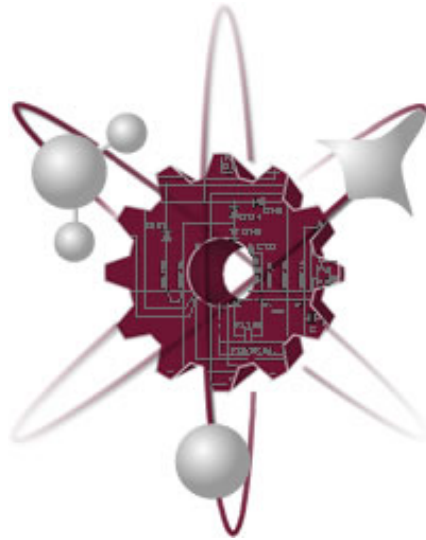


Appendix B: Faculty Vitae

Engineering Physics

Bachelor of Science in Engineering Physics

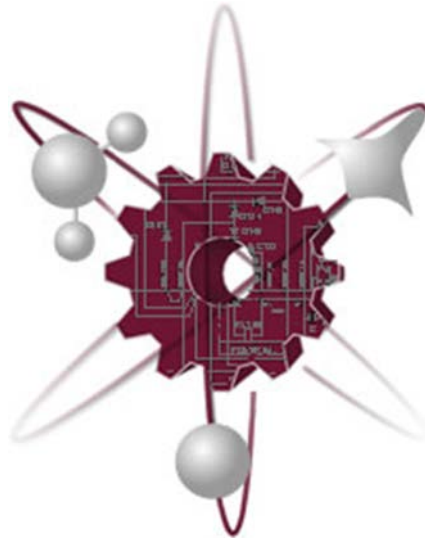


Self-Study Report

New Mexico State University



Department of Physics – Faculty and Staff CVs



Name:

Lina Abdallah

Education:

Ph.D. Physics, (spring 2010-present). *New Mexico State University*

M.S. Physics, (2006-2009). *University of Jordan, Amman, Jordan*

B.S. Physics, (2002-2006). *University of Jordan, Amman, Jordan*

Academic Experience:

Lab teaching assistant (summer 2010, fall 2010)

Tutor in Physics Tutoring Room (spring and fall 2010)

Supplemental instruction for PHYS 215 (Engineering Physics I), spring 2011

Supervision of three undergraduate physics research students, spring 2011

Lecturer for PHYS 211 (General Physics I), summer 2011

Physics Research Assistant, summer 2011 to present

Non- Academic Experience:

None

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Student member of the Executive Committee of the Four Corners Section (4CS) of the American Physical Society (APS), 2011 to 2015

Honors and Awards:

Preparing Future Faculty Graduate Assistantship Award, New Mexico State University, 2012/13

Service Activities (selected):

Outreach: Perform demonstrations for middle school students during their visits to the Department of Physics at NMSU

Participate in science fair judging for middle school students (White Sands and Sierra Middle Schools; Southwest New Mexico Science and Engineering Fair held at NMSU in March 2012)

Name:

Manal Abdallah

Education:

M.S. Physics, 2009. Yarmouk University, Jordan.

B.S. Physics, 1999. Yarmouk University, Jordan.

Academic Experience:

- ❖ New Mexico State University, Department of Physics, Las Cruces, NM: Lab teacher, January 2012- present; full-time.
- ❖ Yarmouk University, Department of physics, Irbid, Jordan, Lab teacher, September 2009- January, 2012; Full time.
- ❖ Queen Rania Al-Abdallah Academy, Committee for preparing teachers, Irbid, Jordan, A Member in the Jordanian Committee for Preparing Teachers' Learning Material under the supervision of a Group of American Experts from Colombia University, June 2008- June 2009.
- ❖ Ministry of education, High school, Irbid, Jordan: A physics teacher, August 1999- September 2009; Full time.

Non- Academic Experience:

None.

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

None.

Name:

Matthias Burkardt

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 D*79 (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 B*658 (2008) 130

Professional Development Activity (most recent):

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

Name:

Michaela Burkardt

Education:

Ph.D. Physics, 1992. *Universität Erlangen-Nürnberg*, Germany

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

Graduate Certificate of Online Teaching and Learning, 2008. *New Mexico State University*, NM

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, NM: College Associate Professor, August 2007 – present; College Assistant Professor, August 2002 - August 2007; part-time

Northeastern University, Department of Physics, Boston, MA, Clinical Lecturer, September 1992 - March 1993

Non- Academic Experience:

New Mexico State University, Teaching Academy, Las Cruces, NM: Faculty Developer (STEM Focus) and Project Coordinator for a Department of Education STEM grant, December 2008 – December 2009, full-time, January 2010 – December 2010, part-time

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Member of the American Physical Society (APS)

Member of the Topical Group: Physics Education Research of the APS

Member of the American Association of Physics Teachers (AAPT)

Honors and Awards:

College of Arts & Sciences Outstanding College Faculty Award, NMSU, April 2012

College of Arts & Sciences Faculty Outstanding Achievement Award, NMSU, March 2007

Service Activities (selected):

Physics Tutoring Services Committee Chair

Physics UG Textbook Adoption Committee Chair

Physics Retention Committee Member

Scholarship Committee Member

Society of Physics Students (SPS) Co-Adviser

Reviewer for textbook manuscripts submitted to various publishers

Regular *consultant* for the Teaching Academy classroom visitation program

Important Publications (in past five years, selected):

Contributed a chapter (example portfolio) to *The teaching portfolio: A practical guide to improved performance and promotion/tenure decisions*, P. Seldin, P., J.E. Miller, and C. Seldin, (2010) San Francisco, CA: Jossey-Bass.

Professional Development Activity (most recent):

Participant, Strategic Programs for Innovations in Undergraduate Physics (Spin-UP), Austin, TX, May 2012

Participant, Teaching Academy, New Mexico State University, Las Cruces, NM, about 150 hours during May 2007 – April 2012

Organizer/Facilitator, Teaching Academy, New Mexico State University, Las Cruces, NM, 25/22 workshops about best practices in teaching for STEM disciplines. Total training provided: 3,628.5 faculty hours. August 2009 – December 2010

Participant, Writing Across the Curriculum, New Mexico State University, Las Cruces, NM, May 2010

Name

Peter Frank de Châtel

Education:

Ph.D. Physics, 1988, *Eötvös University*, Budapest, Hungary

M.Sc. Metallurgical Engineering, 1986, *University of Illinois*, Urbana, IL, USA

B.S. Physics, 1983, *Eötvös University*, Budapest, Hungary

Academic Experience:

Retired since 21 January 2001. Meanwhile:

February to August 2001, Visiting Scientist at *Monash University*, Melbourne, Australia

September 2001 to May 2002, May to December 2003, August to December 2004 and 2005,
January to May 2009, 2011 and 2012, Visiting Professor at *New Mexico State University*, Las Cruces, NM, USA

