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## Education:

- Ph.D. in Theoretical Particle Physics, Minor in Mathematics. University of Wisconsin–Madison.
- M.S. in Physics. University of Wisconsin–Madison.
- B.S. in Physics and Mathematics. Duke University, Honors Research Thesis, Graduated with Distinction in Physics; Magna Cum Laude.

## Academic Positions:

- **Southern Methodist University**, Department of Physics, Theoretical Particle Physics  
Assistant Professor: *1991 - 1996.*  
Associate Professor: *1996 - 2003.*  
Professor: *2003 - present.*  
Dedman Distinguished Professor: *2010 - present.*  
Chair: *2001 - 2007 & 2010 - 2015.*  
President, Faculty Senate: *2009 - 2010.*
- **PITT PACC**, *Associate Member*, University of Pittsburgh Pittsburgh Particle Physics Astrophysics and Cosmology Center. *2017 - Present*
- **CERN**, (*Centre Européen pour la Recherche Nucléaire*) Guest Scientific Associate, Theoretical Physics Group & Atlas Collaboration. *July 2007 - Aug. 2008.*
- **Fermilab**, Visiting Scientist, Theoretical Physics Group. *Sept. 1997 - Aug. 1998.*
- **Superconducting SuperCollider Laboratory**, SSC Fellow 1993-94. Physics Research Group, Guest Scientist. *August 1991 to 1994.*
- **University of Oregon**, Institute of Theoretical Science, Theoretical Particle Physics Group. Postdoctoral Research Fellow.
- **Universität Dortmund**, Institut für Theoretische Physik. Visiting faculty member, guest of Prof. E. A. Paschos. *April–May 1989.*
- **Illinois Institute of Technology**, Theoretical Particle Physics Group. Postdoctoral Research Fellow.

- **University of Wisconsin–Madison**, Theoretical Particle Physics Group. Research Assistant.
- **University of Wisconsin–Madison**, Experimental High Energy Physics Group. Research Assistant. Assisted in the preparation of experiment **E609** at Fermilab.
- **Los Alamos Scientific Laboratory**. Undergraduate Research Assistant, Geophysics Group. Developed computer codes to simulate multiphase fluid flow on CDC 7600 and Cray 1 systems. (*Two summers*)
- **Duke University**, Triangle Universities Nuclear Laboratory. Undergraduate Research Assistant. Performed and analyzed a  $^{13}\text{C}(p, \gamma)^{14}\text{N}$  experiment as a portion of Honors Research Thesis.

### Awards, Grants, and Fellowships:

- 2018: Initiated DOE Theory grant at SMU in May 1992. Continued funding from 1992 to present, and supplemental funding for CTEQ related activities at Fermilab. Principal Investigator for Theory Task.
- 2018: 22 of my papers have been designated as “Very well-known” (100+ citations), and four of these have been designated as “Renowned” (500+ citations). (Designations based upon citations as recorded in the inSpires database)
- 2017 Robert S. Hyer Research Award, of the Texas Section of the American Physical Society, graduate mentor award together with graduate student Eric Godat. <https://www.aps.org/units/tsaps/awards/hyer/>
- 2015: Hosted & received grant support for the *XXIII International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS2015)* meeting on the SMU campus in April 2015. Supporting agencies included NSF, DOE, BNL, JLab, Fermilab, DESY, & CERN.
- 2010 SMU Dedman Family Distinguished Professor, (Dedman College SMU)
- 2010 DESY Theorist of the Week: March 2010, (Deutsches Elektronen-Synchrotron) Hamburg, Germany
- 2009 SMU Ford Research Fellowship Recipient
- 2007-08 CERN support for research sabbatical in Geneva, Switzerland
- 2006-08: Received DFG (Deutsche Forschungsgemeinschaft) German Research Foundation fellowship for postdoc Ji-Young Yu.
- 2007 Recipient: Sam Taylor Fellowship.
- 2007 SMU “M” Award: This is the most highly coveted recognition given to students, faculty, staff, and administrators for service to the University.

- 2006 Recipient: University Distinguished Citizen Award.
- 2005: Fellow of the American Physical Society. Elected 2005 “for significant contributions to understanding nucleon structure and heavy quark production in perturbative quantum chromodynamics.” Elected membership limited to 1/2% of APS members.
- 2000 Recipient: SMU President’s Associates Outstanding Faculty Award.
- QuarkNet Grant awarded by DOE and NSF to involve local HS teachers with LHC research. 2000-01. Organized a 2-week workshop for 18 teachers, 4-14 June 2001. Workshops held annually since then.  
[www.physics.smu.edu/~olness/quarknet/](http://www.physics.smu.edu/~olness/quarknet/)
- SSC Fellowship, 1993-94. One of 6 Theory Faculty selected in a nation-wide competition.
- TNRLC Grant to CTEQ Collaboration. 1992-1994.
- H.O.P.E. *Honored on Professor Excellence* Distinguished Honoree Award, Spring 2001. Based on teaching excellence, and selected by SMU student Resident Assistants. I also received the HOPE award in both 1999 and 2000.
- SMU University Research Council Faculty Research Grant.
  - 1994: Research visit to CERN, DESY, Moriond, ITEP, Dubna.
  - 1999: Research visit to 13’t H Adron Collider Workshop, Mumbai, India.
  - 2004: Research visit to CERN Les Houches Workshop.
  - 2017: PDF-Lattice QCD conference organization at Oxford University, UK.
- SMU Instructional Technology Grant to develop Mathematica tools for the physics curriculum, 1993.
- National Science Foundation Scholarship to attend *Theoretical Advanced Study Institute in Elementary Particle Physics*, Yale University, June 9–July 5, 1985.
- Graduate School Dean’s Fellowship, University of Wisconsin–Madison, 1983–84. One of ten selected in a university-wide competition.
- Associated Universities Incorporated Scholarship, awarded through Brookhaven National Laboratory, 1976–1980. One of ten selected in a merit competition.

## Recent Professional Activities:

- **Invited Plenary Speaker**, Electron Ion Collider (EIC) Users Group Meeting, 30 July – 2 August, 2018. The Catholic University of America, Washington DC. *CTEQ and PDFs in the EIC era*.
- **Co-Convener**: Parton Distribution Functions (PDFs) working group.  
*LHeC Physics Programme Study Group*, (2014– Present)  
*This study group is commissioned by the CERN International Advisory Committee to formulate a program for the future colliders.*  
**Workshop**: Electrons for the LHC - LHeC/FCCeh and Perle Workshop.  
27-29 June 2018, Laboratoire de l'Accélérateur Linéaire (LAL) Orsay, France.
- **Workshop organization**: *Workshop on the LHeC and FCC-eh*,  
11-13 September 2017, CERN, Geneva, Switzerland.  
<http://indico.cern.ch/event/639067/>
- **Workshop Organizer**, Parton Distribution and Lattice Calculations in the LHC era.  
Oxford University, UK. 22–24 March 2017.  
The conference white-paper has been accepted for publication in  
*Progress in Particle and Nuclear Physics*.
- **xFitter Developer Team**: Member, Open-source PDF analysis framework.  
2013–Present. ([xfitter.org](http://xfitter.org))
- **Award Selection Committee** for the “Guido Altarelli Award.” (2015–Present)  
The prize is awarded to a Junior Scientist for an outstanding scientific contribution to the field covered by the DIS Conference series.
- **Deep Inelastic Scattering (DIS) Workshop series**:  
Member, International Advisory Committee (IAC) 2012–Present.  
2019: April 8 to 12, 2019, University of Torino, Italy.  
2018: April 16 to 20, 2018, University of Kobe, Japan.  
2017: April 3 to 7, 2017, University of Birmingham, UK.  
2016: April 11 to 15, 2016, DESY Laboratory, Hamburg, Germany.  
2015: April 27 to May 1, 2015, SMU Dallas, TX, USA.  
2014: April 28 to May 2, 2014, Warsaw, Poland.  
2013: April 22-26, 2013, Marseilles, France.  
2012: March 26-30, 2012, Bonn, Germany.
- **Lead Organizer**, 2015 Deep Inelastic Scattering (DIS) Workshop.  
Hosted at SMU, Dallas TX, 27 April – 1 May 2015. [www.dis2015.org](http://www.dis2015.org)

