Kurtis A. Fletcher

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Education

University of North Carolina at Chapel Hill, Chapel Hill, North Carolina
Ph.D. in Experimental Nuclear Physics 1993
Master of Science in Physics, UNC-CH 1988
Ph.D. Thesis: *Tensor Analyzing Power Measurements for D(d,p)^{3}H and D(d,n)^{3}He at Very Low Energies*

Rochester Institute of Technology, Rochester, New York - Bachelor of Science with Highest Honors, 1987

Jamestown Community College, Jamestown, New York - Associate in Science, Engineering Science with High Honors, and Associate in Science, Applied Science, & Mathematics with High Honors, 1984

Academic Employment

9/03-present *Professor of Physics*, State University of New York at Geneseo, Geneseo, NY.

9/01-present *Chair*, Department of Physics and Astronomy, State University of New York at Geneseo.

9/99-8/03 *Associate Professor of Physics*, State University of New York at Geneseo, Geneseo, NY. Continuing appointment (tenure) - September 2000.

9/93-8/99 *Assistant Professor of Physics*, State University of New York at Geneseo, Geneseo, NY.

Courses*:** The Science of Sound 2009; General Physics II 2007-09; Analytical Physics I (Mechanics) 1993-99; Analytical Physics II (Electricity and Magnetism) 1994; Analytical Physics Lab I (06- 08) and II 1993-99,09; Analytical Physics III (Modern Physics) 2005; Analytical Physics IV (Math Methods) 1995-96; Analytical Physics IV (Modern Physics) 2008-09; The Nature of Light and Color 1997-2007; Quantum Mechanics 1994-99, 01-03, 05-06; Atomic and Nuclear Physics 1994; Physics First-Year Experience 1994; Physics Seminar 1998-99,05, Independent Research, Honors Course: Roots of 20th Century Science 1996, 1999, 2001, 2006; Electricity and Magnetism I 2007-09; Electricity and Magnetism II 2000; Astronomy Laboratory 1999-2000; Optics and Modern Physics Lab 2001, 05; Living in the Future 2002; Electric Circuit Analysis 2003-04; INTD 105: Writing Seminar 2003; Intermediate Laboratory 2005; ***Numerous Directed Studies and Undergraduate Research projects

Developed new natural science core course, The Nature of Light and Color.

Awards

JCC Distinguished Alumnus Award, Jamestown Community College, 2008.
Geneseo Alumni Association Supported Professorship, 2001-2004.
SUNY Chancellor's Award for Excellence in Teaching, 1997.

Professional Development

American Council on Education – Chairing the Academic Department Workshop, September 13-14, 2002, Rochester, NY.

American Council on Education - Chairing the Academic Department Workshop, June 18-21, 2002, Washington, DC.

American Association for Higher Education - 1999 Assessment Conference, Denver, CO, June 13-16, 1999, Denver, CO.

Scholarly and Creative Activity

Refereed Publications and Edited Works

"Detection of Charged Particles with Charge Injection Devices," K.A. Fletcher, B. Apker, S. Hammond, J. Punaro, F.J. Marshall, J. Laine, R. Forties, Reviews of Scientific Instruments **78** (2007) 063301-1.

"Direct-Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics: Charting the Path to Thermonuclear Ignition," R.L. McCrory, S.P. Regan, S.J. Laucks, D.D. Meyerhofer, S. Skupsky, R. Betti, T.R. Boehly, R.S. Craxton, T.J.B. Collins, J.A. Delettrez, D. Edgell, R. Epstein, K.A. Fletcher, C. Freeman, J.A. Frenje, V. Yu. Glebov, V.N. Goncharov, D.R. Harding, I.V. Igumenshchev, R.L. Keck, J.D. Kilkenny, J.P. Knauer, C.K. Li, J. Marciante, J.A. Marozas, F.J. Marshall, A.V. Maximov, P.W. McKenty, J. Myatt, S. Padalino, R.D. Petrasso, P.B. Radha, T.C. Sangster, F.H. Séguin, E. Seka, V.A. Smalyuk, J.M. Soures, C. Stoeckl, B. Yaakovi, J.D. Zuegel, Nuclear Fusion **45** (2005) S283-290.