September to December 2002, Visiting Professor at the *University of Michigan*, Ann Arbor, MI, USA

January to March/April 2003, 2004, 2005, 2006, 2007 and 2008, September, October 2009
Visiting Professor at *AlNeelain University*, Khartoum, Sudan

April/May to June 2005, 2006, 2007, 2008, May to June 2009, 2010, 2011 Visiting Scientist at
Institute of Nuclear Research, Hungarian Academy of Sciences, Debrecen, Hungary

September to November 2010 and 2011 Visiting Scientist at *Institute of Metal Research, Chinese Academy of Sciences*, Shenyang, China

Before retirement:

1980-2001 Professor of Physics at the *University of Amsterdam*, The Netherlands

1974-1980 Reader at the *University of Amsterdam*, The Netherlands

1975 (on leave) Visiting Professor at the *Catholic University of Leuven*, Belgium

1968-1974 Research Associate at the *University of Amsterdam*, The Netherlands

1971-1972 (on leave) Research Assistant at *Cavendish Laboratory, University of Cambridge*,

1973-1974 part-time Research Consultant at the *Kamerlingh Onnes Laboratory, University of Leiden*, The Netherlands

Non-Academic Experience:

1983-2001 (part time) Publishing Editor with *Elsevier Science B.V.*, Amsterdam, The Netherlands

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

None

Honors and Awards:

None

Service Activities (selected):

None

Important Publications (in past five years, selected):

Response of $La_{0.8}Se_{0.2}CoO_{3-\beta}$ to perturbations on the CoO_3 sublattice, Z. Németh, Z. Homonnay, C. Árva, Z. Klencsár, E. Kuzman, A. Vértes, J. Hakl, S. Mészáros, K. Vad, P.F. de Châtel, G. Gritzner, Y. Aoki, H. Konno and J. Greneche, *Eur. Phys. J. B* **57** (2007) 257

Electronic transport and magnetic properties of the perovskites $La_{0.8}Se_{0.2}Co_{1-x}Fe_xO_3$; $x \leq 0.3$, J. Hakl, P.F. de Châtel, S. Mészáros, K. Vad, Z. Klencsár, Z. Németh, Z. Homonnay, A. Vértes, A. Somopoulos, E. Devlin, Y. Aoki, H. Konno, S.K. De, *Solid State Sci.* **11** (2009) 8.52

Magnetic particle hyperthermia: Néel relaxation in magnetic nanoparticles under circularly polarized field, P.F. de Châtel, I. Nándori, J. Hakl, S. Mészáros and K. Vad, *J. Phys.: Condens. Matter* **21** (2009) 124202

Uranium at high pressure from first principles, S. Adak, H. Nakotte, P.F. de Châtel, and B. Kiefer, *Physica B* **406** (2011) 3342

Larmor precession and Debye relaxation of single-domain magnetic nanoparticles, Zs. Jánosfalvi, J. Hakl and P.F. de Châtel, submitted to *Phys. Rev. E*

Name:

Michael DeAntonio

Education:

Ph.D. Physics, 1993. *New Mexico State University*, Las Cruces, NM

M.S. Physics, 1992. *New Mexico State University*, Las Cruces, NM

B.S. Physics, 1984. *Duquesne University*, Pittsburgh, PA

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, NM: College Associate Professor, August 2004 – present; College Assistant Professor, January 2002 – August 2004, part time

Texas A&M University, Department of Physics, College Station, TX: Visiting Professor, January 1995 – May 1995, full-time

Non- Academic Experience:

LaSen Inc., Las Cruces, NM: Consulting Engineer, February 2008 – present, part time

Army Research Laboratory, White Sands Missile Range, NM: Engineer, May 2002-September 2002, full-time

Delphi Automotive System, El Paso, TX: Engineer/Programmer, June 1997 – April 2000, full-time

GTE Communications Systems, Albuquerque, NM: Member of Technical Staff, January 1985-August 1989, full-time

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Member of the Optical Society of America (OSA)

Member and Past Division Chair of the American Society for Engineering Educators (ASEE)

Honors and Awards:

Faculty Development Grant, New Mexico State University (NMSU), College of Arts & Sciences, 2011

Service Activities (selected):

Engineering Physics Committee Member

Advisor for Society of Engineering Physicists

Member of Committee for the Assessment of Student Learning in General Education

Regular *reviewer and referee* for manuscripts submitted to various educational conferences

Important Publications (in past five years, selected):

Feasibility Study for the Remote Detection of Atmospheric Xenon Using a DIAL LIDAR System, M. DeAntonio, M. Al-Na'irat, Imaging and Applied Optics: OSA Optics & Photonics Congress Proceedings, (2012)

Criterion 2: A Discussion of ABET Program Educational Objectives, M. DeAntonio, Proceedings from the Annual Conference and Exposition: American Society of Engineering Educators (2012)

Using Microsoft Office in STEM Education, Proceedings from the Annual Conference and Exposition: American Society of Engineering Educators (2012).

A New Set of Learner Classifications for CSET, M. DeAntonio, G. Lee and J. Peterson, Conference Proceedings: Frontiers in Education (2009)

Work in Progress – The Use of Team-Based Learning in an Experimental Physics Lab, M. DeAntonio, L. M. Sandoval, J. Dewald, H. F. Al-Ta'Ani and J. Tallah Conference Proceedings: Frontiers in Education (2007)

Professional Development Activity (most recent):

Division Chair, American Society of Engineering Educators, Vancouver B.C. Canada, June 2011

Name:

Tarlochan S. Dhillon

Education:

Ph.D. Materials Science and Engineering, 1999. *University of Texas, El Paso*

M.S. Engineering Physics, 1972. *Meerut University, India*

B.S. Physics, Math and Chemistry, 1969, *Punjab University, Chandigarh, India*

Academic Experience:

2006-Present Department Chair, Department of Industrial Technology, Dona Ana Branch
Community College (DACC) at NMSU, Las Cruces, NM

2004-2006 Professor, Department of Science and Engineering Technology, Savannah
State University, Savannah, GA

2003-2004 Assistant Professor, Department of Physics, University of Texas - Pan
America, Edinberg, TX

1987-2003 Instructor AP Physics, Assistant Professor of Physics and engineering at
University of Texas – El Paso (UTEP) , and EPISD, El Paso, TX

1981-1987 Professor and Head, Department of Science and Engineering technology,
Ramat Polytechnic University, Borno State, Nigeria

1972-1981 Assistant Professor / Associate Professor, Department of Physics
and Engineering Physics, Punjab University Chandigarh, UT

Non- Academic Experience:

None

Service and other Synergistic Activities (selected):

- Worked on research projects on simulations of opto-electronics devices and systems. Optical and electronics instrumentation, design of optical devices, materials design and election, digital and logic designs, surface and physical properties of engineering materials, failure of materials and their protection, electroluminescence devices and solar voltaic cells.
- Received research grants combined together in the amount of about three million dollars from NSF, NHF, NPL, and private industry.
- Chaired two PhD dissertations and co-chaired eight others as research advisor for PhD and graduate students.
- Received numerous awards as most influential teacher, program leader, citizen ambassador program, overseas research students award from UMIST, AND National scholarship award.
- Published two text books volume I and volume II on Applied Physics.
- Taught graduate courses such as advanced statistical mechanics, solid state physics, solid state devices, UHV technology, photonic devices, quantum electronics, fiber optic communication and other courses in electrical engineering.

