

Biographical Sketch

Andre G. Petukhov

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EDUCATION

Ph. D. Physics, St. Petersburg State Technical University (Leningrad Polytechnic Institute), St. Petersburg, Russia, 1981

M. S. Theoretical Physics, Odessa State University, Odessa, Ukraine, 1977

APPOINTMENTS AND TRAINING

Professor and Head	Department of Physics, SDSM&T, Rapid City, SD, 2007-present
Professor	Department of Physics, SDSM&T, Rapid City, SD, 2000–2007
Associate Professor	Department of Physics, SDSM&T, Rapid City, SD, 1994–2000
Sabbatical Fellow	Naval Research Laboratory, Washington, DC, 2002
Adjunct Professor	Department of Physics, Case Western Reserve University, Cleveland, OH, 1998-present
Research Associate	Department of Physics, Case Western Reserve University, Cleveland, OH, 1992-1994
Visiting Scientist	Universidad Autonoma, Madrid, Spain, 1991
Research Professor	Odessa State University, Odessa, Ukraine, 1981-1991

AWARDS AND HONORS

- Principal investigator of multiple multi-investigator grants supported by NSF, NASA, DOE, ONR and AFOSR
- 2004 ASEE-NAVY Summer Faculty Fellowship
- 2002 Alan Berman Research Publication award for the best research paper at the Naval Research Laboratory in Washington, DC
- 2002 ASEE-NAVY Sabbatical Fellowship
- 2001-2002 ASEE-NAVY Summer Faculty Fellowships
- 1996-1998 ASEE-NASA Summer Faculty Fellowships
- 1992 Fellowship of the New York Academy of Sciences
- 1991 Fellowship of Spanish Ministry of Education and Science

SYNERGISTIC ACTIVITIES

- Presented more than 40 invited talks at International Conferences, Seminars and Colloquia
- Organized 49th Midwest Solid State Conference
- Organized Workshops on Deep Underground Science at Homestake Mine, Rapid City, SD, 2008 and 2010.
- Served on multiple NSF panels
- Served and continues to serve as a proposal reviewer for NSF and DOE
- Served and continues to serve as a referee for Physical Review B, Physical Review Letters, Journal of Physics: Condensed Matter, Applied Physics Letters, Nature Materials, Journal of Magnetism and Magnetic Materials, Journal of Physics D, Nanotechnology, and other refereed journals
- Established Ph.D. Program in Physics at SDSM&T with \$1M annual funding

COLLABORATORS: I. Zutic, A. Petrou, B. McCombe, J. Pientka, L. Pendo (SUNY Buffalo); R. Abolfath (Yale University); S.C. Erwin, B.T. Jonker, I. I. Mazin (Naval Research Lab.); B. Nadgorny (Wayne State Univ.); S. Lyon, A. Tyryshkin (Princeton Univ.); T. Schenkel (Lawrence Berkeley National Lab.); E. Albanesi, L. Makinistian (CONICET, Santa Fe, Argentina); A. Chantis (Physical Review B); D. Demchenko (Commonwealth Virginia University); H. Weitering (University of Tennessee, ORNL); C. J. Palmstrom, S. J. Allen (University of California, Santa Barbara); P. Dowben (University of Nebraska, Lincoln); V. Smelyanskiy, V. Osipov (NASA Ames Research Center); W. R. L. Lambrecht (Case Western Reserve University); R. Oszwaldowski, M. Foygel, E. Handberg (SDSM&T).

GRADUATE ADVISOR: V. K. Bazhenov, deceased

GRADUATE STUDENTS:

- Current: J. G. Rhodes (M.S. in Physics); D. Rederth (Ph.D. in Physics), J. Boschee (Ph.D. in Physics), Y. Shillander (M.S. in Physics); 4 Total.
- Graduated: H. Sun (M.S., 1995); Y. Yang (M.S., 1998); B. T. Hemmelman (Ph.D., 1998); H. Fergusson (M.S., 1999); D.O. Demchenko (Ph.D. 2002, Employment: Assistant Professor, Commonwealth Virginia University,); A. Chantis (Ph.D. 2002, Employment: Assistant Editor, Physical Review B); J. Niggemann (Ph.D., 2007); R. Anderson (M.S., 2011, Employment: Staff Scientist, Raytheon Corporation); E. Handberg (M.S., 2011, Ph.D., 2012); L. Pendo (M.S., 2012, Current Employment: Ph.D. student at SUNY Buffalo); N. Alzahrani (M.S., 2013) 11 Total.

FIVE RECENT PUBLICATIONS

- 1) L. Pendo, E. M. Handberg, V. N. Smelyanskiy, and A. G. Petukhov, "Large Stark effect for Li donor spins in Si," *Phys. Rev. B* **88**, 045307 (2013).
- 2) K. Výborný, J. Han, R. Oszwaldowski, I. Žutić, and A. G. Petukhov, "Magnetic Anisotropies in Quantum Dots Doped with Magnetic Ions," *Phys. Rev. B* **85**, 155312 (2012).
- 3) R. Oszwaldowski, I. Žutić, and A. G. Petukhov, "Magnetism in Closed-Shell Quantum Dots: Emergence of Magnetic Bipolarons," *Phys. Rev. Lett.* **106**, 177201 (2011).
- 4) I. Žutić and A. G. Petukhov "Spintronics: Shedding Light on Nanomagnets," *Nature Nanotechnology* **4**, 623 (2009).
- 5) R. M. Abolfath, A. G. Petukhov, and I. Zutic, "Piezomagnetic Quantum Dots," *Phys. Rev. Lett.* **101**, 207202 (2008).

FIVE OTHER PUBLICATIONS

- 1) A.G. Petukhov, I. Zutic, and S. C. Erwin, "Thermodynamics of Carrier-Mediated Magnetism in Semiconductors," *Phys. Rev. Lett.* **99**, 257202 (2007).
- 2) V.N. Smelyanskiy, A.G. Petukhov, and V.V. Osipov, "Quantum Computing on Long-Lived Donor States of Li in Si," *Phys. Rev. B* **72**, 081304 (2005).
- 3) A. G. Petukhov, I. I. Mazin, L. Chioncel, and A. I. Lichtenstein. "Correlated Metals and the LDA+U Method," *Phys. Rev. B* **67**, 153106-153109 (2003).
- 4) A. G. Petukhov, A. N. Chantis, and D. O. Demchenko, "Resonant Enhancement of Tunneling Magnetoresistance in Double-Barrier Magnetic Heterostructures," *Phys. Rev. Lett.* **89**, 107205 (2002).
- 5) S. C. Erwin and A. G. Petukhov, "Self-Compensation in Manganese-Doped Ferromagnetic Semiconductors," *Phys. Rev. Lett.* **89**, 227201 (2002).