"Direct-Drive Inertial Fusion Research at the University of Rochester's Laboratory for Laser Energetics: A Review," R.L. McCrory, D.D. Meyerhofer, S.J. Loucks, S. Skupsky, R.E. Bahr, R. Betti, T.R. Boehly, R.S. Craxton, T.J.B. Collins, J.A. Delettrez, W.R. Donaldson, R. Epstein, K. Fletcher, C. Freeman, J.A. Frenje, V. Yu. Glebov, V.N. Goncharov, D.R. Harding, P.A. Jaanimagi, R.L. Keck, J.H. Kelly, T.J. Kessler, J.D. Kilkenny, J.P. Knauer, , C.K. Li, L.D. Lund, J.A. Marozas, P.W. McKenty, F.J. Marshall, S.F.B. Morse, S. Padalino, R.D. Petrasso, P.B. Radha, S.P. Regan, S. Roberts, T. C. Sangster, F.H. Séguin, W. Seka, V.A. Smalyuk, J.M. Soures, C. Stockl, K.A. Thorp, B. Yaakobi, and J.D. Zuegel, *Current Trends in International Fusion Research - Proceedings of the Fifth Symposium*, edited by Emilio Panarella, NRC Research Press, National Research Council of Canada, Ottawa, Canada., 2003.

"Some Pivotal Thoughts on the Current Balance," K.A. Fletcher, S.V. Iyer, and K.F. Kinsey, The Physics Teacher **41** (2003) 280-284

"Spectrometry of Charged Particles from Inertial-Confinement-Fusion Plasmas," F.H. Séguin, J.A. Frenje, C.K. Li, D.G. Hicks, S. Kurebayashi, J.R. Rygg, B.-E. Schwartz, R.D. Petrasso, S. Roberts, J.M. Soures, D.D. Meyerhofer, T.C. Sangster, J.P. Knauer, C. Sorce, V.Yu. Glebov, C. Stoeckl, T.W. Phillips, R.L. Leeper, K. A. Fletcher, S. Padalino, Reviews of Scientific Instruments **74** (2003) 975-995.

"$K_y^{y'}(0^\circ)$ for ^{3}He(d,p)^{4}He near the $J^\pi = 3/2^+$ Resonance," K.A. Fletcher, C. Brune, B.M. Fisher, R.P. Fitzgerald, , H.J. Karwowski, D.S. Leonard, E.J. Ludwig, R. Runkle, M.H. Wood, W.H. Geist, K.D. Veal, and G.M. Hale, Physical Review C **66** (2002) 057601.

"Using Secondary-Proton Spectra to Study the Compression and Symmetry of Deuterium-filled Capsules at OMEGA," F.H. Séguin, C.K. Li, J.A. Frenje, D.G. Hicks K.M. Greene, S. Kurebayashi, R.D. Petrasso, J.M. Soures, D.D. Meyerhofer, V. Yu. Glebov, P.B. Radha C. Stoeckl, , S. Roberts, C. Sorce, T.C. Sangster, M.D. Cable, K. Fletcher, S. Padalino Physics of Plasmas **9** (2002) 2725-2737.

"Core Performance and Mix in Direct-Drive Spherical Implosions with High Uniformity," D.D. Meyerhofer, J.A. Delettrez, R. Epstein, V. Yu. Glebov, V.N. Goncharov, R.L. Keck, R.L. McCrory, P.W. McKenty, F.J. Marshall, P.B. Radha, S.P. Regan, S. Roberts, W. Seka, S. Skupsky, V.A. Smalyuk, C. Sorce, C. Stockl, J.M. Soures, R.P.J. Town, B. Yaakobi, J.D. Zuegel, J.A. Frenje, C.K. Li, R.D. Petrasso, F.H. Séguin, K. Fletcher, S. Padalino, C. Freeman, N. Izumi, R. Lerche, T.W. Phillips, and T. C. Sangster, Physics of Plasmas **8** (2001) 2251-2256.

