

Biographical Sketch: Dr. Gerard P. Gilfoyle

Professional Preparation:

Franklin and Marshall College, Physics, A.B., 1979.
 University of Pennsylvania, Experimental nuclear physics, Ph.D., 1985.
 SUNY, Stony Brook, Postdoctoral Fellow in Experimental Heavy-Ion Physics, 1985-1987.

Appointments:

2004-present - Professor of Physics, University of Richmond.
 2002-2003 - Scientific Consultant, Jefferson Laboratory.
 2000-2006 - Chair, Department of Physics, University of Richmond.
 1999-2000 - AAAS Defense Policy Fellow.
 1994-1995 - Scientific Consultant, Jefferson Laboratory.
 1993-2004 - Associate Professor of Physics, University of Richmond.
 Summer, 1988 - Visiting Research Professor, University of Pennsylvania.
 1987-1993 - Assistant Professor, University of Richmond.

Awards and Honors:

1990-present - US Department of Energy (\$1,361,000).
 2004 - Who's Who Among America's Teachers.
 2003 - University of Richmond Distinguished Educator Award.
 2002-2003 - SURA Sabbatical Support (\$10,000).
 2001-2002 - National Science Foundation Major Research Instrumentation Program (\$175,000).
 1995-1997 - National Science Foundation, Instrumentation and Laboratory Improvement Program (\$14,986).
 1994-1995 - CEBAF Sabbatical Support (\$24,200).
 1992-1995 - National Science Foundation, Instrumentation and Laboratory Improvement Program (\$49,813).
 1989-1991 - Research Corporation (\$26,000).

Selected Publications Related to the Proposed Research:

See Reference [9] in 'References Cited' for a list of the members of the CLAS Collaborations.

1. K. Egiyan *et al.* (The CLAS Collaboration), 'Measurement of 2- and 3-nucleon short range correlation probabilities in nuclei,' Phys. Rev. Lett. **96**, 082501 (2006).
2. M. Battaglieri, R. De Vita, V. Kubarovsky *et al.* (The CLAS Collaboration), 'Search for $\theta^+(1540)$ pentaquark in high statistics measurement of $\gamma p \rightarrow \overline{K}_0 K^+ n$ at CLAS,' Phys. Rev. Lett. **96**, 042001 (2006).
3. P. Rossi, *et al.* (The CLAS Collaboration), 'Onset of asymptotic scaling in deuteron photodisintegration,' Phys. Rev. Lett., **94** 012301 (2005).
4. D. Protopopescu, *et al.* (The CLAS Collaboration), 'Survey of A'_{LT} asymmetries in semi-exclusive electron scattering on ^4He and ^{12}C ,' Nuclear Physics, **A748**, 357 (2005).
5. K. Joo, *et al.* (The CLAS Collaboration), 'Measurement of Polarized Structure Function σ'_{LT} for $p(\vec{e}, e'p)\pi^0$ from single π^0 electroproduction in the Delta resonance region,' Physical Review C, Rapid Communications, **68**, 032201 (2003).

Selected Other Publications:

See Reference [9] in 'References Cited' for a list of the members of the CLAS Collaborations.

1. B. Mecking *et al.*, (The CLAS Collaboration), 'The CEBAF Large Acceptance Spectrometer,' Nucl. Instr. and Meth., **503/3**, 513 (2003).

2. G.P.Gilfoyle and J.A.Parmentola, 'Using Nuclear Materials to Prevent Nuclear Proliferation,' Science and Global Security **9**, 81 (2001).
3. G.P.Gilfoyle, 'A New Teaching Approach to Quantum Mechanical Tunneling,' Comp. Phys. Comm., **121-122**, 573 (1999).
4. G.P.Gilfoyle, 'Alpha Decay Lab,' Mathematica in Education and Research, Vol. 4, No. 1, p. 24, Winter, 1995.
5. E.Bunn, M.Fetea, G.P.Gilfoyle, H. Nebel, P.D.Rubin, and M.F.Vineyard, 'Investigative Physics Student Guide,' Inquiry-based laboratory manual for general physics at the University of Richmond.

Synergistic Activities:

We have made broader impacts beyond the scope of this proposal. Gilfoyle served in government (1999-2000) as a scientific consultant on weapons of mass destruction for the US Department of Defense applying his physics skills to a range of policy issues. Our teaching has been illuminated by our scientific work and we have added considerably more computational methods to the upper-level physics curriculum at Richmond and incorporated more computer-based data acquisition and analysis in the introductory physics sequence with the aid of teaching grants from NSF. Finally, we have been able to attract a significant number of women and African-American students to our group in nuclear physics. One of our former female students is now a staff scientist at the Jet Propulsion Lab in California and in the last year two women and two African-American men have worked in our laboratory at Richmond. One of our current students (Greenholt) is headed for a career combining nuclear physics and public policy (she is a double major in Physics and Political Science).

List of Recent Collaborators:

See Reference [9] in 'References Cited' for a list of the members of the CLAS Collaborations. Below we list any current Collaboration members not on Reference 13 and additional collaborators.

A. Afanasev	Hampton University	J. Arrington	Argonne National Lab
E. Bunn	University of Richmond	L. El Fassi	Argonne National Lab
A. Freyberger	Jefferson Lab	M. Fetea	University of Richmond
D. F. Geesaman	Argonne National Lab	K. Hafidi	Argonne National Lab
R. J. Holt	Argonne National Lab	S. Jeschonnek	Ohio State University
P. Kroll	Universität Wuppertal	B. Mustapha	Argonne National Lab
H. Nebel	University of Richmond	D. H. Potterveld	Argonne National Lab
P. E. Reimer	Argonne National Lab	P. Rubin	George Mason University
P. Solvignon	Argonne National Lab	J.W. Van Orden	Old Dominion University
H. Arenhoevel	Institut für Kernphysik, Mainz		

Graduate and Postdoctoral Advisors

Graduate Advisor - Dr. H.T. Fortune, University of Pennsylvania.
 Postdoctoral Advisor - Dr. R.W. McGrath, SUNY, Stony Brook.

Thesis Advisor and Post-Graduate Advisor

None. The University of Richmond is a primarily undergraduate institution.