

Curriculum Vitae
(updated August 2024)
ADAM J. SARTY, Ph.D., P.Phys.

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Academic Employment

- 2017-present** Associate Vice-President Research, and Dean of Graduate Studies & Research
Saint Mary's University
- 2013-2017 Associate Dean of Science – External & Student Affairs, Saint Mary's University
- 2016 Acting Coordinator, Forensic Science Diploma Program, Saint Mary's University
- 2011-2013 Associate Dean of Science – Curriculum & External, Saint Mary's University
- 2010-2011 Acting Associate Dean of Science, Saint Mary's University
- 2006-2017 Professor, Department of Astronomy & Physics, Saint Mary's University
- 2005-2020 Adjunct Professor, Department of Physics and Atmospheric Science, Dalhousie University
- 2000-2006 Associate Professor, Department of Astronomy & Physics, Saint Mary's University
- 2000-2003 Courtesy Assistant Professor, Department of Physics, Florida State University
- 1995-2000 Assistant Professor, Department of Physics, Florida State University
- 1992-1995 Research Associate, Laboratory for Nuclear Science, Massachusetts Institute of Technology

Education

- 1987-1993 Ph.D., Experimental Nuclear Physics, University of Saskatchewan
- 1983-1987 B.Sc.(Engineering) with Great Distinction (University President's Medal, Engineering Prize),
Engineering Physics, University of Saskatchewan

Fields of Research Interest

Electromagnetic properties of the nucleon and light nuclei using the techniques of coincidence electron scattering.
Evaluation of Selected Teaching Methodologies for First-Year Physics classes.

Academic and Teaching-Related Awards

- 2014: Saint Mary's University, President's Award for Exemplary Service
- 2011: 3M National Teaching Fellowship
- 2008: Association of Atlantic Universities, Instructional Leadership Award
- 2008: Saint Mary's University, Dr. Geraldine Thomas Educational Leadership Award
- 2008: Canadian Association of Physicists (CAP) Medal for Excellence in Undergraduate Teaching
- 2007: Saint Mary's University, 2007-2008 Teaching Scholar
- 2005: Saint Mary's University, Reverend William A. Stewart Medal for Excellence in Teaching
- 2004: Saint Mary's University, SMUSA Faculty of Science Excellence in Teaching Award
- 2000: Florida State University "Excellence in Teaching" Award
- 1987-91 NSERC, University Postgraduate Scholarships (PGS 1,1R,3,3R)
- 1989 University of Saskatchewan College of Graduate Studies, Research Scholarship
- 1987-1988 University of Saskatchewan Physics Department, The Herzberg Scholarship
- 1987 University of Saskatchewan, President's Medal for "*Undergraduate with Highest Academic Standing*"
- 1987 University of Saskatchewan College of Engineering, Engineering Prize

Community Awards

- 2024: Dalhousie University, Sandy Young Award (joint with D.E. MacKenzie) - contributions to NS Sport
- 2021: Swim Nova Scotia, Official of the Year
- 2016: Halifax Trojan Aquatic Club, Volunteer of the Year (joint with D.E. MacKenzie)
- 2008: Discovery Center (Halifax), Discovery Award Winner in Science Champion Category
- 2008: Province of Nova Scotia, Provincial Volunteer Award (rep. of Halifax Regional Munic.)
- 2008: Halifax Regional Municipality, Volunteer Recognition Award (rep. of District 21, Bedford)
- 2006: Discovery Center (Halifax), Discovery Award Finalist in Science Champion Category

Grants Held

I: Nuclear Physics Research

- 2018-21 Natural Sciences and Engineering Research Council of Canada (NSERC), Project Grant (Subatomic Physics GSC) for *Investigations of Hadronic Structure using CB-TAPS at the Mainz Microtron*; P.I.: Hornidge (Mount Allison U.), co-P.I.'s: Sarty (SMU) and Huber (Regina); **\$405,000** (\$135k, \$135k, \$135k over each of 3 years)
- 2015-20 Natural Sciences and Engineering Research Council of Canada (NSERC), Individual Research "Discovery Grant" (Subatomic Physics GSC) for *Investigating the Electromagnetic Structure of the Nucleon and Light Light Nuclei at Jefferson Lab*, **\$248,587** (\$51.5k, \$51.4k, \$51.4k, \$50.4k, \$43.9k over each of 5 years)
- 2015-18 Natural Sciences and Engineering Research Council of Canada (NSERC), Project Grant (Subatomic Physics GSC) for *Investigations of Hadronic Structure using CB-TAPS at the Mainz Microtron*; P.I.: Hornidge (Mount Allison U.), co-P.I.'s: Sarty (SMU) and Huber (Regina); **\$430,000** (\$140k, \$150k, \$140k over each of 3 years)
- 2015-16 Natural Sciences and Engineering Research Council of Canada (NSERC), Research Tools and Instruments Cat. 1 Grant (Subatomic Physics GSC) for *Scintillator Machining for the new Coordinate Detector in Jefferson Lab's High Momentum-Transfer Proton Electric Form Factor Experiment "GEP-5"*, **\$51,685**
- 2012-15 Natural Sciences and Engineering Research Council of Canada (NSERC), Project Grant (Subatomic Physics GSC) for *Investigations of Hadronic Structure using CB-TAPS at the Mainz Microtron*; P.I.: Hornidge (Mount Allison U.), co-P.I.'s: Sarty (SMU) and Huber (Regina); **\$330,000** (\$110,000 per year for 3 years)
- 2012-15 Natural Sciences and Engineering Research Council of Canada (NSERC), Project Grant (Subatomic Physics GSC) for *Probing the Electromagnetic Structure of Hadrons at Jefferson Lab*; P.I.: Sarty (SMU), co-P.I.: Hornidge (Mount Allison U.); **\$138,000** (\$46,000 per year for 3 years)
- 2011 Saint Mary's University Faculty of Graduate Studies (FGSR) Research Grant for *Simulations of Accuracy of a Scintillating Fiber Tracking Detector Design* **\$2000**
- 2009-12 Natural Sciences and Engineering Research Council of Canada (NSERC), Individual Research "Discovery Grant" (Subatomic Physics GSC) for *Probing Electromagnetic Structure of the Nucleon using Polarization at Jefferson Lab*, **\$105,000** (\$33k, \$36k, \$36k over each of 3 years)
- 2009-12 Natural Sciences and Engineering Research Council of Canada (NSERC), Project Grant (Subatomic Physics GSC) for *Investigating Hadron Structure with CB-TAPS at MAMI*; P.I.: Hornidge (Mount Allison U.), co-P.I.'s: Sarty (SMU) and Huber (Regina); **\$420,000** (\$140,000 per year for 3 years)
- 2009 Saint Mary's University Faculty of Graduate Studies (FGSR) Research Grant for *Prototype development for a Scintillating Fiber Tracking Detector for use at Jefferson Lab's Hall A* **\$1500**
- 2006-9 Natural Sciences and Engineering Research Council of Canada (NSERC), Individual Research "Discovery Grant" (Subatomic Physics GSC) for *Precision Studies of the Electromagnetic Structure of the Nucleon and Light Nuclei Scattering*, **\$128,250** (\$42,750 per year for 3 years)
- 2003-6 Natural Sciences and Engineering Research Council of Canada (NSERC), Individual Research "Discovery Grant" (Subatomic Physics GSC) for *Probing the Structure of the Nucleon and Light Nuclei using Electron Scattering*, **\$104,520** (\$34,840 per year for 3 years)
- 2001-3 Natural Sciences and Engineering Research Council of Canada (NSERC), Individual Research Grant (Subatomic Physics GSC) for *Studies of Nucleon and Nucleon-Resonance Structure using Electron Scattering*, **\$66,800** (\$33,400 per year for 2 years)
- 2001 Saint Mary's University Senate "Start-up" Grant for *Experimentally Probing the Proton's Internal Structure: Is the Proton Spherical?*, **\$2500**
- 2000 Florida State University Council on Research and Creativity "COFRS Award", **\$2000**
- '99-'00 National Science Foundation (NSF) Physics Division (Nuclear), Group Research Award for *Studies of Nuclear Reactions and Structure*; P.I.: Tabor; co-P.I.'s: Cottle, Dennis, Fletcher, Frawley, Kemper, Myers, Riley, Sarty; **\$1,280,000 per year** (3 years awarded; was on project for 2 years)
- '99-'00 Department of Energy (DoE), Nuclear Physics Division, Group Research Award for *Support for Experimental Nuclear Physics at Florida State University*; co-P.I.'s: Riccardi (Comp.Sci.), Sarty (Phys.); P.I.: Dennis (Phys.); **\$200,000 per year** (3 years awarded; was on project for 2 years)
- 1996 FSU Council on Research and Creativity, First-Year Assistant Professor Award, **\$5000**

Grants Held (continued)

II: Scholarship of Teaching

- 2008 Saint Mary's University Office of Instructional Development Travel for *A Regional Symposium on "best-practice use" of Clickers in University Classrooms*, **\$1500**
- 2006 Saint Mary's University Office of Instructional Development Travel Grant for *Invited presentation to the 2006 AAU Teaching Showcase: Using Wireless Responders during Lectures: A Study and a Theory to assess Impact and Appropriate Use*, **\$597**
- 2005 Saint Mary's University Strategic Initiative Fund Grant for *Implementing Wireless Responder Capability in Classrooms across SMU*; co-PI's: A.J. Sarty and K. Lightstone (Accounting); other proponents: D. Bateman (Accounting), S. Pendse (Management), R.J. Konopasky (Psych.), D. Crocker (Soc. & Criminology); **\$20,000**
- 2004 Saint Mary's University Faculty of Graduate Studies (FGSR) Research Grant for *Investigating the Effectiveness of Personal Responders for Improving Learning and Retention in Physics Education*; co-P.I.'s: A.J. Sarty and R.J. Konopasky; **\$2600**
- 2004 Saint Mary's University Office of Instructional Development Small Project Grant for *Pilot Study on Responder Technology: Incentive to Learn Fund*, **\$600**
- 2004 Saint Mary's University Office of Instructional Development Travel Grant for *Invited presentation to the 2003 AAU Teaching Showcase: Video Vignettes across Disciplines*, **\$554**
- 2003 Saint Mary's University Office of Instructional Development Travel Grant for *Invited presentation to the AAU Teaching Showcase: Simple Technologies to Enhance Interactivity in Large Classes*, **\$350**
- 2002 Saint Mary's University Office of Instructional Development Project Grant for *An OnLine Resource Tool for Physics-Concept Demonstrations*, **\$2500**
- 2001 Saint Mary's University Office of Instructional Development Travel Grant for *A Mini-Symposium on CAPA: A Web-Based Package for Individualized Student Assignments*, **\$750**
- 2000 Florida State University Instructional Development Award, **\$8500**

University & Professional Administrative Activities

- 2017-present SMU Committee service, through role of Dean of Grad. Studies (FGSR) &/or AVP Research:
- Member, SMU Academic Senate; Academic Regulations Committee; Academic Planning Committee
 - Member, (2023-24), Budget Evaluation Committee, Budget Task Force
 - Member (2023-) Employer/SMUFU Union Relations Committee
 - Lead Negotiator (2022-23), SMU/SMUFU Collective Bargaining
 - Chair, FGSR Committees: Executive, Faculty Research, Grad Student Awards, Committees
 - Chair, COVID-19 Return to Research Committee (2020-2022)
 - Search Committee Member: Dean of Arts (2019,21), Dean Sobey School of Business (2023-24),
 - . VP Finance & Administration (2024)
 - Member, SMU Joint Occupational Health and Safety Committee (Co-Chair, 2022-)
 - Co-Chair, Professional Graduate Program SEM Committee; Member SEM Steering
 - Member, Telephony Modernization Advisory Committee, EI Hub Steering and Building Committees
 - Chair, 5 Search Committees for Sobey Professor Named-Chair positions (2020-21)
 - Acting Chair, University Appointments and Review Committees (2018-present; as needed - VPAR alternate)
- 2020-present NSERC Leader, SMU representative
- 2017-present SSHRC Leader, SMU representative
- 2022-present Board Member, Canadian Association of Graduate Studies (CAGS); Executive Member (2023-)
- 2022-present Executive Member (2022-23), Alliance of Canadian Comprehensive Research Universities (ACCRU)
- Institutional Member (2017-present)
- 2017-present Chair, Steering Committee - NS Change Lab Action Research Initiative (CLARI)
- 2017-present Institutional representative & Member Council, Compute Canada Federation - now DRAC)
- 2017-present Board Member, ACENET (regional partner of Compute Canada Federation - now DRAC)
- 2020-present Member, Research Advisory Committee – Research Nova Scotia