"Direct Drive Inertial Confinement Fusion Research at the Laboratory for Laser Energetics," R.L. McCrory, D.D. Meyerhofer, R. Betti, T.R. Boehly, R.S. Craxton, T.J.B. Collins, J.A. Delettrez, R. Epstein, V. Yu. Glebov, V.N. Goncharov, D.R. Harding, R.L. Keck, J.P. Knauer, S.J. Loucks, L.D. Lund, J.A. Marozas, P.W. McKenty, F.J. Marshall, P.B. Radha, S.P. Regan, S. Roberts, W. Seka, S. Skupsky, V.A. Smalyuk, C. Sorce, C. Stockl, J.M. Soures, R.P.J. Town, B. Yaakobi, J.A. Frenje, C.K. Li, R.D. Petrasso, F.H. Séguin, K. Fletcher, S. Padalino, C. Freeman, and T. C. Sangster, *Current Trends in International Fusion Research - Proceedings of*

the Fourth Symposium, edited by Charles D. Orth, Emilio Panarella, and Richard Post, NRC Research Press, National Research Council of Canada, Ottawa, Canada., 2001.

"A Proton Polarimeter for ^{3}He(d,p)^{4}He Polarization Transfer Studies," K.A. Fletcher, W. Geist, C.R. Brune, B.M. Fisher, R.P. Fitzgerald, H.J. Karwowski, D. Kruse, D.S. Leonard, E.J. Ludwig, R. Runkle, K.D. Veal, and M.H. Wood, Nuclear Instruments and Methods A **455** (2000) 620-624.

"Analyzing Powers for ^{2}H(d,d)^{2}H at Deuteron Energies of 3.0, 4.75, and 6.0 MeV," B. J. Crowe III, C.R. Brune, W.H. Geist, H.J. Karwowski, E.J. Ludwig, K.D. Veal, A.C. Fonseca, G.M. Hale, K.A. Fletcher, Physical Review **C 61** (2000) 034006.

"Ion Implanted ^{3}He Targets for Very Low Energy Experiments," W. Geist, Z. Ayer, A.C. Hird, E.J. Ludwig, M. Wood, and K.A. Fletcher, Nuclear Instruments and Methods **B 111** (1996) 176-180.

"The Use of the ^{3}He(d,p)^{4}He Reaction for Polarimetry at Low Energies," W. Geist, Z. Ayer, A.C. Hird, K.A. Fletcher, H.J. Karwowski, and E.J. Ludwig, in Proceedings of the 11th International Symposium on High Energy Spin Physics, ed. K.J. Heller and S.L. Smith, (Bloomington, Indiana, 1994) AIP Conference Proceedings 343, p. 177.

"Tensor Analyzing Powers for ^{2}H(d,p)^{3}H and ^{2}H(d,n)^{3}He at Deuteron Energies of 25, 40, 60, and 80 keV," K.A. Fletcher, Z. Ayer, T.C. Black, R.K. Das, H.J. Karwowski, E.J. Ludwig, and G.M. Hale, Physical Review **C 49** (1994) 2305.

"A Deuteron Tensor Polarimeter for Energies Below 90 keV," K.A. Fletcher, T.C. Black, H.J. Karwowski, E.J. Ludwig, and Y. Tagishi, Nuclear Instruments and Methods **A329** (1993) 197.

"A Very Low Energy Tandem Accelerator," T.C. Black, B.E. Hendrix, E.R. Crosson, K.A. Fletcher, H.J. Karwowski, and E.J. Ludwig, Nuclear Instruments and Methods **A333** (1993) 239.

"Stress Measurement in Sputtered Copper Films on Flexible Polyimide Substrates," A. Entenberg, V. Lindberg, K. Fletcher, A. Gatesman, and R. Horwath, Journal of Vacuum Science and Technology, **A 5**, (1987) 3373.

Grants

Project Director, POPS! The Power of Physical Science with Katie Rommel-Esham, Amy Sheldon, Dori Farthing, and Randy French. National Science Foundation – Math-Science Partnership Start Program, 2009-2011. Requested $300,000.

Project Director, *SUNY Conversations in the Disciplines – The Big Impact of Small Accelerators* with Anne Caraley, Stephen Padalino, Amy Sheldon, Charles Freeman. Conversations in the Disciplines Program, 2007-08, Awarded $7,641.

