

Name:

Matthias Burkardt (Needs to be updated)

Education:

Habilitation Physics, 1995. *Universität Erlangen-Nurnberg, Germany*

Ph.D. Physics, 1989. *Universität Erlangen-Nurnberg, Germany*

Diploma Physics, 1987. *Universität Erlangen-Nurnberg, Germany*

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, NM: Distinguished Achievement Professor, May 2012 – present; Full Professor, August 2004 – May 2012; Associate Professor, August 1999 – August 2004; Assistant Professor, August 1995 - August 1999; full-time

Chair of the NMSU Physics Undergraduate Program, August 2010-present; full-time; Chair of the NMSU Physics Graduate Program, August 2002-August 2008; full-time

Non- Academic Experience:

Thomas Jefferson National Accelerator Facility, Newport News, VA: Visiting Scientist, August 2008 – May 2009, full-time

University of Maryland, College Park, MD: Visiting Scientist, April 2002 – May 2002, full-time

Center for the Subatomic Structure of Matter, Adelaide, Australia: Visiting Scientist, March 2002, full-time

University of Melbourne, Australia: Visiting Scientist, January 2002 – February 2002, full-time

Technische Universitat Munchen, Munich, Germany: Visiting Scientist, August 2001 – December 2001, full-time

Stanford Linear Accelerator Center, Stanford, CA : Postdoctoral Research Associate, January 1990 – August 1991, full-time

Massachusetts Institute of Technology, Cambridge, MA: Postdoctoral Research Associate, August 1991 – August 1993, full-time

National Institute for Nuclear Theory and University of Washington, Seattle, WA: Junior Fellow and Research Assistant Professor, August 1993 – August 1995, full-time

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Member of the American Physical Society (APS)

Vice Chair of the American Physical Society Group of Hadron Physics

Honors and Awards:

Outstanding Achievement Professor, NMSU May 2012

College of Arts & Sciences Faculty Outstanding Achievement Award in Scholarship, NMSU, October 2007

New Mexico State University Westhafer Award, NMSU May 2006

Fellow of the American Physical Society (APS), November 2004

Gardiner Professorship, New Mexico State University (NMSU), Department of Physics, 2001-2003

Invitation Fellowship, Japanese Society for the promotion of Sciences (JSPS), 1999 and 2001

Von Lynen Fellowship, Alexander von Humboldt Foundation, 1990-1992

Service Activities (selected):

Physics Undergraduate Program Chair

Regular *reviewer and referee* for manuscripts submitted to various journals and grant proposals submitted to various grant agencies

Science and Technology Review Panel Member, Brookhaven National Laboratory and Thomas Jefferson National Accelerator Facility

Important Publications (in past five years, selected):

Angular Momentum Decomposition for an Electron, M. Burkardt and H. BC, Physical Review D79 (2009) 071501

Spin-Polarized High-Energy Scattering of Charged Leptons on Nucleons, M. Burkardt, A. Miller, and W.-D. Nowak, Reports on Progress in Physics 73 (2010) 016201

Are all Boer-Mulders Functions Alike?, Physics Letters B658 (2008) 130

Professional Development Activity (most recent):

More than 100 training hours at the NMSU teaching academy (past five years)

Michaela Burkardt

Education – degree, discipline, institution, year

- Ph. D., Physics, Universität Erlangen-Nürnberg, Germany, 1992
- Diploma Physics, Universität Erlangen-Nürnberg, Germany, 1987
- Graduate Certificate of Online Teaching and Learning, New Mexico State University, NM, 2008

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- New Mexico State University (NMSU), Department of Physics, Full College Professor, 2014 – present, part time
- NMSU, Department of Physics, College Associate Professor, 2007 – 2014, part time
- NMSU, Department of Physics, College Assistant Professor, 2002 – 2007, part time
- Northeastern University, Department of Physics, Clinical Lecturer, 1992-1993, part time
- NMSU, College of Arts and Sciences, Program Director, Peer Learning Assistants Program, 2016 (Apr-Dec), part-time
- NMSU, College of Arts and Sciences, Program Coordinator, Peer Learning Assistants Program, 2014-2016, part-time
- NMSU, Teaching Academy, Faculty Developer/Project Coordinator II, PRIMOS Grant, 2009-2010, full time (Nov 2008-Dec 2008, part time)

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- n.a.

Certifications or professional registrations

- n.a.

Current membership in professional organizations

- American Physical Society (4-Corners Section, Topical Group on Physics Education Research, Forum on Education)
- American Association of Physics Teachers

Honors and awards

- NMSU College of Arts & Sciences Faculty Outstanding Achievement Award in Teaching, 2014
- NMSU College of Arts & Sciences Outstanding College Faculty Award, 2012
- NMSU College of Arts & Sciences Faculty Outstanding Achievement Award, 2007

Service activities (within and outside of the institution)

- NMSU Faculty Senator, College-Track, since 2017
- Teaching Academy Fellow, NMSU, since 2016 (Offered a short course “Teaching and Learning STEM” Jan-Mar, 2017)
- Consultant for the “Class Visitation” Program of the Teaching Academy, NMSU, since 2011
- Promotion & Tenure Committee of NMSU’s Biology Department for College Track Faculty, 2015-2016, since 2017

- Promotion & Tenure Committee of NMSU's English Department for College Track Faculty, 2014
- Member of the Osteopathic Medicine Pathway Program Admissions Committee, since 2016
- Member of the Scholarship Committee, Department of Physics, NMSU, since 2011
- Chair of Tutoring Services, Department of Physics, NMSU, since 2010
- Director/Coordinator Supplemental Instruction, Department of Physics, NMSU, since 2012
- Faculty Mentor, "Preparing Future Faculty", since 2017
- Member of the Recruiting/Retention Committee, Department of Physics, NMSU, 2010-2016
- Faculty Co-Advisor of Society of Physics Students (SPS), Department of Physics, NMSU, 2011-2016

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- Poster: Burkardt, M., Adding UG Peer Learning Assistants to your Course Team, 2016 Summit for Transforming STEM Teaching in Higher Education, Boise State University, Boise, Idaho, April 14-15, 2016

Briefly list the most recent professional development activities

- "2016 Summit for Transforming STEM Teaching in Higher Education", Boise State University, Boise, Idaho, April 14-15, 2016
- Teaching Academy, NMSU, Member 2016/2017 (>10 hours), Sustaining Member 2016, (>38 hours), Member 2015, Member 2013/2014, Distinguished Member (>40 hours) 2012/2013, 2011/2012

Exemplary activities:

- "Want Your Students to Learn More? Designing Your Courses for More Significant Learning", by Dee Fink, Jan 2016, (7.5 hours)
- "Teaching in NMSU's First TEAL Classroom", by Michele Shuster, Oct 2015 (5 hours)
- "What the Best College Teachers Do", Workshop by Ken Bain, followed with Book Club, Feb –Mar 2013
- Attendee and session chair at the annual 4-Corners Section meeting of the American Physical Society (2016)
- "Strategic Programs for Innovations in Undergraduate Physics" (Spin-UP), Austin, TX, May 2012

Robert Cooper

Education – degree, discipline, institution, year

- Ph.D., Physics, University of Michigan, Ann Arbor, MI, 2008
- M.S., Physics, University of Michigan, Ann Arbor, MI, 2005
- B.S., Physics, University of Toledo, Toledo, OH, 2002
- B.S., Mathematics, University of Toledo, Toledo, OH, 2002

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- New Mexico State University (NMSU), Department of Physics, Assistant Professor, 2015 – present, full time

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- Sandia National Laboratories, Senior Member of the Technical Staff, 2009-2011, full time
- Indiana University, Department of Physics, Center for Exploration of Energy and Matter, Postdoctoral Scholar, 2011-2015, full time
- Stanford University, Department of Physics, Postdoctoral Scholar, 2008-2009, full time

Certifications or professional registrations

- n.a.