University & Professional Administrative Activities (continued)

- 2017-2022 Board Member, NetZero Atlantic (formerly OERA)
- 2017-2020 Member, Steering Committee – NS Integrated Health Research Innovation Strategy
- 2017-2019 Member, RDC Working Group – Research Nova Scotia Trust
- 2014-2017 Executive Board Member, Canadian Association of Physicists (“CAP”)
- Vice-President Elect (2014)
 - Vice-President, and Congress Program Chair (2014-15)
 - President (2015-16)
 - Past President (2016-17)
- 2011-2022 Steering Committee Member, Halifax Sci-Tech Expo (“HSTE”)
- Regional Science Fair Chair (2014-2022)
 - Sponsorship Director (2012-2022)
 - Regional Science Fair Chief Judge (2013)
- 2009-present; Steering Committee Member, Nova Scotia Discovery Awards for Science & Technology
- Judging Chair (2009-2017; 2020-present)
 - Overall Event Chair (2014-2017)
- 2019 External Reviewer: Department of Physics, University of Windsor
- 2016-2017 Member, CASE Committee on *Graduating Students with Innovative, Creative, and Entrepreneurial Mindsets* (SMU)
- 2010-present Member, Steering Committee for the Global Learning Commons (SMU)
- 2011-2017 Board Member, Nova Scotia Youth Experiences in Science (“NSYES”)
- Vice-President and Treasurer (2013-2017)
- 2013-2017 Member, Academic Advisory Committee on Research and Instructional Computing Meeting (SMU)
- 2010-2017 Member, TRIUMF Board of Management as SMU representative
- 2010-2017 Chair of SMU Faculty of Science standing Committees:
- Community Engagement / Outreach (2010-2017)
 - Science Curriculum (2010-13)
 - Science Space (2010-13)
- 2007-2018 Member, Review Committee for the Walter C. Sumner Memorial Fellowships
- 2017 Member, Selection Committee for CAP-COMP Peter Kirby Memorial Medal for Outstanding Service to Canadian Physics
- 2006-2016 Member, Board of Directors - Discovery Center (Halifax)
- Sub-Committee on Programs and Exhibits (2006-9)
- 2013-2016 Member, Senate Committee on Continuing Education (SMU)
- 2015-2016 Member, Selection Committee for the CAP Medal for Excellence in Undergraduate Teaching
- 2012-2014 Member, Selection Committee for the CAP Awards for Excellence in Teaching High School / CEGEP Physics
- 2013 External Reviewer: Department of Physics, Carleton University
- 2009-2013 Chair (2010-13) & Member (2009-10), NSERC Scholarships and Fellowships Committee for Physics and Astronomy
- 2009-2013 Executive Member, Division of Physics Education, Can. Assoc. of Physicists
- Vice-Chair (2009-11)
 - Chair, and CAP Council & Congress Program Committee Member (2011-13)
 - Past-Chair (2013-15)
- 2010 External Reviewer: Department of Physics, Univ. of New Brunswick
- 2004-2010 SMU Senate Committee on the Quality of Teaching (SMU), Member and Chair (2007-08, 09-10)
- 2007-2012 Departmental Undergraduate Advisor, 2007-8, 2009-12 (SMU)
- 2003-2009 APICS Physics and Astronomy Committee: Chair (2007-9) and SMU rep. and Secretary (2005-7)
- 2006-2008 Departmental Curriculum Committee (SMU), Member and Chair (2007-08)

University & Professional Administrative Activities (continued)

- 2007-2009 Canadian Institute for Nuclear Physics (CINP): Founding Board Member (2007-08)
Membership Officer (2007-09)
2007 Chair, External Review Committee of Dept. of Modern Languages (SMU)
- 2006-2008 Departmental Undergraduate Laboratory Coordinator (SMU)
- 2007-2008 Member, Faculty of Science Curriculum Committee (SMU)
- 2006-2008 Member, Faculty of Graduate Studies Research Committee (SMU)
- 2007-2008 Member, Global Commons Steering Committee (SMU)
- 2003-2007 Atlantic Canada "Tour Coordinator" for CAP Lecture Tour
- 2001-2006 Member, SMU Senate Committee on Academic Planning (SMU)
2006 Chair, Departmental Faculty Search Committee (SMU)
2004 Vice-Coordinator of Departmental Undergrad Research Conference (SMU)
- 2004-2005 Faculty Advisor for AUPAC-05 (Undergraduate Conference) Planning (SMU)
- 2003-2005 Member, SMU Task Force on Community Outreach
- 2002-2004 Co-coordinator (with Ian Short) of Departmental Research Colloquium Series (SMU)
- 2001-2003 Member, New Science Facility Planning Committee (SMU)
- 2000-2003 Departmental "Publicity Liaison" (SMU)
- 2001-2002 Member, Departmental PhD Program Planning Committee (SMU)
- 1998-2000 Member, Undergraduate Affairs Committee (FSU)
- 1997-2000 Member, Saturday Morning Physics Organizing Committee (FSU)
- 1998-1999 Member, Chairman's Evaluation Committee (FSU)
- 1996-1998 Member, Graduate Proficiency Exam Committee (FSU)

Courses Taught

(All courses are 1 semester, with the exception of PHY230.0 and PHY205.0 and PHYS344(5,6).ZZ which are 2 semester; ending of ".1" means Fall semester, ".2" means Winter semester; ".1WW" means a web course.)

- 2022/23: PHYS1370.2 (cross-listed with PHIL 1255.2) Scientific Method (26 students), SMU
- 2020/21: PHYS1370.2 (cross-listed with PHIL 1255.2) Scientific Method (25 students), SMU
PHYS6701.1 Radiation Detection Techniques (1 student), SMU
- 2018/19: PHYS1370.2 (cross-listed with PHIL 1255.2) Scientific Method (19 students), SMU
- 2016/17: PHYS1100.1 University Physics I (177 students), SMU
PHYS1101.2 University Physics II (145 students), SMU
- 2015/16: PHYS1100.1 University Physics I (198 students), SMU
PHYS1100.2 University Physics I (51 students), SMU
PHYS1370.2 (cross-listed with PHIL 1255.2) Scientific Method (29 students), SMU
FRSC2201.2 (course oversight/coordinator) Basic Science for Forensics II (18 students), SMU
- 2014/15: PHYS1100.1 University Physics I (161 students), SMU
PHYS1100.2 University Physics I (55 students), SMU
- 2013/14: PHYS1100.1 University Physics I (162 students), SMU
PHYS1101.2 University Physics II (143 students), SMU
PHYS6701.1 Radiation Detection Techniques (3 students), SMU
PHYS1370.2 (cross-listed with PHIL 1255.2) Scientific Method (27 students), SMU
- 2012/13: PHYS1100.1 University Physics I (188 students), SMU
PHYS1101.2 University Physics II (138 students), SMU
- 2011/12: PHYS1100.1 University Physics I (140 students), SMU
PHYS1101.2 University Physics II (104 students), SMU
PHYS1370.2 (cross-listed with PHIL 1255.2) Scientific Method (29 students), SMU
- 2010/11: PHYS1100.1 University Physics I (106 students), SMU
PHYS1101.2 University Physics II (95 students), SMU
PHYS6791.1 Graduate Directed Studies: Techniques for Subatomic Physics (2 students), SMU

Courses Taught (continued)

- 2009/10: PHYS1100.1 University Physics I (124 students), SMU
PHYS1101.2 University Physics II (91 students), SMU
PHYS3500.1 Quantum Mechanics I (5 students), SMU
PHYS1370.2 (cross-listed with PHIL 1255.2) Scientific Method (10 students), SMU
- 2007/08: PHYS1211.2 University Physics I (91 students), SMU
PHYS1210.1 University Physics I (127 students), SMU
- 2006/07: PHYS1236.2 Physics for the Life Sciences II (32 students), SMU
PHYS1235.1 Physics for the Life Sciences I (47 students), SMU
PHYS3465.1 Quantum Physics I (10 students), SMU
PHYS3445.ZZ Advanced Laboratory I (6 students), SMU
PHYC 6141, Advanced Quantum Theory (1 student) - joint with M. Butler, Dalhousie
- 2005/06: PHYS1236.2 Physics for the Life Sciences II (48 students), SMU
PHYS1235.1 Physics for the Life Sciences I (62 students), SMU
PHYS3465.1 Quantum Physics I (11 students), SMU
PHYS3446.ZZ Advanced Laboratory (10 students), SMU
FRSC2201.1WW Basic Sciences Forensics II - 5 weeks (21 students), SMU
PHYC 6601, Special Topics in Physics: Experimental Techniques in Subatomic Physics (2 students)
- joint with M. Vetterli (SFU), Dalhousie
- 2004/05: PHY236.2 Physics for the Life Sciences II (52 students), SMU
PHY306.2L Waves and Optics, Lab (14 students), SMU
FOR201.2 Basic Sciences Forensics II - 5 weeks (13 students), SMU
PHY235.1 Physics for the Life Sciences I (69 students), SMU
PHY465.1 Quantum Physics I (13 students), SMU
PHY355.1L Electricity and Magnetism, Lab (10 students), SMU
- 2003/04: PHY236.2 Physics for the Life Sciences II (58 students), SMU
PHY306.2L Waves and Optics, Lab (14 students), SMU
FOR201.2 Basic Sciences Forensics II - 5 weeks (16 students), SMU
PHY465.1 Quantum Physics I (13 students), SMU
PHY235.1 Physics for the Life Sciences I (71 students), SMU
PHY355.1L Electricity and Magnetism, Lab (11 students), SMU
- 2002/03: PHY236.2 Physics for the Life Sciences II (52 students), SMU
PHY306.2L Waves and Optics, Lab (16 students), SMU
FOR201.2 Basic Sciences Forensics II - 5 weeks (15 students), SMU
PHY211.2L University Physics II, Lab (2 sections, 9 and 18 students), SMU
PHY235.1 Physics for the Life Sciences I (65 students), SMU
PHY465.1 Quantum Physics I (2 students), SMU
PHY355.1L Electricity and Magnetism, Lab (16 students), SMU
PHY210.1L University Physics I, Lab (2 sections, 18 and 21 students), SMU
- 2001/02: PHY236.2 Physics for the Life Sciences II (48 students), SMU
PHY465.2 Quantum Physics I (9 students), SMU
PHY306.2L Waves and Optics, Lab (5 students), SMU
PHY211.1L University Physics II, Lab (2 sections, 18 and 20 students), SMU
PHY235.1 Physics for the Life Sciences I (54 students), SMU
PHY355.1L Electricity and Magnetism, Lab (5 students), SMU
PHY210.1L University Physics I, Lab (2 sections, 22 and 24 students), SMU
- 2000/01: PHY230.0 Physics for the Life Sciences (62 students), SMU
PHY425.2 Quantum Physics (3 students), SMU
PHY205.0L University Physics, Lab (2 sections, 20 students each), SMU
PHY306.2L Waves and Optics, Lab (13 students), SMU
PHY355.1L Electricity and Magnetism, Lab (13 students), SMU
AST695.1ZZ Graduate Seminar I (2 students), SMU

Courses Taught (continued)

