

## Curriculum Vitae Wolfgang Lorenzon

Professor of Physics  
The University of Michigan  
Physics Department  
Ann Arbor, Michigan 48109-1040  
Phone: (734) 647-6825  
Fax: (734) 764-6843  
*Email Address: lorenzon@umich.edu*

### Education

1988	Ph.D.	University of Basel, Switzerland (Experimental Physics)
1984	Diploma	University of Basel, Switzerland (Experimental Physics)

### Appointments

2006 - present	Professor, Physics Department, University of Michigan
2000 - 2006	Associate Professor, Physics Department, University of Michigan
1996 - 2000	Assistant Professor, Physics Department, University of Michigan
1994 - 1996	Assistant Professor, Department of Physics and Astronomy, University of Pennsylvania

### Research Interests

Hadronic physics (SeaQuest & pol Drell-Yan experiments)  
Fundamental Physics (MUSE experiment)  
Dark Matter search (LZ experiment)

### Professional Experience

2017 - 2018	Visiting Physicist, SLAC, Menlo Park, California, August 2017–July 2018
2010	URA Visiting Scholar, Fermilab, Batavia, Illinois, July–December
2005	Guest Scientist, LBL, Berkeley, California, January–July
1997 - 1998	Deputy Spokesman of HERMES Experiment, DESY, Hamburg, Germany
1996 - 1998	Visiting Scientist, DESY, Hamburg, Germany, January–August: each year
1992 - 1994	Research Associate, TRIUMF / Simon Fraser University, Vancouver, Canada
1989 - 1992	Research Fellow, California Institute of Technology, Pasadena, CA

### Awards and Fellowships

2010	Fellow, American Physical Society (APS)
1999	University of Michigan, LS&A Excellence in Research Award

## Grants

2018 - 2021	National Science Foundation, “Nuclear Physics Studies at Fermilab and PSI”, (Single PI) \$1,125,000
2018 - 2021	Department of Energy, “Search for Dark Matter with the LZ experiment”, (PI, with Akerlof as Co-PI), \$525,000
2017 - 2020	LBNL, subcontract for “LZ travel to SLAC, SURF, etc”, (Single PI), \$39,435 + \$15,565 as an increment to extend until 9/30/2020
2016 - 2019	National Science Foundation, “A Liquid Hydrogen Target for the MUSE Experiment”, (Single PI), \$588,994 + \$57,412 in a supplemental grant (2017)
2015 - 2018	Department of Energy through LBNL, “Rn Removal system for LZ Project”, (PI, with Akerlof as Co-PI) \$273,000
2017 - 2018	SLAC, subcontract for “Sabbatical Salary support to work on LZ at SLAC”, (Single PI), \$76,293
2016 - 2018	Department of Energy, “Search for Dark Matter with the LZ experiment”, (PI, with Akerlof as Co-PI), \$340,000
2016 - 2018	LSA Instructional Technology New Initiatives/ New Infrastructure (NINI) Grants, “Advancing Physics Lab Reform: Using FlipItPhysics to Prepare At-Risk Students to Succeed”, (Co-PI with Michelotti, Orr, and Popov) \$75,000
2016	Gift for “Spin Polarized Beam at Fermilab”, \$8,000
2015 - 2018	National Science Foundation, “Drell-Yan Studies at Fermilab”, (Single PI) \$636,000 + \$60,037 in a supplemental grant for Marshall Scott (AGEP) (2018) + \$24,429 in a supplemental grant for Noah Steinberg (2018) + \$63,720 in a supplemental grant for Marshall Scott (AGEP) (2017) + \$66,743 in a supplemental grant for Noah Steinberg (2017) + \$62,127 in a supplemental grant for Marshall Scott (AGEP) (2016)
2015 - 2018	University of Michigan, “Dark Matter Search with LZ”, (PI, with Akerlof as Co-PI), \$125,000 (\$50k LSA, \$50k OVPR, \$20k Physics Dept.)
2015 - 2016	U-M Transforming Learning for Third Century (TLTC) Quick Wins/Discovery grant program, “Launch for Incorporating Computational Modeling in Introductory Physics Labs”, (Co-PI with Michelotti, Orr, and Popov) \$49,823
2015	Gift for “Spin Polarized Beam at Fermilab”, \$17,000
2013 -2015	University of Michigan , “PandaX: A Dark Matter Experiment in China”, (PI, with Tarle, Gerdes, Schwarz as Co-PIs), \$150,000
2012 - 2015	National Science Foundation, “Drell-Yan Scattering: SeaQuest and Beyond”, (Single PI) \$420,000 + \$30,986 in a supplemental grant (2015)
2011 - 2014	Department of Energy, “Electric Dipole Moment Measurements with Rare Isotopes: The Radon-EDM Experiment” (Co-PI with Chupp) \$360,000
2014	Gift for “Spin Polarized Beam at Fermilab”, \$15,000
2013	Spring/Summer Rackham research grant, \$10,940
2013	Gift for “Spin Polarized Beam at Fermilab”, \$10,000
2011 - 2012	University of Michigan , “PandaX: A Dark Matter Experiment in China”, (PI, with Tarle, Gerdes, Chupp as Co-PIs), \$311,000
2011	Gift for “Spin Polarized Beam at Fermilab - Research Fellow Support”, \$15,000
2010	URA Visiting Scholars Program at Fermilab, \$33,367

2010 - 2012	Department of Energy, “Proposal to Study the Properties and Interactions of Elementary Particles”, Dark Energy Task, (Co-PI with Tarle, Gerdes and McKay) \$485,000 + \$240,000 (bridging funds: Oct 11 – Apr 12) + \$37,500 in a supplemental (ARRA) grant (2010)
2009 - 2012	National Science Foundation, “Intermediate Energy Nuclear Physics”, (Single PI) \$625,000
2009 - 2010	Department of Energy, “Proposal to Study the Properties and Interactions of Elementary Particles”, Dark Energy Task, (Co-PI with Tarle, Gerdes and McKay) \$443,000
2009	Department of Energy, Dark Energy Task Supplement, (Co-PI with Tarle) \$58,000 + \$18,000 in a supplemental grant (2009) + added to Particle Physics Umbrella base grant
2008 - 2010	Department of Energy, “Precision Photometry to Study the Nature of Dark Energy”, (PI, with Schubnell Co-PI) \$120,089
2007 - 2010	Department of Energy, “Electric Dipole Moment Measurements with Rare Isotopes: The Radon-EDM Experiment” (Co-PI with Chupp) \$313,000
2007	Brookhaven National Lab, Jefferson Lab, “Workshop on Precision Polarimetry for the EIC”, (PI) \$4,000
2006 - 2009	National Science Foundation, “Hadronic Physics with Electromagnetic Probes at HERMES”, (Single PI) \$529,726 + \$9,778 in a supplemental grant (2008) + \$14,850 in two supplemental grants (2007)
2004 - 2006	Department of Energy, “CP Odd Electric Dipole Moment Measurements with Rare Isotopes”, (PI with Chupp) \$164,000 + \$22,000 in a supplemental grant (2005)
2003 - 2006	National Science Foundation, “Hadronic Physics with Electromagnetic Probes at HERMES”, (Single PI) \$544,434
2000 - 2003	National Science Foundation, “Intermediate Energy Nuclear Physics at HERMES”, (Single PI) \$420,000 + \$16,243 in a supplemental grant
1997 - 2000	National Science Foundation, “Research in Intermediate Energy Nuclear Physics”, (Single PI) \$359,760 + \$46,116 in three supplemental grants
1995 - 1996	National Science Foundation, “Equipment Grant for building a longitudinal polarimeter at the HERA Storage ring at DESY, Hamburg”, Co-PI’s, D. Balamuth, H.T. Fortune, and R. Zurmuhle, \$137,500
1995	National Science Foundation, “Research in Nuclear Physics”, Co-PI’s, D. Balamuth, H.T. Fortune, and R. Zurmuhle, \$625,000

### Publications in Refereed Journals

Published 155 articles in refereed journals with 1 article(s) accepted, and 2 article(s) submitted.  
Total number of citations: 10,932 (InSPIRE), 8,48 (ISI), h-index: 51 (February 26, 2018)

### Articles published in Refereed Journals

1. R. Henneck *et al.*, *Nucl. Instr. Meth.* **A259**, (1987) 329. ”A Facility for Monoenergetic Polarized Neutrons of 30-70 MeV”
2. R. Henneck *et al.*, *Phys. Rev.* **C37**, (1988) 2224. ” $0^\circ$  Polarization Transfer in (p,n)-Reactions from  $^6,7\text{Li}$  and  $^9\text{Be}$  near 55 MeV”
3. S. Burzynski *et al.*, *Phys. Rev.* **C39**, (1989) 56. ” $p\text{-}^4\text{He}$  Scattering: New Data and a Phase-Shift Analysis between 30 and 72 MeV”

