

# *Curriculum Vitae*

## David Toback

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### Education

- *Ph.D., Physics*, December 1997: University of Chicago, Chicago, Illinois  
Thesis: *Searches for New Physics in Diphoton Events in  $p\bar{p}$  Collisions at  $\sqrt{s} = 1.8$  TeV*  
Thesis Advisor: Professor Henry J. Frisch  
*The Nathan Sugerma Graduate Student Prize Award for Graduate Research*
- *B.S., Physics*, June 1991: Massachusetts Institute of Technology  
Cambridge, Massachusetts  
Thesis: *Position Resolution of the Detection System of the Out-Of-Plane Spectrometer*  
Thesis Advisor: Professor William Bertozzi

### Positions Held<sup>1</sup>

- Professor, Texas A&M University (CDF & CMS), September 2010-Present
- Thaman Professor for Undergraduate Teaching Excellence, Texas A&M University,  
January 2008-Present
- Associate Professor, Texas A&M University (CDF & CMS), September 2005-August 2010
- Assistant Professor, Texas A&M University (CDF), September 2000-August 2005
- Research Associate, University of Maryland (DØ), April 1998-August 2000
- Research Associate, University of Chicago (CDF), January 1998-April 1998
- Graduate Student, University of Chicago (CDF), October 1991-December 1997

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<sup>1</sup>Note: CDF, DØ and CMS are the common acronym-style names of the experiments at Fermi National Accelerator Laboratory (Fermilab) and CERN respectively of which I am a member. CDF and DØ are collaborations of over 600 scientists while CMS has roughly 2,500.

## Research Activities<sup>2</sup>

- *CDF Collaboration, Texas A&M University, September 2000-Present:*
  - Group leader (2010-Present)
  - Co-Convener of the Combined Top Quark + Beyond the Standard Model Physics Group (Spring 2012-Present)
  - Co-Convener of the Supersymmetry Physics Analysis Group (Spring 2007-Fall 2009), Convener (Spring 2010-Fall 2011)
  - Convener of the Very Exotic Physics (VEP) Analysis Group (Fall 2010 - Fall 2011)
  - Search for the Higgs Boson in Supersymmetric Final States in Gauge Mediated Supersymmetry Breaking Models (Run II, in progress)
  - Integrated search for Gauge Mediated Supersymmetry Breaking in the  $\gamma\gamma + \cancel{E}_T$  and delayed photon channels (Run II, in progress)
  - Searches for Supersymmetry in the  $\gamma\gamma + \cancel{E}_T$  final state (Run II,  $2.6 \text{ fb}^{-1}$ , PRL)
  - Search for long-lived Supersymmetric particles that decay to photons (Run II,  $570 \text{ pb}^{-1}$ , PRL & PRD)
    - Recognized by Fermilab as co-winner of the *University Research Association Thesis Award* for 2007
  - Leader of the *EMTiming* project to instrument the EM calorimeter with timing readout
  - Hardware description and performance of the *EMTiming* system (NIM)
  - Searches for Supersymmetry in the  $\gamma\gamma + \cancel{E}_T$  final state (Run II,  $200 \text{ pb}^{-1}$ , PRD)
  - Search new particles that decay via  $X \rightarrow WZ$  (Run I, PRL)
  - Search for Supersymmetric top quarks that decay in  $R$ -Parity violating modes (Run I, PRL)
  - Co-developer of *ObjectMon*, a Run II online/offline object monitoring program
  - Monte Carlo Tarball creation, and Offline Calibration Coordination
- *CMS Collaboration, Texas A&M University, May 2005-Present:*
  - Co-founder (2005) and group leader of TAMU/CMS group (2005-2010)
    - \* Faculty Development Leave (Fall 2005) to join collaboration and secure projects
  - Tier 3 Grid computing
    - \* Faculty Development Leave (Spring 2011) for Grid computing work
  - Physics Analysis Tool (PAT) Development for the Supersymmetry Group
  - Hadron Calorimeter (HCal) Level 1 Trigger Electronics Simulation, DQM and hardware Commissioning and Validation
- *Phenomenology Activities, Texas A&M University, September 2000-Present:*

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<sup>2</sup>I have broken my activities up into experimental projects (CDF, DØ and CMS) and phenomenology projects as doing both is fairly unusual for an experimentalist. I also separately list under each position any leadership position, experiment building projects I played a large role in, and one line about the physics results that resulted in a publication (and where it was published). Note that all leadership positions, for example the SUSY convenership at CDF, are international roles and appointed by experimental leaders. Teaching projects and publications are listed separately.

- Prospects for discovering the Higgs Boson in Supersymmetric Decay channels in GMSB models at the Tevatron (PLB)
- Prospects for measuring the Dark Matter Relic Density in the co-annihilation region at the LHC (PRL)
  - The first systematic method of determining the Dark Matter Relic Density at the LHC
- Prospects for measuring SParticle masses in the co-annihilation region at the LHC (PLB)
- Prospects of discovering Supersymmetry in the co-annihilation region at the LHC (PLB)
- Prospects of discovering long-lived Supersymmetric particles that decay to photons at the Tevatron (PRD)
- Prospects of discovering excited leptons at the Tevatron (PRD)
- *DØ Collaboration, University of Maryland, April 1998-August 2000:*
  - Co-developer of *Sleuth*, a general signature-based search strategy (Run I, PRD)
    - This work was recognized as the *American Physical Society Tanaka Prize* winner for 2002
  - Model-independent searches using *Sleuth* on  $\sim 50$  final states (Run I, PRL & PRD)
  - Deputy convener New Phenomena physics analysis working group
  - Leader of Run II Trigger Simulation project
  - Designed/simulated the functionality of Run II, Level 2 Tracking Trigger Preprocessor crate
  - Run II, Level 2 electronics *MBT* Interface Card debugging and testing
  - Level 2 electronics Test Stand and Installation Coordinator for Run II
  - Member of Run II Trigger and Dataset Board
- *CDF Collaboration, University of Chicago June 1991-April 1998:*
  - Search for new physics in the  $\gamma\gamma + X$  final state (Run I, PRL & PRD)
    - This work includes the famous  $ee\gamma\gamma\cancel{E}_T$  candidate event and was recognized by the University of Chicago with *The Nathan Sugerma Graduate Student Prize* for 1997
  - Search for new physics in the  $\ell\gamma$  final state (Run I, PRL & PRD)
  - Search for new physics in the  $W + 2$  jet final state (Run I, PRL)
  - Maintenance of the Run I, Level 1 calorimeter trigger
  - Design of *Crate Sum*, a Run II Level 1 calorimeter trigger upgrade board
  - Upgrade and maintenance of *SPY*, a Run I online monitoring package
  - Analysis of photomultiplier tube systems for the CDF Run II Plug Upgrade

## Funding<sup>3</sup>

The funding for Collider experiments can be separated into three categories: 1) Base Funding to support groups at Universities (salaries and travel), 2) Project funding (additional funding from an experiment for the University group to take on a specific task) and 3) Equipment and Experiment funding (detector equipment, engineering and operating costs). Faculty for Collider experiments receive the first type of funding through the U.S. Department of Energy (DOE) or the National Science Foundation (NSF), but not both. Some faculty procure Project Funding from the experiments. Experimental funding typically goes to the National labs (Fermilab, CERN etc.) and is not listed here.

