

Resume: **Ruth H. Howes**
Professor and Chair, Physics Department
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Education: Ph.D. in Nuclear Physics, Columbia University 1971
M.A. in Physics, Columbia University 1967
B.A. in Physics, Mt. Holyoke College 1965

Employment History:

1976-2003 Department of Physics, Ball State University

1994-95 Program Director for Physics, Division of Undergraduate
Education, National Science Foundation

1993-94 AAAS Congressional Fellow, majority staff of education office
of the Senate Labor and Human Resources Committee

1987-92 Director of the Center for Global Security Studies

1984-85 William C. Foster Fellow at the U.S. Arms Control and
Disarmament Agency

1972-76 Associate in Physics (part-time) at Oklahoma City University

1971-72 Visiting Assistant Professor at the University of Oklahoma

Recognition:

Distinguished Service Citation, AAPT, January, 2004

Perham Indiana Woman of Achievement Award, October, 2003

Inaugural Kress Lecture, Valpariso University, September, 2002

WESP distinguished lecturer, Kansas State University, October, 2002

Visiting Scholar, James Madison University, March, 2001

APS Centennial Speaker, 1999

Fellow, American Association for the Advancement of Science, 1997

Fellow of the American Physical Society, 1992

Silver Reel Award, 24th Annual Video Festival, International Television
Association, 1992 (with *Physics at the Indy-500* team)

Fellow of the Indiana Academy of Science, 1990

Speaker of the Year, Indiana Academy of Science 1986-87

Whiting Lecturer selected by Whiting Scholars at
Ball State University 1983-84

Publications:

See separate list.

Current Activities:

Member of the Committee on Undergraduate Physics and the Executive Officer Search Committee of the AAPT

Member of the AIP Congressional Fellowship Selection Committee

Member of the advisory committee to digital library project ALSOS headquartered at VMI

Mentor for Project Kaleidoscope Leadership Institute, Cressstone, CO, June 4-9, 2005.

Member of the American Physical Society, The American Association of Physics Teachers, Indiana Academy of Science, Sigma Xi, American Association for the Advancement of Science, Hoosier Science Teachers Association, American Women in Science

Recent Past Activities

Member and deputy chair of the National Task Force on Undergraduate Physics

Member of the Advisory Committee of NSF supported project, SPIN-UP/TYC.

Site visit committee to physics department at Yale University (November 11-12, 2004) and Smith College (April 13-15, 2005); and Allegheny College (September 15-17, 2005)

Member of the advisory committee to the Physics Resource Center 2002-2005.

Chair, Nicholson Award Committee of the APS, 2004.

In 2004, Review Panel Member for NSF Graduate Fellowship Selection Committee, CCLI and RULE programs.

Co-project director for Strategic Programs for Innovation in Undergraduate Physics funded by ExxonMobil to the National Task Force on Undergraduate Physics

PI of the Ball State Project of the Physics Teacher Education Coalition funded through the American Physical Society by NSF

PI of the Ball State Project on Construction of a Modular Neutron Array funded by the National Science Foundation

Chair, Awards Committee, Indiana Academy of Science

President of the American Association of Physics Teachers (2000)

President of Indiana Academy of Science (2000)

Member of the Nonproliferation and National Security Advisory Committee of the Department of Energy (2000 –1)

Member of the College Board Science Advisory Committee

Chair of the National Visiting Committee for the Los Angeles Collaborative for Teacher Education

Member of the National Visiting Committees for the Collaborative for Excellence in Physics Education based at Temple University and of the Physics Curriculum for the 21st Century Project based at Seminole Community College

Served on NSF panels reviewing proposals for Course, Curriculum, Laboratory Improvement Program (Division of Undergraduate Education) and the GK-12 Program (Mathematics and Physical Science Directorate)

Recent Presentations (4 years):

“The Manhattan Project and Women Physicists,” University of Milwaukee-Whitewater, November 4, 2005.

“Women Scientists of the Manhattan Project,” and “The Changing Landscape of Undergraduate Physics,” at the US Airforce Academy, April 29, 2005.

“How Undergraduates from Four-Year Departments Can Do “Big Physics” contributed to the AAPT Winter Meeting, Albuquerque, NM, January 11, 2005.

“Project SPIN-UP: Revitalizing Undergraduate Physics Programs,” colloquium, Physics Department, University of Wisconsin-Milwaukee, March 19, 2004.

“Undergraduate Physics and Project SPIN-UP” keynote address at the Wisconsin Section of the American Association of Physics Teachers, LaCrosse, WI, October 31, 2003.

“The Changing World of Undergraduate Physics and Project Spin-UP,” colloquium for the Department of Mathematics, Statistics and Computer Science at Marquette, October 24, 2003.

“The Changing World of Undergraduate Physics and Project Spin-UP,” physics colloquium, and “Their Day in the Sun: Women Physicists and the Manhattan Project,” public lecture, at Duke University, October 22, 2003.

“MoNA: Dectector Development as Undergraduate Research” invited presentation at Workshop on Detector Development, Bloomington, IN, May 30, 2003.

“Project SPIN-UP” invited paper at DAMOP Meeting, Boulder, CO May23, 2003.

“Development of Neutron Detectors,” seminar at Mt. San Antonio College, Walnut, CA, March 28, 2003.

