

## CURRICULUM VITA

**NAME:** Wesley H. Smith

**BIRTHDATE:** June 14, 1954

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**EDUCATION:** A.B./A.M. in Physics, Harvard University 1976  
Ph.D. in Physics, University of California at Berkeley 1981

**AWARDS:** National Science Foundation Presidential Young Investigator Award 1984  
Exxon Education Foundation Award 1984  
Department of Energy Outstanding Junior Investigator Award 1987  
Vilas Associate, University of Wisconsin 1995  
Election to Fellowship, American Physical Society 1996  
WARF Kellet Mid-Career Faculty Researcher Award, U. Wisconsin 1999  
Named Professorship, University of Wisconsin - Madison 2006

**EXPERIENCE:** Research Associate, Columbia University 1981  
Assistant Professor, Columbia University 1982  
Associate Professor, Columbia University 1987  
Associate Professor, University of Wisconsin - Madison 1988  
Professor, University of Wisconsin - Madison 1992  
Bjorn Wiik Professor of Physics, University of Wisconsin - Madison 2006  
Professor Emeritus, University of Wisconsin - Madison 2018

### **PROFESSIONAL SERVICE:**

- Organizer, APS Washington Meeting. 1985-86
- Tevatron Association of Fixed Target Spokespersons (Fermilab). 1986-88
- Spokesman, Fermilab E-770: CCFR Neutrino Experiment. 1986-98
- Panel Member, NSF Physics Division Research Experiences for Undergraduates Program Advisory Board. 1987
- Chairman, NSF Physics Division Research Experiences for Undergraduates Program Advisory Board. 1988
- Organizer, FNAL Conference on New Directions in Neutrino Physics 1988
- Panel Member, NSF Presidential Young Investigator Advisory Board. 1988
- Referee Physical Review & Physical Review Letters. 1988-

- Technical Coordinator (Trigger), Zeus Experiment, DESY, Hamburg. 1988-93
- International Advisory Committee, Neutrino '90 Conference, CERN, Switzerland. 1989
- Deputy Spokesman, Fermilab E-790: Zeus Barrel Calorimeter Test. 1989-91
- Panel Member & Session Chair, R & D Triggering and Data Acquisition Systems for SSC Experiments 1990
- Reviewer, Nuclear Science Symposium of the IEEE. 1990-
- Technical Board Member & Technical Steering Committee Chairman Solenoidal Detector Collaboration, SSC 1990-93
- Regional Coordinator, National SSC Coalition. 1991-93
- Program Chairman, IEEE Nuclear Science Symposium, Orlando, FL. 1992
- Scientific Spokesman, Trigger System, Solenoidal Detector Collaboration, SSC. 1992-93
- Chair, Director's Review of D0 Computing, Fermilab, IL. 1993
- Trigger Convener, Zeus Experiment, DESY, Hamburg. 1993-07
- National Science and Engineering Research Council Review of the HERMES Experiment, TRIUMF, Vancouver, Canada. 1993
- Convener, QCD Working Group, American Physical Society Division of Particles and Fields Panel on Long Term Planning 1994
- Organizer, DPF Workshop on QCD, Madison, WI. 1994
- U.S. Coordinator, Trigger System, Compact Muon Solenoid Detector, CERN. 1994-97
- Session Chair, Workshop on LHC Computing, International Conference on Computing in High Energy Physics. 1994
- U.S. Management Board, Compact Muon Solenoid Detector, CERN. 1994-
- Project Manager, Trigger System, Compact Muon Solenoid Detector, CERN. 1994-07
- LHC Electronics Review Board, CERN. 1994-96
- Management Board, Compact Muon Solenoid Detector, CERN. 1994-
- Organizing Committee, Topics in Particle Physics with CMS, UCLA. 1995
- Proposal Reviewer, Department of Energy 1995-
- Proposal Reviewer, National Science Foundation 1995-
- Chair, U.S. Zeus Executive Committee, DESY 1995-97
- Organizing Committee, Conf. on Electronics for LHC Experiments, Lisbon, Portugal. 1995
- Zeus Planning Group, DESY 1995-97
- Zeus Executive Committee, DESY 1995-
- Department of Energy High Energy Physics subpanel on Accelerator-Based Neutrino Oscillation Experiments 1995
- Department of Energy High Energy Physics Advisory Panel 1995-98
- National Science Foundation High Energy Physics Review Panel 1995-96
- Advisory Committee, Division of Particles and Fields Sessions at 1996 American Physical Society Meeting, Indianapolis, IN 1995-96
- Organizing Committee, 1996 Meeting of the Division of Particles and Fields, Minneapolis, MN 1995-96
- Convener, QCD Working Group, Division of Particles and Fields Study of New Directions in Particle Physics, Snowmass, CO 1996
- LHC Electronics Board, CERN. 1996-01

- Organizing Committee and Panel Member, Second Conference on Electronics for LHC 1996 Experiments, Balaton, Hungary
- Organizing Committee and Session Chair, Third Conference on Electronics for LHC 1997 Experiments, London, England
- Level 2 Manager, Trigger Systems, US. Project for the Compact Muon Solenoid Detector, 1997-CERN.
- Steering Committee, Compact Muon Solenoid Detector, CERN. 1997-06
- Chair and Organizer, International Meeting of the CMS Collaboration in Madison 1997
- Session Chair & Presenter, DoE Office of Energy Research Scientific Themes Conference 1998
- Department of Energy Outstanding Junior Investigator Selection Panel. 1998-99
- American Physical Society Division of Particles & Fields Nominating Committee 1998-99
- Member, US-CMS Project Management Group 1998-
- Organizing Committee and Session Chair, Fourth Conference on Electronics for LHC 1998 Experiments, Rome, Italy
- Zeus Editorial Panel, DESY 1998-
- Chair, Organizing Committee, Fifth Conference on Electronics for LHC Experiments, 1999 Snowmass, CO.
- Chair, American Physical Society Division of Particles & Fields Nominating Committee 1999
- Co-Chair, Aspen Winter Conference on Particle Physics 2000
- Organizing Committee and Session Chair, Sixth Conference on Electronics for LHC 2000 Experiments, Krakow, Poland
- Member, Department of Energy Trans-Atlantic Network Committee 2001
- Organizing Committee and Session Chair, Seventh Conference on Electronics for LHC 2001 Experiments, Stockholm, Sweden
- Particle Physics and Technology Working Group Convener, American Physics Society 2001 Summer Study on the Future of Particle Physics, Snowmass, CO.
- Member, CMS Electronics Systems Steering Committee 2001-
- Organizing Committee and Session Chair, Eighth Conference on Electronics for LHC 2002 Experiments, Colmar, France.
- Executive Committee, US LHC Collaborators Organization 2002-
- Member, Ad-Hoc Working Group on LHC Experiment-Machine Parameter and Signal 2002-3 exchange, CERN
- Chair, U.S. Zeus Executive Committee, DESY 2003-6
- Organizing Committee, Ninth Conference on Electronics for LHC Experiments, 2003 Amsterdam, Netherlands.
- Member, LHC Experiment Machine Data Exchange Working Group, CERN 2003-
- Consultant, Annual DoE Review of Fermilab 2003
- Member, Machine Experiment Interface Working Group, European Steering Group on 2003-4 Accelerator R&D
- Organizing Committee and Session Chair, Ninth Conference on Electronics for LHC 2003 Experiments, Amsterdam, Netherlands.
- Consultant, Annual DoE Review of Fermilab 2004
- Organizing Committee and Session Chair, Tenth Conference on Electronics for LHC 2004 Experiments, Boston, MA.
- Conference Chairman, 13<sup>th</sup> International Workshop on Deep Inelastic Scattering, (DIS'05) 2005 Madison, WI.