- Continuously developed and improved curriculum for undergraduate students in electronics technology, aerospace and fiber optic communication.

Publications:

T. S. Dhillon, V.P. Singh; *Solid state physics semiconductor devices as a 2D system and its applications to organic electronics devices*, 13.1501330, Dec 16-19, 2008 Technical Program.

T. S. Dhillon, R. Chianelli: *Analysis of X-ray Diffraction Pattern of Blue ACTFEL Devices for flat panel display devices using synchrotron radiation*. Workshop on Physics of semiconductor devices, National Physical Laboratory, New Delhi, India, December 13-17, 2007

J.A. DeRose, J.P. Revel, T.S. Dhillon, S. Yoyama S. .Linn: *Novel biosensors devices based on molecular protein hetero-multilayer films. Environmental exposures that affect the doctrine system public health implications*, Thin Solid Films 331, 2008, pp. 1-2

T. S. Dhillon, V.P. Singh: *Modeling of the Electroluminescence Behavior of Blue ACTFEL devices with multiple interface energy states*, Proceedings of the thirteenth International Workshop on the Physics of Semiconductors, National Physical Laboratory, New Delhi, India, December 13-17, 2005, pp. 100-107.

T. S. Dhillon, R. Chianelli: *Analysis of X-ray Diffraction Patterns of Blue Sr:Ce ACTFEL Devices for Flat Panel display using Synchrotron Radiation*, Proceedings of the 13th International Workshop on the Physics of semiconductors, National Physical Laboratory, New Delhi, India, December 13-17, 2005, pp. 1159-1162..

Professional Development Activity (most recent):

None

Name:

Michael Engelhardt

Education:

Habilitation, Theoretical Physics, 2001. *Universität Tübingen*, Germany

Ph.D., Physics, 1994. *Universität Erlangen-Nürnberg*, Germany

Diplom, Physics, 1989. *Universität Erlangen-Nürnberg*, Germany

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, NM: Associate Professor, August 2010 – present; Assistant Professor, March 2004 – August 2010; full-time

Universität Tübingen, Institut für theoretische Physik, Tübingen, Germany: Privatdozent (Lecturer), May 2001 – February 2004, part-time; Research Associate, May 2001 – April 2002; DFG Habilitation Fellow, May 1999 – April 2001; Postdoctoral Research Associate, October 1996 – April 1999; full-time

Universität Erlangen-Nürnberg, Institut für Theoretische Physik III, Erlangen, Germany: Postdoctoral Research Associate, July 1996 – September 1996; full-time

Weizmann Institute of Science, Department of Condensed Matter Physics, Rehovot, Israel: MINERVA Postdoctoral Fellow, May 1994 – June 1996; full-time

Non-Academic Experience:

science+computing ag, Tübingen, Germany: IT Consultant, May 2002 – February 2004; full-time

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

None

Honors and Awards:

Outstanding Referee, American Physical Society, January 2012

DFG Habilitation Fellowship, Deutsche Forschungsgemeinschaft (DFG), 1999-2001

MINERVA Postdoctoral Fellowship, MINERVA Foundation, 1994-1996

Doctorate Fellowship, Ministry of Culture of the State of Bavaria, 1991-1992

Service Activities (selected):

Advisor for NMSU undergraduate Physics majors

Library Liaison for the NMSU Department of Physics

Comprehensive Examination Coordinator (together with Prof. B. Gibbs), NMSU Department of Physics

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

Important Publications (in past five years, selected):

Sivers and Boer-Mulders observables from lattice QCD, B. Musch, P. Hägler, M. Engelhardt, J. Negele and A. Schäfer, to appear in Phys. Rev. **D**; arXiv:1111.4249

Center vortex model for the infrared sector of SU(3) Yang-Mills theory: Topological susceptibility, M. Engelhardt, Phys. Rev. **D 83** (2011) 025015

Nucleon structure from mixed action calculations using 2+1 flavors of asqtad sea and domain wall valence fermions, J. D. Bratt, R. Edwards, M. Engelhardt, P. Hägler, H.-W. Lin, M.-F. Lin, H. Meyer, B. Musch, J. Negele, K. Orginos, A. Pochinsky, M. Procura, D. Richards, W. Schroers and S. Syritsyn, Phys. Rev. **D 82** (2010) 094502

Nucleon Electromagnetic Form Factors from Lattice QCD using 2+1 Flavor Domain Wall Fermions on Fine Lattices and Chiral Perturbation Theory, S. Syritsyn, J. D. Bratt, M. Engelhardt, P. Hägler, T. Hemmert, M.-F. Lin, H. Meyer, J. Negele, A. Pochinsky, M. Procura and W. Schroers, Phys. Rev. **D 81** (2010) 034507

Light hadron spectroscopy using domain wall valence quarks on an Asqtad sea, A. Walker-Loud, H.-W. Lin, K. Orginos, D. Richards, R. Edwards, M. Engelhardt, G. Fleming, P. Hägler, M.-F. Lin, H. Meyer, C. Morningstar, B. Musch, J. Negele, A. Pochinsky, M. Procura, D. Renner, W. Schroers and S. Syritsyn, Phys. Rev. **D 79** (2009) 054502

Nucleon Generalized Parton Distributions from Full Lattice QCD, P. Hägler, W. Schroers, J. Bratt, R. Edwards, M. Engelhardt, G. Fleming, B. Musch, J. Negele, K. Orginos, A. Pochinsky, D. Renner and D. Richards, Phys. Rev. **D 77** (2008) 094502

Neutron electric polarizability from unquenched lattice QCD using the background field approach, M. Engelhardt, Phys. Rev. **D 76** (2007) 114502

Professional Development Activities (most recent):

Sabbatical stay at Jefferson National Laboratory, 2011/12 academic year. Initiation of new research projects and collaborations.

Member of PRIMOS (Partnership for Retention and Improvement of Meaningful Opportunities in STEM) faculty cohort at NMSU. Participation in workshops every two weeks throughout the 2009/10 academic year, providing faculty with practical tools and best practices to improve STEM education.

