

## Curriculum Vitae

# YUN JIANG

*Ph.D. candidate in Physics at U.C. Davis*

*2013 LHC-TI Graduate Fellow*

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Born: February 14, 1986 – Shanghai, China

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### EDUCATION

- 2010 - 2015 Ph.D. in Physics, **University of California, Davis**, California, USA (GPA: 4.00/4.00)  
Thesis: *Higgs Physics Beyond the Standard Model*, Advisor: John F. Gunion
- 2008 - 2011 M.Sc. in Physics, **National University of Singapore**, Singapore (CPA: 5.00/5.00)  
Thesis: *The Phases of Supersymmetric Black Holes in Five Dimensions*,  
Supervisor: Edward Teo
- 2004 - 2008 B.S. in Physics, **Zhejiang University**, Hangzhou, P.R.China (GPA: 3.90/4.00)  
Thesis: *NJL Model and its Application in the Mesons*, Advisor: Ding-hui Lu

### PROFESSIONAL EXPERIENCE

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

### AWARDS and HONORS (selected)

1. Chinese Government Award for Outstanding Students Abroad (2014) (final review)
2. PITT PACC Travel Awards (PHENO 2014)
3. US NSF LHC-TI Graduate Fellowship (2013-2014)
4. UC Davis Graduate Program Fellowship, University of California, Davis (2012)
5. Block Grant Fellowship, University of California (2011)
6. Research Scholarship, National University of Singapore (2008-2010)

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7. China–Singapore Undergraduate Exchange Program Fellowship (2007)
  8. Fudi Scholarship, Zhejiang University (2007)
  9. First-class Research Innovation Scholarship, Zhejiang Province, China (2007)
  10. Meritorious Winner, Mathematical Contest in Modeling (MCM), United States (2007)
  11. First-class Prize, China Undergraduate Mathematical Contest in Modeling (2006)

### RESEARCH FIELDS

My research mainly focuses on LHC phenomenology and new physics implications, including

- Higgs boson physics beyond the standard model
- Supersymmetry
- Dark matter physics
- Extra dimensions
- Inflation of the early universe

I am also interested in Higgs triplet neutrino physics.

### PUBLICATIONS

My profile on the [inSPIRE](#): 12 papers with total citations: 410; h-index: 7.

**7 peer-reviewed journal articles with total 378 citations and 2 conference proceedings.**

1. J. Bernon, J. F. Gunion, **Y. Jiang**, S. Kraml, *Light Higgs bosons in Two-Higgs-Doublet Models*, [arXiv:1412.3385\[hep-ph\]](#).
2. B. Dumont, J. F. Gunion, **Y. Jiang**, S. Kraml, *Addendum to “Constraints on and future prospects for Two-Higgs-Doublet Models in light of the LHC Higgs signal”*, [arXiv:1409.4088\[hep-ph\]](#).
3. A. Drozd, B. Grzadkowski, J. F. Gunion and **Y. Jiang**, *Extending Two-Higgs-Doublet Models by a Scalar Field - the Case for Dark Matter -*, JHEP **1411** (2014) 105 [arXiv:1408.2106\[hep-ph\]](#).
4. 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\[hep-ph\]](#).
5. 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.
6. **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”).

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7. 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\[hep-ph\]](#).
  8. 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\[hep-ph\]](#).
  9. G. Belanger, U. Ellwanger, J. F. Gunion, **Y. Jiang**, S. Kraml, *Two Higgs Bosons at the Tevatron and the LHC?* [arXiv:1208.4952\[hep-ph\]](#).
  10. J. F. Gunion, **Y. Jiang**, S. Kraml, *Diagnosing Degenerate Higgs at 125 GeV*, Phys. Rev. Lett. **110** (2013) 051801 [arXiv:1208.1817\[hep-ph\]](#).
  11. 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\[hep-ph\]](#).
  12. J. F. Gunion, **Y. Jiang**, S. Kraml, *The constrained NMSSM and Higgs near 125 GeV*, Phys. Lett. B **710** (2012) 454 [arXiv:1201.0982\[hep-ph\]](#).

*Working in progress*

1. J. Bernon, J. F. Gunion, H. Haber, **Y. Jiang**, S. Kraml, *Scrutinising Fake Decoupling in Two-Higgs-Doublet Models in Light of the 125 GeV Higgs Boson*.
2. J. F. Gunion, **Y. Jiang**, *The simplified calculation for gluon-fusion and bottom-quark associated production cross sections in the two-Higgs-Doublet model*.
3. A. Drozd, B. Grzadkowski, J. F. Gunion and **Y. Jiang**, *Isospin-violating Higgs-portal dark matter* .
4. J. F. Gunion, **Y. Jiang**, *Validity up to the Planck Scale for decoupling two-Higgs-doublet model* .
5. A. Ahamd, B. Grzadkowski, **Y. Jiang**, *Dark matter from the hidden dimensions*.

