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EDUCATION and EMPLOYMENT

Indiana University	Associate Professor , Physics	2007-present
	Assistant Professor , Physics	2002-2007
Harvard University	Research Associate , Physics	1999-2002
Boston University	Ph.D. , Physics	1994-1999
Congressional Research Service, Library of Congress		1993-1994
Massachusetts Institute of Technology	B.S. , Physics	1989-1993

RESEARCH

Department of Energy Outstanding Junior Investigator

Awarded in 2003 for “Development of an Experiment to Search for Oscillations of ν_μ to ν_e Using the NuMI Neutrino Beam”.

NOvA Experiment (FNAL E929)

- Elected co-spokesman 2006-present.
- The NOvA experiment is to be placed in the NuMI beamline to search for electron neutrino appearance. The experiment has received CD3a approval from the Department of Energy and plans to operate a prototype detector in the NuMI beam in 2010. The detector will be completed in 2014. In addition to co-spokesman role, responsibilities have included near detector optimization, calculations of neutrino fluxes, calculations of potential cosmic-ray backgrounds, calculations of galactic supernova signal, and development of the reconstruction and simulation framework.
- Supervised undergraduate senior thesis, “NOvA’s Supernova Neutrino Trigger: Analysis and Comparison with Other Neutrino Detectors” by Joulein Tatar (2006) and work of two post-docs.

MINOS and MIPP Experiments (FNAL E875 and E907)

- Studies of the quality of proton-nucleus interaction cross-sections and their impact on the prediction of the MINOS neutrino spectra. Work on MIPP experiment (Fermilab E907) which made measurements of hadron production in support of the MINOS experiment. Primary responsibilities on MIPP were refurbishment and maintenance of the RICH counter, a 10 m long, 2.4 m diameter vessel viewed by 2848 1/2” photomultiplier tubes and coordination of installation of the NuMI/MINOS target. Additional responsibilities include construction of a portion of the interaction trigger used by the experiment during thin target running, and construction of the trigger used during NuMI target running. Other responsibilities include coordination and production of a portion of the online software as well as the off-line reconstructions tools for use by the entire experiment. The software framework has been made publicly available and is in use by other experiments. The MIPP experiment collected a total of 15 million events on nuclear targets ranging from H₂ to Bi. Of particular importance to MINOS are the 1.5M events collected on the NuMI target. Supervising one post-doc researcher and one graduate student who completed his Ph.D. during the summer

of 2008.

- Chair of the neutral-current PRL paper committee, MINOS's first publication of limits on participation of sterile neutrinos in oscillations at the atmospheric mass-splitting scale.
- Chair of the atmospheric neutrino PRL paper committee, MINOS's first publication of physics data recorded with the far detector.
- Member of charged-current PRL paper committee, first publication of MINOS results using the NuMI beam.
- NuMI Beam Monte Carlo Coordinator and Neutrino Beam Systematics Working Group Coordinator (–2006) with responsibility for the development and maintenance of beam transport Monte Carlo simulation programs used to predict the MINOS neutrino fluxes, optimize beam line design, and estimate the backgrounds and sources of uncertainties in physics measurements.
- Supervised graduate student Nicholas Graf who completed his Ph.D. in August of 2008 on “Measurement of the Charged Kaon Mass with the MIPP Ring Imaging Cherenkov Detector”.
- Currently supervising work by graduate student studying the reconstruction of quasi-elastic events in the MINOS near detector eventually leading to a measurement of the axial-mass parameter. Also supervised undergraduate projects including development of DAQ monitoring software for the MIPP experiment, and studies of the optimal representation of the MINOS magnetic field in software.

Super-Kamiokande Experiment (1996-2006)

- Continued data analysis in the Atmospheric Neutrino and Proton Decay group, including analysis of oscillations of muon neutrinos to mixed sterile and active states which limits coupling muon neutrinos to sterile states. Worked with IU Professor Alan Kostelecky to investigate possible signatures of CPT violation in the SK atmospheric neutrino data.
- Work on paper committees for combined analysis of SK-I fully-contained, partially-contained, and upward-going muon atmospheric neutrino data, and analysis of the possibility of neutrino decay.
- Supervised REU student who studied alternate reconstruction techniques to separate multi-prong events from single-prong events.

Boston University, 1995-1999

Super-Kamiokande Experiment, Research Assistant with Professor James Stone

Thesis: Evidence for Oscillations of Atmospheric Neutrinos with Super-Kamiokande

- Primary author *Phys. Rev. Let.*: “Evidence for oscillation of atmospheric neutrinos”.
- Coordinated construction, testing, and maintenance of outer-detector front-end electronics: 2000 channels of charge-to-time converter circuits including coincidence trigger.

