

Appendix I
Section C. Faculty and Other Instructor's CV's

The Physics, EE and ME Departments use a slightly different format to present their CV's. All CV's contain the information required by ABET.

Vitae for Robert Armstrong, Professor, Spring 2006

Degrees:

B.S., Physics, University of Minnesota, 1956
M.S., Physics, University of Minnesota, 1959
Ph.D., Physics, Johns Hopkins University, 1970

Employment History:

Prior to NMSU

Johns Hopkins University Radiation Laboratory, 1963-1969
TRW, Incorporated, 1969-1970

NMSU Employment

Assistant Professor of Physics, 1970-1976
Associate Professor of Physics, 1976-1983
Professor of Physics, 1983-Present

Principal Publications (last five years):

“Greatly enhanced surface-enhanced Raman scattering from biological molecules”, submitted to Journal of Applied Spectroscopy (with J. Montoya and G. Smith).

“Quantum size effect in two-photon excited luminescence from silver nanoparticles”, Physical Review B69, 035319 (2004) (with V.P. Drachev et al).

“Low threshold lasing and broadband, multiphoton-excited emission from metal nanoparticle adsorbate complexes in a microcavity”, Journal of Modern Optics 40, 645 (2002) (with V.P. Drachev et al).

“Fractals in microcavities: giant, coupled, multiplicative enhancement of optical responses”, Physical Review Letters 82, 4811(1999) (with W. Kim et al).

“Nonlinear optical phenomena in nanostructured optical materials”, Journal of Nonlinear Optical Physics and Materials 7, 131 (1998) (with V. Shalaev et al).

Patents (last five years):

U. S. Patent 6608716, 2004, and U. S. Patent 67816900, 2005, by R. L. Armstrong et al, both dealing with fabrication and optical properties of fractal-nanoparticle /microcavity composites

Professional Societies and Memberships:

Fellow, Optical Society of America Fellow,
Sigma Xi
National Scientific Research Society
Honorary Member, National Honor Society

Institutional and Professional Service (last five years):*Departmental Service*

Tenure and Promotion Committee (Member)

Departmental Graduate Examination Committees (Member and Chair)

Faculty Search Committees (Member and Chair)

Laboratory Committee

College Service

College of Engineering Outcomes Assessment Committee (outside member)

University Service

Faculty Senate

Westhafer Award Selection Committee

Regents Professor Selection Committee

Professional Service

National Defense Science and Engineering Graduate (NDSEG) Fellowship Committee

Program and Organizing Committees: Nonlinear Optics Conference (Moscow), Atmospheric Propagation Conference (Tomsk), International Laser Conference (Tucson), International Quantum Electronics Conference (Santa Barbara)

Proposal and Manuscript Reviews (about 5/year).

Professional Development Activities:

Participated in NASA-funded program to improve teaching (and learning) in beginning physics classes.

Attended state-wide conference on minority participation in science with emphasis on graduate training.

Collaborations: active collaboration with NMSU Biology professor on optical detection of pathogens; collaboration with colleague from US Army Research Laboratory on detection of atmospheric pollutants

Honors and Awards:

Appointed Regents Professor of Physics, 2003, *in recognition of overall accomplishments in teaching and research.*

Appointed Gardiner Professor of Physics, 1999-2001, *in recognition of overall faculty accomplishments in teaching and research.*

Vitae for Donald L. Birx, Professor, Spring 2006

Degrees:

- Ph.D. Electrical Engineering, 1990. *University of Dayton*, Dayton, Ohio.
- M.B.A. Finance, 1980. *Miami University*, Oxford, Ohio.
- M.S. (Bio) Physics, 1976. *Miami University*, Oxford, Ohio.
- B.S. Engineering Physics, 1974. *University of California-Berkeley*, Berkeley, California, (Honor S).
- Electrical Eng. & Computer Science, 1972. Johns Hopkins University, Baltimore, Maryland.

Employment History:

- New Mexico State University*, Las Cruces, New Mexico: 1996 to Present.
- Interim Vice Provost/President for Research, August 2004 – August 2006
- Director, Physical Science Laboratory (PSL), July 1996 – October 2005

Principal Publications (last five years):

- D. Birx, and M. Coombs, “Information Operations – Decision Related Structures”, 2nd Annual Classified Advanced Technology Update, Naval Post Graduate School, Monterey California, 2000.
- D. Birx, R. Bernstein, M. Coombs, “The Metaphysics of Freewill and Determinism in an Agent modeling Environment” Presented at the Conference of Agent Modeling and Cross Disciplinary Discourse, 2002.
- Birx, D., “Cross Disciplinary Discourse, Logic, and Simulation: A Critical Dialog for the New Millennium”. The *Journal of Models and Modeling*, Vol. 1, Number 1, pp. 3-6, 2003.
- D. Birx; M. Coombs; M. Weaver; “Agent-Based Modeling of Multi-Resolutional Factors in Terrorist Recruitment”, *International Institute of Informatics and Systemics Proceedings*, Vol. XVII, pp.80-85, 2004.
- D. Birx; Lefebvre, V.; Schmidt, S.; “Structure-Determined and Emergent Procedures of Decision Making”, *International Institute of Informatics and Systemics Proceedings*, Vol. XVII, pp. 92-94, 2004.

Professional Societies and Memberships:

- Sigma Xi
- American Society for Engineering Education (ASEE)
- Institute of Electrical and Electronics Engineers, Inc., (IEEE)
- Association of Old Crows, (AOC)

Institutional Societies and Memberships:

New Mexico Research Council
Council of Research Centers (CORC), Chair
University Research Council (URC)
Arrowhead Center Board of Directors
PSI Board of Directors, President
LANL Executive Managing Committee

Professional Development Activities (last five years):

State of New Mexico Mediation Workshop - Employee Conflict
Businesses for Change International (BFCI) Training for Managers

Honors and Awards (last five years):

IEEE Appreciation Award (2004)
New Mexico "Top 25" Tech leader (2002)
Davidson Memorial Award (2002), Distinguished Service Award (2001)
Year 2000 President's Award for *Vision, wisdom and leadership in guiding PSL through changing, challenging times*

Vitae for Matthias Burkardt, Professor, Spring 2006

Degrees:

Habilitation, 1995. Physics, University of Erlangen-Nürnberg, Germany.

Ph.D. Theoretical Nuclear/Particle Physics, 1989. University of Erlangen-Nürnberg, Germany.

Diploma, Theoretical Nuclear/Particle Physics, 1987. University of Erlangen-Nürnberg, Germany.

Employment History:

August 2004 – Present: Professor, Department of Physics, New Mexico State University, Las Cruces, New Mexico.

August 1999 – July 2004: Associate Professor, Department of Physics, New Mexico State University, Las Cruces, New Mexico.

August 1995 – July 1999: Assistant Professor, Department of Physics, New Mexico State University, Las Cruces, New Mexico.

Principal Publications (last five years):

M. Burkardt, Quark Correlations and Single-Spin Asymmetries, Phys. Rev. D 69, 057501(2004).

M. Burkardt, Impact Parameter Space Interpretation for Generalized Parton Distributions, Int. J. Mod. Phys. A 18, 173-208(2003).

M. Burkardt, The Relativistic Bound State Problem in QCD: Transverse Lattice Methods, Prog. Part. Nucl. Phys. 48, 317-362(2002).

M. Burkardt, Impact Parameter Dependent Parton Distributions and Off-Forward Parton Distributions for $\zeta \rightarrow 0$, Phys. Rev. D 62, 071503(2000)

Patents (last five years):

None.

Professional Societies and Memberships:

American Physical Society

Institutional and Professional Service (last five years):

Chair of the graduate program, Department of Physics, NMSU (since 2002)

Professional Development Activities (last five years):

Invited talk at APS-Division of Nuclear Theory meeting, Maui, Sep 2005

Invited talk, workshop on Transverse Polarization Phenomena in Hard Processes, Como, Italy, Sep 2005
Invited talk, workshop on Hadron Physics, St. Andrews, Scotland, Sep 2004

Invited talk, workshop on electromagnetic interactions, Trento, Jun 2004.