Current membership in professional organizations

- American Physical Society (APS) in Division of Particles and Fields (DPF), Division of Nuclear Physics (DNP), 4-Corners Section (4-C)

Honors and awards

- Faculty Travel Grant for travel to NUFAC in Uppsala, Sweden, New Mexico State University (NMSU), 2017
- MiniGrant for development of low-cost FPGA electronics, NMSU, 2015
- U.S. Patent 8,338,975. *Method for Improving the Angular Resolution of a Neutron Scatter Camera*, Sandia National Laboratories, 2012

Service activities (within and outside of the institution)

- Recruitment Committee, met with students at APS DNP and APS 4-C section meetings as well as meet with prospective students, 2015-present
- Grand Awards Judge in Physics, Intel International Science and Engineering Fair (ISEF), 2016-present
- Advisory Board and Judge, Northwest Ohio Science and Engineering Fair (NWOSEF), 1999-present
- Reviewer, Department of Energy (DOE) Office of Science Graduate Student Research (SCGSR), 2016
- Question Writer, Oak Ridge Associated Universities (ORAU) National Science Bowl (NSB), 2017

- Abstract Reviewer, American Physical Society (APS) Division of Nuclear Physics (DNP) Conference Experiences for Undergraduates (CEU), 2017

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- D. Akimov, et al. [COHERENT collaboration], “Observation of Coherent Elastic Neutrino-Nucleus Scattering.” *Science* **357**, 1123 (2017).
- A.A. Aguilar-Arevalo, et al. [MiniBooNE-DM collaboration], “Dark Matter Search in Proton Beam Dump with MiniBooNE.” *Physical Review Letters* **118**, 221803 (2017).
- M.J. Bales, R. Alarcon, C.D. Bass, E.J. Beise, H. Breuer, J. Byrne, T.E. Chupp, K.J. Coakley, R.L. Cooper, M.S. Dewey, S. Gardner, T.R. Gentile, D. He, H.P. Mumm, J.S. Nico, B. O’Neill, A.K. Thompson, F.E. Wietfeldt, “Precision Measurement of the Radiative β Decay Mode of the Free Neutron.” *Physical Review Letters* **116**, 242501 (2016).
- S.J. Brice, R.L. Cooper, F. DeJongh, A. Empl, L.M. Garrison, A. Hime, E. Hungerford, T. Kobilarcik, B. Loer, C. Mariani, M. Mocko, G. Muhrer, R. Pattie, Z. Pavlovic, E. Ramberg, K. Scholberg, R. Tayloe, R.T. Thornton, J. Yoo, A. Young. “A New Method for Measuring Coherent Elastic Neutrino-Nucleus Scattering at an Off-Axis High-Energy Neutrino Beam Target.” *Physical Review D* **89**, 072004 (2014).
- T.E. Chupp, R.L. Cooper, K.P. Coulter, S.J. Freedman, B.K. Fujikawa, A. Garcia, G.L. Jones, H.P. Mumm, J.S. Nico, A.K. Thompson, C.A. Trull, F.E. Wietfeldt, and J.F. Wilkerson. “Search for a T-Odd, P-Even Triple Correlation in Neutron Decay.” *Physical Review C* **86**, 035505 (2012).
- Invited Talk, “Dark Matter Search in the MiniBooNE Proton Beam Dump Experiment” at *19th International Workshop on Neutrinos from Accelerators (NUFACT)*, Uppsala University, Uppsala, Sweden, September 26, 2017.
- Invited Talk, “Dark Photon/Dark Matter Measurements with CEvNS Detectors” at *New Extensions of Coherent scattering and other Lepton Interactions for new Physics SEarches (vECLIPSE)*, University of Tennessee, Knoxville, TN, August 22, 2017.
- Invited Talk, “Current and Future Results from MiniBooNE-DM” at *U.S. Cosmic Visions: New Ideas in Dark Matter*, University of Maryland, College Park, MD, March 23, 2017
- Invited Talk, “The CAPTAIN Low-Energy Physics Program” at *11th International Workshop on Neutrino-Nucleus Scattering in the Few-GeV Region (NuInt17)*, University of Toronto, Toronto, Ontario, June 30, 2017.
- Invited Talk “SBN Future” at *Dark Sectors Workshop*, SLAC National Accelerator Laboratory, Stanford, CA, April 28, 2016.

Briefly list the most recent professional development activities

- Attendee and participant at the annual 4-Corners Section meetings of the American Physical Society, 2016-present
- Attendee and participant at the annual APS Division of Nuclear Physics meeting, 2011-present
- Participant at Brookhaven National Laboratory Cold Electronics Mini-Summer School, Brookhaven, NY, July 18-21, 2016

Francisco J. Carreto-Parra

Education – degree, discipline, institution, year

- M.S., Physics, University of Texas at El Paso, USA, 2007
- B.S. E., Physics Engineering, Universidad Autónoma Metropolitana, Mexico, 2003

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- El Paso Community College (EPCC), Department of Physics, Instructor, 2008- present, part time
- Doña Ana Community College (DACC), Department of Science, Instructor, 2015-2017, part time
- EPCC, HIS STEM Architecture grant, Coordinator of Tutors and Physics Tutor, 2013-2014, Full time.
- University of Texas at El Paso (UTEP), Physics Department, Instructor, 2010-2013, part time
- UTEP, Professional & Public Programs, Instructor of Science, 2008-2010, part time
- UTEP, Physics Department, Teaching Assistant, 2005-2007, part time
- Universidad Autónoma Metropolitana, Engineering Department, Teaching Assistant, 1998-2001, part time

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- Medical Sterilizer's Service, Owner and Technician, 2002 – 2004, part time
- Clínica Universal, Maintenance responsible, 2000-2004, part time

Certifications or professional registrations

- Mexican Cedula as Physics Engineer.

Current membership in professional organizations

- n.a.

Honors and awards

- Twice Nominated, 2016 and 2011, for El Paso Community College Adjunct Faculty Award

Service activities (within and outside of the institution)

- Founder and Coordinator of program “Astronomy Observatory at EPCC” with Service Learning Program of EPCC, 2009-2013, 2016.
- Guest Speaker at Museum of Archaeology, El Paso Tx, 2013-2014
- Guest Speaker at Hueco Tanks State Historic Site, El Paso, Tx, 2009-2016
- Special Guest for Astronomical Outreach. Univision Channel 26-KINT 26 Television, Program “Nuestra Frontera”. May 19th 2012.
- Speaker and technician invited, Universidad de Sonora, Mexico, 2003-2006
- Co-Founder of Federación Astronómica Mexicana (FEDAM), Mexico. 2001-2002

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- Villicaña-Pedraza, I., Carreto-Parra, F., Carramiñana, A., Saucedo-Morales, J. (2017). Multifrequency Study of the Blazar 3C 454.3

Briefly list the most recent professional development activities

- I am doing corrections, as coauthor, of a couple of peer reviews articles accepted for *The Astrophysical Journal* and *Revista Mexicana de Astronomia y Astrofisica*.

Michael DeAntonio

Education – degree, discipline, institution, year

- Ph. D., Physics, New Mexico State University, Las Cruces, NM 1993
- M.E., Physics, New Mexico State University, Las Cruces, NM 1991
- B.S., Physics, Duquesne University, Pittsburgh PA 1984

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- New Mexico State University (NMSU), Department of Physics, College Professor, 2017 – present, part time
- NMSU, Department of Physics, College Associate Professor, 2007 – 2017, part time
- NMSU, Department of Physics, College Assistant Professor, 2002 – 2007, part time

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- LaSen Inc., Las Cruces, NM: Consulting Engineer, 2005 – 2015, part-time
- Army Research Laboratory, White Sands Missile Range, NM: Scientist/Engineer, 1998-2001, full -time
- Delphi Automotive, El Paso, TX: Applications Engineer, 1996-1998 full -time, full -time
- Texas A&M University, College Station, TX: Visiting Assistant Professor, 1995-1996, full -time
- Army Research Laboratory, White Sands Missile Range, NM: Post-Doctorate Researcher, 1993-1995, full -time
- GTE Communication Systems, Albuquerque, NM: Member of Technical Staff, 1985-1988, full -time

Certifications or professional registrations

- n.a.