- Organizing Committee and Session Chair, Eleventh Conference on Electronics for LHC Experiments, Heidelberg, Germany 2005
- NSF Review Panel, Center for the Study of the Origin and Structure of Matter, Hampton College, VA. 2005
- Proposal Reviewer, Israeli Science Foundation 2005-
- Fermilab Remote Operations Center Review Committee 2005
- CMS SLHC Upgrade Steering Group 2005-
- Task Manager & Principle Investigator High Energy Physics Grant, UW-Madison 2005-
- International Advisory Committee, 14<sup>th</sup> International Workshop on Deep Inelastic Scattering, Tsukuba city, Japan. 2006
- Member, Zeus Planning Group, DESY 2006-7
- Referee, Journal of High Energy Physics 2006-
- Organizing Committee and Session Chair, Twelfth Conference on Electronics for LHC Experiments, Valencia, Spain 2006
- Vice-Chairman, Department of Energy and National Science Foundation High Energy Physics Subpanel on the University Research Program 2006-7
- Referee, Journal of Measurement Science and Technology (Institute of Physics) 2006-
- Organizing Committee, Workshop on R&D for the SLHC, CERN. 2007
- International Advisory Committee, 15<sup>th</sup> International Workshop on Deep Inelastic Scattering, Munich, Germany. 2007
- Organizing Committee and Session Chair, Topical Workshop on Electronics for Particle Physics, Prague, Czech Republic. 2007
- CMS Trigger Coordinator 2007-12
- CMS Executive Board Member 2007-12
- Chair, CMS SLHC Calorimeter Trigger Workshop, U. Wisconsin, Madison WI 2007
- LHeC Steering Committee member, CERN. 2007-10
- Panel Member, HEP University Funding, Aspen Winter Conference on Particle Physics 2008
- Co-Chair, CMS SLHC Trigger Workshop, École Polytechnique, Paris. 2008
- Organizing Committee, Topical Workshop on Electronics for Particle Physics, Naxos, Greece 2008
- International Advisory Committee, 16<sup>th</sup> International Workshop on Deep Inelastic Scattering, London, England. 2008
- Chair, CMS Upgrade Peer Review Panel 2008-13
- Member, CMS Upgrade Management Board 2008-11
- Reviewer, United States – Israel Binational Science Foundation 2008-
- Organizing Committee and Session Chair, Topical Workshop on Electronics for Particle Physics, Paris, France. 2009
- International Advisory Committee, 17<sup>th</sup> International Workshop on Deep Inelastic Scattering, Prague, Czech Republic. 2009
- Organizing Committee, ATLAS CMS Electronics for the SLHC (ACES II), CERN 2009

- Organizing Committee and Session Chair, Topical Workshop on Electronics for Particle Physics, Aachen, Germany. 2010
- International Advisory Committee, 18th International Workshop on Deep Inelastic Scattering, Florence, Italy. 2010
- International Referee for the FNRS (National Science Foundation) for French-speaking Belgium 2010-
- US CMS Upgrade Steering Committee 2011-15
- Organizing Committee, ATLAS CMS Electronics for the SLHC (ACES III), CERN 2011
- Organizing Committee and Session Chair, Topical Workshop on Electronics for Particle Physics, Vienna, Austria. 2011
- International Advisory Committee, 19th International Workshop on Deep Inelastic Scattering, Newport News, VA. 2011
- National Advisor, American Physical Society Division of Particles and Fields Taskforce on Instrumentation. 2011
- Reviewer, Physics Letters B. 2011-
- DOE Fusion Energy Sciences Advisory Committee (FESAC) International Collaboration Panel 2011
- Organizing Committee and Session Chair, Topical Workshop on Electronics for Particle Physics, Oxford, England. 2012
- Co-Chair, CMS Trigger Performance & Strategy Working Group 2012-15
- Panel Member, US DOE Review of the US ATLAS Operations Program 2013
- Local Organizing Committee, American Physical Society Division of Particles and Fields Community Summer Study. 2013
- Energy Frontier and Electronics/DAQ Liaison for the Instrumentation Frontier, American Physical Society Division of Particles and Fields Community Summer Study. 2013
- Organizing Committee and Session Chair, Topical Workshop on Electronics for Particle Physics, Perugia, Italy. 2013
- Co-Convener for Trigger, Data Acquisition and Computing, European Committee for Future Accelerators Workshop on the High Luminosity LHC, Aix-les-Bain, France. 2013
- CMS Young Researchers Prize Committee 2013
- Trigger Project Manager, US CMS Upgrade Project 2013-
- US CMS Phase 2 R&D Committee, Trigger & DAQ Subcommittee Chair 2013-14
- Program Committee and Session Chair, Fourth ATLAS and CMS joint workshop on electronics for the High Luminosity LHC (ACES), CERN. 2014
- Organizer and Chair, European Committee for Future Accelerators on the High Luminosity LHC Trigger, Online, Offline and Computing Preparatory Group Workshop, CERN. 2014
- Organizing Committee and Session Chair, Topical Workshop on Electronics for Particle Physics, Aix-en-Provence, France. 2014
- Member, Coordinating Panel for Advanced Detectors (CPAD), Division of Particles and Fields, American Physical Society. 2014-18
- Co-Convener for Trigger, Online, Offline and Computing, European Committee for Future Accelerators Workshop on the High Luminosity LHC, Aix-les-Bain, France. 2014
- Organizing Committee and Session Chair, Topical Workshop on Electronics for Particle Physics, Lisbon Portugal. 2015
- Panel Member, DOE National Laboratory Energy Frontier Program Review 2015
- US CMS HL-LHC Calorimeter Trigger Upgrade Project Manager 2016-18

- Organizing Committee and Session Chair, Topical Workshop on Electronics for Particle Physics, Karlsruhe, Germany. 2016
- Panel Member, DOE Comparative Review of HEP-supported National Laboratory Detector Research and Development 2016
- Panel Member and Reviewer, Canada Foundation for Innovation 2016-
- Referee, Journal of High Energy Physics 2016-
- Panel Member, NSF HL-LHC Detector Upgrade Preliminary Design Review: ATLAS 2017-8
- Panel Member, DOE OHEP Institutional Review of Brookhaven National Lab 2018
- Panel Member, NSF HL-LHC Detector Upgrade Final Design Review: ATLAS 2018-19
- Referee, Research Corporation for Scientific Advancement (Cottrell Scholars) 2018-19

## INVITED TALKS:

### 1982

- Seminar at Stanford Linear Accelerator Summer Institute on Particle Physics: A Search for Neutrino Oscillations with  $\Delta M^2 > 20 \text{ eV}^2$ .

### 1983

- Seminar at Stanford Linear Accelerator Center: Neutrino Production of Charm from the CCFRR Experiment.
- Colloquium at Lawrence Berkeley Lab: Neutrino Production of Charm from the CCFRR Experiment
- Colloquium at CERN: A Search for Inclusive Oscillations of Muon Neutrinos in the Mass Range,  $20 < \Delta M^2 < 900 \text{ eV}^2/c^4$
- Speaker, International Europhysics Conference on High Energy Physics, Brighton, England: A Search for Inclusive Oscillations of Muon Neutrinos in the Mass Range,  $20 < \Delta M^2 < 900 \text{ eV}^2/c^4$

### 1984

- Seminar, University of Maryland: Limits on Muon Neutrino Oscillation.
- Colloquium, Fermilab: Neutrino Production of Dimuons.
- Colloquium, Columbia University: Neutrino Production of Dimuons.
- Speaker, Neutrino '84 Conference, Nordkirchen, Germany: Neutrino Production of Dimuons
- Speaker, Stanford Summer School on High Energy Physics: Neutrino Production of Dimuons.

### 1985

- Colloquium at CERN: Neutrino Production of Dimuons
- Speaker, International Europhysics Conference on High Energy Physics, Bari, Italy: Neutrino Production of Dimuons.
- Speaker, Fermilab Workshop on Gas Calorimetry: Flash ADC Readout of Hadron Showers in Drift Chambers.
- Colloquium, Columbia University: High Energy Neutrino Physics.

### 1986

- Seminar, Michigan State University: Neutrino Production of Dimuons.
- Speaker, Fermilab Workshop on Beam Dump Physics: Beam Dump Physics with the CCFR Detector.
- Speaker, Neutrino '86 Conference, Sendai, Japan: Neutrino Production of Dimuons
- Seminar, Stanford Linear Accelerator Center: Recent Results from the CCFR Neutrino Experiment.
- Speaker, Snowmass Summer Study, Snowmass, CO.: Front End Electronics for the Zeus Calorimeter.
- Colloquium, Zeuthen Institute, East Germany: Recent Results from the CCFR Neutrino Experiment.

### 1987

- Colloquium, Columbia University: Neutrino Production of Dimuons.
- Seminar, University of Wisconsin: Neutrino Production of Dimuons.
- Seminar, Syracuse University: Neutrino Production of Dimuons
- Seminar, University of California, Los Angeles: Neutrino Production of Same Sign Dimuons.
- Seminar, Argonne National Lab: Neutrino Production of Same Sign Dimuons.
- Colloquium, University of California, Los Angeles: Probing the Proton with Lepton Microscopes.
- Speaker, Stanford Summer School on High Energy Physics: Neutrino Production of Same Sign Dimuons.

- Colloquium, DESY, Hamburg, Germany: Neutrino Production of Same Sign Dimuons.

