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EDUCATION

- Ph.D. Physics, University of California, Berkeley, 1997
- M.A. Physics, University of California, Berkeley, 1993
- B.Sc. Physics, Massachusetts Institute of Technology, 1991

EXPERIENCE

- WSU, Department of Physics and Astronomy, Professor, 2009–
- Chief Technology Officer, Klar Scientific LLC, 2016–
- WSU, Materials Science Program, member, 2001–
- WSU, Institute for Shock Physics, member, 1998–
- WSU, Department of Physics and Astronomy, Chair, 2012–16
- WSU, Materials Science Program, Interim Chair, 2008–9
- WSU, Department of Physics and Astronomy, Acting Chair, 2006–7
- WSU, Department of Physics, Associate Professor with tenure, 2004–9
- WSU, Department of Physics, Assistant Professor, 1998–2004
- Xerox Palo Alto Research Center (PARC), Postdoctoral Research Associate, 1997–8
- University of California, Berkeley and Lawrence Berkeley National Laboratory (LBNL), Graduate Student Researcher, 1993–6

DISSERTATION

- **Title:** *Hydrogen Local Vibrational Modes in Semiconductors*
- **Committee:** Eugene Haller (chair), Peter Yu (co-chair), Steven Louie, and Daryl Czhran

RESEARCH INTERESTS

- Optical and electrical properties of semiconductors and oxides
- Infrared spectroscopy of defects in semiconductors
- Synthesis and characterization of oxide materials
- High-pressure and shock compression physics
- Optical imaging technology

PROFESSIONAL SOCIETIES

- American Physical Society (APS)
- Materials Research Society (MRS)
- SPIE (the international society for optics and photonics)

AWARDS

- Westinghouse Distinguished Professorship in Materials Science and Engineering, 2013–20
- WSU College of Sciences New Faculty Performance Award, one awarded, 2002

Student awards (past 10 years)

- Anya Rasmussen, WSU Association of Faculty Women Rigas Award, 2015
- Anya Rasmussen, Advanced Light Source Doctoral Fellowship in Residence, 2014–5
- Anya Rasmussen, student scholarship, Shock Compression and Condensed Matter conference, 2013
- Samuel Teklemichael, Graduate and Professional Student Association RA award, 2012
- Marianne Tarun, Graduate and Professional Student Association RA award, 2011
- Jennifer Schei, WSU Association of Faculty Women Rigas Award, 2011
- Gabriel Hanna, Graduate and Professional Student Association RA award, 2009
- Marianne Tarun, John P. Hirth Outstanding Graduate Seminar Award for WSU's Physical Chemistry and Materials Science Seminar Program, 2008
- Marianne Tarun, Golding Family Fellowship, 2007
- Gabriel Hanna, NASA Space Scholarship, 2007
- Jennifer Schei, Poncin Scholarship, 2006–8

SERVICE AT WSU

University

- Commercialization Gap Fund Internal Review Committee, 2017–
- Provost Tenure and Promotion Committee, 2015–7
- Seed Grant Review Panel, 2010, 2014–6
- Academic Showcase Committee, 2011–2, 2014–7
- Keynote Speaker, Phi Beta Kappa Induction Ceremony, 2016
- Dean Review Committee, 2016
- Materials Science and Engineering Director Search Committee, 2014–5
- Materials Science and Engineering Advisory Committee, 2010–4
- Faculty address, “Crimson Reads,” 2014
- Dean Search Committee, 2010
- ADVANCE Excel in Science and Engineering Departmental Liaison, 2009
- Interim Chair of Materials Science, 2008–9
- Committee to Design the Future Research Infrastructure at WSU, 2008
- Academic Affairs Program Prioritization (A2P2) Task Force Phase II, 2008
- “Getting Connected,” orientation and welcome for graduate students, panel member, 2007–8
- Presentation on materials research for congressional staff visit, 2007
- Future Cougar Day recruiting event, Seattle, WA, 2006
- Materials Science Graduate Studies Committee, 2001–5
- Guest lecturer for WSU Foundation Bay Area alumni reception, San Francisco, 2003

College

- *Ad hoc* Tenure and Promotion Committees, 2015–8
- Chair, Mathematics / Statistics Restructuring Committee, 2009
- Research Infrastructure Support Committee, 2003–4
- Technical Services Advisory Committee, 2000–3

Department

- Chair, Safety/Space/Building Committee, 2018–
- Executive Committee, 2018–
- Department Chair, 2012–6
- Chair, Fiscal Analyst Search Committee, 2015
- Chair, Administrative Manager Search Committee, 2015
- Chair, Program Coordinator Search Committee, 2014
- Colloquium Coordinator, 2000, 2001, 2013
- Chair, Department Vision Committee, 2010–11
- Graduate Studies Committee, 2000–11 (Chair 2007–11)
- Research Experiences for Undergraduates (REU) Site, PI and Faculty Coordinator, 2007–10
- Chair, Scholarship Committee, 2006–9
- Department Accreditation Committee, 2007
- Acting Department Chair, 2006–7
- Theory/Astro Search Committee, 2004–5
- *Ad hoc* Space Committee, 2004–5
- Experimentalist Search Committee, 2003–4
- Instructor Search Committee, 2000–1
- Stephenson Lecture Coordinator, 2000

SERVICE OUTSIDE WSU

- Chair, ICDS–30 (Seattle, 2019)
- International Advisory Committee, International Conference on Defects in Semiconductors (ICDS), 2003–18
- Program Committee, ICDS, 2015 and 2017
- National Science Foundation (NSF) review panels, 2002, 2009, 2012, 2017
- Chair, APS Northwest (APSNW) Meeting, 2015
- Department of Energy (DOE) review panels, 2009, 2010, 2011, 2013, 2015
- Environmental Molecular Sciences Laboratory (EMSL) User Executive Committee, 2011–14
- Corbett Prize Committee, ICDS, 2013
- Co-organizer, Focus Topic on Defects in Semiconductors, APS March Meeting, 2009 and 2013
- APSNW Program Committee, 2005–6 and 2011–12
- Program Committee, Gordon Research Conference (GRC) on Defects in Semiconductors, 2010 and 2012
- Chair, GRC on Defects in Semiconductors, 2007–8 (Vice Chair 2005–6)

- Advisory Committee, University of Idaho DOE-EPSCOR Grant, 2005–7
- International Conference on Hydrogen in Materials organizing committee, 2002–6
- APSNW Executive Committee, 2004–5
- Co-organizer, Focus Topic on Wide-band-gap Semiconductors, APS March Meeting, 2004
- Co-organizer, Symposium on Hydrogen in Semiconductors, MRS Spring Meeting, 2004
- APS March Meeting Abstract Sorters’ Meeting, 2003
- Session chair for various conferences

