

Biographical Sketch: Brian T. Saam

Professional Preparation

- 09/89 – 06/95 **Princeton University**, Princeton, NJ
Ph.D. in Physics (June 1995); M.A. in Physics (May 1991).
Thesis: *Pulse-NMR Studies of Spin Relaxation Relevant to Laser-Polarized Noble Gases* (advisor: W. Happer)
- 09/84 – 05/89 **University of Michigan**, Ann Arbor, MI
B.S. in Physics (with Honors) and German (May 1989)

Appointments

- 10/99 – present **University of Utah**, Salt Lake City, UT
Professor of Physics (July 2009 – present)
Associate Dean, College of Science (July 2008 – December 2011)
Associate Chair of Dept. of Physics (July 2005 – June 2008)
Associate Professor of Physics (with tenure; July 2003 – June 2009)
Assistant Professor of Physics (October 1999 – June 2003)
Adjunct Associate Professor of Bioengineering (July 2006)
Adjunct Assistant Professor of Bioengineering (November 2002)
- 10/96 – 09/99 **Washington University**, St. Louis, MO
Research Assistant Professor of Physics (October 1998)
Post-doctoral Research Associate in Physics (advisor: M.S. Conradi)
- 06/96 – 10/96 **Magnetic Imaging Technologies, Inc.**, Durham, NC
Research Scientist
- 07/95 – 05/96 **Princeton University**, Princeton, NJ
Post-doctoral Research Associate in Physics (advisor: W. Happer)

Selected Recent Publications

1. R. Glenn, M. E. Limes, B. Pankovich, B. Saam, M. E. Raikh, Magnetic resonance in slowly modulated longitudinal field: Modified shape of the Rabi oscillations, Phys. Rev. B (2013 in review). <http://arxiv.org/abs/1212.5957>
2. R. Glenn, M.E. Limes, B. Saam, C. Boehme, and M.E. Raikh, Analytical study of spin-dependent transition rates within pairs of dipolar and strongly exchange coupled spins with ($S = 1/2$) during magnetic resonant excitation, Phys. Rev. B (2013 in review). <http://arxiv.org/abs/1210.0948>
3. M.E. Limes, J. Wang, W.J. Baker, S.-Y. Lee, B. Saam, and C. Boehme, Numerical study of spin-dependent transition rates within pairs of dipolar and strongly exchange coupled spins with ($S = 1/2$) during magnetic resonant excitation, Phys. Rev. B (2013 in review). <http://arxiv.org/abs/1210.0950>
4. T.R. Gentile, M.E. Hayden, P.J. Nacher, A.K. Petukhov, B. Saam, and T.G. Walker, “Comment on ‘Enhanced polarization and mechanisms in optically pumped hyperpolarized ^3He in the presence of ^4He ’,” Phys. Rev. A (2013 in review).
5. B.V. Fine, T.A. Elsayed, E.G. Sorte, and B. Saam, “Asymptotic and intermediate long-time behavior of nuclear free induction decays in polycrystalline solids and powders,” Phys. Rev. B **86**, 054439 (2012). <http://dx.doi.org/10.1103/PhysRevB.86.054439>

6. E.G. Sorte, B.V. Fine, and B. Saam, "Phase Relationship Between the Long-time Beats of Free-Induction Decays and Spin Echoes in Solids," *Phys. Rev. B* **85**, 174425 (2012). <http://dx.doi.org/10.1103/PhysRevB.85.174425>
7. B. Saam, A.K. Petukhov, J. Chastagnier, T.R. Gentile, R. Golub, and C.M. Swank, "Comment on 'Pressure dependence of wall relaxation in polarized ^3He gaseous cells'," *Phys. Rev. A* **85**, 047401 (2012). <http://dx.doi.org/10.1103/PhysRevA.85.047401>
8. Z.L. Ma, E.G. Sorte, and B. Saam, "Collisional ^3He and ^{129}Xe frequency shifts in Rb-noble-gas mixtures," *Phys. Rev. Lett.* **196**, 193005 (2011). <http://dx.doi.org/10.1103/PhysRevLett.106.193005>

Synergistic Activities

1. PI on Major Excellence Grant: Utah MRSEC (2011-2017): One of three responsible PIs (including director) for new center, which has \$18.5M in funding for 2011-2017. Twenty investigators spread across several departments and colleges. Director with administrative and oversight responsibilities of one of two major research thrusts (Interdisciplinary Research Groups) in Organic Spintronics
2. Associate Dean, College of Science, University of Utah (July 2008 – December 2012): I was responsible for overseeing development activities and institution of an alumni association for the college. I am also actively involved in the statewide Utah Science and Math Initiative and the Center for Science and Mathematics Education (run jointly with the College of Education).
3. The Utah Tuning Project: Funded by the Lumina Foundation for Education in 2009, I represented the University of Utah in this 6-month project to assess the Tuning Process (first developed in Europe) as a way to define discipline-specific, assessable outcomes and expectations for 2-, 4-, and 6-year (Masters) degrees in physics. The final report is at <http://www.quickanded.com/wordpress/wp-content/uploads/2010/06/Utah-Final-Tuning-USA-Report.pdf>.
4. Undergraduate involvement in research: I have had at least 12 undergraduates working in my laboratory over the past eight years; seven of these were female students. Four students have come from the ACCESS program sponsored by our College of Science (This provides a \$3,500 stipend and placement in a science or engineering research laboratory during the second semester of the first year.) Four undergraduates have appeared as co-authors on publications; one of these was a first author (Brittany Berry-Pusey, 2006). Three different students have benefited from REU supplements to my CAREER grant (2002-2008).
5. Salt Lake Valley Science and Engineering Fair (2005 - present): This is one of two large regional science and engineering fairs in the state of Utah that feed into national and then international competitions sponsored by Intel. I participated as a judge in 2005-06 before assuming co-directorship for one year. I have since continued as a judge. I also had the overall winner of the 2006 fair work in my laboratory in July-August 2006 and again in summer 2008 as an undergraduate research assistant after her first year at M.I.T.

Graduate and Post-doctoral Advisors

Mark S. Conradi: Professor of Physics, Washington University in St. Louis (post-doctoral advisor)
 William Happer: Professor of Physics, Princeton University (PhD co-advisor and post-doctoral advisor)
 Gordon D. Cates: Professor of Physics, University of Virginia (PhD co-advisor)

Current Graduate Students and Post-Docs

Hans Malissa (post-doc)
 Mark Limes (graduate student)
 Eddie Thenell (graduate student)