#### INVITED TALKS and SEMINARS

1. KIAS Seminar, Seoul, 01/05/2015  
*TBA*
2. UZH Seminar, Zurich, 12/15/2014  
*Only one 125 GeV Higgs, is that all?*
3. LPSC Seminar, Grenoble, 12/03/2014  
*Two-Higgs doublet model and singlet scalar dark matter*
4. IFIC-CSIC Seminar, Valencia, 11/27/2014  
*Two-Higgs doublet model and singlet scalar dark matter*

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5. Seminar, Granada, 11/26/2014  
*Two-Higgs doublet model and singlet scalar dark matter*
  6. IFT Seminar, Madrid, 11/24/2014  
*Two-Higgs doublet model and singlet scalar dark matter*
  7. NUS Colloquium, Singapore, 09/24/2014  
*Focus on dark matter researches: confronting experiment with theory*
  8. HKUST, Hong Kong, 09/18/2014  
*2HDM at future colliders and its scalar dark matter extension*
  9. CEPC 2014, Shanghai, 09/12/2014  
*Two-Higgs-doublet models at future colliders*
  10. PASCOS 2014, Warsaw, 06/25/2014  
*LHC8 constraints on and future prospects for two-Higgs-doublet models*
  11. PHENO 2014, Pittsburgh, 05/06/2014  
*LHC8 constraints on and future prospects for two-Higgs-doublet models*
  12. Xiamen Univ., Xiamen, 02/19/2014  
*Higgs boson and its incorporation with dark matter studies after the LHC-I run, Planck and LUX 2013*
  13. ITP-CAS Seminar, Beijing, 01/15/2014  
*Fate of the 2HDM after the LHC8, Planck and LUX 2013*
  14. NKU Seminar, Tianjin, 01/10/2014  
*Fate of the 2HDM after the LHC8, Planck and LUX 2013*
  15. INPAC Seminar, SJTU, Shanghai, 09/27/2013  
*Global fitting with LHC Higgs signals in the 2HDMs*
  16. SCALARS 2013, Warsaw, 09/18/2013  
*Global fitting with LHC Higgs signals in the 2HDMs*
  17. International Workshop on Particle Physics and Cosmology after Higgs and Planck, Chongqing, 09/08/2013  
*Global fitting with LHC Higgs signals in the 2HDMs*
  18. TeV Physics Workshop, Dalian, 08/25/2013  
*Global fitting with LHC Higgs signals in the 2HDMs.*
  19. MITP Workshop “Cosmic-Rays and Photons from Dark Matter Annihilation: Theoretical Issues”, Mainz, 07/02/2013  
*(Very) light scalar dark matter in the Higgs models*

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20. NUS Colloquium, Singapore, 04/02/2013  
*Implication of  $\sim 125$  GeV LHC Higgs signal towards the standard model beyond*
  21. 1st IAS-CERN Workshop, Singapore, 03/27/2013  
*125 GeV Higgs bosons in two-Higgs doublet models after Moriond 2013*
  22. Rencontres de Moriond 2013 “Electroweak Interactions and Unified Theories”, La Thuile, Italy, 03/04/2013  
*125 GeV Higgs bosons in the 2HDM*
  23. Henan Normal University, Xinxiang, 01/11/2013  
*125 GeV Higgs scenarios in the NMSSM perspective*
  24. Henan Normal University, Xinxiang, 01/09/2013  
*Higgs bosons and 125 GeV state: 2HDM perspective*
  25. PKU, Beijing, 01/08/2013  
*Higgs Bosons and 125 GeV state: 2HDM perspective*
  26. ITP-CAS, Beijing, 01/07/2013  
*125 GeV Higgs scenarios in the NMSSM perspective*
  27. ITP Seminar, ZJU, Hangzhou, 12/21/2012  
*Multiple/Degenerate 125 GeV Higgs scenarios in the NMSSM perspective*
  28. INPAC Seminar, SJTU, Shanghai, 12/14/2012  
*Degenerate 125 GeV Higgs scenarios in the NMSSM and 2HDM*
  29. LHC Lunch Seminar, UC Davis, 02/22/2012  
*125 GeV Higgs*
  30. Implication of a 125 GeV Higgs Boson Workshop, LPSC-Grenoble, France, 01/30/2012  
*The constrained NMSSM and Higgs near 125 GeV*

