

Robert Michael Panoff
Shodor Education Foundation, Inc.
Durham, NC 27701

Telephone: (919) 530-1911
Fax: (919) 530-1944
Email: rpanoff@shodor.org

EDUCATION

University of Notre Dame	Physics	B.S.	1977
Washington University in St. Louis	Physics	A.M.	1979
Washington University in St. Louis	Condensed Matter Physics	Ph.D.	1985
Wofford College, Spartanburg, SC	Science Education	D.Sc.(HC)	2005

AWARDS

2022 SIGHPC Award For Outstanding Contribution to Computational Science Education
2014 SIGCSE Outstanding Contribution to Computer Science Education
2011 North Carolina Science Leadership Association Distinguished Service Award
2007 Cisco Systems Growing with Technology Award
2006 US Dept. of Energy Undergraduate Computational Engineering and Science Award

PROFESSIONAL EXPERIENCE

2016-Present Visiting Scientist in Residence, Wofford College
1994-Present President and Executive Director, Senior Computational Scientist, Shodor Education Foundation, Inc.
1993-1994 Director, Education Group, National Center for Supercomputing Applications, University of Illinois at Urbana-Champaign, Champaign, Illinois
1991-1993 Manager of Education, North Carolina Supercomputing Center, Research Triangle Park, NC
1990-1993 Adjunct Associate Professor of Physics, North Carolina State University, Raleigh, NC
1988-1991 Assistant Professor of Physics, Clemson University, Clemson, SC
1986-1988 Assistant Professor of Physics, Kansas State University, Manhattan, KS
1985-1986 Postdoc, Courant Institute of Mathematical Sciences, New York University
1982-1986 Research Scientist, Courant Institute of Mathematical Sciences, New York University, NY

PUBLICATIONS most related to computational science education

Glotzer, S.C., Panoff, R. M., Lathrop, S. , "Challenges and Opportunities in Preparing Students for Petascale Computational Science and Engineering," *Computing in Science & Engineering* , vol.11, no.5, pp.22-27, Sept.-Oct. 2009.
Calder, A. C., M. R. Curry, R. M. Panoff, and Y. J. Wong. "Visualization of the Local Contribution to the Nodal Surface of a Many-Fermion Wave Function." *Phys. Rev. E* 53 (1996): 5451.
Panoff, R. M. "The Four A's of Computational Science Education: Application, Algorithm, Architecture, and Active Learning." *IEEE Comput. Sci. & Eng.* 2(4) (1995).
Stevenson, D. E., and R. M. Panoff. "Experiences in Building the Computational Science Program at Clemson." *IEEE Proc Supercomputing* 90 (1990).
Panoff, R. M. "UNIX for Super Computing?" *UNIX Review* 8 (1990).

Other related publications

Panoff, R. M. "Fermion Monte Carlo Algorithms for Quantum Fluids." In *Recent Progress in Many-Body Theories*, ed. by Y. Avishai, vol. 2. New York: Plenum, 1990.
Dave, R., J. W. Clark, and R. M. Panoff. "Elementary Excitations of Spin-Aligned Deuterium." *Phys. Rev. B* 41 (1990): 757.

- Panoff, R. M., and J. Carlson. "Fermion Monte Carlo Algorithms and Liquid ^3He ." *Phys. Rev. Lett.* 62 (1989): 1130.
- Panoff, R. M., and P. A. Whitlock. "Momentum Distributions in Quantum Liquids from Green's Function Monte Carlo Calculations." In *Momentum Distributions*, ed. by R. Silver. New York: Plenum, 1989.
- Panoff, R. M., and J. W. Clark. "Ground-state Phases of Polarized Deuterium Species." *Phys. Rev. B* 36 (1987): 5527.

SYNERGISTIC ACTIVITIES

- Founder of Shodor Education Foundation, Inc. a non-profit research and education corporation with over \$1M annually in federal, state, and private funding to undertake interdisciplinary research in the appropriate uses of technology in education. <http://www.shodor.org>
- Director of **Computing MATTERS**: Mentoring Academic Transitions Through Experience in Research and Service. Funded by NSF Office of Cyberinfrastructure, Computing MATTERS brings students from middle school through graduate school into computer science and the computational sciences through workshops, apprenticeships, and internships through hands-on experience in modeling and simulation technologies.
- Founder and Director of the **National Computational Science Institute** (NCSI), a comprehensive, interdisciplinary training program for undergraduate faculty funded by NSF Division of Undergraduate Education. NCSI combines in-person workshops, network-accessible curriculum materials, web-based courses, and continuous support for undergraduate mathematics and science faculty to learn how to do and how to teach computational science, with special emphasis on integrating schools of education faculty with science and math faculty <http://www.computationalscience.org>
- Director of the **Computational Science Education Reference Desk**, a Pathway project of the National Science Digital Library, CSERD brings together the best materials for teaching computational science while promoting an authentic process of Verification, Validation, and Authentication (VVA). <http://cserd.nsdlib.org>
- Design Lead for **Interactivate**, a professional development curriculum for mathematics teachers adopted by Department of Defense Education Activity, and selected for Illuminations website of the NCTM. Winner of numerous interactive exploration curriculum design awards, including ISTE "Best of Web." <http://www.shodor.org/interactivate>
- Developed **SUCCEED** (Stimulating Understanding of Computational science through Collaboration, Experiment, Exploration, and Discovery), a middle school and high school workshop and mentorship program, with particular success in reaching hundreds of minority students and underrepresented groups. <http://www.shodor.org/succeed>
- Co-founder of the NSF Corporate and Foundation Alliance, bringing together leaders from NSF, industry and private foundations to address critical issues in undergraduate education. Recipient of special citation for service from NSF Division of Undergraduate Education.

COAUTHORS AND COLLABORATORS

Steven I. Gordon (Ohio Supercomputing Center); Holly P. Hirst (Appalachian State); David Joiner (Kean); Scott Lathrop (NCSA-UIUC); Henry Neeman (OSCAR); Charlie Peck (Earlham); Susan Ragan (MVHS); Shawn Sendlinger (NCCU); Angela Shiflet (Wofford); D. E. Stevenson (Clemson); Daniel D. Warner (Clemson)

Graduate and Postdoctoral Advisors:

Graduate Advisor: John W. Clark, Crow Professor of Physics, Washington University in St. Louis
 Postdoctoral Sponsor: Mal Kalos, ASCI, Los Alamos National Laboratory

Thesis Advisor and Postgraduate-Scholar Sponsor (2):

Postdoctoral Sponsor for:
 David A. Joiner, Shodor Education Foundation (1999-2004)
 Garret R. Love, Shodor Education Foundation (2000-2005)