



Patricia Rankin

Affiliation: University of Colorado Boulder

Position: Associate Vice Chancellor for Research

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Personal Statement

I recently finished my work as PI of an NSF ADVANCE Institutional Transformation Award – The Leadership Education for Advancement and Promotion (LEAP) program which is now fully institutionalized. LEAP had a research component that established baselines for the status of women at the university and also funded studies probing how career decisions are made. As well as supporting the development of a series of well received workshops that are continuing, LEAP spurred research into issues such as demographic inertia and the types of networks most effective at promoting institutional change. I am now using this expertise nationally and internationally to promote faculty development and help further the advancement of women in science and engineering.

My particle physics research interest is flavor physics, in particular CP violation. I am not currently an active participant of any collaboration after the cancellation of BTeV but continue to be a frequent member of review panels. Most recently I worked on ways to effectively expand the use of the distributed computing power available via the GRID to new areas.

My current research interests lie in improving physics education and in understanding the barriers discouraging participation in science by under-represented groups and in developing effective ways to remove these barriers. I recently taught an on-line course on how teams can be made to function more effectively (encouraging inclusive excellence in team member selection/participation) with participants from several US institutions and Japan. I am working on improving the professional development opportunities available for postdoctoral researchers on campus including studying the possibility of the development of a professional masters program at CU Boulder that will study the management of large science projects and best practices to follow. Finally, I have just accepted a contract with to work with my former physics tutor at Imperial College, London, to revise and update his textbook of the physics of vibrations and waves.

I am a recipient of a Sloan Fellowship, a Department of Energy Outstanding Junior Investigator Award, the Elizabeth Gee award, and the “Best Shall Teach” awards among others recognizing my contributions to interdisciplinary research and to the University of Colorado Boulder. Currently I am involved in developing an industry and special projects office at CU as part of the Office of the Vice Chancellor for Research and am serving as interim Director of our Office of Contracts and Grants

Education

B.Sc., Physics, Imperial College, London University, 1978
Ph.D., Physics, Imperial College, London University, 1982
Research Associate, High Energy Physics, Imperial College,
Research Associate, High Energy Physics, Stanford Linear Accelerator Center, 1/84-7/88

Key Appointments

Associate Vice Chancellor for Research 4/11-present
Associate Vice Chancellor for Faculty Diversity and Development 4/08-8/09
Associate Dean for Natural Sciences 7/04-7/07
Professor, University of Colorado 6/02-present
Program Officer, NSF Physics Division 7/96-7/98
Assistant Professor, University of Colorado 8/88-5/95

Selected Publications on Particle Physics

- 1) The 3081/E Processor and its on-line use, P. Rankin, et al. Chicago Computing Applications (1985)1321
- 2) Radiative corrections at the SLC/LEP, P. Rankin, COLO-HEP-203, A contribution to the proceedings of the Michigan workshop on QED structure functions, Michigan, USA, 1989.
- 3) A Search for CP violation in D Decay, J. Bartelt et al. (CLEO II collaboration) Phys. Rev. D 52(1995)4860-4867.
- 4) The Importance of Flavor Physics, P. Rankin, Proceedings of the 2002 Hampton University Graduate School (HUGS) Summer School

Publications related to promoting women in science and engineering

- 1) Vital Variables and Gender Equity in Academe: Confessions from a Feminist Empiricist Project, Joyce Nielsen, Robyn Marschke, Elisabeth Sheff, and Patricia Rankin, SIGNS Vol 31(Autumn 2005)1-28.
- 2) "Networking", Patricia Rankin and Joyce Nielsen, invited contribution to "Success Strategies for Women in Science" edited by Peggy Pritchard, Elsevier (2005).
- 3) Demographic Inertia Revisited: An Immodest Proposal to Achieve Equitable Gender Representation among Faculty in Higher Education, Robyn Marshke, Sandra Laursen, Joyce Nielsen and Patricia Rankin. Journal of Higher Education 78(1) , 1-26 (2008)
- 4) "Weak Links, Hot Networks, and Tacit Knowledge - Why Advancing Women Requires Networking", Patricia Rankin, Joyce Nielsen, and Dawn Williams, invited contribution to "Transforming Science and Engineering: Advancing Academic Women", edited by A. J. Stewart, J.E. Malley and D. LaVaque-Manty (2007) University of Michigan Press.

Selected Recent Talks

- 1) "How to Run an ADVANCE Institutional Transformation Program", Big 12 Faculty Development Conference, University of Oklahoma, Norman, January 11th, 2008.
- 2) "What Research Tells us About Why Women are Under-represented in STEM", Midwest Conference for Undergraduate Women in Physics, Ann Arbor, Michigan, Jan 19th, 2008.

3) "Networking", Midwest Conference for Undergraduate Women in Physics, Ann Arbor, Michigan, Jan 20th, 2008.

17) "Towards a Science of Broadening Participation" University of Louisville, KY, Dec 4th, 2009.

18) "What to include in a Program to Broaden Participation", Sophia University, Tokyo, Japan, March 4th, 2010.

19) "What I wish I had Learned Earlier", Keynote Presentation, ASCENT meeting, Keystone, CO, July 14th, 2010.