REFEREEING

- **Journals:** ACS Photonics, American Journal of Physics, Applied Materials and Interfaces, Applied Physics Letters, Applied Spectroscopy, Applied Surface Science, Canadian Journal of Physics, Central European Journal of Physics, Ceramics International, Chemical Physics Letters, IEEE Electron Device Letters, Japanese Journal of Applied Physics, Journal of Alloys and Compounds, Journal of Applied Physics, Journal of Chemical Physics, Journal of Crystal Growth, Journal of the Electrochemical Society, Journal of Luminescence, Journal of Nanomaterials, Journal of Physical Chemistry, Journal of Physics D, Journal of Vacuum Science and Technology (JVST) A, JVST B, Materials Letters, Materials Research Bulletin, Materials Today, Nanotechnology, Nature, Nature Materials, New Journal of Physics, Optical Materials Express, Organic Electronics, Physical Review Applied, Physical Review B, Physica Status Solidi A, Physical Review Letters, Physical Review Materials, PLOS ONE, Reviews of Modern Physics, Semiconductor Science and Technology, Sensors and Actuators B, Thin Solid Films
- **Funding agencies:** DOE, NSF, Natural Sciences and Engineering Research Council of Canada, Petroleum Research Fund (PRF), United States – Israel Binational Science Foundation
- **Other:** Advanced Light Source (ALS), Environmental Molecular Sciences Laboratory / Pacific Northwest National Laboratory (EMSL/PNNL), Le Studium, Stanford Synchrotron Radiation Laboratory, book proposals, tenure applications, external examiner/reader for Ph.D. committees (University of Alberta and Simon Fraser University)

OUTREACH

- MIT Educational Counselor, 2014–
- MIT Reunion Gift Committee, 2015–6
- Contributor to WSU’s *Ask Dr. Universe* column
- Physics videos on YouTube
- Leader, Franklin Elementary Math Club, 2009–10
- Recruiting trip, 2009 Joint Annual Conference of the National Society of Black Physicists and the National Society of Hispanic Physicists
- Team Leader, “Kids Judge” neuroscience event, 2006
- Development of lab exercises for the Nespelem school, on the Colville Indian reservation in northeast Washington, for 8th grade class
- Organized visits by WSU Children’s Center (ages: 2-10)
- Mentor for Pullman High School senior science project
- Physics demonstrations for elementary students

PUBLICATIONS

Summary

- Authored or co-authored over 100 peer-reviewed publications, including 2 invited review articles featured on the cover of *Journal of Applied Physics*. H-index = 31 (Google Scholar, 9/10/2018).
- Top citations (work done at WSU):
 - o 818: “Defects in ZnO,” *J. Appl. Phys.* (2009)
 - o 204: “Infrared spectroscopy of hydrogen in ZnO,” *Appl. Phys. Lett.* (2002)
 - o 131: “Structure and stability of O-H donors in ZnO from high-pressure and infrared spectroscopy,” *Phys. Rev. B* (2005)
 - o 131: “Nitrogen is a deep acceptor in ZnO,” *AIP Advances* (2011), *most cited AIP Advances article in 2012*
 - o 118: “Local vibrational modes of impurities in semiconductors,” *J. Appl. Phys.* (2000)
 - o 110: “Ferromagnetism in $\text{Ga}_{1-x}\text{Mn}_x\text{P}$: Evidence for inter-Mn exchange mediated by localized holes within a detached impurity band,” *Phys. Rev. Lett.* (2005)
- Top citations (work done before WSU):
 - o 244: “Large band gap bowing of $\text{In}_x\text{Ga}_{1-x}\text{N}$ alloys,” *Appl. Phys. Lett.* (1998)
 - o 225: “Phase separation in InGaN/GaN multiple quantum wells,” *Appl. Phys. Lett.* (1998)
 - o 199: “Local vibrational modes of the Mg-H acceptor complex in GaN,” *Appl. Phys. Lett.* (1996)
 - o 174: “Metastability of oxygen donors in AlGaIn ,” *Phys. Rev. Lett.* (1998)
 - o 172: “Fano interference of the Raman phonon in heavily boron-doped diamond films grown by chemical vapor deposition,” *Appl. Phys. Lett.* (1995)
 - o 167: “Optical properties of InGaIn alloys grown by metalorganic chemical vapor deposition,” *J. Appl. Phys.* (1998)

Journal Articles (peer-reviewed)

Work done at WSU (2000–)

121. J. Huso, L. Bergman, and M.D. McCluskey, The optical band gap of cubic $\text{ZnS}_{1-x}\text{O}_x$, *J. Appl. Phys.* (submitted).
120. D. Thapa, J. Huso, J. Lapp, N. Rajabi, J. Morrison, M.D. McCluskey, Ph.D., and L. Bergman, Thermal stability of ultra-wide-bandgap MgZnO alloys with wurtzite structure, *Journal of Materials Science: Materials in Electronics* (2018, in press).
119. J.R. Ritter, J. Huso, P.T. Dickens, J.B. Varley, K.G. Lynn, and M.D. McCluskey, [Compensation and hydrogen passivation of magnesium acceptors in \$\delta\text{-Ga}_2\text{O}_3\$](#) , *Appl. Phys. Lett.* **113**, 052101:1-5 (2018).
118. V.M. Poole, J. Huso, and M.D. McCluskey, [The role of hydrogen and oxygen in the persistent photoconductivity of strontium titanate](#), *J. Appl. Phys.* **123**, 161545:1-5 (2018).
117. X. Ye and M.D. McCluskey, [Subtractive imaging using Gaussian fits and image moments in confocal microscopy](#), *Res. J. Opt. Photonics* **1**(1), 1000102:1-5 (2017).
116. J. Huso, J.R. Ritter, D. Thapa, K.M. Yu, L. Bergman, and M.D. McCluskey, [Oxygen vibrational modes in \$\text{ZnS}_{1-x}\text{O}_x\$ alloys](#), *J. Appl. Phys.* **123**, 161537:1-5 (2017).
115. N.S. Parmar, J.-W. Choi, L.A. Boatner, M.D. McCluskey, and K.G. Lynn, [Formation of high concentrations of isolated Zn vacancies and evidence for their acceptor levels in ZnO](#), *Journal of Alloys and Compounds* **729**, 1031-1037 (2017).