Congressional Research Service, Library of Congress, 1993-1994

- Conducted survey of state support for environmental technology R&D.

Massachusetts Institute of Technology, 1992-1993

Radio Astronomy

Undergraduate Research with Professor Jacqueline Hewitt

Thesis: A Search for Variability in the Einstein Ring MG1131+0456

- Examined the suitability of the gravitational lens system MG1131+0456 for use in Hubble constant measurement.

TEACHING

Indiana University

- Award for “Outstanding Contributions to Teaching” in 2006 selected by IU undergraduate physics students.
- Awarded Department of Physics Konopinski Award for Excellence in Teaching, 2004.
- Nominated for Student Alumni Association Student Choice Award, 2004.
- Participant in “Freshman Learning Project” (June 2008). FLP is an intensive learning process about teaching first-year students and gateway courses culminating in a two-week seminar that is designed to help faculty understand the obstacles faced by students in their introductory classes and to develop new ways to help students overcome these obstacles.
- Spring 2006, '07: P453, Quantum physics I for undergraduates.
- Spring 2007: S405 Readings in Physics. Devised individualized course of study for undergraduate senior student interested in neutrino physics.
- Fall 2004, '05, '08: Instructor for P309, Intermediate Physics Laboratory. Laboratory course for 2nd and 3rd year physics majors covering topics in electronics, mechanics, vibrations and waves, and atomic physics. Introduction to basic data analysis techniques, error analysis, and statistics.
- Fall 2004: Instructor for P801, Readings in physics. Devised an individual course of study for graduate student who was preparing for Ph.D qualifying examination.
- Fall 2002 - Spring 2004, Fall 2007: Instructor for P221 (fall semesters) and P222 (spring semesters), Physics I and II for science majors, calculus based. Textbook by Halliday, Resnick, and Walker. Led lecture and discussion sections.

SERVICE, LEADERSHIP, and OUTREACH

- U.S. coordinator for the neutrino oscillations working group for the Neutrino Factory workshops in 2005 and 2006. NUFACT international scientific programming committee 2007–2008.
- Organized high energy physics seminars 2002-2005.
- Member of thesis defense committees for students on MINOS, D0, and MiniBooNE.
- Department committee work including graduate admissions, graduate student recruitment (chair), prospective graduate student visit (chair), department awards, and computer facilities.
- Fermilab User’s Executive Committee, 2003-2004
- Participated in discussions of revisions to the neutrino pages in the particle data handbook in light of recent neutrino oscillation results.
- Participated in meetings at the Indiana Department of Education to set content and format of the high school Physics Core 40 End-of-Course Assessment test.
- Presented talks about neutrino physics to group of high school teachers visiting IU, groups of undergraduate physics club students visiting IU, and to general public at IU’s annual physics open house.

PUBLICATIONS

Five most recent:

[1] *First Measurement of ν_μ and ν_e Events in an Off-Axis Horn-Focused Neutrino Beam.* MiniBooNE/MINOS Collaboration (P. Adamson et al.), Submitted to Phys. Rev. Lett. (2008). arXiv:0809.2447 [hep-ex]

- [2] *Testing Lorentz Invariance and CPT Conservation with NuMI Neutrinos in the MINOS Near Detector*. MINOS Collaboration (P. Adamson et al.). Phys. Rev. Lett. **101**:151601 (2008). arXiv:0806.4945 [hep-ex]
- [3] *Search for active neutrino disappearance using neutral-current interactions in the MINOS long-baseline experiment*. MINOS Collaboration (P. Adamson et al.). Phys. Rev. Lett. **101**:221804 (2008) arXiv:0807.2424 [hep-ex]
- [4] *Measurement of Neutrino Oscillations with the MINOS Detectors in the NuMI Beam*. MINOS Collaboration (P. Adamson et al.). Phys. Rev. Lett. **101**:131802, 2008. arXiv:0806.2237 [hep-ex]
- [5] *The Magnetized steel and scintillator calorimeters of the MINOS experiment*. MINOS Collaboration (D.G. Michael et al.). Submitted to Nucl.Instrum.Meth. arXiv:0805.3170 [physics.ins-det]

Five most cited:

