub> , MoTe <sub>2</sub> ) and Bulk Metal Contacts: Interface Chemistry and Band Alignment. <i>Journal of Physical Chemistry C</i> , <b>2019</b> , 123, 23919-23930 | 3.8 | 10        |
| 83 | WSe <sub>2</sub> (1-x)Te <sub>x</sub> alloys grown by molecular beam epitaxy. <i>2D Materials</i> , <b>2019</b> , 6, 045027   | 5.9 | 12        |
| 82 | 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. <i>ACS Applied Electronic Materials</i> , <b>2019</b> , 1, 1372-1377                       | 4   | 9         |
| 81 | Trigonal Tellurium Nanostructure Formation Energy and Band gap <b>2019</b> ,  |     | 1         |
| 80 | Contact Engineering for Dual-Gate MoS <sub>2</sub> Transistors Using O <sub>2</sub> Plasma Exposure. <i>ACS Applied Electronic Materials</i> , <b>2019</b> , 1, 210-219   | 4   | 24        |
| 79 | A roadmap for electronic grade 2D materials. <i>2D Materials</i> , <b>2019</b> , 6, 022001  | 5.9 | 133       |
| 78 | Engineering the Palladium/WSe <sub>2</sub> Interface Chemistry for Field Effect Transistors with High-Performance Hole Contacts. <i>ACS Applied Nano Materials</i> , <b>2019</b> , 2, 75-88   | 5.6 | 18        |
| 77 | Covalent nitrogen doping in molecular beam epitaxy-grown and bulk WSe <sub>2</sub> . <i>APL Materials</i> , <b>2018</b> , 6, 026693   | 3.7 | 15        |
| 76 | Evaluation of border traps and interface traps in HfO <sub>2</sub> /MoS <sub>2</sub> gate stacks by capacitance-voltage analysis. <i>2D Materials</i> , <b>2018</b> , 5, 031002   | 5.9 | 38        |
| 75 | Molecular Beam Epitaxy of Transition Metal Dichalcogenides <b>2018</b> , 515-531  |     | 10        |

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|----|---|----------|
| 74 | Dislocation driven spiral and non-spiral growth in layered chalcogenides. <i>Nanoscale</i> , <b>2018</b> , 10, 15023-15034  | 16       |
| 73 | High-Mobility Helical Tellurium Field-Effect Transistors Enabled by Transfer-Free, Low-Temperature Direct Growth. <i>Advanced Materials</i> , <b>2018</b> , 30, e1803109  | 24 49    |
| 72 | Quantum Confinement and Interface States in ZnO Nanocrystalline Thin-Film Transistors. <i>IEEE Transactions on Electron Devices</i> , <b>2018</b> , 65, 1787-1795   | 2.9 1    |
| 71 | Fermi Level Manipulation through Native Doping in the Topological Insulator BiSe. <i>ACS Nano</i> , <b>2018</b> , 12, 6310-6318   | 16.7 23  |
| 70 | Dual-gate MoS2 transistors with sub-10 nm top-gate high-k dielectrics. <i>Applied Physics Letters</i> , <b>2018</b> , 112, 253502   | 3.4 34   |
| 69 | Electric Double Layer Esaki Tunnel Junction in a 40-nm-Length, WSe2 Channel Grown by Molecular Beam Epitaxy on Al2O3 <b>2018</b> ,  | 3        |
| 68 | Controlled crack propagation for atomic precision handling of wafer-scale two-dimensional materials. <i>Science</i> , <b>2018</b> , 362, 665-670  | 33.3 133 |
| 67 | Effects of annealing on top-gated MoS2 transistors with HfO2 dielectric. <i>Journal of Vacuum Science and Technology B: Nanotechnology and Microelectronics</i> , <b>2017</b> , 35, 01A118  | 1.3 22   |
| 66 | W Te 2 thin films grown by beam-interrupted molecular beam epitaxy. <i>2D Materials</i> , <b>2017</b> , 4, 025044   | 5.9 41   |
| 65 | WSe 2 -contact metal interface chemistry and band alignment under high vacuum and ultra high vacuum deposition conditions. <i>2D Materials</i> , <b>2017</b> , 4, 025084  | 5.9 67   |
| 64 | Oxide-related defects in quantum dot containing Si-rich silicon nitride films. <i>Thin Solid Films</i> , <b>2017</b> , 636, 267-272   | 2.2 8    |
| 63 | (Invited) Investigation of Critical Interfaces in Few-Layer MoS2 Field Effect Transistors with High-k Dielectrics. <i>ECS Transactions</i> , <b>2017</b> , 80, 219-225  | 1 3      |
| 62 | Interface Chemistry of Contact Metals and Ferromagnets on the Topological Insulator Bi2Se3. <i>Journal of Physical Chemistry C</i> , <b>2017</b> , 121, 23551-23563   | 3.8 44   |
| 61 | Schottky Barrier Height of Pd/MoS Contact by Large Area Photoemission Spectroscopy. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 38977-38983  | 9.5 19   |
