2002 PMFC Election Candidates

Vice Chair

- Alan Kostelecky
- Ron Walsworth

Executive Committee At-large

- Eric Burt
- Jens Gundlach
- Michael Snow
- David Weiss

Vice Chair

Alan Kostelecky

Positions:
Professor of Physics, Indiana University (1992-present, Physics Chair 1997-2000, faculty member since 1985); Fellow, CERN (1986); Postdoctoral Fellow, Los Alamos National Laboratory (1982-1985); Ph.D., Yale University (1982).

Main Research Interests:
Theoretical physics. Primary focus of ongoing research: violation of Lorentz and CPT symmetry as a physical signal emerging from a fundamental theory at the Planck scale. Efforts include analysis of high-sensitivity experiments, studies in quantum field theory and the standard model, and investigations of string theory at the Planck scale.

Other Activities:
Member, APS-DPF, APS-DAMOP, APS-TCPMFC, APS-TGGR; Fellow, Institute of Physics (UK); Member, AAPT.

Ron Walsworth

Positions:
Lecturer, Harvard University, 1998-present; Physicist, Smithsonian Institution, 1991-present; PhD, Harvard University, 1991.

Main Research Interests:
Multidisciplinary investigations with state-selected atoms, including
the development and application of atomic clocks; precision tests of fundamental symmetries; applications of NMR to biomedical research and soft condensed matter physics; and spectroscopy of coherently-prepared atomic media, with applications to quantum information.

Other Activities and Awards:
Member DAMOP, DLS, DBP, TG/PMFC; APS Publication Oversight Committee, 1999-2001 (Chair,

2000); APS General Councilor, 1996-1999; APS Physics Today Task Force, 1998; APS DLS Distinguished Traveling Lecturer, 2002-2004; Vice-Chair of Gordon Conference on Atomic Physics, 2001; Smithsonian Institution Exceptional Service Award, 1993; NIST Precision Measurement Grant, 1993-1996.

Executive Committee At Large

Eric Burt

Positions:
Physicist, Jet Propulsion Laboratory (2001-present); Physicist, US Naval Observatory (1997-2001); Postdoctoral Associate, JILA (1995-1997); Ph.D., University of Washington (1995).

Main Research Interests:
The development of new types of precise trapped atom/ion frequency standards, such as laser-cooled atomic fountains, for realization of the second and as sensors for tests of fundamental physics. Atomic clocks in micro-gravity environments and the use of micro-gravity to extend clock performance. Evaluation of long term frequency standard performance and ultimate limits to long term reproducibility. Ultimate cooling limits in multipole ion traps. Coherence and collisional properties of Bose-Einstein condensates. The observation of Fermi-degeneracy in radioactive isotopes of rubidium and the observation of Cooper-pairing in Fermi-Degenerate gases.

Other Activities and Awards:
Member APS-DAMOP and APS-TG/PMFC; member of the program committee for the IEEE Frequency Control Symposium; research collaboration at LANL.

Jens Gundlach

Positions:
Research Associate Professor in Physics , University of Washington (1998-present); Research Assistant Professor, University of Washington (1993-1998); Ph.D., University of Washington, in nuclear physics (1990); Physik Diplom, Mainz, Germany (1986)

Main Research Interests:
Experimental Gravity and General Relativity:

- Broad range of equivalence principle tests and search for fundamentally new interactions.
- Test of the 1/r2-law of gravity for distances much smaller than 1mm.
- Measurement of the gravitational constant using a new method we developed.
- Modern torsion balance techniques.

Other Activities and Awards:
APS Franics Pipkin award 2001; NIST precision measurement grant 1997-2000;APS-TGPMFC, APS-TGGR

Michael Snow

Positions:
Associate Professor (2000-present) and Assistant Professor (1993-2000) of Physics, Indiana University; NRC postdoc, NIST (1990-1993); PhD, Harvard (1990).

Main Research Interests:
Precision measurements with low energy neutrons. Measurement of the neutron lifetime and decay asymmetries for Standard Model tests. Search for the neutron-proton and neutron-4He weak interaction as a new probe of strongly interacting QCD. Precision measurement of neutron scattering lengths with neutron interferometry. Development of neutron polarizers and analyzers based on polarized 3He. Use of polarized neutron beam techniques for the development of new small angle neutron scattering instruments.

Other Activities and Awards:
Chair of the executive committee for the Instrument Development Team for a nuclear/particle physics beamline at the Spallation Neutron Source (2002). Presentation of future opportunities in fundamental neutron physics for the NSAC Long-Range Plan (2001). Co-organizer of the workshop on Fundamental Physics with Pulsed Neutron Beams (2000). NSF CAREER Award and extension (1995-present). Konopinski teaching award, Indiana University (1995). Member of APS, AAPT, Neutron Scattering Society of America.

David Weiss

Positions:
Associate Professor, Penn State University (2001-present); Assistant Professor, U.C. Berkeley (1994-2001); Postdoc, Ecole Normale Superieure (1993-4); PhD, Stanford University, 1993 (A precision measurement of the fine structure constant using atom interferometry).

Main Research Interests:
My primary interest is to develop the methods of laser cooling and atom trapping and apply them to precision measurements and other physical problems. In my group, we are currently pursuing Bose Einstein condensation in an optical trap, the study of quantum phase transitions in periodic potentials, the study of collisions in reduced dimensions, a search for the electron electric dipole moment using Rb and Cs in optical lattices, and an approach to quantum computing using neutral atoms in optical lattices.

Other Activities and Awards:
Packard Fellow, 1997-2002; Sloan Fellow, 1997-8; O.N.R. Young Investigator, 1995-98; Churchill Scholar (1986).