114. V.M. Poole, S.J. Jokela, and M.D. McCluskey, [Using persistent photoconductivity to write a low-resistance path in SrTiO₃](#), *Scientific Reports* **7**, 6659:1-6 (2017).
113. Q. Wang, L. Yang, S. Zhou, X. Ye, Z. Wang, W. Zhu, M.D. McCluskey, and Y. Gu, [Phase-defined Van der Waals Schottky junctions with significantly enhanced thermoelectric properties](#), *J. Phys. Chem. Lett.* **8**, 2887-2894 (2017).
112. D. Thapa, J. Huso, K. Miklos, P.M. Wojcik, D.N. McIlroy, J.L. Morrison, C. Corolewski, M.D. McCluskey, T.J. Williams, M.G. Norton, and L. Bergman, [UV-luminescent MgZnO semiconductor alloys: Nanostructure and optical properties](#), *J. Mat. Sci.:Mater. Electron.* **28**, 2511-2520 (2017).
111. S.T. Hung, A. Bhuyan, K. Schademan, J. Steverlynck, M.D. McCluskey, G. Koeckelberghs, K. Clays, and M.G. Kuzyk, [Spectroscopic studies of the mechanism of reversible photodegradation of 1-substituted aminoanthraquinone-doped polymers](#), *J. Chem. Phys.* **144**, 114902:1-17 (2016).
110. X. Ye and M.D. McCluskey, [Modular scanning confocal microscope with digital image processing](#), *PLoS ONE* **11**(11), e0166212:1-14 (2016).
109. A.M. Rasmussen, E. Mafi, W. Zhu, Y. Gu, and M.D. McCluskey, [High pressure \$\gamma\$ -to- \$\beta\$ phase transition in bulk and nanocrystalline In₂Se₃](#), *High Pressure Res.* **36**, 549-56 (2016).
108. C.D. Corolewski, N.S. Parmar, K.G. Lynn, and M.D. McCluskey, [Hydrogen-related complexes in Li-diffused ZnO single crystals](#), *J. Appl. Phys.* **120**, 035702:1-5 (2016).
107. D. Thapa, J. Huso, J.L. Morrison, C.D. Corolewski, M.D. McCluskey, and Leah Bergman, [Achieving highly-enhanced UV photoluminescence and its origin in ZnO nanocrystalline films](#), *Optical Materials* **58**, 382–9 (2016).
106. A. Alkauskas, M.D. McCluskey, and C.G. Van de Walle, [Tutorial: Defects in semiconductors—Combining experiment and theory](#), *J. Appl. Phys.* **119**, 181101:1-11 (2016).
105. V.M. Poole, C.D. Corolewski, and M.D. McCluskey, [P-type conductivity in annealed strontium titanate](#), *AIP Advances* **5**, 127217:1-4 (2015).
104. K.W. Harrison, C.D. Corolewski, M.D. McCluskey, J. Lindemuth, S. Ha, and M.G. Norton, [Electronic transport in molybdenum dioxide thin films](#), *J. Mater. Sci.: Mater. Electron.* **26**, 9717-20 (2015).
103. N.S. Parmar, C.D. Corolewski, M.D. McCluskey, and K.G. Lynn, [Potassium acceptor doping of ZnO crystals](#), *AIP Advances* **5**, 057107:1-7 (2015).
102. J. Huso, H. Che, D. Thapa, A. Canul, M.D. McCluskey, and L. Bergman, [Phonon dynamics and Urbach energy studies of MgZnO alloys](#), *J. Appl. Phys.* **117**, 125702:1-8 (2015).
101. M.D. McCluskey, C.D. Corolewski, J. Lv, M.C. Tarun, S.T. Teklemichael, E.D. Walter, M.G. Norton, K.W. Harrison, and S. Ha, [Acceptors in ZnO](#), *J. Appl. Phys.* **117**, 112802:1-6 (2015).
100. F.A. Selim, D. Winarski, C.R. Varney, M.C. Tarun, Jianfeng Ji, and M.D. McCluskey, [Generation and characterization of point defects in SrTiO₃ and Y₃Al₅O₁₂](#), *Results in Physics* **5**, 28-31 (2015).
99. S.T. Teklemichael, M.D. McCluskey, G. Buchowicz, O.D. Dubon, and E.E. Haller, [Evidence for a shallow Cu acceptor in Si from infrared spectroscopy and photoconductivity](#), *Phys. Rev. B* **90**, 165204:1-4 (2014).
98. J.M. Philipps, J.E. Stehr, I. Buyanova, M.C. Tarun, M.D. McCluskey, B.K. Meyer, and D.M. Hofmann, [Recharging behavior of nitrogen-centers in ZnO](#), *J. Appl. Phys.* **116**, 063701:1-4 (2014).
97. F. Tuomisto, C. Rauch, M.R. Wagner, A. Hoffmann, S. Eisermann, B.K. Meyer, L. Kilanski, M.C. Tarun, and M.D. McCluskey, [Nitrogen and vacancy clusters in ZnO](#), *Journal of Materials Research* **28**, 1977-83 (2013).
96. N.S. Parmar, M.D. McCluskey, and K.G. Lynn, [Vibrational spectroscopy of Na-H complexes in ZnO](#), *Journal of Electronic Materials* **42**, 3426-8 (2013).

95. P. Grivickas, M.D. McCluskey, and Y.M. Gupta, [Use of dynamic compression to probe semiconductor response at large strains](#), *Physica Status Solidi B* **250**, 683-7 (2013).
94. F.A. Selim, C.R. Varney, M.C. Tarun, M.C. Rowe, G.S. Collins, and M.D. McCluskey, [Positron lifetime measurements of hydrogen passivation of cation vacancies in yttrium aluminum oxide garnets](#), *Phys. Rev. B* **88**, 174102:1-5 (2013).
93. J. Huso, J.L. Morrison, L. Bergman, and M.D. McCluskey, [Anharmonic resonant Raman modes in \$\text{Mg}_{0.2}\text{Zn}_{0.8}\text{O}\$](#) , *Phys. Rev. B* **87**, 125205:1-5 (2013).
92. M.C. Tarun, F.A. Selim, and M.D. McCluskey, [Persistent photoconductivity in strontium titanate](#), *Phys. Rev. Lett.* **111**, 187403:1-5 (2013).
91. E.H. Khan, M.H. Weber, and M.D. McCluskey, [Formation of isolated Zn vacancies in ZnO single crystals by absorption of ultraviolet radiation: A combined study using positron annihilation, photoluminescence, and mass spectroscopy](#), *Phys. Rev. Lett.* **111**, 017401:1-5 (2013).
90. A.M. Rasmussen, S.T. Teklemichael, E. Mafi, Y. Gu, and M.D. McCluskey, [Pressure-induced phase transformation of \$\text{In}_2\text{Se}_3\$](#) , *Appl. Phys. Lett.* **102**, 062105:1-4 (2013).
89. Z.A. Dreger, M.D. McCluskey, and Y.M. Gupta, [High pressure – high temperature decomposition of \$\gamma\$ -cyclotrimethylene trinitramine](#), *J. Phys. Chem. A* **116**, 9680-8 (2012).
88. S.T. Teklemichael and M.D. McCluskey, [Compensation of acceptors in ZnO nanocrystals by adsorption of formic acid](#), *J. Phys. Chem. C* **116**, 17248-51 (2012).
87. M.D. McCluskey, M.C. Tarun, and S.T. Teklemichael, [Hydrogen in oxide semiconductors](#), *J. Mater. Res.* **27**, 2190-8 (2012).
86. H. Che, J. Huso, J.L. Morrison, D. Thapa, M. Huso, W. Jiang Yeh, M.C. Tarun, M.D. McCluskey, and L. Bergman, [Optical properties of ZnO-alloyed nanocrystalline films](#), *Journal of Nanomaterials* **2012**, 963485:1-7 (2012).
85. F.A. Selim, M.C. Tarun, D.E. Wall, L.A. Boatner, and M.D. McCluskey, [Cu-doping of ZnO by nuclear transmutation](#), *Appl. Phys. Lett.* **99**, 202109:1-3 (2011).
84. S.T. Teklemichael and M.D. McCluskey, [Acceptor and surface states of ZnO nanocrystals: A unified model](#), *Nanotechnology* **22**, 475703:1-4 (2011).
83. G.J. Hanna, S.T. Teklemichael, M.D. McCluskey, L. Bergman, and J. Huso, [Equations of state for ZnO and MgZnO by high pressure x-ray diffraction](#), *J. Appl. Phys.* **110**, 073511:1-5 (2011).
82. S.T. Teklemichael, W.M. Hlaing Oo, M.D. McCluskey, E.D. Walter, and D.W. Hoyt, [Acceptors in ZnO nanocrystals](#), *Appl. Phys. Lett.* **98**, 232112:1-3 (2011).
81. M.C. Tarun, M. Zafar Iqbal, and M.D. McCluskey, [Nitrogen is a deep acceptor in ZnO](#), *AIP Advances* **1**, 022105:1-7 (2011).
80. P. Grivickas, M.D. McCluskey, and Y.M. Gupta, [Order-of-magnitude reduction of carrier lifetimes in \[100\] \$n\$ -type GaAs shock-compressed to 4 GPa](#), *Appl. Phys. Lett.* **98**, 092107:1-3 (2011).
79. M.C. Tarun and M.D. McCluskey, [Infrared absorption of hydrogen-related defects in strontium titanate](#), *J. Appl. Phys.* **109**, 063706:1-4 (2011).
78. W.M. Hlaing Oo, S. Tabatabaei, M.D. McCluskey, J.B. Varley, A. Janotti, and C.G. Van de Walle, [Hydrogen donors in \$\text{SnO}_2\$ studied by infrared spectroscopy and first-principles calculations](#), *Phys. Rev. B* **82**, 193201:1-4 (2010).
77. W.M. Hlaing Oo, M.D. McCluskey, J. Huso, J.L. Morrison, L. Bergman, M.H. Engelhard, and L.V. Saraf, [Incorporation of Cu acceptors in ZnO nanocrystals](#), *J. Appl. Phys.* **108**, 064301:1-3 (2010).
76. S.J. Jokela and M.D. McCluskey, [Structure and stability of N-H complexes in single-crystal ZnO](#), *J. Appl. Phys.* **107**, 113536:1-5 (2010).