My University Funding is through a single “Block Grant” from the DOE. This name is a misnomer as each P.I. is effectively funded independently. My funding is listed within the Collider Physics portion of Task A; Task A became only Collider Physics in 2010. Below I list the Task A portion (where applicable), the Collider portion, and my portion separately since in each year there is some blurring between the boundaries. Unless otherwise noted all collider funding is split equally between P.I.’s. For all other funding (typically Project Funding) I am the only P.I. unless noted.

- January 2012-July 2012: CDF Project Funds for *Supporting CDF Run II Operations by the Texas A&M Group*, \$39.8K
- January 2012-August 2012: CDF Project Funds to *Convene the CDF Combined Top Quark Physics + Beyond the Standard Model Physics Groups*, \$5K
- October 2011-November 2011: CDF Project Funds for *Supporting CDF Run II Operations by the Texas A&M Group*, \$8K
- September 2011-May 2012: U.S. DOE, High Energy Physics Supplement, \$38K
- May 2011: Texas A&M College of Science Funds for *Matching for DOE Collider Physics Grid Computing Funds*, \$10K
- May 2011-April 2012: U.S. DOE, *High Energy Physics at Texas A&M University*, \$577K for all of Collider Physics with \$190K being my portion
- April 2011-March 2012: CDF Project Funds to *Convene the CDF/Supersymmetry and Very Exotics Physics Working Groups*, \$3K
- February 2011-January 2012: CDF Project Funds for *Supporting CDF Run II Operations by the Texas A&M Group*, \$30K
- July 2010-September 2012: Norman Hackerman Advanced Research Program, *Discovery of Dark Matter using High Performance Computing and LHC Data at Texas A&M*, \$100k
- May 2010-April 2011: U.S. DOE, *High Energy Physics at Texas A&M University*, \$568K for all of Collider Physics with \$241K being my portion
- December 2009-November 2010: CDF Project Funds for *Supporting CDF Run II Operations by the Texas A&M Group*, \$30K
- Oct 2009: U.S. Department of Energy, American Recovery and Reinvestment Act funding, CMS Tier 3 Computing funds, \$45K (Co-PI with Kamon)

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<sup>3</sup>These funds are for physics research only. Funding for teaching projects is listed separately

- April 2009-March 2011: CDF Project Funds to *Convene the CDF/Supersymmetry Physics Working Group*, \$10K
- May 2009-April 2010: U.S. DOE, *High Energy Physics at Texas A&M University*, \$477.1K for Task A, \$328.1K for all of Collider Physics with \$164.0K being my portion
- December 2008-November 2009: CDF Project Funds for *Supporting CDF Run II Operations by the Texas A&M Group*, \$30K
- June 2008-September 2008: CDF Project Funds for *Supporting CDF Run II Operations by the Texas A&M Group*, \$12K
- May 2008-April 2009: U.S. DOE, *High Energy Physics at Texas A&M University*, \$480K for Task A, \$328K for all of Collider Physics with \$164K being my portion
- May 2007-April 2008: U.S. DOE, *High Energy Physics at Texas A&M University*, \$492K for Task A, \$340K for all of Collider Physics with \$170K being my portion
- April 2007-May 2007: CMS Project Funds for *HCal and L1 Commissioning for the CMS Detector at CERN*,  $\approx$ \$25K
- March 2007-March 2009: CDF Project Funds to *Convene the CDF/Supersymmetry Physics Working Group*, \$20K
- January 2007-August 2007: CDF Project Funds for *Supporting CDF Run II Operations by the Texas A&M Group*, \$24,891
- June 2006-August 2006: Texas A&M Office of the Vice-President for Research Funds for *Win-Win PC-Based Grid Computing: Compute-Intensive Research, Student Computing, and a Grid-Capable Workstation*, \$20K
- May 2006-April 2007: U.S. DOE, *High Energy Physics at Texas A&M University*, \$477K for Task A, \$325K for all of Collider Physics with \$162.5K being my portion
- May 2006: Texas A&M College of Science Funds for *Matching for DOE High Energy Physics Research Computing Funds*, \$7K (with T. Kamon)
- May 2005-April 2006: U.S. DOE, *High Energy Physics at Texas A&M University*, \$413K for Task A, \$258.4K for all of Collider Physics with \$120K being my portion
- May 2004-April 2005: U.S. DOE, *High Energy Physics at Texas A&M University*, \$383K for Task A, \$220K for all of Collider Physics with \$73.5K being my portion
- May 2003-April 2004: U.S. DOE, *High Energy Physics at Texas A&M University*, \$375K for Task A, \$225K for all of Collider Physics with \$75K being my portion

## Supervision of Research Students and Postdocs<sup>4</sup>

- *Postdoctoral Students and Research Scientists (Co-supervised):*
  - Dr. Jason Nett, August 2010-Present
  - Dr. Daniel Goldin, September 2009-December 2011. Currently Postdoc Fermilab
  - Dr. Michael Weinberger, January 2006-December 2008. Currently Research Analyst, TradeLink LLC
  - Dr. Maxim Goncharov, June 2001-August 2008. Currently Research Scientist, MIT
  - Dr. Sungwon Lee, January 2001-August 2005. Currently Assistant Professor, Texas Tech
- *Ph.D. Students (Dissertation chair):*
  - Ziqing Hong, Spring 2011-Present (pre-qualifying)
  - Daniel Cruz, Summer 2010-Present (pre-qualifying)
  - Vaikunth Thukral, Fall 2009-Present (M.S. 2011)
    - Named University Research Association (URA) Visiting Scholar to Fermilab (Spring 2012)
  - Jonathan Asaadi, Summer 2004-Present (M.S. 2007)
    - 2nd Place, presentation competition, Texas A&M Student Research Week (2008)
  - Adam Aurisano, Summer 2004-Present (M.S. 2007)
    - Winner, presentation competition, Texas Section of the APS (2004)
  - Eunsin Lee, Summer 2004-May 2010 (M.S. 2006, Ph.D. 2010)
    - Currently postdoc, Penn
    - 3rd Place, presentation competition, Texas A&M Student Research Week (2007)
    - Winner, presentation competition, Texas Section of the APS (2006)
  - Peter Wagner, August 2001-August 2007 (Ph.D. 2007)
    - Currently postdoc, Penn
    - Co-Winner, Thesis Award for 2007 from the *University Research Association*,  
International award for most outstanding thesis from a project on a Fermilab Experiment
- *Masters Students (Committee chair or co-chair):*
  - Michael Mason, Fall 2008-Spring 2009, Summer 2010-Fall 2010 (M.S. 2011)
  - David Maffei, Summer 2003-December 2006 (M.S. 2006)
  - Matthew Cervantes, Summer 2002-August 2006 (M.S. 2006)
- *Graduate Students (Masters or Ph.D. committee member or co-chair):*
  - Sourabh Dube (Rutgers, Somalwar), Spring 2008-Fall 2008 (Ph.D. 2008)
  - Nathaniel Pogue (McIntyre), Spring 2006-Spring 2011 (Ph.D. 2011)
  - Masaki Watabe (Webb), Spring 2004-Fall 2009 (Ph.D. 2010)
  - Vadim Khotilovich (Kamon), Fall 2001-Spring 2008 (Ph.D. 2008)
  - Slava Krutelyov (Kamon), Fall 2000-December 2005 (Ph.D. 2005, co-chair)
    - Currently postdoc, UCSB
- *Undergraduates:*
  - Chris Davis (Honors Thesis Student), Summer 2010-Present
  - Andrew Missert, Rochester University, Fall 2009
  - Sean Yeager, Rutgers University (REU student), Summer 2009