- **Organizing committee**, *Joint CTEQ and POETIC 7 Meeting*  
(7th International Conference on Physics Opportunities at an Electron-Ion-Collider)  
Temple University, November 14-18, 2016
- **CTEQ Collaboration** (Coordinated Theoretical-Experimental Project on QCD).  
Member, 1992–Present.  
Co-Spokesperson, 2010 - 2014. ([www.cteq.org](http://www.cteq.org))
- **CTEQ Summer School & Workshop:**  
Organizing Committee & Lecturer: CTEQ (Coordinated Theoretical-Experimental Project on QCD) Summer School & Workshop. [www.cteq.org](http://www.cteq.org)
  - 2019 CTEQ Summer School: July; University of Pittsburgh, PA, USA
  - 2018 CTEQ Summer School: 18 - 28 June; University of Mayaguez, Puerto Rico, USA
    - *Also presented PDF tutorial.*
  - 2017 CTEQ Summer School: 18 - 28 July; University of Pittsburgh, PA, USA
    - *Also presented 4 introductory lectures.*
  - 2016 CTEQ-MCnet Summer School: 6 - 16 July; DESY Laboratory, Hamburg, Germany
  - 2015 CTEQ Summer School: 7 - 17 July; University of Pittsburgh, PA, USA
  - 2014 CTEQ Summer School: 8 - 18 July; Peking University, Beijing, China
  - 2013 CTEQ Summer School: 7 - 17 July; University of Pittsburgh, PA, USA
  - 2012 CTEQ Summer School: 30 July - 9 August; Lima, Peru
    - *Also presented DIS lectures.*
  - 2011 CTEQ Summer School: 10 - 20 July; Madison, Wisconsin, USA
    - *Also presented heavy quark lectures.*
  - 2010 CTEQ-MCnet Summer School: 26 July - 4 August; Lauterbad, Germany
    - *Also presented 4 introductory lectures.*
  - 2008 CTEQ-MCnet Summer School: 8 - 16 August; Debrecen, Hungary.
- Member, LHC Theory Initiative Steering Committee, (2005-2014).  
Chair: 2006-09 LHC Theory Initiative Fellowship Selection Committee.  
Initiative funded by NSF. <http://lhc-ti.org>
- Organizing Committee: The 27th Texas Symposium on Relativistic Astrophysics, Dallas  
December 8 - 13, 2013.
- Organizing Committee: 2012 International Workshop on Future Linear Colliders (LCWS12),  
University of Texas at Arlington. 22-26 October 2012.
- Session Convener: XIX International Workshop on Deep-Inelastic Scattering and Related  
Subjects (DIS 2011) April 11-15, 2011. Newport News, VA USA
- DESY “Theorist of the Week,” March 2010, Helmholtz Alliance, DESY, Hamburg  
Germany

- Fermilab “Wine & Cheese” Seminar, October 2009.  
*QCD Puzzles, Predictions, & Prognosis: What can  $\nu$  do for you?*
- DOE Site Review Committee: UW-Madison. 14 - 16 May 2007
- Organized and instructed SMU QuarkNet workshop for local High School science teachers.  
*2001 - 2017.*
- Dallas Regional Science Fair, Co-Director. 1000+ seventh through twelfth grade students from Dallas (TEA Region 10) schools will be judged by 300+ judges from area businesses, professional organizations and schools. [www.DallasScienceFair.org](http://www.DallasScienceFair.org)
- “Mathematica for Physics” has been translated into Japanese [ISBN 4-89471-162-1], and the 2nd edition [ISBN 0-201-53796-6] was released in 2002.

## Teaching Experience:

- **2017 Robert S. Hyer Research Award**, of the Texas Section of the American Physical Society, graduate mentor award together with graduate student Eric Godat.  
<https://www.aps.org/units/tsaps/awards/hyer/>
- **Outstanding Faculty Award:** My receipt of the 2000 SMU President's Associates Outstanding Faculty Award was based on both my teaching and research performance.
- **H.O.P.E. Distinguished Honoree Award:** Spring 2001. I also received a H.O.P.E. (Honored on Professor Excellence) Award in both 1999 and 2000. Recipients are selected, based upon teaching excellence, by the SMU student RA's.
- **Music & Physics Course:** In 2000, I developed a novel physics course (PHYS 1320, Music & Physics) in collaboration with Professor Tom Tunks of the Meadows School of Music. We offer this course annually, and is popular with the Meadows students.
- **The Secret City: Los Alamos and the Atomic Age:** In collaboration with Prof. James Hopkins (History), I developed new course for the 2006 Taos Cultural Institute. *"This was the most stimulating and interesting cultural course I've ever taken, and I will encourage my friends to take it next year. I absolutely loved every minute!"*  
Nancy Dedman, participant in the 2006 Los Alamos course.
- **Southern Methodist University:** *Fall 1991 - Present.*  
General Physics 1303 & 1304, 1403 & 1404, Music & Physics 1320, Cosmology & Astrophysics 3368, Methods of Theoretical Physics 4321, Electromagnetism 4392, Solid State Physics 5337, Graduate Classical Mechanics 6321, Particle Physics 7360, Quantum Field Theory 7314.  
*Median score of teaching evaluations by students are consistently 9 or 10 on a scale of 10 (old system), or 3 or 4 on a scale of 4 (new system).*
- **University of Oregon:** *Fall Term 1989.*  
General Physics: Newtonian Mechanics. Enrollment of 208 students; 4 lectures and 2 help sessions per week; supervised 3 graduate teaching assistants; wrote exams and quizzes.  
*Based on formal university survey, received outstanding recommendations from students: rated 4.22 of 5.00; 12 year department average, 3.68 of 5.00.*
- **University of Wisconsin–Madison:** *Fall 1980 - Spring 1982.*  
Teaching Assistant for 4 semesters in General Physics. Taught 4 one hour recitations and 2 three hour labs per week. Approximately 20 students per class.

## Personal Diversions:

- Special presentations of *A Physics Circus*, *Music and Physics: A Harmonic Function*, and lectures on *The Group Theory of Rubik's Cube*. Perform baroque and classical trumpet solos for weddings and other events; play with a brass ensemble. Perform piccolo trumpet solos for church services and weddings including services at SMU's Perkins Chapel.

## Graduate Student Supervision at SMU:

- Director, Graduate Physics Program, 1995-98. I recruited graduate students for our program, and also coordinated the program for the enrolled students.
- B. Alex King, M.S. (1994). Projects: Matrix elements for radiative  $\tau$  decay ( $\tau \rightarrow \nu_\tau \mu \nu_\mu e^+ e^-$ ) with FORM and FeynCalc, and Mathematica notebooks and associated investigations for CTEQ1 PDF code.
- Guoheng Wei, M.S. (1995). Projects: Mathematica Mathlink interface and associated investigations for CTEQ2 PDF code. (M.S. Thesis with Stroynowski.)
- Guanyao Bao, M.S. (1995). Projects: Mathematica notebooks and associated investigations for CTEQ3 PDF code.
- Ge Li, M.S. (1995). Projects: Miscellaneous Mathematica based topics.
- Jian Wang, M.S. (1997). Projects: Choice of initial parameterizations of PDF's for global analysis. (Sec. 2E, hep-ph/9706470)
- Wanjun Yu, M.S. (1997). Projects:  $\{x, Q^2\}$  Kinematic Maps for PDF's. (Sec. 2B, hep-ph/9706470)
- Michael Harris, M.S. (1997). Projects: Miscellaneous Mathematica based topics.
- Elena Magar, (1999-2000). Projects: Mathematica notebooks and associated investigations for CTEQ4 PDF code.
- Tamara Trout, (2000-01). Projects: Mathematica notebooks and associated investigations for CTEQ5 PDF code.  $d\sigma/dP_T$  investigations for neutrino DIS charm production.
- Jack Daeschler, (2001-02). Projects: NLO calculations for heavy quark production at Tevatron Run II.
- Yon Cole, M.S. (2006). Projects: Spin-dependent structure functions ( $g_1$ ) in the asymptotic region.
- Benjamin Clark, Ph.D. (2010-2016) W/Z Distributions at the LHC for Proton and Nuclear Beams
- Eric Godat, Ph.D. (2013-2018) A Study Of The Impact Of  $pPb$  W/Z Data On nCTEQ15 PDF Parton Distribution Functions (PDFs).
- Jesse Kent. (2017–Present) nCTEQ PDF topics.



