

Curriculum Vitae

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Education

- Ph. D., Physics, University of California at Berkeley, 1996.
- M. A., Physics, University of California at Berkeley, 1991.
- B. S., Electrical Engineering, National Taiwan University, Taiwan, R.O.C., 1988.

Academic Experience

- Professor, Department of Physics, University of California, Davis, 2012–present.
- Associate Professor, Department of Physics, University of California, Davis, 2009–2012.
- Assistant Professor, Department of Physics, University of California, Davis, 2005–2009.
- Research Associate, Department of Physics, Harvard University, 2002–2005.
- Research Associate (McCormick Fellow), Enrico Fermi Institute, University of Chicago, 1999–2002.
- Research Associate, Theoretical Physics Department, Fermi National Accelerator Laboratory, 1996–1999.
- Graduate student research assistant, Theoretical Physics Group, Lawrence Berkeley Laboratory, 1993–1996.
- Graduate student instructor, Department of Physics, University of California at Berkeley, 1991–1993.
- Referee for physics journals, *Physical Review Letters*, *Physical Review D*, *Physics Letters B*, *Nuclear Physics B*, *Journal of Cosmology and Astroparticle Physics* and *Journal of High Energy Physics*.
- Grant reviewer for Department of Energy and National Science Foundation.

Honors

- Outstanding Junior Investigator Award, Department of Energy, 2006-2009.
- Robert R. McCormick Fellowship, University of Chicago, 1999-2001.
- University of California Regents Fellowship, 1992-1993.
- Tse-Wei Liu Memorial Fellowship, University of California, 1990-1991.
- Book Coupon Awards (to the top 5% of the students in each class) 1984–1988; first place (out of 159) upon graduation in Class 88, Department of Electrical Engineering, National Taiwan University.

List of publications

1. “Light Hidden Mesons through the Z Portal,” H. C. Cheng, L. Li, E. Salvioni and C. B. Verhaaren, arXiv:1906.02198 [hep-ph].
2. Alimena:2019zri “Searching for long-lived particles beyond the Standard Model at the Large Hadron Collider,” J. Alimena *et al.*, arXiv:1903.04497 [hep-ex].
3. “Coscatting/Coannihilation Dark Matter in a Fraternal Twin Higgs Model” H.-C. Cheng, L. Li and R. Zheng, JHEP **1809**, 098 (2018) doi:10.1007/JHEP09(2018)098 [arXiv:1805.12139 [hep-ph]].
4. “Singlet Scalar Top Partners from Accidental Supersymmetry” H.-C. Cheng, L. Li, E. Salvioni and C. B. Verhaaren, JHEP **1805**, 057 (2018) doi:10.1007/JHEP05(2018)057 [arXiv:1803.03651 [hep-ph]].
5. “Constraining the compressed spectrum of the top squark and chargino along the W corridor” H.-C. Cheng, L. Li and Q. Qin, Phys. Rev. D **97**, no. 5, 055043 (2018) doi:10.1103/PhysRevD.97.055043 [arXiv:1711.07596 [hep-ph]].
6. “Compressed Stop Searches with Two Leptons and Two b-jets” H.-C. Cheng, C. Gao and L. Li. J. Phys. G **46**, no. 3, 035004 (2019) doi:10.1088/1361-6471/ab00cb [arXiv:1706.02805 [hep-ph]].
7. “Exotic electroweak signals in the twin Higgs model” H.-C. Cheng, E. Salvioni and Y. Tsai. arXiv:1612.03176 [hep-ph] Phys. Rev. D **95**, no. 11, 115035 (2017)
8. “AMS-02 Positron Excess and Indirect Detection of Three-body Decaying Dark Matter” H.-C. Cheng, W. C. Huang, X. Huang, I. Low, Y. L. S. Tsai and Q. Yuan. arXiv:1608.06382 [hep-ph] JCAP **1703**, no. 03, 041 (2017)
9. “Second Stop and Sbottom Searches with a Stealth Stop” H.-C. Cheng, L. Li and Q. Qin. arXiv:1607.06547 [hep-ph] JHEP **1611**, 181 (2016)

