

Curriculum Vita
Michael R. Dugger
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Education

- Doctor of Philosophy, Department of Physics and Astronomy
Arizona State University, Tempe, AZ - December 2001
Dissertation: η and η' Meson Photoproduction on the Proton
Adviser: Barry Graham Ritchie
- Bachelor of Science, *magna cum laude*, Department of Physics and Astronomy,
Northern Arizona University, Flagstaff, AZ - December 1993
Major: Merged Major in Physics and Mathematics

Employment

- 2017-present: Associate Professor, College of Integrative Sciences and Arts, ASU
- 2013-2017: Associate Research Professor, Department of Physics, ASU
- 2006-2013: Assistant Research Professor, Department of Physics, ASU
- 2002-2006: Postdoctoral Research Associate, Department of Physics, ASU
- 1996-2001: Graduate Research Associate, Department of Physics, ASU
- 1994-1996: Graduate Teaching Assistant, Department of Physics, ASU

Research grants

- 2019-2022: Department of Energy grant “Experimental Medium Energy Physics at Arizona State University” (PI: M. Dugger, 100%, award number DE-SC0020404, award amount: \$450,000)
- 2013-2018: National Science Foundation grant “Meson Physics at Arizona State University” (PI: B.G. Ritchie 50%, Co-PI: M. Dugger 50%, award number PHY-1306737, award amount: \$530,000)
- 2010-2013: National Science Foundation grant “Meson Physics at Arizona State University” (PI: B.G. Ritchie 50%, Co-PI: M. Dugger 50%, award number PHY-0969201, award amount: \$510,000)
- 2007-2010: National Science Foundation grant “Meson Physics at Arizona State University” (PI: B.G. Ritchie 33%, Co-PI: E. Pasyuk 33%, Co-PI: M. Dugger 33%, award number PHY-0653630, award amount: \$480,000)

Honors and Awards

- 2002: Mark Anderson Outstanding Doctoral Thesis Award
- 1993: Vesto Melvin Slipper Scholarship in the Sciences
- 1992: Northern Arizona University, Department of Physics Achievement Award

Teaching experience

2017-present: Arizona State University, Polytechnic Campus, Mesa, AZ

- PHY 112 - *General Physics II*
- PHY 321 - *Vector Mechanics and Vibrations*
- PHY 331 - *Principles of Modern Electromagnetism*
- PHY 493 - *Honors Thesis*
- PHY 495 - *Project Research*
- PHY 499 - *Individualized Instruction*

2016: Arizona State University, West Campus, Glendale, AZ

- PHY 113 - *University Physics Lab I*

1994-2016: Arizona State University, Tempe Campus, Tempe, AZ

- PHY 101 - *Introduction to Physics*
- PHY 111 - *Recitation for General Physics I*
- PHY 112 - *Recitation for General Physics II*
- PHY 113 - *General Physics Lab I*
- PHY 132 - *University Physics Lab I*
- PHY 361 - *Recitation for Introduction to Modern Physics*
- PHY 495 - *Project Research*
- PHY 499 - *Individualized Instruction*

Publications in refereed journals

The CLAS collaboration stands for CEBAF (Continuous Electron Beam Accelerator Facility) Large Acceptance Spectrometer, and articles from that collaboration list the lead authors first and then subsequent authors by alphabetical order. The GlueX collaboration obeys a strict alphabetical listing for all authors included on any paper.

The publications since 2017 have been annotated.