## Director, SMU Summer STEM Research Program:

**SMU Summer STEM Research Program** is an intensive summer research program for students in STEM fields. This program was initiated by Professor Olness in 2017. The program provides intensive research experience, and this is highly desirable for scholarship applications and graduate school applications. Programs include:

- The University of Glasgow, Scotland. 2017–2019.
- University of Dublin, Ireland. 2018–9.

The program incorporates the **SMU Engaged Learning (EL)** initiative which helps students develop a significant and sophisticated understanding of disciplinary knowledge by putting it into practice while a student at SMU.

Recent Engaged Learning mentored students include:

- Nicole Rueb: *Using Caenorhabditis elegans as a Model Organism for Genetic Screens.*
- Tolulope Salako: *fMRI for neurofeedback of brain state during listening to music.*
- Theresa Lam: *Viruses in freshwater.*
- Elena Skaribas *Glasgow Autism And Intersubject Correlation Of Brain Activity While Watching Dance.*
- Pooja Tewari *Glasgow Viruses and Bacteria in Freshwater: A Historical Record of Past Pollution?*

## Undergraduate Student Supervision at SMU:

- I have organized trips for our physics majors to visit national laboratory facilities including Fermilab (Chicago), SLAC & LBL (San Francisco), and BNL (New York).
- I often teach 3000 level majors courses (including Phys 3320 Music & Physics). This gives me a chance to work with the majors in a small group setting including developing their computational skills using Mathematica and other computer tools.
- Undergraduate Physics Co-Advisor, 1998-2001. During the period 1998-2001, I increased the number of physics majors from 4 to 12. This group of physics students was of exceptional quality, and included seven SMU President's Scholars in their ranks.\* Additionally, Alonso Gutierrez and Michael Shearn were selected in a national competition to receive a prestigious Goldwater Scholarship. Additionally, in 2012 Alonso Gutierrez was selected to receive the SMU Emerging Leader Award.

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\* Anne Burnham, Alonso Gutierrez, April Kramer, Chad Myers, Michael Shearn, Shannon Thornton, and Clifford Yapp.

**Memberships, Review and Editorial Activities:**

- Member of the Coordinated Theoretical/Experimental Project on Quantitative QCD (CTEQ) collaboration  
Co-Spokesperson (2010–2014).
- Member of the xFitter Developer Team  
(2013–Present). <http://www.xfitter.org>
- Member and SMU Institutional Representative, Electron Ion Collider (EIC) Users Group.  
(2017–Present). <http://eicug.org>
- Member, Deep Inelastic Scattering (DIS) Workshop series International Advisory Committee (IAC) 2012-Present.
- Referee for:
  - The Physical Review
  - Physics Letters B
  - European Physics Letters
  - Advances in High Energy Physics
  - Zeitschrift für Physik C
  - Computer Physics Communications
  - Addison-Wesley Publishing Co.
  - John Wiley & Sons Inc. Publishing Co.
- Reviewer for:
  - Department of Energy
  - National Science Foundation
  - U.S. Civilian Research & Development Foundation
- *Memberships:*
  - Sigma Xi Scientific Research Society;
  - American Physical Society;
  - American Institute of Physics.
  - American Association for the Advancement of Science (AAAS) i

**University Service and Committees:**

*Arranged in approximate chronological order.*

- Academic Research Computing Steering Committee. 1994-95
- Director of Graduate Studies in Physics. 1995-1997
- Director of Undergraduate Studies in Physics. 1998-2001
- Commission on Teaching and Learning—Center for Teaching Excellence. 2000-2003, and 2006.
- Dedman College Undergraduate Council. 2000
- Strategic Plan for Informational Technology: Academic and Research Computing. 2001
- SMU Faculty Senate; member 2001-2007;  
Senate Executive Committee (2001-2003);  
Finance Committee (2001-2007).
- Academic and Research Computing Committee (ARCC). (2002-2007)  
Chair (2004-2006).
- University Committee on Informational Technology (UCIT) (2004-2006).
- Dedman College Tenure and Promotion Committee (2003-2005).
- Dedman College Dean's Search Committee (2005-06)
- Upper-class President's Scholars Review Panel (2003-2007).
- Advisor, Dean's Scholars Program (2005-2007).
- School of Engineering Tenure and Promotion Committee (2006-2007).
- Chair, AVP for Research and Dean of Graduate Studies committee (2006-2007).
- APEC, Biology Department Review Panel, 2008-2009.
- SMU Faculty Senate; member 2008-2011;  
Senate Executive Committee (2008-2011);  
President Elect, (2008-2009).  
President, (2009-2010).  
Past-President, (2010-2011).

- Chair, Faculty Senate Research Committee, (2010-2012).
- APEC, Chemistry Department Review Panel, 2011-2012.
- Chair, Department of Physics. 2001–2007, 2010–2015.
- Member, “Second Century Campus Master Plan” Oversight Committee, 2014–2015.
- Member, Operational Excellence for the 2nd Century (OE2C) Travel Initiative Committee. 2014-2015.
- Member, Operational Excellence for the 2nd Century (OE2C) Travel Implementation Team (w/ Concur) 2015.
- Meadows Tenure and Promotion Committee (2015-2016).
- Member: SMU Board of Trustees Building & Grounds Committee. 2013–2016:
- Co-Chair, Campaign Steering Committee for Faculty and Staff, 2012–2015.
- Member, Simmons School Dean’s Search Committee, 2016–2017.
- Director, Physics MS program. 2014–2018.
- Director and faculty adviser, SMU STEM Summer Research Program. 2016-2018.
- Mentor, SMU Engaged Learning Projects: 5 students: 2017-2019
- Member, SMU Education Abroad Council. 2017–Present.
- Co-Chair, Faculty & Staff Giving Campaign Committee. 2015–Present.
- Member, SMU Pony Power Leadership Committee. 2017–Present.

## Books:

- *Mathematica for Physics*, First edition. ISBN 0-201-53796-6. By Robert Zimmerman & Fredrick Olness, published by Addison-Wesley, Reading, MA (1994). Foreword by Stephen Wolfram, creator of Mathematica.
- *Mathematica for Physics*, Japanese translation. ISBN4-89471-162-1.
- *Mathematica For Physics: 2nd Edition*. ISBN 0-201-53796-6. By Robert Zimmerman & Fredrick Olness, published by Addison-Wesley, Reading, MA (2002). Foreword by Stephen Wolfram, creator of Mathematica. The second edition is expanded to include a wider variety of topics in more depth.

This is a textbook designed to incorporate the computer algebra program Mathematica into the core physics curriculum. This book includes solved examples of classic physics problems which will inspire the student to reproduce, modify, and experiment with them. Topics include: Mechanics, Electromagnetism, Quantum Mechanics, Relativity and Cosmology Oscillating Systems, Non-Linear Systems, Discrete Dynamical Systems, Lagrangians and Hamiltonians, and Orbiting Bodies.

An electronic supplement complements the text, and is available at ([mathsource.wri.com](http://mathsource.wri.com) & [www.physics.smu.edu/~olness](http://www.physics.smu.edu/~olness)).

## Publications:

*Arranged in chronological order.*

- 1) *Constraints on the Right  $W$ -Boson Mass in Non-Manifest Left-Right Gauge Theories*, with M. E. Ebel; *Physical Review* **D30**, 1034 (1984).
- 2) *Constraints on the Higgs Boson Masses in Left-Right Electroweak Gauge Theories*, with M. E. Ebel; *Physical Review* **D32**, 1769 (1985).
- 3) *Constraints on Extended Electroweak Theories*,  
Ph.D. Thesis, University Microfilm Inc. (UMI) 85-19780-mc, (1985).
- 4) *Factorization of Helicity Amplitudes in Electroweak Processes*, with W.-K. Tung; *Physical Review* **D35**, 833 (1987).
- 5) *Probing the Tri-Boson Coupling in High-Energy Vector Boson Pair Production*, with W.-K. Tung; *Physics Letters* **B179**, 269 (1986).
- 6) *Probing the Tri-Boson Coupling in High-Energy Vector Boson Pair Production and the Factorization of Helicity Amplitudes*, with W.-K. Tung. Presented at 1986 Workshop at the University of Wisconsin-Madison;  
*Physics Simulations at High Energy*, (ed., V. Barger *et al.*), p. 614, (1986).
- 7) *Strongly Interacting Particles from Cygnus X-3*, with J. C. Collins. Invited talk at 23rd Int. Conf. on High Energy Physics, Berkeley, CA, July 16-23, 1986;  
*Proc. of the XXIII Int. Conf. on High Energy Physics*, (ed., S. C. Loken), p. 1325, (1987).