### 1988

- Plenary Speaker, American Physical Society Annual Meeting, Baltimore, MD: Neutrino Production of Dimuons.
- Speaker, Neutrino '88, Boston, MA: Review of Multilepton Production.
- Plenary Speaker, Division of Particles and Fields Summer Study on Physics in the 1990's, Snowmass, CO.: New Particles in ep Collisions.
- Speaker, Workshop on New Directions in Neutrino Physics, Fermilab: Multilepton Production by Neutrinos
- Colloquium, University of Wisconsin: Neutrino Production of Dimuons.
- Colloquium, Los Alamos National Lab, NM: Neutrino Production of Dimuons.
- Seminar, University of Florence, Italy: Neutrino Production of Dimuons.
- Seminar, University of Florence, Italy: New Particles in ep Collisions.

### 1989

- Speaker, Workshop on Triggering and Data Acquisition at the SSC, Toronto, Canada: The Zeus First Level Calorimeter Trigger.
- Speaker, Workshop on Calorimetry for the Superconducting Supercollider, Tuscaloosa, AL.: A Pipelined Calorimeter First Level Trigger.
- Speaker, SSC Workshop on Trigger Algorithms, Berkeley, CA.: Pipelining.

### 1990

- Colloquium, Oxford University, Oxford, England: Recent Results from the CCFR Experiment at FNAL.
- Colloquium, University of Toronto, Toronto, Canada: Recent Results from the CCFR Experiment at FNAL.
- Invited Talk, Neutrino 1990, CERN, Switzerland: Nucleon Structure Functions from  $\nu_\mu - \text{Fe}$  Scattering at the Tevatron.
- Plenary Speaker, Division of Particles and Fields Summer Study on Research Directions for the Decade, Snowmass, CO.: Electron-Proton Collider Experiments and Detectors.
- Colloquium, University of Wisconsin: Probing the Proton with Lepton Microscopes.
- Plenary Speaker, IEEE Nuclear Science Symposium, Washington, DC: High Energy Physics Data Acquisition and Trigger Systems.
- Seminar, University of Michigan, Ann Arbor, MI.: Nucleon Structure Functions from  $\nu_\mu - \text{Fe}$  Scattering at the Tevatron.
- Seminar, University of California, Santa Cruz, CA.: Electron-Proton Collider Experiments and Detectors.

### 1991

- Invited Talk, SSC Physics Symposium, Madison, WI.: The SDC Detector.
- Seminar, Lawrence Berkeley Laboratory, CA.: The Zeus Detector at the HERA ep Collider.
- Invited Talk, Joint International Lepton-Photon Symposium & Europhysics Conference on High Energy Physics, Geneva, Switzerland: Electroweak Results from the CCFR Experiment.
- Invited Talk, Particles and Fields 1991, Vancouver, Canada: The SDC Detector.
- Invited Talk, Particles and Fields 1991, Vancouver, Canada: Electroweak Results from the CCFR Experiment.

### 1992

- Invited Talk, Neutrino '92, Granada, Spain: Neutrino Production of Dimuons at the Fermilab Tevatron.



- Invited Talk, SLAC Summer Institute, Stanford, CA: Neutrino Scattering Results from CCFR.
- Colloquium, University of Wisconsin: Probing Nucleons with High Energy Neutrinos.
- Invited Talk, Computing in High Energy Physics, Annecy, France: The SDC Trigger.
- Invited Talk, Colliding Beam Conference, Yale University, New Haven, CN: New Physics at e-p Colliders.

### 1993

- Seminar, University of Maryland, College Park, MD: Recent Results on ep Scattering from Zeus.
- Invited Talk, SSC Physics Symposium, Madison, WI.: Recent Results on ep Scattering from Hera.
- Seminar, Fermilab, Batavia, IL: Recent Results on ep Scattering from Zeus.
- Seminar, DESY, Hamburg, Germany: Neutrino Scattering Results from CCFR.
- Invited Talk, International Europhysics Conference on High Energy Physics, Marseille, France: Next to Leading Order QCD Analyses of Neutrino Structure Functions and Charm Production.
- Seminar, CERN, Geneva, Switzerland: Neutrino Scattering Results from CCFR.
- Invited Talk, HERA Workshop on Internal Target Physics, DESY, Hamburg, Germany: SSC Electronics Developments.
- Seminar, University of Michigan, Ann Arbor, MI: Neutrino Scattering Results from CCFR.
- Seminar, University of Chicago, IL: Recent Results on ep Scattering from Zeus.
- Seminar, University of Wisconsin, Madison, WI: Neutrino Scattering Results from CCFR.
- Seminar, University of Wisconsin, Madison, WI: Recent Results on ep Scattering from Zeus.

### 1994

- Colloquium, University of Wisconsin, Madison, WI: Probing Hadronic Substructure at HERA.
- Invited Talk, "Physics Doesn't Stop Symposium", Madison, WI.: Recent Results from HERA.
- Seminar, University of Iowa, Iowa City, IA: Neutrino Scattering Results from CCFR.
- Invited Talk, Eighth Meeting of the Division of Particles and Fields, Albuquerque, NM: The Level-1 Calorimeter Trigger for the CMS Detector.
- Invited Talk, Eighth Meeting of the Division of Particles and Fields, Albuquerque, NM: Recent Results from the CCFR Neutrino Experiment at the Tevatron.
- Invited Talk, Eighth Meeting of the Division of Particles and Fields, Albuquerque, NM: Measurement of the Proton Structure Function  $F_2$  from the 1993 HERA Data.
- Colloquium, Florida State University, Tallahassee, FL: Recent Results on ep scattering from ZEUS.

### 1995

- Invited Talk, Topics in Particle Physics with CMS, University of California, Los Angeles, CA: Triggering the CMS Detector.
- Invited Talk, First Workshop on Electronics for LHC Experiments, Lisbon, Portugal: CMS Calorimeter Circuits.
- Seminar, University of California at Davis: Recent Results on ep Scattering from Zeus.
- Invited Talk, IEEE Nuclear Science Symposium, San Francisco, CA: CMS Calorimeter Circuits.
- Invited Talk, Detector Data Link Workshop, CERN, Switzerland: CMS Trigger Level-1 Links.

### 1996

- Invited Plenary Talk, Division of Particles and Fields 1996 Summer Study on New Directions in Particle Physics, Snowmass, CO: QCD Working Group Report.
- Two Invited Lectures, Stanford Summer Institute on Particle Physics, Stanford, CA: QCD with ep Colliders.
- Invited Talk, Second Workshop on Electronics for the LHC, Balatonfured, Hungary: CMS Calorimeter Trigger Implementation and Performance.
- Colloquium, University of Wisconsin: QCD Studies at HERA.

- Seminar, University of Chicago: QCD Studies at HERA.
- Seminar, University of Michigan: QCD Studies at HERA.
- Seminar, University of California, Los Angeles: Measurements of Photoproduction and Diffraction at HERA.
- Colloquium, University of California, Los Angeles: QCD Studies at HERA.

#### **1997**

- Invited Talk, International Workshop on LHC-CMS, Kaist, Taejon, Korea: The CMS Trigger.
- Invited Talk, Third Workshop on Electronics for the LHC, London, England: High-speed Data Processing for CMS Calorimeter Trigger.
- Colloquium, Northwestern University, Evanston, IL: ep Collisions with the Zeus Detector at HERA.

#### **1998**

- Seminar, Michigan State University, Lansing, MI: ep Collisions with the Zeus Detector at HERA.
- Invited Talk, Fourth Workshop on Electronics for the LHC, Rome, Italy: CMS Calorimeter Trigger Receiver System.
- Seminar, Rice University, Houston, TX: CMS and Heavy Ions.
- Seminar, MIT, Boston, MA: Triggering High Energy Physics Experiments.

#### **1999**

- Invited Talk, UW-Madison Physics Department Centennial Celebration: High Energy Physics in the Next Millennium.
- Seminar, University of Florida, Gainesville, FL: ep Collisions with the Zeus Detector at HERA.