Current membership in professional organizations

- American Society for Engineering Education (ASEE)
- American Association of Physics Teachers (AAPT)

Honors and awards

- NA

Service activities (within and outside of the institution)

- Physics Assessment Coordinator, 2017-present
- Natural Science Interstate Passport Team , 2016-2017
- Society of Engineering Physicists (SEPh), 2011-present
- Engineering Physics Committee, 2010-present

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- D. Short and M. DeAntonio, "Narrow line width tunable DIAL LIDAR detector," in Renewable Energy and the Environment, OSA Technical Digest (online) (Optical Society of America, November 2013), paper EM2A.5.
- M. DeAntonio and M. Nairat, "Feasibility Study for the Remote Detection of Atmospheric Xenon Using a DIAL LIDAR System," in Imaging and Applied Optics Technical Papers, OSA Technical Digest (online) (Optical Society of America, June 2012), paper RTu1E.5.

Briefly list the most recent professional development activities

- Attendee ABET Symposium (2018)
- Regular attendee and participant at the ASEE annual meetings (2005-2016)
- General Chair for 2015 and regular attendee and participant at the Frontiers in Education Conference (2006-2015)

Michael Engelhardt

Education – degree, discipline, institution, year

- Habilitation, Theoretical Physics, Universität Tübingen, Germany, 2001
- Ph.D., Physics, Universität Erlangen, Germany, 1994
- Diplom, Physics, Universität Erlangen, Germany, 1989

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- New Mexico State University (NMSU), Department of Physics, Associate Professor, 2010 – present, full time
- NMSU, Department of Physics, Assistant Professor, 2004 – 2010, full time
- Universität Tübingen, Germany, Privatdozent (Lecturer), 2002 – 2004, part time
- Universität Tübingen, Germany, Research Associate and Privatdozent (Lecturer), 2001 – 2002, full time
- Universität Tübingen, Germany, DFG Habilitation Fellow, 1999 – 2001, full time
- Universität Tübingen, Germany, Postdoctoral Research Associate, 1996 – 1999, full time
- Universität Erlangen, Germany, Postdoctoral Research Associate, 1996, full time
- Weizmann Institute, Israel, MINERVA Postdoctoral Fellow, 1994 – 1996, full time

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- science+computing ag, Tübingen, Germany, IT Consultant, 2002 – 2004, full time

Certifications or professional registrations

- n.a.

Current membership in professional organizations

- American Physical Society (4-Corners Section, Division of Nuclear Physics)

Honors and awards

- Gardiner Professorship, New Mexico State University (NMSU), Department of Physics, 2017 – 2019
- American Physical Society (APS) Outstanding Referee, 2012

Service activities (within and outside of the institution)

- Interim Graduate Program Head, Department of Physics, NMSU, 2016 – 2017
- Coordinator, Lattice QCD Program, DOE Topical Collaboration on TMDs
- Coordinator and Principal Spokesperson, Lattice TMD Collaboration
- Manuscript Reviews for Physical Review, Journal of High Energy Physics, European Physical Journal, Few Body Systems
- Grant and Fellowship Proposal Reviews for Department of Energy (DOE)

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- J. Green, N. Hasan, S. Meinel, M. Engelhardt, S. Krieg, J. Laeuchli, J. Negele, K. Orginos, A. Pochinsky and S. Syritsyn; Up, down, and strange nucleon axial form factors from lattice QCD, Phys. Rev. D 95 (2017) 114502.
- M. Engelhardt; Quark orbital dynamics in the proton from Lattice QCD – from Ji to Jaffe-Manohar orbital angular momentum, Phys. Rev. D 95 (2017) 094505.
- D. Altarawneh, M. Engelhardt and R. Höllwieser; Model of random center vortex lines in continuous 2+1-dimensional spacetime, Phys. Rev. D 94 (2016) 114506.
- A. Rajan, A. Courtoy, M. Engelhardt and S. Liuti; Parton transverse momentum and orbital angular momentum distributions, Phys. Rev. D 94 (2016) 034041.
- B. Yoon, R. Gupta, T. Bhattacharya, M. Engelhardt, J. Green, B. Joó, H.-W. Lin, J. Negele, K. Orginos, A. Pochinsky, D. Richards, S. Syritsyn and F. Winter; Controlling excited-state contamination in nucleon matrix elements, Phys. Rev. D 93 (2016) 114506.
- M. Engelhardt, P. Hägler, B. Musch, J. Negele and A. Schäfer; Lattice QCD study of the Boer-Mulders effect in a pion, Phys. Rev. D 93 (2016) 054501.
- D. Altarawneh, R. Höllwieser and M. Engelhardt; Confining bond rearrangement in the random center vortex model, Phys. Rev. D 93 (2016) 054007.
- J. Green, S. Meinel, M. Engelhardt, S. Krieg, J. Laeuchli, J. Negele, K. Orginos, A. Pochinsky and S. Syritsyn; High-precision calculation of the strange nucleon electromagnetic form factors, Phys. Rev. D 92 (2015) 031501.
- R. Höllwieser and M. Engelhardt; Approaching SU(2) gauge dynamics with smeared Z(2) vortices, Phys. Rev. D 92 (2015) 034502.
- S. Cisneros, G. Goedecke, C. Beetle and M. Engelhardt; On the Doppler effect for light from orbiting sources in Kerr-type metrics, Mon. Not. Roy. Astr. Soc. 448 (2015) 2733.
- J. Green, J. Negele, A. Pochinsky, S. Syritsyn, M. Engelhardt and S. Krieg; Nucleon electromagnetic form factors from lattice QCD using a nearly physical pion mass, Phys. Rev. D 90 (2014) 074507.
- J. Green, M. Engelhardt, S. Krieg, J. Negele, A. Pochinsky and S. Syritsyn; Nucleon structure from lattice QCD using a nearly physical pion mass, Phys. Lett. B734 (2014) 290.
- M. Engelhardt; Strange quark contributions to nucleon mass and spin from lattice QCD, Phys. Rev. D 86 (2012) 114510.
- J. Green, J. Negele, A. Pochinsky, S. Syritsyn, M. Engelhardt and S. Krieg; Nucleon scalar and tensor charges from lattice QCD with light Wilson quarks, Phys. Rev. D 86 (2012) 114509.
- B. Musch, P. Hägler, M. Engelhardt, J. Negele and A. Schäfer; Sivers and Boer-Mulders observables from lattice QCD, Phys. Rev. D 85 (2012) 094510.

Briefly list the most recent professional development activities

- n.a.

Edwin Fohtung

Education – degree, discipline, institution, year

- Ph.D. Materials Sciences/Physics, 2010. *Universität Freiburg*, Germany
- M.S. Applied Physics, 2007. *Peter the Great St. Petersburg Polytechnic University*, Russia
- B.S. Applied Physics, 2005. *Peter the Great St. Petersburg Polytechnic University*, Russia

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- *New Mexico State University*, Department of Physics, Las Cruces, NM: Assistant Professor, August 2013 – present; full-time
- *Los Alamos National Laboratory*, Experimental Physical Sciences (ADEPS), Los Alamos, NM: LANSCE Assistant Professor/ Visiting Scientist, August 2013 – present; part-time
- *University of California*, San Diego Department of Physics: Postdoctoral Fellow/Associate, November 2010 – August 2013; full-time.
- *Universität Freiburg*: Graduate Research Assistant, 2008 – 2010;

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- *Angstromquelle Karlsruhe (ANKA)- Synchrotron Light Source*, Germany: Wissenschaftler mitarbeiter, 2007 – 2010, full-time

Certifications or professional registrations

- None

Current membership in professional organizations

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

Honors and awards

- *Rosen Scholar*, *Los Alamos National Laboratory*, 2014-2017
- *Bourse d'étude du gouvernement Russe*, 2000-2007
- *Bourses du gouvernement Camerounais*, 2001-2007

Service activities (within and outside of the institution)

- **Grant Reviewer DOD**, Airforce Office of Scientific Research, since 2016.
- **Matter-Radiation Interactions in Extremes (MaRIE)**, **Los Alamos National Laboratory** Science Review Consulting member, since 2015.
- **Chair**, Oak Ridge National Laboratory, TN Low-Q Science Review Committee, since 2015.
- **Member**, Oak Ridge National Laboratory, TN Low-Q Science Review Committee, 2013-2015.
- **Guest Editor**, Special Issue of Journal of Optics “Coherent Diffractive Imaging”, since 2014.