#### CONFERENCES ATTENDED

1. 20th International Symposium on Particles, Strings and Cosmology (PASCOS 2014), Warsaw, Poland (June 2014)
2. Phenomenology 2014 Symposium (PHENO 2014), Pittsburgh, USA (May 2014)
3. SCALARS 2013, Warsaw, Poland (Sep. 2013)
4. Rencontres de Moriond 2013 “Electroweak Interactions and Unified Theories”, La Thuile, Italy (Mar. 2013)
5. Conference in honor of Murray Gell-mann’s 80th Birthday, Institute of Advanced Study, Singapore (Feb. 2010)

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6. “Particle Physics, Astrophysics and Quantum Field Theory: 75 Years since Solvay, Institute of Advanced Study, Singapore (Nov. 2008)
  7. Conference in honor of C.N.Yang’s 85th Birthday, Nanyang Technological University, Singapore (Nov. 2007)

#### **SUMMER SCHOOLS and WORKSHOPS ATTENDED**

1. The Fourth International Workshop on Future High Energy Circular Colliders (CEPC 2014), Shanghai, China (Sep. 2014)
2. International Workshop on Particle Physics and Cosmology after Higgs and Planck, Chongqing, China (Sep. 2013)
3. 2013 TeV Physics Workshop, Dalian, China (Aug. 2013)
4. MITP Workshop “Cosmic-Rays and Photons from Dark Matter Annihilation: Theoretical Issues”, Mainz, Germany (June 2013)
5. Les Houches Workshop ”Physics at TeV Colliders” Session II, France (June 2013)
6. The LHC Higgs Signal: Fits, Models and BSM Implications, University of California, Davis (Apr. 2013)
7. 1st LHC-IAS Workshop on Particle Physics and Cosmology - Status, Implications and Technology, NTU-IAS, Singapore (Mar. 2013)
8. Mini Higgs Boson Workshop, LPSC-Grenoble, France (Mar. 2013)
9. SLAC Summer Institute 2012 “The Electroweak Scale: Unraveling the Mysteries at the LHC”, SLAC National Accelerator Laboratory, Stanford University (Jul. 2012)
10. Dark Matter in Collision Workshop, University of California, Davis (Apr. 2012)
11. Implication of a 125 GeV Higgs Boson Workshop, LPSC-Grenoble, France (Jan. 2012)
12. School and Workshop on Strongly Coupled Physics Beyond the Standard Model, The Abdus Salam International Centre for Theoretical Physics (ICTP), Trieste, Italy (Jan. 2012)
13. Hidden SUSY Workshop, University of California, Davis (Nov. 2011)
14. SUSY Recast Workshop, University of California, Davis (Apr. 2011)
15. The Tau Portal Workshop, University of California, Davis (Apr. 2011)

#### **TEACHING ACTIVITIES**

##### Undergraduate Levels

- Level 2 Physics Lab (Spring 2009-PC2193 Demonstrator; Fall 2009-PC2193 Demonstrator)
- General Physics for Science (Fall 2010-7A; Summer 2011-7B/7C)

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- General Physics for Engineering (Spring 2014-9A Reader; Winter 2012-9C Reader; Summer 2012-9D)
  - Quantum Mechanics (Fall 2013-115B)
  - Nuclear Physics (Spring 2011-129A)
  - Particle Physics (Winter 2011-130A Reader; Spring 2011-130B)

#### Graduate Levels

- High Energy Physics (Fall 2011-245A Reader)
- Quantum Field Theory (Spring 2012-230A Reader; Fall 2011-230B)

#### **COMPUTATIONAL SKILLS**

- Computer languages: Fortran, C++, Shell, Python
- Word processing: LaTeX, MS Office
- Software packages: Mathematica, GNUPlot, ROOT, Vim, JaxoDraw
- Operating systems: Macintosh, Linux, Windows, Ubuntu
- Program usage: NMSSMTools, micrOMEGAs, 2HDMC, SusHi, FeynRules<sup>1</sup>, RGErun

#### **PROFESSIONAL MEMBERSHIPS**

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

#### **PROFESSIONAL SERVICES**

- Jan. - Feb. 2010      Student Helper Leader for Gell-mann's Conference, IAS, Singapore  
Sep. - Nov. 2008      Student Assistant for PAQFT Conference, IAS, Singapore

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<sup>1</sup> Our 2HDM model files and Mathematica notebook for the FeynRules program will be available in the model database soon.