4. B. von Przewoski *et al.*, *Nucl. Phys.* **A496**, (1989) 15. "A measurement of  $\frac{d\sigma}{d\Omega}$  and  $A_y$  in elastic proton scattering from  $^{12,13}\text{C}$ ,  $^{29}\text{Si}$  and  $^{31}\text{P}$  at 72 MeV"
5. M.A. Pickar *et al.*, *Phys. Rev.* **C42**, (1990) 20. " $0^\circ$  polarization transfer in  $^2\text{H}(\vec{p}, \vec{n}pp)$  at 54 and 71 MeV"
6. C. Brogli-Gysin *et al.*, *Phys. Rev.* **B250**, (1990) 11. " $A_y$  in n-d elastic scattering: a test for three-nucleon calculations"
7. C.E. Woodward *et al.*, *Phys. Rev. Lett.* **65**, (1990) 698. "Measurement of Inclusive Quasielastic Scattering of Polarized Electrons from Polarized  $^3\text{He}$ "
8. J.P. Chen *et al.*, *Phys. Rev. Lett.* **66**, (1991) 1283. "Longitudinal and Transverse Response Functions in  $^{56}\text{Fe}(e,e')$  at Momentum Transfer Near 1 GeV/c"
9. H. Hammans *et al.*, *Phys. Rev. Lett.* **66**, (1991) 2293. "Neutron-Proton Spin-Correlation Parameter  $A_{zz}$  at 68 MeV"
10. C.E. Jones-Woodward *et al.*, *Phys. Rev.* **C44**, (1991) R571. "Determination of the Neutron Electric Form Factor in Quasielastic Scattering of Polarized Electrons from Polarized  $^3\text{He}$ "
11. Z.E. Meziani *et al.*, *Phys. Rev. Lett.* **69**, (1992) 41. "High Momentum Transfer  $R_{T,L}$  Inclusive Response Functions for  $^{3,4}\text{He}$ "
12. C.E. Jones *et al.*, *Phys. Rev.* **C47**, (1993) 110. " $^3\vec{H}e(\vec{e}, e')$  quasielastic asymmetry"
13. K. Lee *et al.*, *Phys. Rev. Lett.* **70**, (1993) 738. "Measurement of Spin Observables using a Storage Ring with polarized Beam and Polarized Internal Gas Target"
14. W. Lorenzon *et al.*, *Phys. Rev.* **A47**, (1993) 468. "NMR calibration of optical measurement of nuclear polarization in  $^3\text{He}$ "
15. Z.E. Meziani *et al.*, *Nucl. Phys* **A553**, (1993) 701. "High Momentum Transfer  $R_{T,L}$  Response Functions for  $^{3,4}\text{He}$ "
16. W. Lorenzon *et al.*, *Europhys. Lett.* **21**, (1993) 747. "Search for an Isotensor Electromagnetic Interaction"
17. D.P. Barber *et al.*, *Nucl. Instr. Meth.* **A329**, (1993) 79. "The HERA Polarimeter and the first Observation of Electron Spin at HERA"
18. N.C.R. Makins *et al.*, *Phys. Rev. Lett.* **72**, (1994) 1986. "Momentum Transfer Dependence of Nuclear Transparency from the Quasielastic  $^{12}\text{C}(e,e'p)$  Reaction"
19. H. Hammans *et al.*, *Phys. Rev. Lett.* **72**, (1994) 2665. "Neutron-Proton Spin-Correlation Parameter  $A_{zz}$  at 68 MeV – Reply"
20. W. Lorenzon *et al.*, *Nucl. Instr. Meth.* **A342**, (1994) 516. "Gas Scintillation in He-N<sub>2</sub>-CH<sub>4</sub> and He-N<sub>2</sub> mixtures"
21. H. Gao *et al.*, *Phys. Rev.* **C50**, (1994) R546. "Measurement of neutron magnetic form factor from inclusive quasielastic scattering of polarized electrons from polarized  $^3\text{He}$ ".
22. C. Bloch *et al.*, *Nucl. Instr. Meth.* **A354**, (1995) 437. "Spin-dependent scattering of polarized protons from a polarized  $^3\text{He}$  internal gas target"
23. M.A. Miller *et al.*, *Phys. Rev. Lett.* **74**, (1995) 502. "Measurement of Quasielastic  $^3\text{He}(\vec{p}, pN)$  Scattering from Polarized  $^3\text{He}$  and the Three-Body Ground State Spin Structure".
24. J.E. Belz *et al.*, *Phys. Rev. Lett.* **74**, (1995) 646. "Two Body Photodisintegration of the Deuteron up to 2.8 GeV"
25. J.-O. Hansen *et al.*, *Phys. Rev. Lett.* **74**, (1995) 654. "Transverse-Longitudinal Asymmetry in the Quasielastic  $^3\vec{H}e(\vec{e}, e')$  Reaction"

26. T.G. O'Neill *et al.*, *Phys. Lett.* **B351**, (1995) 87. "A Dependence of Nuclear Transparency in Quasielastic A(e,e'p) at High Q<sup>2</sup>"
27. W.J. Cummings *et al.*, *Phys. Rev.* **A51**, (1995) 4842. "Optical Pumping of Rb Vapor using High Power GaAlAs Diode Laser Arrays"
28. H.J. Bulten *et al.*, *Phys. Rev. Lett.* **74**, (1995) 4775. "Exclusive Electron-Scattering from Deuterium at High Momentum-transfer"
29. C.E. Jones *et al.*, *Phys. Rev.* **C52**, (1995) 1520. "Measurement of spin-dependent asymmetry in <sup>3</sup>He( $\vec{e}, e'$ ) inelastic scattering at low energy transfer"
30. J.F.J. van den Brand *et al.*, *Phys. Rev.* **D52**, (1995) 4868. "Evidence for virtual Compton scattering from the proton"
31. J. Arrington *et al.*, *Phys. Rev.* **C53**, (1996) 2248. "Inclusive Electron Scattering from Nuclei at  $x \sim 1$ "
32. R.G. Milner *et al.*, *Phys. Lett.* **B379**, (1996) 67. "The Spin-dependent Momentum Distributions of the Neutron and Proton in <sup>3</sup>He".
33. K. Ackerstaff *et al.*, *Phys. Lett.* **B404**, (1997) 383. "Measurement of the Neutron Spin Structure Function  $g_1^n$  with a Polarized <sup>3</sup>He Internal Target".
34. P. Bogorad *et al.*, *Nucl. Instr. Meth.* **A398**, (1997) 211. "A Combined Polarized Target/Ionization Chamber for Measuring the Spin Dependence of Nuclear Muon Capture in Laser Polarized <sup>3</sup>He".
35. P.A. Souder *et al.* *Nucl. Instr. Meth.* **A402**, (1998) 311. "Laser polarized muonic <sup>3</sup>He and spin dependent  $\mu^-$  capture"
36. D. Abbott *et al.*, *Phys. Rev. Lett.* **80**, (1998) 5072. "Quasifree (e,e'p) Reactions and Proton Propagation in Nuclei"
37. B.B. Blinov *et al.*, *Phys. Rev. Lett.* **81**, (1998) 2906. "Spin flipping in the presence of a full Siberian snake"
38. P. Chu *et al.*, *Phys. Rev.* **E58**, (1998) 4973. "Unexpectedly Wide rf-induced Synchrotron Sideband Depolarizing Resonances"
39. K. Ackerstaff *et al.*, *Nucl. Instr. Meth.* **A417**, (1998) 230. "The HERMES Spectrometer"
40. A. Airapetian *et al.*, *Phys. Lett.* **B442**, (1998) 484. "Measurement of the Proton Spin Structure Function  $g_1^p$  with a Pure Hydrogen Target"
41. K. Ackerstaff *et al.*, *Phys. Rev. Lett.* **81**, (1998) 5519. "Flavor Asymmetry of the Light Quark Sea from Semi-inclusive Deep-inelastic Scattering"
42. K. Ackerstaff *et al.*, *Phys. Lett.* **B444**, (1998) 531. "Determination of the Deep Inelastic Contribution to the Generalised Gerasimov-Drell-Hearn Integral for the Proton and Neutron"
43. K. Ackerstaff *et al.*, *Phys. Rev. Lett.* **82**, (1999) 1164. "Beam-Induced Nuclear Depolarization in a Gaseous Polarized Hydrogen Target"
44. K. Ackerstaff *et al.*, *Phys. Rev. Lett.* **82**, (1999) 3025. "Observation of Coherence Length Effects in Exclusive  $\rho^0$  Electroproduction"
45. B.B. Blinov *et al.*, *Phys. Rev. Spec. Top.* **2**, (1999) 064001. "Synchrotron-sideband snake depolarizing resonances"
46. K. Ackerstaff *et al.*, *Phys. Lett.* **B464**, (1999) 123. "Flavor Decomposition of the Polarized Quark Distributions in the Nucleon from Inclusive and Semi-inclusive Deep-inelastic Scattering"

47. K. Ackerstaff *et al.*, *Phys. Lett.* **B475**, (2000) 386. “Nuclear Effects on  $R = \sigma_L/\sigma_T$  in Deep Inelastic Scattering”
48. A. Airapetian *et al.*, *Phys. Rev. Lett.* **84**, (2000) 2584. “Measurement of the Spin Asymmetry in the Photoproduction of pairs of High- $p_T$  Hadrons at HERMES”
49. A. Airapetian *et al.*, *Phys. Rev. Lett.* **84**, (2000) 4047. “Evidence for a Single-Spin Azimuthal Asymmetry in Semi-Inclusive Pion Electroproduction”
50. D. Dutta *et al.*, *Phys. Rev.* **C61**, (2000) 061602(R). “Separated spectral functions for the quasifree  $^{12}\text{C}(e, e'p)$  reaction”
51. A. Airapetian *et al.*, *Eur. Phys. J.* **C17**, (2000) 389. “Exclusive leptonproduction of  $\rho^0$  mesons from hydrogen at intermediate virtual photon energies”
52. A. Airapetian *et al.*, *Phys. Lett.* **B494**, (2000) 1. “The  $Q^2$ -dependence of the Generalized Gerasimov-Drell-Hearn Integral for the Proton”
53. K. Ackerstaff *et al.*, *Eur. Phys. J.* **C18**, (2000) 303. “Measurement of Angular Distributions and  $R = \sigma_L/\sigma_T$  in Diffractive Electroproduction of  $\rho^0$  Mesons”
54. A. Airapetian *et al.*, *Eur. Phys. J.* **C20**, (2001) 479. “Hadron formation in deep-inelastic positron scattering in a nuclear environment”
55. A. Airapetian *et al.*, *Phys. Lett.* **B513**, (2001) 301. “Double-Spin Asymmetry in the Cross Section for Exclusive  $\rho^0$  Production in Lepton-Proton Scattering”
56. E.C. Schulte *et al.*, *Phys. Rev. Lett.* **87**, (2001) 102302. “Measurement of the high energy two-body deuteron photodisintegration differential cross section”
57. A. Airapetian *et al.*, *Phys. Rev.* **D64**, (2001) 097101. “Single-Spin Azimuthal Asymmetry in the Electroroduction of Neutral Pions in Semi-inclusive Deep Inelastic Scattering”
58. A. Airapetian *et al.*, *Phys. Rev. Lett.* **87**, (2001) 182001. “Measurement of the Beam-Spin Azimuthal Asymmetry Associated with Deeply-Virtual Compton Scattering”
59. A. Airapetian *et al.*, *Eur. Phys. J.* **C21**, (2001) 599. “Multiplicity of Charged and Neutral Pions in Deep-Inelastic Scattering of 27.5 GeV Positrons on Hydrogen”
60. V.S. Morozov *et al.*, *Phys. Rev. Accel. Beams* **4**, (2001) 104002. “Spin-flipping polarized electrons”
61. A. Airapetian *et al.*, *Phys. Rev.* **D64**, (2001) 112005. “Measurement of Longitudinal Spin Transfer to Lambda Hyperons in Deep Inelastic Lepton Scattering”
62. B.B. Blinov *et al.*, *Phys. Rev. Lett.* **88**, (2002) 014801. “99.6% Spin-flip efficiency in the presence of a strong Siberian snake”
63. M. Beckmann *et al.*, *Nucl. Instr. Meth.* **A479**, (2002) 334. “The Longitudinal Polarimeter at HERA”
64. A. Airapetian *et al.*, *Phys. Lett.* **B535**, (2002) 85. “Single-spin azimuthal asymmetry in exclusive electroproduction of  $\pi^+$  mesons”
65. K. Garrow *et al.*, *Phys. Rev.* **C66**, (2002) 044613. “Nuclear transparency from quasielastic  $A(e, e'p)$  reactions up to  $Q^2 = 8.1$  (GeV/c) $^2$ ”
66. A. Airapetian *et al.*, *Phys. Rev. Lett.* **90**, (2003) 052501. “ $Q^2$  Dependence of Nuclear Transparency for (In)coherent  $\rho^0$  production”
67. A. Airapetian *et al.*, *Phys. Rev. Lett.* **90**, (2003) 092002. “Evidence for Quark-Hadron Duality in the Proton Spin Asymmetry  $A_1$ ”