- 1999/00: PHY2054 College Physics B (133 students), Florida State
PHY2054-Lab College Physics B, Lab (2 sections, 20 students each), Florida State
PHY6990 Graduate Nuclear Physics Seminar (5 students), Florida State
PHY2053 College Physics A (159 students), Florida State
PHY2053-Lab College Physics A, Lab (2 sections, 20 students each), Florida State
PHY6990 Graduate Nuclear Physics Seminar (7 students), Florida State
- 1998/99: PHY2054 College Physics B (104 students), Florida State
PHY2054-Lab College Physics B, Lab (2 sections, 20 students each), Florida State
PHY6990 Graduate Nuclear Physics Seminar (14 students), Florida State
PHY2053 College Physics A (129 students), Florida State
PHY2053-Lab College Physics A, Lab (2 sections, 20 students each), Florida State
PHY2053-Recitation College Physics A, Recitation (47 students), Florida State
PHY6990 Graduate Nuclear Physics Seminar (12 students), Florida State
- 1997/98: PHY2054-Recitation College Physics B, Recitation (2 sections, 56 students total), Florida State
PHY2054-Lab College Physics B, Lab (3 sections, 20 students each), Florida State
PHY6990 Graduate Nuclear Physics Seminar (16 students), Florida State
PHY2053-Recitation College Physics A, Recitation (2 sections, 64 students total), Florida State
PHY2053-Lab College Physics A, Lab (3 sections, 20 students each), Florida State
PHY6990 Graduate Nuclear Physics Seminar (14 students), Florida State
- 1996/97: PHY2054-Recitation College Physics B, Recitation (2 sections, 59 students total), Florida State
PHY2054-Lab College Physics B, Lab (3 sections, 20 students each), Florida State
PHY2053-Recitation College Physics A, Recitation (2 sections, 69 students total), Florida State
PHY2053-Lab College Physics A, Lab (3 sections, 20 students each), Florida State
PHY6990 Graduate Nuclear Physics Seminar (14 students), Florida State
- 1995/96: PHY2054-Recitation College Physics B, Recitation (2 sections, 44 students total), Florida State
PHY2054-Lab College Physics B, Lab (3 sections, 20 students each), Florida State

Postdoctoral Research Fellows and Research Staff Supervised

- 2018-2019 Dr. Jessie Campbell (SMU) – *Support for JLab Hall A, and $\mu_p G_E^p/G_M^p$ at low Q^2*
2017-2018 Parker Reid (SMU) – *Support for JLab Hall A radiation shielding models*
1998-2000 Dr. David Meekins (Florida State) – *Recoil Polarization for Δ Excitation in Pion Electroproduction*

Graduate Students Supervised

- 2020-2024: Nandhu Sridhar (Applied Science M.Sc. at SMU, thesis defended in April 2024)
Thesis Topic: *Development and Optimization of Simulation Software tools for the Coordinator Detector in Jefferson Lab's Hall A*
- 2013-2018: Jessica Campbell (Ph.D. program at Dalhousie University, dissertation defended in June 2018)
(scholarship student: NSERC CGS-M, CGS-D)
Thesis Title: *Measurement of the Elastic Form Factor Ratio $\mu_p G_E^p/G_M^p$ using Electron Scattering Spin Asymmetries*
- 2010-2015: Cristina Collicott (Ph.D. at Dalhousie University, dissertation defended in Apr. 2015)
(scholarship student: NSERC CGS-M, CGS-D)
Thesis Title: *Probing proton structure through single polarisation observables of Compton scattering and pion photoproduction within the $\Delta(1232)$ region*
- 2008-2014: David Anez (Ph.D. at Dalhousie University, dissertation defended in Aug. 2014)
Thesis Title: *New Low Momentum-Transfer Measurements of the $p(e, ep)\pi^0$ Cross Section to access the Coulomb Quadrupole Amplitude of the $\Delta(1232)$ Resonance*
- 2010-2012: Jason Sharpe (Applied Science M.Sc. at SMU, thesis defended in May, 2012)
Thesis Title: *Design and Construction Elements for Scintillating Fiber Tracking Detectors*
- 2005-2009: Jackie Glister (Ph.D. at Dalhousie University), dissertation defended in Dec. 2009
(scholarship student: NSERC CGS-M, PGS-D, Killam, Sumner)
Thesis Title: *Polarization Observables in Low Energy Deuteron Photodisintegration*

Graduate Students Supervised

- 1997-2003: Rikki Roche (Ph.D. at Florida State University), dissertation defended in April 2003
Thesis Title: *Measurement of Polarization Observables in the Electro-excitation of the Proton to its First Excited State*
- 1997-2001: Adam Dooley (Ph.D. at Florida State University), dissertation defended in August 2001
Thesis Title: *High-Resolution Study of the $^3\text{He}(e,ep)$ Reaction in the Quasielastic Region*

Undergraduate Honour's Theses Supervised (2000-present)

- 2019/20: Nandhu Sridhar, Saint Mary's B.Sc. Honour's Thesis (May 2020); **Thesis Title:** *Development of Event-Display and General Calibration Software Tools for use in Jefferson Lab's Hall A*
- 2016/17: Parker Reid, Saint Mary's B.Sc. Honour's Thesis (May 2017); **Thesis Title:** *The Coordinate Detector for Hall A at Jefferson Lab: Assembly and Cosmic Ray Testing*
- 2015/16: Dylan Linthorne, Saint Mary's B.Sc. Honour's Thesis (May 2016); **Thesis Title:** *On the Hunt for the Dark Photon*
- 2014/15: Nathan Murtha, Saint Mary's B.Sc. Honour's Thesis (May 2015); **Thesis Title:** *Investigating Performance of a Scintillation Radiation Detector Design*
- 2013/14: Maria Cristina Suteanu, Saint Mary's B.Sc. Honour's Thesis (July 2014); **Thesis Title:** *Using Pion Photoproduction from the Proton as a Calibration Check of the Crystal / Two Armed Photon Spectrometer Detector at the Mainz Microtron*
- 2012/13: Stephen Burke, Saint Mary's B.Sc. Honour's Thesis (May 2013); **Thesis Title:** *Design and Test Elements of Coupling Standard to Scintillating Fiber Optic Cables*
- 2012/13: Jessica Campbell, Saint Mary's B.Sc. Honour's Thesis (May 2013); **Thesis Title:** *Performance Assessment Tests of Multi-anode Photomultiplier Tubes at Jefferson Lab*
- 2009/10: Cristina Collicott, Saint Mary's B.Sc. Honour's Thesis (May 2010); **Thesis Title:** *Simulations of Improved Trigger Logic for CB-TAPS experiments at MAMI*
- 2009/10: Ashley Campbell, Saint Mary's B.Sc. Honour's Thesis (May 2010); **Thesis Title:** *Simulations of Scintillating Fiber Tracking Detector to study Resolutions*
- 2008/09: Gail MacInnis, Saint Mary's B.Sc. Honour's Thesis (May 2009); **Thesis Title:** *Feasibility Study of an improved compass for polarized target experiments at JLab*
- 2006/07: Emily McCullough, Saint Mary's B.Sc. Honour's Thesis (May 2007); **Thesis Title:** *Upgrading the Electron Beam Current Monitor System at Jefferson Lab's Hall A*
- 2006/07: Mehran Saadat joint supervision with Dr. Kevin Hewitt (primary advisor), Dalhousie Physics;
Thesis Title: *Deposition and Characterization of a Superconductor Composition Spread Library: $\text{La}_{2-x}\text{Sr}_x\text{CuO}_4$ ($0 < x < 0.16$) with $\Delta x=0.0033$*
- 2004/05: Brynle Barrett, Saint Mary's B.Sc. Honour's Thesis (May 2005); **Thesis Title:** *Analysis of Space Charge and Dead Zone effects in the TWIST Spectrometer*
- 2004/05: Jackie Glister, Saint Mary's B.Sc. Honour's Thesis (May 2005); **Thesis Title:** *Novel Light Guide for Scintillation Counters in Hall A of Jefferson Lab*
- 2002/03: Frank Berghaus, Saint Mary's B.Sc. Honour's Thesis (Aug. 2003); **Thesis Title:** *Efficiency Analysis of the High Resolution Spectrometers at Hall A of the Jefferson Lab*
- 2002/03: Joshua Bray, Saint Mary's B.Sc. Honour's Thesis (April 2003); **Thesis Title:** *Interactive-Engagement Physics-Teaching Methods: An Evaluation and Inventory*

Undergraduate Student Research Assistants Supervised (2000-present)

Remy Arsenault	2019	Detector Construction/Assembly: Coordinate Detector – SBS Project at Jefferson Lab
Rebecca Tobin	2019	Compton Scattering analysis and software development – Mainz Microtron
Annika Benson	2017	Support for Polarized Proton Compton Scattering experiment – Mainz Microtron
Hannah Ehler	2017	Investigating Cosmic Ray Detectors for outreach purposes
Parker Reid	2017	Support for Hall A Experiments – Radiation Shielding calculations
	2016	Testing and Construction of the Coordinate Detector in Hall A at Jefferson Lab
Joseph LaRoche	2017	Development and component testing for the <i>ECal</i> – SBS Project at Jefferson Lab
Abbie Salzyn	2016	Testing and Construction of the Coordinate Detector in Hall A at Jefferson Lab
Sam Abernethy	2016	(IPP Student Fellowship) Support for A2 MAMI, plus Project at CERN
	2015	(Dalhousie Laing Award) Enhancing user interface for in-situ target pol. monitoring
Dylan Linthorne	2016	Documenting and testing cosmic-ray detector setup for public outreach use
	2015	Improving VDC tracking for APEX Dark Photon experiment
	2014	(SMU Dean’s Award) In-situ target-polarization monitoring with pion production
Nathan Murtha	2015	SBS CDet testing and construction
	2014	(NSERC USRA Award) Light Collection Tests for SBS CDet Scintillator strips
	2013	(NSERC USRA Award) Energy Calibration of CB-TAPS in A2 at MAMI
	2012	(NSERC USRA Award) Support for Jefferson Lab SBS detector dev.
Maria Cristina Suteanu	2013	(NSERC USRA Award) Calibration of CB-TAPS using Pion Photoproduction
Jessica Campbell	2013	Development of Fastbus electronics for Jefferson Lab SBS
	2012	(NSERC USRA Award) Performance Testing of MA-PMTs for Jefferson Lab SBS
	2011	(NSERC USRA Award) Research and Development for Scint. Fiber Coordinate Detector
Rebecca Campbell	2013	Support for Scintillating Fiber detector, and Cosmic Rays outreach project
	2012	Software & Photon Tagger Hardware development in A2 at MAMI
	2011	Experiment Support for A2 Experiments at MAMI: Development of Yield Rate macro
Ashley Campbell	2011	Research and Development for Scintillating Fiber Coordinate Detector
	2009	Simulation of Resolution Capabilities of a Scintillating Fiber Tracking Detector
Cristinia Collicott	2009	Simulation of new Triggering Logic for the CB-TAPS at MAMI
	2008	Establishment of a CAMAC-based Data-acquisition system for detector lab use
Jason Sharpe	2009	Investigations of Scintillating Fiber Detector design and construction
Gail MacInnis	2009	Investigations of Scintillating Fiber Detector design and construction
	2008	Feasibility of using a rotating coil magnetometer as a new polarized target compass
	2007	Educational Initiatives (Mini-U) and Jefferson Lab detector development
Emily McCullough	2007	Experiment Simulation/Design, and Experiment Support
	2006	LEDEX experiment at Jefferson Lab (equipment development & running)
Jackie Glistler	2005	Experiment Simulation and Design (optimizing Roper Resonance proposal)
	2004	(NSERC USRA award) Design and Simulation of New Light Guides
Jennifer Throop	2004	(joint supervision with Dr. R.J. Konopasky, Psychology Dept.) Investigations of Effectiveness of Wireless Responders in Lectures
Joshua Bray	2004	Computer simulations of ElectroNuclear Physics Experiments
	2003	Mini-University Physics and other Educational Initiatives
	2002	OnLine Resource Tool for Physics-Concept Demonstrations
	2001	Educational Initiatives in Physics: Mini-U and Physics Concept Questions
Brynle Barrett	2003	(NSERC USRA award) Radiation Detector development and experiment support
Frank Berghaus	2003	Analysis of Detector Efficiencies and Responses for Hall A
	2001	(NSERC USRA award) Analysis of the Hyper-White Spectrometer Efficiency Data

Current International Research Collaborations

1. 2009-present: A2 Collaboration at the Mainz Microtron, Germany

With the awarding of the NSERC Subatomic Physics Project Grants (2009-2012, 2012-2015, 2015-2018, 2018-2021: PI = D Hornize, CoPI's = A Sarty, G Huber), I joined the A2 Collaboration at the Mainz Microtron "MAMI" at University of Mainz. This collaboration entails working jointly with local lab-based scientists and the full international collaboration of scientists to carry out programs of nuclear physics experiments; involves contributions through student involvement (graduate and undergraduate), postdoctoral research involvement, and full participation in proposing/designing/preparing/running/analyzing experiments.