- 8) *Probing The W - Z Higgs Sector Of Electroweak Gauge Theories At The Superconducting Super Collider*, with J. F. Gunion, *et al.*, 1986 Summer Study at Snowmass, Colorado, 1986;  
*Proc. of 1986 Summer Study on the Physics of the Superconducting SuperCollider*, (ed., R. Donaldson and J. Marx), p. 142 (1987).
- 9) *Intrinsic Polarization of the High-Energy W-Boson Structure Functions*, with J. P. Ralston. 1986 Summer Study at Snowmass, Colorado, 1986;  
*Proc. of 1986 Summer Study on the Physics of the Superconducting SuperCollider*, (ed., R. Donaldson and J. Marx), p. 191 (1987).
- 10) *A Precise Formulation of the Effective-Vector-Boson Method for High Energy Collisions*, with P. W. Johnson and W.-K. Tung. 1986 Summer Study at Snowmass, Colorado;  
*Proc. of 1986 Summer Study on the Physics of the Superconducting SuperCollider*, (ed., R. Donaldson and J. Marx), p. 164 (1987).
- 11) *Production and Detection at SSC of Higgs Bosons in Left-Right Symmetric Theories*, with J. F. Gunion, B. Kayser, R. N. Mohapatra, N. G. Deshpande, J. Grifols, A. Mendez, P. B. Pal. 1986 Summer Study at Snowmass, Colorado;  
*Proc. of 1986 Summer Study on the Physics of the Superconducting SuperCollider*, (ed., R. Donaldson and J. Marx), p. 197 (1987).
- 12) *New Physics from Cygnus X-3*, with J. C. Collins.  
*Physics Letters* **B187**, 376 (1987).
- 13) *The Effective-Vector-Boson Method for High Energy Collisions*, with P. W. Johnson and W.-K. Tung. Presented at *1987 DFP Meeting, Salt Lake City, Utah, January 1987*.  
*Physical Review* **D36**, 291 (1987).
- 14) *Small-x Physics at SSC and the Tevatron*, with W.-K. Tung.  
*Int. Journal of Modern Physics* **A2**, 1413 (1987).
- 15) *Is the Left-Right Higgs Sector Observable?*, with J. Gunion and A. Mendez.  
*Int. Journal of Modern Physics* **A2**, 1085 (1987).
- 16) *Contribution of Transverse Gauge Bosons to Higgs Production and the Equivalent Vector Boson Approximation*, with R. M. Godbole.  
*Int. Journal of Modern Physics* **A2**, 1025 (1987).
- 17) *Charged Higgs Production Cross-Section and Heavy Quark Mass Effects in the QCD-Improved Parton Model*, with W.-K. Tung.  
*Nuclear Physics* **B308**, 813 (1988).
- 18) *Minijets and B-Pairs: Analytic and Numeric Results for Small-x Dominated Processes*, with J. C. Collins and S. Lomatch.  
*Nuclear Physics* **B317**, 617 (1989).

- 19) *When is a Heavy Quark not a Parton?*, with Wu-Ki Tung. Proceedings of the 1988 Lake Louise Winter Institute, Lake Louise, Alberta, Canada, March 1988.  
*Quantum Chromodynamics: Theory and Experiment*, (ed. B. Campbell et. al), p. 515 (1988).
- 20) *Heavy Quarks in the QCD Based Parton Model*, with Wu-Ki Tung. Proceedings of the XXIII'rd Rencontre de Moriond, Les Arcs, France, March 1988.  
*Current Issues in Hadron Physics*, (ed. J. Tran Thanh Van), (1988).
- 21) *Production Mechanisms for Non-Minimal Higgs Bosons at an  $e^+e^-$  Collider*, with J. Gunion, L. Roszkowski, A. Turski, H. Haber, G. Gamberini, B. Kayser, S. Novaes, and J. Wudka.  
*Physical Review* **D38**, 3444 (1988).
- 22) *New Particles in  $ep$  Collisions*, with W. Smith, D. Atwood, A. Caldwell, F. Cornet, G. Couture, M. Drees, W. Frisken, C. Heusch, J. Hewett, B. Irwin, U. Mallik, D. Reeder, T. Rizzo, J. Robinson, K. Sugano, J. Woodside, and D. Zeppenfeld. Proceedings of the Summer Study on High Energy Physics in the 1990s, June 27-July 15, 1988, Snowmass, Colo.;  
*High Energy Physics in the 1990s*, (ed., S. Jensen), p. 195 (1989).
- 23) *Structure Functions and Parton Distributions*, Proceedings of the Summer Study on High Energy Physics in the 1990s, June 27-July 15, 1988, Snowmass, Colo.;  
*High Energy Physics in the 1990s*, (ed., S. Jensen), p. 305 (1989).
- 24) *Higgs Bosons in Left-Right Symmetric Models*, with J. Gunion, J. Grifols, A. Mendez, and B. Kayser.  
*Physical Review* **D40**, 1546 (1989).
- 25) *Understanding QCD at Colliders*, Proceedings of the 1989 Lake Louise Winter Institute, Lake Louise, Alberta, Canada, February 1989;  
*Frontiers in Physics—From Colliders to Cosmology*, (ed., A. Astbury, et. al), p. 383 (1989).
- 26) *When is a Heavy Quark not a Parton? Charged Higgs Production and Heavy Quark Mass Effects in the QCD-Based Parton Model*, with W.-K. Tung. In Proc. of XII Warsaw Symp. on Elementary Particle Physics, Kazimierz, Poland, May 29 - Jun 2, 1989;  
*Frontiers in Particle Physics*, (ed., Z. Ajduk, et. al), p. 375 (1990).
- 27) *Left-Right Symmetric Electroweak Models*, In Proc. of XII Warsaw Symp. on Elementary Particle Physics, Kazimierz, Poland, May 29 - Jun 2, 1989;  
*Frontiers in Particle Physics*, (ed., Z. Ajduk, et. al), p. 602 (1990).
- 28) *Comment on the  $Z \rightarrow \pi^0 \gamma$  and the Axial Anomaly*, with N.G. Deshpande and Palash B. Pal,  
*Physics Letters* **B241**, 119 (1990).
- 29) *Left-Right Symmetric Electroweak Models with Triplet Higgs*, with N.G. Deshpande, J.F. Gunion, and B. Kayser.  
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PoS DIS **2018**, 015 (2018).

## Conference & Summer School Presentation & Organization:<sup>†</sup>

*Arranged in reverse chronological order.*

- INTERNATIONAL WORKSHOP ON DEEP-INELASTIC SCATTERING (DIS) AND RELATED SUBJECTS:

Organizing committee, 2012 - Present.

2012 DIS: Bonn, Germany

2013 DIS: Marseille, France

2014 DIS: Warsaw, Poland

2015 DIS: SMU, Dallas, TX (*Lead Organizer*)

2016 DIS: DESY, Hamburg, Germany

2017 DIS: U. Birmingham, UK

2018 DIS: U. Kobe, Japan

2019 DIS: U. Torino, Italy

- CTEQ SUMMER SCHOOL & WORKSHOP ON QCD AND ELECTROWEAK PHENOMENOLOGY.:

*Chair*, Organizing committee (2012–Present),

2019: July , University of Pittsburgh, Pittsburgh, PA.

2018: June 18-28, University of Puerto Rico, Mayaguez.

*Presenting xFitter Tutorial session*

2017: July 18-28, University of Pittsburgh, Pittsburgh, PA.

*Presented 4 introductory lectures*

2016: July 6-16, Joint DESY–MCnet–CTEQ School, Hamburg, Germany

2015: July 7-18, University of Pittsburgh, Pittsburgh, PA.

2014: July 8-18, Peking University, Beijing, China

2013: July 7-17, University of Pittsburgh, Pittsburgh, PA.

2012: July 30– August 9, Pontifical Catholic University of Peru, Lima, Peru

*Presented DIS lectures*

2011: July 10-20, University of Wisconsin, Madison, WI.