68. A. Airapetian *et al.*, *Eur. Phys. J.* **C26**, (2003) 527. "The  $Q^2$  Dependence of the Generalized Gerasimov-Drell-Hearn Sum Rule for the Proton and the Neutron"
69. A. Airapetian *et al.*, *Phys. Lett.* **B562**, (2003) 182. "Measurement of single-spin azimuthal asymmetries in semi-inclusive electroproduction of pions and kaons on a longitudinally polarized deuterium target"
70. A. Airapetian *et al.*, *Eur. Phys. J.* **C29**, (2003) 171. "Double-spin asymmetry in rho and phi production at intermediate energies"
71. A. Airapetian *et al.*, *Phys. Lett.* **B567**, (2003) 339. "Erratum to: Nuclear Effects on  $R = \sigma_L/\sigma_T$  in Deep Inelastic Scattering [K. Ackerstaff *et al.*, *Phys. Lett. B* 475, (2000) 386]"
72. D. Dutta *et al.*, *Phys. Rev.* **C68**, (2003) 064603. "Quasielastic (e,e'p) reaction on  $^{12}\text{C}$ ,  $^{56}\text{Fe}$ , and  $^{97}\text{Au}$ "
73. A. Airapetian *et al.*, *Phys. Lett.* **B577**, (2003) 37. "Quark fragmentation to  $\pi^\pm$ ,  $\pi^0$ ,  $K^\pm$ ,  $p$  and  $\bar{p}$  in the nuclear environment"
74. A. Airapetian *et al.*, *Phys. Rev. Lett.* **92**, (2004) 012005. "Flavor Decomposition of the Sea-Quark Helicity Distributions in the Nucleon from Semiinclusive Deep Inelastic Scattering"
75. J. Rhodes *et al.*, *Astropart. Phys.* **20**, (2004) 377. "Weak lensing from space I: instrumentation and survey strategy"
76. A. Airapetian *et al.*, *Phys. Lett.* **B585**, (2004) 213. "Evidence for a narrow  $|S|=1$  baryon state at a mass of 1528 MeV in quasi-real photoproduction"
77. A. Airapetian *et al.*, *Eur. Phys. J.* **D29**, (2004) 21. "Nuclear Polarization of Molecular Hydrogen Recombined on a Non-metallic Surface"
78. A. Airapetian *et al.*, *Phys. Lett.* **B599**, (2004) 212. "Hard Exclusive Electroproduction of  $\pi^+\pi^-$  Pairs"
79. M.E. Christy *et al.*, *Phys. Rev.* **C70**, (2004) 015206. "Measurement of electron-proton elastic cross sections for  $0.4 < Q^2 < 5.5$  (GeV/c) $^2$ "
80. W. Lorenzon, *Fizika* **B13**, (2004) 315. "Flavor separated quark polarizations at HERMES" (refereed conference proceedings)
81. A. Airapetian *et al.*, *Phys. Rev. Lett.* **94**, (2005) 012002. "Single-Spin Asymmetries in Semi-Inclusive Deep-Inelastic Scattering on a Transversely-Polarized Hydrogen Target"
82. A. Airapetian *et al.*, *Phys. Rev.* **D71**, (2005) 012003. "Quark Helicity Distributions in the Nucleon for up-, down-, and strange-quarks from Semi-inclusive Deep-inelastic Scattering"
83. A. Airapetian *et al.*, *Phys. Rev.* **D71**, (2005) 032004. "Search for an exotic  $S=-2$ ,  $Q=-2$  baryon resonance at a mass near 1862 MeV in quasi-real photoproduction"
84. A. Airapetian *et al.*, *Nucl. Instr. and Meth.* **A540**, (2005) 68. "The HERMES Polarized Hydrogen and Deuterium Internal Gas Target"
85. A. Airapetian *et al.*, *Phys. Lett.* **B622**, (2005) 14. "Subleading-twist effects in single-spin asymmetries in semi-inclusive deep-inelastic scattering on a longitudinally polarized hydrogen target"
86. A. Airapetian *et al.*, *Phys. Rev. Lett.* **95**, (2005) 242001. "Measurement of the Tensor Structure Function  $b_1$  of the Deuteron"
87. A. Airapetian *et al.*, *Phys. Rev. Lett.* **96**, (2006) 162301. "Double-hadron leptoproduction in the nuclear medium"
88. A. Airapetian *et al.*, *Phys. Rev.* **D74**, (2006) 072004. "Longitudinal spin transfer to the Lambda hyperon in semi-inclusive deep-inelastic scattering"

89. J.A. Fairfield *et al.*, *IEEE Trans. Nucl. Sci.* **53**, (2006) 3877. “Reduced charge diffusion in thick, fully depleted CCDs with enhanced red sensitivity”
90. A. Airapetian *et al.*, *Phys. Rev.* **D75**, (2007) 012007. “Precise determination of the spin structure function  $g_1$  of the proton, deuteron, and neutron”
91. A. Airapetian *et al.*, *Phys. Rev.* **D75**, (2007) 011103. “Beam-charge azimuthal asymmetry and deeply virtual Compton scattering ”
92. V. Tvaskis *et al.*, *Phys. Rev. Lett.* **98**, (2007) 142301. “Longitudinal-Transverse Separations of Deep-Inelastic Structure Functions at Low  $Q^2$  for Hydrogen and Deuterium”
93. N. Barron *et al.*, *PASP.* **119**, (2007) 466-475. “Sub-Pixel Response Measurement of Near-Infrared Sensors”
94. A. Airapetian *et al.*, *Phys. Lett.* **B648**, (2007) 164. “Beam-Spin Asymmetries in the Azimuthal Distribution of Pion Electroproduction”
95. A. Airapetian *et al.*, *Nucl. Phys.* **B780**, (2007) 1. “Hadronization in Semi-inclusive deep inelastic scattering on nuclei”
96. E. Alden, M. Kennedy, W. Lorenzon, and W. Smith, *The Physics Teacher* **45**, (2007) 492-495. “An Electromagnetic Induction Flashlight Experiment”
97. A. Airapetian *et al.*, *Phys. Rev.* **D76**, (2007) 092008. “Transverse Polarization of Lambda and Lambda-bar Hyperons in Quasi-Real Photon-Nucleon Scattering at HERMES”
98. A. Airapetian *et al.*, *Phys. Lett.* **B659**, (2008) 486-492. “Cross sections for hard exclusive electroproduction of  $\pi^+$  mesons on a hydrogen target”
99. E.R. Tardiff *et al.*, *Phys. Rev.* **C77**, 052501(R) (2008). “Polarization and relaxation rates of radon”
100. A. Airapetian *et al.*, *JHEP* **06**, (2008) 017. “Evidence for a Transverse Single-Spin Asymmetry in Leptoproduction of  $\pi^+\pi^-$  Pairs”
101. A. Airapetian *et al.*, *JHEP* **06**, (2008) 066. “Measurement of Azimuthal Asymmetries With Respect To Both Beam Charge and Transverse Target Polarization in Exclusive Electroproduction of Real Photons”
102. A. Airapetian *et al.*, *Phys. Lett.* **B666**, (2008) 446. “Measurement of parton distributions of strange quarks in the nucleon from charged-kaon production in deep-inelastic scattering on the deuteron”
103. A. Airapetian *et al.*, *Phys. Lett.* **B679**, (2009) 100. “Exclusive  $\rho^0$  electroproduction on transversely polarized protons”
104. A. Airapetian *et al.*, *Eur. Phys. J.* **C62**, (2009) 659. “Spin Density Matrix Elements in Exclusive  $\rho^0$  Electroproduction on  $^1\text{H}$  and  $^2\text{H}$  Targets at 27.5 GeV Beam Energy”
105. A. Airapetian *et al.*, *Phys. Rev. Lett.* **103**, (2009) 152002. “Observation of the Naive-T-odd Sivers Effect in Deep-Inelastic Scattering”
106. A. Airapetian *et al.*, *JHEP* **11**, (2009) 083. “Separation of contributions from deeply virtual Compton scattering and its interference with the Bethe–Heitler process in measurements on a hydrogen target”
107. A. Airapetian *et al.*, *Phys. Lett.* **B682**, (2010) 345. “Single-spin azimuthal asymmetry in exclusive electroproduction of  $\pi^+$  mesons on transversely polarized protons ”
108. A. Airapetian *et al.*, *Phys. Lett.* **B682**, (2010) 351. “Search for a Two-Photon Exchange Contribution to Inclusive Deep-Inelastic Scattering ”