2. 1994-present: Hall A Collaboration at Jefferson Lab, USA

Since 1994, I have directed the primary part of my research efforts through work with the Hall A Collaboration at Thomas Jefferson National Accelerator Facility ("Jefferson Lab") – a facility run by the USA's Dept. of Energy. This collaboration entails working jointly with local lab-based scientists and the full international collaboration of scientists to carry out programs of nuclear physics experiments; involves contributions through student involvement (graduate and undergraduate), and full participation in proposing/designing/preparing/running/analyzing experiments.

Selected Conferences and Meetings Organised

1. **2018/-23 (Annual) Saint Mary's University Research Recognition Event** (*Organizer, Event Chair*), initiated and started an annual celebration event to recognize individually each, and every, SMU faculty member that was awarded external research support funding in the 12 months prior (approx 200 attendees, as I've gradually opened up opportunity for broader community to participate).

2. **2014/15/16/17 Nova Scotia's Discovery Awards for Science & Technology** (*Overall Event Chair, Judging Coordinator*), provincial Science Awards event/gala & major fund-raiser for Halifax's Discovery Centre (approx 500 attendees, 4 major awards, 1 youth award, 2 Science Hall of Fame, announced/inducted), November (annual event), Halifax. *SUPPORTED BY:* SMU & Maritime Northeast Pipelines (presenting sponsors), CTV (media sponsor), and many other award and smaller sponsors.

3. **2012/13/14/15/16/17/18/19/22 Halifax Sci-Tech Expo (Halifax's regional Science Fair for grades 7-12)** (*Organizer/Sponsorship Director/Chief Judge*), regional science fair (approx 100 participants, 40 judges), Marh/April in each of 2012-2019 (cancelled in 2020,21), SMU. *SUPPORTED BY:* SMU (host and maor sponsor), plus several major sponsors.

4. **2014/15 Annual Congress of the Canadian Association of Physicists** (*overall Program Chair*), responsible for organising and overseeing entire scientific program being assembled by about a dozen different disciplinary Divisions for the annual CAP conference (approx 500 total participants), June 2015 (Edmonton, AB)

5. **2012/13 Division of Physics Education session for the Annual Congress of the Canadian Association of Physicists** (*Scientific Organizer*), 6-7 sessions during annual CAP conference (approx 500 total participants, 30-50 at DPE sessions), June in each of 2012/2013.

6. **2010 Annual Teaching Award Winner Retreat for the Atlantic Association of Universities** (*Co-Facilitator*), retreat/workshop for major teaching award winners from all Atlantic Canadian Universities (approx 12 participants), September, UPEI.

7. **2008 A Regional Symposium on "best-practice use" of Clickers in University Classrooms: "Clicker Talk: Engaging Students?"** (*Organizer/Chair*), regional higher-education symposium (approx 60 attendees), April 2008, SMU. *SUPPORTED BY:* SMU CAID, eInstruction, Pearson Education.

8. **2006 Gordon Research Conference (GRC) on Photonuclear Reactions** (*Chair*), international nuclear physics conference (94 attendees), August 2006 at Tilton School, Tilton, NH, USA. *SUPPORTED BY:* USA National Science Foundation (NSF), Jefferson Lab, SMU, Ohio State Univ., Univ. of Bonn, Mainz Univ., MIT-Bates Linear Accelerator Center, GRC.

9. **2005 APICS Undergraduate Physics and Astronomy Conference** (*Faculty Advisor*), Atlantic Canada regional undergraduate conference (120 attendees), February 2005, SMU.

10. **2004 Gordon Research Conference (GRC) on Photonuclear Reactions** (*Vice-Chair*), international nuclear physics conference (110 attendees), August 2004 at Tilton School, Tilton, NH, USA. *SUPPORTED BY:* USA National Science Foundation (NSF), Jefferson Lab, SMU, Ohio Univ., MIT-Bates Linear Accelerator Center, GRC.

Selected Conferences and Meetings Organised (continued)

- 11. 2nd Workshop on Electromagnetic Nuclear Reactions at Low Momentum Transfer** (*the “LOWq-03 Workshop”*) - (*Co-Chair, Organizer/Host*), international nuclear physics workshop (60 attendees), July 2003, at SMU. *SUPPORTED BY:* Triangle Universities Nuclear Laboratory (Duke University), MIT-Bates Linear Accelerator Center, SMU.
- 12. Workshop on Electromagnetic Nuclear Reactions at Low Momentum Transfer** (*the “LOWq Workshop”*) - (*Co-Chair, Organizer/Host*), international nuclear physics workshop (65 participants from 8 countries), August 2001, at SMU. *SUPPORTED BY:* MIT-Bates Linear Accelerator Center, SMU.
- 13. Mini-Symposium on CAPA: A Web-Based Package for Individualized Student Assignments** (*Chair/Organizer*), regional 3-hour workshop (25 attendees from SMU, Dalhousie, Acadia, UPEI, and MUN), July 2001, at SMU. *SUPPORTED BY:* SMU Office of Instructional Development.

Other Professional andor Community Activities (Administrative, Outreach, etc.)

Member	Board of Directors (Secretary, Member at Large), Swim Nova Scotia (2019-2021)
Member	Board of Directors (Vice-President, Secretary), Halifax Trojan Aquatic Club (2013-15)
Judge	(invited) Nova Scotia Grade 5 Science Film Festival (2004-2011)
Judge	(invited) Atlantic Canada Playoffs of The Iron Science science-teaching challenge (2009, Halifax)
Member	(elected) Jefferson Lab Hall A Collaboration “CC”, Coordinating Committee (2000-2002)
Chair	(appointed) Jefferson Laboratory Hall A Collaboration Coordinating Committee (2001-2002)
Editor	Jefferson Lab Annual Status Report for Hall A (2000, 2001)
Coordinator	the OOPS Collaboration at the MIT-Bates Linear Accelerator Center (1998-1999)
Vice Pres.	(elected) the MIT-Bates Linear Accelerator User Group, Inc. (1997-2000)
Co-Convenor	(appointed) Nucleon-Structure Working Group for Hall A at Jefferson Laboratory (1997-2000)
Reviewer	Grant proposals to the DOE and NSF (USA); CFI (Canada); APS Journals PRL, PRC; Physics in Canada; European Physics Jour.; Can. Jour. of SoTL
Presenter	<i>Outreach Physics “Shows”/Workshops: well over 200 presentations from 2000-2017:</i> for schools, community events, daycares, regional TV, libraries, etc.; in K-12 schools, on SMU campus, and in various community locations.

Refereed Publications (Nuclear Physics Research)

- 96.** *Adiabatic Light Guide with S-shape Strips* ,
Wojtsekhowski, B. Franklin, G.B. Rosso, A. Sarty, A. Shahinyan, A. Zimmerman, E,
DOI: 10.48550/arXiv.2402.14142 (preprint), submitted to Nucl. Instr. and Methods in Physics Research (2024).
- 95.** *Deeply virtual Compton scattering cross section at high Bjorken x_B* ,
Georges, F., Rashad, M.N.H., Stefanko, A., Dlamini, M., Karki, B., Ali, S.F., Lin, P-J. , Ko, H.-S., Israel, N. Adikaram, D., ... A. Sarty, (162 authors, Jefferson Lab Hall A Collaboration),
Physical Review Letters **128**, 252002 (2022).
- 94.** *Form Factors and Two-Photon Exchange in High-Energy Elastic Electron-Proton Scattering* ,
M.E. Christy, T. Gautam, L. Ou, B. Schmookler, Y. Wang, D. Adikaram, , J. Campbell, ... A. Sarty, (170 authors, Jefferson Lab Hall A Collaboration),
Physical Review Letters **128**, 102002 (2022).
- 93.** *Deep Exclusive Electroproduction of π^0 at High Q^2 in the Quark Valence Regime* ,
M. Dlamini, B. Karki, S.F. Ali, P-J Lin, F. Georges, H-S Ko, N. Israel, M.N.H. Rashad, A. Stefanko, D. Adikaram, , J. Campbell, ... A. Sarty, (161 authors, Jefferson Lab Hall A Collaboration),
Physical Review Letters **127**, 152301 (2021).
- 92.** *Extracting the spin polarizabilities of the proton by measurement of Compton double-polarization observables* ,
D. Paudyal, P.P. Martel, G.M. Huber, D. Hornidge, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (90 authors, MAMI A2 Collaboration),
Physical Review **C 102**, 035205 (2020).
- 91.** *Helicity-Dependent Cross Sections for the Photoproduction of π^0 Pairs from Nucleons* ,
M. Dieterle, L. Witthauer, A. Fix, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (90 authors, MAMI A2 Collaboration),
Physical Review Letters **125**, 062001 (2020).