Project Director, *Physics and Math Collide! Teacher Institute* with Co-PIs Katie Rommel-Esham, Melissa Sutherland, Jon Hunter, and Anne Baldwin. National Science Foundation – Math-Science Partnership Program, 2006-2011. Requested $2,797,009. (Not Funded)

Co-Principal Investigator, *Nuclear Diagnostics for LLE Experiments*, with Steve Padalino, Charles Freeman, James McLean, David Geiger, Doug Baldwin, and Sharon Stephenson. Laboratory for Laser Energetics. October, 2002 - September, 2006, Awarded $1,105,000.

Co-Principal Investigator, *Nuclear Diagnostics for ICF Experiments* with Steve Padalino (PD), Charles Freeman, James McLean, and David Geiger, Lawrence Livermore National Laboratories, July 2002-November 2004. Awarded $220,000.

Project Director, *Investigations of Solid State Detection for Charged Particle Spectroscopy*, National Laser Users Facility – U.S. Department of Energy, 1999-2000. Awarded $19,929.

Project Director, *Polarization Transfer and the $^{3}He(d,p)^{4}He$ Reaction*, National Science Foundation - Research at Undergraduate Institutions, 1995-1999. Awarded $79,153. A supplemental award of $5,780 was granted on June 18, 1998 to bring the total award to $84,933.

Project Director, *Characterization of dc and rf Plasmas by Langmuir Probe Measurements*. Eastman Kodak Co. 1997. Awarded $12,100 to provide for two summer undergraduate research stipends. 1997-2000.

Co-Principal Investigator, *Geneseo Applied Physics Interfacing Laboratory*, with Ken Kinsey, National Science Foundation - Instrumentation and Laboratory Improvement, 1997-1998. Awarded $52,896.

Co-Principal Investigator, *Calibration of Neutron Diagnostics for Omega*, with S.J. Padalino, United States Department of Energy-National Laser User's Facility, 1995-1996. Awarded $40,000.

Co-Principal Investigator, *Neutron Detector Calibration for the MEDUSA Array*, with S.J. Padalino, U.S. Department of Energy subcontract through the Laboratory for Laser Energetics, Summer 1995, Awarded $41,000.

Co-Principal Investigator, *Neutron Detector Calibration Studies for LANSA*, with S.J. Padalino, Lawrence Livermore National Laboratory, 1995. Awarded $18,000.

Co-Principal Investigator, *Neutron Detector Calibration for the MEDUSA Array*, with S.J. Padalino, U.S. Department of Energy subcontract through the Laboratory for Laser Energetics, Summer 1994, Awarded $39,000.

Principal Investigator, *A Saddle-Field Ion Source for Fabrication of Nuclear Physics Targets*, Geneseo Presidential Summer Fellowship, Summer 1994, $3,000.

Faculty Supervisor for three Geneseo Undergraduate Research Grants, *D(d,d)D Analyzing Power Measurements*, January 1994, $1000.

Selected Presentations

"The Middle Name on Your Diploma," K.A. Fletcher, Commencement Address, Jamestown Community College, May 16-17, 2008.

"Light Fantastic," K.A. Fletcher, SUNY Geneseo Alumni Association Lecture, Museum of Science and Technology, Syracuse, NY, May 19, 2007.

"Detection of Protons and Alpha Particles Using Charge Injection Devices (CIDs)," K. A. Fletcher, B. Apker, S. Hammond, J. Punaro, Council on Undergraduate Research Posters on the Hill, Washington, DC, April 25, 2006.

"Detection of Protons and Alpha Particles Using Charge Injection Devices (CIDs)," K. A. Fletcher, B. Apker, S. Hammond, J. Punaro, F. J. Marshall, R. A. Forties, B. L. Schmitt, Bulletin of the American Physical Society **50**, no. 8, p. 116 (2005). 47th Annual Meeting of the Division of Plasma Physics, Denver, CO, Oct. 24-28, 2005.

"Characterization of a Fusion Product Source for ICF Diagnostic Development," M.J. Canavan, J.A. Frenje, R. Leiter, C.K. Li, J.R. Rygg, F.H. Séguin, R.D. Petrasso, S. Roberts, K. Fletcher, Bulletin of the American Physical Society **50**, no. 8, p. 116 (2005). 47th Annual Meeting of the Division of Plasma Physics, Denver, CO, Oct. 24-28, 2005.