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<sup>4</sup>Note: All students are from Texas A&M University unless otherwise noted. All awards are physics research awards from regional or national organizations, unless noted as an international award. Students I supervised (and their awards) on scholarly teaching activities, such as web-based materials, course and textbook development, are listed separately. This list is given in both the main CV as well as my Teaching CV for completeness.

David Rahmani, January 2008-Spring 2009

NASA Astronaut Scholarship Foundation Award (2009)

Rishi Patel, New York University (REU student), Summer 2007

Paul Geffert (Honors Thesis Student), January 2006-Spring 2009

Currently student at Univ. of California at Santa Barbara

Honors Thesis (2008)

Winner, Gathright Scholar Academic Excellence Award, TAMU College of Science (2009)

Paul Simeon (Honors Program Student), January 2004-Summer 2006

Winner, Goldwater Scholarship, (2007)

Russell Mammei, University of Texas at El Paso, Summer 2001

Christopher Battle, January 2001-September 2002

Jeffrey Gaspard, April 2001-June 2002

Winner, presentation competition, Texas Section of the APS (2001)

Julian Londoño, January 2001-May 2001

Thomas Landers, University of Maryland, Summer 1999

John Peterson, University of Chicago, May 1997

## PUBLICATIONS<sup>5</sup>

### A) Primary Author/Data Analyzer

1. PROSPECTS OF SEARCHES FOR GAUGE MEDIATED SUPERSYMMETRY WITH  $h^0 \rightarrow \tilde{\chi}_1^0 \tilde{\chi}_1^0$  PRODUCTION IN THE TIME-DELAYED PHOTON+ $\cancel{E}_T$  FINAL STATE AT THE TEVATRON  
J. D. Mason and D. Toback, *Phys. Lett. B* **702**, 377 (2011)
2. THE LARGE HADRON COLLIDER ENTERS THE RACE FOR SUPERSYMMETRY  
D. Toback, *Phys. Rev. Lett. Viewpoint, Physics* **4**, 27 (2011)
3. SEARCH FOR SUPERSYMMETRY WITH GAUGE-MEDIATED BREAKING IN DIPHOTON EVENTS WITH MISSING TRANSVERSE ENERGY AT CDF II  
T. Aaltonen *et al.* (CDF Collaboration), *Phys. Rev. Lett.* **104**, 011801 (2010)
4. COSMO-PARTICLE SEARCHES FOR SUPERSYMMETRY AT THE COLLIDER DETECTOR AT FERMILAB  
D. Toback, *Modern Physics Letters A*, Vol 24, No. 38, 3063 (2009)
5. SEARCH FOR HEAVY, LONG-LIVED NEUTRALINOS THAT DECAY TO PHOTONS AT CDF II USING PHOTON TIMING  
T. Aaltonen *et al.* (CDF Collaboration), *Phys. Rev. D* **78**, 032015 (2008)
6. DETERMINING THE DARK MATTER RELIC DENSITY IN THE MSUGRA  $\tilde{\tau} - \tilde{\chi}_1^0$  CO-ANNIHILATION REGION WITH THE LHC  
R. Arnowitt, B. Dutta, A. Gurrola, T. Kamon, A. Krislock and D. Toback, *Phys. Rev. Lett.* **100**, 231802 (2008)
7. SEARCH FOR HEAVY, LONG-LIVED PARTICLES THAT DECAY TO PHOTONS AT CDF II  
A. Abulencia *et al.* (CDF Collaboration), *Phys. Rev. Lett.* **99**, 121801 (2007)
8. INDIRECT MEASUREMENTS OF THE  $\tilde{\tau} - \tilde{\chi}_1^0$  MASS DIFFERENCE AND  $M_{\tilde{g}}$  IN THE CO-ANNIHILATION REGION OF MSUGRA MODELS AT THE LHC  
R. Arnowitt, A. Aurisano, B. Dutta, T. Kamon, N. Kolev, D. Toback, P. Simeon and P. Wagner, *Phys. Lett. B* **649**, 73 (2007)
9. THE TIMING SYSTEM FOR THE CDF ELECTROMAGNETIC CALORIMETERS  
M. Goncharov *et al.*, *Nucl. Instrum. Methods A* **565**, 543 (2006)
10. DETECTION OF SUSY IN THE STAU-NEUTRALINO CO-ANNIHILATION REGION AT THE LHC  
R. Arnowitt, B. Dutta, T. Kamon, N. Kolev and D. Toback, *Phys. Lett. B* **639**, 172 (2006)
11. COMBINATION OF CDF AND DØ LIMITS ON A GAUGE MEDIATED SUSY MODEL USING DIPHOTON AND MISSING TRANSVERSE ENERGY CHANNEL  
V. Buescher *et al.* (CDF and DØ Collaborations), hep-ex/0504004

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<sup>5</sup>These are physics publications only. Teaching related publications are listed separately.