- **Co-chair**, 11th LANSCE School on Mesoscale science, Los Alamos National Laboratory, 2015
- **Chair**, Exchange Bias Session, 58th Annual Conference on Magnetism and Magnetic Material in Denver, November 2015

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- D. Karpov, Z. Liu, T. dos Santos Rolo, R. Harder, P. V. Balachandran, D. Xue, T. Lookman, E. Fohtung, “*Three-dimensional imaging of vortex structure in a ferroelectric nanoparticle driven by an electric field*”. Nature Communications 8, Article number: 280 (2017) [doi:10.1038/s41467-017-00318-9](https://doi.org/10.1038/s41467-017-00318-9).
- Zhen Liu, Bin Yang, Wenwu Cao, Edwin Fohtung, and Lookman Turab “*Enhanced energy storage with polar vortices in ferroelectric nanocomposites* “. [Phys. Rev. Applied 8, 034014 \(2017\)](https://doi.org/10.1038/s41467-017-00318-9).
- Harry M Quiney, Garth Williams, and Edwin Fohtung. “*Editorial: Coherent diffractive imaging*”. *Journal of Optics* (2017);
- S. Adak, M. Hartl, L. Daemen, E. Fohtung, and H. Nakotte. “*Study of oxidation states of the transition metals in a series of Prussian blue analogs using x-ray absorption near edge structure (XANES) spectroscopy*”. [Journal of Electron Spectroscopy and Related Phenomena;\(2016\)](https://doi.org/10.1038/s41467-017-00318-9).
- J.W. Kim, A. Ulvestad, S. Manna, R. Harder, E. Fohtung, A. Singer, L. Boucheron, E. E. Fullerton, and O. G. Shpyrko. “*Observation of x-ray radiation pressure effects on nanocrystals*”. [J. Appl. Phys. 120, 163102 \(2016\)](https://doi.org/10.1038/s41467-017-00318-9).
- Mahmoud Hammouri, Edwin Fohtung, Igor Vasiliev. “*Ab initio study of magnetoelectric coupling in La_{0.66}Sr_{0.33}MnO₃/PbZr_{0.2}Ti_{0.8}O₃ multiferroic heterostructures*”; [J. Phys. Condensed. Matter 28 396004 \(2016\)](https://doi.org/10.1038/s41467-017-00318-9).
- J. W. Kim, S. Manna, S. H. Dietze, A. Ulvestard, R. Harder, E. Fohtung, E. Eric Fullerton, and O. G. Shpyrko. “*Curvature-induced and thermal strain in polyhedral gold nanocrystals*”. [Appl. Phys. Letts. 105, 173108 \(2014\)](https://doi.org/10.1038/s41467-017-00318-9).
- Andrew Ulvestard, H. Man Cho, R. Harder, J. W. Kim, E. Fohtung, Y. S. Meng. and O. G. Shpyrko. “*Nanoscale Strain Mapping in Battery Nanostructures*”. [Applied Phys. Letts. 104 073108 \(2014\)](https://doi.org/10.1038/s41467-017-00318-9).
- Dmitry Karpov, Tomy dos Santos Rolo, Hannah Rich, Yuriy Kryuchkov, Boris Kiefer and E. Fohtung, “*Birefringent Coherent Diffraction Imaging*”. Proc. SPIE 9931, Spintronics IX, 99312F (September 26, 2016); [doi:10.1117/12.2235865](https://doi.org/10.1117/12.2235865).

Briefly list the most recent professional development activities

- Annual American Association of Physics Teachers (AAPT) Summer Meeting, College Park, MD, July 25-29, 2015.

Thomas Hearn

Education – degree, discipline, institution, year

- Ph. D., Geophysics, California Institute of Technology, 1985.
- M.S. Geophysics California Institute of Technology, 1981.
- B.S., Physics, University of California, Riverside, 1978.

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- New Mexico State University, Department of Physics, Las Cruces, NM – Associate Professor, September 2008 – present.
- New Mexico State University, Department Head for Physics, August, 2006 to August, 2008.
- New Mexico State University, Department of Physics, Las Cruces, NM - Associate Professor, August, 1996 - present; Assistant Professor, July, 1990 - September, 1996.
- Cornell University, Institute for the Study of the Continents, Ithaca, NY. - Research Associate, Jan, 1989 - June, 1990; Postdoctoral Research Associate, Jan, 1985 - Dec, 1988.

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- Rockwell Science Center, Thousand Oaks, CA, Consultant, May 1983 - Jan. 1984
- University of California, Riverside, Institute of Geophysics and Planetary Physics, Riverside, CA. Lab Helper, 1976-1977.
- Bendix United Geophysical, Richfield, Utah, Field crew worker, Summer 1976.

Certifications or professional registrations

- n/a

Current membership in professional organizations

- American Geophysical Union
- Seismological Society of America
- Society of Exploration Geophysicists

Honors and awards

Service activities (within and outside of the institution)

- Engineering Physics Advisor
- Engineering Physics Program Committee member
- Computing Committee member

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- Ranasinghe, N. R., Gallegos, A., Hearn, T. M., Ni, J. F., Sandvol, E. Frequency dependent Lg attenuation in northeast China and its implications. Geophysical Journal International., Date Submitted: May 26, 2017.

- Ranasinghe, N. R. et al. (2015), Lg attenuation in northeast China using NECESSArray data, *Geophys. J. Int.*, 200, 67–76, doi:10.1093/gji/ggu375.
- Bao, X., E. Sandvol, Y. J. Chen, J. Ni, T. Hearn, and Y. Shen (2012), Azimuthal anisotropy of Lg attenuation in eastern Tibetan Plateau, *J. Geophys. Res.*, 117(B10), 1–14, doi:10.1029/2012JB009255.
- Wang Hai-Yang, Thomas Hearn, Chen Yong-Shun, PEI Shun-Ping, Feng Yong-Ge, Yue Han, Jin Ge, Zhou Shi-Yong, Wang Yan-Bin, Ge Zeng-Xi, Ning Jie-Yuan, Eric Sandvol, James Ni, Pn wave tomography of eastern Tibetan plateau, submitted to *Chinese Journal of Geophysics*.
- Liang, X., E. Sandvol, Y.J. Chen, T. Hearn, J. Ni , S. Klemperer, Y. Shen and F. Tilmann, (2012) The destruction of the underthrust Indian plate, *Earth Planet. Sci. Lett.*, Vol 333-334, 101-111, <http://dx.doi.org/10.1016/j.epsl.2012.03.036>.
- León Soto, G., E. Sandvol, J. F. Ni, L. Flesch, T. M. Hearn, F. Tilmann, J. Chen, and L. D. Brown (2012), Significant and vertically coherent seismic anisotropy beneath eastern Tibet, *J. Geophys. Res.*, 117, B5, doi:10.1029/2011JB008919.
- Yue, H., et al. (2012), Lithospheric and upper mantle structure of the northeastern Tibetan Plateau, *J. Geophys. Res.*, 117, B5, doi:10.1029/2011JB008545.

Briefly list the most recent professional development activities

- Submitted National Science Foundation proposal on the seismology of Burma.
- Attenuation of seismic waves beneath China.
- Pn propagation and the tectonics of the Tibetan Plateau.
- The seismic period measurement.