75. G.J. Hanna and M.D. McCluskey, [Equation of state and refractive index of argon at high pressure by confocal microscopy](#), *Phys. Rev. B* **81**, 132104:1-4 (2010).
74. P. Grivickas, M.D. McCluskey, and Y.M. Gupta, [Real-time band structure changes of GaAs during continuous dynamic compression to 5 GPa](#), *Appl. Phys. Lett.* **95**, 152108:1-3 (2009).
73. P. Grivickas, M.D. McCluskey, and Y.M. Gupta, [Transformation of GaAs into an indirect \$L\$ band gap semiconductor under uniaxial strain](#), *Phys. Rev. B* **80**, 073201:1-4 (2009).
72. S.J. Jokela, M.C. Tarun, and M.D. McCluskey, [Nitrogen and hydrogen in bulk single-crystal ZnO](#), *Physica B* **404**, 4810-2 (2009).
71. M.D. McCluskey and S.J. Jokela, [Defects in ZnO](#), *J. Appl. Phys.* **106**, 071101:1-13 (2009).
Featured on cover.
70. P. Grivickas, M.D. McCluskey, Y. Zhang, J.F. Geisz, and Y.M. Gupta, [Bound exciton luminescence in shock compressed GaP:S and GaP:N](#), *J. Appl. Phys.* **106**, 023710:1-7 (2009).
69. K.K. Zhuravlev, W.M. Hlaing Oo, M.D. McCluskey, J. Huso, J.L. Morrison, and L. Bergman, [X-ray diffraction of \$\text{Mg}_x\text{Zn}_{1-x}\text{O}\$ and ZnO nanocrystals under high pressure](#), *J. Appl. Phys.* **106**, 013511:1-4 (2009).
68. M.D. McCluskey, [Resonant interaction between hydrogen vibrational modes in AlSb:Se](#), *Phys. Rev. Lett.* **102**, 135502:1-4 (2009).
67. G.J. Hanna and M.D. McCluskey, [Measuring the volume of a fluid in a diamond anvil cell using a confocal microscope](#), *Applied Optics* **48**, 1758-63 (2009).
66. J. Huso, J.L. Morrison, J. Mitchell, E. Casey, H. Hoeck, C. Walker, L. Bergman, W.M. Hlaing Oo, and M.D. McCluskey, [Optical transitions and multiphonon scattering of Cu-doped ZnO and MgZnO ceramics](#), *Appl. Phys. Lett.* **94**, 061919:1-3 (2009).
65. W.M. Hlaing Oo, L.V. Saraf, M.H. Engelhard, V. Shutthanandan, L. Bergman, J. Huso, and M.D. McCluskey, [Suppression of conductivity in Mn-doped ZnO thin films](#), *J. Appl. Phys.* **105**, 013715:1-4 (2009).
64. W.M. Hlaing Oo, M.D. McCluskey, Y.P. He and Y.P. Zhao, [Strong Fano resonance of oxygen-hydrogen bonds on oblique angle deposited Mg nanoblades](#), *Appl. Phys. Lett.* **92**, 183112:1-3 (2008).
63. P. Grivickas, M.D. McCluskey, and Y.M. Gupta, [Band-gap luminescence of GaP:S shock compressed to 5 GPa](#), *Appl. Phys. Lett.* **92**, 142104:1-3 (2008).
62. J.L. Schei, M.D. McCluskey, A.J. Foust, X.-C. Yao, and D.M. Rector, [Action potential propagation imaged with high temporal resolution near-infrared video microscopy and polarized light](#), *NeuroImage* **40**, 1034-43 (2008).
61. S.J. Jokela and M.D. McCluskey, [Unambiguous identification of nitrogen-hydrogen complexes in zinc oxide](#), *Phys. Rev. B* **76**, 193201:1-4 (2007).
60. M.D. McCluskey and S.J. Jokela, [Sources of n-type conductivity in ZnO](#), *Physica B* **401-2**, 355-7 (2007).
59. S.J. Jokela and M.D. McCluskey, [Hydrogen complexes in ZnO grown by chemical vapor transport](#), *Physica B* **401-2**, 395-8 (2007).
58. P. Grivickas, M.D. McCluskey, and Y.M. Gupta, [Indirect band-gap transitions in GaP shocked along the \[100\], \[110\], and \[111\] axes](#), *Phys. Rev. B* **75**, 235207:1-8 (2007).
57. M.D. McCluskey, J.J. Sable, A.J. Foust, G. Gratton, and D.M. Rector, [Recording invertebrate nerve activation with modulated light changes](#), *Applied Optics* **46**, 1866-71 (2007).
56. W.M. Hlaing Oo, M.D. McCluskey, J. Huso, and L. Bergman, [Infrared and Raman spectroscopy of ZnO nanoparticles annealed in hydrogen](#), *J. Appl. Phys.* **102**, 043529:1-5 (2007).
55. J. Huso, J.L. Morrison, H. Hoeck, X.-B. Chen, L. Bergman, S.J. Jokela, M.D. McCluskey, and T. Zheleva, [Pressure response of the ultraviolet photoluminescence of ZnO and MgZnO nanocrystallites](#), *Appl. Phys. Lett.* **89**, 171909:1-3 (2006).