1. S. Adhikari *et al.*, for the GlueX collaboration, *The GlueX beamline and detector*, Nucl. Inst. Meth. A **987** (2021) 164897
2. A. Celentano *et al.*, for the CLAS Collaboration, *First measurement of direct photoproduction of the $a_2(1320)^0$ meson on the proton*, Phys. Rev. C **102** (2020) 3, 032201
3. S. Adhikari *et al.*, for the GlueX collaboration, *Measurement of the photon beam asymmetry in $\gamma p \rightarrow K^+ \Sigma^0$ at $E_\gamma = 8.5$ GeV*, Phys. Rev. C **101** (2020) 6, 065206
4. A. Schmidt *et al.*, for the CLAS Collaboration, *Probing the core of the strong nuclear interaction*, Nature **578** (2020) 7796, 540-544
5. S. Adhikari *et al.*, for the GlueX collaboration, *Beam Asymmetry Σ for the Photoproduction of η and η' Mesons at $E_\gamma = 8.8$ GeV*, Phys. Rev. C **100** (2019) 5, 052201
6. A. Ali *et al.*, *First measurement of near-threshold J/ψ exclusive photoproduction off the proton*, Phys. Rev. Lett. **123** (2019) (7), p. 072001
7. P. Roy *et al.*, *First Measurements of the Double-Polarization Observables F , P , and H in Photoproduction off Transversely Polarized Protons in the N^* Resonance Region*, Phys. Rev. Lett. **122** (2019) (16), p. 162301
8. J. T. Goetz *et al.*, *Study of Ξ^* Photoproduction from Threshold to $W = 3.3$ GeV*, Phys. Rev. **C98** (2018) (6), p. 062201
9. S. Lombardo *et al.*, *Photoproduction of $K^+ K^-$ meson pairs on the proton*, Phys. Rev. **D98** (2018) (5), p. 052009
10. E. Golovatch *et al.*, *First results on nucleon resonance photocouplings from the $\gamma p \rightarrow \pi^+ \pi^- p$ reaction*, Phys. Lett. **B788** (2019), pp. 371–379
11. J. Bono *et al.*, *First measurement of Ξ^- polarization in photoproduction*, Phys. Lett. **B783** (2018), pp. 280–286
12. A. V. Anisovich, V. Burkert, M. Dugger, E. Klempt, V. A. Nikonov, B. G. Ritchie, A. V. Sarantsev and U. Thoma, *Proton- η' interactions at threshold*, Phys. Lett. **B785** (2018), pp. 626–630
13. M. C. Kunkel *et al.*, *Exclusive photoproduction of π^0 up to large values of Mandelstam variables s , t and u with CLAS*, Phys. Rev. **C98** (2018) (1), p. 015207
14. P. Roy *et al.*, *Measurement of the beam asymmetry Σ and the target asymmetry T in the photoproduction of ω mesons off the proton using CLAS at Jefferson Laboratory*, Phys. Rev. **C97** (2018) (5), p. 055202
15. Z. Akbar *et al.*, *Measurement of the helicity asymmetry E in $\omega \pi^+ \pi^- \pi^0$ photoproduction*, Phys. Rev. **C96** (2017) (6), p. 065209
16. A. V. Anisovich, V. Burkert, P. M. Collins, M. Dugger, E. Klempt, V. A. Nikonov, B. G. Ritchie, A. V. Sarantsev and U. Thoma, *$N^* \rightarrow N \eta'$ decays from photoproduction of η' -mesons off protons*, Phys. Lett. **B772** (2017), pp. 247–252
17. P. Collins *et al.*, *Photon beam asymmetry Σ in the reaction $\gamma p \rightarrow p \omega$ for $E_\gamma = 1.152$ to 1.876 GeV*, Phys. Lett. **B773** (2017), pp. 112–120