#### **2000**

- Invited Talk, Sixth Workshop on Electronics for the LHC, Krakow, Poland: CMS Regional Calorimeter Trigger High Speed ASICs.
- Plenary Speaker, IEEE Nuclear Science Symposium, Lyon, France: LHC Data Acquisition and Trigger Systems.
- Plenary Speaker, Workshop on Physics with CMS, Bombay, India: CMS Trigger

#### **2001**

- Plenary Speaker, Vienna Conference on Instrumentation, Vienna, Austria: LHC Trigger Systems.
- Invited Talk, HEPAP Subpanel on Long Range Planning, Arlington, VA: Particle Physics and Technology
- Invited Talk, Seventh Workshop on Electronics for the LHC, Stockholm, Sweden: CMS regional calorimeter Trigger Jet logic

#### **2002**

- Invited Talk, Eighth Workshop on Electronics for the LHC, Colmar, France: Tests of the CMS Level-1 Regional Calorimeter Trigger Prototypes

#### **2003**

- Seminar, Imperial College, London, England: Triggering on Discovery Physics at the LHC.
- Seminar, Universidad Autonoma de Madrid, Spain: Triggering on Discovery Physics at the LHC.
- Invited Talk, Ninth Workshop on Electronics for the LHC, Amsterdam, Netherlands: Full Crate Tests of the CMS Level-1 Regional Calorimeter Trigger

#### **2004**

- Invited Plenary Talk, New Results from ZEUS, 12<sup>th</sup> International Workshop on Deep Inelastic Scattering (DIS '04), Strbske Pleso, Slovakia.
- Invited Plenary Talk, Tenth Workshop on Electronics for the LHC, Boston, MA.: Trigger and Data Acquisition for the Super LHC.

#### **2005**

- Seminar, Fermilab, Batavia, IL: R&D for the SLHC.
- Seminar, Northwestern University, Evanston, IL: Deep Inelastic Scattering.
- Invited Plenary Talk, 2005 International Linear Collider Physics and Detector Workshop, Snowmass, CO.: Physics and Detectors at the LHC and the SLHC

#### **2006**

- Academic Lecture, Fermilab, Batavia, IL: CMS Trigger and Data Acquisition.
- Academic Lecture, CERN, Geneva, Switzerland: SLHC Trigger and Data Acquisition
- Invited Plenary Talk, Pheno 06, Madison, WI: New Physics Searches at HERA
- Seminar, Cornell University, Ithaca, NY: SLHC R&D for Trigger and Data Acquisition
- Invited Talk, IEEE Nuclear Science Symposium, San Diego, CA: The CMS Regional Calorimeter Electronics Integration.
- Seminar, DESY, Hamburg, Germany: The CMS Trigger

#### **2007**

- Invited Plenary Talk, Aspen Winter Conference on Particle Physics: QCD Results from Colliders
- Invited Plenary Talk, 15<sup>th</sup> IEEE NPSS Real Time Conference 2007, Fermilab, Batavia, IL: CMS SLHC Trigger and DAQ.
- Seminar, Los Alamos National Lab, Los Alamos, NM: CMS SLHC Trigger and DAQ.
- Seminar, Imperial College, London: CMS SLHC Trigger and DAQ.

#### **2008**

- Invited Plenary Talk, Aspen Winter Conference on Particle Physics: The SLHC Program and Detector Upgrades.
- Seminar, University of Chicago, QCD results from HERA.
- Invited Plenary Talk, LHC start-up and Early Data, 16<sup>th</sup> International Workshop on Deep Inelastic Scattering (DIS '08), London, England.
- Academic Lectures: Experimental techniques: Triggers, CERN-Fermilab Joint 2008 Hadron Collider Physics Summer School, Fermilab, Illinois.
- Colloquium; University of New York at Stony Brook: Startup of the Large Hadron Collider.
- Seminar: Triggering the CMS Detector, Los Alamos National Lab, New Mexico.

#### **2009**

- Academic Lecture: The CMS Trigger, US CMS J-Term School, Fermilab, Illinois.
- Seminar: Triggering at CMS, Fermilab, Illinois.
- Invited Plenary Talk: CMS Detector Global Status, Hadron Collider Physics Symposium, Evian, France.

#### **2010**

- Invited Plenary Talk: Trigger & DAQ R&D for high rate experiments, Workshop on Detector R&D, Fermilab, Illinois.
- Invited Plenary Talk: First Year of Collisions with CMS at the LHC, Meeting of the Prairie Section of the APS, Illinois Institute of Technology, Chicago, Illinois.

## **2011**

- Invited Colloquium: Latest Results from CMS at the LHC, Washington University, St. Louis, MO.
- Invited Seminar: Triggering CMS, Texas A&M University, College Station, TX.
- Invited Plenary Talk: Trigger and Data Acquisition, Technology and Instrumentation in Particle Physics, TIPP 2011, Chicago, IL.

## **2012**

- Invited Lecture: Data Selection & Collection: Trigger & DAQ, Excellence in Detector and Instrumentation Technologies symposium, EDIT2012, Fermilab, Batavia, IL.
- Invited Plenary Talk: Upgrade of the LHC Online Systems, Computing in High Energy Physics (CHEP12), New York, NY.
- Invited Lectures: Trigger & DAQ, 2012 CERN-Fermilab Hadron Collider Summer School, Fermilab, Batavia, IL.

## **2013**

- Invited Talk: Triggers for hadron colliders at the energy frontier, Joint CPAD & Community Instrumentation Frontier Workshop at Boulder, CO.
- Invited Talk: Trigger and Data Acquisition Development, APS Division of Particles & Fields (DPF) Community Summer Study (CSS2013), Minneapolis, MN.
- Invited Plenary Talk: Trigger and Data Acquisition at the HL-LHC, European Committee of Future Accelerators (ECFA) 2013 High Luminosity LHC Experiments Workshop, Aix-les-Bain, France.

## **2014**

- Invited Plenary Talk: ATLAS & CMS Trigger Common Issues, ACES 2014 - Fourth Common ATLAS CMS Electronics Workshop for LHC Upgrades, CERN, Geneva, Switzerland.
- Invited Plenary Talk: Trigger challenges and instrumentation developments for HL-LHC, Workshop on Next steps in the Energy Frontier - Hadron Colliders, Fermilab, Batavia, IL.
- Invited Plenary Talk: Level-1 Trigger Hardware at the HL-LHC, European Committee of Future Accelerators (ECFA) 2014 High Luminosity LHC Experiments Workshop, Aix-les-Bain, France.

## **2015**

- Invited Talk: Trigger and Data Acquisition Challenges, Annual Meeting of the Future Circular Collider Study, Washington, DC.

## 2016

- Invited Lectures: Trigger & DAQ, 2016 CERN-Fermilab Hadron Collider Summer School, Fermilab, Batavia, IL.
- Invited Lecture: Trigger & DAQ, 2016 SLAC Summer Institute, Stanford, CA.
- Invited Talk: Overview of the CMS Trigger Upgrade, CPAD Instrumentation Frontier 2016 workshop, Pasadena, CA
- Invited Plenary Talk, Triggering at the HL-LHC: The Main Challenges for ATLAS and CMS, 8<sup>th</sup> Workshop on **IN**telligent, **F**ast, **I**nterconnected and **E**fficient devices for Frontier Exploitation in **R**esearch and **I**ndustry ([INFIERI](#)) Fermilab, Batavia, IL.

## 2017

- Invited Talk: Energy Frontier Needs, New Technologies for Discovery III: The 2017 CPAD Instrumentation Frontier Trigger and Data Acquisition Workshop, University of New Mexico, Albuquerque, NM.

## **GRANTS WHERE PRINCIPAL INVESTIGATOR**

### **Columbia University**

1984-1988 National Science Presidential Young Investigator: 144K.  
1984 Exxon Educational Foundation Presidential Young Investigator:  
10K.  
1986 Sun Microsystems, Inc.: 25K.  
1986 Fermilab: 250K.  
1987 Department of Energy Outstanding Junior Investigator: 50K.  
1988 LeCroy Research Systems: 4K.  
1988 Racal-Redac, Inc.: 10K

### **University of Wisconsin**

1988 National Science Foundation Presidential Young Investigator: 76K  
1988 LeCroy Research Systems: 4K.  
1988 Racal-Redac, Inc.: 10K  
1988 Department of Energy: 50K.  
1988 Apollo Computer, Inc: 41K.  
1988 U. Wisconsin Graduate School: 48K  
1989 Department of Energy (with Don Reeder): 525K.  
1989 U. Wisconsin Graduate School: 18K  
1989 Mentor Graphics, Inc.: 250K  
1990 Department of Energy (with Don Reeder): 495K.  
1990 Department of Energy Supplement: 107K.  
1990 Department of Energy SSC Funding: 50K.  
1990 Racal-Redac, Inc.: 25K.  
1991 Department of Energy (with Don Reeder): 569K.  
1991 Department of Energy Supplement: 1,327K.  
1991 Department of Energy SSC Funding: 26K.  
1991 Texas National Research Lab: 146K.  
1991 U. Wisconsin Graduate School: 13K.  
1991 LBL SSC Funding: 75K.  
1992 Department of Energy (with Don Reeder): 660K.  
1992 Department of Energy Supplement: 1,050K.  
1992 Department of Energy SSC Funding: 170K.  
1992 Texas National Research Lab: 150K.  
1992 U. Wisconsin Graduate School: 12K.  
1993 Department of Energy (with Don Reeder): 830K.  
1993 Department of Energy Supplement: 685K.  
1993 Department of Energy SSC Funding: 263K.  
1993 Department of Energy SSC Funding (w/Reeder): 75K  
1993 Texas National Research Lab: 150K  
1993 U. Wisconsin Graduate School: 8K.  
1994 Department of Energy (with Don Reeder): 850K.  
1994 Department of Energy Supplement: 707K.  
1994 Department of Energy SSC Funding: 126K.  
1994 Department of Energy SSC Funding (with Don Reeder): 40K  
1994 U. Wisconsin Graduate School (with Don Reeder): 18K.  
1994 Department of Energy Supplement: 101K.