54. M.D. McCluskey, S.J. Jokela, and W.M. Hlaing Oo, [Hydrogen in bulk and nanoscale ZnO](#), *Physica B* **376-377**, 690-3 (2006).
53. S.J. Jokela and M.D. McCluskey, [Structure and stability of O-H donors in ZnO from high-pressure and infrared spectroscopy](#), *Phys. Rev. B* **72**, 113201:1-4 (2005).
52. W.M. Hlaing Oo, M.D. McCluskey, A.D. Lalonde, and M.G. Norton, [Infrared spectroscopy of ZnO nanoparticles containing CO₂ impurities](#), *Appl. Phys. Lett.* **86**, 073111:1-3 (2005).
51. H.Y. Peng, M.D. McCluskey, Y.M. Gupta, M. Kneissl, and N.M. Johnson, [Shock-induced band-gap shift in GaN: Anisotropy of the deformation potentials](#), *Phys. Rev. B* **71**, 115207:1-5 (2005).
50. M.A. Scarpulla, B.L. Cardozo, R. Farshchi, W.M. Hlaing Oo, M.D. McCluskey, K.M. Yu, and O.D. Dubon, [Ferromagnetism in Ga_{1-x}Mn_xP: evidence for inter-Mn exchange mediated by localized holes within a detached impurity band](#), *Phys. Rev. Lett.* **95**, 207204:1-4 (2005).
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Books

- M.D. McCluskey, *No-Frills Physics* (Taylor & Francis, 2019). ISBN 978-1138583870.
- M.D. McCluskey and E.E. Haller, *Dopants and Defects in Semiconductors*, 2nd edition (CRC Press, Boca Raton, FL, 2018). ISBN 978-1138035195.
- M.D. McCluskey, *Physics: A Problem Solving Approach* (Confocal Media, 2015). ISBN 978-0692448915 (out of print).
- M.D. McCluskey, *The Last Weapon: A Novel* (Confocal Media, 2013). ISBN 978-0615823225.
- M.D. McCluskey and E.E. Haller, *Dopants and Defects in Semiconductors* (CRC Press, Boca Raton, FL, 2012). ISBN 978-1439831526.

Book chapters

- M.D. McCluskey, "Vibrational spectroscopy," in *Characterisation and Control of Defects in Semiconductors*, ed. F. Tuomisto (IET, United Kingdom, 2019).
- M.D. McCluskey, "Defects in ZnO," in *Defects in Advanced Electronic Materials and Novel Low Dimensional Structures*, ed. I. Buyanova, W. Chen, and J. Stehr (Elsevier, 2018). ISBN 978-0081020531.
- M.D. McCluskey, "High pressure IR," in *Encyclopedia of Spectroscopy and Spectrometry*, 3rd edition, Vol. 2, ed. J.C. Lindon, G.E. Tranter, and D.W. Koppenaal (Oxford: Elsevier, 2017), 122-125. ISBN 978-0128032244.
- M.D. McCluskey, "Point defects in ZnO," in *Semiconductors and Semimetals* **91**, ed. C. Jagadish, V. Privitera, and L. Romano (Elsevier, 2015), 279-313. ISBN 978-0128019351.
- S. Jokela and M. McCluskey, "Hydrogen in ZnO," in *Zinc Oxide, the Future material for Electronics: A Comprehensive Review on ZnO Physics and Defects*, ed. F. Selim (Research Signpost, Kerala, India, 2011), 117-140. ISBN 978-8130803920.
- M.D. McCluskey and E.E. Haller, "Vibrational spectroscopy of hydrogen in III-V and II-VI semiconductors," in *Semiconductors in Semimetals* **61**, ed. N.H. Nickel (Academic Press, 1999), 373-440. ISBN 978-0127521701..

Edited Volume

- *Hydrogen in Semiconductors*, edited by N.H. Nickel, M.D. McCluskey, and S.B. Zhang (Mat. Res. Soc. Symp. Proc. **813**, Warrendale, PA, 2004). ISBN 978-1558997639.

PATENT

- M.D. McCluskey, *Digital Confocal Optical Profile Microscopy*, No. US 9,891,422 B2
 - o Filed 09/05/2013
 - o Granted 2/13/2018
 - o Provisional application No. 61/700,198 filed 09/12/2012
 - o patents.google.com/patent/US9891422B2

PRESENTATIONS (past 10 years, oral contributions unless noted)

- “Modifying the conductivity of strontium titanate by light exposure,” Conference on Electronic Materials and Applications (EMA), 2019 (invited)
- “Hydrogen is the prime suspect for persistent photoconductivity in SrTiO₃,” APS March Meeting, 2018
- “Acceptors in oxide semiconductors: The *p*-type quest continues,” ICDS-29, 2017 (invited plenary)
- “Zinc oxide and its alloys,” Physical Behavior of Materials DOE-BES PI Meeting, 2017 (invited poster)
- “Strange conductivity of strontium titanate,” APS March Meeting, 2017 (invited)
- “Evidence for a shallow Cu acceptor in Si,” 7th International Symposium on Advanced Science and Technology of Silicon Materials (JSPS Si Symposium), 2016 (invited)
- “Strange conductivity of strontium titanate,” GRC on Defects in Semiconductors, 2016 (poster).
- “Large persistent photoconductivity in SrTiO₃,” Photonics West, 2016
- “Acceptors in ZnO and SrTiO₃,” ICDS-28, 2015 (invited)
- “Acceptors in ZnO: Nitrogen will not work,” APSNW Meeting, 2015 (invited)
- “Acceptor defects in ZnO and related materials,” Physical Behavior of Materials DOE-BES Contractors Meeting, 2015 (invited poster)
- “Acceptor mysteries in ZnO,” International Conference on the Physics of Semiconductors (ICPS), 2014 (invited)
- “Characterization methods,” MRS Spring Meeting, 2014 (invited tutorial)
- “Persistent photoconductivity in bulk SrTiO₃,” MRS Spring Meeting, 2014
- “Persistent photoconductivity in SrTiO₃,” GRC on Defects in Semiconductors, 2014 (poster).
- “Defects and persistent conductivity in SrTiO₃,” ICDS-27, 2013
- “Confocal microscopy of fluids under static pressure,” APS SCCM Meeting, 2013
- “Acceptors in ZnO,” Physical Behavior of Materials DOE-BES Contractors Meeting, 2013 (invited)
- “Persistent photoconductivity in strontium titanate,” APS March Meeting, 2013
- “IR spectroscopy of impurities in silicon,” 6th International Symposium on Advanced Science and Technology of Silicon Materials (JSPS Si Symposium), 2012 (invited)
- “Acceptor dopants in bulk and nanoscale ZnO,” MRS Fall Meeting, 2012 (invited)
- “Acceptors in bulk and nanoscale ZnO,” APS March Meeting, 2012 (invited)
- “Experimental evidence for nitrogen as a deep acceptor in ZnO,” MRS Fall Meeting, 2011

