

Curriculum Vitae

YUN JIANG

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

2013 LHC-TI Graduate Fellow

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Phone Number: +1(530)-219-7538
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 - 2015 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 NSF LHC-TI Graduate Fellowship (2013-2014)
10. PITT PACC Travel Awards (PHENO 2014)

RESEARCH FIELDS

My current research mainly focuses on Higgs physics beyond the Standard Model and dark matters:

- Higgs bosons in the Next-to-Minimal Supersymmetric Standard Model
- Two-Higgs-doublet models and their prospects at future colliders
- Higgs-portal dark matters
- Dark matter from hidden dimensions
- Isospin-violating dark matter physics
- General Higgs Triplet models and Type-II seesaw

I am also interested in dark matter effective theory, Higgs compositeness and Higgs inflation in the extra dimensions.

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\[hep-ph\]](#).
- (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) A. Drozd, B. Grzadkowski, J. F. Gunion and Y. Jiang, *2HDM and enhanced rates in $\gamma\gamma$ channel*, Acta Physica Polonica B **44** (2013) 1417.

- (9) B. Dumont, J. F. Gunion, Y. Jiang, S. Kraml, *Constraints on and future prospects for Two-Higgs-Doublet Models in light of the LHC Higgs signal*, Phys. Rev. D **90** (2014) 035021 (Editor's suggestion) [arXiv:1405.3584\[hep-ph\]](#).
- (10) A. Drozd, B. Grzadkowski, J. F. Gunion and Y. Jiang, *Extending Two-Higgs-Doublet Models by a Scalar Field - the Case for Dark Matter -* [arXiv:1408.2106\[hep-ph\]](#).
- (11) J. F. Gunion, Y. Jiang, *The simplified calculation for gluon-fusion and bottom-quark associated production cross sections in the two-Higgs-Doublet model* (in progress).
- (12) A. Drozd, B. Grzadkowski, J. F. Gunion and Y. Jiang, *Isospin-violating Higgs-portal dark matter* (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
- (11) *Global fitting with LHC Higgs signals in the 2HDMs*, TeV Physics Workshop, Dalian, 08/25/2013; International Workshop on Particle Physics and Cosmology after Higgs and

- Planck, Chongqing, 09/08/2013; SCALARS 2013, Warsaw, 09/18/2013; INPAC Seminar, SJTU, Shanghai, 09/27/2013
- (12) *Fate of the 2HDM after the LHC8, Planck and LUX 2013*, NKU Seminar, Tianjin, 01/10/2014; ITP-CAS, Beijing, 01/15/2014
- (13) *Higgs boson and its incorporation with dark matter studies after the LHC-I run, Planck and LUX 2013*, Xiamen Univ., Xiamen, 02/19/2014
- (14) *LHC8 constraints on and future prospects for Two-Higgs-Doublet Models*, PHENO 2014, Pittsburgh, 05/06/2014; PASCOS 2014, Warsaw, 06/25/2014
- (15) *Two-Higgs-Doublet Models at future colliders*, CEPC2014, Shanghai, 09/12/2014
- (16) *2HDM at future colliders and its scalar dark matter extension*, HKUST, Hong Kong, 09/18/2014
- (17) *Focus on dark matter researches: confronting experiment with theory*, NUS Colloquium, Singapore, 09/24/2014

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)
6. Phenomenology 2014 Symposium (PHENO 2014), Pittsburgh, USA (May 2014)
7. 20th International Symposium on Particles, Strings and Cosmology (PASCOS 2014), Warsaw, Poland (June 2014)

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. 2013 TeV Physics Workshop, Dalian, China (Aug. 2013)
14. International Workshop on Particle Physics and Cosmology after Higgs and Planck, Chongqing, China (Sep. 2013)
15. The Fourth International Workshop on Future High Energy Circular Colliders (CEPC2014), Shanghai, China (Sep. 2014)

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, SusHi, FeynRules, MadGraph, RGErun