*Presented Heavy Quark lectures*

2010: July 26–August 4, Joint MCnet–CTEQ School; Lauterbad (Black Forest), Germany

*Presented 4 introductory lectures*

2008: August 8-16, Joint MCnet–CTEQ School; Debrecen, Hungary

- EICUGM18.:

Electron - Ion Collider User Group Meeting 2018,

Catholic University of America, Washington DC, 30 July - 3 August, 2018.

*Invited Plenary Presentation:* “CTEQ and PDFs in the EIC era.”

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<sup>†</sup> Published presentations are listed in the publications list.

- **LHEC/FCC<sub>EH</sub> AND PERLE WORKSHOP:**  
LAL/IPN Orsay, France. 27-29 June 2018.  
PDF Sub-Group Co-Convener
- **2018 MITCHELL CONFERENCE:**  
2018 Mitchell Conference on Collider, Dark Matter, and Neutrino Physics.  
The Mitchell Institute, Texas A&M University, College Station, TX. 21-23 May 2018.  
*Invited Plenary Presentation:* “Precision QCD as a window for future discoveries.”
- **DIS2018 WORKSHOP:**  
XXVI International Workshop on Deep Inelastic Scattering and Related Subjects,  
Kobe, Japan, 16-20 April 2018.  
“PDF Flavor Determination and the nCTEQ15 PDFs.”
- **DIS2018 WORKSHOP:**  
XXVI International Workshop on Deep Inelastic Scattering and Related Subjects,  
Kobe, Japan, 16-20 April 2018.  
“Recent QCD results from the xFitter project.”
- **DIS2018 WORKSHOP:**  
XXVI International Workshop on Deep Inelastic Scattering and Related Subjects,  
Kobe, Japan, 16-20 April 2018.  
“Visualizing sensitivity of hadronic experiments to the nucleon structure.”
- **2018 xFITTER WORKSHOP:**  
xFitter Meeting in Krakow, Poland. Krakow University of Technology. 4–7 March 2018.  
“xFitter Beyond LHC.”
- **2018 HEAVY FLAVOR WORKSHOP:**  
2018 Santa Fe Jets and Heavy Flavor Workshop, Hosted by Los Alamos National Laboratory. January  
29-31, 2018 Santa Fe, NM.  
“PDF flavor determination and the nCTEQ15 PDFs.”
- **2017 CTEQ MINI-WORKSHOP:**  
Fermilab, Batavia, IL. 19-20 October 2017.  
“The LHeC and FCC-eh Colliders Workshop at CERN: and other thoughts & ideas.”
- **INSTITUTE FOR NUCLEAR THEORY WORKSHOP:**  
The Flavor Structure of Nucleon Sea. INT Workshop INT-17-68W October 2-13, 2017.  
*Invited Presentation:* “PDF Flavor Determination.”
- **2017 LHEC AND FCC-EH WORKSHOP:**  
CERN, Geneva, Switzerland, 11-13 September 2017.  
“PDF Flavor Determination: Updates from nCTEQ and xFitter.”
- **2017 DIVISION OF PARTICLES AND FIELDS (DPF):**  
Fermilab, Batavia, IL. July 31 – August 4, 2017.  
“PDF Flavor Determination with LHC W/Z production.”

- **LHC AND THE STANDARD MODEL: PHYSICS AND TOOLS:**  
CERN, Geneva, Switzerland, 12 June 2017 to 7 July 2017.  
“PDF Flavor Determination with LHC W/Z production.”
- **ATLAS COLLABORATION: ATLAS Standard Model Group**  
Mini-workshop on QCD Scale Choices. CERN, Geneva, Switzerland, 4 May 2017.  
*Invited Vidyo Presentation:* “Theoretical Jet Uncertainties”
- **DIS2017:** 25th International Workshop on Deep Inelastic Scattering and Related Topics. University of Birmingham, 3-7 April 2017.  
“xFitter Project: an Open Source QCD Fit framework.”
- **DIS2017:** 25th International Workshop on Deep Inelastic Scattering and Related Topics. University of Birmingham, 3-7 April 2017.  
“LHC and its impact on nCTEQ15 PDFs: updates from the nCTEQ collaboration.”
- **PDF & LATTICE WORKSHOP:**  
*Organizing committee,* Parton Distributions & Lattice QCD Workshop,  
Balliol College, Oxford, UK. 22 - 24 March 2017.
- **XFITTER WORKSHOP:**  
xFitter Meeting in Oxford, UK. St Hilda’s College, Oxford, UK 19 - 22 March 2017.  
*Invited Presentation:* “PDF Flavor Determination.”
- **INSTITUTE FOR NUCLEAR THEORY WORKSHOP:**  
Probing QCD in Photon-Nucleus Interactions at RHIC and LHC: the Path to EIC (INT-17-65W)  
February 13 - 17, 2017.  
*Invited Presentation:* “nCTEQ PDFs and heavy quarks”
- **JOINT CTEQ MEETING AND POETIC 7:**  
(7th International Conference on Physics Opportunities at an Electron-Ion-Collider)  
*Member,* Organizing committee, Temple University, November 14-18, 2016  
*Invited Presentation:* “The xFitter Project: an open source QCD fit framework.”
- **UKC016:**  
US-Korea Conference (UKC) Invited lecture:  
*If the Higgs Boson is the answer ..., Theory Update.* Arlington, TX 12 August 2016.
- **KITP WORKSHOP: LHC Run II and the Precision Frontier**  
Kavli Institute for Theoretical Physics, UC Santa Barbara. March 21 - April 8, 2016.
- **PDF4LHC 2016:** *Parton Distribution Function Uncertainties and Nuclear Corrections for the LHC,*  
*PDF4LHC Workshop,* 14 March 2016, CERN, Geneva Switzerland.
- **X-FITTER WORKSHOP:**  
Working group meeting, 18-20 February 2016, Dubna, Moscow, Russia.  
*Invited presentation:* “nCTEQ15 Nuclear PDFs”  
*Invited presentation:* “Heavy Flavors”



- **HEAVY FLAVOR WORKSHOP:**  
Invited presentation on: *Precision QCD: Working with heavy quarks at High Scales & High Orders. Santa Fe Jets and Heavy Flavor Workshop*, 11-13 January 2016.
- **CTEQ:** CTEQ Collaboration Meeting  
Collaboration presentation.  
Fermilab, Batavia, IL. November 5-7, 2015.
- **TXAPS:** Texas APS 2015 Fall Meeting.  
Invited judge for student presentation awards.  
Baylor University, Waco, Texas. October 29-31, 2015
- **INT WORKSHOP:** Institute for Nuclear Theory (INT) Workshop  
Invited presentation on: *Working with heavy quarks at High Scales & High Orders. Intersections of BSM Phenomenology and QCD for New Physics Searches Precision QCD for New Physics Searches*. INT, University of Washington, Seattle. September 14 - October 23, 2015.
- **POETIC6:** The 6th edition of the International Conference on the “Physics Opportunities at an ElecTron-Ion Collider.”  
Invited presentation on: *Frontiers of QCD with Precision nPDFs What lessons can we extract from the last 20 years?*  
Ecole Polytechnique, Palaiseau, France. September 7–11, 2015.
- **QCD@LHC 2015 WORKSHOP:**  
Convener, *Heavy Quarks* session.  
1-5 September 2015 Queen Mary University of London
- **DPS2015:** 2015 Meeting of the APS Division of Particles and Fields.  
Invited presentation on: *Precision QCD for New Physics Searches: Working with heavy quarks at High Scales & High Orders*.  
University of Michigan, Ann Arbor, MI. August 4-8, 2015.
- **LHEC PHYSICS PROGRAMME STUDY:**  
Invited presentation on: “Parton Distributions and the LH(e)C” LHeC Workshop. 24-26 June 2015.  
Chavannes-de-Bogis, Geneva, Switzerland.
- **DIS2015: INTERNATIONAL WORKSHOP ON DEEP-INELASTIC SCATTERING AND RELATED SUBJECTS:**  
*Chair and Lead Organizer:* SMU, Dallas, TX.  
Organized & hosted the DIS2015 international meeting on the SMU campus.  
Chaired both the *Physics Program Committee (PPC)* and the *Local Organizing Committee (LOC)*.
- **ANNUAL MEETING OF THE FUTURE CIRCULAR COLLIDER STUDY:**  
Invited presentation on: “The LHeC: Progress and Challenges for QCD.”  
23-27 March 2015, Washington D.C. (USA)

