

Curriculum Vitae: Terrance M. Figy

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Wichita State University
1845 Fairmount Street
Box 32
Wichita, KS 67260

EDUCATION

Ph.D. Physics June 2000 – August 2006
University of Wisconsin-Madison, Madison, WI USA
Title: *NLO QCD Corrections to the jet activity in Higgs boson production via vector-boson fusion*
Thesis Advisor: Prof. Dr. Dieter Zeppenfeld

B.S. Physics August 1996 – May 2000
University of Wisconsin-Eau Claire, Eau Claire, WI USA
Second major: Mathematics
Graduated Magna Cum Laude

PROFESSIONAL EXPERIENCE

Associate Professor 7/2022 –
Department of Mathematics, Wichita, KS, USA
Statistics & Physics,
Wichita State University

Assistant Professor 8/2015 – 7/2022
Department of Mathematics, Wichita, KS, USA
Statistics & Physics,
Wichita State University

Ennovar Research Fellow 5/2015 – 5/2016
Institute of Emerging Wichita, KS, USA
Technologies and Market
Solutions,
Wichita State University

Visiting Assistant Professor 12/2014 – 5/2015
Department of Mathematics, Wichita, KS, USA
Statistics & Physics,
Wichita State University

POSTDOCTORAL RESEARCH POSITIONS

NAFUM Research Associate 10/2011 – 9/2014
School of Physics & Astronomy, Manchester, United Kingdom
The University of Manchester

Postdoctoral Fellow 10/2009 – 9/2011
Theory Division, Geneva, Switzerland
European Organization for
Nuclear Research

Postdoctoral Research Associate 6/2006 – 9/2009
Institute for Particle Physics Durham, United Kingdom
Phenomenology,
University of Durham

GRADUATE ASSISTANTSHIPS

Research Assistant 4/2005 – 1/2006
Institute for Theoretical Physics, Karlsruhe, Germany
Karlsruhe Institute of Technology

Research Assistant 2002 – Spring 2005
Phenomenology Institute Madison, WI, USA
University of Wisconsin-Madison

Teaching Assistant 2000 – 2006
University of Wisconsin-Madison Madison, WI, USA

TEACHING EXPERIENCE

- Instructor for WSU Physics 621: *Analytical Mechanics*
Fall 2023
- Instructor for WSU Physics 730: *Computational Methods for Physics*
Fall 2023
- Instructor for WSU Physics 313: *Physics for Scientists I*
Spring 2017, Fall 2017, Fall 2019
- Instructor for WSU Physics 314: *Physics for Scientists II*
Fall 2015, Fall 2016, Spring 2019, Fall 2019, Spring 2021, Spring 2023
- Instructor for WSU Physics 641: *Thermophysics*
Fall 2018, Fall 2020, Fall 2022
- Instructor for WSU Physics 714: *Theoretical Physics*
Fall 2016, Fall 2018, Fall 2020, Fall 2022
- Instructor for WSU Physics 871: *Statistical Mechanics*
Spring 2018, Spring 2020, Spring 2022
- Instructor for WSU Physics 631: *Electricity and Magnetism*
Spring 2016, Spring 2018, Spring 2020
- Instructor for WSU Physics 701G: *Mathematical Methods in Physics*
Spring 2019
- Tutor for 2nd year Physics Tutorial Sessions from 2011 to 2014
The University of Manchester, Manchester, United Kingdom
- Tutor for Level 1 Physics Tutorial Sessions from 2007 to 2009
University of Durham, Durham, United Kingdom
- Tutor for Level 1 Computing Lab on Fortran from 2006 to 2007
University of Durham, Durham, United Kingdom
- Teaching Assistant for 100 and 200 level physics courses from 2000 to 2006
University of Wisconsin-Madison, Madison, WI USA