Name:

Elena Fernandez

Education:

B.A. Philosophy, 1998. *New Mexico State University, USA*

Academic Experience:

None

Non- Academic Experience:

New Mexico State University/Los Alamos National Laboratory, Los Alamos Neutron Science Center, Los Alamos, NM: Senior Public Information Specialist, December 2010-Present

Army Research Laboratory/New Mexico State University, Las Cruces, NM: Contractor/R&D Tech III/Specialist, July 2006 – August 2011

New Mexico State University, Department of Physics and Engineering Physics Program, Las Cruces, NM: Specialist, February 2003 – September 2008 | November 2009 – January 2010 (part-time)

New Mexico State University, Department of Engineering Technology and Surveying Engineering, Las Cruces, NM: Enrollment Management Specialist (part-time), October 2008 - January 2010

New Mexico State University, Department of Mechanical & Aerospace Engineering, Las Cruces, NM: Specialist (part-time), November 2008 – May 2009

New Mexico State University, College of Health and Social Services, Las Cruces, NM: Specialist (part-time), January 2009 – April 2009

Camp, Dresser and McKee Inc. (Scientists and Engineers), Las Cruces, NM: Environmental Consultant, May 2001-November 2001

Las Cruces Public Schools, Las Cruces, NM: Part-Time Teacher/Substitute Teacher, May 1999 – December 2002

Certification or Professional Registrations:

Substitute Teacher Certificate (not current)

Registered User – National Oceanic and Atmospheric Administration (NOAA) HYSPLIT - Hybrid Single Particle Lagrangian Integrated Trajectory Model

Current Membership in Professional Organizations:

Member of the Society of Hispanic Physicists

Honors and Awards:

APEX Awards for Publications Excellence, 2011, 2010, 2009, 2008, 2007

"Outstanding Student Award" in Philosophy, co-sponsored by Chicano Programs of New Mexico State University (NMSU) and IBM, 1998

UPC "Volunteer of the Month" February 1998, July 1997, June 1997

Service Activities (selected):

NMSU Engineering Physics Committee Member

Advisor for NMSU Engineering Technology and Surveying Engineering majors

Important Publications:

Fluorescence Spectra and Elastic Scattering Characteristics of Atmospheric Aerosol Particles in Las Cruces, New Mexico, USA: Time Series of Particle Concentrations in Various Spectral Clusters, R. G. Pinnick, E. Fernandez, J. M. Rosen, S.C. Hill, Y. Wang, Y. L. Pan, *Atmospheric Environment* (Elsevier), Submitted May 2012

Professional Development Activity (most recent):

None

Name:

William R. Gibbs

Education:

Ph.D., Physics, 1961, Rice University
M.S., Physics, 1958, University of Texas
B.S., Physics, 1955, University of Texas

Academic Experience:

Professor, Department of Physics, New Mexico State University, Las Cruces, New Mexico.
1993 – Present:

College Professor, Department of Physics, New Mexico State University,
Las Cruces, New Mexico, 1991 – 1993:

Non- Academic Experience:

Staff Member, Los Alamos Scientific (National) Laboratory, (Group Leader 1973-1975 and
1988-1990) 1962 – 1990

Research Associate, University of Neuchâtel, Switzerland, 1961 – 1962

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

American Physical Society (Fellow)

Honors and Awards:

Listed in Marquis “Who’s Who in America”

Service Activities (selected):

Reviewer of articles in Physical Review C, Physical Review Letters, Nuclear Physics, etc.

Chairman of the comprehensive exam committee.

Associate Editor Physical Review C since October 2008
Professional Development Activities (last seven years):

Attended and presented a talk at the MENU2004 conference, Aug. 29-Sept. 4, 2004 Beijing, China.

Attended several meetings of the American Physical Society

Important Publications (selected, past 7 years):

Pion Charge Exchange on Deuterium, J. P. Dedonder and W. R. Gibbs, Phys. Rev. C, 69, 054611, 2004

The Pentaquark in K+d Total Cross Section Data, W. R. Gibbs, Physical Review C, 70,045208, 2004

A Parallel/Recursive Algorithm, W. R. Gibbs, Journal of Computational Physics, 201, 573, 2004

A Parallel/Recursive Algorithm, W. R. Gibbs, Jour. of Comput. Phys. 201, 573 (2004)

Minimal electromagnetic and mass difference corrections in $_N$ scattering, W. R. Gibbs and R. Arceo, Phys. Rev. C 72, 065205, 2005

The contribution of the light quark condensate to the $_N$ sigma term, W. R. Gibbs, International Journal of Modern Physics A, 20, 1867, 2005

Partial-wave analysis of K+-nucleon scattering, W. R. Gibbs and R. Arceo, Phys. Rev. C 75, 035204, 2007

Professional Development Activity (most recent):

None

Name:

George H. Goedecke

Education:

Ph.D. Physics, 1961, BEE 1954, *Rensselaer Polytechnic Institute*, Troy, NY, USA

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, NM: Assistant Professor, Associate Professor, Full Professor, September 1961 - August 1995; Department Head, August 1988 - 95; Professor Emeritus, August 1995 – present. Principal Investigator or co-PI on eight three – year research contracts from U. S. Army Research Office. Taught mainly graduate courses in classical mechanics, electromagnetic theory, quantum mechanics, quantum electrodynamics, statistical mechanics, plasma physics, solid state physics, mathematical physics, general relativity, and scattering theory, plus undergraduate courses in engineering physics. Research advisor for 13 Ph.D. and four M.S. students.

Montana State University, Department of Physics, Bozeman, MT: Visiting Assistant Professor, September 1968 – May 1969.

University of Idaho, Department of Physics: Visiting Assistant Professor, summer 1969

Non-Academic Experience:

Los Alamos National Laboratory, Visiting Scientist, Summer 1966

U. S. Army Atmospheric Sciences Lab/Army Research Lab (ARL), WSMR, NM: Visiting Scientist, several summers, 1974 – 1990; Consultant, (Battelle), several occasions 1974 - 1990; Senior Physicist (half-time), 1992 - 95.

Raytheon Missile Systems, Tucson, AZ: Consultant, 2003-2006.

Seldon Laboratories, Windsor, VT: Consultant, 2007-2008.

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

None

Honors and Awards:

None

Service Activities (selected)

NMSU Faculty Senate, 1976 – 1982; Chair, 1980 – 1982.

Regular reviewer for several journals and for grant proposals to Army Research Office.

Recent Important Publications (2006 – present):

G.H. Goedecke, V. Toussaint, and C. Cooper, “On energy transfers in reflection of light by a moving mirror”, to be published in *Am. J. Phys.*, (2012).

G. H. Goedecke, “Global embedding via coordinate basis vectors”, *Eur. Phys. J. Plus* **126**, 32 (2011); DOI 10.1140/epjp/12011-11032-x

G. H. Goedecke and B. T. Davis, “Continuity relations and quantum wave equations”, *Nuovo Cim. B* **125**, 941 (2010); DOI 10.1393/ncb/i2010-10897-y

V. E. Ostashev, S. N. Vecherin, D. K. Wilson, A. Ziemann, and G. H. Goedecke, "Recent progress in acoustic travel-time tomography of the atmospheric surface layer", *Meteorologische Zeitschrift* **18**(2), 125-133 (2009).

D. K. Wilson, V. E. Ostashev, and G. H. Goedecke, "Quasi-wavelet formulations of turbulence and other random fields with correlated properties", *Probabilistic Engineering Mechanics* **24**, 343-357 (2009).