18. P. T. Mattione *et al.*, *Differential cross section measurements for $\gamma n \rightarrow \pi^- p$ above the first nucleon resonance region*, Phys. Rev. **C96** (2017) (3), p. 035204
19. A. V. Anisovich *et al.*, *Differential cross sections and polarization observables from CLAS K^* photoproduction and the search for new N^* states*, Phys. Lett. **B771** (2017), pp. 142–150
20. M. Dugger *et al.*, *Design and construction of a high-energy photon polarimeter*, Nucl. Instrum. Meth. **A867** (2017), pp. 115–127
21. P. Collins *et al.*, *Photon beam asymmetry Σ for η and η' photoproduction from the proton*, Phys. Lett. **B771** (2017), pp. 213–221
22. H. Al Ghouli *et al.*, *Measurement of the beam asymmetry Σ for π^0 and η photoproduction on the proton at $E_\gamma = 9$ GeV*, Phys. Rev. **C95** (2017) (4), p. 042201
23. R. Dickson *et al.*, *Photoproduction of the $f_1(1285)$ Meson*, Phys. Rev. **C93** (2016) (6), p. 065202
24. C. A. Paterson *et al.*, *Photoproduction of Λ and Σ^0 hyperons using linearly polarized photons*, Phys. Rev. **C93** (2016) (6), p. 065201
25. I. Senderovich *et al.*, *First measurement of the helicity asymmetry E in η photoproduction on the proton*, Phys. Lett. **B755** (2016), pp. 64–69
26. S. Strauch *et al.*, *First Measurement of the Polarization Observable E in the $p(\gamma, \pi^+)n$ Reaction up to 2.25 GeV*, Phys. Lett. **B750** (2015), pp. 53–58
27. O. Hen *et al.*, *Momentum sharing in imbalanced Fermi systems*, Science **346** (2014), pp. 614–617
28. K. Moriya *et al.*, *Spin and parity measurement of the $\Lambda(1405)$ baryon*, Phys. Rev. Lett. **112** (2014) (8), p. 082004
29. M. Dugger *et al.*, *Beam asymmetry Σ for π^+ and π^0 photoproduction on the proton for photon energies from 1.102 to 1.862 GeV*, Phys. Rev. **C88** (2013) (6), p. 065203, [Addendum: Phys. Rev. C89, no. 2, 029901 (2014)]
30. H. Seraydaryan *et al.*, *ϕ -meson photoproduction on Hydrogen in the neutral decay mode*, Phys. Rev. **C89** (2014) (5), p. 055206
31. K. Moriya *et al.*, *Differential Photoproduction Cross Sections of the $\Sigma^0(1385)$, $\Lambda(1405)$, and $\Lambda(1520)$* , Phys. Rev. **C88** (2013), p. 045201, [Addendum: Phys. Rev. C88, no. 4, 049902 (2013)]
32. M. Anghinolfi *et al.*, *Comment on 'Observation of a narrow structure in $p(\gamma, K_S)X$ via interference with ϕ -meson production'*, Phys. Rev. **C86** (2012), p. 069801
33. P. Khetarpal *et al.*, *Near Threshold Neutral Pion Electroproduction at High Momentum Transfers and Generalized Form Factors*, Phys. Rev. **C87** (2013) (4), p. 045205
34. B. Dey *et al.*, *Differential cross sections and recoil polarizations for the reaction $\gamma p \rightarrow K^+ \Sigma^0$* , Phys. Rev. **C82** (2010), p. 025202
35. S. A. Pereira *et al.*, *Differential cross section of gamma n to K^+ Sigma- on bound neutrons with incident photons from 1.1 to 3.6 GeV*, Phys. Lett. **B688** (2010), pp. 289–293
36. M. E. McCracken *et al.*, *Differential cross section and recoil polarization measurements for the gamma p to K^+ Lambda reaction using CLAS at Jefferson Lab*, Phys. Rev. **C81** (2010), p. 025201