1995 Department of Energy (with Don Reeder): 850K.  
 1995 Department of Energy (with Don Reeder): 100K.  
 1995 Department of Energy Suppl. (w/Reeder): 60K.  
 1995 U. Wisconsin Graduate School: 30K.  
 1996 Department of Energy (with Don Reeder): 855K.  
 1996 Department of Energy Suppl. (with Don Reeder): 25K.  
 1996 Department of Energy (with Don Reeder): 143K.  
 1996 Department of Energy (with Don Reeder): 339K.  
 1996 U. Wisconsin Graduate School: 8K.  
 1996 Vilas Associate: 25K.  
 1997 Department of Energy (with Don Reeder): 854K.  
 1997 Department of Energy (with Don Reeder): 130K.  
 1997 Department of Energy (with Don Reeder): 175K.  
 1997 Department of Energy (with Don Reeder): 510K.  
 1997 U. Wisconsin Graduate School: 12K.  
 1997 Vilas Associate: 25K.  
 1998 Department of Energy (with Don Reeder): 837K.  
 1998 Department of Energy (with Don Reeder): 200K.  
 1998 Department of Energy (with Don Reeder): 657K.  
 1998 Argonne National Lab: 38K.  
 1999 Department of Energy (with Don Reeder): 700K.  
 1999 Department of Energy (with Don Reeder): 420K.  
 1999 Department of Energy (with Don Reeder): 470K.  
 1999 Fermilab: 68K.  
 1999 Argonne National Lab: 30K.  
 1999-04 WARF Kellet Mid-Career Faculty Researcher Award: 60K.  
 2000 Department of Energy (with Don Reeder): 665K.  
 2000 Department of Energy (with Don Reeder): 459K.  
 2000 Department of Energy (with Don Reeder): 470K.  
 2000 Fermilab (with Don Reeder): 622K.  
 2000 Department of Energy (with Don Reeder): 35K.  
 2000 Argonne National Lab: 30K.  
 2001 Department of Energy (with Don Reeder): 700K.  
 2001 Department of Energy (with Don Reeder): 482.5K.  
 2001 Department of Energy (with Don Reeder): 504K.  
 2001 Department of Energy (with Don Reeder): 35K.  
 2001 Fermilab (with Don Reeder): 938.9K.  
 2001 U. Wisconsin Graduate School (with Don Reeder, Dasu): 32.5K.  
 2002 Department of Energy (with Don Reeder): 575K.  
 2002 Department of Energy (with Don Reeder): 520K.  
 2002 Department of Energy (with Don Reeder): 193K.  
 2002 Department of Energy (with Don Reeder): 35K.  
 2002 Fermilab (with Don Reeder): 1,128K  
 2002 Wiezmann/Isreal (with Don Reeder) 24K  
 2003 Department of Energy (with Don Reeder): 560K.  
 2003 Department of Energy (with Don Reeder): 635K.  
 2003 Department of Energy (with Don Reeder): 261K.  
 2003 Department of Energy (with Don Reeder): 35K.

2003 Fermilab (with Don Reeder): 621K  
2003 U. Wisconsin Graduate School (with Don Reeder): 28K.  
2003 Weizmann/Israel (with Don Reeder) 7K  
2004 Northeastern University – NSF: 1,743K  
2004 Department of Energy (with Don Reeder): 550K.  
2004 Department of Energy (with Don Reeder): 757K.  
2004 Department of Energy (with Don Reeder): 51K.  
2004 Department of Energy (with Don Reeder): 35K.  
2004 Department of Energy (with Don Reeder): 384K  
2004 Fermilab/Department of Energy (with Don Reeder): 1,035K  
2005 Department of Energy (with Don Reeder): 547K  
2005 Department of Energy (with Don Reeder): 1,176K  
2005 Department of Energy (with Don Reeder): 140K  
2005 Fermilab/Department of Energy (with Don Reeder): 419K  
2005 U. California Los Angeles - NSF: 707K  
2005 National Science Foundation (NSF): 7K  
2005 U. Wisconsin Graduate School: 22K  
2006 Department of Energy: 356K  
2006 Department of Energy: 1320K  
2006 National Science Foundation: 68K  
2006 National Science Foundation: 618K (with Dasu)  
2006 U. Wisconsin Graduate School Named Chair: 75K  
2006 Fermilab/Department of Energy: 82K  
2006 Weizmann/Israel: 10K  
2007 Department of Energy: 100K  
2007 Department of Energy: 1275K (with Dasu, Carlsmith)  
2007 Department of Energy: 359K  
2007 National Science Foundation: 151K  
2007 National Science Foundation: 750K (with Dasu)  
2007 National Science Foundation: 153K (with Carlsmith)  
2007 U. Wisconsin Graduate School: 30K  
2008 Department of Energy: 1433K (with Dasu, Carlsmith)  
2008 Fermilab/Department of Energy: 689K  
2008 National Science Foundation: 470K  
2008 National Science Foundation: 184K(w/ Dasu, Compton, Schulte)  
2008 National Science Foundation: 759K (w/Dasu)  
2008 U. Wisconsin Graduate School: 30K  
2009 Department of Energy: 1517K (with Dasu, Carlsmith)  
2009 Fermilab/Department of Energy: 687K  
2009 National Science Foundation: 547K  
2009 National Science Foundation: 682K (w/Dasu)  
2009 National Science Foundation: 470K (w/Dasu)  
2010 Department of Energy: 1428K (with Dasu, Carlsmith, Herndon)  
2010 Department of Energy: 286K  
2010 National Science Foundation: 470K (w/Dasu, Carlsmith)  
2011 Department of Energy: 1375K (with Dasu, Carlsmith, Herndon)  
2011 National Science Foundation: 868K (w/Carlsmith)  
2011 U. Wisconsin Graduate School: 34K



2012 Department of Energy: 1390K (with Dasu, Carlsmith, Herndon)  
2012 National Science Foundation: 710K  
2012 DOE/NSF Joint CMS Funding: 2000K (with Dasu)  
2013 Department of Energy: 1350K (with Dasu, Carlsmith, Herndon)  
2013 DOE/NSF Joint CMS Funding: 2000K (with Dasu)  
2013 U. Wisconsin Graduate School: 34K  
2014 Department of Energy: 600K (with Dasu, Carlsmith, Herndon)  
2014 Department of Energy: 1110K (with Dasu, Herndon)  
2014 DOE/NSF Joint CMS Funding: 1101K (with Dasu)  
2014 U. Wisconsin Graduate School: 34K  
2015 Department of Energy: 1190K (with Dasu, Herndon)  
2015 DOE/NSF Joint CMS Funding: 1993K (with Dasu)  
2016 Department of Energy: 1190K (with Dasu, Herndon)  
2016 DOE/NSF Joint CMS Funding: 3033K (with Dasu)  
2017 Department of Energy: 1205K (with Dasu, Herndon)  
2017 DOE/NSF Joint CMS Funding: 2500K (with Dasu)  
2018 Department of Energy: 1205K (with Dasu, Herndon)  
2018 DOE/NSF Joint CMS Funding: 1650K (with Dasu)

**TEACHING:**  
**Columbia University**

| Semester   | Course           | Description                        |
|------------|------------------|------------------------------------|
| Fall '82   | Physics 1003     | General Physics for Science Majors |
| Spring '83 | Physics 1004     | " "                                |
| Fall '83   | Physics 1003     | " "                                |
| Spring '84 | Physics 1004     | " "                                |
| Fall '84   | Physics 1003     | " "                                |
| Spring '85 | Physics 1004     | " "                                |
| Fall '85   | Physics 1001     | Physics for Liberal Arts Majors    |
| Spring '86 | Physics 1002     | " "                                |
| Fall '86   | Physics 1001     | " "                                |
| Spring '87 | Physics 1002     | " "                                |
| Fall '87   | On Leave         |                                    |
| Spring '88 | Physics 1004     | General Physics for Science Majors |
|            | Freshman Seminar |                                    |