D. K. Wilson, V. E. Ostashev, and G. H. Goedecke, "Sound-wave coherence in atmospheric turbulence with intrinsic and global intermittency", *J. Acoust. Soc. Am.* **124**, No 2, 743-757 (2008).

G. H. Goedecke and S. E. Kanim, "The Hall effect in accelerating and stationary conductors", *Am. J. Phys.* **75**, 131-138 (2007).

G. H. Goedecke, B. T. Davis, and C. Chen, "Magnetic insulation at finite temperatures", *Phys. Plasmas* **13**, 083104 (2006).

G. H. Goedecke, D. K. Wilson, and V. E. Ostashev, "Quasi-wavelet models of turbulent temperature fluctuations", *Boundary-Layer Meteorology* **120**, 1-23 (2006).

S. N. Vecherin, V. E. Ostashev, G. H. Goedecke, D. K. Wilson, and A. G. Voronovich, "Time-dependent stochastic inversion in acoustic travel-time tomography of the atmosphere," *J. Acoust. Soc. Am.* **119** (5), 2579-2588 (2006).

Professional Development Activities:

More than 100 presentations, publications in proceedings, and discussions at professional society meetings and at NMSU and other universities.

Name:

Thomas Hearn

Education:

Ph.D. Geophysics, 1985. *California Institute of Technology*, Pasadena, CA.

M.S. Geophysics, 1981. *California Institute of Technology*, Pasadena, CA.

B.S. Physics, 1978. *University of California Riverside*, Riverside, CA.

Academic Experience:

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

California Institute of Technology, Seismological Laboratory, Pasadena, CA -Research Assistant, 1978 - 1984; Teaching Assistant, 1983, 1981..

Non- Academic Experience:

Rockwell Science Center, Thousand Oaks, CA, Consultant, May 1983 - Jan. 1984.

Bendix United Geophysical, Richfield, Utah, Field crew worker, Summer 1976.

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Member of the American Geophysical Union (AGU)

Member of the Seismological Society of America (SSA)

Member of the Society of Exploration Geophysicists (SEG)

Honors and Awards:

None.

Service Activities (selected):

Member of *NMSU Engineering Physics Committee*.

Advisor for NMSU Engineering Physics Majors

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

Important Publications (in past five years, selected):

- 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, BXXXXX, doi:10.1029/2011JB008919. In press.
- Yue, H., et al. (2012), Lithospheric and upper mantle structure of the northeastern Tibetan Plateau, *J. Geophys. Res.*, 117, BXXXXX, doi:10.1029/2011JB008545. In press.
- Bao, X., Sandvol, E., Ni, J. F., Hearn, T. M., Chen, Y. J., Shen, Y. (2011). High resolution regional seismic attenuation tomography in eastern Tibetan Plateau and adjacent regions. *Geophysical Research Letters*, doi:10.1029/2011GL048012.
- Wei, S. et al. (2010), Regional earthquakes in northern Tibetan Plateau: Implications for lithospheric strength in Tibet, *Geophysical Research Letters*, 37(19), 1-5, doi:10.1029/2010GL044800.
- Yang, Y. et al. (2010), Rayleigh wave phase velocity maps of Tibet and the surrounding regions from ambient seismic noise tomography, *Geochemistry Geophysics Geosystems*, 11(8), 1-18, doi:10.1029/2010GC003119
- Hearn, T. M., S. Wang, S. Pei, Z. Xu, J. F. Ni, and Y. Yu (2008), Seismic amplitude tomography for crustal attenuation beneath China, *Geophysical Journal International*, 174(1), 223-234, doi:10.1111/j.1365-246X.2008.03776.x. Pei, S., J. Zhao, C. A. Rowe, S. Wang, T. M. Hearn, Z. Xu, H. Liu, and Y. Sun (2006), ML Amplitude Tomography in North China, *Bulletin of the Seismological Society of America*, 96(4A), 1560-1566, doi:10.1785/0120060021.

Professional Development Activity (most recent):

- Presenter at 2011 American Geophysical Union Meeting, San Francisco, CA, 5-9 December 2011.
- Presenter at *2011 Monitoring Research Review: Ground-based Nuclear Explosion Monitoring Technology*, 2011 MRR Meeting in Tucson, AZ.
- Presenter at 2010 American Geophysical Union Meeting, San Francisco, CA, 13-17 December, 2010.
- Presenter at 2009 American Geophysical Union Meeting, San Francisco, CA, 14-18 December, 2009.
- On Sabbatical at Peking University and guest lecturer, Institute of Theoretical and Applied Geophysics, Fall 2009.

Name:

Stephen Kanim

Education:

Ph.D. Physics, 1999. *University of Washington, Seattle*

Secondary Education Teaching Certification, *San Jose State University, San Jose, 1984*

B.S. Electrical Engineering, 1981. *University of California at Los Angeles, Los Angeles*

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, New Mexico: Associate Professor, August 2006; Assistant Professor, August 2000 - August 2006; College Assistant Professor August 1998 – August 2000, full time.

University of Maryland, Department of Physics, College Park, Maryland: Visiting Associate Professor, August 2006 – June 2007, full time.

Las Cruces High School, Science Department, Las Cruces, New Mexico: Physics Teacher, August 1987 – May 1992, full time.

Non- Academic Experience:

Applied Micro Technology, Campbell, California: Engineer, June 1985 – July 1987, full time.

Avantek, Incorporated, Santa Clara, California: Engineer, July 1981 – December 1982, full time.

Jet Propulsion Laboratories, Pasadena, California: Technician, 1979 – 1981, part time.

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Member of the American Physical Society (APS)

Member of the Four-Corners and Texas Sections of the APS

Member of the American Association of Physics Teachers

Honors and Awards:

College of Arts & Sciences Faculty Outstanding Achievement Award, NMSU, October 2009

Service Activities (selected):

Advisor for NMSU Physics majors and for NMSU Physics Graduate Student Organization

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

Important Publications (in past five years, selected):

nTIPERs: (Newtonian Tasks Inspired by Physics Education Research) C.J. Hieggelke, D.P. Maloney, S. Kanim, Addison Wesley/Pearson, 2012, ISBN 10:0-321-75375-5.

Introductory labs on the vector nature of force and acceleration, K. Subero, S. Kanim, American Journal of Physics **78(5)** (2010).

Accounting for variability in student responses to motion questions, B. Frank, S. Kanim, and L. Gomez., Physical Review Special Topics: Physics Education Research September 2008.

Electromagnetic forces on accelerating current-carrying conductors, G.H. Goedecke and S.E. Kanim, American Journal of Physics **75(2)** (2007).

Professional Development Activity (most recent):

NMSU Teaching Academy, PRIMOS Summer STEM faculty development workshop, Summer 2009.