37. L. C. Maximon, J. Ahrens and M. Dugger, *Angular distribution of scattered electrons associated with collimated bremsstrahlung and the tagging technique*, Nucl. Instrum. Meth. **A603** (2009), pp. 268–275
38. M. Williams *et al.*, *Differential cross sections for the reactions $\gamma p \rightarrow p \eta$ and $\gamma p \rightarrow p \eta'$* , Phys. Rev. **C80** (2009), p. 045213
39. M. Williams *et al.*, *Partial wave analysis of the reaction $\gamma p \rightarrow p \omega$ and the search for nucleon resonances*, Phys. Rev. **C80** (2009), p. 065209
40. M. Williams *et al.*, *Differential cross sections and spin density matrix elements for the reaction $\gamma p \rightarrow p \omega$* , Phys. Rev. **C80** (2009), p. 065208
41. M. Dugger *et al.*, *π^+ photoproduction on the proton for photon energies from 0.725 to 2.875-GeV*, Phys. Rev. **C79** (2009), p. 065206
42. G. Gavalian *et al.*, *Beam spin asymmetries in deeply virtual Compton scattering (DVCS) with CLAS at 4.8 GeV*, Phys. Rev. **C80** (2009), p. 035206
43. J. Lachniet *et al.*, *A Precise Measurement of the Neutron Magnetic Form Factor $G^*_n(M)$ in the Few-GeV² Region*, Phys. Rev. Lett. **102** (2009), p. 192001
44. M. Battaglieri *et al.*, *First measurement of direct $f_0(980)$ photoproduction on the proton*, Phys. Rev. Lett. **102** (2009), p. 102001
45. G. V. Fedotov *et al.*, *Electroproduction of $p \pi^+ \pi^-$ off protons at $0.2 < Q^2 < 0.6$ -GeV² and $1.3 < W < 1.57$ -GeV with CLAS*, Phys. Rev. **C79** (2009), p. 015204
46. M. Osipenko *et al.*, *Measurement of unpolarized semi-inclusive π^+ electroproduction off the proton*, Phys. Rev. **D80** (2009), p. 032004
47. S. A. Morrow *et al.*, *Exclusive ρ^0 electroproduction on the proton at CLAS*, Eur. Phys. J. **A39** (2009), pp. 5–31
48. M. Nozar *et al.*, *Search for the photo-excitation of exotic mesons in the $\pi^+ \pi^+ \pi^-$ system*, Phys. Rev. Lett. **102** (2009), p. 102002
49. A. S. Biselli *et al.*, *First measurement of target and double spin asymmetries for polarized- e polarized- p $e-p \pi^0$ in the nucleon resonance region above the $\Delta(1232)$* , Phys. Rev. **C78** (2008), p. 045204
50. I. G. Aznauryan *et al.*, *Electroexcitation of the Roper resonance for $1.7 < Q^2 < 4.5$ -GeV² in $vec{e}p \rightarrow en \pi^+$* , Phys. Rev. **C78** (2008), p. 045209
51. J. P. Santoro *et al.*, *Electroproduction of $\phi(1020)$ mesons at $1.4 < Q^2 < 3.8$ GeV² measured with the CLAS spectrometer*, Phys. Rev. **C78** (2008), p. 025210
52. M. H. Wood *et al.*, *Light Vector Mesons in the Nuclear Medium*, Phys. Rev. **C78** (2008), p. 015201
53. Y. Prok *et al.*, *Moments of the Spin Structure Functions $g^p(1)$ and $g^d(1)$ for $0.05 < Q^2 < 3.0$ -GeV²*, Phys. Lett. **B672** (2009), pp. 12–16
54. R. Nasseripour *et al.*, *Polarized Structure Function $\sigma(LT')$ for p (polarized- e , e' K^+) Λ in the Nucleon Resonance Region*, Phys. Rev. **C77** (2008), p. 065208

55. P. E. Bosted *et al.*, *Ratios of N-15/C-12 and He-4/C-12 inclusive electroproduction cross sections in the nucleon resonance region*, Phys. Rev. **C78** (2008), p. 015202
56. F. X. Girod *et al.*, *Measurement of Deeply virtual Compton scattering beam-spin asymmetries*, Phys. Rev. Lett. **100** (2008), p. 162002
57. R. De Masi *et al.*, *Measurement of $e p \rightarrow e p \pi^0$ beam spin asymmetries above the resonance region*, Phys. Rev. **C77** (2008), p. 042201
58. D. G. Ireland *et al.*, *A Bayesian analysis of pentaquark signals from CLAS data*, Phys. Rev. Lett. **100** (2008), p. 052001
59. K. Park *et al.*, *Cross sections and beam asymmetries for $vec(e) p \rightarrow en \pi^+$ in the nucleon resonance region for $1.7 \leq Q^2 \leq 4.5$ -(GeV)²*, Phys. Rev. **C77** (2008), p. 015208
60. R. Nasseripour *et al.*, *Search for medium modification of the rho meson*, Phys. Rev. Lett. **99** (2007), p. 262302
61. M. Dugger *et al.*, *π^0 photoproduction on the proton for photon energies from 0.675 to 2.875-GeV*, Phys. Rev. **C76** (2007), p. 025211
62. H. Denizli *et al.*, *Q^2 dependence of the $S(11)(1535)$ photocoupling and evidence for a P-wave resonance in eta electroproduction*, Phys. Rev. **C76** (2007), p. 015204
63. T. Mibe *et al.*, *First measurement of coherent phi-meson photoproduction on deuteron at low energies*, Phys. Rev. **C76** (2007), p. 052202
64. Y. Ilieva *et al.*, *Evidence for a backward peak in the $\gamma d \rightarrow \pi^0 d$ cross section near the eta threshold*, Eur. Phys. J. **A43** (2010), pp. 261–267
65. L. Guo *et al.*, *Cascade production in the reactions $\gamma p \rightarrow K^+ K^+ (X)$ and $\gamma p \rightarrow K^+ K^+ \pi^- (X)$* , Phys. Rev. **C76** (2007), p. 025208
66. I. Hleiqawi *et al.*, *Cross-sections for the $\gamma p \rightarrow K^*0 \Sigma^+$ reaction at $E(\gamma) = 1.7$ -GeV - 3.0 -GeV*, Phys. Rev. **C75** (2007), p. 042201, [Erratum: Phys. Rev. **C76**,039905(2007)]
67. K. S. Egiyan *et al.*, *Experimental study of exclusive $H-2(e, e\text{-prime})n$ reaction mechanisms at high Q^2* , Phys. Rev. Lett. **98** (2007), p. 262502
68. R. K. Bradford *et al.*, *First measurement of beam-recoil observables $C(x)$ and $C(z)$ in hyperon photoproduction*, Phys. Rev. **C75** (2007), p. 035205
69. P. Ambrozewicz *et al.*, *Separated structure functions for the exclusive electroproduction of K^+ Lambda and $K^+ \Sigma^0$ final states*, Phys. Rev. **C75** (2007), p. 045203
70. P. E. Bosted *et al.*, *Quark-hadron duality in spin structure functions $g(1)p$ and $g(1)d$* , Phys. Rev. **C75** (2007), p. 035203
71. R. De Vita *et al.*, *Search for the Theta+ pentaquark in the reactions $\gamma p \rightarrow \text{anti-K}^0 K^+ n$ and $\gamma p \rightarrow \text{anti-K}^0 K^0 p$* , Phys. Rev. **D74** (2006), p. 032001
72. M. Ungaro *et al.*, *Measurement of the $N \rightarrow \Delta^+(1232)$ transition at high momentum transfer by π^0 electroproduction*, Phys. Rev. Lett. **97** (2006), p. 112003
73. K. V. Dharmawardane *et al.*, *Measurement of the x - and Q^2 -dependence of the asymmetry $A(1)$ on the nucleon*, Phys. Lett. **B641** (2006), pp. 11–17

