

TONY M. LISS
Department of Physics
University of Illinois at Urbana-Champaign

EDUCATION

University of California at Berkeley
Degree: Ph.D., Physics, February 1984

University of California at Berkeley
Degree: M.S. Physics, 1983

The Johns Hopkins University
Degree: B.A. Physics, 1979

SOCIETIES

Fellow, American Physical Society

AWARDS

“University of Illinois list of teachers ranked as excellent by their students”
Fall 1998, Fall 2000, Fall 2001, Spring 2001, Fall 2009, Fall 2011, Spring 2012, Spring 2013

Fellow 2000
American Physical Society

University Scholar 1999
University of Illinois, Urbana-Champaign

Xerox Award for Faculty Research 1997
University of Illinois, Urbana-Champaign

Center for Advanced Study, Beckman Associate 1996
University of Illinois, Urbana-Champaign

Alfred P. Sloan Fellow 1991-1994

Arnold O. Beckman Research Award 1989
University of Illinois at Urbana-Champaign

WORK EXPERIENCE

Department of Physics, University of Illinois at Urbana-Champaign

July 1988 to August 1994, **Assistant Professor**

August 1994 to August 1998 **Associate Professor**

August 1998 to present **Professor**

Research

Co-PI of the Illinois High-Energy Physics grant DE-FG02-91ER40677 1998-present
Funding at approximately \$2M per year for 9 faculty and support staff.

March 1984-2007 **Member CDF Collaboration, Fermi National Accelerator Laboratory**
June 2002-July 2004 **CDF Physics Coordinator**

August 2005-present **Member ATLAS Collaboration, CERN**
January 2007-December 2007 **Sabbatical leave at CERN**

August 1998-July 1999 **Sabbatical leave on AMANDA** at UC Berkeley

1984-July 1988, **Postdoctoral Research Associate**
Enrico Fermi Institute, University of Chicago

1980-1984, **Research Assistant**
Department of Physics, University of California at Berkeley
Thesis title: "A Sea Level Search for Grand Unification Magnetic Monopoles"
Advisor: P.B. Price

Urbana-Champaign Campus Committees

Campus Budget Oversight Committee, 2009
Urbana Campus Senate Budget Committee, **Chair** 2009-11
Provost's Campus Steering Committee 2010-11
Campus Advisory Committee, **Chair** 2010-11
College of Engineering Promotion & Tenure Committee 2010-2012
Krannert Center for the Performing Arts Review Committee
Krannert Center Advancement Council

Department of Physics University of Illinois:

Undergraduate Advisor, Department of Physics, 1988-2003
Graduate Advisor, Department of Physics, 2011-present
Graduate Admissions Committee, **Chair** 2010-present
Appointments & Promotions Committee 2000-2003, 2010-present
Budget & Policy Committee 2008-2011
Qualifying Exam Committee (Rotating) 1988,1991,1994,1997, 2001, 2004, 2009
Advisory Committee 1996-97

Search Committee for Physics Department Head 2000
Search Committee for Physics Department Director of Budget & Resources 2011

Other Professional Committees

US LHC Operations Review, San Diego, March 2013 (unable to attend due to family illness)
ATLAS Publications Committee 2010-2012
External Review **co-chair**, High Energy Physics and Stefan Meyer Institutes,
Austrian Academy of Sciences 2010
Organizing Committee Kruger Workshop on LHC Discovery Physics 2010, 2012
Annual Reviews Nuclear & Particle Science Editorial Committee 2009-present
Executive Committee US LHC Users Organization 2007-2008
Organizing Committee Top Turns Ten Symposium, Fermilab 2006
Organizing Committee CIPANP 2006

Member, Particle Data Group (Top Quark Review) 2006-present
US CMS Director's Review, Fermilab April 2002

Current Ph.D. Students

Austin Basye
James Coggeshall
Ruo-yu Shang

Selected Publications (Full publication list on request)

Because of the large collaborations in which I work, I am an author on a very large number of papers, and the author list includes the entire collaboration. I list here a subset of papers in which I played a leading role (usually with my students).