| 60 | van der Waals epitaxy: 2D materials and topological insulators. <i>Applied Materials Today</i> , <b>2017</b> , 9, 504-515   | 6.6 97   |
| 59 | Nucleation and growth of WSe 2 : enabling large grain transition metal dichalcogenides. <i>2D Materials</i> , <b>2017</b> , 4, 045019   | 5.9 79   |
| 58 | Comprehensive Capacitance-Voltage Simulation and Extraction Tool Including Quantum Effects for High-k on SixGe1-x and InxGa1-xAs: Part I Model Description and Validation. <i>IEEE Transactions on Electron Devices</i> , <b>2017</b> , 64, 3786-3793             | 2.9 3    |
| 57 | Comprehensive Capacitance-Voltage Simulation and Extraction Tool Including Quantum Effects for High- k on SixGe1-x and InxGa1-xAs: Part II Bits and Extraction From Experimental Data. <i>IEEE Transactions on Electron Devices</i> , <b>2017</b> , 64, 3794-3801 | 2.9 2    |

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| 56 | Probing Interface Defects in Top-Gated MoS Transistors with Impedance Spectroscopy. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2017</b> , 9, 24348-24356   | 9.5  | 27  |
| 55 | Contact Metal/MoS <sub>2</sub> Interfacial Reactions and Potential Implications on MoS <sub>2</sub> -Based Device Performance. <i>Journal of Physical Chemistry C</i> , <b>2016</b> , 120, 14719-14729                               | 3.8  | 91  |
| 54 | MoS <sub>2</sub> -Titanium Contact Interface Reactions. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2016</b> , 8, 8289-94   | 9.5  | 84  |
| 53 | Covalent Nitrogen Doping and Compressive Strain in MoS <sub>2</sub> by Remote N <sub>2</sub> Plasma Exposure. <i>Nano Letters</i> , <b>2016</b> , 16, 5437-43  | 11.5 | 247 |
| 52 | Electrical characterization of top-gated molybdenum disulfide metal-oxide-semiconductor capacitors with high-k dielectrics. <i>Microelectronic Engineering</i> , <b>2015</b> , 147, 151-154  | 2.5  | 14  |
| 51 | Transition metal dichalcogenide and hexagonal boron nitride heterostructures grown by molecular beam epitaxy. <i>Microelectronic Engineering</i> , <b>2015</b> , 147, 306-309  | 2.5  | 40  |
| 50 | Impurities and Electronic Property Variations of Natural MoS <sub>2</sub> Crystal Surfaces. <i>ACS Nano</i> , <b>2015</b> , 9, 9124-337  | 16.7 | 207 |
| 49 | HfSe <sub>2</sub> thin films: 2D transition metal dichalcogenides grown by molecular beam epitaxy. <i>ACS Nano</i> , <b>2015</b> , 9, 474-80   | 16.7 | 155 |
| 48 | Defect-dominated doping and contact resistance in MoS <sub>2</sub> . <i>ACS Nano</i> , <b>2014</b> , 8, 2880-8   | 16.7 | 562 |
| 47 | Chemical bonding and defect states of LPCVD grown silicon-rich Si <sub>3</sub> N <sub>4</sub> for quantum dot applications. <i>Journal of Vacuum Science and Technology A: Vacuum, Surfaces and Films</i> , <b>2014</b> , 32, 021507 | 2.9  | 14  |
| 46 | Silicon interfacial passivation layer chemistry for high-k/InP interfaces. <i>ACS Applied Materials &amp; Interfaces</i> , <b>2014</b> , 6, 7340-5   | 9.5  | 12  |
| 45 | Electrical and chemical characteristics of Al <sub>2</sub> O <sub>3</sub> /InP metal-oxide-semiconductor capacitors. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 132903  | 3.4  | 35  |
| 44 | HfO <sub>2</sub> on MoS <sub>2</sub> by atomic layer deposition: adsorption mechanisms and thickness scalability. <i>ACS Nano</i> , <b>2013</b> , 7, 10354-61  | 16.7 | 194 |
| 43 | Formation of pre-silicide layers below Ni <sub>1-x</sub> Pt <sub>x</sub> Si/Si interfaces. <i>Acta Materialia</i> , <b>2013</b> , 61, 2481-2488  | 8.4  | 4   |
| 42 | PtSi dominated Schottky barrier heights of Ni(Pt)Si contacts due to Pt segregation. <i>Applied Physics Letters</i> , <b>2013</b> , 102, 123507   | 3.4  | 4   |
| 41 | In situ study of the role of substrate temperature during atomic layer deposition of HfO <sub>2</sub> on InP. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 154105  | 2.5  | 13  |