- [6] *Evidence for oscillation of atmospheric neutrinos*. Super-Kamiokande Collaboration (Y. Fukuda et al.). Phys. Rev. Lett. **81**:1562-1567,1998. hep-ex/9807003
- [7] *Solar B-8 and hep neutrino measurements from 1258 days of Super-Kamiokande data*. Super-Kamiokande Collaboration (S. Fukuda et al.). Phys. Rev. Lett. **86**:5651-5655, 2001. hep-ex/0103032
- [8] *Measurement of a small atmospheric muon-neutrino / electron-neutrino ratio*. Super-Kamiokande Collaboration (Y. Fukuda et al.), Phys.Lett. **B433**:9-18, 1998. hep-ex/9803006.
- [9] *Study of the atmospheric neutrino flux in the multi-GeV energy range*. Super-Kamiokande Collaboration (Y. Fukuda et al.). Phys. Lett. **B436**:33-41, 1998. hep-ex/9805006
- [10] *Tau neutrinos favored over sterile neutrinos in atmospheric muon-neutrino oscillations*. Super-Kamiokande Collaboration (S. Fukuda et al.). Phys. Rev. Lett. **85**:3999-4003, 2000. hep-ex/0009001

Remaining in chronological order:

- [11] *Solar neutrino measurements in Super-Kamiokande-II*. Super-Kamiokande Collaboration (J.P. Cravens et al.). Phys. Rev. **D78**:032002, 2008. arXiv:0803.4312 [hep-ex]
- [12] *Search for Matter-Dependent Atmospheric Neutrino Oscillations in Super-Kamiokande*. Super-Kamiokande Collaboration (K. Abe et al.). Phys. Rev. **D77**:052001, 2008. arXiv:0801.0776 [hep-ex]
- [13] *A Study of Muon Neutrino Disappearance Using the Fermilab Main Injector Neutrino Beam*. MINOS Collaboration (P. Adamson et al.). Phys. Rev. **D77**:072002, 2008. arXiv:0711.0769 [hep-ex]
- [14] *Study of TeV neutrinos with upward showering muons in Super-Kamiokande*. Super-Kamiokande Collaboration (S. Desai et al.). Astropart. Phys. **29**:42-54, 2008. arXiv:0711.0053 [hep-ex]
- [15] *The NOvA Technical Design Report*. NOvA Collaboration (D.S. Ayres et al.).
- [16] *Measurement of neutrino velocity with the MINOS detectors and NuMI neutrino beam*. MINOS Collaboration (P. Adamson et al.). Phys. Rev. **D76**:072005, 2007. arXiv:0706.0437 [hep-ex]
- [17] *Search for Supernova Neutrino Bursts at Super-Kamiokande*. Super-Kamiokande Collaboration (M. Ikeda et al.). Astrophys. J. **669**:519-524, 2007. arXiv:0706.2283 [astro-ph]