- CDF Collaboration, "Evidence for Top Quark Production in $p\bar{p}$ Collisions at $\sqrt{s}=1.8$ TeV", Phys. Rev. **D50**, 2966 (1994).
- CDF Collaboration, "Observation of Top Quark Production in $p\bar{p}$ Collisions with the Collider Detector at Fermilab", Phys. Rev. Lett. **74**, 2626 (1995).
- T.M. Liss & P. Tipton, "The Discovery of the Top Quark", Scientific American, September 1997.
- CDF Collaboration, "Measurement of the $t\bar{t}$ Production Cross Section in $p\bar{p}$ Collisions at $\sqrt{s}=1.8$ TeV", Phys. Rev. Lett. **80**, 2773 (1998).
- CDF Collaboration, "Measurement of the $t\bar{t}$ Production Cross Section in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV Using Lepton Plus Jets Events with Semileptonic B Decays to Muons", Phys. Rev. **D72** 032002 (2005).
- CDF Collaboration, "Search for Anomalous Decay of Heavy Flavor Hadrons Produced in Association with a W Boson at CDF II", Phys. Rev. **D73**, 051101 (2006).
- CDF Collaboration, "Measurement of the Helicity of W bosons in Top-Quark Decays", Phys. Rev. **D73** 111103 (2006).
- T.M. Liss, (ed.) Intersections of particle and nuclear physics. Proceedings, 9th Conference, CIPAN2006, Rio Grande, Puerto Rico, May 30-June 3, 2006. (Illinois U., Urbana) . 2006. 835pp.
- CDF Collaboration, "First Measurement of the Production of a W Boson in Association with a Single Charm Quark $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV", Phys. Rev. Lett **100** 091803 (2008).
- CDF Collaboration, "Measurement of the $t\bar{t}$ Production Cross Section in 2 fb^{-1} of $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV Using Lepton Plus Jets Events with Soft Muon b-Tagging", Phys. Rev. **D79**, 052007 (2009).
- CDF Collaboration, "First Measurement of the $t\bar{t}$ Differential Cross Section $d\sigma/dM_{t\bar{t}}$ in $p\bar{p}$ Collisions at $\sqrt{s}=1.96$ TeV", Phys. Rev. Lett. **102** 222003 (2009).
- "The Top Quark", T.M. Liss & A. Quadt in J. Beringer *et al.* (Particle Data Group), Phys. Rev. **D86**, 010001 (2012) (<http://pdg.lbl.gov>). (This review is revised every year)
- ATLAS Collaboration "Measurement of the top quark pair production cross section with ATLAS in pp collisions at 7 TeV", European Journal of Physics **C71**, 1577 (2011).
- ATLAS Collaboration, "Measurement of the top quark pair production cross section in pp collisions at $\sqrt{s}=7$ TeV in dilepton final states with ATLAS", Phys. Lett. **B707**, 459 (2012).

- ATLAS Collaboration, “Measurement of the Cross Section for top-quark pair production using final states with two high-pt leptons” *Journal of High Energy Physics* **1205**, 059 (2012).
- ATLAS Collaboration, “A search for flavour changing neutral currents in top quark decay in pp collision data with the ATLAS detector at $\sqrt{s} = 7$ TeV”, *Journal of High Energy Physics*, **1209**, 139 (2012).

Recent Invited Talks

- “The Top Quark at CDF, Production & Decay Properties”, Workshop on Top Physics at LHC, Grenoble, France, October 2007.
- “What Do We Know About the Top Quark,” University of Louvain, Belgium, Seminar, November 2007.
- “Quarks, Leptons, Bosons, the LHC and all That”, Osher Life-Long Learning Institute, September 2008.
- “Top Physics at the Tevatron,” CERN Top Quark Theory Institute, May 2009.
- “Top Physics at the Tevatron”, French-Korean Workshop, Paris, June 2009.
- “How the Biggest Science Project Ever Looks at the Smallest Things: The LHC and the Very Early Universe”, World of Science talk,, Staerkel Planetarium, Champaign, IL. February, 2010.
- “Unlocking the Dark Secrets of the Universe”, Saturday Morning Physics, Department of Physics, Urbana, IL. December 2010.
- "Top Physics at ATLAS," University of Chicago Seminar, February, 2012
- "The Short, Brutish Life of Particles at the LHC," Illinois Section American Association of Physics Teachers, After Dinner Speaker., March 2012
- "Measurements of Top Quark Properties at ATLAS, CMS, CDF and D0," Physics in Collision 2012, Štrbské Pleso, Slovakia, September, 2012
- “The Higgs Boson & Mysteries of the Universe”, Rheticus Forum, Champaign, IL, November 2012.
- ‘After the Higgs’, UIUC Department of Physics Colloquium, February, 2013
- “After the Higgs”, Colorado College Department of Physics Colloquium, April, 2013