Refereed Publications (Nuclear Physics Research) – continued

- 90.** *Dispersive corrections in elastic electron-nucleus scattering: an investigation in the intermediate energy regime and their impact on the nuclear matter* ,
P. Gueye, A.A. Kabir, P. Giuliani, J. Glistler, B.W. Lee, R. Gilman, D.W. Higinbotham, E. Piasetzky, G. Ron, A.J. Sarty, S. Strauch, A. Adeyemi, ... , E. McCullough, ... (95 authors, Jefferson Lab Hall A Collaboration),
European Physical Journal **A 56**: 126 (2020).
- 89.** *Signatures of the $d^*(2380)$ Hexaquark in $d(\gamma, p \bar{n})$* ,
M. Bashkanov, D.P. Watts, S.J.D. Kay, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (76 authors, MAMI A2 Collaboration),
Physical Review Letters **124**, 132001 (2020).
- 88.** *Measurement of the beam-helicity asymmetry in photoproduction of $\pi^0\eta$ pairs on carbon, aluminum, and lead* ,
V. Sokhoyan, S. Prakhov, A. Fix, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (93 authors, MAMI A2 Collaboration),
Physics Letters **B 802**, 135243 (2020).
- 87.** *Exclusive π^+ electroproduction off the proton from low to high $-t$* ,
S. Basnet, G.M. Huber, W.B. Li, H.P. Blok, D. Gaskell, T. Horn, K. Aniol, ... , A.J. Sarty, ... (52 authors, Jefferson Lab $F_\pi - 2$ Collaboration),
Physical Review **C 100**, 065204 (2019).
- 86.** *Cross section for $\gamma n \rightarrow \pi^0 n$ measured at the Mainz A2 experiment* ,
W.J. Briscoe, M. Hadzimehmedovic, A.E. Kudryavtsev, V.V. Kulikov, M.A. Martemianov, I.I. Strakovsky, A. Svarc, V.E. Tarasov, R.L. Workman, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (95 authors, MAMI A2 Collaboration),
Physical Review **C 100**, 065205 (2019).
- 85.** *The double spin asymmetry of nitrogen in elastic and quasielastic kinematics from a solid ammonia dynamically polarized target* ,
M. Friedman, J. Campbell, D. Day, D.W. Higinbotham, A. Sarty, G. Ron;
Nuclear Instruments and Methods in Physics Research **A946**, 162701 (2019).
- 84.** *Experimental study of the $\gamma p \rightarrow K^0\Sigma^+$, $\gamma n \rightarrow K^0\Lambda$, and $\gamma n \rightarrow K^0\Sigma^0$ reactions at the Mainz Microtron* ,
C.S. Akondi, K. Bantawa, D.M. Manley, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (81 authors, MAMI A2 Collaboration),
European Physical Journal **A 55**: 202 (2019).
- 83.** *Unique Access to u -Channel Physics: Exclusive Backward-Angle Omega Meson Electroproduction* ,
W.B. Li, G.M. Huber, H.P. Blok, D. Gaskell, T. Horn, K. Semenov-Tian-Shansky, B. Pire, L. Szymanowski, J.M. Laget, K. Aniol, ... , A.J. Sarty, ... (56 authors, Jefferson Lab F_π Collaboration),
Physical Review Letters **123**, 182501 (2019).
- 82.** *High-resolution hypernuclear spectroscopy at Jefferson Lab, Hall A* ,
F. Garibaldi, A. Acha, ... , R.E. Roche, ... , A.J. Sarty, ... (100 authors, Jefferson Lab Hall A Collaboration),
Physical Review **C 99**, 054309 (2019).
- 81.** *Deuteron photodisintegration by polarized photons in the region of the $d^*(2380)$* ,
M. Bashkanov, S. Kay, D.P. Watts, C. Mullen, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (73 authors, MAMI A2 Collaboration),
Physics Letters **B 789**, 7-12 (2018).
- 80.** *First measurement of helicity-dependent cross sections in $\pi^0 n$ photoproduction from quasi-free nucleons* ,
A. Kaser, M. Dieterle, L. Witthauer, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (83 authors, MAMI A2 Collaboration),
Physics Letters **B 786**, 305-312 (2018).
- 79.** *Measurement of the decay $\eta' \rightarrow \pi^0\pi^0\eta$ at MAMI* ,
P. Adlarson, ... , C. Collicott, ... , A. Sarty, ... (79 authors, MAMI A2 Collaboration),
Physical Review **D 98**, 012001 (2018).
- 78.** *Photoproduction of π^0 mesons off protons and neutrons in the second and third nucleon resonance regions* ,
M. Dieterle, D. Werthmueller, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (85 authors, MAMI A2 Collaboration),
Physical Review **C 97**, 065205 (2018).
- 77.** *High-statistics measurement of the $\eta \rightarrow 3\pi^0$ decay at the Mainz Microtron* ,
S. Prakhov, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (90 authors, MAMI A2 Collaboration),
Physical Review **C 97**, 065203 (2018).
- 76.** *Experimental study of the $\gamma p \rightarrow \pi^0\eta p$ reaction with the A2 setup at the Mainz Microtron*,
V. Sokhoyan, S. Prakhov, A. Fix, S. Abt, ... , C. Collicott, ... A. Sarty, ... (92 authors, MAMI A2 Collaboration),
Physical Review **C 97**, 055212 (2018).

Refereed Publications (Nuclear Physics Research) – continued

- 75.** *Separated kaon electroproduction cross section and the kaon form factor from 6 GeV JLab data*,
M. Carmignotto, S. Ali, ... , B. Barrett, ... , A. Sarty, ... (60 authors, JLAB FPI-2 and E93-018 Collaborations),
Physical Review **C 97**, 025204 (2018).
- 74.** *First measurement of the polarization observable E and helicity-dependent cross sections in single π^0 photoproduction from quasi-free nucleons*,
M. Dieterlea, L. Witthauera, F. Cividinib, S. Abta, ... , C. Collicott, ... , A. Sarty, ... (88 authors, MAMI A2 Collaboration),
Physics Letters **B 770**, 523-531 (2017).
- 73.** *Helicity-dependent cross sections and double-polarization observable E in η photoproduction from quasifree protons and neutrons*,
L. Witthauer, M. Dieterle, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (88 authors, MAMI A2 Collaboration),
Physical Review **C 95**, 055201 (2017).
- 72.** *Study of η and η' Photoproduction at MAMI*,
V.L. Kashevarov, P. Ott, S. Prakhov, P. Adlarson, ... , C. Collicott, ... , A. Sarty, ... (90 authors, MAMI A2 Collaboration),
Physical Review Letters **118**, 212001 (2017).
- 71.** *Insight into the Narrow Structure in the η Photoproduction on the Neutron from Helicity-Dependent Cross Sections*,
L. Witthauer, M. Dieterle, S. Abt, ... , C. Collicott, ... , A. Sarty, ... (86 authors, MAMI A2 Collaboration),
Physical Review Letters **117**, 132502 (2016).
- 70.** *T and F asymmetries in π^0 photoproduction on the proton*,
J.R.M. Annand, ... , C. Collicott, ... , A. Sarty, ... (67 authors, MAMI A2 Collaboration),
Physical Review **C 93**, 055209 (2016).
- 69.** *Electroexcitation of the $\Delta^+(1232)$ at low momentum transfer*,
A. Blomberg, D. Anez, N. Sparverisa, A.J. Sarty, M. Paolone, S. Gilad, D. Higinbotham, Z. Ahmed, ... (102 authors, Jefferson Lab Hall A Collaboration),
Physical Review **C 93**, 055209 (2016).
- 68.** *Measurement of π^0 photoproduction on the proton at MAMI C*,
P. Adlarson, ... , C. Collicott, ... , A. Sarty, ... (93 authors, MAMI A2 Collaboration),
Physical Review **C 92**, 024617 (2015).
- 67.** *Spectroscopy of Λ -9Li by electroproduction*,
G.M. Urciuoli, F. Cusanno, S. Marrone, A. Acha, ... , A.J. Sarty, ... (198 authors, Jefferson Lab Hall A Collaboration),
Physical Review **C 91**, 034308 (2015).
- 66.** *First measurement of target and beam-target asymmetries in the $\gamma p \rightarrow \pi^0 \eta p$ reaction*,
J.R.M. Annand, H.J. Arends, R. Beck, ... , C. Collicott, ... , A. Sarty, ... (67 authors, MAMI A2 Collaboration),
Physical Review **C 91**, 055208 (May 2015).
- 65.** *Measurements of Double-Polarized Compton Scattering Asymmetries and Extraction of the Proton Spin Polarizabilities*,
P.P. Martel, R. Miskimen, P. Aguar-Bartolome, ... , C. Collicott, ... , A. Sarty, ... (79 authors, MAMI A2 Collaboration),
Physical Review Letters **114**, 112501, 5 pages (Mar. 2015).
- 64.** *Spectroscopy of Λ -9Li by electroproduction*,
G.M. Urciuoli, F. Cusanno, S. Marrone, A. Acha, ... , A.J. Sarty, ... (198 authors, Jefferson Lab Hall A Collaboration),
Physical Review **C 91**, 034308, 14 pages (Mar. 2015).
- 63.** *Helicity dependence of the $\gamma^3\text{He} \rightarrow \pi X$ reactions in the $\Delta(1232)$ resonance region*,
S. Costanza, A. Mushkarenkov, F. Rigamonti, M. Romaniuk, P.A. Bartolome, J. Ahrens, ... , C. Collicott, ... A.J. Sarty, ... (68 authors, MAMI A2 Collaboration),
European Physical Journal **A 50**: 173, 13 pages (Nov. 2014).
- 62.** *Measurement of the Transverse Target and Beam Target Asymmetries in eta Meson Photoproduction at MAMI*,
Akondi, C.S, ... , C. Collicott, ... , A. Sarty, ... (70 authors, MAMI A2 Collaboration),
Physical Review Letters **113**, 102001, 6 pages (Sept. 2014).

Refereed Publications (Nuclear Physics Research) – continued

- 61.** *Separated Response Function Ratios in Exclusive, Forward $\pi^{+/-}$ Electroproduction*,
G.M. Huber, H.P. Blok, C. Butuceanu, D. Gaskell, T. Horn, D.J. Mack, D. Abbott, ... , B. Barrett, ... , A. Sarty, ...
(88 authors, Jefferson Lab F_π Collaboration),
Physical Review Letters **112**, 182501, 6 pages (April 2014).
- 60.** *Hard Two-body Photodisintegration of ^3He* ,
I. Pomerantz, Y. Ilieva, R. Gilman, D.W. Higinbotham, E. Piasetzky, S. Strauch, K.P. Adhikari, ... , J. Glister, ... ,
E. McCullough, ... , A.J. Sarty, ... (200 authors, Jefferson Lab Hall A and CLAS Collaborations),
Physical Review Letters **110**, 242301, 6 pages (March 2013).
- 59.** *Virtual Compton Scattering and the generalized polarizabilities of the proton at $Q^2 = 0.92$ and 1.76 GeV^2* ,
H. Fonville, G. Laveissiere, N. Degrande, S. Jaminion, C. Jutier, L. Todor, R. Di Salvo, L. Van Hoorebeke, L.C.
Alexa, ..., A.J. Sarty, ... (164 authors, Jefferson Lab Hall A Collaboration),
Physical Review **C 86**, 015210, 25 pages (July 2012).
- 58.** *High-precision measurement of the proton elastic form factor ratio $\mu_p G_E/G_M$ at low Q^2* ,
X. Zhan, K. Allada, ..., J. Glister, ..., A.J. Sarty, ... (72 authors, Jefferson Lab E08007 Collaboration),
Physics Letters **B 705**, 59-64, 6 pages (November 2011).
- 57.** *Low Q^2 measurements of the proton form factor ratio $\mu_p G_E/G_M$* ,
G. Ron, X. Zhan, J. Glister, B. Lee, K. Allada, ..., E. McCullough, ..., A.J. Sarty, ... (87 authors, Jefferson Lab Hall
A Collaboration),
Physical Review **C 84**, 055204, 11 pages (November 2011).
- 56.** *Measurements of the generalized electric and magnetic polarizabilities of the proton at low Q^2 using the virtual
Compton scattering reaction*,
P. Bourgeois, Y. Sato, J. Shaw, R. Alarcon, ..., A.J. Sarty, ... (37 authors, MIT-Bates OOPS Collaboration),
Physical Review **C 84**, 035206, 8 pages (September 2011).
- 55.** *Measurements of the partial cross sections σ_{TT} , σ_{LT} , and $(\sigma_t + \epsilon\sigma_L)$ of the $^1\text{He}(e, e'\pi^+)n$ reaction in the
 $\Delta(1232)$ resonance*,
J.M. Kirkpatrick, N.F. Sparveris, I. Nakagawa, A.M. Bernstein, R. Alarcon, ..., A.J. Sarty, ... (37 authors, MIT-Bates
OOPS Collaboration),
Physical Review **C 84**, 028201, 4 pages (August 2011).
- 54.** *Polarization observables in deuteron photodisintegration below 360 MeV* ,
J. Glister, G. Ron, B.W. Lee, R. Gilman, A.J. Sarty, S. Strauch, D.W. Higinbotham, E. Piasetzky, K. Allada, ... (91
authors, Jefferson Lab Hall A LEDEX Collaboration),
Physics Letters **B 697**, 194-198, 5 pages (7 March 2011).
- 53.** *Precise Extraction of the Induced Polarization in the $^4\text{He}(e, e'\vec{p})^3\text{H}$ Reaction*,
M. Paolone, S.P. Malace, S. Strauch, I. Albayrak ... , A.J. Sarty, ... (58 authors, Jefferson Lab Hall A E03-104
Collaboration),
Physical Review Letters **106**, 052501, 5 pages (31 January 2011).
- 52.** *Polarization Transfer in the $^4\text{He}(\vec{e}, e'\vec{p})^3\text{H}$ Reaction at $Q^2=0.8$ and $1.3 (\text{GeV}/c)^2$* ,
M. Paolone, S.P. Malace, S. Strauch, I. Albayrak ... , A.J. Sarty, ... (58 authors, Jefferson Lab Hall A E03-104
Collaboration),
Physical Review Letters **105**, 072001, 5 pages (12 August 2010).
- 51.** *Cross sections and Rosenbluth separation in $^1\text{H}(e, e'K^+)\Lambda$ up to $Q^2=2.35 \text{ GeV}^2$* ,
M. Coman, P. Markowitz, K. Aniol, ... , A.J. Sarty, ... (86 authors, Jefferson Lab Hall A Collaboration),
Physical Review **C 81**, 052201(R), 5 pages (24 May 2010).
- 50.** *High Resolution Spectroscopy of $^16_\Lambda\text{N}$ by Electroproduction*,
F. Cusanno, G.M. Urciuoli, A. Acha, ... , A.J. Sarty, ... (99 authors, Jefferson Lab Hall A Collaboration),
Physical Review Letters **103**, 202501, 5 pages (9 Nov. 2009).
- 49.** *Proton polarimeter calibration between 82 and 217 MeV* ,
J. Glister, G. Ron, B. Lee, ... , A.J. Sarty, ... (22 authors, Jefferson Lab LEDEX Collaboration),
Nuclear Instruments and Methods in Physics Research **A606**, pages 578-584 (21 July 2009).
- 48.** *Virtual Compton scattering and neutral pion electroproduction in the resonance region up to the deep inelastic
region at backward angles*,
G. Laveissiere, ... , A.J. Sarty, ... (164 authors, Jefferson Lab Hall A Collaboration),
Physical Review **C79**, 015201, 18 pages (6 January 2009).