74. S. Chen *et al.*, *Measurement of deeply virtual compton scattering with a polarized proton target*, Phys. Rev. Lett. **97** (2006), p. 072002
75. V. Kubarovsky *et al.*, *Search for Theta++ pentaquarks in the exclusive reaction $\gamma p \rightarrow K^+ K^- p$* , Phys. Rev. Lett. **97** (2006), p. 102001
76. S. Niccolai *et al.*, *Search for the Theta+ pentaquark in the $\gamma d \rightarrow \Lambda n K^+$ reaction measured with CLAS*, Phys. Rev. Lett. **97** (2006), p. 032001
77. B. McKinnon *et al.*, *Search for the Theta+ pentaquark in the reaction $\gamma d \rightarrow p K^- K^+ n$* , Phys. Rev. Lett. **96** (2006), p. 212001
78. H. Egiyan *et al.*, *Single π^+ electroproduction on the proton in the first and second resonance regions at $0.25\text{-GeV}^2 < Q^2 < 0.65\text{-GeV}^2$ using CLAS*, Phys. Rev. **C73** (2006), p. 025204
79. M. Dugger *et al.*, *η photoproduction on the proton for photon energies from 1.527-GeV to 2.227-GeV*, Phys. Rev. Lett. **96** (2006), p. 062001, [Erratum: Phys. Rev. Lett.96,169905(2006)]
80. M. Battaglieri *et al.*, *Search for Theta+(1540) pentaquark in high statistics measurement of $\gamma p \rightarrow \text{anti-K}^0 K^+ n$ at CLAS*, Phys. Rev. Lett. **96** (2006), p. 042001
81. A. V. Klimenko *et al.*, *Electron scattering from high-momentum neutrons in deuterium*, Phys. Rev. **C73** (2006), p. 035212
82. R. Bradford *et al.*, *Differential cross sections for $\gamma + p \rightarrow K^+ + Y$ for Lambda and Sigma0 hyperons*, Phys. Rev. **C73** (2006), p. 035202
83. K. S. Egiyan *et al.*, *Measurement of 2- and 3-nucleon short range correlation probabilities in nuclei*, Phys. Rev. Lett. **96** (2006), p. 082501
84. S. Strauch *et al.*, *Beam-helicity asymmetries in double-charged-pion photoproduction on the proton*, Phys. Rev. Lett. **95** (2005), p. 162003
85. M. Osipenko *et al.*, *Measurement of the deuteron structure function $F(2)$ in the resonance region and evaluation of its moments*, Phys. Rev. **C73** (2006), p. 045205
86. L. Morand *et al.*, *Deeply virtual and exclusive electroproduction of omega mesons*, Eur. Phys. J. **A24** (2005), pp. 445–458
87. K. Joo *et al.*, *Measurement of the polarized structure function $\sigma(LT\text{-prime})$ for pion electroproduction in the Roper resonance region*, Phys. Rev. **C72** (2005), p. 058202
88. S. Taylor *et al.*, *Radiative decays of the Sigma0(1385) and Lambda(1520) hyperons*, Phys. Rev. **C71** (2005), p. 054609, [Erratum: Phys. Rev.C72,039902(2005)]
89. J. W. Price *et al.*, *Exclusive photoproduction of the cascade (Xi) hyperons*, Phys. Rev. **C71** (2005), p. 058201
90. S. Niccolai *et al.*, *Complete measurement of three-body photodisintegration of He-3 for photon energies between 0.35-GeV and 1.55-GeV*, Phys. Rev. **C70** (2004), p. 064003
91. C. Hadjidakis *et al.*, *Exclusive rho0 meson electroproduction from hydrogen at CLAS*, Phys. Lett. **B605** (2005), pp. 256–264
92. K. Joo *et al.*, *Measurement of the polarized structure function $\sigma(LT\text{-prime})$ for $p(\text{polarized-}e, e\text{-prime})\pi^+n$ in the Delta(1232) resonance region*, Phys. Rev. **C70** (2004), p. 042201