Heinrich (Heinz) Nakotte

Education – degree, discipline, institution, year

- Ph. D., Physics, Universiteit van Amsterdam, The Netherlands, 1994
- M.E., Education, Universität zu Köln, Germany, 1988
- B.S., Physics, Universität zu Köln, Germany, 1986

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- New Mexico State University (NMSU), Department of Physics, Full Professor, 2009 – present, full time
- NMSU, Department of Physics, Associate Professor, 2003 – 2009, full time
- NMSU, Department of Physics, Assistant Professor, 1997 – 2003, full time

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- Guest Lecturer, South China University of Technology (Guangzhou, China), summer 2017, part time
- Los Alamos National Laboratory - Los Alamos Neutron Science Center (LANSCE), Instrument Scientist - Single Crystal Diffractometer, 2008 – 2016, part time
- Chalk River Laboratory (Chalk River, Canada), Affiliated Staff, 1994 – 2000, part time
- Los Alamos National Laboratory, Postdoctoral Associate, 1994-1997, full time
- Electrotechnical Laboratory (Tsukuba, Japan), STA Fellow (Humboldt Foundation), 1996, part time
- Bosch GmbH - Hydraulic Pump Section (Köln, Germany), Staff Member, 1989, part time
- Leybold Heraeus GmbH - Ultra High Vacuum Group (Köln, Germany), Laboratory Assistant, 1987, part time

Certifications or professional registrations

- n.a.

Current membership in professional organizations

- American Physical Society (4-Corners & Texas Sections, Division of Materials Physics)
- Neutron Scattering Society of America

Honors and awards

- Gardiner Professorship, New Mexico State University (NMSU), Department of Physics, 2009 – 2011
- Best Advising Award for Faculty, NMSU, 2010
- NMSU College of Arts & Sciences Faculty Outstanding Achievement Award in Scholarship, 2009
- NMSU Award for Exceptional Achievements in Creative Scholarly Activity, 2003
- Early CAREER Award, National Science Foundation, 2000

Service activities (within and outside of the institution)

- Chair of the Engineering Physics (EP) Program Committee, since 2009

- Chair of the Local Organizing Committee of the 2016 Joint Four-Corners/Texas Sections meeting of the American Physical Society, 2016
- Promotion & Tenure Committee of NMSU's Criminal Justice Department, since 2016
- NMSU Faculty Senator, since 2015
- Chair of the Time-of-Flight Subcommittee of Science Review Committee at Oak Ridge National Laboratory, since 2013
- Member of South Dakota State University's Physics Program Review Panel, 2013
- Editorial Board Member, International Journal of Engineering Science, since 2008

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- Nakotte, H., Silkwood, C., Page, K., Wang, H.-W., Olds, D., Kiefer, B., Manna, S., Karpov, D., Fohtung, E. B., Fullerton, E. E. (2017) Pair Distribution Function Analysis applied to Decahedral Gold Nanoparticles. *Physica Scripta*, 92, 114002
- Adak, S., Hartl, M., Daemen, L., Fohtung, E. B., Nakotte, H. (2017). Study of oxidation states of the transition metals in a series of Prussian blue analogs using x-ray absorption near edge structure (XANES) spectroscopy. *Journal of Electron Spectroscopy and Related Phenomena*, Elsevier, 214, 8-19
- Jain, P., Stroppa, A., Nabok, D., Marino, A., Rubano, A., Paparo, D., Matsubara, M., Nakotte, H., Fiebig, M., Picozzi, S., Choi, E. S., Cheetham, A. K., Draxl, C., Dalal, N., Zapf, V. (2016). Switchable electric polarization and ferroelectric domains in a metal-organic-framework. *Nature Partner Journals - Quantum Materials*, 1, 16012
- Nakotte, H., Shrestha, M., Adak, S., Boergert, M., Zapf, V. S., Harrison, N., King, G., Daemen, L. L. (2016). Magnetic Properties of some Transition-Metal Prussian Blue Analogs with Composition $M_3[M'(C,N)_6]_2 \cdot xH_2O$. *Journal of Sciences - Advanced Materials and Devices*, Elsevier, 1, 113-120
- Losko, A. S., Vogel, S. C., Reiche, M., Nakotte, H. (2014). A Six-Axes Robotic Sample Changer for High-Throughput Neutron Powder Diffraction and Texture Measurements. *Journal of Applied Crystallography*, 47, 2109-2112
- Zepeda-Alacorn, E., Nakotte, H., Vogel, S., Page, K., Wang, H.-W., King, G., Gualtieri, A., Wenk, H.R. (2014). Magnetic and Nuclear Structure of Goethite $\alpha\text{-FeOOH}$: A Neutron Diffraction Study. *Journal of Applied Crystallography*, 47, 1983-1991
- Alsmadi, A., Bsoul, I., Mahmood, S. H., Alnawashi, G., Prokes, K., Siemensmayer, K., Klemke, B., Nakotte, H. (2013). Magnetic study of M-type doped barium hexaferrite nanocrystalline particles. *Journal of Applied Physics*, 114, 243910
- Maskova, S., Havela, L., Danis, S., Llober, A., Nakotte, H., Kothapalli, K., Cerny, A., Kolomiets, A. (2013). Impact of hydrogen absorption on crystal structure and magnetic properties of geometrically frustrated $\text{Nd}_2\text{Ni}_2\text{In}$. *Journal of Alloys and Compounds - Elsevier*, 566, 22-30
- Invited Talk at *Frontiers of Theoretical and Applied Physics (FTAPS-2017)*, University of Sharjah (United Arab Emirates), February 23, 2017
- Invited Talk at APS 4-Corners meeting, Fort Collins, October 20, 2017

Briefly list the most recent professional development activities

- Regular attendee and participant at the annual 4-Corners Section meetings of the American Physical Society (2013-2017)

Vassili Papavassiliou

Education – degree, discipline, institution, year

- Ph. D., Physics, Yale University, USA, 1988
- M.Sc., M.Phil, Yale University, USA 1985
- B.S., Physics, Aristotelion University, Thessaloniki, Greece, 1982

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- NMSU, Department of Physics, Associate Professor, 2001 – present, full time
- NMSU, Department of Physics, Assistant Professor, 1995 – 2001, full time

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- URA Visiting Scholar, Fermi National Accelerator Lab, 2016 – 2017, part time
- Visiting Scientist, Fermi National Accelerator Lab, 2009 – 2010, part time
- Senior Research Associate, Illinois Institute of Technology, 1994 – 1995, full time
- Postdoctoral Appointee, Argonne National Lab, 1991 – 1994, full time
- Research Associate, Yale University, 1988 – 1991, full time
- Research Assistant, Yale University, 1984 – 1988, part time
- Teaching Assistant, Yale University, 1982 – 1983, part time

Certifications or professional registrations

- n.a.

Current membership in professional organizations

- n.a.

Honors and awards

- n.a.