12. SEARCH FOR ANOMALOUS PRODUCTION OF DIPHOTON EVENTS WITH MISSING TRANSVERSE ENERGY AT CDF AND LIMITS ON GAUGE MEDIATED SUPERSYMMETRY BREAKING MODELS  
D. Acosta *et al.* (CDF Collaboration), *Phys. Rev. D* **71**, 031104 (2005)
13. PROSPECTS OF SEARCHES FOR NEUTRAL, LONG-LIVED PARTICLES THAT DECAY TO PHOTONS USING TIMING AT CDF  
D. Toback and P. Wagner, *Phys. Rev. D* **70**, 114032 (2004)
14. PROSPECTS OF SEARCHING FOR EXCITED LEPTONS DURING RUN II OF THE FERMI LAB TEVATRON  
E. Boos, A. Vologdin, D. Toback and J. Gaspard, *Phys. Rev. D* **66**, 013011 (2002)
15. SEARCH FOR NEW HEAVY PARTICLES IN THE  $WZ^0$  FINAL STATE IN  $p\bar{p}$  COLLISIONS AT  $\sqrt{s} = 1.8$  TEV  
T. Affolder *et al.* (CDF Collaboration), *Phys. Rev. Lett.* **88**, 071806 (2002)
16. A QUASI-MODEL-INDEPENDENT SEARCH FOR NEW HIGH  $P_T$  PHYSICS AT DØ  
B. Abbott *et al.* (DØ Collaboration), *Phys. Rev. D* **64**, 012004 (2001)
17. A QUASI-MODEL-INDEPENDENT SEARCH FOR NEW HIGH  $P_T$  PHYSICS AT DØ  
B. Abbott *et al.* (DØ Collaboration), *Phys. Rev. Lett.* **86**, 3712 (2001)
18. SEARCH FOR NEW PHYSICS IN  $e\mu X$  DATA AT D0 USING SLEUTH: A QUASI MODEL INDEPENDENT SEARCH STRATEGY FOR NEW PHYSICS  
B. Abbott *et al.* (DØ Collaboration), *Phys. Rev. D* **62**, 092004 (2000)
19. SEARCHES FOR NEW PHYSICS IN DIPHOTON EVENTS IN  $p\bar{p}$  COLLISIONS AT  $\sqrt{s} = 1.8$  TEV  
F. Abe *et al.* (CDF Collaboration), *Phys. Rev. D* **59**, 092002 (1999)
20. SEARCHES FOR NEW PHYSICS IN DIPHOTON EVENTS IN  $p\bar{p}$  COLLISIONS AT  $\sqrt{s} = 1.8$  TEV  
F. Abe *et al.* (CDF Collaboration), *Phys. Rev. Lett.* **81**, 1791 (1998)

## **B) Major Author/Data Analyzer**

1. COMBINATION OF CDF AND DØ RESULTS ON W BOSON MASS AND WIDTH  
V.M. Abazov *et al.* (CDF and DØ Collaborations), *Phys. Rev. D* **70**, 092008 (2004)
2. SEARCH FOR PAIR PRODUCTION OF SCALAR TOP QUARKS IN R-PARITY VIOLATING DECAY MODES IN  $p\bar{p}$  COLLISIONS AT  $\sqrt{s} = 1.8$  TEV  
D. Acosta *et al.* (CDF Collaboration), *Phys. Rev. Lett.* **92**, 051803 (2004)
3. SEARCH FOR NEW PHYSICS IN PHOTON LEPTON EVENTS IN  $p\bar{p}$  COLLISIONS AT  $\sqrt{s} = 1.8$  TEV  
D. Acosta *et al.* (CDF Collaboration), *Phys. Rev. D* **66**, 012004 (2002)
4. SEARCH FOR NEW PHYSICS IN PHOTON LEPTON EVENTS IN  $p\bar{p}$  COLLISIONS AT  $\sqrt{s} = 1.8$  TEV  
D. Acosta *et al.* (CDF Collaboration), *Phys. Rev. Lett.* **89**, 041802 (2002)

5. SEARCHES FOR NEW PHYSICS IN EVENTS WITH A PHOTON AND B-QUARK JET AT CDF  
D. Acosta *et al.* (CDF Collaboration), *Phys. Rev. D* **65**, 052006 (2002)
6. SEARCH FOR GLUINOS AND SQUARKS USING LIKE-SIGN DILEPTONS IN  $p\bar{p}$  COLLISIONS AT  $\sqrt{s} = 1.8$  TEV  
T. Affolder *et al.* (CDF Collaboration), *Phys. Rev. Lett.* **87**, 251803 (2001)
7. SEARCH FOR SECOND GENERATION LEPTOQUARK PAIRS IN  $p\bar{p}$  COLLISIONS AT  $\sqrt{s} = 1.8$  TEV  
B. Abbott *et al.* (DØ Collaboration), *Phys. Rev. Lett.* **84**, 2088 (2000)
8. EXTRACTION OF THE WIDTH OF THE W BOSON FROM MEASUREMENTS OF  $\sigma(p\bar{p} \rightarrow W + X) \cdot B(W \rightarrow e\nu)$  AND  $\sigma(p\bar{p} \rightarrow Z + X) \cdot B(Z \rightarrow ee)$  AND THEIR RATIO  
B. Abbott *et al.* (DØ Collaboration), *Phys. Rev. D* **61**, 072001 (2000)
9. SEARCH FOR A TECHNICOLOR  $\omega_T$  PARTICLE IN EVENTS WITH A PHOTON AND A B QUARK JET AT CDF  
F. Abe *et al.* (CDF Collaboration), *Phys. Rev. Lett.* **83**, 3124 (1999)
10. SEARCH FOR SECOND GENERATION LEPTOQUARK PAIRS DECAYING TO MUON NEUTRINO + JETS IN  $p\bar{p}$  COLLISIONS AT  $\sqrt{s} = 1.8$  TEV  
B. Abbott *et al.* (DØ Collaboration), *Phys. Rev. Lett.* **83**, 2896 (1999)
11. SEARCH FOR LONGLIVED PARENTS OF  $Z^0$  BOSONS IN  $p\bar{p}$  COLLISIONS AT  $\sqrt{s} = 1.8$  TEV  
F. Abe *et al.* (CDF Collaboration), *Phys. Rev. D* **58**, 051102 (1998)

### C) Other

I am listed on all CDF publications from 1992-1998 and 2001 to the present, all DØ publications from 1998-2000, and all CMS publication from 2009-Present. This is typically between 20 and 40 peer reviewed publications per year. A complete list is available upon request.

## Colloquia, Seminars, Conference Talks and Public Lectures<sup>6</sup>

Note: High Energy experiments, such as CDF and CMS, are a collaborative effort. New results are often presented in plenary talks at conferences by individuals who are summarizing the work of many scientists. The collaboration decides who give the talks and preference in selection is given to junior scientists to give the talk to help them get a job. For this reason, my work is usually presented by others, in particular by my students and postdocs far more often than by me. Also, work-in-progress is rarely presented except in large internal meetings to the collaborations. I list here only formal talks I have given. A list of talks by my students, postdocs or colleagues for the last three years is presented in the next section.