SUPERVISION AND MENTORING OF STUDENTS

1. Department of Mathematics, Statistics, and Physics
 - Supervised Bathiya Samrakoon (Ph.D. Student) from 2019 - present
 - Supervised Tinghua Chen (Ph.D. Student) from 2018 - 2023
 - Thesis Title: "Anomalous Higgs Boson Couplings in Vector Boson Fusion"
 - Graduated with a Ph.D in Applied Mathematics-Physics Track, 2023
 - Supervised Tinghua Chen (Masters Student) from 2017 to 2018
 - Thesis Title: "A Comparative Study of Electroweak Higgs Boson Production at Future Hadron Collider "
 - Graduated with a Masters in Physics, 2018
2. Department of Physics, University of Durham
 - Co-supervised Sophy Palmer (Ph.D. student) from 2006 to 2010 with Dr. Georg Weiglein
 - Co-supervised Ian Boreham (MSci student) from 2006 to 2007 with Dr. Frank Krauss

UNIVERSITY SERVICE

- Physics Scholarship Committee Chair, Wichita State University, 2017 - present
- XSEDE Campus Champion, Wichita State University, 2018 - 2022
- ACCESS Campus Champion, Wichita State University, 2022 - present
- LAS Exceptions Committee, Wichita State University, 2017 - 2020
- Co-organizer of the Weekly Physics Chat, Wichita State University, 2017 - 2020
- Faculty Senator, Wichita State University, 2019 - present
- Faculty Representative, IT Governance Committee, Wichita State University, 2019 - 2021
- Faculty Representative, IT Advisory Council, Wichita State University, 2022 – present
- Director, High Performance Computing, Wichita State University, 2020 - present
- Undergraduate Coordinator, Wichita State University, 2020 - present
- Graduate Committee, Wichita State University, 2020 - 2022
- Committee Member, Formation of Graduate Certificate on Math Foundations of Data Analytics, 2018-2019
- Committee Member, Physics Equity, Diversity and Inclusion Committee, 2021 - present

GRANTS AND FUNDING

AWARDED

- *CC* Planning: Establishing a Sustainable Framework for High-Performance Computing Growth at Wichita State University*
PI, Amount: \$100,000, Period: 6/1/24-6/1/25
- *Data-enabled Disaster Resilience Center at Wichita State University: Creation of a Digital Platform Ecosystem for Great Plains Disaster Resilience, Convergent Science Initiative, WSU,*
Co-PI and Co-Director, Amount: \$300,000, Period: 2020-2023
- *The Application of Scalable Phase Space Sampling Algorithms to the Simulation of QCD Corrected Multi-Jet Events at Hadron Colliders,*
WSU URCA, PI, Amount: \$3,842, Period: 5/15/2021-12/31/2021
- *The Implementation of the Private Higgs Model into FeynRules, WSU LAS, Faculty Professional Development Grant,*
PI, Amount: \$2,012, Period: 6/1/2020-7/31/2020

APPLIED FOR

- *Solar Core Fusion, Dark Matter and Galactic Core Neutrino Studies,*
Simons-Sloan-Moore-Templeton Foundation
Co-PI, Amount: \$5,965,231, Period: 4/01/23-3/31/28, Pre-application
- *The Development of Efficient Computational Techniques for the Simulation of Particle Collisions at Current and Future Collider Experiments,*
WSU ARCS, PI, Amount:\$3,865, Period: 6/1/2020-7/31/2021
- *The Development of Efficient Computational Techniques for the Simulation of Particle Collisions at Current and Future Particle Collider Experiments,*
WSU URCA, PI, Amount: \$4,405, Period: 6/1/2018 - 7/30/2020
- *The Application of Innovative Phase Space Sampling Methods to Higher Order Calculations,*
DOE, Office of Science, DE-FOA-0002172: FY2020 Research Opportunities in High Energy Physics, PI, Amount: \$613,811, Period: 8/1/2020-7/31/2023
- *The Development of a Forward Branching Phase Space Generator for Next-to-Next-to-Leading Order Calculations,*
DOE, Office of Science, DE-FOA-0001961: FY2019 Research Opportunities in High Energy Physics, PI, Amount: \$323,535, Period: 6/1/2019-5/31/2022
- *Next-to-Next-to-Leading Order Corrections for Electroweak Higgs Boson Production at the CERN Large Hadron Collider,*
DOE, Office of Science, DE-FOA-0001386: Early Career Research Program, PI, Amount \$750,003, Period: 5/1/2016-4/30/2021
- *The Computation of the Approximate Next-to-Next-Leading Order QCD Corrections to Electroweak Higgs Boson Production,*
NSF 17-561, Elem. Particle Physics/Theory, PI, Amount: \$233,817, Period: 8/15/2018-8/15/2021
- *Experimental and Theoretical Investigation of a Neutrino Detector in Close Solar Orbit,*
NSF 15-579, Division of Physics, Particle Astrophysics/Underground Physics, Co-PI, Amount: \$670,028, Period: 8/15/2015-8/15/2018
- *MRI: Acquisition of GPU-enabled HPC cluster for research computing, education, and outreach at Wichita State University,*
NSF, Senior Investigator, Amount: \$367,345, Period: 8/1/2020 - 7/1/2023