Invited talk, workshop on QCD Down Under, Barossa Valley, Australia, Mar 2004

Invited talk, APS-DNP-meeting (pre-workshop), Chicago, October 2004

Visiting Professor at TU Munich, Germany, Aug-Dec 2001

Visiting Professor at University of Melbourne and University of Adelaide, Jan-Mar 2002

Visiting Professor at University of Maryland, Apr-May 2002

Honors and Awards (last five years):

APS-fellow (2005)

Gardiner Professor of Physics at NMSU (2001-2003)

JSPS Invitation Fellow (2001)

JSPS Invitation Fellow (1999)

von Lynen Fellow of the Alexander von Humboldt Foundation (1990-1992)

Vitae for Michaela Burkardt, College Assistant Professor, Spring 2006

Degrees:

Ph.D. Physics, 1992. *University of Erlangen-Nürnberg*, Erlangen, Germany.

Diplom Physics, 1987. *University of Erlangen-Nürnberg*, Erlangen, Germany.

Employment History:

New Mexico State University, Department of Physics, Las Cruces, NM.: College Assistant Professor, August 2002 – present.

Northeastern University, Physics Department, Boston, MA.: Clinical Lecturer, August 1992 - March, 1993.

Principal Publications (last five years):

None.

Patents (last five years):

None.

Professional Societies and Memberships:

None.

Institutional and Professional Service (last five years):

Reviewer Textbook Proposal, Wiley (2006)

Professional Development Activities (last five years):

Teaching Academy, New Mexico State University, 2003-current; (100+ Training hours);
currently Distinguished Member

Honors and Awards (last five years):

None.

Vitae for Seamus Curran, Assistant Professor, Spring 2006

Degrees:

Ph.D. Physics, 1995. *Trinity College Dublin, Dublin 2, Ireland*

B.A. Material Science, 1992. *Trinity College Dublin, Dublin 2, Ireland*

Academic Employment History:

New Mexico State University, Department of Physics, Las Cruces, NM.: Assistant Professor, June, 2003 - Present

Rensselaer, NSF Nanoscience Laboratory, Department of Material Science, Troy New York, USA, Visiting Scholar, June 2002 – May 2003

Trinity College Dublin, Lecturer in Material Science, 1999-2000, Dublin 2, Ireland

Trinity College Dublin, Dublin 2, Ireland and *CNRS*, Nantes, France, (Joint Position) NAMITECH Research Fellow (June 1997 – September 1999)

Max Planck Institute, Stuttgart, Germany, Research Postdoc, May 1995 – May 1997

Principal Publications (last five years):

Ronald S. Oremland, Mitchell J. Herbel, Jodi Switzer Blum, Sean Langley, Terry J. Beveridge, Pulickel M. Ajayan, Thomas Sutto, Amanda V. Ellis, and Seamus Curran, ‘Structural and Spectral Features of Selenium Nanospheres Produced by Se-Respiring Bacteria’, *Applied and Environmental Microbiology.*, 70, Vol. 52, (2004)

S. A. Curran, A. V. Ellis , A. Vijayaraghavan , and P. M. Ajayan, Functionalization of carbon nanotubes using phenosafranin, *J. Chem. Phys.* 120, 4886 (2004)

Nirupama Chakrapani , Seamus Curran , Bingqing Wei , Pulickel M. Ajayan , Alvaro Carrillo , and Ravi S. Kane, Spectral fingerprinting of structural defects in plasma-treated carbon nanotubes , *J. Mater. Res.* 18, 2515 (2003)

J. Coleman, A. Dalton, S. Curran, A. Rubio, A. Davey, A. Drury, B. McCarthy, B. Lahr, P. Ajayan, S. Roth, R. Barklie, and W. Blau. Phase Separation of Carbon Nanotubes and Turbostratic Graphite using a Functional Organic Polymer, *Adv. Mat.* 12, 213-216, (2000)

Patents (last five years):

“Nanotube-Organic Photoelectric Conversion Devices and Methods of making Same”, Seamus Curran, Chang Y. Ryu, Amanda Ellis and Pulickel M. Ajayan (2003) PCT/USO3/38952

“Nanotube Based Non-Linear Optics and Methods of Making Same”, Seamus Curran, Pulickel M. Ajayan, Amanda Ellis, and Ganapathirama Ramanath (2003) PCT/ USO3/38748

“Nanotube Polymer Composite and and Methods of Making Same”, Pulickel M. Ajayan, Chang Y. Ryu, Nirupama Chkrapani, Gunaranian Viswanathan, Seamus Curran (2003) PCT/USO3/36844

“Embedded Nanotube Array Sensor and Method of making a Nanotube Polymer Composite”, Seamus Curran, Paul Stryjek, Emer Lahiffe and Pulickel M. Ajayan (2003) PCT/USO3/38746

Professional Societies and Memberships:

MANCEF: 2004 – Present

Member of the Materials Research Society (since 2005)

Institutional and Professional Service (last five years):

Reviewer of articles submitted to the Journal of Chemical Materials (2004 – present)

Professional Development Activities (last five years):

EPSCoR New Mexico Teachers Workshop for Nanotechnology at NMSU, NSF Program, Nov, 2003.

Honors and Awards (last five years):

New Mexico Tech All-Star Award for the State of New Mexico for *Work done in the field of Microtechnology and Nanotechnology* (2005).

Vitae for Michael D. DeAntonio, College Assistant Professor, Spring 2006

Degrees:

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

M.S. Physics, 1991. *New Mexico State University*, Las Cruces, New Mexico.

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

Employment History:

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

Army Research Laboratory, White Sands Missile Range, NM: Scientist/Engineer, 1998-2001.

Delphi Automotive, El Paso, TX: Applications Engineer, 1996-1998.

Texas A&M University, College Station, TX: Visiting Assistant Professor, 1995-1996.

Army Research Laboratory, White Sands Missile Range, NM: Post-Doctorate Researcher, 1993-1995.

GTE Communication Systems, Albuquerque, NM: Member of Technical Staff, 1985-1988.

Principal Publications (last five years):

M. D. DeAntonio, Animation: The Missing Link between Demonstration and Abstract Representation, *Sun Conference* 2006.

Michael DeAntonio, Bharat Kumar Medasani, Alejandro Lugo-Solis, Luis Martin Sandoval, Karunakar Kothapalli and Ujwal Kanth Chinthala, The Use of Team-Based Learning in an Experimental Physics Lab, *Science, Engineering, & Technology Education Conference*, 2006.

M. D. DeAntonio, Application of Just-in-Time Teaching to a Large Physics Class, *Science, Engineering, & Technology Education Conference*, 2005.

M. D. DeAntonio, Teaching Putting Power in Your Lecture with PowerPoint® Software, *New Mexico State University Teaching Academy Workshop*, 2005.

M. D. DeAntonio, Teaching with PowerPoint®: Is It Really an Oxymoron?, *New Mexico State University Teaching Academy Workshop*, 2004.

M. D. DeAntonio, Classroom, homework & beyond-effective use of multiple tools in the teaching environment, *Science, Engineering, & Technology Education Conference*, 2004.

R. Chavarria, M. D. DeAntonio, Quantifying Water Stress in Grass Using Polarimetry, *APS Four Corners Meeting*, 2004.

M. D. DeAntonio, R. Hebron, J. Montgomery, Construction and Testing of a Polarization Chile Sorter, *Chile Engineering Task Force Report (peer-reviewed)*, 2004.

Patents (last five years):

None.

Professional Societies and Memberships:

American Physical Society, 2005 - present

American Association of Physics Teachers, 2005 – present

American Society of Engineering Educators, 2005 - present

Institutional and Professional Service (last five years):

Member of the ABET committee for Engineering Physics

Recruiter for the department of physics

Create research opportunities for undergraduates in the areas of Agriculture and Environment.

