

Curriculum Vitae

YUN JIANG

HEP Ph.D. Student of Physics, U.C. Davis

2013 LHC-TI Graduate Fellow

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Born: February 14, 1986 – Shanghai, China

EDUCATION

2004 - 2008 B.S. in Physics, Zhejiang University, China (GPA: 3.90/4.00)
Thesis: *NJL Model and its Application in the Mesons*, Advisor: Ding-hui Lu
2008 - 2011 M.Sc. in Physics, National University of Singapore (CPA: 5.00/5.00)
Thesis: *The Phases of Supersymmetric Black Holes in Five Dimensions*, pdf~format
Supervisor: Edward Teo
2010 - present Ph.D. in Physics, University of California, Davis (GPA: 4.00/4.00)
Thesis: *Higgs Physics Beyond the Standard Model*, Advisor: John F. Gunion

PROFESSIONAL EXPERIENCE

Jan. 2008 - Dec. 2009 Teaching Assistant in the Physics Department
National University of Singapore
Sep. 2010 - Jun. 2012 Teaching Assistant at the Department of Physics
University of California, Davis
Jul. 2012 - present Research Assistant at the High Energy Frontier Theory Initiative
Department of Physics, University of California, Davis
May 2013 - Apr. 2014 LHC Theory Initiative Graduate Fellow

AWARDS and HONORS

1. First-class Prize, China Undergraduate Mathematical Contest in Modeling (2006)
2. Meritorious Winner, Mathematical Contest in Modeling (MCM), United States (2007)
3. First-class Research Innovation Scholarship, Zhejiang Province, China (2007)
4. Fudi Scholarship, Zhejiang University (2007)
5. China–Singapore Exchange Program Fellowship (2007)
6. Research Scholarship, National University of Singapore (2008-2010)

7. Block Grant Fellowship, University of California (2011)
8. UC Davis Graduate Program Fellowship, University of California, Davis (2012)
9. US DOE Research Fellowship (2012-2013)
10. US NSF LHC-TI Graduate Fellowship (2013-2014)

RESEARCH FIELDS

My current research mainly focuses on LHC collider phenomenology beyond the Standard Model (BSM) physics:

- (multiple) Higgs bosons in the the next-to-minimal supersymmetric Standard Model
- two-Higgs-doublet model (2HDM) with scalar dark matter extension
- Higgs compositeness
- fourth generation fermion implementation in various BSM models
- exotic models with large/warped extra dimensions
- top quark physics

I am also interested in low-scale SUSY breaking model building, low-mass WIMP model building, and the studies on black holes related to the LHC physics.

PUBLICATIONS

- (1) J. F. Gunion, Y. Jiang, S. Kraml, *The constrained NMSSM and Higgs near 125 GeV*, Phys. Lett. B **710** (2012) 454 [arXiv:1201.0982\[hep-ph\]](#).
- (2) J. F. Gunion, Y. Jiang, S. Kraml, *Could two NMSSM Higgs bosons be present near 125 GeV?*, Phys. Rev. D **86** (2012) 071702(R) [arXiv:1207.1545\[hep-ph\]](#).
- (3) J. F. Gunion, Y. Jiang, S. Kraml, *Diagnosing Degenerate Higgs at 125 GeV*, Phys. Rev. Lett. **110** (2013) 051801 [arXiv:1208.1817\[hep-ph\]](#).
- (4) G. Belanger, U. Ellwanger, J. F. Gunion, Y. Jiang, S. Kraml, *Two Higgs Bosons at the Tevatron and the LHC?* [arXiv:1208.4952\[hep-ph\]](#) (resubmitted to JHEP).
- (5) G. Belanger, U. Ellwanger, J. F. Gunion, Y. Jiang, S. Kraml, J. Schwarz, *Higgs Bosons at 98 and 125 GeV from LEP and LHC*, JHEP **1301** (2013) 069 [arXiv:1210.1976\[hep-ph\]](#).
- (6) A. Drozd, B. Grzadkowski, J. F. Gunion and Y. Jiang, *Two-Higgs-Doublet Models and Enhanced Rates for a 125 GeV Higgs*, JHEP **1305** (2013) 072 [arXiv:1211.3580\[hep-ph\]](#).
- (7) Y. Jiang, *125 GeV Higgs bosons in two-Higgs-doublet models*, [arXiv:1305.2988\[hep-ph\]](#) (Proceedings of the conference “Rencontres de Moriond EW 2013”).
- (8) B. Dumont, J. F. Gunion, Y. Jiang, S. Kraml, *Fitting the LHC Higgs signal in Two-Higgs-Doublet Models* (to appear soon).