"Detecting Charged Particles Using Charge Injection Devices," K. A. Fletcher, B. Apker, S. Hammond, J. Punaro, G. Surman, F. J. Marshall, J. Laine, Bulletin of the American Physical Society **49**, no. 8, p. 236 (2004). 46th Annual Meeting of the Division of Plasma Physics, Savannah, GA, Nov. 15-19, 2004.

"Seven Habits of Highly Unsuccessful College Students," K. A. Fletcher, Geneseo Summer Orientation Sessions, Summer 2004.

"Light Fantastic," K.A. Fletcher, SUNY Geneseo Alumni Association Professorship Lecture, Rochester Museum and Science Center, Rochester, NY, May 15, 2004.

"CR-39 Track Detector Calibrations for ICF Experiments," K.A. Fletcher, S.J. Padalino, H. Olliver, S. Thompson, M. Olsen, B. Schwartz, J. Fushino, R. Colburn, S. Burke, R.D. Petrasso, J.A. Frenje, K.M. Greene, F.H. Seguin, C.K. Li, S. Roberts, C. Sorce, Bulletin of the American Physical Society **45**, no. 5, p. 48 (2000). 2000 Fall Meeting of the Division of Nuclear Physics, Williamsburg, VA, Oct. 4-7, 2000.

"A Proton Polarimeter for ^{3}He(d,p)^{4}He Polarization Transfer Studies," K.A. Fletcher, R.C. Runkle, W. Geist, C. Brune, B. Fisher, H.J. Karwowski, D. Leonard, E.J. Ludwig, K. Veal, M. Wood, D. Kruse, Bulletin of the American Physical Society **43** 1543 (1998). 1998 Fall Meeting of the Division of Nuclear Physics, Santa Fe, NM, Oct. 28-31, 1998.

"Analyzing Power Measurements in D(d,d)D Elastic Scattering," B.J. Crowe III, C.R. Brune, W.H.Geist, H.J Karwowski, E.J. Ludwig, K.D. Veal, G.M. Hale, and K.A. Fletcher, Bulletin of the American Physical Society **41** 1266 (1996).

"Tensor Analyzing Powers for D(d,p)^{3}H and D(d,n)^{3}He at Very Low Energies," Invited Talk at the Thirteenth International Conference on the Application of Accelerators in Research and Industry, November 7-10, 1994, Denton, Texas.

"Implanted ^{3}He Targets," Invited Poster at the Thirteenth International Conference on the Application of Accelerators in Research and Industry, November 7-10, 1994, Denton, Texas.

"The Science of Spin Control," presented for Physics Department Colloquium at Rochester Institute of Technology, December 15, 1992.

"Tensor Analyzing Power Measurements for D(d,p) and D(d,n) at Very Low Energies," presented at the 1992 Joint April Meeting of the APS and the AAPT, Washington, DC, April 20-24, 1992, and at Los Alamos National Laboratories, T-2 Group meeting, Los Alamos, NM, October 28,1992.

"Deuterated Titanium Thin Film Targets for Very Low Energy Beam Experiments," presented by A.W. Ackley at the 1991 Annual Meeting of the APS Southeastern Section, Durham, NC November 11-13,1991

"Low Energy Nuclear Beam Experimental Facility at TUNL," presented at the 55th Meeting of the Southeastern Section of the American Physical Society, Raleigh, NC November 10-12, 1988.

"Stress Measurement in Sputtered Copper Films on Flexible Polyimide Substrates" presented at the Rochester Symposium for Physics Students, University of Rochester, April 11, 1987.

"Investigation of the Molecular Vibrations in Gallium Arsenide Below 100 K" presented at the GTE Industrial Undergraduate Research Participation Symposium, GTE Laboratories, August 8, 1985.

Undergraduate Research: Student Presentations

2008 Division of Plasma Physics Meeting, Dallas, TX: "Reflectivity Measurements of Layering Spheres for Cryogenic ICF Targets," **Joseph Katz, Kevin O'Connell, Kurtis Fletcher, Edward Pogozelski**, and Wolf Seka.

2007 Division of Plasma Physics Meeting, Orlando, FL: "Preparation of Deuterated Polymer Targets for the OMEGA Magnetic Recoil Spectrometer,"by Jacquie Strain, Gerry Rawcliffe, and Joe Katz.

