

CURRICULUM VITAE – ANDREW G. BRANDT

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Education UNIVERSITY OF CALIFORNIA, LOS ANGELES Los Angeles, CA
M. S., Physics 1988, GPA 3.77; Ph. D., Physics 1992
Thesis Title: “**Jet Measurements at the CERN Collider and the Pomeron Structure.**”

COLLEGE OF WILLIAM AND MARY Williamsburg, VA
Bachelor’s Degree, 1985, Physics and Economics; High Honors in Physics, GPA 3.95-fourth in class.

Professional Experience

PROFESSOR, UNIVERSITY OF TEXAS AT ARLINGTON; Arlington, TX; September 1999–present (promoted to Assistant Professor September 2004; promoted to Full Professor September 2010).

WILSON FELLOW, DZERO COLLABORATION, FERMI NATIONAL ACCELERATOR LABORATORY; Batavia, IL; January 1996–September 1999.

POST-DOCTORAL RESEARCH ASSOCIATE, DZERO COLLABORATION, FNAL; Batavia, IL; April 1992–December 1995.

GRADUATE RESEARCH ASSISTANT, UA8 COLLABORATION, UCLA; Geneva, Switzerland; April 1987–March 1992.

TEACHING ASSISTANT, UCLA; Los Angeles, CA; January 1986–March 1987.

Honors

Phi Beta Kappa, College of William and Mary, December 5, 1984.

Department of Energy Young Independent Scientist Award (presented November 3, 1997 at DOE Forrestal Building).

Presidential Early Career Award for Scientists and Engineers (presented November 3, 1997 at Old Executive Office Building of White House).

Department of Energy Outstanding Junior Investigator Award, August 2001.

UTA Research Excellence Award, each year from 2005 to 2010.

College of Science Outstanding Research Award, Apr. 2007.

Awarded Faculty Development Leave for Jan-Aug 2008.

Grants and Contracts (Completed)

1. Fermilab, "Addendum of MOU between University of Texas, Arlington and Fermilab for Services of Lionel Peyrichoux," (Principal Investigator) **\$17,500**, June 1, 2000–August 31, 2001.
2. UTA, Research Enhancement Program, "Construction of Scintillating Fiber Detectors for a High-Energy Physics Experiment," (PI) **\$9,830**, May 5, 2000–August 31, 2001.
3. DOE, Outstanding Junior Investigator Award, "A Forward Proton Detector for the DØ Experiment," (PI) 2001–2004 [Included in base funding starting 2005].
 - Received **\$110,000** (\$88,000 at UTA, \$22,000 at Fermilab) in **2001**
 - Received **\$106,000** (\$100,000 at UTA, \$6,000 at Fermilab) in **2002**
 - Received **\$81,000** (\$75,000 at UTA, \$6,000 at Fermilab) in **2004**
4. DOE Supplemental Proposal, "Phototubes for a Forward Proton Detector for the DØ Experiment," (PI) **\$25,000**, August 2001–November 2001.
5. DOE Supplemental Proposal, "A Graduate Student for the DØ Experiment," (PI) **\$25,000**, November 2001–November 2002.
6. Fermilab, "Phototubes for the Forward Proton Detector," (PI) **\$42,000**, (\$36,000 at UTA, \$6,000 at Fermilab), November 2001–November 2002.
7. Texas ARP, "New Physics with a New Proton Detector," (PI) **\$96,000**, January 2002–December 2003.
8. DOE Advanced Detector Research, "Digital Hadron Calorimetry for a Linear Collider," (Co-PI) July 2002–2004.
 - Received **\$50,000** in **2002**
 - Received **\$50,000** in **2003**
 - Received **\$50,000** in **2004**
9. NSF MRI, "A Consortium for the Acquisition of Equipment to Complete a Proton Detector for the Experimental Particle Physics Dzero Detector," (UTA PI) **\$125,000** (at UTA \$61,000 in 2003, \$29,000 in 2004), August 2003–August 2005.
10. UTA LSAMP Supplemental Award, "Study of Cerenkov Light Propagation in Extremely Fast Counters," (PI) **\$4200** (PI), Sep.–Dec. 2005.
11. Texas ARP, "A Proton Detector to Discover New Physics at the Energy Frontier," (PI) **\$100,000**, June 2006–June 2008.
12. DOE Advanced Detector Research "ADR: Development of a 10 Picosecond Time of Flight Counter," (PI) **\$73,180**, June 2007–May 2008.

Grants and Contracts (Active)