- “Anisotropic direct-to-indirect band gap transition in shock- and ramp-wave compressed GaAs,” APS SCCM Meeting, 2011
- “Optical properties of doped ZnO nanocrystals and ceramics,” Physical Behavior of Materials DOE-BES Contractors Meeting, 2011 (invited poster)
- “Materials for energy applications,” APSNW Meeting, 2010 (invited plenary)
- “Nitrogen doping of single crystal ZnO,” APS March Meeting, 2010
- “The Institute for Shock Physics: Overview,” Stockpile Stewardship Academic Alliances Symposium, 2010
- “Nitrogen and hydrogen in bulk single-crystal ZnO,” ICDS-25, 2009
- “Defects in bulk ZnO,” MRS Spring Meeting, 2009 (invited)
- “Dopants in bulk and nanoscale ZnO,” MRS Spring Meeting, 2009 (invited)
- “Local vibrational modes of impurities in silicon,” 5th International Symposium on Advanced Science and Technology of Silicon Materials (JSPS Si Symposium), 2008 (invited)
- “Hydrogen in bulk and nanoscale zinc oxide,” UC Santa Barbara Workshop on Frontiers in Complex Oxides, 2008 (invited)
- “Nitrogen-hydrogen complexes in ZnO: A possible route toward p-type conductivity,” APS March Meeting, 2008
- “Magnetic and optical properties of ferromagnetic ZnO nanoclusters,” Physical Behavior of Materials DOE-BES Contractors Meeting, 2008 (invited poster)

Student/postdoc presentations (past 10 years)

- Jesse Huso, “Local vibrational modes and optical properties of $\text{ZnS}_{1-x}\text{O}_x$ alloy films,” GRC on Defects in Semiconductors, 2016 (poster)
- Jacob Ritter, “Optical properties of thin film ZnSO ,” GRC on Defects in Semiconductors, 2016 (poster)
- Violet Poole, “Strange conductivity of strontium titanate,” Graduate and Professional Student Association (GPSA) Research Expo, 2016
- Anya Rasmussen, “ In_2Se_3 phase transitions at high pressure and high temperature,” APSNW Meeting, 2015
- Xianjun Ye, “Scanning confocal microscopy using CCD and image processing,” APSNW Meeting, 2015
- Caleb Corolewski, “Lithium acceptors and hydrogen in zinc oxide,” APSNW Meeting, 2015
- Violet Poole, “On the role of point defects in the persistent photoconductivity of strontium titanate,” APSNW Meeting, 2015
- Anya Rasmussen, “Pressure-induced phase transitions in bulk and noncrystalline In_2Se_3 ,” ALS User Meeting, 2014 (poster and 5 min presentation)
- Anya Rasmussen, “Pressure-induced phase transformation of In_2Se_3 ,” Academic Showcase, WSU, 2013 (poster); Dr. William R. Wiley Research Exposition (talk)
- Anya Rasmussen, “Pressure-induced phase transformations of In_2Se_3 ,” APS SCCM Meeting, 2013
- Samuel Teklemichael, “Acceptor and surface states of ZnO nanocrystals: A unified model,” Academic Showcase, WSU, 2013 (poster)
- Marianne Tarun, “Room-temperature persistent photoconductivity in strontium titanate,” Academic Showcase, WSU, 2013 (poster)
- Marianne Tarun, “Defects and room-temperature persistent photoconductivity in SrTiO_3 ,” Women in Physics Conference 2013, Simon Fraser University, Burnaby, B.C. Canada, 2013

- Marianne Tarun, “Experimental evidence of nitrogen deep acceptor in ZnO,” US Workshop on the Physics & Chemistry of II-VI Materials, 2012 (poster)
- Samuel Teklemichael, “Experimental investigation of acceptor and surface states of ZnO nanocrystals,” US Workshop on the Physics & Chemistry of II-VI Materials, 2012
- Samuel Teklemichael, “Acceptor and surface states of ZnO nanocrystals: a unified model,” GRC on Defects in Semiconductors, 2012 (poster)
- Marianne Tarun, “Nature of hydrogen-related defects in strontium titanate,” GRC on Defects in Semiconductors, 2012 (invited)
- Marianne Tarun, “Infrared spectroscopy of hydrogen-related defects in SrTiO₃,” Physical Electronics Conference, 2012
- Samuel Teklemichael, “Acceptor and surface states of ZnO nanocrystals: a unified model,” Physical Electronics Conference, 2012
- Samuel Teklemichael, “Acceptors in ZnO nanocrystals,” Academic Showcase, WSU, 2011 (poster)
- Marianne Tarun, “An experimental investigation of N-doped ZnO,” Academic Showcase, WSU, 2011 (poster)
- Samuel Teklemichael, “Defects in ZnO Nanoparticles,” Joint Northwest / Rocky Mountain Regional Meeting of the ACS, 2010 (poster)
- Marianne Tarun, “Hydrogen-related defects in strontium titanate,” Joint Northwest / Rocky Mountain Regional Meeting of the ACS, 2010 (poster)
- Samuel Teklemichael, “Defects in ZnO Nanoparticles,” APS March Meeting, 2010 (poster)
- Marianne Tarun, “Hydrogen-related defects in strontium titanate,” APS March Meeting, 2010 (poster)
- Heather Ploeg, “Water mixing with oil at static high pressure,” Argonne Symposium for Undergraduates in Science, Engineering, and Mathematics, 2009
- Gabriel Hanna, “Confocal microscopy to measure volume in a diamond anvil cell,” APS SCCM Meeting, 2009
- Win Maw Hlaing Oo, “Infrared spectroscopy of copper in ZnO nanoparticles,” AVS Northwest Meeting, 2008 (poster)
- Slade Jokela, “Nitrogen-hydrogen complexes in zinc oxide,” AVS Northwest Meeting, 2008 (poster)
- Marianne Tarun, “An investigation of substitutional hydrogen in ZnO,” GRC on Defects in Semiconductors, 2008 (poster)
- Win Maw Hlaing Oo, “Infrared spectroscopy of copper in ZnO nanoparticles,” GRC on Defects in Semiconductors, 2008 (poster)
- Slade Jokela, “Nitrogen-hydrogen complexes in zinc oxide,” GRC on Defects in Semiconductors, 2008 (poster)

SEMINARS (past 10 years)

- University of California Santa Barbara, Materials, 2018
- University of Idaho, Physics, 2018
- University of Washington, Physics, 2015
- University of Idaho, Physics, 2010 and 2014
- Rensselaer Polytechnic Institute, Physics, 2006 and 2011
- WSU, Materials Science, 2011
- WSU, Voliland School of Chemical Engineering and Bioengineering, 2010