**University of Wisconsin**

| Semester   | Course      | Description                    |
|------------|-------------|--------------------------------|
| Fall '88   | Physics 623 | Electronic Aids to Measurement |
| Spring '89 | Physics 623 | Electronic Aids to Measurement |
| Fall '89   | Physics 623 | Electronic Aids to Measurement |
| Spring '90 | Physics 623 | Electronic Aids to Measurement |
| Fall '90   | Physics 201 | General Physics                |
| Spring '91 | Physics 201 | General Physics                |
| Spring '91 | Physics 301 | Physics Today*                 |
| Spring '92 | Physics 202 | General Physics                |
| Spring '92 | Physics 301 | Physics Today*                 |
| Fall '92   | Physics 201 | General Physics                |
| Fall '92   | Physics 301 | Physics Today*                 |
| Spring '93 | Physics 202 | General Physics                |
| Spring '93 | Physics 301 | Physics Today*                 |
| Fall '93   | Physics 201 | General Physics                |
| Fall '93   | Physics 301 | Physics Today*                 |
| Spring '94 | Physics 202 | General Physics                |
| Spring '94 | Physics 301 | Physics Today*                 |
| Fall '94   | Physics 201 | General Physics                |
| Spring '95 | Physics 202 | General Physics                |
| Spring '95 | Physics 301 | Physics Today*                 |
| Fall '95   | Physics 201 | General Physics                |
| Spring '96 | Physics 202 | General Physics                |
| Spring '96 | Physics 301 | Physics Today*                 |
| Fall '96   | Physics 201 | General Physics                |
| Spring '97 | Physics 202 | General Physics                |
| Spring '97 | Physics 301 | Physics Today*                 |
| Fall '97   | Physics 201 | General Physics                |
| Spring '98 | Physics 202 | General Physics                |
| Spring '98 | Physics 301 | Physics Today*                 |
| Fall '98   | Physics 201 | General Physics                |

|            |                          |                 |
|------------|--------------------------|-----------------|
| Spring '99 | Physics 301              | Physics Today*  |
| Fall '99   | Physics 201              | General Physics |
| Spring '00 | Physics 202              | General Physics |
| Spring '00 | Physics 301              | Physics Today*  |
| Fall '00   | Physics 201              | General Physics |
| Spring '01 | Physics 202              | General Physics |
| Spring '01 | Physics 301              | Physics Today*  |
| Fall '01   | Physics 201              | General Physics |
| Spring '02 | Physics 202              | General Physics |
| Spring '02 | Physics 301              | Physics Today*  |
| Fall '02   | Physics 201              | General Physics |
| Spring '03 | Physics 202              | General Physics |
| Spring '03 | Physics 301              | Physics Today*  |
| Fall '03   | Physics 201              | General Physics |
| Spring '04 | Physics 202              | General Physics |
| Spring '04 | Physics 301              | Physics Today*  |
| Fall '04   | Physics 201              | General Physics |
| Spring '05 | Physics 202              | General Physics |
| Spring '05 | Physics 301              | Physics Today*  |
| Fall '05   | Physics 103              | General Physics |
| Spring '06 | Physics 103              | General Physics |
| Spring '06 | Physics 301              | Physics Today*  |
| Fall '06   | Physics 103              | General Physics |
| Spring '07 | Physics 104              | General Physics |
| Spring '07 | Physics 301              | Physics Today*  |
| Fall '07   | Physics 103              | General Physics |
| Spring '08 | Physics 104              | General Physics |
| Spring '08 | Physics 301              | Physics Today*  |
| Fall '08   | Sabbatical               |                 |
| Spring '09 | Physics 301 / Sabbatical | Physics Today*  |
| Fall '09   | On Leave                 |                 |
| Spring '10 | Physics 104              | General Physics |
| Spring '10 | Physics 301              | Physics Today*  |
| Fall '10   | Physics 103              | General Physics |
| Spring '11 | Physics 104              | General Physics |
| Spring '11 | Physics 301              | Physics Today*  |
| Fall '11   | Physics 103              | General Physics |
| Spring '12 | Physics 104              | General Physics |
| Spring '12 | Physics 301              | Physics Today*  |
| Fall '12   | Physics 103              | General Physics |
| Spring '13 | Physics 104              | General Physics |
| Spring '13 | Physics 301              | Physics Today*  |
| Fall '13   | Physics 103              | General Physics |
| Spring '14 | Physics 104              | General Physics |
| Spring '14 | Physics 301              | Physics Today*  |
| Fall '14   | Physics 103              | General Physics |
| Spring '15 | Physics 104              | General Physics |
| Spring '15 | Physics 301              | Physics Today*  |

|            |             |                 |
|------------|-------------|-----------------|
| Fall '15   | Physics 103 | General Physics |
| Spring '16 | Physics 104 | General Physics |
| Spring '16 | Physics 301 | Physics Today*  |
| Fall '16   | Physics 103 | General Physics |
| Spring '17 | Physics 104 | General Physics |
| Spring '17 | Physics 301 | Physics Today*  |
| Fall '17   | Physics 103 | General Physics |
| Spring '18 | Physics 301 | Physics Today*  |

\*Course Developed by Prof. Smith

## **COMMITTEE SERVICE**

Columbia:  
Undergraduate Curriculum Committee (5 years),  
Colloquium Committee (2 years, 1 year as Chair)  
Graduate Admissions Committee (1 year)  
Qualifying Exam Committee (1 year)

Wisconsin:  
*Departmental:*  
Long Range Planning (3 years, 1 year as Chair)  
Research Capital Committee (1 year as Chair)  
Promotions Committee (7 years, 2 years as chair)  
Recognition Committee (19 years, 6 years as chair)  
Library Committee (1 year)  
Qualifying Exam Committee (1 year)  
Graduate Admissions Committee (5 years)  
New Staff Committee (16 years, 4 as Chair)  
Salary Committee (7 years, one as Chair)  
Ad Hoc Committee on the Future of the Department (1 year)  
Departmental Review Committee (1 year)  
Capital Exercise Committee (1 year)  
Electronics Shop Committee (1 year)  
Personnel Committee (1 year as Chair)  
Introductory Course, Labs & Lecture Room (2 years as Chair)  
Computing & IT Committee (9 years, 5 years as Chair)  
Personnel Committee (non-faculty) (2 years as Chair)  
Teaching Assistant Policy and Review (3 years, 2 years as Chair)

*University:*  
Physical Sciences Lab Advisory Board (5 years).  
Undergraduate Awards and Research Committee (1 year).  
Responsive Curriculum Committee (1 year).  
Chair, Campus Committee on Research Computing (5 years)

## **OUTREACH**

- July, 1992 Newspaper Column: Wisconsin State Journal.
- March, 1993 Newspaper Column: Wisconsin State Journal.
- March, 1993 Newspaper Column: New York Times.
- August, 1993 Newspaper Column: Chicago Tribune.
- August, 1993 Wisconsin Public Radio Call-in show.
- November, 1993 Wisconsin Public Radio show.
- December, 1993 Newspaper Column: Milwaukee Business Journal.
- November, 1997 WORT Radio Interview.
- April, 2005 Co-Produced “World Year of Physics/Einstein Year” Concert, Mills Hall, UW-Madison
- October, 2005 Article, CERN Courier, “Deep Inelastic Scattering”
- September, 2008 Television & Newspaper Interviews on LHC Startup
- March, 2009 Public Lecture: “The LHC”, Full Speed Ahead After 50 Event, Monona Terrace, Madison.
- May, 2009 Public Lecture: “Angels & Demons: LHC Science Revealed”, Physics Dept., U. Wisconsin. Repeated, July, 2009, UW Extension School.
- February, 2012 NPR Radio Show, “Wyad’Ya Know”.
- July, 2012 Radio Interview: WORT, July 5, 2012  
Television Show: “Live at Five”, WISC-TV, July 6, 2012  
Television Show: “Capital City Sunday”, WKOW-TV, July 8, 2012  
Lecture, UW-Astronomy Research Experiences for Undergraduates program: “The Hunt for the Higgs Boson: The Large Hadron Collider Project at CERN”, July 18, 2012
- October, 2012 Public Lecture: UW Space Place: “Finding the Higgs Boson”, October 9, 2012
- October, 2013 Public Lecture: Physical Sciences Laboratory, Stoughton, WI: “Finding the Higgs Boson”, October 10, 2013
- May, 2014 Invited Lecture: “Finding the Higgs Boson”, Industrial Refrigeration Consortium, Research and Technology Forum, Madison, WI, May 7, 2014
- August, 2017 Invited Discussion: “ART+ Mass”, a dialogue on art as a lens and tool for exploring and documenting new discoveries in particle physics with artist Sonja Thomsen, Madison Museum of Contemporary Art.

