

## Curriculum Vitae

# YUN JIANG

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

*2013 LHC-TI Graduate Fellow*

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### 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, US National Science Foundation

### 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*, [arXiv:1208.1817\[hep-ph\]](#) Phys. Rev. Lett. **110** (2013) 051801.
- (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*, [arXiv:1211.3580\[hep-ph\]](#) (submitted to JHEP).
- (7) D. Dominici, J. F. Gunion and Y. Jiang, *125 GeV Higgs Phenomenology in the Higgs-radion model* (in progress).
- (8) J. F. Gunion, Y. Jiang, S. Kraml, S. Sekmen, *The Current Status of pNMSSM in light of the Recent LHC8 and 2012 XENON100 Data* (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, 01/19/2013
- (7) *125 GeV Higgs Bosons in the 2HDM*, Moriond 2013 EW (plenary talk in the YSF), Italy, 03/2013

### 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)

### 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 IAS-CERN Workshop on Particle Physics and Cosmology - Status, Implications and Technology, NTU-IAS, Singapore (Mar. 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