| 40 | In situ atomic layer deposition study of HfO <sub>2</sub> growth on NH <sub>4</sub> OH and atomic hydrogen treated Al <sub>0.25</sub> Ga <sub>0.75</sub> N. <i>Journal of Applied Physics</i> , <b>2013</b> , 113, 244102            | 2.5  | 11  |
| 39 | In situ study of atomic layer deposition Al <sub>2</sub> O <sub>3</sub> on GaP (100). <i>Applied Physics Letters</i> , <b>2013</b> , 103, 121604   | 3.4  | 8   |

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| 38 | In situ study of HfO <sub>2</sub> atomic layer deposition on InP(100). <i>Applied Physics Letters</i> , <b>2013</b> , 102, 171602  | 3.4 | 16  |
| 37 | Chemical and electrical characterization of the HfO <sub>2</sub> /InAlAs interface. <i>Journal of Applied Physics</i> , <b>2013</b> , 114, 104103  | 2.5 | 17  |
| 36 | Gate-last TiN/HfO <sub>2</sub> band edge effective work functions using low-temperature anneals and selective cladding to control interface composition. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 153501      | 3.4 | 13  |
| 35 | Progression of Solid Electrolyte Interphase Formation on Hydrogenated Amorphous Silicon Anodes for Lithium-Ion Batteries. <i>Journal of Physical Chemistry C</i> , <b>2012</b> , 116, 9072-9077                          | 3.8 | 93  |
| 34 | Interfacial oxide re-growth in thin film metal oxide III-V semiconductor systems. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 141606   | 3.4 | 44  |
| 33 | In situ surface pre-treatment study of GaAs and In <sub>0.53</sub> Ga <sub>0.47</sub> As. <i>Applied Physics Letters</i> , <b>2012</b> , 100, 151603   | 3.4 | 27  |
| 32 | Substitutional and Interstitial Diffusion of Ni across the NiSi/Si interface. <i>Microscopy and Microanalysis</i> , <b>2012</b> , 18, 344-345  | 0.5 |     |
| 31 | Interfacial chemistry of oxides on In <sub>x</sub> Ga <sub>(1-x)</sub> As and implications for MOSFET applications. <i>Current Opinion in Solid State and Materials Science</i> , <b>2011</b> , 15, 188-207              | 12  | 109 |
| 30 | Optimisation of the ammonium sulphide (NH <sub>4</sub> ) <sub>2</sub> S passivation process on In <sub>0.53</sub> Ga <sub>0.47</sub> As. <i>Applied Surface Science</i> , <b>2011</b> , 257, 4082-4090                   | 6.7 | 64  |
| 29 | Is interfacial chemistry correlated to gap states for high-k/III-V interfaces?. <i>Microelectronic Engineering</i> , <b>2011</b> , 88, 1061-1065   | 2.5 | 59  |
| 28 | Remote phonon and surface roughness limited universal electron mobility of In <sub>0.53</sub> Ga <sub>0.47</sub> As surface channel MOSFETs. <i>Microelectronic Engineering</i> , <b>2011</b> , 88, 1083-1086            | 2.5 | 23  |
| 27 | On the calculation of effective electric field in In <sub>0.53</sub> Ga <sub>0.47</sub> As surface channel metal-oxide-semiconductor field-effect-transistors. <i>Applied Physics Letters</i> , <b>2011</b> , 98, 193501 | 3.4 | 4   |
| 26 | Effect of post deposition anneal on the characteristics of HfO <sub>2</sub> /InP metal-oxide-semiconductor capacitors. <i>Applied Physics Letters</i> , <b>2011</b> , 99, 172901   | 3.4 | 49  |
| 25 | (Invited) Band-Edge Effective Work Functions by Controlling HfO <sub>2</sub> /TiN Interfacial Composition for Gate-Last CMOS. <i>ECS Transactions</i> , <b>2011</b> , 35, 285-295  | 1   | 3   |
| 24 | High-k Oxide Growth on III-V Surfaces: Chemical Bonding and MOSFET Performance. <i>ECS Transactions</i> , <b>2011</b> , 35, 403-413  | 1   | 6   |
| 23 | (Invited) Electrical and Physical Properties of High-k Gate Dielectrics on In <sub>x</sub> Ga <sub>(1-x)</sub> As. <i>ECS Transactions</i> , <b>2010</b> , 28, 209-219   | 1   | 2   |
| 22 | Interfacial oxygen and nitrogen induced dipole formation and vacancy passivation for increased effective work functions in TiN/HfO <sub>2</sub> gate stacks. <i>Applied Physics Letters</i> , <b>2010</b> , 96, 103502   | 3.4 | 26  |
| 21 | Impact of Semiconductor and Interface-State Capacitance on Metal/High-k/GaAs Capacitance-Voltage Characteristics. <i>IEEE Transactions on Electron Devices</i> , <b>2010</b> , 57, 2599-2606                             | 2.9 | 35  |