- **DESY-CTEQ SCHOOL & WORKSHOP:**  
*Proton Structure in the LHC Era - School and Workshop*  
Conference organizer and speaker.  
“Which number of flavours to use for which data? Flavour separation and Strange PDFs.”  
29 September 2014 to 02 October 2014, DESY, Hamburg, Germany
- **GUNIONFEST:**  
“PDFs: From Effective W’s to LHC and Beyond,” Symposium in honor of Prof. John (Jack) Gunion;  
March 28-29, 2014. University of California Davis
- **LHEC WORKSHOP:**  
Invited plenary presentation:  
“Parton Distributions and the LH(e)C” LHeC Workshop. 20-21 January 2014. Chavannes-de-Bogis, Geneva, Switzerland.
- **AFTER WORKSHOP:**  
Invited workshop presentation:  
Introduction to (n)PDF fits. Probing the Strong Interaction at A Fixed Target Experiment with the LHC beams, 12-17 January 2014, Ecole de Physique des Houches, Les Houches, France.
- **HERA FITTER:** 2014 Presentations at working group meeting.  
17 March 2014  
27 May 2014.
- **27TH TEXAS SYMPOSIUM ON RELATIVISTIC ASTROPHYSICS:** ,  
Organizing committee,  
Dallas December 8 - 13, 2013. Hosted by UT Dallas.
- **CTEQ WORKSHOP::**  
Organizing committee,  
*Workshop on QCD Tools for LHC Physics: From 8 to 14 TeV ”What’s needed and why?*, 14-15 November, 2013 Fermilab, Batavia, Illinois, USA.
- **QCD@LHC 2013:**  
Conference Summary Presentation:  
Sept. 2-6, 2013, DESY, Hamburg, Germany
- **LOOPFEST2013:**  
*Participant.* LoopFest XII, 13-15 May 2013, The Florida State University, Tallahassee, Florida.
- **SNOWMASS STUDY2013:**  
*QCD @FSU*, Community Summer Study 2013, 16 May 2013, The Florida State University, Tallahassee, Florida.
- **PHENO2013:**  
*Participant.* Phenomenology 2013 Symposium, 6-8 May 2013, University of Pittsburgh, Pittsburgh, PA.

- RPP 2013:  
Invited Review Talk:  
QCD Review, 16 January 2013.  
Rencontres de Physique des Particules (RPP) 2013, Laboratoire de Physique Subatomique et de Cosmologie (LPSC), Grenoble, France.
- HERA FITTER: 2013 Presentations at working group meeting.  
29 January 2013  
27 February 2013  
26 March 2013  
28 May 2013  
7 August 2013  
9 September 2013  
16 October 2013
- LCWS12: *Heavy Quark Production at Higher Orders: Extrapolation from the massless result.*, 25 October 2012. The 2012 International Workshop on Future Linear Colliders (LCWS12), University of Texas at Arlington.  
Presented conference talk & also workshop organizer. 22-26 October, Arlington, TX.
- QCD @ LHC 2012: *Nuclear PDFs*, 29 August 2012.  
20-24 August, 2012, Michigan State University, East Lansing, MI.
- DIS 2012: *ACOT at N<sup>3</sup>LO*, 28 March 2012  
XX International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS 2012)  
Bonn, Germany, 26-30 March 2012
- SFB/TR9: MINI-WORKSHOP IN KARLSRUHE: *CTEQ parton distribution functions*.  
19-21 March 2012, Karlsruhe, Germany
- HERA FITTER: *Update on the ACOT Calculations for HERA-Fitter*.  
HERA Fitter Collaboration Meeting, Feb. 13-14, 2012. Marseilles, France.
- PROSA COLLABORATION: Presentations & participation at working group meeting.  
18 July 2012  
30 August 2012
- HERA FITTER: 2012 Presentations at working group meeting.  
27 November, 2012  
29 October, 2012  
17 September, 2012  
01 August, 2012  
27 June, 2012  
23 May, 2012  
18 April, 2012  
14 March, 2012

- $p\bar{p}$  WORKSHOP: *Antiproton Drell-Yan Issues and Opportunities*, 18 November 2011.  
*Antiproton Physics at the Intensity Frontier Workshop*, Fermilab, Nov. 18, 2011, Batavia, IL.
- CTEQ/LPC WORKSHOP: PDF Session Organizer, 17 November 2011,  
*Confronting Theory with Experiment: Puzzles, Challenges and Opportunities in the LHC Era*, Fermilab  
17-18 November 2011. Batavia, IL.
- MINER $\nu$ A COLLABORATION: *PDF Issues for MINER $\nu$ A*, 16 November 2011,  
MINER $\nu$ A Collaboration, Fermilab, Batavia, IL.
- TEXAS APS MEETING: *Benchmark processes at LHC*, 7 October 2011,  
2011 Fall Joint Meeting Texas Section of APS and AAPT and Zone 13 SPS. October 06-08, 2011.  
Commerce, TX
- RINGBERG WORKSHOP: *Survey of Heavy Quark Theory Approaches for PDF Analysis*, 26 Sept.  
2011, Ringberg Workshop: New Trends in HERA Physics 2011. September 25-28, 2011. Ringberg Castle,  
Tegernsee, Germany.
- GGI WORKSHOP: *Parton Distribution Function*, Sept. 16,  
GGI Workshop QCD after the start of the LHC.  
September 5-23, 2011, Galileo Galilei Institute, Florence, Italy.
- LOOPFEST 2011: *PDF Issues*, 12 May 2011,  
LoopFest X, Northwestern University, Evanston, IL, May 12-14, 2011.
- DIS 2011: *Heavy Flavors Session Summary (Working Group 5)*, 15 April 2011,  
XIX International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS 2011) April 11-15,  
2011, Newport News, VA USA.
- HERA FITTER: 2011 Presentations at working group meeting.  
12 December, 2011  
23 November, 2011  
19 October, 2011  
13 February, 2011
- LPNHE WORKSHOP, PARIS: *Precision control of the LHC partonic beams using the combined  
LHC and Tevatron data. The role of future DIS initiatives (NuSONG, CERN-SPS, HERA, eRHIC),  
Challenges for Precision Physics at the LHC*, 15-18 December 2010, LPNHE, Paris.  
17 December 2010.
- CTEQ-LPC WORKSHOP: Organizing committee. *Standard Model Benchmarks at the Tevatron  
and LHC*, 19-20 November 2010, Fermilab.

- JLAB HI- $x$  2010 WORKSHOP: *Nuclear parton distributions, 3rd International Workshop on Nucleon Structure at Large Bjorken  $x$* , October 13-15, 2010 Jefferson Lab Newport News, Virginia  
14 October 2010.
- SEATTLE INT WORKSHOP: *Parton distributions for the LHC Gluons and the Quark Sea at High Energies: Distributions, Polarization, Tomography, September 13 - November 19, 2010*. Institute for Nuclear Theory, Seattle Washington.  
15 September 2010
- ATLAS WORKSHOP: Invited Workshop Presentation: Fourth ATLAS Physics Workshop of the Americas August 9 - 11, 2010. *Are we ready to make discoveries at the LHC? W/Z/Higgs Production at the LHC & PDF Uncertainties*, UTA Arlington, TX,  
August 9, 2010.,
- LOOPEFEST IX: *Heavy Quarks in PDFs, LoopFest IX: Radiative Corrections for the LHC and Lepton Colliders*, SUNY Stony Brook, June 21-23, 2010.  
23 June 2010.
- LAPTH WORKSHOP, ANNECY, FRANCE: *A Global Analysis of Nuclear PDFs and the Heavy Quark Components, Workshop on nuclear Parton Distribution Functions*, 22-23 February 2010 LAPTH, Annecy, France.  
23 February 2010.
- LES HOUCHES 2009: *PDF issues for the LHC. Les Houches 2009: Physics at TeV Colliders*, June 13, 2009, Les Houches, France.
- PHENO 2009: *Nuclear PDFs. Pheno 2009 Symposium: LHC Alive!* May 12, 2009, Madison, WI.
- LOOPFEST 2009: *Heavy Quark PDFs. LoopFest VIII: Radiative corrections for the LHC and ILC*, May 9, 2009, Madison, WI.
- RINGBERG 2008: *Nuclear Parton Distribution Functions. New Trends in HERA Physics 2008*, October 5-10, 2008, Schloss Ringberg am Tegernsee, Munich, Germany
- RINGBERG 2008: *Heavy Quarks, New Trends in HERA Physics 2008*, October 5-10, 2008, Schloss Ringberg am Tegernsee, Munich, Germany
- ATLAS WORKSHOP: *W/Z cross section uncertainties and PDF tools. ATLAS Standard Model Meeting & Physics Workshop*:  
9-11 June 2008, CERN, Geneva Switzerland.
- HERA4LHC 2008: *W/Z/Higgs Production at LHC & PDF Uncertainties, HERA4LHC Workshop*, 26-30 May 2008, CERN, Geneva Switzerland.