## THESIS STUDENTS

*Present thesis students who have not graduated listed by \**

*Students with Profs. Don Reeder (< 1998) or Sridhara Dasu as official advisor listed with †.*

| Name               | Degree | Year | Current Post     | Current Institution            |
|--------------------|--------|------|------------------|--------------------------------|
| Nick Smith         | Ph.D.  | 2018 | Research Asst.   | Fermilab (CMS)                 |
| Tyler Ruggles†     | Ph.D.  | 2018 | Post. Doc.       | Carnegie Energy Innovation     |
| Laura Dodd         | Ph.D.  | 2018 | Physicist        | Northrup-Grumman               |
| Nate Woods         | Ph.D.  | 2017 | Developer        | Cogint                         |
| Devin Taylor†      | Ph.D.  | 2017 | Research Asst.   | U. C. Davis                    |
| Tom Perry          | Ph.D.  | 2016 | Research Asst.   | Florida State U. (CMS)         |
| Aaron Levine†      | Ph.D.  | 2016 | Research Asst.   | Accenture                      |
| Austin Belknap     | Ph.D.  | 2015 | Software Engr.   | Epic Systems                   |
| Isobel Ojalvo      | Ph.D.  | 2014 | Asst. Professor  | Princeton (CMS)                |
| Lindsey Gray†      | Ph.D.  | 2012 | Staff Scientist  | Fermilab (CMS)                 |
| Ian Ross†          | Ph.D.  | 2013 | Software Engr.   | Epic Systems                   |
| Joshua Swanson     | Ph.D.  | 2013 | Post. Doc.       | Brown U. (CMS)                 |
| Michail Bachtis†   | Ph.D.  | 2012 | Asst. Professor  | UCLA (CMS)                     |
| Christos Lazaridis | Ph.D.  | 2011 | Software Engr.   | CERN (CMS)                     |
| Kira Grogg         | Ph.D.  | 2011 | Post. Doc.       | Massachusetts General Hospital |
| Marc Weinberg      | Ph.D.  | 2011 | Post. Doc.       | Florida State U. (CMS)         |
| Mike Anderson†     | Ph.D.  | 2011 | Software Engr.   | Qualcomm                       |
| Jessica Leonard    | Ph.D.  | 2011 | Research Assoc.  | DESY-Zeuthen (CMS)             |
| Homer Wolfe        | Ph.D.  | 2008 | Data Scientist   | CA Technologies                |
| Erik Brownson      | Ph.D.  | 2008 | Post. Doc.       | U. Puerto Rico. (CMS)          |
| Tom Danielson      | Ph.D.  | 2007 | Post Doc         | UC Santa Barbara (CMS)         |
| Adam Everett       | Ph.D.  | 2006 | Physical Sci.    | US Army                        |
| Pat Ryan           | Ph.D.  | 2006 | Post Doc         | Michigan State (ATLAS)         |
| Michele Rosin      | Ph.D.  | 2006 | Post Doc         | U. Glasgow (ZEUS)              |
| Liang Li           | Ph.D.  | 2005 | Assoc. Professor | Shanghai Jiao Tong University  |
| Sabine Lammers     | Ph.D.  | 2004 | Asst. Professor  | U. Indiana (D0 & ATLAS)        |
| Jason Breitweg     | Ph.D.  | 2001 | Software Engr.   | EssNet Deutschland GmbH        |
| Douglas Chapin     | Ph.D.  | 2001 | Software Engr.   | Bank of America                |
| Richard Cross      | Ph.D.  | 2001 | Software Engr.   | Bank of America                |
| Sean Mattingly     | Ph.D.  | 1999 | Software Engr.   | Bank of America                |
| Michael Wodarczyk  | Ph.D.  | 1999 | Yield Engineer   | Intel Corporation              |
| Anthony Vaiciulis  | Ph.D.  | 1999 | Lead Scientist   | FICO                           |
| Timothy Kinnel     | Ph.D.  | 1998 | Info. Mgr.       | Pragmatic Vision Int'l         |
| Haibo Zhang        | Ph.D.  | 1998 | Engineer         | Caterpillar Corporation        |
| Sam Silverstein†   | Ph.D.  | 1996 | Professor        | Stockholm University (ATLAS)   |
| Bruce Behrens†     | Ph.D.  | 1995 | Res. Analyst     | Center for Naval Analyses      |
| Issam Ali          | Ph.D.  | 1995 | Professor        | University of Oman             |
| Anna Goussiou      | Ph.D.  | 1995 | Professor        | U. Washington (D0 & ATLAS)     |
| Pamela Sandler     | Ph.D.  | 1992 |                  |                                |

## U. WISCONSIN PHD THESIS COMMITTEES

*(after 1992)*

| Name                 | Advisor     | Year | Name                 | Advisor    | Year |
|----------------------|-------------|------|----------------------|------------|------|
| Xiangyang Ju         | Wu          | 2018 |                      |            |      |
| Tao Peng             | Balantekin  | 2017 | Laser Kaplan         | Wu         | 2017 |
| Fangzhou Zhang       | Wu          | 2016 | Fuquan Wang          | Wu         | 2016 |
| Yao Ming             | Wu          | 2015 | Hongtao Yang         | Wu         | 2016 |
| Kruse, Amanda        | Pan/Mellado | 2014 | Zaipeng Xie          | Morrow/ECE | 2014 |
| Klukas, Jeff         | Herndon     | 2012 | Wang, Haichen        | Wu         | 2013 |
| Chen, Xin            | Wu          | 2008 | Braun, Jim           | Karle      | 2009 |
| Quayle, Bill         | Wu          | 2008 | Fang, Yaquan         | Wu         | 2008 |
| Kutter, Paul         | Wu          | 2006 | Stradling, Alden     | Wu         | 2008 |
| Mihalyi, Attila      | Wu          | 2005 | Loureiro, Karina     | Wu         | 2006 |
| Ping, Huican         | Erwin       | 2005 | Datta, Mousumi       | Wu         | 2005 |
| Cheng, Baosen        | Wu          | 2005 | Yu, Zhitang          | Wu         | 2005 |
| Liu, Ran             | Wu          | 2004 | Wu, Jinwei           | Wu         | 2004 |
| McNamara, Peter      | Wu          | 2002 | Charles, Eric        | Wu         | 2002 |
| Ferguson, Douglas P. | Wu          | 2001 | Nielsen, Jason       | Wu         | 2001 |
| Ha, Phuoc Dai        | Durand      | 1999 | Wu, Xidong           | Wu         | 2000 |
| Rainwater, David     | Zeppenfeld  | 1999 | Greening, Thomas     | Wu         | 1999 |
| Armstrong, Stephen   | Wu          | 1998 | Alavi-Harati, Ashkan | Erwin      | 1999 |
| Olsen, James         | Carlsmith   | 1998 | Elmer, Peter         | Wu         | 1998 |
| Grahl, James         | Wu          | 1998 | Orejudos, William    | Wu         | 1998 |
| Gao, Yong-Sheng      | Wu          | 1995 | Nachtman, Jane       | Wu         | 1997 |
| Bellantoni, Leo      | Wu          | 1995 | Feng, Zhong          | Wu         | 1995 |
| Riesselmann, Kurt    | Durand, L   | 1994 | Walsh, Arthur M.     | Wu         | 1994 |
| Duff, Adam           | Zeppenfeld  | 1993 | Weber, Frederick     | Reeder     | 1993 |