- [18] *Measurement of the atmospheric muon charge ratio at TeV energies with MINOS.* MINOS Collaboration (P. Adamson et al.). Phys. Rev. **D76**:052003, 2007. arXiv:0705.3815 [hep-ex]
- [19] *Report of the US long baseline neutrino experiment study.* V. Barger et al., arXiv:0705.4396 [hep-ph]
- [20] *Charge-separated atmospheric neutrino-induced muons in the MINOS far detector.* MINOS Collaboration (P. Adamson et al.). Phys. Rev. *D75*:092003, 2007. hep-ex/0701045
- [21] *Proposal to upgrade the MIPP experiment.* MIPP Collaboration (D. Isenhower et al.). hep-ex/0609057
- [22] *Search for neutral Q-balls in super-Kamiokande II.* Super-Kamiokande Collaboration (Y. Takenaga et al.). Phys. Lett. **B647**:18-22, 2007. hep-ex/0608057
- [23] *Proposal for continuously-variable neutrino beam energy for the NuMI facility.* Mikhail Kostin, Sacha Kopp (Texas U.) , Mark Messier (Harvard U.) , Deborah A. Harris, Jim Hylen, Adam Para (Fermilab) . FERMILAB-TM-2353-AD, Jul 2006.
- [24] *A Measurement of atmospheric neutrino flux consistent with tau neutrino appearance.* Super-Kamiokande Collaboration (K. Abe et al.). Phys. Rev. Lett. **97**:171801, 2006. hep-ex/0607059
- [25] *Observation of muon neutrino disappearance with the MINOS detectors and the NuMI neutrino beam.* MINOS Collaboration (D.G. Michael et al.). Phys. Rev. Lett. **97**:191801,2006. hep-ex/0607088
- [26] *Review of neutrino oscillations experiments.* M.D. Messier (Indiana U.). In the Proceedings of 4th Flavor Physics and CP Violation Conference (FPCP 2006), Vancouver, British Columbia, Canada. hep-ex/0606013
- [27] *Search for Diffuse Astrophysical Neutrino Flux Using Ultrahigh Energy Upward-Going Muons in Super-Kamiokande I.* Super-Kamiokande Collaboration (Molly E.C. Swanson et al.). Astrophys. J. **652**:206-215,2006. astro-ph/0606126
- [28] *High energy neutrino astronomy using upward-going muons in Super-Kamiokande-I.* K. Abe et al. Astrophys. J. **652**:198, 2006. astro-ph/0606413
- [29] *Three flavor neutrino oscillation analysis of atmospheric neutrinos in Super-Kamiokande.* Super-Kamiokande Collaboration (J. Hosaka et al.). Phys. Rev. **D74**:032002, 2006. hep-ex/0604011
- [30] *Summary of the neutrino oscillations working group at NuFact05.* K. Long (Imperial Coll., London) , M.D. Messier (Indiana U.) , O. Yasuda (Tokyo Metropolitan U.). Prepared for 7th International Workshop on Neutrino Factories and Superbeams (NuFact 05), Frascati, Italy, Nucl. Phys. Proc. Suppl. **155**:102-110, 2006.
- [31] *First observations of separated atmospheric nu(mu) and anti-nu(mu) events in the MINOS detector.* MINOS Collaboration (P. Adamson et al.). Phys. Rev. **D73**:072002, 2006. hep-ex/0512036
- [32] *Observation of the anisotropy of 10-TeV primary cosmic ray nuclei flux with the Super-Kamiokande-I detector.* Super-Kamiokande Collaboration (G. Guillian et al.). Phys. Rev. **D75**:062003, 2007. astro-ph/0508468
- [33] *Solar neutrino measurements in Super-Kamiokande-I.* Super-Kamkiokande Collaboration (J. Hosaka et al.). Phys.Rev.*D73*:112001, 2006. hep-ex/0508053
- [34] *Search for nucleon decay via modes favored by supersymmetric grand unification models in Super-Kamiokande-I.* Super-Kamiokande Collaboration (K. Kobayashi et al.). Phys. Rev. **D72**:052007, 2005. hep-ex/0502026
- [35] *A Measurement of atmospheric neutrino oscillation parameters by*