Refereed Publications (Nuclear Physics Research) – continued

- 47.** *The proton elastic form factor ratio $\mu_p G_E^p/G_M^p$ at low momentum transfer*,
G. Ron, J. Glister, B. Lee, K. Allada, ... , A.J. Sarty, ... (89 authors, Jefferson Lab Hall A Collaboration),
Physical Review Letters **99**, 202002, 5 pages (November 2007).
- 46.** *High Resolution Spectroscopy of ${}^{12}_\Lambda B$ by Electroproduction*,
M. Iodice, F. Cusanno, A. Acha, ... , A.J. Sarty, ... (101 authors, Jefferson Lab Hall A Collaboration),
Physical Review **C75**, 055208, 5 pages (25 May 2007).
- 45.** *Search for Σ_5^0, N_5^0 , and Θ^{++} pentaquark states*,
Y. Qiang, ... , A.J. Sarty, ... (53 authors, Jefferson Lab Hall A Collaboration),
Physical Review **C75**, 055208, 5 pages (25 May 2007).
- 44.** *Recoil polarization measurements for neutral pion electroproduction at $Q^2 = 1$ (GeV/c)² near the Δ resonance*,
J.J. Kelly, O. Gayou, R.E. Roche, Z. Chai, M.K. Jones, A.J. Sarty, S. Frullani, K. Aniol et al. (83 authors, Jefferson Lab E91011 and Hall A Collaborations),
Physical Review **C75**, 025201, 33 pages (12 Feb. 2007).
- 43.** *Measurements of the Generalized Electric and Magnetic Polarizabilities of the Proton at Low Q^2 Using the Virtual-Compton-Scattering Reaction*,
P. Bourgeois et al. (37 authors, MIT-Bates OOPS Collaboration),
Physical Review Letters **97**, 212001, 4 pages (21 Nov. 2006).
- 42.** *Determination of the Pion Charge Form Factor at $Q^2 = 1.60$ and 2.45 (GeV/c)²*,
T. Horn, ... , A. Sarty, ... (53 authors, Jefferson Lab F_π Collaboration),
Physical Review Letters **97**, 192001, 4 pages (6 Nov. 2006).
- 41.** *Design Study of Novel Light Guide Geometry for Scintillation Counters*,
Jackie Glister and Adam J. Sarty,
Proceedings of the Nova Scotian Institute of Science, **Vol. 43, Part 2**, pp. 227-234 (August 2006).
- 40.** *Recoil Polarization for Δ Excitation in Pion Electroproduction*,
J.J. Kelly, R.E. Roche, Z. Chai, M.K. Jones, O. Gayou, A.J. Sarty, S. Frullani, K. Aniol et al. (83 authors, Jefferson Lab E91011 and Hall A Collaborations),
Physical Review Letters **95**, 102001, 6 pages, (2 Sept. 2005).
- 39.** *Proton elastic form factor ratios to $Q^2 = 3.5$ GeV² by polarization transfer*,
V. Punjabi, ... , A.J. Sarty, ... (110 authors, the Jefferson Lab Hall A Collaboration),
Physical Review **C71**, 055202, 27 pages (2005).
- 38.** *Precision Rosenbluth Measurement of the Proton Elastic Form Factors*,
I.A. Qattan, J. Arrington, ... , A. Sarty, ... (52 authors, Jefferson Lab Experiment E01-001 Collaboration),
Physical Review Letters **94**, 142301, 5 pages, (2005).
- 37.** *Investigation of the Conjectured Nucleon Deformation at Low Momentum Transfer*,
N.F. Sparveris, ... , A.J. Sarty, ... (37 authors, the MIT-Bates Out-of-Plane Spectrometer Collaboration),
Physical Review Letters **94**, 022003, 5 pages (2005).
- 36.** *Measurement of R_{LT} and A_{LT} in the ${}^4\text{He}(e, e'p){}^3\text{H}$ reaction at p_{miss} of 130-300 MeV/c*,
K.A. Aniol, ... , A.J. Sarty, ... (45 authors, the MAMI A1 Collaboration),
European Physics Journal **A22**, pp 449-454, (2004).
- 35.** *Measurement of the Generalized Polarizabilities of the Proton in Virtual Compton Scattering at $Q^2 = 0.92$ and 1.76 GeV²*,
G. Laveissiere, L. Todor, ... , A.J. Sarty, ... (165 authors, Jefferson Lab Hall A Collaboration),
Physical Review Letters **93**, 122001, 5 pages (14 Sept. 2004).
- 34.** *Dynamics of the quasielastic ${}^{16}\text{O}(e, e'p)$ reaction at $Q^2 \approx 0.8$ (GeV/c)²*,
K.G. Fissum, M. Liang, ... , A.J. Sarty, ... (139 authors, Jefferson Lab Hall A Collaboration),
Physical Review **C70**, 034606 (20 September 2004) (30 pages).
- 33.** *A Measurement of the Exclusive ${}^3\text{He}(e, e'p)$ Reaction Below the Quasi-Elastic Peak*,
A. Kozlov, A.J. Sarty, K.A. Aniol, et al. (49 authors, the MAMI A1 Collaboration),
Physical Review Letters **93**, 132301, 5 pages (September 2004).
- 32.** *Measurements of electron-proton elastic cross sections for $0.4 < Q^2 < 5.5$ (GeV/c)²*,
M.E. Christy, ... , A.J. Sarty, ... (82 authors, the Jefferson Lab Hall C E94110 Collaboration),
Physical Review **C70**, 015206, 15 pages (21 July 2004). **31.** *Basic Instrumentation for Hall A at Jefferson Lab*,
J. Alcorn, ..., A.J. Sarty, ... (237 authors, Jefferson Lab Hall A Collaboration),
Nuclear Instruments and Methods in Physics Research **A522**, pages 294-346 (2004).

Refereed Publications (Nuclear Physics Research) – continued

30. *Backward electroproduction of π^0 mesons on protons in the region of nucleon resonances at four momentum transfer squared $Q^2 = 1.0 \text{ GeV}^2$* , G. Laveissiere, ... , A.J. Sarty, ... (164 authors, Jefferson Lab Hall A Collaboration), Physical Review **C69**, 045203, 15 pages (28 April 2004).
29. *Polarization Transfer in the ${}^4\text{He}(\vec{e}, e'\vec{p}){}^3\text{H}$ Reaction up to $Q^2 = 2.6(\text{GeV}/c)^2$* , S. Strauch, S. Dieterich, ... , A. Sarty, ... (72 authors, Jefferson Lab Hall A Collaboration), Physical Review Letters, 052301, 5 pages (1 August 2003).
28. *Measurement of the R_{LT} response function for π^0 electroproduction at $Q^2 = 0.070(\text{GeV}/c)^2$ in the $N \rightarrow \Delta$ transition*, N.F. Sparveris, ... , A.J. Sarty, ... (48 authors, MIT-Bates Out-of-Plane Spectrometer Collaboration), Physical Review **C67**, 058201, 4 pages (14 May 2003).
27. *Nuclear transparency from quasielastic $A(e, e'p)$ up to $Q^2 = 8.1 (\text{GeV}/c)^2$* , K. Garrow, ... , A.J. Sarty, ... (83 authors, Jefferson Lab Hall C E94-139 Collaboration), Physical Review **C66**, 044613, 10 pages (25 October 2002).
26. *High energy angular distribution measurements of the exclusive deuteron photodisintegration reaction*, E.C. Schulte, ... , A. Sarty, ... (79 authors, Jefferson Lab Hall C E99-008 Collaboration), Physical Review **C66**, 042201(R), 5 pages (17 October 2002).
25. *Polarization measurements in neutral pion photoproduction*, K. Wijesooriya, ... , A.J. Sarty, ... (78 authors, the Jefferson Lab Hall A Collaboration), Physical Review **C66**, 034614, 14 pages (26 September 2002).
24. *Relativistic Effects and Two-Body Currents in the ${}^2\text{H}(\vec{e}, e'p)n$ Reaction*, Z.-L. Zhou, ... , A.J. Sarty, ... (47 authors, MIT-Bates OOPS Collaboration), Physical Review Letters **87**, 172301, 4 pages (22 October 2001).
23. *Performance of a Compact Detector Package for the Out-of-Plane Spectrometer System*, Z.-L. Zhou, S. Sirca, W. Boeglin, A.J. Sarty, R. Alarcon, ... (68 authors, MIT-Bates OOPS Collaboration), Nuclear Instruments and Methods in Physics Research **A 487**, pages 365-380 (2002).
22. *Measurements of the Elastic Electromagnetic Form Factor Ratio G_{E_p}/G_{M_p} via Polarization Transfer*, O. Gayou, ... , A.J. Sarty, ... (78 authors, the Jefferson Lab Hall A Collaboration), Physical Review **C64**, 038202, 4 pages (21 August 2001).
21. *Measurement of the high energy two-body deuteron photodisintegration differential cross section*, E.C. Schulte, ... , A.J. Sarty, ... (90 authors, Jefferson Lab Hall C E96-003 Collaboration), Physical Review Letters **87**, 102302, 4 pages (16 August 2001).
20. *Dynamics of the ${}^{16}\text{O}(e, e'p)$ Reaction at High Missing Energies*, N. Liyanage, ... , A.J. Sarty, ... (140 authors, the Jefferson Lab Hall A Collaboration), Physical Review Letters **86**, 5670-5674 (2001).
19. *Polarization Measurements in High-Energy Deuteron Photodisintegration*, K. Wijesooriya, ... , A.J. Sarty, ... (78 authors, the Jefferson Lab Hall A Collaboration), Physical Review Letters **86**, 2975-2979 (2001).
18. *Search for Quadrupole Strength in the Electro-excitation of the $\Delta^+(1232)$* , C. Mertz, ... , A.J. Sarty, ... (43 authors, the MIT-Bates OOPS and FPP Collaborations), Physical Review Letters **86**, 2963-2966 (2001).
17. *Polarization transfer in the ${}^{16}\text{O}(\vec{e}, e'\vec{p}){}^{15}\text{N}$ reaction*, S. Malov, ... , A.J. Sarty, ... (148 authors, the Jefferson Lab Hall A Collaboration), Physical Review **C62**, 057302, 5 pages (2000).
16. *Dynamical Relativistic Effects in Quasielastic $1p$ -Shell Proton Knockout from ${}^{16}\text{O}$* , J. Gao, ... , A.J. Sarty, ... (135 authors, the Jefferson Lab Hall A Collaboration), Physical Review Letters **84**, 3265-3269 (2000).
15. *G_{E_p}/G_{M_p} ratio by Polarization Transfer in $\vec{e}p \rightarrow e\vec{p}$* , M.K. Jones, ... , A.J. Sarty, ... (108 authors, the Jefferson Lab Hall A Collaboration), Physical Review Letters **84**, 1398-1402 (2000).
14. *The Radiation Tail in $(e, e'p)$ Reactions and Corrections to Experimental Data*, J.A. Templon, C.E. Vellidis, R.E.J. Florizone, and A.J. Sarty, Physical Review **C61**, 014607, 14 pages (2000).
13. *The Bremsstrahlung Tagged Photon Beam in Hall B at The Jefferson Laboratory*, D.I. Sober, ... , and A.J. Sarty (26 authors, the Hall B Photon Tagger Collaboration), Nuclear Instruments and Methods in Physics Research **A440**, 263-284 (2000).
12. *Lessons to be learned from the coherent photoproduction of pseudoscalar mesons*, L.J. Abu-Raddad, J. Piekarewicz, A.J. Sarty, and R.A. Rego, Physical Review **C60**, 054606, 11 pages (1999).
11. *Measurement of Recoil Polarizations in the Electrodisintegration of Deuterium by Polarized Electrons*, D.H. Barkhuff, ... , A.J. Sarty, ... (39 authors, the MIT-Bates FPP Collaboration), Physics Letters **B470**, 39-42 (1999).
10. *High-Precision Studies of the ${}^3\text{He}(e, e'p)$ Reaction at the Quasielastic Peak*, R.E.J. Florizone, ... , A.J. Sarty, ... (41 authors, MAMI A1 and USA-Helium Collaborations), Physical Review Letters **83**, 2308-2311 (1999).