93. D. Protopopescu *et al.*, *Survey of $A(LT\text{-prime})$ asymmetries in semi-exclusive electron scattering on He-4 and C-12*, Nucl. Phys. **A748** (2005), pp. 357–373
94. M. Mirazita *et al.*, *Complete angular distribution measurements of two body deuteron photodisintegration between 0.5-GeV and 3-GeV*, Phys. Rev. **C70** (2004), p. 014005
95. P. Rossi *et al.*, *Onset of asymptotic scaling in deuteron photodisintegration*, Phys. Rev. Lett. **94** (2005), p. 012301
96. A. V. Stavinsky *et al.*, *Proton source size measurements in the $eA \rightarrow e\text{-prime}ppX$ reaction*, Phys. Rev. Lett. **93** (2004), p. 192301
97. K. McCormick *et al.*, *Tensor polarization of the phi meson photoproduced at high t* , Phys. Rev. **C69** (2004), p. 032203
98. R. A. Niyazov *et al.*, *Two nucleon momentum distributions measured in He-3($e, e\text{-prime} pp$)n*, Phys. Rev. Lett. **92** (2004), p. 052303, [Erratum: Phys. Rev. Lett.92,099903(2004)]
99. S. Stepanyan *et al.*, *Observation of an exotic $S = +1$ baryon in exclusive photoproduction from the deuteron*, Phys. Rev. Lett. **91** (2003), p. 252001
100. A. S. Biselli *et al.*, *Study of $e p \rightarrow e p \pi^0$ in the Delta(1232) mass region using polarization asymmetries*, Phys. Rev. **C68** (2003), p. 035202
101. B. A. Mecking *et al.*, *The CEBAF Large Acceptance Spectrometer (CLAS)*, Nucl. Instrum. Meth. **A503** (2003), pp. 513–553
102. R. Fatemi *et al.*, *Measurement of the proton spin structure function $g(1)(x, Q^2)$ for Q^2 from 0.15 to 1.6 GeV² with CLAS*, Phys. Rev. Lett. **91** (2003), p. 222002
103. J. W. C. McNabb *et al.*, *Hyperon photoproduction in the nucleon resonance region*, Phys. Rev. **C69** (2004), p. 042201
104. M. Osipenko *et al.*, *A kinematically complete measurement of the proton structure function $F(2)$ in the resonance region and evaluation of its moments*, Phys. Rev. **D67** (2003), p. 092001
105. K. Joo *et al.*, *Measurement of the polarized structure function $\sigma(LT\text{-prime})$ for $p(\text{polarized-}p, e\text{-prime } p) \pi^0$ in the Delta(1232) resonance region*, Phys. Rev. **C68** (2003), p. 032201
106. K. S. Egiyan *et al.*, *Observation of nuclear scaling in the $A(e, e\text{-prime})$ reaction at $x(B)$ greater than 1*, Phys. Rev. **C68** (2003), p. 014313
107. H. Avakian *et al.*, *Measurement of beam-spin asymmetries for π^+ electroproduction above the baryon resonance region*, Phys. Rev. **D69** (2004), p. 112004
108. J. Yun *et al.*, *Measurement of inclusive spin structure functions of the deuteron*, Phys. Rev. **C67** (2003), p. 055204
109. D. S. Carman *et al.*, *First measurement of transferred polarization in the exclusive polarized- $e p \rightarrow e\text{-prime } K^+$ polarized-Lambda reaction*, Phys. Rev. Lett. **90** (2003), p. 131804
110. M. Dugger *et al.*, *Eta photoproduction on the proton for photon energies from 0.75-GeV to 1.95-GeV*, Phys. Rev. Lett. **89** (2002), p. 222002, [Erratum: Phys. Rev. Lett.89,249904(2002)]
111. M. Ripani *et al.*, *Measurement of $e p \rightarrow e\text{-prime } p \pi^+ \pi^-$ and baryon resonance analysis*, Phys. Rev. Lett. **91** (2003), p. 022002