Name:

Heinrich (Heinz) Nakotte

Education:

Ph.D. Physics, 1994. *Universiteit van Amsterdam*, The Netherlands

B.S. Physics, 1986. *Universität zu Köln*, Germany

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, NM: Full Professor, August 2009 – present; Associate Professor, August 2003 – August 2009; Assistant Professor, August 1997 - August 2003; full-time

Chair of the Engineering Physics Committee, August 2010-present; full-time

Non- Academic Experience:

Los Alamos National Laboratory, Los Alamos Neutron Science Center, Los Alamos, NM: Postdoctoral Research Associate, May 1994 – April 1996, and September 1996 – August 1997, full-time

Electrotechnical Laboratory, Tsukuba, Japan: Visiting Research Scientist, April-September 1996 – September, full-time

Chalk River Laboratories, Atomic Energy Commission Canada Ltd., Chalk River, Canada: Attached Staff Member, June 1994- July 2000, part-time

Hydraulic Pump Section, Bosh GmbH, Köln, Germany: Staff Member, January-December 1989, part-time

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Member of the American Physical Society (APS)

Member of the Four-Corners 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 Topical Group: Magnetism and its Applications of the APS

Member of the Forums of Industrial & Applied Physics and International Physics of the APS

Member of the Neutron Scattering Society of America (NSSA)

Honors and Awards:

Gardiner Professorship, New Mexico State University (NMSU), Department of Physics, 2009-2011

Best Advising Award for Faculty, NMSU, August 2010

College of Arts & Sciences Faculty Outstanding Achievement Award in Scholarship, NMSU, October 2009

Award for Exceptional Achievements in Creative Scholarly Activity, NMSU, University Research Council, August 2003

Early CAREER Award, National Science Foundation, December 2000

Science and Technology Agency Fellowship, Japanese Institute for Science and Technology (JISTEC), Japan, April 1996

Service Activities (selected):

Engineering Physics Committee Chair

Advisor for NMSU Engineering Physics majors

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

Important Publications (in past five years, selected):

Thermal expansion in 3d-metal Prussian Blue analogs - A survey study, S. Adak, L.L. Daemen, M. Hartl, D. Williams, J. Summerhill, and H. Nakotte, *Journal of Solid State Chemistry* **184** (2011) 2854

Uranium at high pressure from first principles, S. Adak, H. Nakotte, P.F. de Châtel, and B. Kiefer, *Physica B* **406** (2011) 3342

Aerosol synthesis and Rietveld analysis of tetragonal (β_1) PdZn, E.J. Petersen, B. Halevi, B. Kiefer, M.N. Spilde, A.K. Datye, J. Peterson, L. Daemen, A.A. Llobet, and H. Nakotte, *Journal of Alloys and Compounds* **509** (2011) 1463

Non-Fermi-liquid behavior in $UCu_{4+x}Al_{8-x}$ compounds, F. Nasreen, M.S. Torikachvili, K. Kothapalli, V.S. Zapf, R. F. Jardim, and H. Nakotte, *Physica B* **406** (2011) 2061

Unusual signatures of the ferromagnetic transition in the heavy-fermion compound UMn_2Al_{20} , C. H. Wang, J. M. Lawrence, E. D. Bauer, K. Kothapalli, J. S. Gardner, F. Ronning, K. Gofryk, J. D. Thompson, H. Nakotte and F. Trouw, *Physical Review B* **82** (2010) 094406

Professional Development Activity (most recent):

Participant, Sunrise Springs Workshop on Catalysis & Electrocatalysis, Santa Fe NM, Nov. 2010

Name:

James Ni

Education:

Ph.D., 1984, *Cornell University* (Geophysics)

M. Engr. 1973, *Cornell University* (Geotechnical Engineering and Remote Sensing)

B. Engr. 1971, *Cornell University*

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, NM: George W. Gardiner Professor of Physics, January 1012 - December 2013; Full Professor, May 1994 – present; Associate Professor, August 1990 - April 1994; Assistant Professor, August 1984 – July 1990.

Caltech, Department of Geological and Planetary Sciences, Visiting Fellow, Spring 1993.

Columbia University, Lamont-Doherty Earth Observatory, Adjunct Associate Research Scientist, June 1987 – May 1990.

Cornell University, Department of Geosciences, Research Specialists, August 1973 – July 1984.

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Member of the Geological Society of America (GSA)

Member of the American Geophysical Union (AGU)

Member of the Seismological Society of America (SSA)

Honors and Awards:

Gardiner Professorship, New Mexico State University (NMSU), Department of Physics 2003-2005 & 2011 -2013

Manasse Chair, New Mexico State University, 2011

Outstanding faculty Achievement Award, NMSU, 2007

AWU-DOE Faculty Professorship, Summer, 2003-2005

Westinghouse Scholarship, 1964-1965

New York State 13th Annual Science Congress Award, 6th Place, 1964

Service Activities (selected):

Senator, NMSU, 2006 – present

Former editor (Solid Earth Geophysics), EOS Transactions, American Geophysical Union

Chairman, 1989 Annual Meeting of the Seismological Society of America

Board member, UNAVCO and IRIS

Advisor of SINOPROBE, China's national program to explore the deep structure of their lithosphere (2010 to present).

Important Publications (in past five years, selected):

Zhang, Q., E. Sandvol, J. Ni, Y. Yang, and Y. J. Chen, Rayleigh wave tomography of the northeastern margin of the Tibetan Plateau, *Earth and Planet. Sci. Lett.*, doi:10.1016/j.epsl.2011.01.021, 2011.

Liang, Xiaofeng, E. Sandvol, Y. J. Chen, T. Hearn, J. Ni, S. Klemperer, Y. Shen, and F. Tilmann, A complex Tibetan upper mantle: A fragmented Indian slab and no south-verging subduction of Eurasian lithosphere, *Earth and Planetary Science Letters*, in press, 2012

Yang, T., Grand, S.P., Wilson, D., Guzman-Speziale, M., Gomez-Gonzalez, J.M., Dominguez-Reyes, T., and Ni, J., Seismic structure beneath the Rivera subduction zone from finite-frequency seismic tomography, *J. Geophys. Res.*, 2009, **114**, B01302, doi:10.1029/2008JB005830, 2009.

Leon-Soto, G., Ni, J.F., Grand, S.P., Sandvol, E., Valenzuela, R.W., Guzman-Speziale, M., Gomez-Gonzalez, J.M., Dominguez-Reyes, T., Mantle flow in the Rivera-Cocos subduction zone, *Geophys. J. Int.*, doi:10.1111/j.1365-246X.2009.04352.x, 2009.

Van Wijk, J., Baldrige, S., van Hunen, J., Goes, S., Aster, R., Coblenz, D., Grand, S., Ni, J., Small scale convection at the edge of the Colorado Plateau: Implications for topography, magmatism and evolution of Proterozoic lithosphere, *Geology*, v. 38 no. 7; p.611-614; doi:10.1130/G31031.1. July, 2010.