- “Fun Things to Watch for During a Football Game... Physics in Motion,” 7<sup>th</sup> Annual International Aggie Football Symposium  
Texas A&M University, Oct 2011
- “The Big Bang, Dark Matter and Searching for New Particles at the Large Hadron Collider (LHC),” Public Lecture  
Adult Education Series, Congregation Beth Shalom, April 2011  
Keynote Speech, Davidson Scholars (Texas A&M), March 2011  
Keynote Speech, Texas Junior Science and Humanities Symposium (Texas A&M), January 2011
- “Dark Matter: Inquiring Minds Want to Know,” Public Lecture  
The Teaching Company, February 2011
- “Particle Physics and Cosmology,” Astronomy Symposium  
Texas A&M University, Aug 2010
- “The Search for Supersymmetry at CDF in the LHC Era,” HEP Seminar  
Harvard University, April 2010
- “Searching for the Particles of the Early Universe,” Department Colloquium  
Sam Houston State University, Jan 2010  
University of Illinois at Chicago, Nov 2009  
University of Hawaii, Nov 2009  
Texas A&M University, Oct 2009
- “Big Bang, Black Holes, No Math: PHYS/ASTR 109 at Texas A&M,” Physics-Astronomy-Cosmology Seminar  
Texas A&M University, Nov 2009
- “Fun Things to Watch for During a Football Game... Physics in Motion,” 5<sup>th</sup> Annual International Aggie Football Symposium  
Texas A&M University, Oct 2009
- “Hadron Collider Results Impacting Particle Astrophysics,” Two Lectures at the 3<sup>rd</sup> International Summer School on Astroparticle Physics (Nijmegen ‘09)  
Nijmegen, The Netherlands, August 2009
- “Status of the Searches for GMSB SUSY in Photon Final States:,” HEP Seminar  
Texas A&M University, July 2009

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<sup>6</sup>These are physics talks only. Teaching related talks are listed separately.

- “A Big Bang Occurred... Then what?” Science Cafè, Public Lecture  
Bryan TX, June 2009
- “Physics Beyond the Standard Model,” American Physical Society April Meeting (APS 2009)  
Denver Colorado, May 2009
- “A Big Bang Occurred... Then what?: The Story of the Universe since the Beginning,” Invited  
Adult Education Public Lecture  
Bryan TX, May 2009
- “The Search for Supersymmetry at CDF,” HEP Seminar  
Cornell University, April 2009  
Rochester University, April 2009  
Baylor University, March 2009  
University of California at Los Angeles, February 2009  
University of California at Santa Barbara, February 2009  
Stanford University/Stanford Linear Accelerator Laboratory, February 2009  
Rice University, January 2009  
University of California at Berkeley/Lawrence Berkeley National Laboratory, December 2008
- “LHC: The \$9 Billion Dollar Window to the Universe,” Saturday Morning Physics Public Lecture  
Texas A&M University, January 2009
- “Searches using Photons and/or Jets at CDF,” The 18<sup>th</sup> Particle and Nuclei International Conference (PANIC 2008)  
Eilat Israel, November 2008
- “The Search for Supersymmetry and Beyond the Standard Model Physics at the Fermilab Tevatron,” The 4<sup>th</sup> International Conference Dedicated to the Physics at LHC (Physics at LHC 2008)  
Split Croatia, September 2008
- “Measuring the Dark Matter Relic Density at the LHC,” The 34<sup>th</sup> International Conference on High Energy Physics (ICHEP 2008)  
University of Pennsylvania, July 2008
- “Dark Matter in SUGRA models and the LHC,” The 15<sup>th</sup> International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY 2007)  
Karlsruhe Germany, July 2007
- “Particle Physics and Cosmology in the Co-Annihilation Region,” International Workshop on the Interface of Particle Physics and Cosmology (PPC 2007)  
Texas A&M University, May 2007
- “Searching for New Particles at Colliders,” High Energy Theory Seminar  
Texas A&M University, February 2006
- “Collider Physics at Texas A&M,” HEP Seminar  
Texas Tech University, August 2005
- “Searches for New Physics Using Photons at the Tevatron,” HEP Seminar  
University of Florida, May 2005  
University of Wisconsin, March 2005

- “Searching for New Physics at the Fermilab Tevatron,” Department Colloquium  
Texas A&M University, October 2004  
The State University of New York at Buffalo, November 2004
- “Run II Searches for Supersymmetry,” 15<sup>th</sup> International Topical Conference on Hadron Collider Physics (HCP 2004)  
Michigan State University, June 2004
- “Searching for New Physics with Photon and Missing Energy at CDF: Recent Results, Upgrades and Prospects,” HEP Seminar  
Texas A&M University, May 2004  
University of Chicago June 2004
- “Searching for New Physics at the Fermilab Tevatron,” Department Colloquium  
Texas A&M University, September 2002
- “Model Independent Searches using Final State Photons at CDF and  $D\bar{0}$ ,” HEP Seminar  
University of Maryland, April 2002  
Texas A&M University, May 2002
- “On Events with Leptons and Photons at CDF,” HEP Seminar  
Texas A&M University, March 2002
- “Searching for New Physics at the Fermilab Tevatron,” HEP Seminar  
University of Texas at Austin, May, 2001
- “Sleuth: A Quasi-Model-Independent New Physics Search Strategy,” HEP Seminar  
University of Maryland, September 2000
- “Searching for New Physics at the Fermilab Tevatron,” Department Colloquium  
Texas A&M University, May, 2000
- “New Phenomena II: Recent Results from the Fermilab Tevatron,” 35<sup>th</sup> Rencontres de Moriond: Electroweak Interactions and Unified Theories (Moriond/EWK 2000)  
Les Arcs, France, March 2000
- “CDF Searches for New Phenomena,” 12<sup>th</sup> Les Rencontres de Physique de la Vallée d’Aoste: Results and Perspectives in Particle Physics (La Thuile 1998)  
La Thuile, Italy, March 1998
- “Searches for New Physics in Diphoton + X events at CDF,” HEP Seminar  
Argonne National Laboratory, January 1998  
University of Chicago, December 1997  
Duke University, November 1997  
University of Pennsylvania, October 1997  
The Johns Hopkins University, September 1997  
University of Maryland, August 1997  
Fermilab National Accelerator Laboratory, August 1997
- “Diphoton Missing  $E_T$  Distribution at CDF,” Annual Divisional Meeting of the Division of Particles and Fields of the American Physical Society (DPF 1996)  
University of Minnesota, August 1996

- “Search for Technicolor in the W+Jet-Jet Decay Channel,” TeV33 Conference Fermilab, May 1996
- “Search for  $W'$  in the W + Jet-Jet Decay Channel,” American Physical Society Meeting (APS 1996) Indianapolis, May 1996
- “Search for  $W'$  in the W + Jet-Jet Decay Channel,” HEP Seminar University of Chicago, May 1996
- “Search for  $W'$  in the W + Jet-Jet Decay Channel,” American Physical Society Meeting (APS 1995) Washington D.C., May 1995

### **Seminars, and Conference Talks on my work by others:**

Note: Here I list the important talks given by my students, postdocs and colleagues presenting our collaborative work from 2007-Present