Professional Development Activities (last five years):

Distinguished Member of the New Mexico State University Teaching Academy, 2005 and 2006.

Honors and Awards (last five years):

none

Curriculum Vitae for Peter F. de Châtel, Visiting Professor at NMSU, Fall 2005

Degrees:

- 1963 Diploma in Physics, Eötvös University, Budapest
- 1966 M.Sc. in Metallurgical Engineering, University of Illinois, Urbana, IL, USA
- 1968 Ph.D. in Physics, Eötvös University, Budapest

Employment History:

- 2001- present Part-time College Professor, Department of Physics, New Mexico State University
- 2002-present Research Consultant for Atomiki Corp., Budapest, Hungary
- 1980-2001 Professor of Physics at the University of Amsterdam
- 1983-2001 Publishing Editor with Elsevier Science B.V., Amsterdam
- 1974-1980 Reader at the University of Amsterdam
- 1975 (on leave) Visiting Professor at the Catholic University of Leuven, Belgium
- 1979-1980 (on leave) Visiting Scientist at IBM Thomas J. Watson Research Center, Yorktown Heights, NY, USA
- 1968-1974 Research Associate at the University of Amsterdam, Netherlands
- 1971-1972 (on leave) Research Assistant at Cavendish Laboratory, University of Cambridge, UK
- 1973-1974 (part-time) Research Consultant at the Kamerlingh Onnes Laboratory, Leiden, Netherlands
- 1963-1968 Teaching Assistant at Eötvös University, Budapest
- 1965-1966 (on leave) Research Assistant at University of Illinois

Principal Publications (last five years):

Saturation effect in the optical response of Ag-nanoparticle fractal aggregates, A.K. Buin, P.F. de Châtel, V.P. Drachev and V.M. Shalaev, Phys. Rev. B 73 (2006) 035438

Magnetic Field effects in $Uni_{1/3}Ru_{2/3}Al$, A.M. Alsmadi, S. El-Khatib, P.F. de Châtel, H. Nakotte, A.H. Lacerda, M.H. Jung, A.V. Andreev, F. Honda and V. Sechovský, J. Appl. Phys. 97 (2005) 10A919

Evidence for the Griffith phase in pure and Y-, Ca- and Cr-doped $LaSr_2Mn_2O_7$ manganites, H.M. Ibrahim, O.A. Yassin, P.F. de Châtel and S.N. Bhatia, Solid State Comm. 134 (2005) 695

Non-magnetic defect in the two-dimensional $s = 1/2$ Heisenberg antiferromagnet with honeycomb lattice, P.F. de Châtel, J. Chadwick, A.M. Mulders and T.J. Hicks, Physica B 344 (2004) 117

Probability and spin densities of rare-earth tri-positive ions, K. Ayuel and P.F. de Châtel, J. Magn. Mater. 277 (2004) 43

Toroid dipole moments and hybridization in uranium compounds, P.F. de Châtel and A.K. Buin, Physica B 319 (2002) 193-198

Canted ferromagnetic structure of UNiGe in high magnetic fields, K. Prokes, P.F. de Châtel, E. Brück, F.R. de Boer, K. Ayuel, H. Nakotte and V. Sechovský, Phys. Rev. B 65 (2002) 144429-1/6

Charge, current and spin densities of a two-electron system in Russell-Saunders spin-orbit coupled eigenstates, K. Ayuel, P.F. de Châtel and Salah Amani, Physica B 315 (2002) 29-37

Heavy fermions: recent developments and open questions, P.F. de Châtel, Phil. Mag. B 81 (2001) 1389-1395

Identification of a disordered magnetic phase in pure nanocrystalline iron, S. Mészáros, K. Vad, J. Hakl, L. Kerekes, P. Gurin, M. Kis-Varga, S. Szabó, D.L. Beke and P.F. de Châtel, Phil. Mag B 81 (2001) 1597-1602

Patents (last five years):

None.

Professional Societies and Memberships:

American Physical Society.

Institutional and Professional Service (last five years):

None.

Professional Development Activities (last five years):

Meeting of the Australian Physical Society, January 2001

Meeting of the Four Corners Section of the APS, Las Cruces NM, November 2001

Meeting of the American Physical Society, Indianapolis IN, March 2002

Meeting of the Four Corners Section of the APS, Albuquerque NM, October 2004

Honors and Awards (last five years):

None.

Vitae for Michael Engelhardt, Assistant Professor, Spring 2006

Degrees:

Habilitation, Theoretical Physics, 2001. Tübingen University, Tübingen, Germany.

Ph.D., Physics, 1994. Erlangen University, Erlangen, Germany.

Diploma, Physics, 1989. Erlangen University, Erlangen, Germany.

Employment History:

March 2004 – Present: Assistant Professor, Department of Physics, New Mexico State University, Las Cruces, New Mexico.

May 2002 – February 2004: IT Consultant, Science & Computing A.G.,

2002-2004: Privatdozent (Lecturer) in Theoretical Physics, Tübingen University, Tübingen, Germany.

Principal Publications (last five years):

M. Engelhardt, Center vortex model for the infrared sector of SU(3) Yang-Mills theory – Baryonic potential, Phys. Rev. D 70, 074004(2004).

F. Bruckmann and M. Engelhardt, Writhe of center vortices and topological charge: An explicit example, Phys. Rev. D 68, 105011(2003).

J. D. Lange, M. Engelhardt, and H. Reinhardt, Energy density of vortices in the Schrödinger picture, Phys. Rev. D 68, 025001(2003).

M. Engelhardt, Center vortex model for the infrared sector of Yang-Mills theory – Quenched Dirac spectrum and chiral condensate, Nucl. Phys. B638, 81(2002).

M. Engelhardt, On the spectrum of QCD₁₊₁ with large numbers of flavors N_F and colors N_C near $N_F/N_C = 0$, Phys. Rev. D 64, 065004(2001).

Patents (last five years):

None.

Professional Societies and Memberships:

None.

Institutional and Professional Service (last five years):

Service on Department Committees: Computer Committee, Web Committee, and Comprehensive Exam Committee (2004/2005 Academic Year).

Service on International Advisory Committee for the XXIII International Symposium on Lattice Field Theory (LATTICE 2005).

Referee for Physical Review Letters, Physical Review D, and Nuclear Physics B.

Referee for a post-doctoral fellowship application to the Humboldt foundation (2004).

Professional Development Activities (last five years):

Participation in the XXII International Symposium on Lattice Field Theory (LATTICE 2004), Batavia, Illinois, June 21-26, 2004; presentation of an invited plenary review talk on Generation of confinement and other non-perturbative effects by infrared gluonic degrees of freedom, to appear in the proceedings.

Participation in the NATO Advanced Research Workshop on Confinement, Topology, and other Non-perturbative Aspects of QCD, Stará Lesná, Slovakia, January 21-27, 2002; presentation of an invited talk on Center vortex model for non-perturbative strong interaction physics, published in the proceedings, Eds.: J. Greensite and S. Olejník; Kluwer, Dordrecht 2002.

Participation in the XIX International Symposium on Lattice Field Theory (LATTICE 2001), Berlin, Germany, August 19-24, 2001; presentation of a talk on Center vortex model for the infrared sector of Yang-Mills theory, published in Nucl. Phys. Proc. Suppl. 106, 655(2002).

Participation in the Eleventh Workshop on Lattice Field Theory (DUBLAT01), Dublin, Ireland, June 21-23, 2001; presentation of a talk on Center vortex model for the infrared sector of Yang-Mills theory.

Participation in the Sixth Workshop on Non-perturbative Quantum Chromodynamics, Paris, France, June 5-9, 2001; presentation of a talk on Center vortex model for the infrared sector of Yang-Mills theory, published in the proceedings, Eds.: H. M. Fried,

Y. Gabellini, and B. Müller; World Scientific, Singapore 2002.

Honors and Awards (last five years):

Habilitation fellowship, Deutsche Forschungsgemeinschaft,(1999-2001).