- *Particle Physics of the Plains*, NSF 19-578, Sen-I, Senior Investigator, Amount: \$12.36M, Period: 8/1/2020-7/31/2025

PUBLICATIONS AND PREPRINTS

1. B. Samarakoon and T. M. Figy, “Double Higgs Boson Production via Photon Fusion at Muon Colliders within the Triplet Higgs Model,” [arXiv:2312.12594 [hep-ph]].
2. T. Chen, T. M. Figy and S. Plätzer, “NLO multijet merging for Higgs production beyond the VBF approximation,” *Eur. Phys. J. C* **82**, no.8, 704 (2022) doi:10.1140/epjc/s10052-022-10671-9 [arXiv:2109.03730 [hep-ph]].
3. T. Chen, T. M. Figy and W. T. Giele, “A Projective Phase Space Generator for Hadronic Vector Boson Plus One Jet Production,” arXiv:1907.03893 [hep-ph].
4. P. Azzi *et al.*, “Report from Working Group 1 : Standard Model Physics at the HL-LHC and HE-LHC,” CERN Yellow Rep. Monogr. **7**, 1 (2019) doi:10.23731/CYRM-2019-007.1 [arXiv:1902.04070 [hep-ph]].
5. T. M. Figy and W. T. Giele, “A Forward Branching Phase Space Generator for Hadron colliders,” *JHEP* **1810**, 203 (2018) doi:10.1007/JHEP10(2018)203 [arXiv:1806.09678 [hep-ph]].
6. F. Campanario, T. M. Figy, S. Plätzer, M. Rauch, P. Schichtel and M. Sjö Dahl, “Stress testing the vector-boson-fusion approximation in multijet final states,” *Phys. Rev. D* **98**, no. 3, 033003 (2018) doi:10.1103/PhysRevD.98.033003 [arXiv:1802.09955 [hep-ph]].
7. D. de Florian *et al.* [LHC Higgs Cross Section Working Group], “Handbook of LHC Higgs Cross Sections: 4. Deciphering the Nature of the Higgs Sector,” arXiv:1610.07922 [hep-ph]. CERN Yellow Reports: Monographs Volume 2/2017 (CERN-2017-002-M).
8. J. Baglio, J. Bellm, F. Campanario, B. Feigl, J. Frank, T. Figy, M. Kerner and L. D. Ninh *et al.*, “Release Note - VBFNLO 2.7.0,” arXiv:1404.3940 [hep-ph].
9. F. Campanario, T. M. Figy, S. Plätzer and M. Sjö Dahl, “Electroweak Higgs plus Three Jet Production at NLO QCD,” *Phys. Rev. Lett.* **111**, 211802 (2013) [arXiv:1308.2932 [hep-ph]].
10. K. Arnold, J. Bellm, G. Bozzi, F. Campanario, C. Englert, B. Feigl, J. Frank and T. Figy *et al.*, “Release Note – Vbfno-2.6.0,” arXiv:1207.4975 [hep-ph].
11. T. Figy and R. Zwicky, “The other Higgses, at resonance, in the Lee-Wick extension of the Standard Model,” *JHEP* **1110** (2011) 145 [arXiv:1108.3765 [hep-ph]].
12. K. Arnold, J. Bellm, G. Bozzi, M. Bried, F. Campanario, C. Englert, B. Feigl, J. Frank *et al.*, “VBFNLO: A parton level Monte Carlo for processes with electroweak bosons – Manual for Version 2.5.0,” [arXiv:1107.4038 [hep-ph]].
13. T. Figy, S. Palmer and G. Weiglein, “Higgs Production via Weak Boson Fusion in the Standard Model and the MSSM,” *JHEP* **1202**, 105 (2012) [arXiv:1012.4789 [hep-ph]].