- “Search for Supersymmetry Using Diphoton Events in ppbar Collision at  $\sqrt{s}=1.96$  TeV,” E. Lee\*, HEP Seminar University of Texas, February 2010 University of Pennsylvania, December 2009 University of Manchester, November 2009 Texas Tech University, November 2009 Argonne National Laboratory, September 2009 Fermilab, Aug 2009, (\*) D. Toback is his thesis advisor
- “Photon Searches at CDF,” E. Lee\* (invited talk), Division of Particles and Fields of the American Physical Society (DPF 2009), July 2009 Wayne State University (\*) D. Toback is his thesis advisor
- “Setting Limits on Gauge Mediated Supersymmetry Breaking Models with Photons at CDF,” E. Lee\*, Division of Particles and Fields of the American Physical Society (DPF 2009), July 2009 Wayne State University (\*) D. Toback is his thesis advisor
- “Limits on Gauge Mediated Supersymmetry Breaking Models in Diphoton Events with Missing Transverse Energy at CDF II,” E. Lee\*, New Perspectives Conference, Fermilab Users Meeting, June 2009 Fermilab, (\*) D. Toback is his thesis advisor
- “Setting Limits on Gauge Mediated Supersymmetry Breaking Models with Photons at CDF,” E. Lee\*, American Physical Society April Meeting (APS 2009) Denver Colorado, May 2009, (\*) D. Toback is his thesis advisor
- “Search for a Dark Matter Candidate at the Fermilab Tevatron,” P. Geffert\*, Cyclotron Institute Program Texas A&M University, July 2008, (\*) D. Toback is his honors thesis advisor
- “Searches for New Physics at CDF,” M. Goncharov\* for the CDF Collaboration, The 34<sup>th</sup> International Conference on High Energy Physics (ICHEP 2008) University of Pennsylvania, July 2008, (\*) D. Toback is his postdoctoral advisor

- “Measuring Dark Matter Relic Density in the Co-annihilation Region at the LHC,” T. Kamon\*, 16<sup>th</sup> International Conference on Supersymmetry and the Unification of Fundamental Interactions (SUSY 2008)  
Seoul, Korea June 2008, (\*) Colleague who gave the talk
- “Search for Heavy, Neutral, Long-Lived Particles that Decay to Photons at CDF,” P. Wagner\*, Fermilab Users Meeting, Awards Ceremony Acceptance talk for the University Research Association (URA) Thesis Award  
Fermilab, Chicago, Illinois, June 2008, (\*) D. Toback is his thesis advisor
- “Measuring Dark Matter Relic Density at the LHC,” T. Kamon\*, 2nd International Workshop on the Interconnection between Particle Physics and Cosmology (PPC 2008)  
University of New Mexico, May 2008, (\*) Colleague who gave the talk
- “Determining  $\Omega h^2$  at the LHC - mSUGRA Co-annihilation Case,” T. Kamon\*, Nuclear, Particle, Astroparticle, and Cosmology Seminar (Nupac)  
University of New Mexico March 2008, (\*) Colleague who gave the talk
- “Cosmological Connection at the LHC: Stau Neutralino Co-Annihilation Case,” T. Kamon\*, Facing the LHC Data Workshop  
IPMU, Japan November 2007, (\*) Colleague who gave the talk
- “Searches for Heavy, Long-Lived Particles at CDF,” V. Krutelyov\* for the CDF Collaboration, The 15<sup>th</sup> International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY 2007)  
Karlsruhe Germany, July 2007, (\*) D. Toback is his former dissertation co-chair
- “Heavy Long-Lived Particles at the Tevatron,” M. Goncharov\* for the CDF Collaboration, The Europhysics Conference on High Energy Physics (EPS 2007)  
Manchester England, July 2007, (\*) D. Toback is his postdoctoral advisor
- “Across the Time Dimension in Search of Exotic Particles,” M. Goncharov\* for the CDF Collaboration, 2007 Phenomenology Symposium: Prelude to the LHC (PHENO 07)  
University of Wisconsin, May 2007, (\*) D. Toback is his postdoctoral advisor
- “Search for Heavy, Neutral, Long-Lived Particles that Decay to Photons at CDF,” P. Wagner\*, HEP Seminar  
University of Pennsylvania, April 2007  
Texas Tech University, April 2007  
University of California at Santa Cruz, April 2007  
University of California at San Diego, April 2007, (\*) D. Toback is his thesis advisor
- “Search for Heavy, Long-Lived Particles at CDF,” M. Goncharov\* for the CDF Collaboration, Fermilab Wine & Cheese  
Fermilab, March 2007, (\*) D. Toback is his postdoctoral advisor
- “Calorimeter Timing System at CDF,” M. Goncharov\*, Research Techniques Seminar  
Fermilab, March 2007, (\*) D. Toback is his postdoctoral advisor
- “Searches for New Physics at CDF,” P. Wagner \* for the CDF Collaboration, Lake Louise Winter Institute 2007  
Chateau Lake Louise Canada February 2007, (\*) D. Toback is his thesis advisor

# *Teaching Curriculum Vitae*<sup>7</sup>

## David Toback

### Courses Taught (Texas A&M University, 2001-Present)

- *Big Bang and Black Holes* (Cosmology for non-majors, ASTR/PHYS 289-109)  
Texas A&M University, Spring 2007 - Fall 2007, Fall 2008 - Fall 2010, Fall 2011
  - New type of course, now in course catalogue
  - Approved as a Tier 2 Science Distribution course
  - Textbook in Press with Johns Hopkins University Press
  - Honors sections Spring 2010-Present
  - Laboratory methods component (ASTR/PHYS 289), Fall 2010
    - \* Approved as a Tier 2 Science Distribution, ASTR/PHYS 119, in Spring 2011
- *Introduction to Classical Mechanics* (Engineering track, Physics 218)  
Texas A&M University, Spring 2001-Spring 2005, Spring 2006 - Fall 2006, Spring 2008
  - Course coordinator, Spring 2005
  - Participant in the *Visual Physics* interactive engagement learning program, Fall 2003-Fall 2006 (except Fall 2005)
  - Participant in the *STEPS* Math, Physics & Engineering Cohort program, Spring 2008

### Awards

- *Teacher-Scholar Award*  
Texas A&M University, Honors and Undergraduate Research Program Award, Spring 2011
- *Student Led Award for Teaching Excellence*  
Texas A&M University, System-Wide Award for Accomplishment in Teaching, Spring 2010
- *Student Led Award for Teaching Excellence*  
Texas A&M University, System-Wide Award for Accomplishment in Teaching, Fall 2008
- *University Professor for Undergraduate Teaching Excellence*  
Named the Arthur J. and Wilhelmina Doré Thaman Professor, 2008-Present  
Texas A&M University, University-Level Award, Spring 2008
- Nominee for the *Presidential Professor for Teaching Excellence Award*  
Texas A&M University, University-Wide Award for Accomplishment in Teaching
  - Department of Physics nominee, Spring 2009
  - College of Science nominee, Spring 2008
  - Department of Physics co-nominee, Spring 2003
- *Distinguished Achievement in Teaching Award*  
Association for Former Students, Texas A&M University, University-Level Award, Spring 2007

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<sup>7</sup>Note that this includes my research students. This is duplicate information from my normal CV