- Walla Walla University, Physics, 2008
- WSU, Physics and Astronomy, 2007 and 2008
- Simon Fraser University, Physics, 2008

EXTERNAL FUNDING (past 10 years, sole PI unless noted)

- SBIR Phase I: Spectroscopy and imaging of irregular surfaces using confocal microscopy (PI: Lytel, Senior Personnel: McCluskey, Jokela), NSF, 1/1/17-12/30/17, \$210k
- Acceptor defects in ZnO and related materials (PI: McCluskey, co-PI: Bergman), DOE-BES, 5/1/16–4/30/19, \$407k (WSU: \$263k)
- Persistent photoconductivity in strontium titanate and related oxides, NSF-DMR, 8/16/16–8/15/19, \$399k
- Acceptor defects in ZnO and related materials (PI: McCluskey, co-PI: Bergman), DOE-BES, 6/1/13–5/31/16, \$453k (WSU: \$273k)
- FRG: Structural phase transformations in polymorphic nanostructures (PI: Gu, co-PIs: McCluskey, Zhu), NSF-DMR, 7/1/12–6/30/16, \$610k (WSU: \$495k)
- Tailoring the functionality of ZnO via highly lattice mismatched and lattice matched alloying (PI: Bergman, co-PI: McCluskey), NSF-DMR, 7/1/12–6/30/15, \$432k (WSU: \$169k)
- Confocal microscopy of polymers under pressure, ACS-PRF, 9/1/11–8/31/13, \$100k
- Hydrogen in zinc oxide and related materials, NSF-DMR, 6/1/10–05/31/13, \$420k
- Optical properties of doped ZnO nanocrystals and ceramics (PI: McCluskey, co-PI: Bergman), DOE-BES, 6/1/10–5/31/13, \$453k (WSU: \$265k)
- Polymer light-emitting diodes for high efficiency aircraft cabin lighting (PI: McCluskey, co-PI: Jen), Boeing, 5/1/08–4/30/10, \$160k (WSU: \$70k)
- Defects in Semiconductors Gordon Conference; New London, NH; August 3-8, 2008 (submitted through GRC), Air Force Office of Scientific Research (AFOSR), 4/1/08–3/31/09, \$5k
- 2008 Defects in Semiconductors Gordon Conference; New London, NH; August 3-8, 2008 (submitted through GRC), NSF, 4/1/08–3/31/09, \$6k
- Magnetic and optical properties of ferromagnetic ZnO nanoclusters (co-PIs: Bergman, Qiang), DOE-BES, 8/1/07–7/31/10, \$373k (WSU: \$148k)
- Vibrational spectroscopy of defects in zinc oxide, NSF-DMR, 5/16/07–5/15/10, \$416k
- New theoretical, technical, and experimental approaches to brain organization of sleep and performance (PI: Belenky, co-PIs: Krueger, Rector, Van Dongen, LaRue, McCluskey), WM Keck Foundation, 7/1/06–6/30/09, \$1.5M
- REU Site: Extreme Matter, NSF-DMR, 5/16/07–5/15/10, \$240k
- Integrated nanoscale metal hydride – catalyst architectures for hydrogen storage (PI: Zhao, co-PIs: Zhang, McCluskey), DOE-BES, 8/16/05–8/15/08, \$900k (WSU: \$120k)

USER ALLOCATIONS

- *Pressure induced phase transitions in crystalline and amorphous In₂Se₃*, high-pressure beamline 12.2.2, ALS, LBNL, 2014–16
- *Pressure-induced phase transitions in indium selenide, CHESS beamline B2*, 2012
- *Phase transformations of In₂Se₃ under pressure*, high-pressure beamline 12.2.2, ALS, LBNL, 2012–14
- *X-ray diffraction of ZnO, MgZnO, and CdZnO under pressure*, high-pressure beamline 12.2.2, ALS, LBNL, 2009–11

- *Local vibrational modes of hydrogen in III-V semiconductors*, National Center for Supercomputing Applications (NCSA), Startup Allocation 2008–9, Renewal 2009–10
- *Zinc oxide: A material for efficient light emission*, EMSL/PNNL, 2006–9

COURSES TAUGHT

- Physics 101 (General Physics, algebra-based), 6 semesters
- Physics 102 (General Physics, algebra-based), 1 semester
- Physics 201 (Physics for Scientists and Engineers, calculus-based), 4 semesters
- Physics 303 (Modern Physics II), 4 semesters
- Physics 410 (Electronics), 4 semesters
- Physics 443 (Optics), 1 semester
- Physics 463 (Solid State), 5 semesters
- Physics 515 (Optoelectronics Lab), team taught, head instructor 2 semesters
- Physics 563 (Physics of the Solid State), 1 semester
- Physics 581 (Semiconductor Physics), 1 semester
- Physics 590 (Colloquium organizer), 2 semesters
- Materials Science 571 (Surfaces), team taught, 6 semesters

INSTRUCTIONAL INNOVATIONS

- *The Physics of the Titanic*, a lecture that examines the sinking of the *RMS Titanic* from a physicist's point of view
- Peer-instruction exercises in upper-division solid state physics
- Thermal conductivity hands-on demonstration
- Development of new graduate course (Semiconductor Physics) and textbook
- Problem-solving textbook for algebra-based introductory physics

STUDENT EVALUATIONS

From 1999-2009, average instructor rating was 4.4 out of 5 ($\sigma = 0.2$). Comments from students:

- “He was great, the lectures were entertaining and very informative. I learned a lot during the lectures, and his homework assignments were long, but helpful in mastering the material.”
- “WSU has the right idea with instructors like McCluskey. I'm extremely disappointed he's not teaching 202.”
- “Class participation during class is GREAT! It keeps students awake and thinking. I encourage more of those kinds of activities.”
- “The most organized professor I've seen, bar none. The lecture notes provided were one of the most useful resources I've had for any class.”
- “This has been my favorite physics course yet. Everything was straightforward, lectures were well organized, and the homeworks were relevant to class material.”

From 2010-2017, average instructor rating was 4.5 out of 5 ($\sigma = 0.4$). Comments from students:

- “I hated physics in HS. Detested it. This course showed me physics can be understood if it is taught well. Professor McCluskey did an outstanding job presenting the course and teaching effectively and in an enjoyable way.”
- “My favorite professor so far at WSU! Very clear and effective in lecture and was very enthusiastic about the subject!”
- “I love his sense of humor, which is something most profs lack.”
- “Course was hard, but also fun to learn about the material. He did a nice job in presenting the information in a way that was easily understandable.”