“Women of the Manhattan Project” as a liberal studies colloquium at Kalamazoo College, Kalamazoo, MI, February 18, 2003.

“Women of the Manhattan Project,” to the Association of Life Long Learners in Muncie, IN, January 28, 2003.

“Project SPIN-UP: Revitalizing Undergraduate Physics” colloquium at the University of Arizona, Tucson, November 1, 2002.

“Project SPIN-UP: Revitalizing Undergraduate Physics Programs” invited paper at joint Ohio AAPT and APS section meeting, Columbus, Ohio. October 19, 2002.

Part of a Panel, “Being a Woman Nuclear Scientist – Options after a PhD,” at Division of Nuclear Physics Meeting, East Lansing, MI, October 10, 2002.

WESP distinguished lecturer: “Their Day In the Sun: Women and the Manhattan Project” physics colloquium cosponsored by Women’s Studies at Kansas State University, Manhattan, KS. October 1, 2002 and seminar for Physics Education Group on SPIN-UP.

Inaugural Kress Lecture: “Women in the Manhattan Project” at Valparaiso University, Valparaiso, IN. September 26, 2002 and “Science on Capitol Hill” as a physics colloquium, September 27, 2002.

“Project SPIN-UP: “Revitalizing” Undergraduate Physics Programs” invited paper at European Physics Education Network meeting in Varna, Bulgaria; September 6, 2002.

“Using the Results: Next Steps and Getting Involved” invited paper at AAPT summer meeting in Boise, Idaho, August 5, 2002.

“Women of the Manhattan Project” to SPS banquet at Bethel College, St. Paul, MN, May 2, 2002.

“Physics in the Age of Compassionate Conservatism” as colloquium at Taylor University, Upland, IN, April 17, 2002.

“Women Physicists of the Manhattan Project “ to Miami Universities retired faculty program, Oxford, OH, April 2, 2002.

“How Undergraduate Physics Departments View Career Education,” invited paper at

the APS National Meeting in Indianapolis, March 18, 2002.

"Undergraduate Physics in the Age of Compassionate Conservatism" for physics department colloquium and "women Physicists of the Manhattan Project" for seminar at the University of Wisconsin-Madison, March 15, 2002.

"Women Physicists of the Manhattan Project," seminar at the University of Wisconsin-La Crosse, March 6, 2002.

"Telling Old Tales: Women of the Manhattan Project," special lecture for the North Carolina School for Science and Mathematics, February 20, 2002.

"Women Physicists of the Manhattan Project," Invited paper at AAPT National Meeting in Philadelphia, January 22, 2002.

"Revitalization of Undergraduate Physics: a Work In Progress," Invited paper at the Illinois and Chicago sections of the AAPT, Joliet, IL, October 27, 2001.

"Project SPIN-UP" to PKAL Faculty 21 conference, Madison, WI, October 19, 2001.

"Undergraduate Physics in Changing Times," Invited paper at the Appalachian Section of the AAPT in Huntington, West Virginia, October 13, 2001.

"Women Physicists of the Manhattan Project" at DePauw University women's studies class, September 25, 2001.

"Women Physicists of the Manhattan Project" as colloquium and "Undergraduate Physics in the Age of Compassionate Conservatism" as seminar for Physics Department, Florida State University, September 20, 2001.

"Science on Capitol Hill" to REU students in Department of Physics and Astronomy, Ball State University, June 19, 2001.

"Science on Capitol Hill," "Women of the Manhattan Project" and "Undergraduate Physics in an Age of Compassionate Conservatism" at James Madison University, March 22-23, 2001.

"Women of the Manhattan Project" for Friday lunch at the E.B. and Bertha C. Ball Center, March 16, 2001.

"Last Lecture" for class on Issues in Higher Education, Ball State, February 14, 2001.

"Retiring President's Address" to AAPT/AAS National Meeting, San Diego, CA, January 9, 2001.

"Last Lecture: A History of the University" to students seeking Ed.D.'s in class, October 19, 2000.

"Undergraduate Physics in the 21st Century," colloquium for the Department of Physics

at the University of South Carolina, Columbia, South Carolina, October 12, 2000.

"Women of the Manhattan Project" to Butler University Chapter of the Student Physical Society, Indianapolis, October 4, 2000.

"AAPT in the 21st Century" to the Southern Ohio Section of the AAPT. Celina, Ohio, September 30, 2000.

"A Brief History of University Physics" to Ball State REU students, June 15, 2000.

"Teaching in the 21st Century: A Four Ring Circus" to workshop for administrators in the Bridges Program, Columbia City, IN, June 14, 2000.

"Women of the Manhattan Project" with Caroline Herzenberg at a conference, Science Careers in Search of Women, for women high school science students and their teachers, Argonne National Laboratory, May 5, 2000.

"Physics at the Millenium" to Sigma Pi Sigma Banquet, Ball State Chapter, April 27, 2000.

"Teaching in the 21st Century: A Four Ring Circus" to banquet of the Bridges Program, Fort Wayne, IN, April 18, 2000.

"The Brave New World of Physics 2000" invited presentation to the Indiana Section of the American Association of Physics Teachers, Franklin, IN, April 15, 2000.