14. K. Arnold, T. Figy, B. Jager and D. Zeppenfeld, “Next-to-leading order QCD corrections to Higgs boson production in association with a photon via weak-boson fusion at the LHC,” JHEP **1008** (2010) 088 [arXiv:1006.4237 [hep-ph]].
15. T. Figy, K. Rolbiecki and Y. Santos, “Tau-Sneutrino NLSP and Multilepton Signatures at the LHC,” Phys. Rev. D **82** (2010) 075016 [arXiv:1005.5136 [hep-ph]].
16. K. Arnold *et al.*, “VBFNLO: A parton level Monte Carlo for processes with electroweak bosons,” Comput. Phys. Commun. **180** (2009) 1661 [arXiv:0811.4559 [hep-ph]].
17. A. Dedes, T. Figy, S. Hoche, F. Krauss and T. E. J. Underwood, “Searching for Nambu-Goldstone Bosons at the LHC,” JHEP **11** (2008) 036 [arXiv:0807.4666 [hep-ph]].
18. T. Figy, “Next-to-leading order QCD corrections to light Higgs Pair production via vector boson fusion,” Mod. Phys. Lett. A **23** (2008) 1961 [arXiv:0806.2200 [hep-ph]].
19. T. Figy, V. Hankele and D. Zeppenfeld, “Dominant next-to-leading order QCD corrections to Higgs plus three jet production in vector-boson fusion,” JHEP **02** (2008) 076 [arXiv:0710.5621].
20. O. Brein and T. M. Figy, “Charged Higgs-boson production in association with an electron and a neutrino at electron-positron colliders,” Phys. Rev. D **77** (2008) 055004 [arXiv:0710.4121 [hep-ph]].
21. V. Hankele, G. Klamke, D. Zeppenfeld and T. Figy, “Anomalous Higgs boson couplings in vector boson fusion at the CERN LHC,” Phys. Rev. D **74**, 095001 (2006) [arXiv:hep-ph/0609075].
22. P. Burikham, T. Figy and T. Han, “TeV-scale string resonances at hadron colliders,” Phys. Rev. D **71**, 016005 (2005) [Erratum-ibid. D **71**, 019905 (2005)] [arXiv:hep-ph/0411094].
23. T. Figy and D. Zeppenfeld, “QCD corrections to jet correlations in weak boson fusion,” Phys. Lett. B **591**, 297 (2004) [arXiv:hep-ph/0403297].
24. T. Figy, C. Oleari and D. Zeppenfeld, “Next-to-leading order jet distributions for Higgs boson production via weak-boson fusion,” Phys. Rev. D **68**, 073005 (2003) [arXiv:hep-ph/0306109].

CONFERENCE PROCEEDINGS

1. F. Campanario, T. M. Figy, S. Plätzer and M. Sjö Dahl, “Beyond the t-channel Approximation: Next-to-Leading Order QCD Corrections to Electroweak Higgs Boson Plus Three Jet Production at the LHC,” arXiv:1407.5050 [hep-ph].
2. F. Campanario, T. M. Figy, S. Plätzer and M. Sjö Dahl, “NLO QCD Corrections to Electroweak Higgs Boson Plus Three Jet Production at the LHC,” arXiv:1311.5455 [hep-ph].
3. K. Arnold, T. Figy, B. Jager, D. Zeppenfeld, “Higgs boson production in association with a photon via weak boson fusion,” arXiv:1110.2402 [hep-ph].
4. S. Dawson *et al.*, “Higgs Working Group Summary Report,” arXiv:0803.1154 [hep-ph].