109. A. Airapetian *et al.*, *Nucl. Phys.* **B829** (2010) 1. “Measurement of azimuthal asymmetries associated with deeply virtual Compton scattering on an unpolarized deuterium target ”
110. A. Airapetian *et al.*, *Phys. Lett.* **B684**, (2010) 114. “Transverse momentum broadening of hadrons produced in semi-inclusive deep-inelastic scattering on nuclei”
111. A. Airapetian *et al.*, *Phys. Rev.* **C81**, (2010) 035202. “Nuclear-mass dependence of beam-helicity and beam-charge azimuthal asymmetries in deeply virtual Compton scattering”
112. V. Tvaskis *et al.*, *Phys. Rev.* **C81**, (2010) 055207. “The proton and deuteron  $F_2$  structure function at low  $Q^2$ ”
113. A. Airapetian *et al.*, *JHEP* **06**, (2010) 019. “Exclusive Leptoproduction of Real Photons on a Longitudinally Polarised Hydrogen Target”
114. A. Airapetian *et al.*, *Phys. Lett. B* **693** (2010) 11. “Effects of transversity in deep-inelastic scattering by polarized protons”
115. A. Airapetian *et al.*, *JHEP* **08**, (2010) 130. “Leading-Order Determination of the Gluon Polarization from high- $p_T$  Hadron Electroproduction”
116. A. Airapetian *et al.*, *Nucl. Phys.* **B842** (2011) 265. “Measurement of azimuthal asymmetries associated with deeply virtual Compton scattering on a longitudinally polarized deuterium target”
117. T. Biesiadzinski *et al.*, *PASP.* **123**, (2011) 179-186. “Measurement of Reciprocity Failure in Near Infrared Detectors”
118. A. Airapetian *et al.*, *Eur. Phys. J.* **C71**, (2011) 1609. “Ratios of Helicity Amplitudes of Exclusive  $\rho^0$  Electroproduction”
119. A. Airapetian *et al.*, *JHEP* **05**, (2011) 126. “Inclusive Measurements of Inelastic Electron and Positron Scattering from Unpolarized Hydrogen and Deuterium Targets”
120. D. Schlegel *et al.*, “The BigBOSS Experiment”, arXiv:1106.1706
121. T. Biesiadzinski *et al.*, *PASP.* **123**, (2011) 958. “Reciprocity Failure in HgCdTe Detectors: Measurements and Mitigation”
122. A. Airapetian *et al.*, *Phys. Lett.* **B704**, (2011) 15. “Measurements of double-spin asymmetries associated with deeply virtual Compton scattering on a transversely polarized hydrogen target”
123. A. Airapetian *et al.*, *Eur. Phys. J.* **A47**, (2011) 113. “Multidimensional Study of Hadronization in Nuclei”
124. (Spin@Fermi Collaboration) A.D. Krisch, *et al.*, arXiv:1110.3042, [physics.acc-ph. “Updated Report Acceleration of Polarized Protons to 120-150 GeV/c at Fermilab”, submitted to Fermilab in August 2011.
125. A. Airapetian *et al.*, *Eur. Phys. J.* **C72**, (2012) 1921. “Measurement of the virtual-photon asymmetry  $A_2$  and the spin-structure function  $g_2$  of the proton”
126. A. Airapetian *et al.*, *JHEP* **07**, (2012) 032. “Beam-helicity and beam-charge asymmetries associated with deeply virtual Compton scattering on the unpolarised proton”
127. A. Airapetian *et al.*, *JHEP* **10**, (2012) 042. “Beam-helicity asymmetry arising from deeply virtual Compton scattering measured with kinematically complete event reconstruction”
128. A. Airapetian *et al.*, *Phys. Rev.* **D87**, (2013) 012010. “Azimuthal distributions of charged hadrons, pions, and kaons produced in deep-inelastic scattering off unpolarized protons and deuterons”

129. (DES Collaboration) K. Kuehn *et al.*, *PASP.* **125**, (2013) 410-429. “PreCam, a Precursor Observational Campaign for Calibration of the Dark Energy Survey”
130. A. Airapetian *et al.*, *Phys. Rev.* **D87**, (2013) 074029. “Multiplicities of charged pions and kaons from semi-inclusive deep-inelastic scattering by the proton and the deuteron”
131. A. Airapetian *et al.*, *Phys. Lett. B* **728C** (2014) 183. “Transverse target single-spin asymmetry in inclusive electroproduction of charged pions and kaons”
132. A. Airapetian *et al.*, *JHEP* **01**, (2014) 077. “Beam-helicity asymmetry in associated electroproduction of real photons  $ep \rightarrow e\gamma\pi N$  in the  $\Delta$ -resonance region”
133. T. Biesiadzinski *et al.*, *PASP.* **126**, (2014) 000. “Beyond Quantum Efficiency: a Comprehensive NIR Detector Response Study”
134. E.R. Tardiff *et al.*, *Hyperfine interact.* **225**, (2014) 197. “The radon EDM apparatus”
135. A. Airapetian *et al.*, *Phys. Rev.* **D89**, (2014) 097101. “Re-evaluation of the Parton Distribution of Strange Quarks in the Nucleon”
136. X.G. Cao *et al.*, *Sci. China-Phys. Mech. Astron.*, **57(8)**(2014) 1476-1494. “PandaX a liquid xenon dark matter experiment at CJPL”
137. M. Xiao *et al.*, *Sci. China-Phys. Mech. Astron.* **57(11)**, (2014) 2024-2030. “First dark matter search results from the PandaX-I experiment”
138. Q. Lin *et al.*, *JINST* **9**, (2014) P04014. “High Resolution Gamma Ray Detection in a Dual Phase Xenon Time Projection Chamber”
139. A. Airapetian *et al.*, *Phys. Rev.* **D90**, (2014) 072007. “Transverse polarisation of Lambda hyperons from quasi-real photoproduction on nuclei”
140. A. Airapetian *et al.*, *Euro. Phys. J.* **C74**, (2014) 3110. “Spin density matrix elements in exclusive  $\omega$  electroproduction on  $^1\text{H}$  and  $^2\text{H}$  targets at 27.6 GeV beam energy”
141. N. Akopov *et al.*, *Phys. Rev.* **D91**, (2015) 057101. “Pentaquark  $\Theta^+$  search at HERMES”
142. A. Airapetian *et al.*, *Euro. Phys. J.* **C75**, (2015) 361. “Bose-Einstein correlations in hadron-pairs from lepto-production on nuclei ranging from hydrogen to xenon”
143. D.S. Akerib, C.W. Akerlof, D.Yu. Akimov, S.K. Alsum, H.M. Araujo, X. Bai, A.J. Bailey, J. Balajthy, S. Balashov, M.J. Barry *et al.* [LZ Collaboration], “LUX-ZEPLIN (LZ) Conceptual Design Report”, arXiv:1509.02910 [physics.ins-det].
144. X. Xiao *et al.*, *Phys. Rev.* **D92**, (2015) 052004. “Low-mass dark matter search results from full exposure of PandaX-I experiment”
145. S. Stephenson *et al.*, *JINST* **10**, (2015) P10040. “MiX: A Position Sensitive Dual-Phase Liquid Xenon Detector”
146. A. Airapetian *et al.*, *Euro. Phys. J.* **C75**, (2015) 600. “Transverse-target-spin asymmetry in exclusive omega-meson electroproduction”
147. A. Airapetian *et al.*, *Euro. Phys. J.* **C76**, (2016) 162. Erratum to: “Spin density matrix elements in exclusive  $\omega$  electroproduction on  $^1\text{H}$  and  $^2\text{H}$  targets at 27.5 GeV beam energy (vol 74, 3110, 2014)”
148. A. Tan *et al.*, *Phys. Rev.* **D93**, (2016) 122009. “Dark Matter Search Results from the Commissioning Run of PandaX-II”
149. A. Tan *et al.*, *Phys. Rev. Lett.* **117**, (2016) 121303. “Dark Matter Results from First 98.7-day Data of PandaX-II Experiment”.

150. B.J. Mount *et al.*, [LZ Collaboration], “LUX-ZEPLIN (LZ) Technical Design Report”, arXiv:1703.09144 [physics.ins-det].
151. J. Haefner *et al.*, *Nucl. Instr. Meth.* **A856**, (2017) 86. “Reflectance dependence of polytetrafluoroethylene on thickness for xenon scintillation light”.
152. A. Airapetian *et al.*, *Euro. Phys. J.* **C77**, (2017) 378. “Ratios of helicity amplitudes for exclusive  $\rho^0$  electroproduction on transversely polarized protons”.
153. F. Antoulinakis *et al.*, *Phys. Rev. Accel. Beams* **20**, (2017) 091003. “4-twist helix snake to maintain polarization in multi-GeV proton rings”.
154. D.S. Akerib *et al.*, (LZ Collaboration), *Astro. Part. Phys.* **96**, (2017) 1. “Identification of Radiopure Titanium for the LZ Dark Matter Experiment and Future Rare Event Searches”.
155. R. Gilman *et al.*, (MUSE Collaboration), arXiv:1709.09753 [physics.ins-det]. Technical Design Report for the Paul Scherrer Institute Experiment R-12-01.1: Studying the Proton “Radium” Puzzle with  $\mu p$  Elastic Scattering”.

### Articles accepted for publication in Refereed Journals

1. K. Pushkin *et al.*, “Study of radon reduction in gases for rare event search experiments”, accepted by **NIMA**, arXiv:1805.11306 [physics.ins-det]

### Articles submitted for publication in Refereed Journals

1. C.A. Aidala *et al.*, (SeaQuest Collaboration), “The SeaQuest Spectrometer at Fermilab”, submitted to **NIMA**, arXiv:1706.09990 [physics.ins-det], FERMILAB-PUB-17-209-E
2. D.S. Akerib *et al.*, (LZ Collaboration), “Projected WIMP sensitivity of the LUX-ZEPLIN (LZ) dark matter experiment”, arXiv:1802.06039 [astro-ph.IM]

### Conference Proceedings and Other publications

1. W. Lorenzon “Color Transparency (e,e’p) Measurements at SLAC”, *AIP Conference Proceedings* No. 269, Particles and Fields Series 51, ed. F. Gross, p. 308 (1992).
2. W. Lorenzon *AIP Conference Proceedings* No. 421, ed. R.J. Holt, M.A. Miller, p. 181 (1997).
3. W. Lorenzon *Proceedings of the XXVI SLAC Summer Institute on Particle Physics*, ed. L. Dixon, p. 437 (1998).
4. W. Lorenzon “Beam Polarimetry at HERA”, *AIP Conference Proceedings* No. 421, ed. R.J. Holt, M.A. Miller, p. 181.
5. W. Lorenzon  *$\pi N$  Newsletter* No. 15, ed. D. Drechsel, G. Höhler, W. Kluge, H. Leutwyler, B.M.K. Nefkens, H.-M. Staudenmaier, p. 209 (1999).
6. W. Lorenzon *Proceedings of Orbis Scientiae 1999* in “Quantum Gravity, Generalized Theory of Gravitation, and Superstring Theory-Based Unification”, Kluwer Academic/Plenum Publishers, New York, ed. B.N. Kursunoglu, S.L. Mintz, A. Perlmutter, p. 209 (1999).
7. V. Morozov *et al.*, “99.9% spin-flip efficiency in the presence of a strong Siberian snake”, *AIP Conference Proceedings* No. 675, p. 776 (2003).
8. W. Lorenzon “Nuclear Transparency in Exclusive  $\rho^0$  Production at HERMES”, *AIP Conference Proceedings* No. 698, ed. Z. Parsa, p. 119 (2003).
9. W. Lorenzon “Electron Beam Polarimetry for EIC/eRHIC”, *AIP Conference Proceedings* No. 698, ed. Z. Parsa, p. 797 (2003).