Vitae for William R. Gibbs, Professor, Spring 2006

Degrees:

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

Employment History:

- 1993 – Present: Professor, Department of Physics, New Mexico State University, Las Cruces, New Mexico.
- 1991 – 1993: College Professor, Department of Physics, New Mexico State University, Las Cruces, New Mexico.
- 1962 – 1990: Staff Member, Los Alamos Scientific (National) Laboratory, (Group Leader 1973-1975 and 1988-1990)
- 1961 – 1962: Research Associate, University of Neuchâtel, Switzerland.

Principal Publications (last 5 years):

- J.-P. Dedonder and W. R. Gibbs, “Pion Charge Exchange on Deuterium”, 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)
- H.C. Wu and W.R. Gibbs, “Double charge exchange and configuration mixing”, Phys. Rev. C, 68, 054610 (2003)
- W.R. Gibbs, “The contribution of the light quark condensate to the πN sigma term”, Mod. Phys. Lett. A, 18, p1171-1177(2003)
- M. Alqadi and W. R. Gibbs, “Pion double charge exchange on He-4” Phys. Rev. C, v.65, no.4, p.044609 (2002).
- H.C. Wu and W.R. Gibbs, “Pion Elastic Scattering and Double Charge Exchange on Heavy Nuclei in the Generalized Seniority Model”, Phys. Rev. C62,044614(2000)
- W.R. Gibbs, S.A. Coon, H.K. Han and B.F. Gibson, “ Λ -Neutron Scattering Lengths from Radiative K^- Capture”, Phys. Rev. C61,064003(2000)

Patents (last five years):

None

Professional Societies and Memberships:

American Physical Society (Fellow)

Institutional and Professional Service (last five years):

Chair, Local Organization Committee, Annual Four Corners Section Meeting of the American Physical Society, Las Cruces, NM, 2000.

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

Chairman of the comprehensive exam committee.

Professional Development Activities (last five years):

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

Attended and presented two talks at the MENU2001 conference, 26-31 July 2001, Washington D. C.

Honors and Awards (last five years):

None

Vitae for Thomas M. Hearn, Associate Professor, Spring 2006

Degrees:

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

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

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

High School, 1974. *Oakton High School*, Oakton, Virginia.

Employment History:

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

Cornell University, Institute for the Study of the Continents, Ithaca, NY. -Research Associate, Jan., 1989 - June, 1990; Postdoctoral Research Associate, Jan, 1985 - Dec, 1988.

Principal Publications (last five years):

Hearn, T., Wang Suyun, James F. Ni, Xu Zhonghuai, Yu Yanxiang, and Zhang Xiaodong, Uppermost mantle velocities beneath China and surrounding regions, *Journal of Geophysical Research*, , 204, B11301, 2004.

Wang, SY, T. Hearn, Z.H. Xu, J. Ni J, Y.X. Yu, and X.D. Zhang, Velocity structure of uppermost mantle beneath China continent from Pn tomography, *Science in China Series D* English version, 45, 143-150, 2002.

Pei, S.P., Z.H. Xu, S.Y. Wang, T.M. Hearn, Pn velocity tomography of Xinjiang, China and adjacent region, *Chinese Journal of Geophysics-Chinese Edition*, 45, 218-225, 2002.

Zhao, W., J. Mechie, L.D. Brown, J. Guo, S. Haines, T. Hearn, S.L. Klemperer, Y.S. Ma, R. Meissner, K.D. Nelson, J. Ni, P. Pananont, R. Rapine, A. Ross, J. Saul, Crustal structure of central Tibet as derived from INDEPTH wide-angle seismic data, *Geophys. J. Int.*, v. 145(#2) pp. 486-498 May 2001.

Wei-Chuang Huang, James F. Ni, Frederik Tilmann, Doug Nelson, Jingru Guo, Wenjin Zhao, James Mechie, Rainer Kind, Joachim Saul, Richard Rapine, and Thomas M. Hearn, Seismic polarization anisotropy beneath the central Tibetan Plateau, *J. Geophys. Res.*, 105, 27979-27989, 2000.

Hearn, T., Uppermost mantle velocities and anisotropy beneath Europe, *J. Geophys. Res.*, 104 (#B7), 15,123-15,139, July 10, 1999.

Patents (last five years):

None.

Professional Societies and Memberships:

American Geophysical Union, 1978 to present.

Seismological Society of America, 1978 to present.

Society of Exploration Geophysicists, 1978 to present.

Institutional and Professional Service (last five years):

NMSU College of Arts and Sciences Committee for Improvement of Instruction and Student Appeals (2001-2003)

Undergraduate Advisor for Engineering Physics (2000 - present)

Reviewer of numerous articles and proposals.

Principal Investigator on projects funded by National Science Foundation and Department of Energy.

Member, Incorporated Research Institutions for Seismology (IRIS), a consortium of universities providing facilities for seismological research.

Professional Development Activities (last five years):

Numerous reports at conferences and seminars.

Honors and Awards (last five years):

None.

Vitae for Stephen E. Kanim, Assistant Professor, Spring 2006

Degrees:

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

Secondary Education Teaching Credential – Physical Science, *San Jose State University*, San Jose, California, 1984.

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

Employment History:

New Mexico State University, Department of Physics, Las Cruces, NM: Associate Professor, August 2006 - present. Assistant Professor, August, 2000 – July 2006;

College Assistant Professor, August, 1998 - July, 2000.

Las Cruces High School, Las Cruces, NM. Physics Teacher, August 1987 – May 1992.

Applied Micro Technology, Campbell, CA. Engineer, June 1985, July 1987.

Avantek Incorporated, Santa Clara, CA. Engineer, July 1981, December 1982

Principal Publications (last five years):

“Factors influencing the algebra ‘reversal’ problem,” E. Cohen, S.E. Kanim, *American Journal of Physics* 73 (11), 1072-1078, 2005.

“Student use of vectors in introductory mechanics,” Sergio Flores, Stephen Kanim, Christian Kautz, *American Journal of Physics* 72 (4) 460-468, 2004.

“Content examinations for pre-service physics teachers - A failing grade,” Stephen Kanim and Michael Loverude, submitted to *The Physics Teacher*..

“Magnetic field viewing cards,” Stephen Kanim and John Thompson, accepted for publication in *The Physics Teacher*.

“Connecting concepts to problem solving,” Stephen Kanim, *Proceedings of the 2001 Physics Education Research Conference: Research at the Interface*, 2001.

“Connecting concepts about current to quantitative circuit problems,” Stephen Kanim, *Proc. of the 2001 Physics Education Research Conference: Research at the Interface*, 2001.

Patents (last five years):

None.

Professional Societies and Memberships:

American Physical Society, 1999 - present

American Association of Physics Teachers, 1994 -present .

Institutional and Professional Service (last five years):

New Mexico Commission on Higher Education Articulation Task Force, panel member, (2004 – present).

NMSU Curriculum and Educational Policies Committee (2004 - present).

Reviewer of articles submitted to the American Journal of Physics (2003 – present).

Reviewer of articles submitted to the American Association of Physics Teachers
Physics Education Research Conference Proceedings (2001 – present).

NMSU GK-12 program, Faculty mentor, (2002 – present).

NMSU Advance program, Faculty development committee, member (2003 - present).

NMSU General Education Task Force (Fall 2003 – Spring 2005)

Society for Physics Students, Zone Councilor, New Mexico and Arizona (Zone 16) (2004 – present).

American Association of Physics Teachers, Southwest section, secretary-treasurer (2003 – present).

Panel member, NSF, Washington DC, CCLI program (2005), STEM-TP program (2002), CLT program (2002), LSC program (2000)

Professional Development Activities (last five years):

American Association of Physics Teachers, Electrostatics workshops at national meetings, (2002 – 2004).