5. T. Figy, C. Oleari and D. Zeppenfeld, “QCD corrections to vector boson fusion processes,” Nucl. Phys. Proc. Suppl. **135**, 9(2004) [arxiv:hep-ph/0407066].
6. G. Azuelos *et al.*, “Search for the standard model Higgs boson using vector boson fusion at the LHC,” *Prepared for Workshop on Physics at TeV Colliders, Les Houches, France, 21 May - 1 Jun 2001*

CONFERENCE PRESENTATIONS

1. Particles on the Plains 2023
Oct. 14-15, 2023
University of Kansas, Lawrence, KS, USA
Title: *Exploring High-Performance Computing Resources for Particle Physics: A Comprehensive Overview*
2. Pheno 2023 Symposium
May 8-10, 2023
University of Pittsburg, Pittsburgh, PA USA
Title: *Exploring CP Violation in the Higgs Sector Through Higgs Production in Association of Three Jets*
3. OAK Supercomputing Conference
April 5-7, 2023
Oklahoma State University, Stillwater, Oklahoma
Title: *Invited Talk: Methods for Onboarding New HPC Users: Encouraging the HPC Experience in Curriculum Design at Wichita State University*
4. Particle Physics on the Plains 2022, Part 2
Oct 22-23, 2022
University of Kansas, Lawrence, KS, USA
Title: *NLO MultiJet Merging for Higgs Production Beyond the VBF Approximation, Part II*
5. Pheno 2022 Symposium
May 9-11, 2022
University of Pittsburg, Pittsburgh, PA USA
Title: *Electroweak Higgs Boson Production with Precision*
6. Particle Physics on the Plains 2022
April 2-3, 2022
University of Kansas, Lawrence, KS, USA
Title: *Higgs Boson Production in Association of Three Jets via Gluon Fusion*
7. Pheno 2021 Symposium
May 24-26, 2021 (virtual)
University of Pittsburg, Pittsburgh, PA USA
Title: *Merging and Matching in Herwig 7 using HJets*
8. Pheno 2020 Symposium
May 4-6, 2020 (virtual)
University of Pittsburg, Pittsburgh, PA USA
Title: *Simulating Multi-Jet Events at Hadron Colliders using Forward Branching Phase Space Generators*
9. Particle Physics on the Plains 2019
Oct. 12-13, 2019
University of Kansas, Lawrence, KS, USA

- Title: *A Projective Phase Space Generator for Vector Boson Plus Jet Production*
10. Loopfest XVIII: Radiative Corrections for the LHC and Future Colliders
 Aug. 12-14, 2019
 Fermi National Accelerator Laboratory, Batavia, USA
 Title: *Stress testing the vector-boson-fusion approximation in multijet final states*
 11. Particle Physics on the Plains 2018
 Oct. 13-14, 2018
 University of Kansas, Lawrence, KS, USA
 Title: *A Forward Branching Phase Space Generator for Hadron Colliders*
 12. PASCOS 2018
 June 4-8, 2018
 Case Western Reserve University, Cleveland, Ohio, USA
 Title: *Higgs Boson Production via Vector Boson Fusion Receives a Stress Test*
 13. Higgs plus dijets at the LHC
 Jan 10-12, 2018
 Durham, United Kingdom
 Title: *Stress-Testing the VBF Approximation with Higgs Boson plus Three Jet Production*
 14. Particle Physics on the Plains 2017
 Sept. 30, 2017
 University of Kansas, Lawrence, KS, USA
 Title: *Stress-Testing the VBF Approximation in Higgs Boson Production*
 15. Loopfest XVI: Radiative Corrections for the LHC and Future Colliders
 May 31- June 2, 2017
 Argonne National Laboratory, Argonne, ILL, USA
 Title: *EW Higgs Boson Production in Association with Three Jets at the LHC*
 16. American Physical Society April Meeting 2017
 Jan 28-31, 2017
 Washington, DC USA
 Title: *NLO QCD Corrections to Electroweak Higgs Boson Production in Association with Three Jets at the LHC*
 17. Pheno 16 Symposium
 May 9-11, 2016
 University of Pittsburg, Pittsburgh, PA USA
 Title: *NLO QCD Corrections to Electroweak Higgs Boson Production in Association of Three Jets at the LHC*
 18. SUSY 2014
 July 21-26, 2014
 Manchester, United Kingdom
 Title: *Electroweak Higgs Boson Production in Association with Three Jets (A.K.A. VBF + 1 Jet) at NLO QCD*
 19. LoopFest XIII
 June 17-20, 2014
 Brooklyn, New York, USA
 Title: *Electroweak Higgs Boson Production in Association with Three Jets (A.K.A. VBF + 1 Jet) at NLO QCD*