10. A. Ealet *et. al.*, “An integral field spectrograph for SNAP”, *Proceedings of the Society of Photo-Optical Instrumentation Engineers* (SPIE) 5487, p. 1587 (2004).
11. M. Sholl *et. al.*, “SNAP telescope”, *IPNP Proceedings* 5487, p. 1473 (2004).
12. W. Lorenzon *Fizika* **B13**, (2004) 315, a refereed journal of the Croatian Physical Society.
13. W. Lorenzon, “Pentaquark search at Hermes”, *Proceedings of the International Workshop “Pentaquark 04”*, World Scientific Publishing Co., Singapore, 2005, ed. A. Hosaka and T. Hotta, p. 66 (2005).
14. M. Schubnell *et. al.*, “Near infrared detectors for SNAP”, *Proceedings of the Society of Photo-Optical Instrumentation Engineers* (SPIE) 6276, p. Q2760 (2006).
15. M. Brown *et. al.*, “Development of NIR detectors and science driven requirements for SNAP”, *Proceedings of the Society of Photo-Optical Instrumentation Engineers* (SPIE) 6265, p. 26535 (2006).
16. E. Tardiff *et. al.*, “Polarization and relaxation of Rn-209”, *Conference Proceedings in NIMA* 579, p. 472 (2007).
17. W. Lorenzon “EIC Electron Beam Polarimetry Workshop summary”, *AIP Conference Proceedings* No. 980, eds. A. Kponou, Y. Makdisi, and A. Zelinski, p. 407 (2007).
18. W. Lorenzon “Count rate dependent non-linearity and pixel size variations in 1.7 micron cut-off detectors”, *Proceedings of the Society of Photo-Optical Instrumentation Engineers* (SPIE) 7021, p. V210 (2008).
19. M. Schubnell *et. al.*, “Precision Quantum Efficiency Measurements on 1.7 Micron Near Infrared Devices”, *Proceedings of the Society of Photo-Optical Instrumentation Engineers* (SPIE) 7021, p. L210 (2008).
20. B. Aurand *et. al.*, “Executive Summary of the Workshop on Polarization and Beam Energy Measurements at the ILC”, (2008) arXiv:0808.1638 [physics.acc-ph].
21. B. Aurand *et. al.*, “Beam Polarization at the ILC: the Physics Impact and the Accelerator Solutions”, (2009) arXiv:0903.2959 [physics.acc-ph]
22. W. Lorenzon “Precision Electron Beam Polarimetry”, *AIP Conference Proceedings* No. 1149, eds. D. Crabb, D. Day, S. Liuti, X. Zheng, M. Poelker, and Y. Prok, p. 709 (2009).
23. W. Lorenzon, “Drell-Yan Scattering at Fermilab: SeaQuest and Beyond”, *Nuovo Cimento C* 35, Issue 2 (2012).
24. W. Lorenzon, “Polarized Protons in the Fermilab Main Injector”, *Proceedings of Science (PSTP)* (2013), online: <http://pos.sissa.it/cgi-bin/reader/conf.cgi?confid=182>.
25. W. Lorenzon, “Opportunities with Polarized Hadron Beams”, *Int. J. Mod. Phys. Conf. Ser.* 40, ed. Haiyan Gao and Bo-Qiang Ma, p. 1660108 (2016), (DOI: 10.1142/S2010194516601083).

### Invited Talks and Papers

1. CEBAF 1992 Summer Workshop, Newport News, Virginia 1992, Plenary Talk on “Color Transparency (e,e’p) Measurements at SLAC”  
Particles and Fields Series 51, AIP Conference Proceedings No. 269, ed. F. Gross, p. 308.
2. 1993 Canadian Association of Physicists Congress, Burnaby, British Columbia (June 13-16), Invited Talk on “Search for Color Transparency in (e,e’p) at SLAC”
3. 1996 International Workshop on Lepton Polarization at High Energy Colliders, Lecce, Italy (September 26-28), Plenary talk on “The Hermes Experiment at HERA: First Results”

4. Gordon Research Conference on QCD in Nuclear Physics, Newport, Rhode Island (July 27 - August 1, 1997), Invited talk on “New Results from the HERMES Experiment”
5. Seventh International Workshop on Polarized Gas Targets and Polarized Beams, Urbana, Illinois (August 18-22, 1997), Invited Talk on “Beam Polarimetry at HERA”  
AIP Conference Proceedings No. 421, ed. R.J. Holt, M.A. Miller, p. 181.
6. 1998 Joint APS/AAPT Meeting, Columbus, Ohio (April 18 - 21, 1998), Invited talk on “Polarimeters for Polarized Electron Beams”
7. 1998 SLAC Summer Institute Topical Conference, Stanford, California (August 3-14), Plenary Talk on “Results from HERMES”  
SLAC Report 538, Proceedings of the XXVI SLAC Summer Institute on Particle Physics, ed. L. Dixon, p. 437.
8. Eighth International Symposium on Meson-Nucleon Physics and the Structure of the Nucleon, Zuoz, Switzerland (August 15-21, 1999), Invited Talk on “Recent Results from HERMES”  
 $\pi$ N Newsletter No. 15, ed. D. Drechsel, G. Höhler, W. Kluge, H. Leutwyler, B.M.K. Nefkens, H.-M. Staudenmaier, p. 209.
9. 1999 International Conference on Orbis Scientiae, Ft. Lauderdale, Florida (December 16-19, 1999), Plenary Talk on “The Mystery of Nucleon Spin”  
Proceedings of Orbis Scientiae 1999 in “Quantum Gravity, Generalized Theory of Gravitation, and Superstring Theory-Based Unification”, Kluwer Academic/Plenum Publishers, New York, ed. B.N. Kursunoglu, S.L. Mintz, A. Perlmutter, p.209.
10. Workshop on Quark-Hadron Transition in Structure and Fragmentation Functions at Jefferson Laboratory, Newport News, Virginia (April 17-18, 2000), Plenary Talk on “Fragmentation and Semi-Inclusive Results from HERMES”
11. 2001 Joint APS/JPS Meeting, Maui, HI (October 17 - 20, 2001), Talk on “Deeply Virtual Compton Scattering at HERMES”
12. Workshop on Electron Beam Polarimetry for the Electron Ion Collider at BNL, Upton, New York (November 8, 2002), Plenary Talk on “The Longitudinal Polarimeter at HERA”
13. Eighth Conference on the Intersection of Particle and Nuclear Physics (CIPANP 2003), New York, NY (May 19-24, 2003), Talk on “Nuclear Transparency in Exclusive  $\rho^0$  Production at HERMES”  
AIP Conference Proceedings No. 698, ed. Z. Parsa, p. 119.
14. Eighth Conference on the Intersection of Particle and Nuclear Physics (CIPANP 2003), New York, NY (May 19-24, 2003), Talk on “Electron Beam Polarimetry for EIC/eRHIC”  
AIP Conference Proceedings No. 698, ed. Z. Parsa, p. 797.
15. Second International Conference on Nuclear and Particle Physics with CEBAF at JLab (NAPP 2003), Dubrovnik, Croatia (May 26-31, 2003) Plenary Talk on “Flavor Separated Quark Polarizations at HERMES”  
Fizika **B13**, (2004) 315, a refereed journal of the Croatian Physical Society.
16. Workshop on Precision Electron Beam Polarimetry at Jlab, Newport News, VA (June 9-10, 2003), Plenary talk on “The Longitudinal Polarimeter at HERA”
17. Penta-Quark 2003 Workshop at JLab, Newport News, VA (November 6-8, 2003), Plenary talk on “The  $\Theta^+$  pentaquark search at HERMES”
18. Pentaquark04 Workshop at SPring-8, Japan (July 20-23, 2004), Plenary talk on “Pentaquark search at HERMES”  
Proceedings of the International Workshop “Pentaquark04”, World Scientific Publishing Co., Singapore, 2005, ed. A. Hosaka and T. Hotta, p. 66.