- SUPER-KAMIOKANDE I*. Super-Kamiokande Collaboration (Y. Ashie et al.). Phys. Rev. **D71**:112005, 2005. hep-ex/0501064
- [36] *Testing CPT conservation using atmospheric neutrinos*. M.D. Messier (Indiana U.). Prepared for 3rd Meeting on CPT and Lorentz Symmetry (CPT 04), Bloomington, Indiana, 4-7 Aug 2004. Published in Bloomington 2004, CPT and Lorentz symmetry.
- [37] *Search for dark matter WIMPs using upward through-going muons in Super-Kamiokande*. Super-Kamiokande Collaboration (S. Desai et al.). Phys. Rev. **D70**:083523, 2004, Erratum-ibid. **D70**:109901, 2004. hep-ex/0404025
- [38] *Evidence for an oscillatory signature in atmospheric neutrino oscillation*. Super-Kamiokande Collaboration (Y. Ashie et al.). Phys. Rev. Lett. **93**:101801, 2004. hep-ex/0404034
- [39] *NOvA: Proposal to build a 30 kiloton off-axis detector to study $\nu_\mu \rightarrow \nu_e$ oscillations in the NuMI beamline*. By NOvA Collaboration (D.S. Ayres et al.). hep-ex/0503053
- [40] *Limits on the neutrino magnetic moment using 1496 days of Super-Kamiokande-I solar neutrino data*. Super-Kamiokande Collaboration (D.W. Liu et al.). Phys. Rev. Lett. **93**:021802, 2004. hep-ex/0402015
- [41] *Precise measurement of the solar neutrino day / night and seasonal variation in Super-Kamiokande-1*. Super-Kamiokande Collaboration (M.B. Smy et al.). Phys. Rev. **D69**:011104, 2004. hep-ex/0309011
- [42] *A Search for periodic modulations of the solar neutrino flux in Super-Kamiokande I*. Super-Kamiokande (J. Yoo et al.). Phys. Rev. **D68**:092002, 2003. hep-ex/0307070
- [43] *Search for anti- $\nu(e)$ from the sun at Super-Kamiokande I*. Super-Kamiokande Collaboration (Y. Gando et al.). Phys. Rev. Lett. **90**:171302, 2003. hep-ex/0212067
- [44] *Detector R and D for future neutrino experiments with the NuMI beamline*. G. Barenboim et al., A Report to Fermilab Directorate from the Study Group on Future Neutrino Experiments at Fermilab. hep-ex/0304017
- [45] *Letter of intent to build an off-axis detector to study $\nu_\mu \rightarrow \nu_e$ oscillations with the NuMI neutrino beam*. NOvA Collaboration (D. Ayres et al.). hep-ex/0210005
- [46] *Search for supernova relic neutrinos at SUPER-KAMIOKANDE*. Super-Kamiokande Collaboration (M. Malek et al.). Phys. Rev. Lett. **90**:061101, 2003. hep-ex/0209028
- [47] *The Hadron hose: Continuous toroidal focusing for conventional neutrino beams*. J. Hylen et al. Nucl. Instrum. Meth. **A498**:29-51, 2003. hep-ex/0210051
- [48] *Search for neutrinos from gamma-ray bursts using Super-Kamiokande*. Super-Kamiokande Collaboration (S. Fukuda et al.). Astrophys. J. **578**:317-324, 2002. astro-ph/0205304
- [49] *Determination of solar neutrino oscillation parameters using 1496 days of Super-Kamiokande I data*. Super-Kamiokande Collaboration (S. Fukuda et al.). Phys. Lett. **B539**:179-187, 2002. hep-ex/0205075
- [50] *Status of the atmospheric neutrino studies*. M.D. Messier (Harvard U.). Prepared for 3rd Workshop on Neutrino Oscillations and Their Origin (NOON 2001), Kashiwa, Japan, 5-8 Dec 2001.
- [51] *The MINOS experiment*. M.D. Messier (Harvard U.). Prepared for 3rd Workshop on Neutrino Oscillations and Their Origin (NOON 2001), Kashiwa, Japan, 5-8 Dec 2001.
- [52] *Proposal for hadron production measurements using the NA49 detector for use in long-baseline and atmospheric neutrino flux calculations*. M.G. Catanesi et al., CERN Server EXP CERN-NA-049
- [53] *Constraints on neutrino oscillations using 1258 days of Super-Kamiokande solar*

- neutrino data*. Super-Kamiokande Collaboration (S. Fukuda et al.). Phys. Rev. Lett. **86**:5656-5660, 2001. hep-ex/0103033
- [54] *Atmospheric neutrino results from Super-Kamiokande*. M.D. Messier (Harvard U.). Prepared for DPF 2000: The Meeting of the Division of Particles and Fields of the American Physical Society, Columbus, Ohio, 9-12 Aug 2000. Published in Int.J.Mod.Phys.A16S1B:733-735,2001.
- [55] *N-16 as a calibration source for Super-Kamiokande*. Super-Kamiokande Collaboration (E. Blaufuss et al.). Nucl. Instrum. Meth. **A458**:638-649, 2001. hep-ex/0005014
- [56] *Neutrino induced upward stopping muons in Super-Kamiokande*. Super-Kamiokande Collaboration (Y. Fukuda et al.). Phys. Lett. **B467**:185-193, 1999. hep-ex/9908049
- [57] *Search for proton decay through $p \rightarrow \bar{K}^+$ in a large water Cherenkov detector*. Super-Kamiokande Collaboration (Y. Hayato et al.). Phys. Rev. Lett. **83**:1529-1533, 1999. hep-ex/9904020
- [58] *Measurement of radon concentrations at Super-Kamiokande*. SuperKamiokade Collaboration (Y. Takeuchi et al.). Phys. Lett. **B452**:418-424, 1999. hep-ex/9903006
- [59] *Observation of the east - west anisotropy of the atmospheric neutrino flux*. Super-Kamiokande Collaboration (T. Futagami et al.). Phys. Rev. Lett. **82**:5194-5197, 1999. astro-ph/9901139
- [60] *Constraints on neutrino oscillation parameters from the measurement of day night solar neutrino fluxes at Super-Kamiokande*. Super-Kamiokande Collaboration (Y. Fukuda et al.). Phys. Rev. Lett. **82**:1810-1814, 1999. hep-ex/9812009
- [61] *Measurement of the solar neutrino energy spectrum using neutrino electron scattering*. Super-Kamiokande Collaboration (Y. Fukuda et al.). Phys. Rev. Lett. **82**:2430-2434, 1999. hep-ex/9812011
- [62] *Measurement of the flux and zenith angle distribution of upward through going muons by Super-Kamiokande*. Super-Kamiokande Collaboration (Y. Fukuda et al.). Phys. Rev. Lett. **82**:2644-2648, 1999. hep-ex/9812014
- [63] *Calibration of Super-Kamiokande using an electron linac*. Super-Kamiokande Collaboration (M. Nakahata et al.). Nucl. Instrum. Meth. **A421**:113-129, 1999. hep-ex/9807027
- [64] *Search for proton decay via $p \rightarrow e^+\pi^0$ in a large water Cherenkov detector*. Super-Kamiokande Collaboration (M. Shiozawa et al.). Phys. Rev. Lett. **81**:3319-3323, 1998. hep-ex/9806014
- [65] *Measurements of the solar neutrino flux from Super-Kamiokande's first 300 days*. Super-Kamiokande Collaboration (Y. Fukuda et al.). Phys. Rev. Lett. **81**:1158-1162, 1998, Erratum-ibid. **81**:4279, 1998. hep-ex/9805021
- [66] *Variability in the Einstein ring gravitational lens MG 1131+0456*, J.N. Hewitt, G.H. Chen, M.D. Messier, Astronomical Journal **109**, (1995) 1956.