Wilson, D., Aster, R., Grand, S., Ni, J., and Baldrige, W.S., Lithospheric architecture and mantle-supported topography of the Colorado Plateau constrained by receiver function imaging, *Geophys. Res. Lett.*, 37, L20313, doi:10.1029/2010GL044799, October 28, 2010

Professional Development Activity (most recent):

GeoPRISMS Implementation Workshop, Hyatt Lost Pines Resort, Bastrop, TX, January 5-7, 2011

Name:

Vassilios Papavassiliou

Education:

Ph.D. Physics, 1988. *Yale University, USA*

M.Phil. Physics, 1985. *Yale University, USA*

M.S. Physics, 1985. *Yale University, USA*

B.S. Physics, 1982. *Aristotelion University of Thessaloniki, Greece*

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, NM: Associate Professor, August 2001 – present; Associate Professor; Assistant Professor, August 1995 – August 2001; full-time

Physics Graduate Program Head, August 2010 – present; full-time

Non- Academic Experience:

Fermi National Accelerator Laboratory, Batavia, IL, USA: Visiting Scientist, August 2009 – May 2010, full-time.

Illinois Institute of Technology, Chicago, IL, USA: Senior Research Associate, April 1994 – July 1995, full-time

Argonne National Lab, Chicago, IL, USA: Postdoctoral Appointee, January 1991 – March 1994, full-time

Yale University, New Haven, CT, USA: Research Associate, May 1988 – January 1991, full-time

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

None

Honors and Awards:

None

Service Activities (selected):

Physics Graduate Program Head

Advisor for NMSU physics graduate students

Important Publications (in past five years, selected):

Measurement of the parity-violating asymmetry in inclusive electroproduction of π near the Δ^0 resonance, with D. Androic *et al.* (G0 Collaboration), Physical Review Letters **108** (2012) 122002.

Suppression of back-to-back hadron pairs at forward rapidity in d+Au collisions at $\sqrt{s_{NN}}=200$ GeV, with A. Adare *et al.* (PHENIX Collaboration), Physical Review Letters **107** (2011) 172301.

The G0 experiment: apparatus for parity-violating electron scattering measurements at forward and backward angles, with D. Androic *et al.* (G0 Collaboration), Nuclear Instruments and Methods **A646** (2011) 59.

Cross section and double helicity asymmetry for η mesons and their comparison to neutral pion production in p+p collisions at $\sqrt{s}=200$ GeV, with A. Adare *et al.* (PHENIX Collaboration), Physical Review **D83** (2011) 032001.

Strangeness in the Nucleon, Cold Dark Matter in the Universe, and Neutrino Scattering off Liquid Argon, V. Papavassiliou, AIP Conference Proceedings **1222** (2010) 186.

Renaissance of the ~ 1 TeV Fixed-Target Program, with T. Adams *et al.*, International Journal of Modern Physics **A25** (2010) 777-813.

Measurement of Angular Distributions of Drell-Yan Dimuons in p + p Interactions at 800 GeV/c, with L.Y. Zhu *et al.* (FNAL E866/NuSea Collaboration), Physical Review Letters **102** (2009) 182001.

The polarized gluon contribution to the proton spin from the double helicity asymmetry in inclusive π^0 production in polarized p + p collisions at $\sqrt{s} = 200$ GeV, with A. Adare *et al.* (PHENIX Collaboration), Physical Review Letters **103** (2009) 012003.

Strange Quark Contribution to the Vector and Axial Form Factors of the Nucleon: Combined Analysis of G0, HAPPEX, and Brookhaven E734 Data, S.F. Pate, D.W. McKee, and V. Papavassiliou, Physical Review **C78** (2008) 015207.

Suppression pattern of neutral pions at high transverse momentum in Au + Au collisions at $\sqrt{s_{NN}} = 200$ GeV and constraints on medium transport coefficients, with A. Adare *et al.* (PHENIX Collaboration), Physical Review Letters **101** (2008) 232301.

Professional Development Activity (most recent):

Participant, 19th PANIC11: Particles and Nuclei International Conference, Cambridge, MA, USA, July 2011

Name:

Stephen Pate

Education:

Ph.D. Physics, 1987. *University of Pennsylvania*

B.S. Physics, 1981. *North Carolina State University*

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, NM: Full Professor, August 2006 – present; Associate Professor, August 2001 – August 2006; Assistant Professor, August 1995 – August 2001; full-time

Massachusetts Institute of Technology, Laboratory for Nuclear Science, Cambridge MA: Research Scientist, January 1994 – August 1995; Research Associate, January 1992 – December 1993; full-time

Indiana University Cyclotron Facility, Bloomington, IN: Research Associate, August 1988 – December 1991; full-time

University of Pennsylvania, Philadelphia, PA: Research Associate, August 1987 – August 1988; full-time

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Member of the American Physical Society (APS)

Member of the Four-Corners Section of the APS

Member of the Division of Nuclear Physics of the APS

Member of the Topical Group: Hadronic Physics

Member of the American Association of Physics Teachers

Honors and Awards:

Gardiner Professorship, New Mexico State University (NMSU), Department of Physics, 2007-2009

Service Activities (selected):

Physics Department Tenure and Promotion Committee (chair)

Engineering Physics Committee

Advisor for NMSU Physics majors

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

Important Publications (in past five years, selected):

Transverse Beam Spin Asymmetries at Backward Angles in Elastic Electron-Proton and Quasielastic Electron-Deuteron Scattering, D. Androić et al. (G0 Collaboration), Phys. Rev. Lett. 107, 022501 (2011)

Cross Section and Parity-Violating Spin Asymmetries of W^\pm Boson Production in Polarized $p+p$ Collisions at $\sqrt{s}=500$ GeV, A. Adare et al. (PHENIX Collaboration), Phys. Rev. Lett. 106, 062001 (2011)

J/ψ suppression at forward rapidity in Au + Au collisions at $\sqrt{s_{NN}}=200$ GeV, A. Adare et al. (PHENIX Collaboration), Phys. Rev. C 84, 054912 (2011)

Strange Quark Contributions to Parity-Violating Asymmetries in the Backward Angle G0 Electron Scattering Experiment, D. Androić et al. (G0 Collaboration), Phys. Rev. Lett. 104, 012001 (2010)

Gluon-Spin Contribution to the Proton Spin from the Double-Helicity Asymmetry in Inclusive π^0 Production in Polarized $p+p$ Collisions at $\sqrt{s}=200$ GeV, A. Adare et al. (PHENIX Collaboration), Phys. Rev. Lett. 103, 012003 (2009)

Strange quark contribution to the vector and axial form factors of the nucleon: Combined analysis of data from the G0, HAPPEX, and Brookhaven E734 experiments, Stephen F. Pate, David W. McKee, and Vassili Papavassiliou, Phys. Rev. C 78, 015207 (2008)

Professional Development Activity (most recent):

Presenter of Contributed Talk, Eleventh Conference on the Intersections of Particle and Nuclear Physics, May 29 to June 3, 2012, St. Petersburg, FL

Name:

Christine A. Pennise

Education:

M.S. Electrical Engineering, 1992. *Johns Hopkins University*, Baltimore, MD

B.S. Physics, 1984. *Drexel University*, Philadelphia, PA

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, NM: Coordinator /Academic Support, September 2001 – present; full-time

Coastal Carolina University, Department of Physics and Chemistry, Conaway, SC: Instructor, August 1998 – February 2000; part-time.