2002 Fall Meeting of the Division of Nuclear Physics, East Lansing, MI: "Ion Implantation System for ^{3}He Targets," by Russ Biagi and Gary Surman.

2000 Fall Meeting of the Division of Nuclear Physics, Williamsburg, VA: "PIN Diode Detectors for Inertial Confinement Fusion," by Jeff Kujawa and Alphonso Magri.

1998 Fall Meeting of the Division of Nuclear Physics, Santa Fe, NM: "A Monte Carlo Simulation of a ^{3}He(d,p)^{4}He Proton Polarimeter," by Robert Runkle; "Aluminum Activation to Determine Neutron Yield," By Joel Nyquist and Heather Olliver; "The Associated Particle Method," by Sarah Thompson and Brook Schwartz.

1996 Spring Meeting of the American Physical Society, St. Louis, Mo.: "How Thin Is It?" by Robert Johnson, "Production of High Energy Protons for Charged Particle Spectrometer Calibrations," by Brian Fisher & Jenny Sweitzer; "LANSA Calibration Experiments," by Jason Law; "Calibration of Absolute DD Neutron Yield Detector," by Brian DeMarco & Alena Lieto, "Polarimeter Design for the ^{3}He(d,p)^{4}He Polarization Transfer Experiment," by Dustin Kruse.

Geneseo Physics Department Colloquia: "Plasma Characterization Using Langmuir Probes" by Matt Brauer and Bram Lillard, September, 1997; "How Thin Is It?" by Robert Johnson, November 1995;

Geneseo Student-Faculty Research Poster Session: "Ion Implantation System for 3He Targets," by Russ Biagi and Gary Surman., 2002; "Detection of ICF Protons Using Pin Diode Detectors," by Jeff Kujawa, Al Magri, and Colin Palmer, 2000; "A LabVIEW Based Data Acquisition and Analysis Package for Plasma Diagnostics" by Steve Vogt and Trisha Hauser, 1999; "Characterization of Plasmas Using Langmuir Probes" by Bram Lillard and Matt Brauer, 1997; "Polarimeter for the 3He(d,p)4He Polarization Transfer Reaction" by Kim Gollinger and Robert Runkle, 1997; "Enhanced UV Dectector Sensitivity through Lumogen Deposition" by Matt Brauer, 1997; "Polarimeter for the ^{3}He(d,p)^{4}He Polarization Transfer Experiment" by Robert Runkle, 1996; "Activation of Aluminum to Determine Neutron Yield" by Alena Lieto and Marie Martinelli, 1996; "Characterization of Neutron Detectors" by Jason Law and Rose Zweigle, 1996; "How Thin Is It?" by Robert Johnson, 1995; "Neutron Activation of Indium" by Brian DeMarco and Alena Lieto, 1995; "Production of High Energy Protons" by Jenny Sweitzer and Brian Fisher, 1995; "Neutron Calibration Experiments" by Jason Law, 1995; "Data Reduction and Error Analysis for D(d,d)D at 4.75 MeV" by Dana E. Lane, 1994;