112. M. Battaglieri *et al.*, *Photoproduction of the omega meson on the proton at large momentum transfer*, Phys. Rev. Lett. **90** (2003), p. 022002
113. K. Joo *et al.*, *Q^2 dependence of quadrupole strength in the $\gamma p \Delta^+(1232) \rightarrow p \pi^0$ transition*, Phys. Rev. Lett. **88** (2002), p. 122001
114. R. De Vita *et al.*, *First measurement of the double spin asymmetry in polarized- e polarized- $p \rightarrow e$ -prime $\pi^+ n$ in the resonance region*, Phys. Rev. Lett. **88** (2002), p. 082001, [Erratum: Phys. Rev. Lett. 88, 189903 (2002)]
115. M. Battaglieri *et al.*, *Photoproduction of the rho0 meson on the proton at large momentum transfer*, Phys. Rev. Lett. **87** (2001), p. 172002
116. S. P. Barrow *et al.*, *Electroproduction of the Lambda(1520) hyperon*, Phys. Rev. **C64** (2001), p. 044601
117. R. Thompson *et al.*, *The $e p \rightarrow e$ -prime $p \eta$ reaction at and above the S(11)(1535) baryon resonance*, Phys. Rev. Lett. **86** (2001), pp. 1702–1706E. Anciant *et al.*, *Photoproduction of phi(1020) mesons on the proton at large momentum transfer*, Phys. Rev. Lett. **85** (2000), pp. 4682–4686
118. D. I. Sober *et al.*, *The bremsstrahlung tagged photon beam in Hall B at JLab*, Nucl. Instrum. Meth. **A440** (2000), pp. 263–284

Service 2017-present

Profession

- Member of the International Advisory Committee for the MENU (Meson Nucleon) 2019 Conference.
- Review Committee member of the 2018 Division of Nuclear Physics, Conference Experience for Undergraduates.
- Reviewer for Physical Review Letters.
- Reviewer for Physical Reviews C.

University

- Member of the Graduate College review committee for the 2018 ARCS (Achievement Rewards for College Scientists) Fellowship.
- Member of the Graduate College review committee for the 2019 ARCS (Achievement Rewards for College Scientists) Fellowship.
- Member of the Graduate College review committee for the 2020 ARCS (Achievement Rewards for College Scientists) Fellowship.

Invited talks at conferences and seminars

- *Overview of Spectroscopy Results in Meson Photoproduction with Polarization Observables*, XVI International Conference on Hadron Spectroscopy, September 14, 2015
- *Latest results from the CLAS N* polarization program*, American Physical Society, Denver, Col-
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orado, April 16, 2013

- *First data from FROST*, JLab Users Group Meeting, Jefferson Lab, Newport News, Virginia, June 8, 2011
- *Non-strange pseudoscalar photoproduction from the proton*, Seminar at Idaho State University, Pocatello, ID, April, 15, 2010
- Σ for $\gamma p \rightarrow p\pi^0$, $n\pi^+$, and $p\eta$ from CLAS *g8b* run period with $0.95 \text{ GeV} < E_\gamma < 1.2 \text{ GeV}$, Narrow Nucleon Resonances Workshop, University of Edinburgh, Scotland, June 8, 2009
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