## Ph.D. Thesis Titles of Thesis Students

| Student                | Year | Title  |
|------------------------|------|--|
| 1. Nick Smith          | 2018 | A Search for new physics in events with a leptonically decaying Z boson and a large transverse momentum imbalance with the CMS Detector at the LHC   |
| 2. Tyler Ruggles†      | 2018 | A Study of the Standard Model Higgs Boson Decaying to a Pair of Tau Leptons with the CMS Detector at the LHC   |
| 3. Laura Dodd          | 2018 | Observation of Standard Model Higgs boson decays to leptons and a search for dark matter with the CMS detector at the LHC.   |
| 4. Nate Woods          | 2017 | ZZ Production in Proton-Proton Collisions at $\sqrt{s}=13$ TeV in Four-Lepton Events using the CMS Detector at the LHC   |
| 5. Devin Taylor†       | 2017 | A search for charged Higgs bosons in multilepton final states with the CMS detector at the CERN LHC  |
| 6. Aaron Levine†       | 2016 | A Search for Lepton Flavor Violating Decays of the Higgs Boson and a Measurement of W Boson Production Using the CMS Detector at the LHC   |
| 7. Tom Perry           | 2016 | A measurement of Wbb production and a search for monophoton signals of dark matter using the CMS detector at the CERN LHC  |
| 8. Austin Belknap      | 2015 | Spin and Parity of the Higgs Boson Near $m_H = 126$ GeV/c <sup>2</sup> in the $H \rightarrow ZZ \rightarrow 4l$ Channel and a Search for a Doubly Charged Higgs with the CMS Detector at the LHC |
| 9. Isobel Ojalvo       | 2014 | Measurement of $W + b\bar{b}$ and a search for MSSM Higgs Bosons with the CMS Detector at the LHC  |
| 10. Joshua Swanson     | 2013 | Search for a Neutral Higgs Boson decaying to Tau Leptons using CMS at the LHC  |
| 11. Ian Ross†          | 2013 | Search for the Higgs Boson and Beyond the Standard Model Physics in ZZ Decays using the CMS Detector at the LHC  |
| 12. Lindsey Gray†      | 2012 | Measurement of Z Cross Section and Limits on Anomalous Triple Gauge Couplings at $\sqrt{s} = 7$ TeV using CMS  |
| 13. Michalis Bachtis†  | 2012 | Heavy Neutral Particle Decays to Tau Pairs at $\sqrt{s} = 7$ TeV with CMS at the Large Hadron Collider   |
| 14. Marc Weinberg      | 2011 | Search for Same-Sign Dilepton SUSY Signatures Using Top-like Decay Events with CMS at the LHC  |
| 15. Christos Lazaridis | 2011 | Jets produced in association with Z-bosons in CMS at the LHC   |
| 16. Jessica Leonard    | 2011 | Z-boson cross section measurement using CMS at the LHC   |
| 17. Mike Anderson†     | 2011 | Photon Production in association with Jets in CMS at the LHC   |
| 18. Kira Grogg         | 2011 | Jets produced in association with W-bosons in CMS at the LHC   |
| 19. Homer Wolfe        | 2008 | Multijet Production in Charged Current Deep Inelastic Scattering with ZEUS at HERA   |
| 20. Eric Brownson      | 2008 | Prompt Photons in Photoproduction and Deep Inelastic Scattering at HERA  |

|                                  |      |   |
|----------------------------------|------|---|
| 21. Tom Danielson                | 2007 | A Measurement of Multijet Production in Low- $x_B$ Neutral Current Deep Inelastic Scattering with ZEUS at HERA                                  |
| 22. Pat Ryan                     | 2006 | Photoproduction of Events with rapidity gaps between Jets with ZEUS at HERA   |
| 23. Adam Everett                 | 2006 | Measurements of Event shapes in Deep Inelastic Scattering with ZEUS at HERA   |
| 24. Michele Rosin                | 2006 | Energy Dependence of the Mean Charged Multiplicity in Deep Inelastic Scattering with ZEUS at HERA   |
| 25. Liang Li                     | 2005 | Three-Jet Production in Neutral Current Deep Inelastic Scattering with ZEUS at HERA   |
| 26. Sabine Lammers               | 2004 | A Study of Parton Dynamics at Low $x$ with ZEUS at HERA   |
| 27. Jason Breitweg               | 2001 | Neutral Current Deep Inelastic Scattering at Large Momentum transfer with ZEUS at HERA  |
| 28. Douglas Chapin               | 2001 | A Measurement of Dijet Production in Neutral Current Deep Inelastic Scattering with HERA at ZEUS.   |
| 29. Richard Cross                | 2001 | A Measurement of the Total Photon-Photon Cross Section at ZEUS  |
| 30. Sean Mattingly               | 1999 | Virtual Photon Structure with ZEUS at HERA  |
| 31. Michael Wodarczyk            | 1999 | Measurement of the $F_2$ Structure Function of the Proton at HERA from 1996 and 1997 ZEUS Data  |
| 32. Anthony Vaiciulis            | 1999 | Observation of Isolated High- $E_\gamma$ Photons in Photoproduction at HERA   |
| 33. Timothy Kinnel               | 1998 | Hadronic Energy Flow in Charged Current Neutrino Scattering   |
| 34. Haibo Zhang                  | 1998 | Measurement of the Positron-Proton Neutral Current Deep Inelastic Scattering Double Differential Cross Section at High $Q^2$                    |
| 35. Sam Silverstein <sup>†</sup> | 1996 | A Search for Non-Resonant Effects of Leptoquarks in Electron-Proton Collisions  |
| 36. Bruce Behrens <sup>†</sup>   | 1995 | Study of the Photon Remnant in Resolved Photoproduction at HERA   |
| 37. Issam Ali                    | 1995 | Measurement of Neutral and Charged Current Deep Inelastic Scattering Cross Sections at Very High $Q^2$  |
| 38. Anna Goussiou                | 1995 | Measurement of the Proton Structure Function $F_2$ and Extraction of the Gluon Density of the Proton at Low $x$ using the ZEUS Detector at HERA |
| 39. Pamela Sandler               | 1992 | Neutrino Production of Same Sign Dimuons at the Fermilab Tevatron   |

### **Postgraduate-Scholars**

| Name              | Position        | Years      | Current Post     | Current Institution     |
|-------------------|-----------------|------------|------------------|-------------------------|
| Isobel Ojalvo     | Postdoc         | 2014-16    | Postdoc          | Princeton U.            |
| Senka Duric       | Postdoc         | 2013-pres. | Postdoc          | U. Wisconsin            |
| Maria Cepeda      | Postdoc         | 2011-pres. | Postdoc          | U. Wisconsin            |
| Evan Friis        | Postdoc         | 2011-2013  | Postdoc          | Google                  |
| Jonathan Efron    | Postdoc         | 2007-2011  | Postdoc          | Cabot Microelectronics  |
| Monika Grothe     | Asst. Scientist | 2003-2013  | Analyst          | Accenture               |
| Armando Lanaro    | Asst. Scientist | 2003-pres. | Senior Scientist | U. Wisconsin            |
| Yongwook Baek     | Postdoc         | 2003-2007  | Asst. Scientist  | Kangnung National U.    |
| Pamela Klabbers   | Asst. Sci.      | 2000-17    | Senior Scientist | U. Wisconsin            |
| Alexandre Savin   | Postdoc         | 2000-pres. | Senior Scientist | U. Wisconsin            |
| Dorian Kcira      | Postdoc         | 2000-05    | Postdoc          | U. Wisconsin            |
| Costas Foudas     | Postdoc         | 1989-2000  | Professor        | U. Ioannina             |
| Sridhara Dasu     | Postdoc         | 1992-2000  | Professor        | University of Wisconsin |
| Torsten Wildschek | Postdoc         | 1998-2000  | Scientist        | Lucent Technologies     |
| William Badgett   | Postdoc         | 1994-1999  | Scientist        | Fermilab                |
| Carrie Fordham    | Postdoc         | 1991-1993  | Deceased         |                         |

### **External Examiner on Ph. D. Thesis Exam**

| Student           | University                     | Date |
|-------------------|--------------------------------|------|
| Emlyn Corrin      | Imperial College, London, UK   | 2003 |
| Monica Vasquez    | University of Madrid, Spain    | 2003 |
| Nils Krumnack     | Hamburg University, Germany    | 2004 |
| Stefanos Dris     | Imperial College, London, UK   | 2006 |
| Ildelfons Magrans | University of Barcelona, Spain | 2008 |

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> 100 of the following papers with more than 100 citations noted by \*.

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2. Observation of  $J/\psi$  (3100) Production by 209 GeV Muons, A.R. Clark *et al.*, Phys. Rev. Lett. **43**, 187 (1979).
3. Cross Section Measurements for Charm Production by Muons and Photons, A.R. Clark *et al.*, Phys. Rev. Lett. **45**, 686 (1980).
4. Limit on T Muoproduction at 209 GeV, A.R. Clark *et al.*, Phys. Rev. Lett. **45**, 686 (1980).
5. Measurement of the Charm Structure Function and its Role in Scale Noninvariance, A.R. Clark *et al.*, Phys. Rev. Lett. **45**, 1465 (1980).
6. Polarization of Muoproduced  $J/\psi$  (3100), A.R. Clark *et al.*, Phys. Rev. Lett. **46**, 2092 (1980).
7. Lower Limit on Neutral Heavy Muon Mass, A.R. Clark *et al.*, Phys. Rev. Lett. **46**, 299 (1981).
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