19. Seventh Annual Symposium on Japanese-American Frontiers of Science at the U.S. National Academy of Sciences, Irvine, CA (December 10-12, 2004), Short Plenary Talk on “Pentaquarks: A new subatomic species?”
20. Miami 2004 Conference on Elementary Particle Physics and Cosmology, Coral Gables and Key Biscayne, FL (December 15-19, 2004), Plenary talk on “Shedding Light on Dark Energy with the SuperNova/Acceleration Probe (SNAP)”
21. Pentaquark 2005 Workshop at JLab, Newport News, Virginia (October 20-22, 2005), Plenary talk on “Search for exotic Baryons at HERMES”
22. XIIth International Workshop on Polarized Sources, Targets & Polarimetry at BNL, Upton, New York (September 10-14, 2007), Summary Talk on “Precision Electron Beam Polarimetry” AIP Conference Proceedings No. 980, eds. A. Kponou, Y. Makdisi, and A. Zelinski, p. 407.
23. Workshop on Polarization and Energy measurements at the ILC, Zeuthen, Germany (April 9-11, 2008), Workshop Summary Talk
24. 4<sup>th</sup> Electron Ion Collider Workshop at Hampton University (May 19-23, 2008), Plenary talk on “Precision Electron and Ion Polarimetry for EIC”
25. SPIE Symposium on Astronomical Telescopes and Instrumentation: Synergies Between Ground and Space in Marseille, France (June 23-27, 2008), talk on “Count rate dependent non-linearity and pixel size variations in 1.7 micron cut-off detectors” Proceedings of the Society of Photo-Optical Instrumentation Engineers (SPIE) 7021, p. V210 (2008).
26. 18th International Symposium on Spin Physics Symposium (SPIN2008) at University of Virginia (October 6-11, 2008), Invited talk on “Precision Electron Beam Polarimetry” AIP Conference Proceedings No. 1149, eds. D. Crabb, D. Day, S. Liuti, X. Zheng, M. Poelker, and Y. Prok, p. 709 (2009).
27. ESO Workshop on Detectors for Astronomy, Garching, Germany (October 12-16, 2009), talk on “Limits on Reciprocity Failure in 1.7 $\mu$ m cut-off NIR astronomical detectors”
28. Workshop on Studying the hadron structure in Drell-Yan reactions, CERN, Geneva, Switzerland (April 26-27, 2010), Plenary talk on “Future Drell-Yan fixed target experiments at Fermilab”
29. Polarized Drell-Yan Physics Workshop, Santa Fe (October 31 - November 1, 2010), Plenary talk on “Drell-Yan Experiments at Fermilab: SeaQuest and Beyond”
30. Transversity 2011 Workshop, Veli Lošinj, Croatia (August 29 - September 2, 2011), Plenary talk on “Drell-Yan Scattering at Fermilab: SeaQuest and Beyond” Proceedings of the International Workshop “Transversity 2011” in *Nuovo Cimento C* 35, Issue 2
31. Light Dark Matter 2013 Workshop, Ann Arbor, Michigan (April 15-17, 2013), invited talk on “PandaX - Status and Plans”
32. Workshop on Opportunities for Polarized Physics at Fermilab, Fermilab (May 20-22, 2013), Plenary talk on “Polarized Drell-Yan at Fermilab”
33. XV<sup>th</sup> International Workshop on Polarized Sources, Targets, and Polarimetry (PSTP 2013) at University of Virginia (September 9 - 13, 2013), Invited talk on “Polarized Protons in the Fermilab Main Injector” Proceedings of Science web: <http://pos.sissa.it/cgi-bin/reader/conf.cgi?confid=182>.
34. 9<sup>th</sup> Circum-Pan-Pacific Spin Symposium on High Energy Spin Physics, Ji’nan, China (October 28-31, 2013), Plenary Talk on “Drell-Yan Scattering at Fermilab: SeaQuest and Beyond”

35. 2014 Mitchell Workshop on Collider and Dark Matter Physics at Texas A&M, College Station, TX, (May 12-15, 2014), Invited talk on "Status of PandaX"
36. APS Division of Nuclear Physics: 2014 Long-range plan Town Meeting on QCD at Temple University, Philadelphia, PA (September 13-15, 2014), Invited talk on "Polarized Drell-Yan at FNAL"
37. 21<sup>st</sup> International Symposium on Spin Physics (SPIN2014) at Peking University, Beijing, China (October 20-24, 2014), Invited talk on "Opportunities with Polarized Hadron Beams"
38. 10<sup>th</sup> Circum-Pan-Pacific Spin Symposium on High Energy Spin Physics (PacSpin2015) at Institute of Physics, Academia Sinica in Taipei, Taiwan (October 5-8, 2015), Plenary talk on "Opportunities with polarized protons at Fermilab"
39. COMPASS beyond 2020 Workshop, CERN, Switzerland (March 21-22, 2016), invited talk on "FermiLab opportunities on polarized Drell-Yan"
40. European Centre for Theoretical Studies Workshop on Partons Transverse Momentum Distributions at Large x, Trento, Italy (April 11-15, 2016), Invited talk on "Polarized Drell-Yan at Fermilab"
41. 4<sup>th</sup> Workshop on the QCD Structure of the Nucleon (QCD-N'16), Palacio San Joserén, Getxo, Spain, (July 11-15, 2016), Invited Talk on "E-906 results and future fixed-target Drell Yan programs"
42. 20<sup>th</sup> International Conference on Particle Physics and Cosmology (COSMO-16) at the University of Michigan, Ann Arbor, MI (August 8-12, 2016), Talk on "The LZ Dark Matter experiment"
43. International Conference on 3D parton distributions: path to the LHC, INFN-Frascati, Italy (November 29 - December 2, 2016), Plenary talk on "Fixed-target Drell Yan – Present & Future"
44. EPS Conference on High Energy Physics 2017, Venice, Italy (July 5-12, 2017), Talk on "The LZ Dark Matter experiment"
45. LIDINE 2017 Conference, SLAC (September 22-24, 2017), invited talk on "PTFE Reflectance for Xenon Scintillation Light"
46. INT Workshop INT-17-68W on the The Flavor Structure of Nucleon Sea, Seattle, (October 2 - 13, 2017), Plenary talk on "Opportunities with Fixed-Target Drell-Yan"

### Conferences / Workshops / Symposia

1. 1998 International Conference on Orbis Scientiae, Ft. Lauderdale, FL,  
– Session organizer and Moderator on "Proton Spin Content"
2. 1999 Physics in Collision Conference, Ann Arbor, MI, June 24-26  
– Local Organizing Committee
3. Seventh Conference on the Intersection of Particle and Nuclear Physics, Quebec City, Canada, May 22-28, 2000)  
– Session Organizer and Session Chair on "Spin Physics"
4. Second Workshop on Physics with an Electron-Polarized light-Ion Collider (EPIC), MIT, Cambridge, MA, September 15-16, 2000  
– Scientific Organizing Committee
5. Second Joint DNP/JPS Meeting of the APS, Maui, Hawaii, September 18-22, 2005  
– Workshop co-organizer on "Beyond  $q\bar{q}$  and  $qqq$ : Pentaquarks and more"  
– Mini-Symposium co-organizer on "Pentaquarks"

6. Workshop on Precision Electron Beam Polarimetry for the Electron Ion Collider, Ann Arbor, MI, August 23-24, 2007  
– Workshop Organizer
7. Spin Physics Symposium, Ann Arbor, MI, November 14, 2009  
– Chair of Spin Physics Symposium Organizing Committee
8. EIC14 The International Workshop on Accelerator Science and Technology for Electron-Ion Collider, Jefferson Lab, March 17-21, 2014  
– Session Organizer on “Working group for electron/positron sources, proton/ion sources and polarimetry”
9. Forth Joint DNP/JPS Meeting of the APS, Big Island, Hawaii, October 7-11, 2014  
– Workshop organizer on “Polarized Drell-Yan Physics at Fermilab”

### Seminars / Colloquia / Public

1. University of Basel, 17-Nov-1988, ”Search for  $\Delta T=2$  transitions in the electro-magnetic interaction”
2. California Institute of Technology, 19-Jan-1989, ”Search for  $\Delta T=2$  transitions in the electro-magnetic interaction”
3. University of Illinois, 19-Feb-1992, ”Color Transparency in (e,e’p)”
4. Brookhaven National Lab, 25-Feb-1992, ”Color Transparency in (e,e’p)”
5. Old Dominion University, 9-Mar-1992, ”Color Transparency in (e,e’p)”
6. CEBAF, 10-Mar-1992, ”Color Transparency in (e,e’p)”
7. Argonne National Lab, 15-Apr-1992, ”Color Transparency in (e,e’p)”
8. TRIUMF, 4-Jun-1992, ”Color Transparency in (e,e’p)”
9. University of Washington, Seattle, 30-Mar-1993, ”Color Transparency in (e,e’p)”
10. University of Illinois, 5-May-1993, ”Search for Color Transparency”
11. Kent State University, 19-Jul-1993, ”Search for Color Transparency”
12. University of Pennsylvania, 21-Sep-1993, ”Search for Color Transparency”
13. DESY, 10-Sep-1994, ”Longitudinal Polarimeter for HERA”
14. NIKHEF, 5-Jan-1995, ”Longitudinal Polarization at HERA”
15. Drexel University, 24-Feb-1995, ”Polarized Muon Capture on  $^3\text{He}$ ”
16. University of Maryland, 17-April-1995, ”Polarized Muon Capture on  $^3\text{He}$ ”
17. University of Michigan, 1-Dec-1995, ”Polarized Muon Capture on  $^3\text{He}$ ”
18. University of Michigan (SPC), 8-Dec-1997, ”Recent Results from HERMES”
19. University of Michigan, 5-May-1999, ”Recent Results from HERMES”
20. University of Michigan, Department Colloquium, 3-Nov-1999, ”The Mystery of Nucleon Spin”
21. University of Basel, 16-May-2002, ”HERMES Spin Physics”
22. University of Michigan (SPC), 21-June-2002, ”HERMES Spin Physics”
23. University of Michigan, 24-March-2003, ”Recent Results from HERMES”
24. University of Michigan (SPC), 11-July-2003, ”Pentaquarks - A new form of matter?”



25. Hong Kong University of Science and Technology, 18-Dec-2003, “Shedding Light on Dark Energy with the SuperNova/Acceleration Probe”
26. Duke University, 14-Oct-2004, “Shedding Light on Dark Energy with the SuperNova/Acceleration Probe”
27. Old Dominion University, Colloquium, 1-Mar-2005, “Shedding Light on Dark Energy with the SuperNova/Acceleration Probe”
28. Caltech, 4-Mar-2005, “Shedding Light on Dark Energy with the SuperNova/Acceleration Probe”
29. University of Michigan, Department Colloquium, 26-Oct-2005, “Pentaquarks: Do they exist?”
30. Simon Fraser University, Department Colloquium, 12-Feb-2007, “New Eyes on the Expanding Universe: The SuperNova/Acceleration Probe (SNAP)”
31. Ann Arbor District Library Public Lecture Series, Ann Arbor, MI (September 20, 2007), Public Lecture on “The Dark Side of the Universe”
32. Ann Arbor News (local newspaper), 5-Nov-2007, “The physics of a great tackle”
33. Fermilab, 17-August-2010, Joint seminar with Alan Krisch on ”Hard collisions of polarized protons: past, present & future” and “Polarized Drell-Yan at Fermilab’s Main Injector”
34. Peking University, 23-August-2010, “Exploring Nucleon Structure with Drell-Yan Scattering at Fermilab”
35. Shanghai Jiaotong University, 3-September-2010, “NIR detectors for astronomical observations”
36. William & Mary, Colloquium, 22-April-2011, “Shedding Light on Dark Energy: The Dark Energy Survey”
37. DESY, 13-June-2013, “Polarized Drell-Yan at Fermilab”
38. Peking University, 1-November-2013, “Drell-Yan Scattering at Fermilab: SeaQuest and Beyond”
39. University of Michigan, UROP, 5-Nov-2013, “Search for Dark Matter”
40. Los Alamos National Laboratory, 17-February-2014, “Polarized Drell-Yan at Fermilab”
41. University of Michigan, Society of Physics Students, 4-Nov-2014, “SeaQuest and Beyond: Studying Subatomic Physics at Fermilab”
42. Fermilab, 4-Mar-2015, “Search for Dark Matter with PandaX”
43. University of Michigan, Chi-Epsilon Honors Society, 28-Oct-2015, “Shedding Light on Dark Matter with LZ”
44. Ann Arbor Math Olympiad Club, 21-Nov-2015, “A Career in Physics”
45. University of Michigan, Donor Symposium, 30-Mar-2016, “Shedding Light on The Dark Side of the Universe with LZ”
46. SLAC KIPAC Tea seminar series, 1-Sep-2017, “PandaX-II latest results”
47. Universidad Nacional Autónoma de México, Mexico City, Mexico, 23-November-2017, Colloquium on “Shedding Light on The Dark Side of the Universe with LZ”
48. SLAC Experimental Seminar series, 26-June-2018, “The MUSE experiment: addressing the proton radius puzzle via elastic muon scattering”