Non- Academic Experience:

AVX Corporation, Myrtle Beach, SC: Electrical Engineer, January 1994 – September 1997 and February 2000 – April 2001(various positions), full-time

US Army Research Laboratory, Adelphi, MD: Electrical Engineer, September 1985 - December 1993(various positions), full-time.

RCA, Inc., Moorestown, NJ: Electrical Engineer, July 1984 - August 1985, full-time.

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Member of the American Physical Society (APS)

Member of the American Association of Physics Teachers (AAPT)

Honors and Awards:

Member of Sigma Pi Sigma (Physics Honor Society), inducted 1983 (Drexel University, Philadelphia, PA).

Physics Undergraduate Research Award, 1983 and 1984 (Drexel University, Philadelphia, PA)

National Freshman Honor Society, inducted 1980 (Drexel University, Philadelphia, PA)

Service Activities (selected):

Member of Health and Safety Committee, New Mexico State University, since September 2001.

Chair of Departmental Equipment and Computer Committees, since August 2006.

Important Publications:

None

Professional Development Activity (most recent):

American Physical Society March Meeting, Boston, MA, February 27 – March 2, 2012.

Name:

Jacob Urquidi

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

Name:

Igor Vasiliev

Education:

Ph.D. Materials Science, 2000. *University of Minnesota*, Minneapolis, Minnesota, USA

M.S. Chemical Physics, 1993. *Moscow Institute of Physics and Technology*, Moscow, Russia

B.S. Chemical Physics, 1991. *Moscow Institute of Physics and Technology*, Moscow, Russia

Academic Experience:

New Mexico State University, Department of Physics, Las Cruces, New Mexico: Associate Professor, 2008 – Present.

New Mexico State University, Department of Physics, Las Cruces, New Mexico: Assistant Professor, 2002 – 2008.

University of Illinois at Urbana-Champaign, Department of Physics, Urbana, Illinois: Postdoctoral Research Associate, 2000 – 2002.

Non-Academic Experience:

Institute of Chemical Physics, Chernogolovka, Russia: Junior Staff Member, 1993 – 1994.

Certification or Professional Registrations:

None

Current Membership in Professional Organizations:

Member of the American Physical Society (APS)

Member of the Division of Materials Physics of the APS

Honors and Awards:

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

Silver Medal Award, Materials Research Society, 1999.

Award for the Best Research Project, Institute of Chemical Physics, Russia, 1993.

Service Activities (selected):

Physics Department Curriculum Committee Chair

Physics Department Computer Committee Chair

Physics Department Colloquium Committee Chair

Engineering Physics Committee Member

Graduate Admissions Committee Member

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

Important Publications (in past five years, selected):

N. Al-Aqtash and I. Vasiliev, *Ab Initio Study of Boron- and Nitrogen-Doped Graphene and Carbon Nanotubes Functionalized with Carboxyl Groups*, J. Phys. Chem. C **115**, 18500–18510 (2011).

I. Vasiliev and J. R. Chelikowsky, *Real-Space Calculations of Atomic and Molecular Polarizabilities Using Asymptotically Correct Exchange-Correlation Potentials*, Phys. Rev. A **82**, 012502 (2010).

I. Vasiliev, M. Lopez del Puerto, M. Jain, A. Lugo-Solis, and J. R. Chelikowsky, *Application of Time-Dependent Density-Functional Theory to Molecules and Nanostructures*, J. Mol. Struct.: THEOCHEM **914**, 115–129 (2009).

N. Al-Aqtash and I. Vasiliev, *Ab Initio Study of Carboxylated Graphene*, J. Phys. Chem. C **113**, 12970–12975 (2009).

B. Medasani, Y. H. Park, and I. Vasiliev, *Theoretical Study of the Surface Energy, Stress, and Lattice Contraction of Silver Nanoparticles*, Phys. Rev. B **75**, 235436 (2007).

A. Lugo-Solis and I. Vasiliev, *Ab Initio Study of K Adsorption on Graphene and Carbon Nanotubes: Role of Long-Range Ionic Forces*, Phys. Rev. B **76**, 235431 (2007).

Professional Development Activity (most recent):

Participant, March Meeting of the American Physical Society, Boston, Massachusetts, February 27 – March 2, 2012.

Name:

Stefan Zollner

Education:

Ph.D. Physics, 1991. *Universität Stuttgart*, Germany

M.S. Physics, 1987. *Universität Stuttgart*, Germany

B.S. Physics, 1984. *Universität Regensburg*, Germany

Academic Experience:

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:

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.

Certification 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

Member of the American Vacuum Society

Senior Member of the IEEE, Electron Devices Society

Member of the German Physical Society (DPG)

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 Physics Society

Service Activities (selected):

Academic Department Head, Department of Physics, New Mexico State University, since July 2010.

Important Publications (selected):

V.R. d'Costa, C.S. Cook, J. Menendez, J. Tolle, J. Kouvetakis, and S. Zollner, *Transferability of optical bowing parameters between binary and ternary group-IV alloys*, Solid State Commun. **138**, 309 (2006).

J. Taraci, S. Zollner, M.R. McCartney, J. Menendez, M.A. Santana-Aranda, D.J. Smith, A. Haaland, A.V. Tutukin, G. Gunderson, G. Wolf, and J. Kouvetakis, *Synthesis of silicon-based infrared semiconductors in the Ge-Sn system using molecular chemistry methods*, J. Am. Chem. Soc. **123**, 10980-10987 (2001).

M. Bauer, J. Taraci, J. Tolle, A.V.G. Chizmeshya, S. Zollner, D.J. Smith, J. Menendez, C. Hu, and J. Kouvetakis, *Ge-Sn semiconductors for band-gap and lattice engineering*, Appl. Phys. Lett. **81**, 2992-2994 (2002).

C.S. Cook, S. Zollner, M.R. Bauer, P. Aella, J. Kouvetakis, and J. Menendez, *Optical constants and interband transitions of $Ge_{1-x}Sn_x$ alloys ($x < 0.2$) grown on Si by UHV-CVD*, Thin Solid Films **455-456**, 217-221 (2004).

M.R. Bauer, C.S. Cook, P. Aella, J. Tolle, J. Kouvetakis, P.A. Crozier, A.V.G. Chizmeshya, D.J. Smith, and S. Zollner, *SnGe superstructure materials for Si-based optoelectronics*, Appl. Phys. Lett. **83**, 3489 (2003).

Professional Development Activity (most recent):

Biennial Physics Department Chairs Conference, American Center for Physics, College Park, MD, June 8-10, 2012.