- (9) A. Drozd, B. Grzadkowski, J. F. Gunion and Y. Jiang, *light Dark Matter in the Two-Higgs-Doublet plus Singlet Models* (in progress).

TALKS and PRESENTATIONS

- (1) *The constrained NMSSM and Higgs near 125 GeV*, Implication of a 125 GeV Higgs Boson Workshop, LPSC-Grenoble, France, 01/30/2012 [Slides](#)
- (2) *125 GeV Higgs*, UCD HEFTI LHC Lunch Seminar, Davis, 02/22/2012 [Slides](#)
- (3) *Degenerate 125 GeV Higgs scenarios in the NMSSM and 2HDM*, INPAC Seminar, SJTU, Shanghai, 12/14/2012
- (4) *Multiple/Degenerate 125 GeV Higgs scenarios in the NMSSM perspective*, ITP Seminar, ZJU, Hangzhou, 12/21/2012
- (5) *125 GeV Higgs Scenarios in the NMSSM Perspective*, ITP-CAS, Beijing, 01/07/2013 [Abstract](#); Henan Normal University, Xinxiang, 01/11/2013
- (6) *Higgs Bosons and 125 GeV State: 2HDM Perspective*, PKU, Beijing, 01/08/2013; Henan Normal University, Xinxiang, 01/09/2013
- (7) *125 GeV Higgs Bosons in the 2HDM*, Moriond 2013 EW (plenary talk in the YSF), Italy, 03/04/2013
- (8) *125 GeV Higgs Bosons in Two-Higgs Doublet Models after Moriond 2013*, 1st IAS-CERN Workshop, Singapore, 03/27/2013
- (9) *Implication of ~ 125 GeV LHC Higgs Singal towards the Standard Model Beyond*, NUS Colloquium, Singapore, 04/02/2013
- (10) *(Very) light scalar DM in the Higgs models*, MITP Workshop “Cosmic-Rays and Photons from Dark Matter Annihilation: Theoretical Issues”, Mainz, 07/02/2013

CONFERENCES ATTENDED

1. Conference in honor of C.N.Yang’s 85th Birthday, Nanyang Technological University, Singapore (Nov. 2007)
2. “Particle Physics, Astrophysics and Quantum Field Theory: 75 Years since Solvay, Institute of Advanced Study, Singapore (Nov. 2008)
3. Conference in honor of Murray Gell-mann’s 80th Birthday, Institute of Advanced Study, Singapore (Feb. 2010)
4. Rencontres de Moriond 2013 “Electroweak Interactions and Unified Theories”, La Thuile, Aosta valley, Italy (Mar. 2013)

5. SCALARS 2013, Warsaw, Poland (Sep. 2013)

SUMMER SCHOOLS and WORKSHOPS ATTENDED

1. The Tau Portal Workshop, University of California, Davis (Apr. 2011)
2. SUSY Recast Workshop, University of California, Davis (Apr. 2011)
3. Hidden SUSY Workshop, University of California, Davis (Nov. 2011)
4. School and Workshop on Strongly Coupled Physics Beyond the Standard Model, The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy (Jan. 2012)
5. Implication of a 125 GeV Higgs Boson Workshop, LPSC-Grenoble, France (Jan. 2012)
6. Dark Matter in Collision Workshop, University of California, Davis (Apr. 2012)
7. SSI 2012 “The Electroweak Scale: Unraveling the Mysteries at the LHC”, SLAC National Accelerator Laboratory, Stanford University (Jul. 2012)
8. Mini Higgs Boson Workshop, LPSC-Grenoble, France (Mar. 2013)
9. 1st LHC-IAS Workshop on Particle Physics and Cosmology - Status, Implications and Technology, NTU-IAS, Singapore (Mar. 2013)
10. The LHC Higgs Signal: Fits, Models and BSM Implications, University of California, Davis (Apr. 2013)
11. Les Houches Workshop ”Physics at TeV Colliders” Session II, France (June 2013)
12. MITP Workshop “Cosmic-Rays and Photons from Dark Matter Annihilation: Theoretical Issues”, Mainz, Germany (June 2013)
13. “Why $m_H \sim 126$ GeV?” workshop, Madrid, Spain (Sep. 2013)

PROFESSIONAL MEMBERSHIPS

- 2012 - present High Energy Frontier (HEF)-THEORY Division, North American Study
 2012 - 2013 2013 SNOWMASS-Young Particle Physicists list

COMPUTATIONAL SKILLS

- Coding: Fortran, C++, Python
- Editing: LaTeX, Vim
- Plotting: Mathematica, GNUPlot, ROOT, JaxoDraw
- HEP Packages: NMSSMTools, micrOMEGAs, 2HDMC, FeynRules, MadGraph