20. Loops and Legs in Quantum Field Theory
 April 27-May 2, 2014
 Weimar, Germany
 Title: *Next-to-Leading Order QCD Corrections to Electroweak Higgs Boson Production in Association of Three Jets at the LHC*
21. RADCOR 2013
 Sept 22-27, 2013
 Lumley Castle, Chester le Street, United Kingdom
 Title: *NLO QCD Corrections to Electroweak Higgs Boson Plus Three Jet Production at the LHC*
22. Pheno 12 Symposium
 May 7-9, 2012
 University of Pittsburg, Pittsburgh, PA USA
 Title: *The other, Higgses, as resonance, in the Lee-Wick extension of the Standard Model*
23. Pheno 11 Symposium
 May 9-11, 2011
 University of Wisconsin-Madison, Madison, WI USA
 Title: *Next-to-leading order corrections in Higgs boson production in association of a photon via weak boson fusion*
24. Workshop on Heavy Particles at the LHC
 Jan 5-7, 2011
 ETH, Zurich, Switzerland
 Title: *Next-to-leading order QCD corrections in Higgs boson production in association of a photon via VBF*
25. Pheno 10 Symposium
 May 10-12, 2010
 University of Wisconsin-Madison, Madison, WI USA
 Title: *Higgs Boson Pair Production within the Lee-Wick Standard Model*
26. Collider Physics 2009: Joint Argonne and IIT Theory Institute
 May 18-22, 2009
 Title: *The Phenomenology of the $U(1)$ Phantom Sector of the Standard Model*
27. Pheno 09 Symposium
 May 11-13, 2009
 University of Wisconsin-Madison, Madison, WI USA
 Title: *Pure leptonic signatures with a sneutrino NLSP at the LHC*
28. LoopFest VII
 Radiative Corrections for the LHC and ILC
 May 14-16, 2008
 University at Buffalo, Buffalo, NY USA
 Title: *Higgs plus three jets via vector boson fusion at NLO QCD*
29. Monte Carlo Tools for Beyond the Standard Model Physics
 3rd Workshop
 March 10-11, 2008
 CERN
 Title: *Littlest Higgs in Sherpa*
30. The HEPTools First Annual Meeting
 November 26-27, 2007
 NCSR Demokritos, Athens, Greece

Title: *NLO QCD Corrections to Higgs Plus Three Jet Production in Vector-Boson Fusion*

31. LHC-D Workshop 2007: Higgs Physics
October 8-9, 2007
Albert-Ludwigs-Universität Freiburg, Freiburg, Germany
Title: *NLO QCD Corrections for VBF Higgs Production and the Central Jet Veto*
32. 1st Annual ARTEMIS Meeting
September 27-28, 2007
Chalkidiki, Greece
Title: *VBF Higgs Production at NLO QCD*
33. Brookhaven Forum 2007: New Horizons at Colliders
May 30 - June 1, 2007
Brookhaven National Laboratory (BNL), Brookhaven, New York, USA
Title: *NLO QCD Corrections for Higgs Production via VBF in Association of Three Jets at the LHC*
34. Pheno 04 Symposium
April 26-28, 2004
University of Wisconsin-Madison, Madison, WI USA
Title: *QCD Corrections to Jet Correlations in Weak Boson Fusion*
35. LoopFest III
April 1-3, 2004
Kavli Institute for Theoretical Physics
University of California-Santa Barbara, Santa Barbara, CA USA
Title: *NLO QCD Corrections for Higgs Production via Weak Boson Fusion*