Two-Year College Physics Faculty Development Workshops, Presenter, Miami FL, (February 2005), Joliet Illinois, (June 2004), Miami FL, (February 2003).

Honors and Awards (last five years):

Best paper award, “Using web-based reading assignments to analyze student understanding,” Stephen Kanim, 2002 NMSU Science, Engineering, & Technology Education Conference; <http://spacegrant.nmsu.edu/conference/2002/Papers/Kanim.pdf>.

Best paper award, “Research-based modifications to instruction in physics courses for engineers,” Stephen Kanim, 2001 NMSU Science, Engineering, & Technology Education Conference; http://spacegrant.nmsu.edu/conference/2001/Papers/S_Kanim.pdf.

Vitae for Boris Kiefer, Assistant Professor, Spring 2005

Degrees:

Ph.D. Geology, 2002. *University of Michigan, Ann Arbor, Michigan.*

M.S. Geology, 1998. *University of Michigan, Ann Arbor, Michigan.*

Diploma Physics, 1994. *Georg August Universität Göttingen, Germany.*

Employment History:

New Mexico State University, Department of Physics, Las Cruces, NM.: Assistant Professor, August, 2003 - present.

Princeton University: Department of Geosciences, Princeton, New Jersey: Postdoctoral Research Associate, June 2002 – July 2003.

Principal Publications (last five years):

Kiefer, B., S. R. Shieh, T. S. Duffy, and T. Sekine, Strength, elasticity, and equation of state of nanocrystalline cubic silicon nitride (γ -Si₃N₄) to 68 GPa, *Physical Review B* 72, art.no. 014102, 2005.

Kiefer, B., and T. S. Duffy, Finite-Element Simulations of the Laser-Heated Diamond Cell, *Journal of Applied Physics*, 97, 114902, 2005.

Wentzcovitch R. M., L. Stixrude, B. B. Karki, and B. Kiefer. Akimotoite to perovskite phase transition in MgSiO₃, *Geophysical Research Letters*, 31, L10611, 2004.

Kiefer, B., L. Stixrude and R. Wentzcovitch. Elasticity of (Mg,Fe)SiO₃ Perovskite at High Pressures. *Geophysical Research Letters*. 29(11). 1539-1539, 2002.

Patents (last five years):

None.

Professional Societies and Memberships:

American Physical Society, 2000 - present

Materials Research Society of America, 2002 – present.

American Association for the Advancement of Science, 2000 – present.

American Mineralogical Society of America, 1997 – present.

American Geophysical Union, 1996 – present.

Institutional and Professional Service (last five years):

Graduate Student Recruitment Committee in the Department of Physics at NMSU.

Co-organizer of the colloquium in the Department of Physics.

Reviewer of articles submitted to Nature, Geophysical Research Letters, Earth's and Planetary Science Letters.

Professional Development Activities (last five years):

Development of computational infrastructure at NMSU together with electrical and mechanical engineers (NSF-MRI grant awarded).

Integration of nanoscience and nanotechnology in the undergraduate curriculum at New Mexico State University; Teaching across academic boundaries (NSF-NUE proposal pending).

Honors and Awards (last five years):

None.

Vitae for Gary S. Kyle, Professor and Department Head, Spring 2006

Degrees:

Ph.D. Physics, 1979. *University of Minnesota*, Minneapolis, MN.

B.S. Physics, 1970. *Case - Western Reserve University*, Cleveland, OH.

Employment History:

New Mexico State University, Department of Physics, Las Cruces, NM – Department Head August 2000 – July 2006; Professor, August, 1994 – present; Associate Professor, August 1990 – July 1994; Assistant Professor, January 1995 – July 1990.

Swiss Institute for Nuclear Research, Villigen, Switzerland. Research Staff Scientist, October 1979 – October 1984.

Principal Publications (last five years):

S.S. Adler *et al.* (The PHENIX Collaboration), Double Helicity Asymmetry in Inclusive Mid-rapidity π^0 Production for Polarized p+p Collisions at $\sqrt{s} = 200$ GeV, *Physical Review Letters* 93:202002, 2004.

H. Akikawa *et al.* (The PHENIX Collaboration), PHENIX Muon Arms, *Nuclear Instruments and Methods* A499:537-548, 2003

S.S. Adler *et al.* (The PHENIX Collaboration), Absence of Suppression in Particle Production at Large Transverse Momentum in $\sqrt{s_{NN}} = 200$ GeV d + Au Collisions, *Physical Review Letters* 91:072303, 2003.

K. Adcox *et al.* (The PHENIX Collaboration), Suppression of Hadrons with Large Transverse Momentum in Central Au + Au Collisions at $\sqrt{s_{NN}} = 130$ GeV, *Physical Review Letters* 88:022301, 2002.

A. Airapetian *et al.* (The HERMES Collaboration), Single Spin Azimuthal Asymmetry in Exclusive Electroproduction of π^+ Mesons, *Physics Letters* B535, 85-92, 2002.

Mohammad G. Khayat *et al.*, Analyzing Power Reduction in Quasifree Pion Nucleon Knockout Reactions, *Physical Review* C64:064606, 2001.

A. Airapetian *et al.* (The HERMES Collaboration), Measurement of the Beam Spin Azimuthal Asymmetry Associated with Deeply Virtual Compton Scattering, *Physical Review Letters* 87:182001, 2001.

R.S. Towell *et al.* (The E866 Collaboration), Improved Measurement of the Anti-d / Anti-u Asymmetry in the Nucleon Sea, *Physical Review* D64:052002, 2001

Professional Societies and Memberships:

American Physical Society, 1975 - present

Institutional and professional service (last five years):

Head- Department of Physics, 2000 - July 2006.

NMSU Arts and Sciences Planning Committee, 2000-2001

NMSU Information Sciences Strategic Planning Umbrella Committee, 2001-2004

Steering Committee NMSU Alliance for Graduate Education and the Professoriate, 2000-present

NMSU Radiation Safety Committee, 2000-present

NMSU Arts and Sciences Dean Search Committee, 2002-2003

Local Organizing Committee for the Particles and Nuclei International Conference 2005,

Reviewer for *National Science Foundation, Department of Energy, National Sciences and Engineering Research Council of Canada, Los Alamos National Laboratory* and other funding agencies

Reviewer for *Physical Review*.

Professional development activities (last 5 years):

June 20-25, RHIC/AGS Users Meeting, Brookhaven National Laboratory, Upton, NY.

June 4-6, 2003. CINT Users Group Meeting. Sandia National Laboratory, Albuquerque, NM.

Fall 2001, Participated in the NMSU GRASP teaching mentoring program.

Vitae for Kanani K. M. Lee, Assistant Professor, Spring 2006

Degrees:

Ph.D. Geophysics, 2003. *University of California at Berkeley*, California.

B.S. Physics, 1999. *University of San Francisco*, California. Honors. Magna cum laude.

Employment History:

New Mexico State University, Department of Physics, Las Cruces, NM.: Assistant Professor, January, 2006 - present.

California Institute of Technology, Division of Geological & Planetary Sciences, Pasadena, CA.: OK Earl Postdoctoral Research Fellow, February, 2004 - December, 2005.

Principal Publications (last five years):

K. K. M. Lee, L. R. Benedetti, R. Jeanloz, J. H. Eggert, D. G. Hicks, P. M. Celliers, S. J. Moon, A. Mackinnon, G. W. Collins, E. Henry, M. Koenig, A. Benuzzi-Mounaix, "Forming conducting water: Implications for magnetic field generation in Icy Giant planets," *Journal of Chemical Physics*, *accepted*.

K. K. M. Lee and G. Steinle-Neumann, "High-pressure alloying of iron and xenon: 'Missing' Xe in the Earth's Core," *Journal of Geophysical Research: Solid Earth*, 111, B02202, doi:10.1029/2005JB003781 (2006).