Service activities (within and outside of the institution)

- Physics Graduate Program Director, since 2010

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- MicroBooNE Collaboration, R. Acciarri et al. (2017). Michel Electron Reconstruction Using Cosmic-Ray Data from the MicroBooNE LArTPC. *JINST* 12, P09014
- PHENIX Collaboration, C. Aidala et al. (2017). Cross section and transverse single-spin asymmetry of muons from open heavy-flavor decays in polarized $p+p$ collisions at $\sqrt{s} = 200$ GeV. *Phys.Rev. D95*, 112001
- MicroBooNE Collaboration, P. Abratenko et al. (2017). Determination of muon momentum in the MicroBooNE LArTPC using an improved model of multiple Coulomb scattering. *JINST* 12, P10010.
- PHENIX Collaboration, A. Adare et al. (2017). Angular decay coefficients of J/ψ mesons at forward rapidity from $p+p$ collisions at $\sqrt{s} = 510$ GeV. *Phys.Rev. D95*, 092003

- MicroBooNE Collaboration, R. Acciarri et al. (2017). Design and Construction of the MicroBooNE Detector. *JINST 12*, P02017
- MicroBooNE Collaboration, R. Acciarri et al. (2017). Convolutional Neural Networks Applied to Neutrino Events in a Liquid Argon Time Projection Chamber. *JINST 12*, P03011
- PHENIX Collaboration, A. Adare et al. (2016). Measurements of double-helicity asymmetries in inclusive J/ψ production in longitudinally polarized $p+p$ collisions at $\sqrt{s} = 510$ GeV. *Phys.Rev. D94*, 112008
- PHENIX Collaboration, A. Adare et al. (2016). Centrality-dependent modification of jet-production rates in deuteron-gold collisions at $\sqrt{s_{NN}} = 200$ GeV. *Phys. Rev. Lett. 116*, 122301
- PHENIX Collaboration, A. Adare et al. (2016). Measurement of parity-violating spin asymmetries in W^\pm production at midrapidity in longitudinally polarized $p+p$ collisions. *Phys. Rev. D93*, 051103
- PHENIX Collaboration, A. Adare et al. (2015). Charged-pion cross sections and double-helicity asymmetries in polarized $p+p$ collisions at $\sqrt{s} = 200$ GeV. *Phys. Rev. D91*, 032001
- PHENIX Collaboration, A. Adare et al. (2015). Cross section for bb production via dielectrons in $d + Au$ collisions at $\sqrt{s_{NN}} = 200$ GeV. *Phys. Rev. C91*, 014907
- PHENIX Collaboration, A. Adare et al. (2015). Measurement of long-range angular correlation and quadrupole anisotropy of pions and (anti)protons in central $d + Au$ collisions at $\sqrt{s_{NN}} = 200$ GeV. *Phys. Rev. Lett. 114*, 192301
- PHENIX Collaboration, A. Adare et al. (2014). Azimuthal-angle dependence of charged-pion-interferometry measurements with respect to second- and third-order event planes in $Au + Au$ collisions at $\sqrt{s_{NN}} = 200$ GeV. *Phys. Rev. Lett. 112*, 222301
- PHENIX Collaboration, A. Adare et al. (2014). Measurement of transverse-single-spin asymmetries for midrapidity and forward-rapidity production of hadrons in polarized $p+p$ collisions at $\sqrt{s} = 200$ GeV and 62.4 GeV. *Phys. Rev. D90*, 012006
- PHENIX Collaboration, C. Aidala et al. (2014). The PHENIX Forward Silicon Vertex Detector. *Nucl. Instrum. Meth. A755*, 44
- PHENIX Collaboration, A. Adare et al. (2013). Nuclear Modification of ψ' , χ_c , and J/ψ Production in $d + Au$ Collisions at $\sqrt{s_{NN}} = 200$ GeV. *Phys. Rev. Lett. 111*, 202301
- PHENIX Collaboration, A. Adare et al. (2013). Medium modification of jet fragmentation in $Au + Au$ collisions at $\sqrt{s_{NN}} = 200$ GeV. measured in direct photon-hadron correlations. *Phys. Rev. Lett. 111*, 032301

Briefly list the most recent professional development activities

- Attended 2017 Meeting of the American Physical Society Division of Particles and Fields, Batavia, IL
- Attended PhyStat-v Fermilab 2016 Workshop on Statistical Issues in Experimental Neutrino Physics, Batavia, IL

Stephen Pate

Education – degree, discipline, institution, year

- Ph.D., Physics, University of Pennsylvania, 1987
- B.S., Physics, North Carolina State University, 1981

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- New Mexico State University (NMSU), Department of Physics, Full Professor, 2006 – present, full time
- NMSU, Department of Physics, Associate Professor, 2001 – 2006, full time
- NMSU, Department of Physics, Assistant Professor, 1995 – 2001, full time

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- Post-doctoral researcher, University of Pennsylvania, 1987-1988, full time
- Post-doctoral researcher, Indiana University, 1988-1991, full time
- Post-doctoral researcher, Massachusetts Institute of Technology, 1992-1993, full time
- Research Scientist, Massachusetts Institute of Technology, 1993-1995, full time

Certifications or professional registrations

- n.a.

Current membership in professional organizations

- American Physical Society, life member
- American Association of Physics Teachers, life member

Honors and awards

- Gardiner Professorship, New Mexico State University (NMSU), Department of Physics, 2005 – 2007
- NMSU College of Arts & Sciences Faculty Outstanding Achievement Award in Scholarship, 2013
- NMSU Research Achievement Award, 2013
- NMSU Research Achievement Award, 2015

Service activities (within and outside of the institution)

- Member of the Engineering Physics (EP) Program Committee, 2004-present
- Member of the Local Organizing Committee of the 2016 Joint Four-Corners/Texas Sections meeting of the American Physical Society, 2016
- Chair of Physics Department Promotion & Tenure Committee, 2011-present
- Chair of Physics Department Instructional Laboratory Committee, 2015-present
- Academic Advisor to Physics Students, 1999-present
- NMSU Faculty Senator, 2003-2006
- Reviewer for manuscripts submitted to Physical Review Letters, Physical Review C, and The American Journal of Physics
- Reviewer of funding proposals submitted to the NSF and the DOE

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- C. Aidala et al. [PHENIX Collaboration], “Cross section and transverse single-spin asymmetry of muons from open heavy-flavor decays in polarized $p+p$ collisions at $\sqrt{s} = 200$ GeV,” Phys. Rev. D 95, no. 11, 112001 (2017)
- C. Aidala et al. [PHENIX Collaboration], “Measurements of $B \rightarrow J/\psi$ at forward rapidity in $p+p$ collisions at $\sqrt{s} = 510$ GeV,” Phys. Rev. D 95, no. 9, 092002 (2017)
- R. Acciarri et al. [MicroBooNE Collaboration], “Design and Construction of the MicroBooNE Detector,” JINST 12, no. 02, P02017 (2017)
- R. Acciarri et al. [MicroBooNE Collaboration], “Convolutional Neural Networks Applied to Neutrino Events in a Liquid Argon Time Projection Chamber,” JINST 12, no. 03, P03011 (2017)
- A. Adare et al. [PHENIX Collaboration], “Measurements of double-helicity asymmetries in inclusive J/ψ production in longitudinally polarized $p+p$ collisions at $\sqrt{s} = 510$ GeV,” Phys. Rev. D 94, no. 11, 112008 (2016)
- Stephen Pate [for the MicroBooNE Collaboration], “Progress on Neutrino-Proton Neutral-Current Scattering in MicroBooNE,” International Nuclear Physics Conference, 11 September 2016, Adelaide, Australia; PoS INPC 2016, 260 (2017)
- C. Aidala, L. Anaya, E. Anderssen, A. Bambaugh, A. Barron, J.G. Boissevain, J. Bok, S. Boose et al., “The PHENIX Forward Silicon Vertex Detector,” Nucl. Instrum. Meth. A 755 (2014) 44
- S. Pate and D. Trujillo, “Strangeness Vector and Axial-Vector Form Factors of the Nucleon,” EPJ Web Conf. 66, 06018 (2014)
- D. Androic et al. [G0 Collaboration], “Measurement of the parity-violating asymmetry in inclusive electroproduction of π^- near the Δ^0 resonance,” Phys. Rev. Lett. 108 (2012) 122002

Briefly list the most recent professional development activities

- Joint Four-Corners/Texas Sections meeting of the American Physical Society, October 2016, Las Cruces NM
- International Nuclear Physics Conference, September 2016, Adelaide, Australia
- Four Corners Section meeting of the American Physical Society, Oct. 2015, Tempe AZ
- Fall Meeting of the APS Division of Nuclear Physics, October 2015, Santa Fe NM

Name:

Jacob Urquidí Needs to be updated

Education:

Ph.D. in Physical Chemistry, 2001. *Texas Tech University*, Lubbock, Texas

M.S. in Physical Chemistry, 2000. *Texas Tech University*, Lubbock, Texas

B.S. in Chemistry, *University of Texas at El Paso*, El Paso, Texas

Academic Experience:

Associate Professor of Physics, New Mexico State University, Las Cruces NM 88003, April 2009 – present

New Mexico State LANSCE Professor of Physics (Tenure Track Assistant Professor), New Mexico State University, Las Cruces, NM and Los Alamos Neutron Scattering Center (LANSCE), Lujan Center, Los Alamos National Laboratory, Los Alamos, NM, Aug. 2003 – March 2009

Chemistry Faculty, Assistant Professor, South Plains Junior College, Levelland, Texas, Aug. 2000- Aug. 2001

Part time instructor in chemistry, South Plains Junior College, Levelland, Texas, Jan. 2000 – Aug. 2001

Non- Academic Experience:

Postdoctoral Research Scientist on disordered materials at the Intense Pulsed Neutron Source (IPNS), Argonne National Laboratory, Argonne, IL, Aug. 2001 – Aug 2003

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

American Physical Society (APS)

American Chemical Society (ACS)

Member of the Neutron Scattering Society of America (NSSA)

Honors and Awards:

None

Service Activities (selected):

None

Important Publications (in past five years, selected):

Strontium Environment Transition in Tin Silicate Glasses by Neutron and X-ray Diffraction, J. A. Johnson, J. Urquidi, D. Holland, P. G. Appleyard, Journal of Non-Cryst. Solids, 353, 44-46, pp 4084-4092, 2007

Effect of agitation/flow on the enzymatic digestion of cellulose: a structural study by SANS, M. S. Kent, G. Cheng, J. K. Murton, D. Dibble, F. Zendejas, B. Knierim, H. Tran, B. A. Simmons, J. Urquidi, J. L. Banuelos, R.P. Hjelm; Biomacromolecules, 2010

A 3-meter Pinhole Camera for Anomalous Small Angle Diffraction Measurements, J. L. Banuelos, R. K. Brar, J. Urquidi, In preparation for the Journal of Applied Crystallography

Professional Development Activity (most recent):

Participant: Bruker Webinar on Reciprocal Space Mapping. January 26th, 2012

Igor Vasiliev

Education – degree, discipline, institution, year

- Ph.D., Materials Science, University of Minnesota, Minneapolis, Minnesota, 2000
- M.S., Chemical Physics, Moscow Institute of Physics and Technology, Moscow, Russia, 1993
- B.S., Chemical Physics, Moscow Institute of Physics and Technology, Moscow, Russia, 1991

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- New Mexico State University, Department of Physics, Full Professor, 2014 – present, full time
- New Mexico State University, Department of Physics, Associate Professor, 2008 – 2014, full time
- New Mexico State University, Department of Physics, Assistant Professor, 2002 – 2008, full time
- University of Illinois at Urbana-Champaign, Department of Physics, Postdoctoral Research Associate, 2000 – 2002, full time

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- Sandia National Laboratories, Visiting Scientist, 2016, part time
- Institute of Chemical Physics, Chernogolovka, Russia, Staff Member, 1993 – 1994, full time

Certifications or professional registrations

- n.a.

Current membership in professional organizations

- American Physical Society
- Materials Research Society

Honors and awards

- J. Tinsley Oden Fellowship, University of Texas at Austin, 2008 – 2009

Service activities (within and outside of the institution)

- Engineering Physics Program Committee, member since 2010
- Physics Department Curriculum Committee, chair since 2009
- NMSU Faculty Senate, member 2012 – 2015
- NMSU Scholastic Affairs Committee, member 2012 – 2013
- NMSU Faculty Affairs Committee, member 2013 – 2015
- College of Arts & Sciences Faculty Affairs Committee, member since 2017
- Physics Department Computer Committee, chair 2002 – 2012, member since 2014
- Physics Department Graduate Admission Committee, member since 2008
- Physics Department Tenure & Promotion Committee, member since 2008, chair 2015 – 2016

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- M. Hammouri and I. Vasiliev, Ab Initio Study of the Electronic and Transport Properties of Waved Graphene Nanoribbons, *Physica E* 89, 170–176 (2017).
- M. Hammouri, E. Fohntung, and I. Vasiliev, Ab Initio Study of Magnetoelectric Coupling in $\text{La}_{0.67}\text{Sr}_{0.33}\text{MnO}_3/\text{PbZr}_{0.2}\text{Ti}_{0.8}\text{O}_3$ Multiferroic Heterostructures *J. Phys.: Condens. Matter* 28, 396004 (2016).
- M. Hammouri, S. K. Jha, and I. Vasiliev, First-Principles Study of Graphene and Carbon Nanotubes Functionalized with Benzyne, *J. Phys. Chem. C* 119, 18719–18728 (2015).
- L. V. Frolova, I. V. Magedov, A. Harper, S. K. Jha, M. Ovezmyradov, G. Chandler, J. Garcia, D. Bethke, E. A. Shaner, I. Vasiliev, and N. G. Kalugin, Tetracyanoethylene Oxide-Functionalized Graphene and Graphite Characterized by Raman and Auger Spectroscopy, *Carbon* 81, 216–222 (2015).
- S. Alnemrat, Y. H. Park, and I. Vasiliev, Ab Initio Study of ZnSe and CdTe Semiconductor Quantum Dots, *Physica E* 57, 96–102 (2014).
- L. S. Abdallah, T. M. Tawalbeh, I. V. Vasiliev, S. Zollner, C. Lavoie, A. Ozcan, and M. Raymond, Optical Conductivity of $\text{Ni}_{1-x}\text{Pt}_x$ Alloys ($0 < x < 0.25$) from 0.76 to 6.6 eV, *AIP Advances* 4, 017102 (2014).
- S. Alnemrat, J. P. Hooper, I. Vasiliev, and B. Kiefer, The Role of Equilibrium Volume and Magnetism on the Stability of Iron Phases at High Pressures, *J. Phys.: Condens. Matter* 26, 046001 (2014).
- Invited Talk at APS Joint Four Corners and Texas Sections Meeting, Las Cruces, New Mexico, October 21, 2016
- Invited Talk at CECAM Workshop on DFT and TDDFT in the Real-Space Formalism within the PARSEC Code: Perspectives and Future Development, Tel Aviv, Israel, December 15, 2015.
- Invited Talk at Workshop on Nanomaterials: Computation, Theory, and Experiment, Telluride, Colorado, June 30, 2015.

Briefly list the most recent professional development activities

- Attendance of DOE/OE Energy Storage Peer Review, Washington D.C., September 25 – 28, 2016
- Attendance of New Mexico Regional Energy Storage and Grid International Workshop, Albuquerque, New Mexico, August

Lauren Waszek

Education – degree, discipline, institution, year

- Ph.D., Earth Sciences, University of Cambridge, 2012
- M.Sci., Experimental and Theoretical Physics, University of Cambridge, 2008
- B.A., Experimental and Theoretical Physics, University of Cambridge, 2008

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- Australian National University, Discovery Early Careers Research Award fellow, 2017 – present, full time
- New Mexico State University, Assistant Professor, 2016 – present, full time
- University of Maryland, Postdoctoral Research Associate, 2015 – 2016, full time
- University of Liverpool, Honorary Research Fellow, 2015, full time
- University of Cambridge, Junior Research Fellow, 2012 – 2015, full time

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- N/A

Certifications or professional registrations

- N/A

Current membership in professional organizations

- American Geophysical Union

Honors and awards

- Australian Research Council Discovery Early Careers Research Award DE170100329
- National Science Foundation Equipment Grant EAR-661985
- Waszek et al., 2011 Nature Geoscience five year anniversary 10 favorite papers

Service activities (within and outside of the institution)

- Graduate Admissions Committee, 2017
- Society of Physics advisor, 2016 – present
- Convener, American Geophysical Union Fall Meeting 2017
- Peer reviewer, National Science Foundation, Geophysics Research Letters, Physics of the Earth and Planetary Interiors, Pure and Applied Geophysics

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- Lasbleis, M., Waszek, L., Day, E. GrowYourIC: a step towards a coherent model of seismic structure. *Geochem. Geophys. Geosys.*, in press, 2017.
- Waszek, L., Deuss, A. Anomalously large PKiKP-PcP amplitude ratios on a global scale. *J. Geophys. Res.*, 120, doi:10.1002/2015JB012038, 2015.
- Waszek, L., Thomas, C., Deuss, A. PKP precursors: implications for global scattering. *Geophys. Res. Lett.*, 42:1-10, 2015.