SEMINAR PRESENTATIONS

1. Particle Physics Seminar
University of Kansas, Lawrence, KS, USA
Title: *Unveiling the Unconventional: Herwig 7 Simulations of Higgs Production with Non-Standard HVV Couplings*
Nov. 2023
2. Particle Physics Seminar (Virtual)
Southern Methodist University, Dallas, TX, USA
Title: *Simulating Electroweak Higgs Boson Production using Herwig 7/HJets at Hadron Colliders*
May 2020
3. Particle Physics Seminar (Virtual)
University of Kansas, Lawrence, KS, USA
Title: *Simulating Electroweak Higgs Boson Production using Herwig 7/HJets at Hadron Colliders*
June 2020
4. Fermilab Theory Seminars
Fermi National Accelerator Laboratory, Batavia, IL USA
Title: *Generating QCD Corrected Multi-Jet Events at Hadron Colliders using Innovative Phase Space Sampling Methods*
October 2019
5. Colloquium
Universidad de Colima, Colima, MX

- Title: *Scrutinizing Higgs Boson Scattering Cross Section Predictions with Precision*
November 2018
6. Michigan State University High Energy Physics Seminar
Michigan State University, Lansing, Michigan, USA
Title: *Stress-testing the VBF Approximation with Higgs Boson Plus Three Jet Production*
September 2017
 7. Southampton High Energy Physics Seminars
University of Southampton, Southampton, United Kingdom
Title: *Next-to-Leading Order QCD Corrections to Electroweak Higgs Boson Production in Association with Three Jets at the LHC*
May 2014
 8. Liverpool High Energy Theory Group Seminar
University of Liverpool, Liverpool, United Kingdom
Title: *Electroweak Higgs Boson Production in Association of Three Jets (A.K.A VBF + 1 Jet) at NLO QCD*
March 2014
 9. Fermilab Theory Seminars
Fermi National Accelerator Laboratory, Batavia, IL USA
Title: *Electroweak Higgs Boson Production in Association with Three Jets (A.K.A. VBF + 1 Jet) at NLO QCD*
December 2013
 10. Theory Seminars
University of Wisconsin-Madison, Madison, WI USA
Title: *Electroweak Higgs Boson Production in Association with Three Jets (A.K.A. VBF + 1 Jet) at NLO QCD*
December 2013
 11. Birmingham Particle Physics Seminars
University of Birmingham, Birmingham, United Kingdom
Title: *The other Higgses, at resonance, in the Lee-Wick extension of the Standard Model*
February 2012
 12. HEP phenomenology joint Cavendish-DAMTP seminar series
University of Cambridge, Cambridge, United Kingdom
Title: *The other Higgses, at resonance, in the Lee-Wick extension of the Standard Model*
January 2012
 13. Liverpool High Energy Theory Group Seminar
University of Liverpool, Liverpool, United Kingdom
Title: *The other Higgses, at resonance, in the Lee-Wick extension of the Standard Model*
November 2011
 14. Manchester Particle Physics Seminar
The University of Manchester, Manchester, United Kingdom
Title: *The other Higgses, at resonance, in the Lee-Wick extension of the Standard Model*
November 2011
 15. DESY Theory Seminar
DESY, Hamburg, Germany