K. K. M. Lee, B. O'Neill, W. R. Panero, S.-H. Shim, L. R. Benedetti and R. Jeanloz, "Equations of state of the high-pressure phases of a natural peridotite and implications for the Earth's Lower Mantle," *Earth & Planetary Science Letters*, 223(3-4), 381-393, (2004).

K. K. M. Lee, G. Steinle-Neumann and R. Jeanloz, "Ab-initio high-pressure alloying of iron and potassium: Implications for the Earth's Core," *Geophysical Research Letters*, 31(11), L11603 (2004).

K. K. M. Lee and R. Jeanloz, "High-pressure alloying of potassium and iron: Radioactivity in the Earth's Core?" *Geophysical Research Letters*, 30(23), 2212 (2003).

Patents (last five years):

None.

Professional Societies and Memberships:

American Physical Society, 2001 - present

American Geophysical Union, 1999 - present

Institutional and Professional Service (last five years):

American Geophysical Union, Spring Joint Meeting, Co-Convener (2005)

American Geophysical Union, Fall Meeting, Co-Convener (2004)

Reviewer of articles submitted to *Science*, *Geophysical Research Letters*, *Earth & Planetary Science Letters*, *Physics of the Earth & Planetary Interiors* (2003 – present)

Reviewer of proposals to National Science Foundation, US Department of Energy (2005-present)

Professional Development Activities (last five years):

Fall Meeting of the American Geophysical Union, San Francisco, December 1999-present.

CIDER workshop, Institute of Theoretical Physics, University of California , Santa Barbara, June-July, 2004.

Honors and Awards (last five years):

Alexander von Humboldt Summer Fellow, Bayerisches Geoinstitut, 2005-2007.

O. K. Earl Postdoctoral Fellow, California Institute of Technology, 2004-2005.

National Science Foundation Graduate Research Fellow, 2000-2003

Vitae for Heinrich Nakotte, Associate Professor, Spring 2006

Degrees:

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

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

Employment History:

New Mexico State University, Department of Physics, Las Cruces, NM: Associate Professor, August, 2003 - present; Assistant Professor, August, 1997 - August, 2003.

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

Electrotechnical Laboratory, Tsukuba, Japan: Visiting Research Scientist, April, 1996 – September, 1997.

Principal Publications (last five years):

H. Nakotte, S. El-Khatib, A. Christianson, R.B. Von Dreele, K. Prokes, V. Sechovsky, L.C.J. Pereira, J.C. Spirlet and J. Rebizant, effect of Temperature on Hybridization and Magnetism in U_2Pd_2Sn and U_2Ni_2In , *Journal of Alloys and Compounds* 369, 273, 2004.

V. P. Drachev, A.K. Buin, H. Nakotte and V.M. Shalaev, Size Dependent $\chi^{(3)}$ for Conduction Electrons in Ag Nanoparticles, *Nano Letters* 4, 1535, 2004.

M.H. Jung, A. Alsmadi, H.C. Kim, Y.Y. Bang, K.H. Ahn, K. Umeo, A.H. Lacerda, H. Nakotte, H.C. Ri and T. Takabatake, Superconductivity in Magnetically Ordered $CeTe_{1.82}$, *Physical Review B* 68, paper no. 212504, 2003.

H.N. Bordallo, A.I. Kolesnikov, A.V. Kolomiets, W. Kalceff, H. Nakotte and J. Eckert, Inelastic Neutron Scattering Studies of $TbNiAlH_{1.4}$ and $UNiAlH_{2.0}$ Hydrides, *Journal of Physics – Condensed Matter* 17, 2551, 2003.

H. Nakotte, R.A. Robinson, T.M. Kelley, S. Chang, T. Swan-Wood and E. Brück, Inelastic Neutron Scattering Studies on $UNiGe$, *Physica B* 312, 875, 2002.

S. Jayawardana, G.V. Garcia, H. Nakotte, B. Clausen and M. Bourke, Finite Element Modeling of Anisotropic Properties of Cu-Ag Metal Matrix Composites, *IEEE Transaction on Applied Superconductivity* 10, 281, 2000.

Patents (last five years):

None.

Professional Societies and Memberships:

American Physical Society, 1994 – present.

Neutron Scattering Society of America, 1998 – present.

Institutional and Professional Service (last five years):

LANSCCE Winter School on Neutron Scattering, Advisory Board, 2003 – present.

TOPAZ Spectrometer Development Team, Executive Committee, 2003 – present.

American Physical Society, Four Corners Section, Local Organization Committee, Annual Four Corners Section Meeting, Las Cruces, NM, 2000.

Reviewer of articles submitted to Physical Review B, Physica B, Physica Status Solidi, Journal of Magnetism and Magnetic Materials, Journal of Alloys and Compounds and Journal of Applied Physics, 1997 – present.

Professional Development Activities (last five years):

Gordon Research Conference – Correlated Electron Systems, Mount Holyoke, MA, July 2023, 2004.

International Conference on Magnetism, Rome, Italy, July 28-31, 2003.

International Conference on Strongly Correlated Electron Systems, Krakow, Poland, July 10-13, 2002.

International Workshop on Research Opportunities in Condensed Matter and Life Sciences at High Magnetic Fields, Potsdam, Germany, January 9-11, 2002.

International Workshop on High Magnetic Field Technology and Prospects for Applications to Neutron Scattering Experiments, Berlin, Germany, May 29-30, 2001.

Honors and Awards (last five years):

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

NSF CAREER Award, January, 2000.

Vitae for James F. Ni, Professor, Spring 2006

Degrees:

1971 B. Engr. Cornell University

1973 M. Engr. Cornell University (geotechnical engineering)

1984 Ph.D. Cornell University (geophysics)

Employment History:

7/03 – present George W. Gardiner Professor, Department of Physics, NMSU

5/94 – present Professor, Department of Physics, NMSU

1993 Visiting Fellow, Geological and Planetary Sciences, Caltech

8/90 - 4/94 Associate Professor, Department of Physics, NMSU

6/87 - 90 Adjunct Associate Research Scientist, Lamont-Doherty Earth Observatory of
Columbia University

8/84 - 7/90 Assistant Professor, Department of Physics, NMSU

Principal Publications (last five years):

Tilmann, F., J. Ni, and INDEPTH III Seismic Team, Seismic imaging of the downwelling Indian Lithosphere beneath central Tibet, *Science*, 300, 1424-1427, 2003.

Rapine, R., J. Ni, F. Tilmann, M. West, and A. Rodgers, Crustal Structure of northern and southern Tibet from a surface wave Dispersion Analysis, *J. Geophys. Res.*, 108(B2), 2120, doi:10.1029/2001JB000445, 2003.

Gok, R., J. F. Ni, E. Sandvol, D. Wilson, S. Baldrige, R. Aster, S. Grand, and W. Gao, Shear wave splitting and mantle flow beneath the Great Plains, Rio Grande Rift and Colorado Plateau. *Geophys. Res. Let.*, DOI10.1029/2002GL016616, 2003.

West, M., J. Ni, W. S. Baldrige, D. Wilson, R. Aster, W. Gao, and S. Grand, Crust and upper mantle shear wave structure of the southwest United States: Implications for rifting and support for high elevation, *J. Geophys. Res.*, 109, B03309, doi:10.1029/2003JB002575, 2004.

Wilson, D., R. Aster, M. West, J. Ni, S. Grand, W. Gao, W.S. Baldrige, S. Semken, P. Patel, Lithospheric structure of the Rio Grande, *Nature*, 433, 851-855, 2005.

Wilson, D., R. Aster J. Ni, S. Grand, M. West, W. Gao, W.S. Baldrige, and S. Semken, Imaging the seismic structure of the crust and upper mantle beneath the Great Plains, Rio Grande Rift, and Colorado Plateau using receiver functions, *J. Geophys. Res.*, 110, B05306, doi: 10.1029/2004JB003492, 2005.