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| 20 | Interfacial Chemistry of Oxides on III-V Compound Semiconductors <b>2010</b> , 131-172  |     | 2   |
| 19 | The significance of core-level electron binding energies on the proper analysis of InGaAs interfacial bonding. <i>Applied Physics Letters</i> , <b>2009</b> , 95, 151905  | 3-4 | 49  |
| 18 | Surface passivation and implications on high mobility channel performance (Invited Paper). <i>Microelectronic Engineering</i> , <b>2009</b> , 86, 1544-1549   | 2-5 | 38  |
| 17 | Detection of Ga suboxides and their impact on III-V passivation and Fermi-level pinning. <i>Applied Physics Letters</i> , <b>2009</b> , 94, 162101  | 3-4 | 236 |
| 16 | Surface Studies of III-V Materials: Oxidation Control and Device Implications. <i>ECS Transactions</i> , <b>2009</b> , 19, 387-403  | 1   | 22  |
| 15 | Extraction of the Effective Mobility of $\text{In}_{0.53}\text{Ga}_{0.47}\text{As}$ MOSFETs. <i>IEEE Electron Device Letters</i> , <b>2009</b> , 30, 316-318  | 4-4 | 34  |
| 14 | Performance enhancement of n-channel inversion type $\text{In}_x\text{Ga}_{1-x}\text{As}$ metal-oxide-semiconductor field effect transistor using ex situ deposited thin amorphous silicon layer. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 122109 | 3-4 | 48  |
| 13 | Indium stability on InGaAs during atomic H surface cleaning. <i>Applied Physics Letters</i> , <b>2008</b> , 92, 171906  | 3-4 | 59  |
| 12 | Comparison of n-type and p-type GaAs oxide growth and its effects on frequency dispersion characteristics. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 113506  | 3-4 | 52  |
| 11 | Half-cycle atomic layer deposition reaction studies of $\text{Al}_2\text{O}_3$ on $\text{In}_{0.2}\text{Ga}_{0.8}\text{As}$ (100) surfaces. <i>Applied Physics Letters</i> , <b>2008</b> , 93, 202902   | 3-4 | 131 |
| 10 | Frequency dispersion reduction and bond conversion on n-type GaAs by in situ surface oxide removal and passivation. <i>Applied Physics Letters</i> , <b>2007</b> , 91, 163512   | 3-4 | 81  |
| 9  | Nitrogen bonding, stability, and transport in ALON films on Si. <i>Applied Physics Letters</i> , <b>2004</b> , 84, 4992-4994  | 3-4 | 50  |
| 8  | Suppression of subcutaneous oxidation during the deposition of amorphous lanthanum aluminate on silicon. <i>Applied Physics Letters</i> , <b>2004</b> , 84, 4629-4631   | 3-4 | 81  |
| 7  | Chemical phase separation in Zr silicate alloys: a spectroscopic study distinguishing between chemical phase separation with different degree of micro- and nano-crystallinity. <i>Microelectronic Engineering</i> , <b>2004</b> , 72, 304-309              | 2-5 | 4   |
| 6  | A novel approach for determining the effective tunneling mass of electrons in $\text{HfO}_2$ and other high-K alternative gate dielectrics for advanced CMOS devices. <i>Microelectronic Engineering</i> , <b>2004</b> , 72, 257-262                        | 2-5 | 41  |
| 5  | A spectroscopic study distinguishing between chemical phase separation with different degrees of crystallinity in $\text{Hf}(\text{Zr})$ silicate alloys. <i>Applied Surface Science</i> , <b>2004</b> , 234, 429-433                                       | 6-7 | 6   |
| 4  | Enhanced tunneling in stacked gate dielectrics with ultra-thin $\text{HfO}_2$ layers sandwiched between thicker $\text{SiO}_2$ layers. <i>Applied Surface Science</i> , <b>2004</b> , 234, 240-245  | 6-7 | 2   |
| 3  | Thermal stability of plasma-nitrided aluminum oxide films on Si. <i>Applied Physics Letters</i> , <b>2004</b> , 84, 97-99   | 3-4 | 11  |

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| 2 | Remote plasma-assisted nitridation (RPN): applications to Zr and Hf silicate alloys and Al <sub>2</sub> O <sub>3</sub> .<br><i>Applied Surface Science</i> , <b>2003</b> , 216, 124-132          | 6.7 | 17 |
| 1 | Electron trapping in non-crystalline Ta- and Hf-Aluminates for gate dielectric applications in aggressively scaled silicon devices. <i>Solid-State Electronics</i> , <b>2002</b> , 46, 1799-1805 | 1.7 | 13 |