Refereed Publications (Nuclear Physics Research) – continued

9. *Measurements of the Deuteron Elastic Structure Function $A(Q^2)$ for $0.7 < Q^2 < 6.0(\text{GeV}/c)^2$ at Jefferson Laboratory*, L.C. Alexa, ... , A.J. Sarty, ... (143 authors, the Jefferson Lab Hall A Collaboration), *Physical Review Letters* **82**, 1374-1378 (1999).
8. *Induced photon polarization for π^0 Electroproduction at $Q^2 = 0.126 \text{ GeV}^2/c^2$ around the $\Delta(1232)$ Resonance*, G.A. Warren, ... , A.J. Sarty, ... (55 authors, the MIT-Bates FPP and OOPS Collaborations), *Physical Review* **C58**, 3722-3725 (1998).
7. *Measurement of the Interference Structure Function R_{LT} for the $^{12}\text{C}(e, e'p)$ Reaction in the Quasielastic Region*, M. Holtrop, ... , A.J. Sarty, ... (37 authors, the OOPS Collaboration), *Physical Review* **C58**, 3205-3211 (1998).
6. *Nuclear Dependence of the Coherent η Photoproduction Reaction in a Relativistic Approach*, L.J. Abu-Raddad, J. Piekarewicz, A.J. Sarty, and M. Benmerrouche, *Physical Review* **C57**, 2053-2056 (1998).
5. *A Comparison of Polarization Observables in Electron Scattering from the Proton and Deuteron*, B.D. Milbrath, ... , A.J. Sarty, ... (36 authors, the MIT-Bates FPP Collaboration), *Physical Review Letters* **80**, 452-459 (1998).
4. *Measurement of the Induced Proton Polarization P_n in the $^{12}\text{C}(e, e'p)$ Reaction*, R.J. Woo, ... , A.J. Sarty, ... (35 authors, the MIT-Bates FPP Collaboration), *Physical Review Letters* **80**, 456-459 (1998).
3. *Coherent η photoproduction from nuclei in a relativistic impulse approximation approach*, J. Piekarewicz, A.J. Sarty, and M. Benmerrouche, *Physical Review* **C55**, 2571-2576 (1997).
2. *A Measurement of the Longitudinal, Transverse, and Longitudinal-Transverse Responses in the $d(e, e'p)n$ Reaction*, D. Jordan, ... , A.J. Sarty, ... (37 authors, the OOPS Collaboration), *Physical Review Letters* **76**, 1579-1582 (1996).
1. *A Measurement of the reaction $^3\text{He}(\gamma, pp)n$ and its Relation to Three-Body Forces*, A.J. Sarty *et al.* (12 authors, Sask. Accel. Lab), *Physical Review* **C47**, 459-467 (1993).

Refereed Publications (Scholarship of Teaching)

1. *Personal Responders: An Evaluation of an Interactive-Engagement Physics-Teaching Method*, J.M. Bray and A.J. Sarty, *Canadian Undergraduate Physics Journal*, Volume II, Issue 3, pages 7-10 (April 2004).

Other Articles (Scholarship of Teaching):

5. *Student Engagement: Creative Intersections, Part I - Technology Up Front*, Proceedings of the 2008 AAU Atlantic Universities' Teaching Showcase (Volume XII, ISSN 1490-4861); S. Bell, L. Best, D. Creelman, K. Craft, D. Roach, and D. Ross (editors); pages 7-16 (2009).
4. *The Importance of Good Teaching - and the Conflict it Reveals*, Award Winners speeches brochure - AAU Teaching Awards 2008, Atlantic Association of Universities (www.atlanticuniversities.ca → Faculty Development Committee → AAU Teaching Awards → Award Winners Speeches), pages 5-7 (2008).
3. *"Clickers" in SMU's Classrooms - Getting the most out of this new Educational Technology*, Teaching and Learning at Saint Mary's, November 2007 (Saint Mary's University); page 6.
2. *The New SMU Physics-Demonstration Web Site: Videos, CD's, Outreach and more*, Teaching and Learning at Saint Mary's, Volume 13, Number 2, Winter/Spring 2003 (Saint Mary's University); pages 4-5.
1. *Mini-Symposium on CAPA: A Web-Based Package for Individualized Student Assignments*, Teaching and Learning at Saint Mary's, Volume III, Number 1, Fall 2001 (Saint Mary's University); page 9.

Selected Invited Talks and Seminars (Nuclear Physics Research), 1995-present

29. *Technical Proposal: PMT-based Coordinate Detector*, invited talk to Dept. of Energy (Office of Nuclear Physics Facilities & Project Management Division) Annual Review of the Super BigBite Spectrometer (SBS) at Jefferson Lab; Newport News, VA, USA (Nov. 2013).
28. *Detector Development for the SBS High Q^2 Proton Form Factor Experiment at JLab: AN ENHANCED COORDINATE DETECTOR*, talk to Annual Collaboration Meeting of the Super BigBite Spectrometer (SBS) Collaboration; Newport News, VA, USA (Jun. 2013).

Selected Invited Talks (Nuclear Physics Research), 1995-present - continued

- 27.** *Detector Development for the SBS High Q^2 Proton Form Factor Experiment at JLab: AN ENHANCED COORDINATE DETECTOR*, contributed talk to 5th Workshop of APS Topical Group on Hadronic Physics; Denver, CO, USA (Apr. 2013).
- 26.** *Transition Form-Factors from Pion ElectroProduction: Recoil Polarization Techniques*, invited talk to the 26th Students' Workshop on Electromagnetic Interactions; Bosen (Saar), Germany (September 2009).
- 25.** *New Polarization Measurements in Deuteron Photodisintegration in the 275-360 MeV Energy Range*, contributed talk to the 19th International IUPAP Conference on Few-Body Problems in Physics; Bonn, Germany (September 2009).
- 24.** *Upcoming Proton Form Factor Ratio Measurements at Extreme Momentum Transfers: from 0.015 to 15.0 GeV²*, contributed talk to the Annual Congress of the Canadian Association of Physicists, Division of Nuclear Physics; Quebec City, PQ (June 2008). **23.** *From Code-Writer to Model-Builder to Error-Finder: A Reflection on the Many Contributions of Jim Kelly to Nuclear Physics*, invited colloquium, Jefferson Laboratory, Newport News, VA, USA (June 2007).
- 22.** *New Polarization Measurements in Low-Energy Deuteron Photodisintegration*, contributed talk to the Annual Congress of the Canadian Association of Physicists, Division of Nuclear Physics; Saskatoon, Sk (June 2007).
- 21.** *Recoil Polarization Observables*, invited presentation to the MIT Hadron Deformation Workshop; Massachusetts Institute of Technology, Cambridge, MA, USA (6-8 August 2004).
- 20.** *Polarization Observables*, presentation to the 2004 Jefferson Laboratory User's Workshop on "The Next Seven Years" (as part of the "Excited Hadrons" session), Jefferson Lab, Newport News, VA (16-18 June 2004).
- 19.** *Overview of the LOWq Workshop*, opening talk for the *2nd Workshop on Electromagnetic Nuclear Reactions at Low Momentum Transfer* – an international nuclear physics workshop held/hosted at Saint Mary's University, Halifax, NS (July 2003).
- 18.** *Measuring the Shape of the Proton - more than just a sphere*, invited colloquium given 5 times in 2002-2003:
(i) Mount Allison University Physics Department, Sackville, NB (3 November 2003);
(ii) the Atlantic Undergraduate Physics and Astronomy Conference (AUPAC), Saint F.X. University, Antigonish (Feb. 2003);
(iii) Dalhousie University Physics Department, Halifax, NS (14 November 2002);
(iv) University of Manitoba Physics Department, Winnipeg, MB (18 October 2002);
(v) the Tri-University Meson Facility (TRIUMF) at the University of British Columbia, Vancouver, BC (17 October 2002).
- 17.** *Deformation in the Proton $\rightarrow \Delta$ Transition via Pion Electroproduction*, invited talk given during the 2002 Annual Congress of the Canadian Association of Physicists, within the Division of Nuclear Physics' session on *Nucleon Properties*, Quebec City, PQ (2 June 2002).
- 16.** *Probing the $N \rightarrow \Delta$ Transition via Measurements of the Polarization Responses in the $p(\vec{e}, e'\vec{p})\pi^0$ Reaction*, contributed talk given during the Mini-Symposium on *Hadronic Structure with Spin Degrees of Freedom* at the annual April Meeting of the American Physical Society, Albuquerque, NM, USA (21 April 2002).
- 15.** *Overview of the LOWq Workshop*, opening talk for the *Workshop on Electromagnetic Nuclear Reactions at Low Momentum Transfer*, Saint Mary's University, Halifax, NS (23 August 2001).
- 14.** *Recoil Polarization Measurements in π^0 Electroproduction at the Peak of the $\Delta(1232)$* , invited talk given at the international nuclear physics conference *NSTAR 2001 - The Physics of Excited Nucleons*, Johannes Gutenberg-Universitaet, Mainz, Germany (7 March 2001).
- 13.** *Detailed Studies of N^* Transitions using Recoil Polarization in Hall A*, presentation to the United States Town Meeting on Electromagnetic and Hadronic Physics, Jefferson Lab, Newport News, VA, USA (1-4 December 2000).
- 12.** *Probing the Currents inside Light Nuclei*, invited Colloquium for the Department of Astronomy & Physics at Saint Mary's University, Halifax, NS (Feb 2000).
- 11.** *Polarization and Out-of-Plane Responses in Pion Electroproduction*, invited talk given at the international nuclear physics conference *NSTAR 2000 - The Physics of Excited Nucleons*, Thomas Jefferson National Accelerator Facility, Newport News, VA, USA (Feb 2000).
- 10.** *Isolated Responses of the Deuteron*, invited talk to the European Research Conference on Electromagnetic Interactions with Hadrons and Nuclei, Santorini, Greece (Oct 1999).
- 9.** *Radiative Corrections to $(e, e'p)$* , invited talk to the Radiative Corrections Workshop at the 1999 Jefferson Lab User Group Annual Meeting & Workshop (talk shared with J.A. Templon), Newport News, VA (June 1999).