- *Distinguished Achievement in Teaching Award*  
Association for Former Students, Texas A&M University, College-Level Award, Summer 2004
- *Montague Scholar Award*  
Texas A&M University, Center for Teaching Excellence, Fall 2002
- Award from the Corps of Cadets  
Texas A&M University, Spring 2002
- *The Wayne C. Booth Graduate Student Prize*  
University of Chicago Award for Graduate Student Teaching, Spring 1992
- *The Gregor Wentzel Prize*  
University of Chicago Department of Physics Award for Graduate Student Teaching, Spring 1992

### Teaching Publications and Presentations

- *Big Bang, Black Holes, No Math*, Textbook for Physics/Astronomy 109  
In press with Johns Hopkins University Press
- *Integrating Web-Based Teaching Tools into Large University Physics Courses*,  
D. Toback, A. Mershin and I. Novikova, *The Physics Teacher*, Vol 43, 595-598 (2005)
- *Integrating Web-Based Teaching Tools into Large University Physics Courses*,  
Invited talk at *Teaching with Technology 2006*, Texas A&M University, February 2006

### Teaching Funding

- Development Award as a *University Professor for Undergraduate Teaching Excellence* at Texas A&M University, \$15,000 prize, 2008-2011
- Development Award by the *Center for Teaching Excellence* at Texas A&M University for *Web-based Teaching for Physics Courses*, \$5,000 prize, Fall 2002

### Teaching Tools and Programs Developed

- Creator/administrator of the *Physics 218 Challenge Exam* and *Mechanics Scholars Program*  
Texas A&M University, Spring 2002-Present  
Program to select the Texas A&M University, Department of Physics *Mechanics Scholars*, and winners of the *Award for Exceptional Performance in Physics 218*
- Creator/maintainer of the *Automated Mathematics Evaluation System (AMES)*  
Texas A&M University, Fall 2001-Present  
A web-based math quiz system for Physics 101 (Physics Majors Seminar), 201, 202, 208 and 218 (Mechanics and Electromagnetism, Pre-Med and engineering tracks) and Astronomy 314 (Introduction to Astronomy)
- Creator/maintainer of the *Computerized Homework Assignment Grading System (CHAGS)*  
Texas A&M University, Spring 2002-Present  
A web-based homework collection system for Physics 201, 202, 208 and 218
- Creator/maintainer of the *QUizzes Intended to Consolidate Knowledge (QUICK)*  
Texas A&M University, Spring 2002-Present  
A web-based homework quiz and mini-practice exam system for Physics 109, 208, 218, 289 and Astronomy 314

## Supervision of Research Students and Postdocs<sup>8</sup>

- *Postdoctoral Students and Research Scientists (Co-supervised):*
  - Dr. Jason Nett, August 2010-Present
  - Dr. Daniel Goldin, September 2009-December 2011. Currently Postdoc Fermilab
  - Dr. Michael Weinberger, January 2006-December 2008. Currently Research Analyst, TradeLink LLC
  - Dr. Maxim Goncharov, June 2001-August 2008. Currently Research Scientist, MIT
  - Dr. Sungwon Lee, January 2001-August 2005. Currently Assistant Professor, Texas Tech
- *Ph.D. Students (Dissertation chair):*
  - Ziqing Hong, Spring 2011-Present (pre-qualifying)
  - Daniel Cruz, Summer 2010-Present (pre-qualifying)
  - Vaikunth Thukral, Fall 2009-Present (M.S. 2011)
    - Named University Research Association (URA) Visiting Scholar to Fermilab (Spring 2012)
  - Jonathan Asaadi, Summer 2004-Present (M.S. 2007)
    - 2nd Place, presentation competition, Texas A&M Student Research Week (2008)
  - Adam Aurisano, Summer 2004-Present (M.S. 2007)
    - Winner, presentation competition, Texas Section of the APS (2004)
  - Eunsin Lee, Summer 2004-May 2010 (M.S. 2006, Ph.D. 2010)
    - Currently postdoc, Penn
    - 3rd Place, presentation competition, Texas A&M Student Research Week (2007)
    - Winner, presentation competition, Texas Section of the APS (2006)
  - Peter Wagner, August 2001-August 2007 (Ph.D. 2007)
    - Currently postdoc, Penn
    - Co-Winner, Thesis Award for 2007 from the *University Research Association*,
      - International award for most outstanding thesis from a project on a Fermilab Experiment
- *Masters Students (Committee chair or co-chair):*
  - Michael Mason, Fall 2008-Spring 2009, Summer 2010-Fall 2010 (M.S. 2011)
  - David Maffei, Summer 2003-December 2006 (M.S. 2006)
  - Matthew Cervantes, Summer 2002-August 2006 (M.S. 2006)
- *Graduate Students (Masters or Ph.D. committee member or co-chair):*
  - Sourabh Dube (Rutgers, Somalwar), Spring 2008-Fall 2008 (Ph.D. 2008)
  - Nathaniel Pogue (McIntyre), Spring 2006-Spring 2011 (Ph.D. 2011)
  - Masaki Watabe (Webb), Spring 2004-Fall 2009 (Ph.D. 2010)
  - Vadim Khotilovich (Kamon), Fall 2001-Spring 2008 (Ph.D. 2008)
  - Slava Krutelyov (Kamon), Fall 2000-December 2005 (Ph.D. 2005, co-chair)
    - Currently postdoc, UCSB
- *Undergraduates:*
  - Chris Davis (Honors Thesis Student), Summer 2010-Present
  - Andrew Missert, Rochester University, Fall 2009
  - Sean Yeager, Rutgers University (REU student), Summer 2009

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<sup>8</sup>Note: All students are from Texas A&M University unless otherwise noted. All awards are physics research awards from regional or national organizations, unless noted as an international award. Students I supervised (and their awards) on scholarly teaching activities, such as web-based materials, course and textbook development, are listed separately. This list is given in both the main CV as well as my Teaching CV for completeness.