1. DOE LCRD, “Digital Hadron Calorimetry for a Linear Collider,” (Co-PI) July 2003–present
 - Received **\$40,000** in **2003**
 - Received **\$70,000** in **2004**
 - Received **\$50,000** in **2005**
 - Received **\$61,000** in **2006**
 - Received **\$65,000** in **2007**
 - Received **\$73,000** in **2008**
 - Received **\$75,000** in **2009**
2. DOE Base funding+Supplements (Co-PI) 2000–present
 - Received **\$430,000** in **2000**
 - Received **\$360,000** in **2001**
 - Received **\$380,000** in **2002**
 - Received **\$400,000** in **2003**
 - Received **\$425,000** in **2004**
 - Received **\$585,000** (**\$81,000** as **PI**) in **2005**
 - Received **\$637,000** (**\$81,000** as **PI**) in **2006**
 - Received **\$605,000** (**\$81,000** as **PI**) in **2007**
 - Received **\$639,000** (**\$81,000** as **PI**) in **2008**
 - Received **\$679,000** (**\$81,000** as **PI**) in **2009**
3. DOE Recovery Act Stimulus (Co-PI) 2009 **\$103,000**
4. Southwest Tier 2 Center, NSF Aug. 2006–present (Co-PI)
 - Received **\$850,000** in **2006**
 - Received **\$600,000** in **2007**
 - Received **\$600,000** in **2008**
 - Received **\$600,000** in **2009**
5. NSF Computing Production Support (Co-PI) 2009 **\$708,000**
6. ATLAS Tile Cal Operations, NSF Mar. 2007–present (Co-PI)
 - Received **\$31,000** in **2007**
 - Received **\$31,000** in **2008**
 - Received **\$55,000** in **2009**
7. NSF/Homeland Security “ARI-SA: Local Field Enhanced Nanostructured Scintillation Phosphors For Radiation Detection,” (Co-PI) **\$336,000**, Sep. 2007–Aug 2010.
 - Received **\$98,208** in **2007**
 - Received **\$117,577** in **2008**
 - Received **\$120,013** in **2009**
8. Department of Education “Reaching Goals in Physics with GAANN Fellowships” (co-PI) **\$592,624**, Sep. 2009–Aug 2012.

- Received \$174,208 in 2009

Total Funding through 2009 \$11M with about \$1.2M as Principal Investigator

Experimental Collaborations

- UA8 Collaboration 1987–2002
- Dzero Collaboration (<http://www-d0.fnal.gov>) 1992–present
- ATLAS Collaboration (<http://atlas.web.cern.ch/Atlas>) 1999–present
- FP420 Collaboration (<http://www.fp420.com/>) 2005–present

Selected Research Accomplishments

- **Leader of ATLAS Trigger Rates group and member of ATLAS Trigger Menu Coordination group (2008–)** The Trigger Rates group measures trigger rates for all the physics signatures being considered for data taking. This is a critical input to the trigger list design and bandwidth allocations that determine the amount of data recorded for various signatures.
- **Leader of AFP timing detector group (2008–)** As leader of the timing group I have been responsible for the full detector chain, coordinating the detector, readout, and electronics development and testing. Recently I have been co-leading the AFP approval process within ATLAS, preparing documents in response to review committee comments.
- **Executive Board member of FP420 R&D project (2005–)** I have been co-leading the timing detector development in the joint ATLAS/CMS effort to develop and implement Forward Proton detectors at the LHC.
- **Spokesman of Fermilab Test Beam Experiment T958 (2006–)** This test beam experiment was designed to validate the fast timing detector design for ATLAS and CMS.
- **Established Picosecond Test Facility 2008** The PTF is the UTA laser lab manned by UTA graduate and undergraduate students to test the microchannel plate PMT's and electronics needed for the AFP timing project.
- **Instigator and leader of DØ Forward Proton Detector group (1996–2006)** I assembled a collaboration to propose the addition of the FPD, and led the design, approval, funding, construction, commissioning, and data taking effort.
- **Instigator and leader of DØ Rapidity Gap analysis group (1992–2001)** This group produced five Ph.D. theses and five papers in Run I, including the second paper from DØ, the discovery of strongly interacting color singlet exchange, and the observation of diffractively produce W and Z bosons.

- **DØ QCD and Run I physics convenor (1998–2000)** This included calling meetings, overseeing many analyses, conference preparation, and pushing results towards publication.
- **Chair of Run II trigger panel (1999)** Led the trigger panel charged with developing a strawman physics menu for Run II.
- **Developed and maintained data handling software used in all DØ QCD analyses (1992–1995)**
- **Developed Level 2 rapidity separation trigger algorithm for the DØ Experiment**
- **Co-designed and led testing of DØ cosmic ray scintillator cap (1992–1993)**
- **Lead graduate student on UA8 experiment, which discovered hard diffraction(1987–1992)**

Selected Publications in Refereed Journals

(I am an author on well over 300 refereed publications, including being the lead author on the discovery of hard diffraction and rapidity gaps between jets. Since 1992, I have been a core member of the DØ collaboration, one of the most successful experiments of all time, with ground-breaking work in all areas of particle physics including QCD, Top Quark, Electroweak physics, Bottom Quark physics, CP violation, and Higgs Physics. A selected list of publications is included below. The full DØ list can be found at http://www-d0.fnal.gov/d0_publications. The last two publications are representative of my most recent research: the FP420 R&D document of which I was a major editor and contributor, and the ATLAS CSC book, in which I was trigger chapter editor and contributed to the trigger menu section.)