Patents (last five years):

None

Professional Societies and Memberships:

American Geophysical Union, 1976 – present

Seismological Society of America 1976-1994

Institutional and Professional Service (last five years)

NMSU Faculty Affair Committee, College of Arts and Sciences (Fall 2001-Spring 2004)

NMSU Planning Committee, College of Arts and Sciences (Fall 2004-present)

Reviewer of articles submitted to professional journals

Reviewer of proposals submitted to NSF and DOE

Professional Development Activities (last five years)

Annual IRIS meeting (2000-present)

Fall meeting of the American Geophysical Union (2000-present)

Earth Scope 2005 National Meeting, Santa Ana Pueblo, NM, March 29-31, 2005

Honors and Awards (last five years)

George W. Gardiner Professorship (2003-2005)

Vitae for Vassilios Papavassiliou, Associate Professor, Spring 2006

Degrees:

1988 Ph.D., Physics, Yale University, New Haven, Connecticut, USA.

1985 M.Phil., Physics, Yale University, New Haven, Connecticut, USA.

1985 M.S., Physics, Yale University, New Haven, Connecticut, USA.

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

Employment History:

August 2000 - present: Associate Professor, Department of Physics, New Mexico State University, Las Cruces, New Mexico, USA.

August 1995 – August 2000: Assistant Professor, Department of Physics, New Mexico State University, Las Cruces, New Mexico, USA.

May 1994- August 1995: Senior Research Associate, Department of Physics, Illinois Institute of Technology, Chicago, Illinois, USA.

Principal Publications (last five years):

“Measurement of nonrandom event-by-event fluctuations of average transverse momentum in $\sqrt{s_{NN}}=200\text{ GeV Au+Au}$ and p+p collisions,” with S.S. Adler et al. (PHENIX Collaboration), Phys. Rev. Lett. 93, 092301(2004).

“Absence of suppression in particle production at large transverse momentum in $\sqrt{s_{NN}}=200\text{ GeV d + Au}$ collisions,” with S.S. Adler et al. (PHENIX Collaboration), Phys. Rev. Lett. 91, 072303(2003).

“J/ ψ polarization in 800-GeV p-Cu interactions,” with T.H. Chang et al. (FNAL E866/NuSea Collaboration), Phys. Rev. Lett. 91, 211801(2003).

“Nuclear transparency from quasielastic A(e,e'p) reactions up to $Q^2=8.1(\text{GeV}/c)^2$,” with K. Garrow et al. (JeffersonLab E-94-139 Collaboration), Phys. Rev. C 66, 044613 (2002).

“Observation of Polarization in Bottomonium Production at $\sqrt{s}=38.3\text{ GeV}$,” with C.N. Brown et al. (the Fermilab E-866/NuSea Collaboration), Phys. Rev. Lett. 86 (2001)2529.

Patents(last five years):

None.

Professional Societies and Memberships:

None.

Institutional and Professional Service (last five years):

Department of Physics computer resources committee (since2003).

Department of Physics lab committee (since2003).

Professional Development Activities (last five years):

Attendance of Workshop on Low Energy Precision Electroweak Measurements at TRI-UMF, Vancouver, British Columbia, Canada (April 4- 6, 2002).

Attendance of International HENP ROOT Users Workshop at Fermilab, Batavia, Illinois, USA (June 13 -15, 2001).

Honors and Awards (last five years):

None.

Vitae for Stephen F. Pate, Professor, Spring 2006

Degrees:

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

B.S. Physics, 1981. *North Carolina State University*, Raleigh, North Carolina. Honors. Summa cum laude.

Employment History:

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

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

Principal Publications (last five years):

Stephen F. Pate, Determination of the Strange Form Factors of the Nucleon from νp , $\bar{\nu} p$, and Parity-Violating $\bar{e} p$ Elastic Scattering, *Physical Review Letters* 92, 082002, 2004.

K. Adcox *et al.* (The PHENIX Collaboration), Suppression of Hadrons with Large Transverse Momentum in Central Au+Au Collisions at $\sqrt{s_{NN}} = 130$ GeV, *Physical Review Letters* 88, 022301, 2002.

A. Airapetian *et al.* (The HERMES Collaboration), Single-Spin Azimuthal Asymmetry in Exclusive Electroproduction of π^+ Mesons, *Physics Letters B* 535, 85, 2002.

K. Garrow, D. McKee *et al.*, Nuclear Transparency From Quasielastic $A(e, e'p)$ Reactions up to $Q^2 = 8.1$ (GeV/c) 2 , *Physical Review C* 66, 044613, 2002.

Stephen F. Pate, The Thermodynamic Cube: A Mnemonic and Learning Device for Students of Classical Thermodynamics, *American Journal of Physics* 67, 1111, 1999.

Patents (last five years):

None.

Professional Societies and Memberships:

American Physical Society, 1980 - present

American Association of Physics Teachers, 1997 - present

Institutional and Professional Service (last five years):

American Physical Society, Four Corners Section, Executive Committee (2000 - 2003)

American Physical Society, Topical Group on Hadronic Physics, Fellowship Committee (2002 - 2004; Chair 2004)

NMSU Faculty Senator (Fall 2003 - Spring 2006)

NMSU General Education Task Force (Fall 2003 – Spring 2005)

NMSU College of Arts and Sciences Research Affairs Committee (1999 - 2002; Chair 2000 - 2001)

Director of the NMSU Undergraduate Physics Program (2004 - present)

RHIC/AGS Users' Executive Committee (Fall 2002 – Spring 2005)

Reviewer of articles submitted to the American Journal of Physics (1999 – present) and to Physical Review Letters (2006-present)

Professional Development Activities (last five years):

Workshop on Intersections of Nuclear Physics with Neutrinos and Electrons, Jefferson Lab, Newport News, VA, 4-5 May 2006.

J-PARC Workshop on Hadron Structure, KEK, Tsukuba, Japan, 30-Nov – 2-Dec 2005.

Particles and Nuclei International Conference, Santa Fe, 24-28 October 2005.

Workshop on Nucleon Form Factors (Nucleon 05) , Frascati, Italy, 12-14 October 2005.

Workshop on Precision ElectroWeak Interactions, College of William and Mary, 15-17 August 2005.

International Workshop on Parity Violation and Hadronic Structure, Grenoble, 8-11 June 2004.

Fall Meeting of the Division of Nuclear Physics of the American Physical Society, Tucson, 30-Oct – 1-Nov 2003.

Honors and Awards (last five years):

Gardiner Professor of Physics, 2005-2007

Vitae for Christine A. Pennise, Physics Coordinator, Spring 2005

Degrees:

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

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

Employment History:

New Mexico State University, Department of Physics, Las Cruces, NM: Physics Coordinator, September, 2001 – Present.

AVX Corporation, Myrtle Beach, SC: Principle Electrical Engineer, January, 1994 – September 1997 and February 2000 – April 2001.

Coastal Carolina University and Horry-Georgetown Technical College, Conway, SC; Instructor, August 1998 – February 2000.

Principal Publications (last five years):

None.

Patents (last five years):

None.

Professional Societies and Memberships:

American Association of Physics Teachers, 2002 – present

Institutional and Professional Service (last five years):

Serves on Department Instructional lab and Computer Committees (2001 – present); Departmental representative on the University Safety Committee (2001 – present); Departmental representative for Gardiner Hall Facilities and Safety issues (2001 – present).

Professional Development Activities (last five years):

Attended Physics Education short courses at AAPT meetings, July 2002, January 2004 and January 2005.

Honors and Awards (last five years):

None.

Vitae for Thor Stromberg, Associate Professor - Emeritus, Spring 2006

Degrees:

B.A. Physics, 1958. *Reed College*

Ph.D. Physics, 1965. *Iowa State University*

Employment History:

New Mexico State University, Department of Physics, 1967-2000. Retired after 33 years of teaching, and does some part-time teaching since (2000-2006)

Los Alamos National Laboratory, 1965-1967.

Principal Publications (last five years):

None.

Patents (last five years):

None.

Professional Societies and Memberships:

None.