- DIS 2008: *Parton Distribution Function Uncertainties and Nuclear Corrections for the LHC*, XVI International Workshop on Deep-Inelastic Scattering and Related Subjects, 7-11 April 2008, University College London UK.
- MORIOND 2008: *Parton Distribution Function Uncertainties and Nuclear Corrections for the LHC*, 43rd Rencontres de Moriond: QCD and High Energy Hadronic Interactions, La Thuile, Italy, March 08-15 2008.
- SMU QUARKNET PROGRAM 2007: *Organized Workshop and lectured*, Particle Physics Workshop for 20 High School teachers. /[www.physics.smu.edu/~olness/qnet](http://www.physics.smu.edu/~olness/qnet) SMU, Dallas, TX, 4-8 June 2007.
- SCIENCEFEST 2006: *Symmetries of Physics & Music*. Hosted by the Winston School At UT-Southwestern. 9 November 2006.
- TAOS CULTURAL INSTITUTE: **The Secret City: Los Alamos and the Atomic Age** In collaboration with Prof. James Hopkins (History). Taos. NM. 20-23 July 2006.
- SMU QUARKNET PROGRAM 2006: *Organized Workshop and lectured*, Particle Physics Workshop for 20 High School teachers. /[www.physics.smu.edu/~olness/qnet](http://www.physics.smu.edu/~olness/qnet) SMU, Dallas, TX, 5-9 June 2006.
- PHENO 2006 SYMPOSIUM: *W/Z/Higgs Production at LHC & PDF Uncertainties*, 15-17 May 2006, Madison, Wisconsin
- JLAB NEUTRINO WORKSHOP 2006: *Structure functions and Form Factors: Overview from CTEQ*, Workshop on Intersections of Nuclear Physics with Neutrinos and Electrons May 4-5, 2006. Jefferson Lab, Newport News, VA
- 2006 APS APRIL MEETING: *W/Z/Higgs Production at LHC & PDF Uncertainties*, April 22-25, 2006. Dallas, Texas.

*Presentations prior to 2005 are available upon request*

## Seminar, Colloquium, and Public Lectures

*Arranged in reverse chronological order.*

- **ARGONNE HEP SEMINAR:**  
Argonne National Laboratory, Chicago, IL.  
HEP Seminar: 15 October 2018.  
“PDF Flavor Determination and the nCTEQ PDFs”
- **JAPAN KEK THEORY SEMINAR:**  
The Japan High Energy Accelerator Research Organization (KEK), Tsukuba, Japan.  
Theory Seminar: 13 April 2018.  
“Nuclear PDF Flavor Determination with nCTEQ”
- **JINR, KRAKOW THEORY SEMINAR:**  
Joint Institute for Nuclear Research, Krakow, Poland.  
Theory Seminar: 14 March 2018.  
“PDF Flavor Determination”
- **2018 PHYSICS CIRCUS PRESENTATIONS::**  
9 October 2018: *Northlake Elementary*, (Garland, TX). [Contact: Blair Donnell, brdonnell@garlandisd.net]  
21 May 2018: *Club Hill Elementary 5th Grade*, (Garland, TX)  
[Contact: Julie Kneedler Email: jakneedl@garlandisd.net]  
21 May 2018: *Zion Lutheran Church and School*, (Dallas, TX)  
[Contact: Bruce Boehne Email:bruceboehne@netscape.net]
- **SMU PUBLIC ECLIPSE VIEWING:**  
SMU Physics Department hosts the “Great American Solar Eclipse 2017 viewing.” 21 August 2017.  
<http://blog.smu.edu/research/2017/08/23/total-eclipse-first-day-school/>
- **PENN STATE THEORY SEMINAR:**  
State College, PA 24 April 2017.  
“Precision QCD at the LHC: challenges and opportunities updates from the nCTEQ collaboration.”
- **2017 PHYSICS CIRCUS PRESENTATIONS::**  
10 October 2017: *Northlake Elementary*, (Garland, TX). [Contact: Blair Donnell, brdonnell@garlandisd.net]  
18 May 2017: *Centerville Elementary School*, (Garland, TX) [Contact: Olivia Hester]  
18 May 2017: *Club Hill Elementary 5th Grade*, (Garland, TX) [Contact: Amy Rule]  
18 May 2017: *Zion Lutheran Church and School*, (Dallas, TX) [Contact: Bruce Boehne]
- **MANCHESTER THEORY SEMINAR:**  
University of Manchester, Manchester, UK. 22 April 2016.  
“Things that go bump in the data: Working with heavy quarks at High Scales & High Orders.”
- **UVA COLLOQUIUM:**  
*Things that go bump in the data: QCD Puzzles, Predictions, and Prognoses.*  
University of Virginia, Charlottesville, VA. 29 January 2016.

- **2016 PHYSICS CIRCUS PRESENTATIONS::**
  - 11 November 2016: *SMU Womens Basketball Game*, (Moody Coliseum) [Contact: Trae Roberts]
  - 14 May 2016: *SMU QuarkNet Program*, (Dallas, TX) [Contact: Simon Dalley]
  - 12 May 2016: *Centerville Elementary School*, (Garland, TX) [Contact: Olivia Hester]
  - 12 May 2016: *Club Hill Elementary 5th Grade*, (Garland, TX) [Contact: Amy Rule]
  - 12 May 2016: *Zion Lutheran Church and School*, (Dallas, TX) [Contact: Bruce Boehne]
- **FERMILAB SEMINAR:**

*Precision QCD for LHC New Physics Searches: Working with heavy quarks at High Scales & High Orders.*  
Fermilab, Batavia, IL. 30 July 2015.  
*As part of the Fermilab summer visitors program: 20-31 July 2015.*
- **DIS2015 PUBLIC LECTURE:** Organizer: 26 April 2015.

*If the universe is the answer, what is the question.*  
Guest Speakers: Prof. Joseph Izen (UT-Dallas), Prof. Patrick Skubic (Oklahoma), Prof. Chris Jackson (UT-Arlington), Prof. Stephen Sekula (SMU).
- **2015 PHYSICS SYMPOSIUM:** Symposium Organizer: 12 April 2015.

*Through a Cosmos Darkly The quest to Shine Light on a Dark Universe.*  
Astrophysics, Cosmology, and Dark Matters: Guest Speakers: Prof. Jodi Cooley (SMU), Prof. Robert Kehoe (SMU), Prof. Mustapha Ishak-Boushaki (UTD).
- **BAYLOR COLLOQUIUM:**

*If the Higgs is the answer ...: What's next for the LHC in the upcoming Run 2.*  
Baylor University, Waco, Texas. 1 April 2015.
- **ORSAY LABORATOIRE:**

Divisional Seminar: *Progress & Challenges for QCD*  
Le Laboratoire de l'Accélérateur Linéaire (LAL) Orsay, 4 February 2015.
- **LHEC PHYSICS PROGRAMME STUDY:**

PDF Working Group Report  
20 January 2015. (Reported at CERN remotely)
- **2015 PHYSICS CIRCUS PRESENTATIONS::**
  - 14 May 2015: *Club Hill Elementary*, (Garland, TX) [Contact: Olivia Hester]
  - 14 May 2015: *Zion Lutheran Church and School*, (Dallas, TX) [Contact: Bruce Boehne]
  - 17 December 2015: *Trinity Basin Preparatory*, (Dallas, TX) [Contact: Hannah Moore (SMU Alum)]
- **2014 LIGHTNER SYMPOSIUM:** Symposium Organizer & Speaker. 13 April 2014.