Geneseo Recognizing Excellence, Achievement and Talent: "Preparation of Deuterated Polymer Targets for the OMEGA Magnetic Recoil Spectrometer" (Poster) by Joe Katz, 2009; "Microchannel Plate Detector System Time of Flight Measurements," (Poster) by Kevin Lasky, 2009; "Reflectivity Measurements of Layering Spheres for ICF Targets," (Poster) by Kevin O'Connell, 2009; "Preparation of Deuterated Polymer Targets for the OMEGA Magnetic Recoil Spectrometer" (Poster) by Sean MacMullin, Jacquie Strain, 2007; **Geneseo Undergraduate Scholars Symposium:** "Charged Particle Detection Using a CID Camera," by Gary Surman and Ben Apker, 2004; "^{3}He Implanted Tantalum Targets," with Samantha Hammond, 2005;**Geneseo Undergraduate Research Symposium in the Natural Sciences:** "Time-Resolved Analysis of Radio Frequency Plasma" (poster) by Colin Palmer, 2001; "Simulation of a Proton Polarimeter for ^{3}He(d,p)^{4}He," by Ryan Fitzgerald, 1999; "Aluminum Activation to Determine Neutron Yield of D-T- Fusion Reactions" by Alena Lieto and Marie Martinelli, 1997; "Calibration of Scintillation Neutron Detectors" by Rose Zweigle and Jason Law, 1997; "Thin Films by Ion Beam Sputtering" by Stephen Bancheri, 1997; "Polarimeter for the ^{3}He(d,p)^{4}He Polarization Transfer Experiment" by Robert Runkle, 1997; "Neutron Activation Disk Array (NADA)" by Alena Lieto, 1996; "Indium Activation as a DD Neutron Yield Detector" by Brian DeMarco, 1996; "Production of High Energy Protons for Charged Particle Spectrometer Calibrations" by Brian Fisher & Jenny Sweitzer, 1996; "Polarimeter Design for the ^{3}He(d,p)^{4}He Polarization Transfer Experiment" by Dustin Kruse, 1996; "VISION Monitor - A Project in Computer Interfacing" by Jason Smith, 1996; "Construction of a Direct Plasma Deposition System" by Robert Johnson, 1996; "Thin Film Deposition" by Carmin DeCiantis, 1996; "Targetry and Sourcery in Film-Making," by Carrie, A. Creasey, 1995; "Prelude to Coincidence" by Jenny Sweitzer, 1995; "The Associate Particle Method: What a Coincidence!" by Brian DeMarco, 1995; "Never Been Done Before! 15 Million Electron-Volt Protons at Geneseo" by Brian Fisher, 1995; "A New Spin on Nuclear Scattering" by D. Lane, 1994.

Geneseo Honors Seminar: "Solar Neutrino Problem," by Eric Stops, 1995, "Nuclear Power Plants," by Michele Olsen, 2000, "Bioremediation," by Lara Ebert, 2006.

Service

***College Service*:** Chair, Research Council (97-98); College Senate Treasurer (97-98); Chair, College Senate Graduate Affairs Committee (95-96); College Senate Executive Committee (95-96, 97-98); Department

Senator (93-97); College Senate Faculty Affairs Committee (93-95); Senator-at-Large (96-97, 99-00); Distance Learning Ad Hoc Committee (96-97); Buildings and Grounds Advisory Committee (96-00); Research Council (94-98); Exellence Awards Committee (97-98, 99-00, 03-04); Radiation Safety Committee (94-05); Assessment Committee (99-00); Middle States Accreditation Steering Committee (99-01); General Education Committee (02-06); President's Advisory Council on Philanthropy (04); Faculty Speaker at New Student Orientation Sessions (04); Chair – Middle States Periodic Review Report Committee (05-07); Assistant Vice President for Facilities Search Committee (07); Dean of the Arts Search Committee (07)

Department Service: Associate Department Chair, 99-01; Department Search Committee (97-99, 00-01); Chair, Department Search Committee (96-97); Chair, Room Use Committee (94-00); Executive Committee (94-96, 99-00); Department Review Committee (95-96); Organized Sells Lecture, Dr. Eugen Merzbacher - Oct. 18, 1995; Organized Sells Lecture/Division of Laser Sciences Distinguished Traveling Lecturer, Dr. Eric Cornell (Nobel Prize in Physics, 2001) April 18-19, 2004.

Professional Service: Member-at-Large, Executive Board of Upstate New York Chapter of American Vacuum Society (98-00); Program Reviewer, Jamestown Community College Division of Science and Mathematics (1999); Referee – The Physics Teacher, Nuclear Instruments and Methods A, Book reviewer, "Physics", Applied Science Review Series, Springhouse Corporation. RIT Physics Advisory Board (96- 99); Advisor for Brooklyn Technical High School Summer Physics Program (94-98); Program Reviewer, The Richard Stockton College of New Jersey Department of Physics and Astronomy (2005); Program Reviewer, Houghton College Department of Physics and Earch Science (2008)

Current Research Interests

- Diagnostic methods for inertial confinement fusion
- Very low energy nuclear fusion reactions, the ^{4}He and ^{5}Li systems, polarization in nuclear physics, particle-beam transport, very low energy resonances
- Thin-film deposition techniques, absorption of gases in metallic films, degradation of metallic and polymer films under particle bombardment, stresses in thin films, film thickness determination
- Design of small scale scientific instrumentation
- Interfacing academic and industrial research for the mutual benefit of colleges and local industries