- Blom, N., Deuss, A., Paulssen, H., Waszek, L. Earth's inner core: revealing the structures behind the PKP core phase triplication. *Geophys. J. Int.*, 201(3):1657-1665, 2015.
- Waszek, L., Deuss, A. Observations of exotic inner core waves. *Geophys. J. Int.*, 200(3):1636-1650, 2015.
- Waszek, L., Deuss, A. A low attenuation layer in Earth's uppermost inner core, *Geophys. J. Int.*, 195(3):2005-2015, 2013.
- Multiple approaches for mapping regional structures of Earth's inner core. IAG-IASPEI Joint Scientific Assembly, Japan, invited talk, August 2017
- Linking the seismic structure of Earth's uppermost inner core to features at the inner core boundary. ETH Zürich, invited seminar, August 2016
- Linking the seismic structure of Earth's uppermost inner core to features at the inner core boundary. California Institute of Technology, invited colloquium, April 2016
- Constraining the seismic properties of Earth's inner core. Tokyo Institute of Technology, invited seminar, November 2015
- Linking seismic observations of Earth's inner core boundary to deeper structure. Workshop on The Earth's Mantle and Core: Structure, Composition, Evolution, Japan, invited talk, November 2015
- Seismic observations of Earth's inner core: hemispheres, anisotropy and super-rotation. University of Chicago, invited colloquium, January 2015

Briefly list the most recent professional development activities

- Participant, American Association of Physics Teachers New Faculty Workshop, November 2017
- Invited participant, Workshop on The Earth's Mantle and Core: Structure, Composition, Evolution, Japan, July 2017
- Cooperative Institute for Dynamic Earth Research participant, July 2014

Stefan Zollner

Education – degree, discipline, institution, year

- Ph.D. Physics, 1991. *Universität Stuttgart*, Germany
- M.S. Physics, 1987. *Universität Stuttgart*, Germany
- B.S. Physics, 1984. *Universität Regensburg*, Germany

Academic experience – institution, rank, title (chair, coordinator, etc. if appropriate), when (ex. 2002-2007), full time or part time

- *New Mexico State University*, Department of Physics, Las Cruces, NM: Full Professor and Academic Department Head, July 2010 – present; full-time
- *Iowa State University*, Department of Physics and Astronomy, Ames, IA: Assistant Professor, September 1992 – May 1997; full-time.
- *Arizona State University*, Department of Physics and Astronomy, Tempe, AZ: Adjunct Professor, August 2001 – present.

Non-academic experience – company or entity, title, brief description of position, when (ex. 2008-2012), full time or part time

- *International Business Machines Corporation*, East Fishkill, NY: Process Integration Engineer, November 2008 – June 2010, full-time
- *Freescale Semiconductor, Inc*, Tempe, AZ, Austin, TX, and East Fishkill, NY: Analytical Engineer, Semiconductor Device Engineer, Process Integration Engineer (various positions), April 2004 – November 2008, full-time.
- *Motorola, Inc., Semiconductor Products Sector*, Mesa, AZ, and Tempe, AZ: Analytical Engineer, Section Manager (various positions), May 1997 – April 2004, full-time.
- *Ames Laboratory*, Ames, IA: Associate Physicist, September 1992 – May 1997, full-time.
- *IBM Research Division*, Yorktown Heights, NY: April 1991 – August 1992, IBM World Trade Postdoctoral Research Associate, full-time.

Certifications or professional registrations

- None

Current membership in professional organizations

- Fellow of the American Physical Society (APS)
- Member of the Four-Corners, New York, and Texas Sections of the APS
- Member of the Division of Condensed Matter Physics of the APS
- Member of the Division of Materials Physics of the APS
- Member of the Forums of Industrial & Applied Physics of the APS
- Fellow of the American Vacuum Society (AVS)
- Senior Member of the IEEE, Electron Devices Society
- Member of the German Physical Society (DPG)
- Member of the American Association of Physics Teachers (AAPT)

Honors and awards

- *German Scholarship Foundation* (Studienstiftung des deutschen Volkes), 1981-1987.

- *Fulbright Exchange Scholarship*, 1984-1985 (Arizona State University, Tempe)
- *IEEE Senior Member*.
- *Fellow of the American Physical Society*
- *Fellow of the American Vacuum Society*

Service activities (within and outside of the institution)

- **Academic Department Head**, Department of Physics, NMSU, since July 2010.
- **Board Member**, New Mexico Consortium, since September 2015.
- **Co-Chair**, Local Organizing Committee, Joint Meeting of the Texas and Four Corners Sections of the American Physical Society (APS), October 21-22, 2016, Las Cruces, NM.
- **Proceedings Editor**, International Conference on Spectroscopic Ellipsometry, Barcelona, Spain, Summer 2019.
- **Executive Committee Member**, New Mexico Chapter of the AVS, since 2011.

Briefly list the most important publications and presentations from the past five years – title, co-authors if any, where published and/or presented, date of publication or presentation

- C. Xu, N.S. Fernando, S. Zollner, J. Kouvetakis, and J. Menendez, *Observation of phase-filling singularities in the optical dielectric function of highly doped n-type Ge*, Phys. Rev. Lett. **118**, 267402 (2017).
- D. Pal, J. Singhal, A. Mathur, A. Singh, S. Dutta, S. Zollner, and S. Chattopadhyay, *Effect of substrates and thickness on optical properties in atomic layer deposition grown ZnO thin films*, Appl. Surf. Sci. **421 B**, 341 (2017).
- S. Zollner, T.N. Nunley, D.P. Trujillo, L.G. Pineda, and L.S. Abdallah, *Temperature-dependent dielectric function of nickel*, Appl. Surf. Sci. **421 B**, 913 (2017).
- T.N. Nunley, T.I. Willett-Gies, J.A. Cooke, F. Manciu, P. Marsik, C. Bernhard, and S. Zollner, *Optical constants, band gap, and infrared-active phonons of $(LaAlO_3)_{0.3}(Sr_2AlTaO_6)_{0.35}$ (LSAT) from spectroscopic ellipsometry*, J. Vac. Sci. Technol. A **34**, 051507 (2016).
- A.B. Posadas, C. Lin, A.A. Demkov, and S. Zollner, *Band gap engineering in perovskite oxides: Al-doped SrTiO₃*, Appl. Phys. Lett. **103**, 142906 (2013).
- S. Zollner, “Spectroscopic Ellipsometry for Inline Process Control in the Semiconductor Industry”, in *Ellipsometry at the Nanoscale*, edited by M. Losurdo and K. Hingerl (Springer, Heidelberg, 2013).
- D.G. Seiler, S. Zollner, A.C. Diebold, and P.M. Amirtharaj, “Optical Properties of Semiconductors”, in *Handbook of Optics, Vol. IV*, edited by M. Bass (Optical Society of America, 3rd edition, New York, 2010).
- Stefan Zollner, Veer Dhandapani, Paul Grudowski, and Greg Spencer, *Anneal of epitaxial layer in a semiconductor device*, US patent 7,416,605 B2 issued on 26 August 2008

Briefly list the most recent professional development activities

- Annual Physics Department Chairs Conference, American Physical Society, American Center for Physics, College Park, MD, June 5-7, 2015.
- Experienced Faculty Workshop, American Association of Physics Teachers, University of Minnesota, Minneapolis, MN, July 24-26, 2014.