*Symmetries in Science & Symphonies.* Guest Speakers: Prof. Tom Tunks (SMU), Prof. Fredrick Olness (SMU), Prof. Ira Greenberg (SMU), Prof. Martin Sweidel (SMU), Prof. Scott Douglas (SMU),



- HIGHLAND PARK MIDDLE SCHOOL: Career Day Presentation: *From Imagination to Discovery: The Large Hadron Collider Project*, 22 November 2013.
- HIGGS CELEBRATION:: *Celebrating Discovery of the Higgs Boson & Recent Advances in Particle Physics*, Participant, w/ congress visits, Hosted by the APS DPF, Washington, DC, November 20, 2013
- SMU QUARKNET: SMU QuarkNet Program, Guest lecture: *Special and General Relativity*, August 6, 2013.
- 2014 PHYSICS CIRCUS PRESENTATIONS:: 8 August 2014: *SMU Physics QuarkNet Program & UT-Southwestern STARS Program*, (Garland, TX)  
22 May 2014: *Club Hill Elementary*, (Garland, TX)  
08 February 2014: *Grand Prairie Independent School District*, Valerie Thomas,  
21 May 2013: *Club Hill Elementary*, (Garland, TX)  
18 May 2012: *Club Hill Elementary*, (Garland, TX)  
17 August 2012: *The Science/Engineering Magnet High School*, (Dallas ISD)  
8 March, 2012, *Reed Middle School*, (Duncanville, TX)
- CFB3333 GUEST LECTURE: Physics 3333/CFB3333/KNW2333: The Scientific Method - Critical and Creative Thinking Topic: *The Flat Earth*, November 30, 2011  
April 20, 2012  
May 3, 2013  
April 21, 2014  
October 27, 2014
- 2013 LIGHTNER SYMPOSIUM: Symposium Organizer. 7 April 2013.  
Symposium in celebration of the Higgs Boson. Guest Speakers: Prof. Stephen Sekula (SMU), Prof. Patrick Skubic (Oklahoma), Prof. Kaushik De (UTA), Prof. Ryszard Stroynowski (SMU).
- SMU LIBRARY TABLES OF CONTENT:: Annual SMU Library Annual Literati Award Dinner, Table host; topic: *The Higgs Boson*, March 23, 2013
- HIGHLAND PARK MIDDLE SCHOOL: Special Mathematics Presentation: (Host: Ms. Sarah Haigler) *The Shape of Space: Thinking Outside 3-Dimensions*, 20 February 2013.
- SMU SIMMONS SCHOOL WORKSHOP: *The importance of mathematics in STEM education and development*, 15 Feb. 2013.  
SMU Simmons School Workshop: *Bridging Research & Practice: Explore, Participate, Engage*,
- SMU INTERDISCIPLINARY SEMINAR: Organizer. Math: Prof. Daniel Reynolds; Chemistry: Prof. Dieter Cremer; Biology: Prof. John Wise; Physics: Prof. Stephen Sekula; April 30, 2012.
- CFB3333 GUEST LECTURE: Physics 3333/CFB3333/KNW2333: The Scientific Method - Critical and Creative Thinking Topic: *The Flat Earth*, April 20, 2012.
- 2012 LIGHTNER SYMPOSIUM: Symposium Organizer. 15 April 2012.  
Guest Speaker: Prof. Craig Hogan (Fermilab/U. Chicago)

- CPM 2012 @FNAL: Snowmass2013 pre-meeting. *Participant*, Fermilab, Batavia, IL. 10-12 October
- SMU CTE: *Team Teaching*, w/ Prof. Tom Tunks.  
16 August 2012, SMU Center for Teaching Excellence (CTE) Symposium presentation.
- UNT: Colloquium: *Higgs on the Horizon, A collection of interesting puzzles for the LHC*, January 24, 2012. Denton, TX.
- UT-DALLAS: Colloquium: *Higgs on the Horizon, A collection of interesting puzzles for the LHC*, November 9, 2011. Dallas, TX.
- LIGHTNER SYMPOSIUM: Symposium Organizer. 28 April 2011.  
Guest Speaker: Prof. Frank Wilczek (MIT).
- TX A&M COMMERCE: Colloquium: *How Strange is the Proton? A collection of interesting puzzles for the LHC*, January 27, 2011. Commerce TX.
- DESY SEMINAR: *Implementing the ACOT scheme in QCDNUM*, DESY, Hamburg Germany.  
January 13, 2011,
- HIGHLAND PARK MIDDLE SCHOOL: Career Day Presentation: *From Imagination to Discovery: The Large Hadron Collider Project*, 12 November 2010.
- SMU TOWN & GOWN: Public Lecture Presentation: *From Imagination to Discovery: The Large Hadron Collider Project*, 10 October 2010.
- DESY “THEORIST OF THE WEEK” PRESENTATION: *W/Z/Higgs Production at LHC and PDF Uncertainties*, DESY Theorist of the Week Program, 8-12 March 2010. DESY, Hamburg Germany.  
8 March 2010.
- BAYLOR COLLOQUIUM: *How Strange is the Proton? A collection of interesting puzzles for the LHC*, Department of Physics, Baylor University, Waco, TX  
10 February 2010.
- MAINZ SEMINAR: *Are we ready to make discoveries at the LHC? W/Z/Higgs Production at the LHC & PDF Uncertainties*, Johannes Gutenberg University Mainz, Mainz, Germany.  
January 13, 2010.
- MAINZ COLLOQUIUM: *How Strange is the Proton? A collection of interesting puzzles for the LHC*, Johannes Gutenberg University Mainz, Mainz, Germany.  
January 12, 2010.
- BAYLOR SEMINAR: *QCD Puzzles, Predictions, and Prognosis: What can nu do for you?* Department of Physics, Baylor University, Waco, TX  
30 November 2009.
- LANL SEMINAR: *QCD Puzzles, Predictions, and Prognosis*, Los Alamos National Lab, Los Alamos, NM.  
20 October 2009.

- FERMILAB JOINT EXPERIMENTAL-THEORETICAL SEMINAR: *QCD Puzzles, Predictions, and Prognosis: What can  $\nu$  do for you?* October 9, 2009. Fermilab, Batavia, IL.
- IIT SEMINAR: *QCD Puzzles, Predictions, and Prognosis: What can  $\nu$  do for you?* October 8, 2009. IIT, Chicago, IL
- TEXAS TECH UNIVERSITY: Colloquium: *How Strange is the Proton? A collection of interesting puzzles for the LHC*, September 17, 2009.
- DUKE UNIVERSITY: Theory Seminar: *Are we ready to make discoveries at the LHC? W/Z/Higgs Production at the LHC & PDF Uncertainties*, March 16, 2009.
- HIGHLAND PARK HIGH SCHOOL: Honor Society Keynote Presentation: *From Imagination to Discovery: The Large Hadron Collider Project*, 20 October 2008.
- KANSAS UNIVERSITY: Theory Seminar: *What can you do with Precision PDFs???* W/Z/Higgs production at the LHC and PDF Uncertainties, 30 September 2008.
- KANSAS UNIVERSITY: Colloquium: *How Strange is the Proton? A collection of interesting puzzles for the LHC*, 29 September 2008.
- CERN: Seminar: Theoretical Phenomenology Club. *Variable Flavor Number Schemes for Heavy Quarks*, 15 May 2008.
- CERN: Seminar: Theoretical Neutrino Coffee Seminar. *NuSONG: Terascale Physics Opportunities at a High Statistics, High Energy Neutrino Scattering Experiment*, 29 April 2008.
- UNIVERSITY OF GRANADA: Theory Seminar: *Drell-Yan Production & Resummation*, 2 April 2008.
- UNIVERSITY OF GRANADA: Theory Seminar: *Heavy Quark Production*, 3 April 2008.
- AACHEN: Theory Seminar: *W/Z/Higgs Production at LHC and PDF Uncertainties*, 7 February 2008.
- DESY: Joint H1/ZEUS Seminar: *W/Z/Higgs Production at LHC and PDF Uncertainties*, 25 January 2008.
- U. OF PITTSBURTH: Seminar: *W/Z/Higgs Production at LHC & PDF Uncertainties*, 4 August, 2006
- CERN: Theory Seminar: *W/Z/Higgs Production at LHC & PDF Uncertainties*, 24 February 2006.
- UNIVERSITY OF OKLAHOMA: Colloquium: *How Strange is the Proton? A collection of interesting puzzles*, 2 February 2006.
- UNIVERSITY OF OKLAHOMA: Seminar: *W/Z/Higgs Production at LHC & PDF Uncertainties*, 2 February 2006.

*A listing of Seminar and Colloquium Presentations prior to 2005 is available upon request.*