UNDERGRADUATE RESEARCH SUPERVISION

Leah Snyder (2018–), Hannah Knaack (2015), Sonal Nanda (2014), Ben Whitfield (2013), Hillary Child (2010), Heather Ploeg (2008–10), Bobbie Riley (2006–8), Martha Roseberry (2007), Katie Epperson (2007), Andrew Ulrich (2005–6), Amy Perenchio (2005), Ben Horton (2004–5), Lance Culnane (2003), Daniel Grover (2001), Tyler Cumby (2001), Brooke Bafus (1999)

STUDENT COMMITTEES CHAIRED

- Chris Pansegrau, Physics Ph.D. student
- Yinchuan Yu, Physics Ph.D. student
- Jacob Ritter, Physics Ph.D. student
- Caleb Corolewski, Mat. Sci. Ph.D. student
- Violet Poole, *Persistent photoconductivity of strontium titanate*, Physics Ph.D. 2016
- Anya Rasmussen, *Pressure-induced phase transitions of indium selenide*, Physics Ph.D. 2016, M.S. 2013
- Samaneh Tabatabaei, *Semiconductor growth and characterization*, non-thesis Physics M.S. 2012
- Samuel Teklemichael, *Defects in ZnO nanocrystals*, Physics Ph.D. 2012, M.S. 2009
- Marianne Tarun, *Hydrogen and related defects in oxide semiconductors*, Mat. Sci. Ph.D. 2012
- Andrey Perevalov, *Pentane under pressure*, non-thesis Physics M.S. 2011
- Jennifer Schei, *Optical imaging of neural and hemodynamic brain activity*, Physics Ph.D. 2011, M.S. 2008
- Gabriel Hanna, *Confocal microscopy of fluid argon under pressure*, Physics Ph.D. 2009
- Win Maw Hlaing Oo, *Infrared spectroscopy of zinc oxide and magnesium nanostructures*, Mat. Sci. Ph.D. 2007
- Slade Jokela, *Stability and structure of hydrogen defects in zinc oxide*, Mat. Sci. Ph.D. 2006
- Kirill Zhuravlev, *Infrared spectroscopy of conjugated organic molecules under high pressure*, Physics Ph.D. 2004

STUDENT COMMITTEE SERVICE (past 10 years, not including those listed above, physics unless noted)

- **Ph.D.:** Benjamin Anderson, Elizabeth Bernhardt, Jon Bevington (MSE), Ankita Bhuyan, Gus Borstad, Hui Che (UI), Ranga Dias, Peter Dickens (MSE), Chris Dudley (MSE), Josef Felver, Ben Flanders, Adam Goler, Aaron Gunderson, Shengting Hung, Jesse Huso (UI), Kelly Jones (MSE), Jon LaFollett, Brandon Lalone, Joseph Lanska, Jason Leicht (MSE), Elham Mafi, Jason Mance, Jed McCoy (MSE), Michele Moore (MSE), John Morrison (UI), Ryan Murray, Jalal Nawash (MSE), Randy Newhouse, Narendra Parmar, Kyle Ramos (MSE), Negar Rejabi (UI), Riley Rex (MSE), Muad Saleh (MSE), Shores Shafei, Charles Shawley (MSE), Tony Smith, Denys

Solodovnikov (MSE), Afsoon Soudi, Xin Tao (MSE), Dinesh Thapa (UI), Nate Turner, Chris Varney, Travis Volz, Leiming Wang, Qiaoming Wang, Bo Xu (MME), Xianjun Ye, Bojun Zhou

- **M.S.:** Benjamin Anderson, David Bergman, Thomas Bersano, Amrah Canul (UI), Lyra Christianson (MSE), Steven Cornthwaite, Khalid Emshadi, Josef Felter, Bennett Flanders, Aaron Gunderson, Brooks Harrop, Drew Haven, Krystal Kasal, Joseph Lanska, Jason Mance, Ashish Mishra, Sherry Orton, Nate Turner, Jia Xu, Xianjun Ye, Xiangyu (Desmond) Yin

POSTDOCTORAL SUPERVISION

Jesse Huso (2016–), Violet Poole (2016–), Xianjun Ye (2013–7), Samuel Teklemichael (2012–3), Marianne Tarun (2012–3), Gabriel Hanna (2010), Slade Jokela (2008–9), Win Maw Hlaing Oo (2007–9), Hongying Peng (2001–3)

PRESS CITATIONS / QUOTATIONS (past 10 years)

- *Writing with Light: An 'Etch A Sketch' Electrical Circuit*, Tech Briefs, 8/3/2017
<http://www.techbriefs.com/component/content/article/1198-ntb/news/news/27358-writing-with-light-an-etch-a-sketch-electric-circuit>
- *WSU physicists write with light, turn crystal into an electrical circuit*, WSU Today, 7/27/2017
<https://news.wsu.edu/2017/07/27/wsu-physicists-write-light-turn-crystal-electrical-circuit/>
- *Building a better microscope*, The Daily Evergreen, 1/17/2017
<https://dailyevergreen.com/6413/news/building-a-better-microscope/>
- *Seeing discoveries through clear eyes*, Moscow/Pullman Daily News, 1/14/2017
- *Need for a better microscope prompts launch of a startup*, WSU Today, 1/12/2017
<https://news.wsu.edu/2017/01/05/need-better-microscope-prompts-launch-startup/#more-153451>
- *Ask Dr. Universe*
<https://askdruniverse.wsu.edu/2016/10/31/how-do-cats-land-on-their-feet/>
<https://askdruniverse.wsu.edu/2015/09/28/why-is-space-so-cold/>
<https://askdruniverse.wsu.edu/2015/03/09/drifting-out-to-space/>
- *Can open access publishing be a smart career move?*, New Scientist issue 2983, 8/26/2014
<http://www.newscientist.com/article/dn26101-can-open-access-publishing-be-a-smart-career-move.html>
- *Scientist of the Week: Matthew McCluskey*, Laboratory Equipment, 12/5/2013
<http://www.laboratoryequipment.com/news/2013/12/scientist-week-matthew-mccluskey>
- *Accidental discovery dramatically improved conductivity*, 11/14/2013
<https://news.wsu.edu/2013/11/14/accidental-discovery-dramatically-improves-electrical-conductivity/#.VT-43iFVhBd>
- *NSF funds researchers in eight programs*, WSU Today, 7/7/2009
<https://news.wsu.edu/2009/07/07/nsf-funds-researchers-in-eight-programs/#.VT-06CFVhBc>
- *WSU physicist discovers new atomic oscillation*, WSU Today, 4/1/2009
<https://news.wsu.edu/2009/04/01/wsu-physicist-discovers-new-atomic-oscillation/#.VT-0ZiFVhBc>

VIDEOS

- *WSU Physics Dept. make accidental discovery that could help advance technology*, 2013
<http://www.klewte.com/news/local/WSU-students-make-accidental-discovery-that-could-help-advance-technology-232665501.html>
- *Accidental discovery dramatically improves electrical conductivity*, 2013
<http://www.youtube.com/watch?v=WlcpzLbSsrY>
- *Ice in oil: A disappearing act*, 2011
<http://youtu.be/SKG46jJyL30>
- *Ice VI*, 2008
<http://www.youtube.com/watch?v=VLuQoNhVv3U>
- *Watermelon versus liquid nitrogen*, 2007
<http://www.youtube.com/watch?v=szBafBoN2nY>