RECENT PRESENTATIONS

- *Existing and future long-baseline neutrino oscillation experiments*, 9th meeting of the International Committee for Future Accelerators, SLAC National Accelerator Laboratory, October 28-31, 2008.
- *The NOvA Experiment at Fermilab*, 34th International Conference on High Energy Physics, Philadelphia, PA, July 29 - August 5, 2008.
- *Neutrino Detectors for Future Facilities*, three lectures given as part of the Neutrino Factory Summer School, Benasque, Spain, June 16-18, 2008.

- *The NOvA Prototype Detectors and Overburden requirements and cosmic-ray backgrounds for neutrino experiments*, International Workshop on the Golden Channel at a Neutrino Factory, IFIC, Valencia, Spain, June 27-30, 2007.
- *The NOvA Experiment*, CRYODET 2 Workshop, LNGS, Grand Sasso, June 14-15, 2007.
- *Neutrino oscillation working group report - Experiments*, 8th International Workshop on Neutrino Factories, Superbeams, and Betabeams, UC Irvine, California, August 24-30, 2006.
- *NOvA and Other U.S. Activities*, 2nd International Workshop on a Far Detector in Korea for the J-PARC Neutrino Beam, Soeul, Korea, July 13,14, 2006.
- *Review of neutrino oscillation experiments*, 4th Flavor Physics and CP Violation Conference (FPCP), Vancouver, British Columbia, Canada, April 9-12, 2006.
- *The MIPP Experiment at Fermilab*, III International Workshop on “Neutrino Oscillations in Venice”, Istituto Veneto di Scienze, Lettere ed Arti, Palazzo Franchetti - Campo S.Stefano Venice, Italy. February 7-10, 2006,
- *The MIPP Experiment*, 5th International Workshop on Neutrino Beams and Instrumentation, Fermilab, IL, July 6-11, 2005.
- *Physics reach of future superbeam facilities*, Plenary talk to the 7th International Workshop on Neutrino Factories and Superbeams, Frascati, Italy, June 21-26, 2005.
- *Atmospheric and Accelerator Neutrinos Experiments*, Invited talk, Joint meeting of the DPF and DNP divisions of the American Physical Society, Tampa, FL, April 16-19, 2005.
- *Life in the Neutrino Matrix, Current and Future Directions in Neutrino Physics*, Physics Department Colloquium, Indiana University, February 2, 2005.
- *Much Ado About (Almost!) Nothing: Experimental Searches for Neutrino Mass and Mixing*, Physics Department Colloquium, Boston University, October 19, 2004.
- *The NOvA Experiment*, XXIst International Conference on Neutrino Physics and Astrophysics (Neutrino’04), Paris, France, June 14-19, 2004.
- *Capabilities of a Super-Kamiokande Class Detector for Use in Long Baseline Experiments*, Neutrino Super Beam, Detectors and Proton Decay, Joint BNL/UCLA - American Physical Society Workshop, Brookhaven National Laboratory, March 3-5, 2004.
- *Pion Production Experiments*, Weak Interactions and Neutrinos (WIN’03), Lake Geneva, Wisconsin, October 6-11, 2003.
- *The MIPP Experiment*, Indiana University Cyclotron Facility Seminar Series, January 31, 2003.