1. “Evidence for Transverse Jets in High-Mass Diffraction,” R. Bonino *et al.* (UA8 Collaboration), Phys. Lett. B **211**, 239 (1988).
2. “Evidence for a Super-hard Pomeron Structure,” A. Brandt *et al.* (UA8 Collaboration), Phys. Lett. B **297**, 417 (1992).
3. “The Small Angle Spectrometer of Experiment UA8 at the SPS-collider,” A. Brandt *et al.* (UA8 Collaboration), Nucl. Instrum. and Meth. in Phys. Res. A **327**, 412 (1993).
4. “Rapidity Gaps between Jets in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV,” S. Abachi *et al.* (DØ Collaboration), Phys. Rev. Lett. **72**, 2332 (1994).
5. “Observation of the Top Quark”, S. Abachi *et al.*, Phys Rev. Lett. **74**, 2632 (1995); FERMILAB-Pub-95/028-E.
6. “Improvement to the DØ Luminosity Monitor Constant,” J. Bantly, A. Brandt *et al.*, FERMILAB-TM-1930 (1995).
7. “A Study of the Strong Coupling Constant using W+Jets processes” S. Abachi *et al.* (DØ Collaboration), Phys. Rev. Lett. **75**, 3226 (1995).
8. “Transverse Energy Distributions within Jets in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV,” S. Abachi *et al.* (DØ Collaboration), Phys. Lett. B **357**, 500 (1995).
9. “Jet Production via Strongly-Interacting Color-Singlet Exchange in $p\bar{p}$ Collisions,” S. Abachi *et al.* (DØ Collaboration), Phys. Rev. Lett. **76**, 734 (1996).
10. “The Azimuthal Decorrelation of Jets Widely Separated in Rapidity” S. Abachi *et al.* (DØ Collaboration), Phys. Rev. Lett. **77**, 595 (1996).

11. "J/Psi Production in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV" S. Abachi *et al.* (DØ Collaboration), Phys. Lett. B **370**, 239 (1996).
12. "Scintillation Counters for the DØ Muon Upgrade," B.S.Acharya *et al.*, hep-ex/9709018, Nucl. Instrum. and Meth. in Phys. Res. A **401**, 45 (1997).
13. "Color Coherent Radiation in Multijet Events from $p\bar{p}$ Collisions at $\sqrt{s}= 1.8$ TeV," B. Abbott *et al.* (DØ Collaboration), Phys. Lett. B **414**, 419 (1997), Fermilab-Pub-97/201-E, hep-ex/9706012.
14. "Direct Measurement of the Top Quark Mass", S. Abachi *et al.*, Phys. Rev. Lett. **79**, 1197 (1997); FERMILAB-Pub-97/059-E; hep-ex/9703008.
15. "Measurement of the Top Quark Pair Production Cross Section in ppbar Collisions", S. Abachi *et al.*, Phys. Rev. Lett. **79**, 1203 (1997); FERMILAB-Pub-97/109-E; hep-ex/9704015.
16. "A measurement of the W boson mass", B. Abbott *et al.*, Phys. Rev. D **58**, 092003 (1998); FERMILAB-Pub-97/422-E; hep-ex/9712029.
17. "Measurement of Dijet Angular Distributions and Search for Quark Compositeness," B. Abbott *et al.* (DØ Collaboration), Phys. Rev. Lett. **80**, 666 (1998), Fermilab-Pub-97/237-E, hep-ex/9707016.
18. "Cross Section Measurements of Hard Diffraction at the SPS-Collider," A. Brandt *et al.* (UA8 Collaboration), hep-ex/9709015, Phys. Lett. B **421**, 395 (1998).
19. "Measurements of Single Diffraction at $\sqrt{s} = 630$ GeV; Evidence for a Non-Linear $\alpha(t)$ of the Pomeron," A. Brandt *et al.* (UA8 Collaboration), hep-ex/9710004, Nucl. Phys. B **514**, 3 (1998).
20. "Probing Hard Color-Singlet Exchange in $p\bar{p}$ Collisions at $\sqrt{s} = 630$ GeV and 1800 GeV," B. Abbott *et al.* (DØ Collaboration), hep-ex/9809016, Phys. Lett. B **440**, 189 (1998).
21. "Determination of the Absolute Jet Energy Scale in the DØ Calorimeters.," B. Abbott *et al.*, Nucl. Instr. and Meth. A **424**, 352 (1999), Fermilab-Pub-97/330-E, hep-ex/9805009.
22. "The Inclusive Jet Cross Section in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV.," B. Abbott *et al.*, Phys. Rev. Lett. **82**, 2451 (1999), Fermilab-Pub-98/207-E, hep-ex/9807018.
23. "The Dijet Mass Spectrum and a Search for Quark Compositeness in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV.," B. Abbott *et al.*, Phys. Rev. Lett. **82**, 2457 (1999), Fermilab-Pub-98/220-E, hep-ex/9807014.
24. "Evidence of color coherence effects in W +jets events from $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV," B. Abbott *et al.*, Phys. Lett. B **464**, 145 (1999); Fermilab-Pub-99/224-E; hep-ex/9908017.
25. "The isolated photon cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV," B. Abbott *et al.*, Phys. Rev. Lett. **84**, 2786 (2000); Fermilab-Pub-99/354-E; hep-ex/9912017.
26. "Probing BFKL Dynamics in Dijet Cross Section at Large Rapidity Intervals in $p\bar{p}$ Collisions at $\sqrt{s} = 1800$ and 630 GeV," Phys. Rev. Lett. **84**, 5722 (2000); Fermilab-Pub-99/363-E; hep-ex/9912032.
27. "Hard Single Diffraction in $p\bar{p}$ Collisions at $\sqrt{s} = 630$ and 1800 GeV," B. Abbott *et al.*, Phys. Lett. B **531**, 52 (2002); FERMILAB-Pub-99/373-E; hep-ex/9912061.
28. "Limits on Quark Compositeness from High Energy Jets in $p\bar{p}$ Collisions at 630 and 1800 GeV," Phys. Rev. D Rapid Communication **62**, 031101 (2000); Fermilab-Pub-99/357-E; hep-ex/9912023.
29. "The ratio of jet cross sections at $\sqrt{s}=630$ and 1800 GeV," B. Abbott *et al.*, Phys. Rev. Lett. **86**, 2523 (2001); FERMILAB-Pub-00/213-E, hep-ex/0008072.
30. "Ratios of Multijet Cross Sections in $p\bar{p}$ Collisions at $\sqrt{s}=1800$ GeV," B. Abbott *et al.*, Phys. Rev. Lett. **86**, 1955 (2001); FERMILAB-Pub-00/218-E, hep-ex/0009012.
31. "Inclusive jet production in $p\bar{p}$ collisions," B. Abbott *et al.*, Phys. Rev. Lett. **86**, 1707 (2001); FERMILAB-Pub-00/271-E, hep-ex/0011036.
32. "High- p_T Jets in $p\bar{p}$ Collisions at $\sqrt{s} = 630$ and 1800 GeV," B. Abbott *et al.*, Phys. Rev. D **64**, 032003 (2001); FERMILAB-Pub-00/216-E, hep-ex/0012046.