Institutional and Professional Service (last five years):

Service on many Department and College committees

Assistant Department Head 1990 – 2000

Faculty Senate 1994 – 2000

Faculty Athletic Committee 1994 – 2000

Professional Development Activities (last five years):

Participated in a NSF funded program at San Diego State University to improve teaching and learning in beginning physics classes

Honors and Awards (last five years):

None.

Vitae for Jacob Urquidi, Assistant Professor, Spring 2006

Degrees:

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, 1994. *University of Texas at El Paso*, El Paso, Texas

Employment History:

Joint Appointment: *New Mexico State University*, Department of Physics, Las Cruces, NM: Assistant Professor August, 2003 – present. and *Los Alamos Neutron Science Center (LANSCE)*, Los Alamos, New Mexico: New Mexico State LANSCE Professor of Physics, 2003-present.

Argonne National Laboratory, Intense Pulsed Neutron Source, Argonne, IL: Postdoctoral Research Scientist August, 2001-August, 2003.

South Plains Junior College, Dept. of Science, Levelland, Texas: Assistant Professor

Principal Publications (last five years):

Structural Studies of Several Distinct Metastable Forms of Amorphous Ice, C. A. Tulk, C. J. Benmore, **J. Urquidi**, D. D. Klug, J. Neufeind, B. Tomberli, and P. A. Egelstaff. *Science*, **297**, 1320 (2002).

ISOMER-X: A Program for the Analysis of High Energy X-ray Diffraction Experiments, **J. Urquidi**, C. J. Benmore, J. Neufeind, and B. Tomberli. *Journal of Applied Crystallography*, *J. App. Cyst.*, **36**, 368 (2003).

Isotopic Quantum Effects on the Structure of Low Density Amorphous Ice, **J. Urquidi**, C. J. Benmore, J. Neufeind, B. Tomberli, C. A. Tulk, P. A. Egelstaff, and D. D. Klug., *Journal of Physics: Condensed Matter* **15**,(22), pp. 3657-3664 (2003).

Direct Structural Measurements of Relaxation Processes During Transformations in Amorphous Ice, M. Guthrie, **J. Urquidi**, C. A. Tulk, C. J. Benmore, D. D. Klug, and J. Neufeind, *Phys Rev B* **68** (18) 18411 (2003).

A Neutron and X-ray Diffraction Study of Calcium Aluminate Glasses, C. J. Benmore, J. K. R. Weber, S. Sampath, J. Siewenie, **J. Urquidi**, , and J. A. Tangeman,, *J. Phys.: Condens Matter*. **15** (31) pp. 2413-2423 (2003).

Structure of Oxychloride Glasses by “Difference” and X-ray Photoelectron Spectroscopy, J. A. Johnson, D. Holland, **J. Urquidi**, C. J. Benmore, I. A. Gee, and C. E. Johnson, *J. of Phys.: Condens. Matter.*, **15** (27) pp. 4679-4693 (2003).

On the Liquid Structure of Hydrogen Fluoride, S. E. McLain, C. J. Benmore, J. Siewenie, **J. Urquidi**, and J. F. C. Turner, *Angew. Chem. Int. Ed.* **43**, pp. 1951-1955 (2004).

The Structural Relationship Between Supercooled Water and The Amorphous Ices, **J. Urquidi**, C. J. Benmore, S. E. McLain, M. Guthrie, C. A. Tulk, P. A. Egelstaff, and J. F. C. Turner, *Molecular Physics* **102**, no 19-20, pp 2007-2014 (2004).

Structure and Bonding in Single and Two-Phase Alumina-base glasses, C. J. Benmore, J. K. R. Weber, J. Siewenie, **J. Urquidi**, M. C. Wilding, T. S. Key and P. C. Nordine, PCCP, **6**, no. 9 pp. 2480-2483 (2004).

Investigation of the Intermediate and High Density Forms of Amorphous Ice by Molecular Dynamics Calculations and Diffraction Experiments, J. S. Tse, D. D. Klug, M. Guthrie, C. A. Tulk, C. J. Benmore, and **J. Urquidi**, Phys. Rev. B., **71**, no. 21, pp. 214107 –1 – 214107-7.

Patents (last five years):

None.

Professional Societies and Memberships:

American Neutron Scattering Society, 2000 – present

Society for the Advancement of Chicanos and Native Americans in Science, 2004 - present

Institutional and Professional Service (last five years):

Chair of the Undergraduate Recruitment Committee, Dept. of Physics, NMSU (2005-present)

Chair of the Graduate Brochure Committee, Dept. of Physics, NMSU (2003-2004)

Invited Speaker to ICANS (International Collaboration on Neutron Sources...held every 4 years), *Supercooling Liquids for Neutron Experiments* (2005)

Invited Speaker to LANSCE User Group Meeting, Repair and upgrade of the Single Crystal Diffractometer, 2005

Organizing committee workshop on LANSCE Futures (a \$500M whitepaper submitted to the DOE), 2005

Member of the design committee for TOPAZ, the single crystal diffractometer for the Spallation Neutron Source

Professional Development Activities (last five years):

ICANS-XVII (International Collaboration on Neutron Sources), held in April, 2005 in Santa Fe, NM *The Supercooling of liquids for neutron experiments*, Invited Talk

International Workshop on Synchrotron Radiation, Held in May in San Diego, CA

Workshop on LANSCE Futures Held in June in San Diego, CA

Honors and Awards (last five years):

None.

Vitae for Igor Vasiliev, Assistant Professor, Spring 2006

Degrees:

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

1993– M.Sc., Chemical Physics, Moscow Institute of Physics and Technology, Moscow, Russia.

1991– B.Sc., Chemical Physics, Moscow Institute of Physics and Technology, Moscow, Russia.

Employment History:

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

September 2000– July2002: Post Doctoral Research Associate, Department of Physics, University of Illinois at Urbana-Champaign, Urbana, Illinois.

Principal Publications (last five years):

I. Vasiliev and R. M. Martin, Time-Dependent Density-Functional Calculations with Asymptotically Correct Exchange-Correlation Potentials, *Phys. Rev. A* 69, 052508 (2004).

I. Vasiliev, R. M. Martin, and J. R. Chelikowsky, Surface Oxidation Effects on the Optical Properties of Silicon Nanocrystals, *Phys. Rev. B* 65, 121302(R)(2002).

I. Vasiliev, S. Ögüt, and J. R. Chelikowsky, First-Principles Density-Functional Calculations for Optical Spectra of Clusters and Nanocrystals, *Phys. Rev. B* 65, 115416 (2002).

I. Vasiliev, S. Ögüt, and J. R. Chelikowsky, Ab Initio Absorption Spectra and Optical Gaps in Nanocrystalline Silicon, *Phys. Rev. Lett.* 86, 1813–1816(2001).

I. Vasiliev, S. Ögüt, and J.R.Chelikowsky, Ab Initio Excitation Spectra and Collective Electronic Response in Atoms and Clusters, *Phys. Rev. Lett.* 82, 1919–1922(1999).

Patents (last five years):

None.

Professional Societies and Memberships:

American Physical Society

Materials Research Society

Honor Society of Phi Kappa Phi

Institutional and Professional Service (last five years):

Manuscript Reviewer for:

– Physical Review Letters

– Physical Review A

– Physical Review B

(reviewed and refereed 17 articles in 2002–2005.)

University and Departmental Service:

- Computer Committee (2002–2005)
- Graduate Recruiting Committee (2002–2005)
- Faculty Search Committees (2002–2003)
- Colloquium Committee (2003–2004)

Professional Development Activities (last five years):

Co-organizer of the Fall Teacher Nanotechnology Workshop at New Mexico State University. The workshop was conducted as a part of the New Mexico EPSCoR Nanoscience Initiative K-12 Community Outreach Program (November 13–15, 2003).

Honors and Awards:

- Silver Medal Award, Materials Research Society (1999).
- Graduate School Fellowship, University of Minnesota (1998-1999).