## Talks & Seminars by Students and Postdocs (since 2015)

1. K. Pushkin, “Direct search for Dark Matter with the PandaX-I detector”, oral presentation at the IX International Conference on Interconnections between Particle Physics and Cosmology (PPC2015), Deadwood, SD, June 2015.
2. K. Pushkin, “MIX: A position sensitive dual phase LXe detector, LEPP-3”, seminar at Moscow Engineering Physics Institute, Moscow, Russia, October 2015.
3. D. Morton, “Measurement of  $\bar{d}/\bar{u}$  Ratio at SeaQuest”, Physics Graduate Council poster session, University of Michigan, Ann Arbor, MI, March 2016.
4. K. Pushkin, “VUV light reflectivity measurements from PTFE in liquid xenon”, APS meeting, Salt Lake City, UT, April 2016.
5. D. Morton, “Effect of Machine Learning Techniques on SeaQuest Physics Analyses”, APS meeting, Salt Lake City, UT, April 2016.
6. K. Pushkin, “Radon removal system for the LZ Dark Matter experiment”, ICRM-LLRMT, Seattle, September 2016.
7. D. Morton, “The  $\bar{d}/\bar{u}$  Ratio in the Proton at SeaQuest”, APS meeting, Washington, DC, January 2017.
8. M. Arthurs, “Measurements of PTFE reflectance for xenon scintillation light”, APS meeting, Washington, DC, January 2017.
9. T. Sawada, “Overview of the Exclusive Pion-Induced Drell-Yan Experiment at J-PARC”, Annual Meeting of the Physical Society of Japan, Osaka, Japan, March 2017.
10. T. Sawada, “Overview and Future Plans of Drell-Yan Experiments”, invited talk, Theoretical Nuclear Physics and Experimental Nuclear Physics Divisions Joint Symposium, Osaka, Japan, March 2017.
11. N. Steinberg, “MUon Scattering Experiment and the Proton Radius Puzzle”, Physics Graduate Council poster session, University of Michigan, Ann Arbor, MI, March 2017.
12. M. Scott, “Measurement of  $\bar{d}/\bar{u}$  Ratio at SeaQuest”, Physics Graduate Council poster session, University of Michigan, Ann Arbor, MI, March 2017.
13. P. Roy, “Polarization Observables in Vector-Meson Photoproduction from the FROST Experiment using CLAS at Jefferson Lab”, invited talk, Institute of Nuclear Physics, Mainz, Germany, May 2017.
14. P. Roy, “Polarization Observables in Vector-Meson Photoproduction from the FROST Experiment using CLAS at Jefferson Lab”, invited talk, HPS Seminar at GSI, Darmstadt, Germany, May 2017.
15. P. Roy, “Towards a Complete Experiment in Vector-Meson Photoproduction from FROST”, Jefferson Lab Thesis Prize talk, Newport News, VA, June 2017.
16. D. Morton, “Machine Learning Background Reduction at E-906 SeaQuest”, APS-DNP meeting, Pittsburgh, PA, October 2017.
17. L. LePottier, “LH<sub>2</sub> Target Design & Position Survey Techniques for the MUSE experiment for Precise Proton Radius Measurement”, Conference Experience for Undergraduates (CEU), APS-DNP meeting, Pittsburgh, PA, October 2017.
18. P. Roy, “The MUSE Experiment and the Proton Radius Puzzle: Design and Status”, APS Southeastern Section, Milledgeville, GA, November 2017.
19. T. Sawada, “Proposal of Exclusive Drell-Yan Experiment with Pion Beam”, invited talk, ECT workshop, Trento, Italy, November 2017.

## International/Professional Memberships, Services

2018	Member, Publication Board, LZ collaboration
2018	Member, International Advisory Committee for XeSAT2018 conference in Japan
2017	Member, Task Force for LZ Radon Distillation
2017	Chair, Task Force for LZ Service Work
2016	Member, NSF Nuclear Physics Proposal Review Panel
2016	Chair, Technical Design Review for LZ (SLAC)
2013 - 2016	Member, Jefferson Lab Program Advisory Committee
2009 - present	Reviewer, Subatomic Physics Proposals, NSERC
2008 - 2010	Member, Natural Sciences and Engineering Research Council, NSERC, of Canada
2008 - 2013	Member, Michigan Center for Theoretical Physics
2008	Referee, engineering design report for beam polarimetry at the ILC
2008	Member, NSF Nuclear Physics Proposal Review Panel
2007 - 2012	Chair, Nominating Committee (HERMES experiment)
2007 - 2010	Chair, Task Force on Precision Electron Polarimetry (Electron Ion Collider Collaboration)
2005 - 2012	Member, HERMES editorial board (HERMES experiment)
2005 - present	Reviewer, Nuclear Science Proposals, Department of Energy
2001 - 2007	Member, HERA Polarization Steering Board (DESY laboratory)
2005 - 2006	Reviewer, W.H. Freeman & Company, Textbooks
2001 - 2006	Consultant for Ann Arbor Hands On Museum
2000 - present	Reviewer, Netherlands Organization for Scientific Research, NWO, Proposals
1999 - 2000	Reviewer, Prentice Hall, Textbooks
1998 - present	Referee, Physical Review and Physical Review Letters
1997 - present	Reviewer, Intermediate Energy Nuclear Science Proposals, National Science Foundation
1989 - present	Member, American Physical Society
1986 - 1989	Member, Swiss Physical Society

## Internal Service

### Departmental:

2019	Honors Senior Thesis Reader and Williams Award, chair
2018 - 2019	Astro & HEP Seminar Committee, co-chair
2018 - 2019	Faculty Search, co-chair
2018 - 2019	Introductory Physics Committee, member
2016 - 2017	Graduate Admissions and Fellowships, member
2015 - present	Junior Faculty Mentor for Joshua Spitz
2015 - 2016	Graduate Admissions and Fellowships, member
2014	Promotion Committee, chair (Christine Aidala)
2014 - 2015	Graduate Admissions and Fellowships, member
2014	Third year review committee, member (Christine Aidala)
2014	Promotion Committee, member (Aaron Pierce)
2013 - 2014	Graduate Admissions and Fellowships, member
2013 - 2014	Introductory Physics Committee, member
2012 - 2016	Junior Faculty Mentor for Christine Aidala
2012 - 2013	Graduate Admissions and Fellowships, member
2012 - 2013	Introductory Physics Committee, member
2012	Promotion Committee, member (Michael Schubnell)

2011 - 2012 Graduate Admissions and Fellowships, member  
 2011 - 2012 Introductory Physics Committee, member  
 2011 - 2012 Examiner for Oral English Test (formerly ELI Test)  
 2011 Promotion Committee, member (Jim Liu)  
 2011 Williams Award and Honors Senior Theses Reader, chair  
 2011 Weidenbeck Award Committee, chair  
 2010 - 2011 FRIB Science Cluster Hire Proposal Committee, chair  
 2010 - 2011 Graduate Admissions and Fellowships, member  
 2010 Promotion Committee, member (Dan Levin)  
 2010 Weidenbeck Award Committee, chair  
 2009 - 2010 FRIB Science Cluster Hire Proposal Committee, chair  
 2009 - 2010 Graduate Admissions and Fellowships, member  
 2009 Spin Physics Symposium Committee, chair  
 2009 Weidenbeck Award Committee, chair  
 2008 - 2009 Department Executive Committee, member  
 2008 - 2009 AAPT Teaching Assistant Award Committee, co-chair  
 2008 Promotion Committee, member (Shawn McKee)  
 2008 Weidenbeck Award Committee, chair  
 2007 - 2010 Introductory Physics Committee, member  
 2007 - 2008 Computing Committee, chair  
 2006 - 2007 Computing Committee, chair  
 2006 - 2007 Saturday Morning Physics Committee, co-chair  
 2006 Promotion Committee, chair (David Reis)  
 2005 - 2006 Graduate Admissions and Fellowships, member  
 2005 - 2006 Editorial Advisory Board and Web Page, member  
 2005 Graduate student mini-colloquium, fall term  
 2004 Graduate student mini-colloquium, fall term  
 2004 Leff Scholarship Committee, Chair, winter term  
 2003 - 2004 Instructional Technology Oversight Team  
 2002 Williams Award Prize Committee, Chair  
 2001 - 2002 HEP Spin Seminar  
 2001 - 2002 Editorial Advisory Board / WWW Page, member  
 2001 Graduate student mini-colloquium, fall term  
 2001 Terwilliger Prize Committee, Chair  
 2001 Graduate student mini-colloquium, winter term  
 2000 - 2001 HEP Spin Seminar  
 2000 Terwilliger Prize Committee, Chair  
 1999 - 2000 HEP Spin Seminar  
 1999 - 2000 Computing Committee, Member  
 Subcommittee for Research Computing, Chair  
 1998 - 1999 Society of Physics Students (SPS) advisor  
 1997 Graduate student mini-colloquium

College:

2017 NextProf initiative, mentor

### University:

2016 - 2017 Concur ExpenseIt Pilot Committee, member  
2014 - 2015 Concur Travel & Expense Focus Group Committee, member  
2012 Promotion Committee, member (Michael Hartman, NERS, CoE)  
2007 - 2009 Senate Assembly, alternate member

### **Faculty Mentees**

Assistant Professor: Joshua Spitz (9/2015 - present)  
Assistant Professor: Christine Aidala (9/2012 - 7/2016)