33. “The ratio of isolated photon cross sections in $p\bar{p}$ collisions at $\sqrt{s} = 630$ and 1800 GeV,” V. M. Abazov *et al.*, Phys. Rev. Lett. **87**, 251805 (2001); FERMILAB-Pub-01/239-E, hep-ex/0106026.
34. “Subjet multiplicity of gluon and quark jets reconstructed using the k_T algorithm in $p\bar{p}$ collisions,” V. M. Abazov *et al.*, Phys. Rev. D **65**, 052008 (2002); FERMILAB-Pub-01/248-E; hep-ex/010854.
35. “The inclusive jet cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV using the k_T algorithm,” V. M. Abazov *et al.*, Phys. Lett. B **525**, 211 (2002); FERMILAB-Pub-01/290; hep-ex/019041.
36. “Multiple jet production at low transverse energies in $p\bar{p}$ collisions at $\sqrt{s} = 1.8$ TeV,” V. M. Abazov *et al.*, submitted to Phys. Rev. D; FERMILAB-Pub-02/153-E, hep-ex/0207046.
37. “A Study of Inclusive Double-Pomeron-Exchange in $p\bar{p} \rightarrow p\bar{p}X$ collisions at $\sqrt{s} = 630$ GeV,” A. Brandt *et al.*, UA8 Collaboration, hep-ex/0205037 European Physics Journal C: <http://link.springer.de/link/service/journals/10052/first/papers/s10052-002-1031-x.pdf>
38. “Observation of diffractively produced W and Z bosons in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV,” V. M. Abazov *et al.*, Phys. Lett. B **574**, 169 (2003); hep-ex/0308032, FERMILAB-PUB-03-233-E.
39. “Measurement of Dijet Azimuthal Decorrelations at Central Rapidities in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV,” V. M. Abazov *et al.*, Phys. Rev. Lett. **94**, 221801 (2005); hep-ex/0409040; FERMILAB-Pub-04/217-E.
pub283
40. “The Upgraded DØ Detector,” V. M. Abazov *et al.*, Nucl. Instr. and Methods A **565**, 463 (2006), hep-ex/0507191, Fermilab-Pub-05/341-E.
41. “Measurement of the isolated photon cross section in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV,” V. M. Abazov *et al.*, Phys. Lett. B **639**, 151 (2006); hep-ex/0511054, FERMI-Pub-05/523-E.
42. “Combined DØ Measurements Constraining CP-violating Phase and Width Difference in the B_s^0 System,” V. M. Abazov *et al.*, Phys. Rev. D **76**, 057101 (2007); hep-ex/0702030; Fermilab-Pub-07/044-E.
43. “Search for a Higgs boson produced in association with a Z boson,” V. M. Abazov *et al.*, Phys. Lett. B **655**, 209 (2007); arXiv:0704.2000; Fermilab-Pub-07/076-E.
44. “Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions using dilepton events,” V. M. Abazov *et al.*, accepted by Phys. Rev. d **76**, 052006 (2007); arXiv:0706.0458; Fermilab-Pub-07/143-E.
45. “Direct observation of the strange b baryon Ξ_b^- ,” V. M. Abazov *et al.*, Phys. Rev. Lett. **99**, 052001 (2007); arXiv:0706.1690; Fermilab-Pub-07/196-E.
46. “Observation of Single-Top Quark Production,” V. M. Abazov *et al.*, Phys. Rev. Lett. **103**, 092001 (2009), arXiv:0903.0850.
47. “The FP420 R&D Project: Higgs and New Physics with Forward Protons at the LHC,” FP420 Collaboration, arXiv:0806.0302v2 [hep-ex], published in J. Inst.: 2009_JINST_4_T10001, <http://www.iop.org/EJ/abstract/1748-0221/4/10/T10001>.
48. “Expected Performance of the ATLAS Experiment: Detector Trigger and Physics,” ATLAS Collaboration, arXiv:0901.0512; CERN-OPEN-2008-020. ISBN: 978-92-9083-321-5

Published Conference Talks

“UA8: Semi-Inclusive Measurements of Jets in Final States with Leading Protons or Lambdas,” Proceedings of the 8th Topical Workshop on Proton-Antiproton Collider Physics; Castiglione della Pescaia, Italy, 192 (1989).