- Title: *Higgs-Photon Associated Production in Vector Boson Fusion at NLO*
July 2011
16. Manchester Particle Physics Seminar
The University of Manchester, Manchester, United Kingdom
Title: *Higgs-Photon Associated Production in Vector Boson Fusion at NLO*
May 2011
 17. Particle Physics Seminars
Royal Holloway University London,
Title: *Theoretical Calculations for Higgs searches at the LHC*
December 2009
 18. Liverpool High Energy Theoretical Physics
University of Liverpool, Liverpool, United Kingdom
Title: *The phenomenology of the $U(1)$ phantom sector of the Standard Model*
March 2009
 19. HEP Theory Group
Argonne National Laboratory, Argonne, IL USA
Title: *Vector boson fusion Higgs production at the LHC*
May 2008
 20. Phenomenology Institute
University of Wisconsin-Madison, Madison, WI USA
Title: *Vector Boson Fusion Higgs Production at the LHC*
May 2008
 21. Theoretical Physics Department
Fermi National Accelerator Laboratory, Batavia, IL USA
Title: *QCD Corrections to Vector-Boson-Fusion Higgs Production Channels*
May 2008
 22. The Particle Physics Theory Group
University of Edinburgh, Edinburgh, United Kingdom
Title: *NLO QCD corrections for Higgs production via VBF in association of three jets*
March 2008
 23. Institute for Particle Physics Phenomenology
Durham University, Durham, United Kingdom
Title: *Charged Higgs boson production at electron-positron colliders within the MSSM and THDM*
January 2008
 24. High Energy Physics Group
University of Cambridge, Cambridge, United Kingdom
Title: *NLO QCD Corrections to Higgs Production via Vector Boson Fusion in Association of Three Jets at the LHC*
June 2007
 25. Particle Physics Theory Group
University of Glasgow, Glasgow, United Kingdom
Title: *Anomalous Higgs Couplings*
Feb 2007
 26. Theoretical High Energy Particle Physics Group
Centre for Mathematical Sciences, Cambridge, United Kingdom

Title: *Anomalous Higgs Couplings*
Feb 2007

27. Institute for Particle Physics Phenomenology
Department of Physics, Durham, United Kingdom
Title: *NLO QCD Jet Distributions for Higgs Production via Weak-Boson Fusion*
March 2006
28. Institut für Theoretische Physik
Universität Karlsruhe, Karlsruhe, Germany
Title: *The Dipole Subtraction Method of Catani and Seymour*
May 2005
29. Phenomenology Institute
University of Wisconsin-Madison, Madison, WI USA
Title: *NLO QCD Corrections for Higgs Production via Weak-Boson Fusion*
March 2004

WORKSHOPS ATTENDED

1. Les Houches Workshop: Physics at TeV Colliders
May 30 – June 8, 2011
Ecole de Physique des Houches, Les Houches, France
2. Galileo Galilei Institute for Theoretical Physics Workshop:
Searching for New Physics at the LHC
October 4 – 23, 2009
Arcetri, Florence, Italy
3. CERN Theory Institute: SM and BSM physics at the LHC
August 3–28, 2009
CERN, Geneva, Switzerland
4. IoP Half Day meeting: Theory for experimentalists
February 20, 2008
Durham, United Kingdom
5. Higgs Maxwell Workshop: Challenges for the LHC
February 13, 2008
Edinburgh, United Kingdom
6. Galileo Galilei Institute for Theoretical Physics Workshop:
Advancing Collider Physics: from Twistors to Monte Carlos
August 25-September 15, 2007
Arcetri, Florence, Italy
7. Higgs Maxwell Workshop: Challenges for the LHC
February 7, 2007
Edinburgh, United Kingdom
8. 1st ARTEMIS Workshop
January 25-26, 2007
London, United Kingdom
9. Workshop HP2: High Precision for Hard Processes at the LHC
September, 6-9 2006, Zürich, Switzerland
10. TEV4LHC Workshop, 3rd meeting
April 28-30, 2005, CERN

SUMMER SCHOOLS ATTENDED

- 2004 CTEQ Summer School
June 22-30, 2004, Madison, Wisconsin, USA
- TASI 2002
June 2-28, 2002, Boulder, Colorado, USA

WORKING GROUPS AND VISITING SCIENTIST PROGRAMS

- LHC Higgs Cross Section Working Group
- HL/HE-LHC Physics Workshop - Standard Model Working Group
- Fermilab Theory Group Visitor Program - 2017,2018, and 2019
- CERN Theory Group Visitor Program - 2020 (postponed)

HONOR SOCIETIES, AWARDS, AND MEMBERSHIPS

- Sigma Pi Sigma – Physics Honor Society
- Phi Eta Sigma – Freshman Honor Society
- Phi Eta Sigma 1996-1997 Eau Claire Chapter President
- 1997 Phi Eta Sigma Scholarship Award
- Golden Key National Honor Society
- American Physical Society

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