### **Research Scientists**

Assistant Research Scientist Emeritus: Richard Raymond (5/2009 - present)  
Assistant Research Scientist: Richard Raymond (7/2008 - 4/2009)  
Associate Research Scientist: Vladimir Luppov (7/2003 - 9/2003)  
Assistant Research Scientist: Alexander Borissov (1/2001 - 10/2002)

### **Postdoctoral Associates**

Priyashree Roy\* (11/2016 - present)  
Takahiro Sawada (10/2016 - 3/31/2018)  
Kirill Pushkin (7/2013 - present)  
Andrew Chen (3/2015 - 6/2016)  
Chiranjib Dutta (6/2010 - 7/2012)  
Maria Leonova (7/2011 - 12/2011)  
Lara DeNardo (1/2009 - 12/2009)  
Avetik Airapetian (12/2002 - 4/2008)  
Alexander Borissov (1/1999 - 10/2002)  
Andreas Most (10/1995 - 11/1998)  
Michael Spengos (9/1994 - 12/1995)

\* winner of 2016 JLab Thesis Prize

### **Dissertation Committees**

<u>Name</u>	<u>Candidacy</u>	<u>Comm. Chair</u>	<u>Duration</u>
Noah Wuerfel		X	Nov 2017 – present
Natasha Sachdeva			Jul 2017 – present
Catherine Ayuso	W17		Jan 2017 – present
Matthew Marcath	S16		Jul 2016 – present
Maris Arthurs <sup>‡</sup>	S18	X	May 2016 – present
Marshall Scott	S17	X	Jan 2016 – present
Midhat Farooq	F15		Oct 2015 – present
Daniel Morton <sup>‡</sup>	S15	X	May 2015 – present
Alec Tewsley-Booth	S15		Jan 2015 – present

<sup>‡</sup> recipient of 2016 DNP Travel and Registration Award

<sup>‡</sup> recipient of 2017 DNP Travel and Registration Award

### Dissertation Committees (past)

<u>Name</u>	<u>Candidacy</u>	<u>Degree</u>	<u>Comm. Chair</u>	<u>Occupation</u>
Noah Steinberg <sup>§</sup>	F17		X	Sep 2016 – May 2018
Bryan Ramson	S13	F17		Postdoc at FNAL
Pengwei Xie		S17		External reviewer for SJTU
Joe Osborn	F14	S18		Postdoc at U-M
Skyler Degenkolb	S12	F16		Postdoc at JILA
Scott Stephenson <sup>#</sup>	S12	F14	X	CEO DeepGram.com
Franklin Qu	S12		X	Google
Matthew Bales	F10	W14		postdoc at NIST
Tomasz Biesiadzinski	S09	S13		postdoc on LUX/LZ
Cheng Peng		W12		
Stephen Gliske <sup>‡</sup>	W08	S11	X	postdoc U-M
Monisha Sharma	F05	S09		
Eric Tardiff	F04	S09		
Wouter Deconinck <sup>†</sup>	F04	W08	X	Associate Prof. (WM)
Sarah Nuss-Warren	F04			
Carol Scarlett <sup>*</sup>	W01	S02	X	Associate Prof. (FAMU)
Svetlana Gladysheva		W00		
Todd Smith		F97		
Sergey Rudnitsky (UPenn)	F95	S97	X	Investment banker (Chicago)
Douglas A. Smith (UPenn)		F95		
Farrukh A. Azfar (UPenn)		F95		
Ming-Hsu Kao (UPenn)		F95		
Doug Koltenuk (UPenn)	F95			

<sup>§</sup> recipient of 2017 the Physics Department Barnett Award

<sup>b</sup> recipient of 2014 Helmut Baer Fellowship

<sup>#</sup> recipient of 2013 Rackham Centennial Fellowship

<sup>‡</sup> recipient of 2007 DNP Travel and Registration Award

<sup>†</sup> winner of Sokol Award, Cornwell Prize, and Distinguished Dissertation Award (Honorable Mention) from 2005-2008

<sup>\*</sup> winner of Rackham, Rackham Merit, and Sloan fellowships from 1996-1998

### Masters, Senior and Honors Thesis Committees (Physics)

<u>Name</u>	<u>Masters</u>	<u>Senior Thesis</u>	<u>Honors Thesis</u>	<u>Comm. Chair</u>
Callum Aldred		W17		X
Jonathan Haefner <sup>b</sup>			W16	X
Noah Shutty <sup>#</sup>			W15	X
Robert Newman			F09	X
Anastasia Karabina		W08		X
Nathaniel Barron <sup>†</sup>			F04	X
Michael Borysow <sup>*</sup>		W04		X
Justin J. Schnettler		W00		
Sergey Rudnitsky (UPenn)	F95			X

- <sup>b</sup> recipient of 2015 Goldwater Scholarship  
and recipient of 2016 LSA Jerome and Isabella Karle Physical Sciences Award
- <sup>#</sup> recipient of 2014 Otho Lyle Tiffany & Mary Lois Tiffany Fellowship  
and recipient of 2015 LSA Jerome and Isabella Karle Physical Sciences Award
- <sup>†</sup> winner of 2006 Franco Nori Prize
- \* winner of 2004 Williams Award

### Undergraduates Supervised in Research

<u>Name</u>	<u>Duration</u>
Sabrina Corsetti	Dec 17 - present
Luc LePottier	Dec 16 - present
Michael Reh	Sep 16 - present
Minjie Lei	Sep 16 - present
Yuhan Wang	Jan 16 - present
John Schaefer	Sep 16 - present
Erick Rossi De La Fuente	Sep 16 - Aug 17
Divyanish Saini	Sep 16 - Apr 17
Dhayaa Anbajagane	Sep 16 - Apr 17
Matthew Okunawo	Jan 16 - Aug 16
Aaron Sander(UROP)	Sep 15 - Apr 16
Callum Aldred	May 14 - Mar 17
Jonathan Haefner	Aug 13 - May 16
Elizabeth Batista	May 15 - Dec 15
Noah Shuttly	Oct 13 - Jul 15
Rebecca Peterson-Hall	Sep 14 - Dec 14
Shangnan Zhou	Sep 14 - Dec 14
Yugeng He	Apr 13 - Aug 13
Elliot MacNeille	Nov 12 - Jan 13
Zachary Jackson(UROP)	Sep 12 - Apr 13
Mykola Murskyj	May 12 - Apr 13
Andrew Smith	May 11 - Dec 12
Joseph Hendrickson	Sep 11 - Apr 12
Khalid Jawed	Jan 11 - Apr 12
Mike Howe	Jan 11 - Aug 11
Josh Larson	Jan 11 - Apr 11
Michael Stewart	Sep 09 - Apr 11
Samuel Cohen	May 09 - Aug 10
Nicholas Ledezma (UROP)	Oct 09 - Apr 10
Jasim Khan (UROP)	Oct 09 - Dec 09
Robert Newman	Apr 08 - Dec 09
Zimu Li	Sep 08 - Aug 09
Celia Cunningham	Sep 07 - Apr 08, Sep 08 - Aug 09
Brian Ball*	May 07 - Aug 09
Tim Raben	Apr 08 - Aug 08
Anastasia Karabina (REU)	May 06 - Jun 08
Cesar Palma (REU)	Mar 07 - Aug 07

Dylan Moreland (REU)	May 05	-	Aug 05
Nathaniel Barron (REU)	Apr 03	-	May 05
Michael Borysow (REU)	Apr 02	-	Apr 04
Joseph A. Paul (REU)	Apr 03	-	Aug 03
Joseph Raisenen	Sep 01	-	Apr 02
Justin J. Schnettler	Sep 99	-	Apr 00,
	Jan 01	-	Jul 01
Anand Rajagopalan	Sep 98	-	Dec 99

\* winner of 2009 Wiley Book Award

### Other Teaching Information

Fall 1997	started a new course for introduction to quantum mechanics, 390 LEC
Fall 2000	proposed a new course for honors students, 360 LEC
Summer 2008	introduced 3 new labs for the Mechanics Intro Labs, 127/141/161
Summer 2009	introduced 3 new labs for the Mechanics Intro Labs, 127/141/161
Winter 2014	introduced 2 new labs for the Mechanics Intro Labs, 141/161
Fall 2014	modified 6 labs in Phys 161 to take advantage of "inertial measurement units"
Winter 2015	introduced 1 new lab for the Mechanics Intro Labs, 136
Winter 2013	introduced 3 new (VPython based) labs for the Mechanics Intro Labs, 141
Fall 2016	introduced 1 new (VPython based) lab for the Mechanics Intro Labs, 141
Fall 2017	introduced 1 new (VPython based) lab for the Mechanics Intro Labs, 141

### Teaching Assignments

F-96	140 DISC (3)	/	W-97	research leave
F-97	390 LEC	/	W-98	research leave
F-98	390 LEC	/	W-99	106 LEC
F-99	106 LEC	/	W-00	390 LEC
F-00	340 LEC	/	W-01	106 LEC
F-01	106 LEC	/	W-02	260 LEC
F-02	duty off campus	/	W-03	sabbatical leave
F-03	390 LEC	/	W-04	125 LEC
F-04	390 LEC & 125 DISC (3)	/	W-05	research leave
	501 Mini-Coll			
F-05	106 LEC & 501 Mini-Coll	/	W-06	390 LEC
F-06	106 LEC	/	W-07	390 LEC
F-07	127/141 LAB supervision	/	W-08	127/141 LAB supervision
	161 LEC			161 LEC
F-08	127/141 LAB supervision	/	W-09	127/141 LAB supervision
	161 LEC			161 LEC
F-09	127/141 LAB supervision	/	W-10	127/141 LAB supervision
	161 LEC			161 LEC
F-10	sabbatical leave (1 <sup>st</sup> half)	/	W-11	161 LEC
				136/141 LAB supervision



F-11	sabbatical leave (2 <sup>nd</sup> half)	/	W-12	161 LEC 136/141 LAB supervision
F-12	medical leave	/	W-13	240 LEC / medical leave
F-13	136/141 LAB supervision 161 LEC	/	W-14	136/141 LAB supervision 161 LEC
F-14	136/141 LAB supervision 161 LEC	/	W-15	136/141 LAB supervision 161 LEC
F-15	136/141 LAB supervision 161 LEC	/	W-16	136/141 LAB supervision 161 LEC
F-16	136/141 LAB supervision 161 LEC	/	W-17	136/141 LAB supervision 161 LEC
F-17	sabbatical leave	/	W-18	sabbatical leave
F-18	136/141 LAB supervision 161 LEC	/	W-19	136/141 LAB supervision 161 LEC