“Jets in Single Diffraction and Pomeron Structure,” Proceedings of Fourth International Conference on Elastic and Diffractive Scattering; Elba, Italy, May 22–26 1991.

“Hard Diffraction and Rapidity Gaps,” Proceedings from Workshop on Physics at Current Accelerators and the Supercollider; Madison WI, June 2–5 1993.

“Jets with Large Rapidity Separation,” Proceedings of the 27th International Conference on High Energy Physics; Glasgow, Scotland, July 20–27 1994.

“Hard Diffraction and Rapidity Gaps,” Proceedings from 15th International Conference on Physics in Collision; Cracow, Poland, June 8–10 1995.

“Rapidity Gaps in Jet Events at $D\bar{O}$,” Proceedings of the 11th Topical Workshop on Proton-Antiproton Collider Physics; Abano Terme, Italy, (1996).

“QCD Subgroup on Diffractive and Forward Physics,” M. Albrow *et al.*, Proceedings of 1996 DPF Study on New Directions for High-energy Physics (Snowmass '96); Snowmass CO (1996).

“Full Rapidity Physics at the VLHC,” A. Brandt and C. Taylor, Proceedings of Very Large Hadron Collider Physics and Detector Workshop; Batavia IL, March 13–15 1997.

“Hard Diffraction at $D\bar{O}$,” Proceedings from 5th International Workshop on Deep Inelastic Scattering and QCD; Chicago IL, April 14–18 1997.

“Proposal for a Forward Proton Detector at $D\bar{O}$,” Proceedings of International Symposium on Near Beam Physics; Batavia IL, September 22–24 1997.

“Proposal for a Forward Proton Detector at $D\bar{O}$,” $D\bar{O}$ Collaboration, Proposal P-900 submitted to the Fermilab PAC; A. Brandt *et al.* FERMILAB PUB-97-377.

“ $D\bar{O}$ Rapidity Gap Studies,” Proceedings of the Run II QCD and Weak Boson Physics Workshop, Batavia Illinois, March 1999.

“The $D\bar{O}$ Forward Proton Detector,” Proceedings of the Run II QCD and Weak Boson Physics Workshop, Batavia Illinois, November 1999.

“Introduction to Diffractive Physics at Run II,” M. Albrow, A. Brandt, A. Mueller, C. Schmidt, Proceedings of the Run II QCD and Weak Boson Physics Workshop, Batavia Illinois, 1999.

“Hard Diffraction at the Tevatron,” Proceedings from 2nd e-RHIC Workshop, Yale CT, April 6-8 2000.

“ $D\bar{O}$ Hard Diffraction in Run I and Run II,” Proceedings from 8th International Workshop on Deep Inelastic Scattering and QCD, Liverpool England, April 25-30 2000.

“Diffractive Working Group Summary,” M. Arneodo and A. Brandt, Proceedings from 8th International Workshop on Deep Inelastic Scattering and QCD, Liverpool UK, April 25-30 2000.

Other Conference Talks and Seminars

“Jet Measurements in Events with Leading Protons at the SPS-Collider,” CERN PPE Seminar, Geneva Switzerland, Dec. 16 1991.

“Jet Production in $p\bar{p}$ interactions tagged with Large-x Protons,” Workshop on Small-x and Diffractive Physics at the Tevatron, Batavia Illinois, September 1992.

“Evidence for Partonic Structure of the Pomeron,” Workshop on Strong Interaction Physics at Hadron Colliders-Institute for Nuclear Theory, Batavia Illinois, August 1993.

“Rapidity Gaps at $D\bar{0}$,” CTEQ Workshop: QCD at 2 TeV, Lansing Michigan, October 1993.

“Rapidity Gaps,” Fermilab Food for Thought Seminar, Batavia Illinois, November 1993.

“QCD with Large Rapidity Jets at $D\bar{0}$,” University of Maryland Seminar, College Park Maryland, February 1994.

“Rapidity Gaps,” Michigan State University Seminar, Lansing Michigan, March 1994.

“Rapidity Gaps between Jets at $D\bar{0}$,” Fermilab Wine and Cheese Seminar, Batavia Illinois, June 1994.

“Rapidity Gaps between Jets at $D\bar{0}$,” CERN PPE Seminar, Geneva Switzerland, August 1994.

“Jets with Large Rapidity Separation at $D\bar{0}$,” DESY HEP Seminar, Hamburg Germany, April 1995.

“Rapidity Gaps and Color Singlet Exchange,” Fermilab Food for Thought Seminar, Batavia Illinois, October 1995.

“Hard Diffraction at $D\bar{0}$,” QCD Working Group, Snowmass Colorado, July 1996.

“Run II Forward Proton Detector,” $D\bar{0}$ Physics and Technical Review, Batavia Illinois, October 1996.