Selected Invited Talks (Nuclear Physics Research), 1995-present - continued

8. *Shedding New Light on the Nucleus using Electron Scattering*, invited Physics Department Colloquium at Duke University, Durham, NC (March 1999).
7. *Probing the Nucleon and the Nucleus through η -meson Production*, invited talk to the Hadron Structure Workshop at the 1998 South-Eastern Section of the American Physical Society, Miami, FL (November 1998).
6. *Physics of the η Electroproduction Response Functions*, invited talk to the Jefferson Laboratory Annual User Group Workshop, Jefferson Lab, Newport News, VA (June 1997).
5. *Searching for New Phenomena at High Excitation Energies in the ${}^3,4\text{He}(e, e'p)$ Reactions*, invited talk to the 1997 American Physical Society Division of Nuclear Physics Workshop, Whistler, BC, Canada (October 1997).
4. *Studying Non-Nucleonic Degrees of Freedom through Out-of-Plane Electron Scattering*, invited seminar to the Argonne National Laboratory Physics Division, Argonne, IL (June 1997).
3. *New Ideas for η Production Experiments*, invited seminar to the University of New Hampshire Nuclear Group, Durham, NH (May 1996).
2. *η Meson Production at CEBAF*, invited seminar at the University of Saskatchewan Accelerator Laboratory, University of Saskatchewan, Saskatoon, SK (June 1996).
1. *Out-of-Plane Measurements at the MIT-Bates Linear Accelerator Laboratory*, contributed talk to the Second Workshop on Electromagnetically Induced Two-Nucleon Emission, Gent, Belgium (May 1995).

Invited Talks, Seminars, and Panels (Scholarship of Teaching)

39. *A Mandatory intro Physics course you don't really want to take, and that you think you've already mastered in High School*, special 3M Welcome to My Classroom session at Society for Teaching and Learning in Higher Education ("STLHE") annual conference; (Halifax, NS - June 2017)
- 37, 38. *Teaching Physics is Hard – Learning Harder ... Shouldn't we study that? One Physicist's jump into Physics Education Research:*
 - invited presentation for Dalhousie University Physics Student Society; Halifax, NS (Feb. 2020).
 - invited Keynote talk for Science Atlantic's "Atlantic Universities Physics & Astronomy Undergraduate Conference 2015"; Mount Allison University, Sackville, NB (Feb. 2015).
- 33, 34, 35, 36. *Venturing into Researching our Teaching: Lessons Discovered by a Physicist:*
 - special research presentation for the University of Alberta's Centre for Teaching and Learning; Edmonton, AB (Aug. 2016).
 - invited seminar to the McGill University Physics Department's Teaching Assistants; Montreal, PQ (Feb. 2015).
 - invited colloquium to University of Windsor's P.E.A.R.L. program; Windsor, ON (Jan. 2015).
 - invited plenary talk for UPEI's Teaching your Research Workshop; UPEI, Charlottetown, PEI (Mar. 2014).
32. *Teaching about Science Methodology*, invited talk to Teaching About Science Workshop (a project of Situating Science and University of King's College) - co-presented with L. Gannett (Philosophy Dept., SMU); Dalhousie, Halifax, NS (Jan. 2014).
31. *Methodologies for Teaching First-Year Physics*, invited presentation to Memorial University Physics Department; MUN, St. John's, NL (Apr. 2013).
30. *Making the Scholarship of Teaching and Learning public: Getting your SoTL work published*, 2-part invited panel presentation (joint with: D. Bateman, Champlain St-Lambert College; A. Pearson, U. of Western Ontario; K.L. Taylor, Dalhousie U.; J. Thompson, U. of Sask.; K. Meadows, U. of Western Ontario); 31st Annual Conference of the Society for Teaching and Learning in Higher Education, Saskatoon, SK (June 2011).
29. *Methodologies for Teaching First-Year Physics*, invited presentation to UPEI Physics Department; UPEI, Charlottetown, PEI (May 2011).
28. *How Do We Bridge the Gap Between High School and University?*, panel presentation (joint with: F. Rawle, U of Toronto; T. Antimirova, Ryerson U.; L. Kajjura, McMaster U.; R. Venkateswaran, U. of Ottawa; P. Lock, McMaster U.; J. Donev, U. of Calgary), Strategies for Success Workshop, Pearson Education; Toronto, ON (May 2011).

Invited Talks, Seminars, and Panels (Scholarship of Teaching) - continued

27. *Saint Mary's University: A Developing Partnership*, joint presentation (with M. Braswell, Director of Recruiting, SMU) to "Options and Opportunities Mid-Year Workshop", Nova Scotia Board of Education; Dartmouth, NS (December 2010).
26. *Atlantic Association of Universities Teaching Award Winners Retreat 2010*, co-facilitator (joint with P. Williams, Acadia University); University of PEI, Charlottetown, PEI (October 2010).
25. *Student Engagement: Creative Intersections – Part I: Technology Up Front*, invited plenary session panel presenter (joint with M. van Bommel, St. F.X. University, and E. Wells, Mount Allison University); for the 2008 Atlantic Association of Universities (AAU) Teaching Showcase, UNB-SJ, Saint John, NB (October 2008).
24. *Annual Meeting of the Atlantic University Presidents - AAU Teaching Award Winner Dinner*, invited presentation entitled "The Importance of Good Teaching - and the Conflict it Reveals", Fredericton, NB (October 2008)
23. *MSVU Faculty Day Workshop - "From Pencils to Pixels and everything in between: Re-thinking our tool use for Teaching"*, invited Opening Speaker for Mount Saint Vincent University's Teaching and Learning Center, MSVU, Halifax, NS (August 2008)
22. *Saint Mary's University CAID Workshop - "Rules of Engagement: Whose Rules? Who's Engaged?"*, invited panel facilitator and presenter for the SMU Center for Academic and Instructional Development workshop, SMU (August 2008).
21. *Physics Education Across the Continuum: Opening Doors at All Levels*, invited plenary talk to the Annual Congress of the Canadian Association of Physicists; Quebec City, PQ (June 2008).
20. *Measuring the Effectiveness of Clickers in a Physics Lecture*, contributed talk to the Annual Congress of the Canadian Association of Physicists, Division of Physics Education; Saskatoon, Sk (June 2007).
19. *A Modern Physicist's View of Reality: Space, Time, and the Probabilistic Universe*, invited Guest Lecture for the SMU Philosophy Student Society (March 2007).
18. *Using Wireless Responders during Lectures: A Study and a Theory to assess Impact and Appropriate Use*, joint session presentation with R.J. Konopasky (Psychology Dept. SMU); for the 2006 Atlantic Association of Universities (AAU) Teaching Showcase, Memorial University of Newfoundland (October 2006).
17. *Wireless Responders: Measuring the Impact on Students' Impressions... and Learning*, joint session presentation (in absentia) with presenter Dr. R.J. Konopasky (SMU Dept. of Psychology), and co-authors Hasan Tan (SMU undergraduate Psychology student); for the 10th Annual Dalhousie Conference on University Learning and Teaching (Halifax, NS; May 2006).
16. *Clickers at SMU: Experiences, Logistics, and Research*, invited presentation at a Mini-Symposium on *Clickers: Pedagogy and Technology* at Memorial University of Newfoundland, St. John's, NL (May 2006).
15. *Embracing a Rising Trend in Teaching Technology: Implementation and Best-Practice Issues for Wireless Responders*, joint session presentation with K. Lightstone (Accounting Dept. SMU); for the 2005 Atlantic Association of Universities (AAU) Teaching Showcase, Nova Scotia Agricultural College, Truro, NS (22 October 2005).
14. *New Faculty Orientation - Identifying Issues / Sharing Ideas*, invited panel facilitator and presenter for the Saint Mary's University New Faculty Orientation meeting, Halifax, NS (30 August 2005).
13. *Information & Training Session: Wireless Responders in SMU's Classroom using eInstruction's CPS*, faculty information/training session given jointly with Dr. K. Lightstone (SMU, Dept. of Accounting) (SMU, Halifax, NS; August 2005 and November 2005).
12. *Wireless Responders in First-Year Physics Lectures: Attempting to Assess Effectiveness*, invited presentation to the Division of Physics Education session of the Annual Congress of the Canadian Association of Physicists (University of British Columbia, Vancouver, BC; June 2005).
11. *Technology and Student Assistants: Catalysts for Strengthening the Links between the Research Lab, the Classroom, and the Community*, presentation to the McGraw-Hill Ryerson Teaching, Learning, and Technology Conference "Striking a Balance"; Mount Saint Vincent University, Halifax, NS (November 2004).
10. *Using Wireless Responders in Large First-Year Classes: the Potential for Enhancing Lecture Interactivity and Effectiveness*, invited Seminar given 2 times in 2004:
- (i) Saint Mary's University Department of Astronomy and Physics, Saint Mary's University, Halifax, NS (October 2004);
- (ii) Department of Physics and Physical Oceanography, and the Instructional Development Office, at Memorial University of Newfoundland, St. John's, NL (19 July 2004).

Invited Talks, Seminars, and Panels (Scholarship of Teaching) - continued

9. *Provoking Information Processing during Lectures - Comparing Methodologies*, joint session presentation with Dr. R.J. Konopasky (SMU Dept. of Psychology) – with co-authors J.L. Throop (SMU undergraduate Psychology student), A. Konopasky (Tulane University, Dept. of Philosophy); for the 8th Annual Dalhousie Conference on University Learning and Teaching “Involving Students in Their Own Learning”, Halifax, NS (5-7 May 2004).
8. *OnLine Video Vignettes: Developing Analysis Skills across Disciplines*, joint session presentation with D.E. MacKenzie (Dalhousie University, School of Occupational Therapy); for the 2003 Atlantic Association of Universities (AAU) Teaching Showcase, University College of Cape Breton, Sydney, NS (24-25 October 2003).
7. *Technology Can Enhance Student Responding: Teaching Is a Dialogue*, presentation joint with Prof. Bob Konopasky (SMU, Dept. of Psychology) for the 7th Annual Dalhousie Teaching Conference (May 2003).
6. *Simple Technologies for Enhancing Interactivity and Effectiveness in Large First-Year Classes*, presentation given 2 times in 2002:
 - (i) invited session at the 2002 Atlantic Universities’ (AAU) Teaching Showcase, University of Prince Edward Island, Charlottetown, PEI (26 October 2002);
 - (ii) invited colloquium for the Physics Department at the University of Saskatchewan, Saskatoon, SK (15 August 2002).
5. *Exciting Students about Excited Atoms*, presentation (both jointly with Dr. Malcolm Butler) for the Nova Scotia Association of Science Teacher “AST2002” Conference Day, QEII High School, Halifax, NS (25 October 2002).
4. *Simple Technologies for Enhancing Interactivity in Large Classes*, presentation given for the Saint Mary’s University Workshop on *Technology in Teaching and Learning: Demonstrations and Discussions*, sponsored by the SMU Office of Instructional Development, Halifax, NS (20 February 2002).
3. *Exciting Students about Excited Atoms*, presentation given twice (both jointly with Dr. Malcolm Butler) for the Nova Scotia Association of Science Teacher “AST2001” Conference Day, QEII High School, Halifax, NS (October 2001).
2. *Plagiarism: A Science Faculty Perspective*, presentation given for the Saint Mary’s University Workshop on *Plagiarism: Exploring the Issues*, sponsored by the SMU Office of Instructional Development and the SMU Quality of Teaching Committee, Halifax, NS (29 August 2001).
1. *Advice and Stories for New Faculty*, panel presentation given for the Saint Mary’s University New Faculty Orientation meeting, Halifax, NS (28 August 2001).

Graduate Advisor

Dennis M. Skopik

*former Professor of Physics, University of Saskatchewan;
former Deputy Associate Director of Physics, Jefferson Lab (retired)*

Post-Doctoral Advisor

W. Bertozzi

Professor of Physics, Massachusetts Institute of Technology (retired)

Professional Affiliations

Canadian Association of Physicists Canadian Institute for Nuclear Physics