David Rahmani, January 2008-Spring 2009  
 NASA Astronaut Scholarship Foundation Award (2009)  
 Rishi Patel, New York University (REU student), Summer 2007  
 Paul Geffert (Honors Thesis Student), January 2006-Spring 2009  
 Currently student at Univ. of California at Santa Barbara  
 Honors Thesis (2008)  
 Winner, Gathright Scholar Academic Excellence Award, TAMU College of Science (2009)  
 Paul Simeon (Honors Program Student), January 2004-Summer 2006  
 Winner, Goldwater Scholarship, (2007)  
 Russell Mammei, University of Texas at El Paso, Summer 2001  
 Christopher Battle, January 2001-September 2002  
 Jeffrey Gaspard, April 2001-June 2002  
 Winner, presentation competition, Texas Section of the APS (2001)  
 Julian Londoño, January 2001-May 2001  
 Thomas Landers, University of Maryland, Summer 1999  
 John Peterson, University of Chicago, May 1997

### **Supervision of Students on Teaching Projects**

- *Physics Students (Graduate Students unless otherwise indicated):*  
 Daniel Cruz, Summer 2010-Present  
 Michael Mason, Fall 2008-Spring 2009, Summer 2010-Fall 2010  
 David Rahmani (undergraduate), Spring 2008-Fall 2009  
 Eunsin Lee, Summer 2007-Spring 2010  
 Jonathan Asaadi, Summer 2004-Present  
 Recipient of *American Association of Physics Teachers Outstanding Teaching Assistant Award*, 2008  
 Matt Cervantes, Summer 2003-Spring 2004  
 Irina Novikova, Summer 2002-Spring 2003  
 Named a Fellow by the Center for Teaching Excellence  
 Recipient of *American Association of Physics Teachers Outstanding Teaching Assistant Award*, 2003  
 Andreas Mershin, Spring 2001-Spring 2002  
 Joel Walker: Spring 2001-Summer 2003
- *Undergraduates (non-majors):*  
 J.P. Quinn, Spring 2010-Spring 2011  
 Christopher Maguire, Spring 2009-Fall 2009  
 Amelia Williamson, Spring 2008-Fall 2008

### **Teaching Service**

Note: All activities are at Texas A&M University unless otherwise noted

- College of Science Core Curriculum Development Committee, Spring 2009
- Provost's Academic Master Plan's Teaching Roadmap Committee, Fall 2008-Fall 2009
- Association of Former Students Distinguished Teaching Award Selection Committee, University-Level, Spring 2008
- Reviewer for *The Physics Teacher Journal*, Fall 2007

- Association of Former Students Distinguished Teaching Award Selection Committee, College-Level, Spring 2005
- Graduate Mentor for Irina Novikova, Center for Teaching Excellence Fellows Program, Spring 2003
- Mechanics Scholar Selection Committee Chair, Department of Physics, Spring 2002-Present
- Gregor Wentzel Teaching Prize Selection Committee, University of Chicago, May 1993

# *Service Curriculum Vitae*<sup>9</sup>

## David Toback

### Conference Organization and Session Chair Work

- Session chair, Mini-Symposium on Searches, April Meeting of the APS, May 2009
- Session chair, particle physics session, Meeting of the Texas Section of The APS, Fall 2007
- Organizing committee for the *International Workshop on the Interface of Particle Physics and Cosmology (PPC 2007)*, Spring 2007
- Chair of High Energy Physics Organizing Committee of the *Mitchell Symposium on Astronomy, Cosmology and Fundamental Physics*, Spring 2006
- Local Organizing Committee and Session Chair for the *Mitchell Symposium on Observational Cosmology*, Spring 2004
- Session chair, particle physics session, Meeting of the Texas Section of The APS, Fall 2001
- Organizing Committee, DØ Trigger Workshop, Paris France, Spring 1999

### Reviewing Activities

- Proposal Reviewer for Foundation for Fundamental Research on Matter (FOM), the physics research council in the Netherlands, Fall 2011
- Proposal Reviewer for Department of Energy Office of High Energy Physics, Fall 2009
- Proposal Reviewer for a joint proposal to the *Cooperative Grants Program for High Energy Physics*, U.S. Civilian Research and Development Foundation, Fall 2006
- Institutional Reviewer for *High Energy Physics Program Proposal*, National Science Foundation, Fall 2005
- Texas A&M Internal Engineering Sciences Proposal Selection Committee for the 2006 *Advanced Technology Program (ATP)*, Fall 2005

### Collaboration/Experiment Service Work

- Chair of Editorial Board for Search for  $b'$  Quarks, CDF, Fall 2010-Spring 2011
- Chair of Editorial Board for Search for Scalar Top Quarks, CDF, Fall 2008-Spring 2010
- Chair of Editorial Board for new physics search in  $\gamma bj + \cancel{E}_T$  events, CDF, Spring 2008-Fall 2009
- Editorial Board member for W+Higgs Search, CDF, Fall 2004-Spring 2005
- Tevatron Electroweak Working Group, Fall 2002-Spring 2004
- Editorial Board member for 1<sup>st</sup> Generation Leptoquark Search, CDF, Summer 2001-Spring 2002

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<sup>9</sup>Note that there is some overlap with teaching related activities. See my teaching CV for additional reviewing and university committee work.

- Editorial Board member for QCD Study of Low  $E_T$  Jets in Multijet Events, DØ, Spring 2000
- Trigger Menu Panel, DØ, Spring 1999- Fall 2000
- Editorial Board member for 2<sup>nd</sup> Generation Leptoquark Search, DØ, Fall 1998-Spring 1999

### University Level Service

- Faculty Talent, “Inspiration Stars Here” Texas A&M University marketing video promoting undergraduate opportunities, Division of Marketing & Communications, Spring 2011
- Provost’s University Science Core Curriculum Development Committee, Spring 2009-Spring 2010
- Provost’s Academic Master Plan’s Teaching Roadmap Committee, Fall 2008-Fall 2009
- Panel Member for the Texas A&M Mentoring Faculty Workshop, Fall 2007
- Panel Member for the Texas A&M New Faculty Orientation, Fall 2005
- Texas A&M Faculty Focus Group for Student Life, Summer 2005
- Conceptual Design for Interdisciplinary Tenure Track Positions at Texas A&M University, January 2005-September 2005
- MIT Undergraduate Admissions Educational Councilor, September 2003-Present

### College of Science Level Service

- Faculty Talent, classroom photography subject for graduate and faculty recruiting materials, Fall 2008
- Faculty Talent, “This is Aggieland,” Texas A&M University marketing video promoting undergraduate education and research opportunity, Division of Marketing & Communications, Spring 2008
- Faculty Talent, Recruiting and Outreach video and Interview Subject and Team Member, Fall 2007
- College of Science Diversity Committee, Spring 2003

### Department of Physics Level Service

- Department Head Search Committee, Summer 2011-Fall 2011
- Long Range Planning Committee, Spring 2010-Present
- Nuclear Solutions Institute Faculty Search Committee Fall 2010 - Present
- Faculty Mentoring Program Development Committee, Summer 2008
- Department Head’s Advisory Committee, High Energy Representative, Spring 2008-Fall 2011
- High Energy Experiment Faculty Search Committee Co-Chair, Fall 2007-Spring 2009
- Joint Nuclear/High Energy Physics Summer Research Experience for Undergraduates (REU), Summer 2007, 2008 and 2009
- Performance Evaluation Committee, Spring 2007
- High Energy Experiment Faculty Search Committee, Fall 2006-Fall 2007
- Physics 218 Course Coordinator, Spring 2005

- High Energy Experiment Faculty Search Committee Co-Chair, Spring 2004-October 2006
- First-Year Course Textbook Selection Committee, Fall 2003-Summer 2004
- Graduate Admissions Committee and departmental recruiting WebSite, Spring 2002-Fall 2005
- High Energy Theory Faculty Search Committee, Spring 2002-Spring 2004