“Experimental Studies of Hard Processes with Rapidity Gaps,” University of Michigan Seminar, Ann Arbor Michigan, December 1996.

“Experimental Studies of Hard Processes with Rapidity Gaps,” Case Western Reserve University Seminar, Cleveland Ohio, February 1997.

“Summary of Full Rapidity Physics Working Group,” Very Large Hadron Collider Physics and Detector Workshop, Batavia Illinois, March 1997.

“Hard Diffraction at $D\bar{0}$,” Interplay Between Soft and Hard Interactions in Deep Inelastic Scattering, Heidelberg Germany, September 1997.

“Hard Diffraction at $D\bar{0}$,” DESY HEP Seminar, Hamburg Germany, October 1997.

“Proposal for a Forward Proton Detector at $D\bar{0}$,” Fermilab PAC, Batavia Illinois, October 1997.

“Hard Diffraction at $D\bar{0}$,” Penn State University Seminar, College Station Pennsylvania, November 1997.

“Hard Diffraction at $D\bar{0}$,” University of Chicago Seminar, Chicago Illinois, January 1998.

“Hard Diffraction at the Tevatron,” LAFEX International School of High Energy Physics (LISHEP '98), Rio de Janeiro, February 1998.

“Hard Diffraction at $D\bar{0}$,” Brown University Seminar, Providence Rhode Island, March 1998.

“Physics with a Full Acceptance Detector at the VLHC Booster,” VLHC physics seminar, Batavia Illinois, March 1998.

“Probing Hard Color-Singlet Exchange at $D\bar{0}$ ” 4th Small-x and Diffractive Workshop, Batavia Illinois, September 1998.

“Hard Diffraction at $D\bar{0}$ ” University of Washington Seminar, Seattle Washington, February 1999.

“Hard Diffraction at $D\bar{0}$ and the Forward Proton Detector” NIKHEF Colloquium, Amsterdam The Netherlands, March 1999.

“Hard Diffraction at DØ” Johns Hopkins University Seminar, Baltimore Maryland, March 1999.

“DØ Run II Possibilities,” Run II QCD and Weak Boson Physics Workshop, Batavia Illinois, March 1999.

“DØ Run I Central Gaps and Run II Plans,” Run II QCD and Weak Boson Physics Workshop, Batavia Illinois, March 1999.

“Hard Diffraction at DØ” University of Texas at Arlington Seminar, Arlington Texas, April 1999.

“Update on DØ Forward Proton Detector,” Run II QCD and Weak Boson Physics Workshop, Batavia Illinois, November 1999.

“Hard Diffraction at DØ and the Forward Proton Detector” Brookhaven National Labs, New York, December 1999.

“DØ Hard Diffraction and Rapidity Gaps,” Manchester University Seminar, Manchester England, April 2000.

“DØ Hard Diffraction in Run I and prospects for Run II,” High Energy QCD: Beyond the Pomeron Workshop, Brookhaven National Lab NY, May 2001.

“Diffraction at DØ Run I results and Run II prospects,” Workshop on Low-x Physics 2001, Krakow Poland, June 2001.

“Observation of Diffractively Produced W- and Z-Bosons,” Lishep02, Rio de Janeiro, Brazil, February 2002.

“Hard Diffraction: An Experimentalist’s Perspective,” (2 Lectures), CTEQ Summer School, Madison WI, June 2002.

“DØ Forward Proton Detector,” ATLAS Mini-Workshop on Forward Physics, Clermont-Ferrand France, June 2002.

“Diffraction at DØ,” Workshop on Low-x Physics 2003, Nafplion, Greece, June 2003.

“Forward Physics with ATLAS,” Small x and Diffraction 2003 Workshop, Batavia IL, September 2003.

“Diffraction at DØ,” Physics with Forward Proton Taggers Workshop, Manchester, England, December 2003.

“GTeV: Gluon Physics at the Tevatron,” Diffraction at the LHC Workshop, Rio de Janeiro, Brazil, April 2004.

“DØ QCD: Past, Present, and Future,” Jefferson Lab Physics Seminar, Newport News, VA 2004.

“Diffractive Results and Plans in DØ,” The Future of QCD at the Tevatron Workshop, Batavia, IL, May 2004.

“DØ Diffraction/FPD Update,” Physics with Forward Proton Taggers Workshop, Manchester, England, December 2004.

“Moving Forward: DØ Diffraction to LHC,” TeV4LHC Workshop, Brookhaven, NY Feb. 2005.

“QUARTIC, A TOF for ATLAS/CMS Forward Protons,” Pico-Sec Timing Hardware Workshop, University of Chicago, IL, Nov. 2005.

“FPD Overview” and “Fermilab Testbeam,” The Future of Forward Physics at the LHC Workshop, Manchester, England, December 2005.

“Forward Protons from the SPS to the LHC,” SLAC Physics Seminar, CA, Mar. 2006.

“FP420/QUARTIC,” UTA 10 Psec Workshop, UTA, April 2006.

“FP420 Overview,” Texas APS Workshop, UTA, October 2006.

“Fast-timing Overview, Testbeam, and Milestones,” Physics with FP420 Workshop Manchester, England, December 2006.

“Latest Fast Timing Results,” 10 Psec Workshop No. 2, FNAL, March 2007.

“Forward Protons from the SPS to the LHC,” Baylor Physics Colloquium, Texas, April 2007.

“Forward Protons from the SPS to the LHC,” Charles University Seminar, Czech Republic, May 12, 2008.

“Forward Protons from the SPS to the LHC,” Louvain Seminar, Belgium, March 31, 2008.

“Fast Timing is Hard,” May 20, 2008, AFP Collaboration Meeting, SACLAY, France.

“Fast Timing for ATLAS/CMS,” June 26, 2008 SPS Users Meeting, CERN.

“Test Beam Studies for FP420 Fast Timing,” October 16, 2008, Picosecond Workshop, Lyon France.

“Forward Proton Fast Timing,” Dec. 6, 2008, Manchester Forward Physics Workshop, UK.

“Forward Protons,” Dec. 8, 2008, Lancaster University Colloquium, UK.

“UTA Laser Tests,” February 27, 2009, Picosecond Workshop, Argonne, IL.

“ATLAS Forward Proton Fast Timing,” April 30, 2009, Photonis-USA Lancaster, PA.

“Forward Protons from the SPS to the LHC,” May 1, 2009, Penn Physics Seminar, University of Pennsylvania

“ATLAS Forward Proton Fast Time of Flight Detectors,” May 12, 2009, Workshop on Fast Cherenkov Detectors, Giessen, Germany.

“ATLAS Forward Proton Fast Timing,” June 16, 2009 Photek, East Sussex, UK.

“Forward Protons at DØ and ATLAS,” October 14, 2009, UTA Colloquium University of Texas, Arlington.

“ATLAS Forward Protons: A (10) Picosecond Window on the Higgs Boson,” Dec. 2, 2009, Argonne Physics Seminar, Argonne National Laboratory, Argonne, IL.

“QUARTIC, Laser Tests, and Lifetime,” Manchester Forward Physics Meeting, Dec. 14, 2009, Manchester UK.

Conference Organization

Organizing Committee, 2nd Small-x and Diffractive Workshop, Fermilab, September 1994.

Organizing Committee, 3rd Small-x and Diffractive Workshop, Argonne, September 1996.

Co-Convenor, QCD Subgroup, Workshop on New Directions for High Energy Physics, Snowmass Colorado, July 1996.

Co-Convenor, Full Rapidity Physics Working Group, VLHC Workshop, Batavia, Illinois, March 1997.

Co-Chairman, Lishep98, Rio de Janeiro, Brazil, February 1998.

Co-Chairman, 4th Small-x and Diffractive Workshop, Fermilab, September 1998.

Co-Convenor, Diffractive and Color Coherence Working Group, Run II QCD and Weak Boson Physics Workshop, Fermilab, March, June, and November 1999.

Co-Convenor, Working Group on High Energy Scattering and Diffraction, 8th International Workshop on Deep Inelastic Scattering and QCD, Liverpool England, April 2000.

International Advisory Committee, Workshop on Forward Physics and Luminosity Determination at LHC, Helsinki Finland, October 2000.

Co-Chairman, Lishep02, Rio de Janeiro, Brazil, February 2002.

International Advisory Committee, Diffraction 2002 Workshop, Crimea, Ukraine, August 2002.

Organizing Committee, Arlington Linear Collider Workshop, Arlington TX, January 2003.

Organizing Committee, 5th Small-x and Diffractive Workshop, Fermilab, September 2003.

Organizing Committee, Diffraction at the LHC Workshop, Rio de Janeiro Brazil, March 2004

Co-Chairman, Future of QCD at the Tevatron Workshop, Fermilab, May 2004.

Chairman UTA 10 Picosecond Workshop, Arlington, April 2006.

Chairman 10 Picosecond Workshop No. 2, Fermilab, March 2007.

Chairman FP420 Collaboration meeting, Arlington, March 2007

Organizing Committee, 6th Small-x and Diffractive Workshop, Fermilab, March 2007.

Organizing Committee Future of Forward Physics at the LHC Workshop, Manchester, UK, Dec. 2007, 2008.

Organizing Committee Workshop on Timing Detectors, Lyon, France, Oct. 2008.

Teaching

1999-2000 Undergraduate E&M class (1442) and Graduate Special Topics class on "High Energy Physics Detectors" (5391), supervised undergraduate labs

2000-2001 Undergraduate E&M classes (1442) and Graduate Special Topics class on "Topics in High Energy Physics" (5391), supervised undergraduate labs

2001-2002 Undergraduate E&M classes (1442), supervised undergraduate labs

2002-2003 Graduate Particle Physics (5325), Undergraduate E&M class (1442), supervised undergraduate labs

2003-2004 Modern Physics (3313), Undergraduate Mechanics (1443), supervised undergraduate labs

2004-2005 Modern Physics (3313), Modern Physics (3313)

2005-2006 Modern Physics (3313), Modern Physics (3313)

2006-2007 Particle Physics I (5325), Undergraduate E&M (1444)

2007-2008 Modern Physics (3313), FDL

2008-2009 Nuclear & Particle Physics (3446), Modern Physics (3313)

2009-2010 Modern Physics (3313), Modern Physics (3313)

Undergraduate Student Supervision

Goutham Morab, Fall 2000
Karthik Gopalratnam, Fall 2000
Sahil Aggarwal, January-December 2002
Deepak Shivashankar (Engineering M.S. student), Mar 2000-December 2003
Chance Harenza Sep.-Dec. 2005
Joaquin Noyola Sep.-Dec. 2005, Jan.-May 2007
Alek Malcolm Jan. 2006-October 2006
Shane Spivey June 2006-December 2006
Emad Nimri Sep. 2008-Oct. 2008
Larry Lim Sep. 2008-Dec. 2009
Ryan Hall Sep. 2008-Aug. 2010
Mason MacPhail Dec. 2008-May 2010
Kelly Kjornes Feb. 2009-May 2009
Swapnil Baral July 2009-May 2010
Monica Hew, Lee Baker Mar 2010-
James Bourbeau, Keith Gray May 2010-

Graduate Student Supervision

At Fermilab

Brent May, University of Arizona (Ph. D.), 1994
Tracy Thomas, Northwestern (Ph. D.), 1997
Jill Perkins, University of Texas at Arlington (Ph.D.), 1998
Kristal Mauritz, Iowa State University (Ph. D.), 1999
Linda Coney, Notre Dame (Ph. D.), 2001

At UTA

Ian Howley, Ph. D. student, September 2008-present.
Arnab Pal, Ph. D. student, June 2006-present.
Shane Spivey, M.S. student, January 2007-August 2008.
Pedro Duarte, M.S. student, "QUARTIC, an Ultra-fast Time-of-flight Counter," Awarded Masters, August 2007.
Petra Krivkova, Ph.D. student, June 2000-Sep. 2001
Michael Strang, Ph.D student, "First Observation of Dijet Events with an Antiproton Tag at $\sqrt{s} = 1.96$ TeV Using the DØ Forward Proton Detector," Awarded Ph.D. August 2005.

Post-Doctoral Supervision

Christophe Royon (Ph.D. Physicist), March 2000-July 2002
Lionel Peyrichoux (Engineer), June 2000-August 2001
Pierrick Hanlet (Ph.D. Physicist), July 2001-May 2002
Carlos Avila (Ph.D. Physicist), June-November 2002, June-August 2003
Ricardo Ramirez (Engineer), April 2002-August 2003
Daniel Mendoza (Engineer), July-December 2003
Duncan Brown (Ph.D. Physicist), May 2004-May 2007
Edward Sarkisyan-Grinbaum (Ph.D. Physicist), Feb. 2008-

Masters Defense Committees

1. Barry Spurlock, "Intercalibration of Photomultiplier Tube Test Benches through Precision testing of their Internal Photodiodes," November 2001.

2. Nevzat Guler, "Performance Characterization of the Silicon Microstrip Detectors of PP2PP Experiment," December 2001.
3. Shahnoor Habib, "Simulation studies of a new digital hadronic calorimeter using Gas Electron Multiplier (GEM)," June 2003.
4. Venkatesh Kaushik, "Performance of Novel Digital Hadron Calorimeter Using Gas Electron Multiplier (GEM) and the Energy Flow Algorithm Development," April 2004.
5. Pedro Duarte, "QUARTIC, an Ultra-fast Time-of-flight Counter," July 2007.

Ph. D. Defense Committees

1. Michael Strang, "First Observation of Dijet Events with an Antiproton Tag at $\sqrt{s} = 1.96$ TeV Using the DØ Forward Proton Detector," July 2005.
2. Barry Spurlock, "Extra Dimensions," May 2007.
3. Venkatesh Kaushik, "A Search for the Higgs Boson in Associated Production with a W Vector Boson in $p\bar{p}$ Collisions at $\sqrt{s} = 1.96$ TeV."

Service

Undergraduate Advisor Sep. 2004–present
 Graduate Studies Committee Sep. 1999–present
 Science Hall Renovation Committee (Chairman) Sep. 2004–present
 Class Schedule Committee Sep. 2004–present
 Undergraduate Curriculum Committee Sep. 2004–present
 Undergrad Recruitment and Retention Committee Sep. 2004–present
 Strategic Planning Committee Jan. 2005–present (Chairman Fall 2007, Fall 2008–)
 Campus Master Planning Subcommittee Sep. 2006–2008.
 HEP Search Committee Sep. 2006–May 2007
 Nano-bio Search Committee Sep. 2005–May 2006
 University Hearing Panel Mar.–May 2006
 Competitive Hire Committee (Chairman) Jan. 2005–Sep. 2005
 College of Science Strategic Planning Committee Jan. 2003–Sep. 2005
 Physics Representative for Research Day Oct. 2005
 Tenure and Promotions Committee Sep. 2004–Aug. 2005
 Graduate Recruitment Committee Jan. 2002–Aug. 2004
 Departmental Building Committee (Chairman) Sep. 2001–Aug. 2004
 Public Relations Officer Sep. 1999–2004
 Library Committee Sep. 1999–2001
 Graduate Admissions Committee Sep. 2000–2003
 Colloquium Committee (Chairman) Sep. 2000–2002
 Colloquium Committee Sep. 2002–Aug. 2003
 Chemical Safety Officer Sep. 2000–2002
 Junior Faculty Roundtable 2001–2002