10. “Physics at a 100 TeV pp collider: beyond the Standard Model phenomena” . Golling *et al.*. arXiv:1606.00947 [hep-ph] CERN Yellow Report, no. 3, 441 (2017) CERN-TH-2016-111, FERMILAB-PUB-16-296-T
11. “Stop Search in the Compressed Region via Semileptonic Decays,” H.-C. Cheng, C. Gao, L. Li and N. A. Neill, JHEP **1605**, 036 (2016) [arXiv:1604.00007 [hep-ph]].
12. “Exotic Quarks in Twin Higgs Models,” H.-C. Cheng, S. Jung, E. Salvioni and Y. Tsai, JHEP **1603**, 074 (2016) [arXiv:1512.02647 [hep-ph]].
13. “Same-Sign Dilepton Excesses and Vector-like Quarks,” C.-R. Chen, H.-C. Cheng and I. Low. JHEP **1603**, 098 (2016) arXiv:1511.01452 [hep-ph]
14. “Top seesaw with a custodial symmetry, and the 126 GeV Higgs,” H.-C. Cheng and J. Gu, JHEP **1410**, 002 (2014) [arXiv:1406.6689 [hep-ph]].
15. “Higgs mass from compositeness at a multi-TeV scale,” H.-C. Cheng, B. A. Dobrescu and J. Gu, JHEP **1408**, 095 (2014) [arXiv:1311.5928 [hep-ph]].
16. “A Holographic Model of Heavy-light Mesons,” Y. Bai and H.-C. Cheng, JHEP **1308**, 074 (2013) [arXiv:1306.2944 [hep-ph]].
17. “A Toolkit of the Stop Search via the Chargino Decay,” Y. Bai, H.-C. Cheng, J. Gallicchio and J. Gu, JHEP **1308**, 085 (2013) [arXiv:1304.3148 [hep-ph]].
18. “The case for three-body decaying dark matter,” H.-C. Cheng, W. -C. Huang, I. Low and G. Shaughnessy, JCAP **1301**, 033 (2013) [arXiv:1205.5270 [hep-ph]].
19. “Stop the Top Background of the Stop Search,” Y. Bai, H.-C. Cheng, J. Gallicchio and J. Gu, JHEP **1207**, 110 (2012) [arXiv:1203.4813 [hep-ph]].
20. “Measuring Invisible Particle Masses Using a Single Short Decay Chain,” H.-C. Cheng and J. Gu, JHEP **1110**, 094 (2011) [arXiv:1109.3471 [hep-ph]].
21. “SUSY Hidden in the Continuum,” H. Cai, H.-C. Cheng, A. D. Medina and J. Terning, Phys. Rev. D **85**, 015019 (2012) [arXiv:1108.3574 [hep-ph]].
22. “Simplified Models for LHC New Physics Searches” D. Alves *et al.* [LHC New Physics Working Group Collaboration]. arXiv:1105.2838 [hep-ph] J. Phys. G **39**, 105005 (2012)
23. “Goldstini as the decaying dark matter,” H.-C. Cheng, W. C. Huang, I. Low and A. Menon, JHEP **1103**, 019 (2011) [arXiv:1012.5300 [hep-ph]].
24. “Identifying Dark Matter Event Topologies at the LHC” Y. Bai and H.-C. Cheng JHEP **1106**, 021 (2011) [arXiv:1012.1863 [hep-ph]].

25. “Missing Momentum Reconstruction and Spin Measurements at Hadron Colliders,” H.-C. Cheng, Z. Han, I. W. Kim and L. T. Wang *JHEP* **1011**, 122 (2010) [arXiv:1008.0405 [hep-ph]].
26. “Continuum Superpartners” H.-C. Cheng, *Int. J. Mod. Phys.* **A25**, 5210-5221 (2010) [arXiv:1003.1163 [hep-ph]].
27. “2009 TASI Lecture – Introduction to Extra Dimensions” H.-C. Cheng, in “Physics of the Large and the Small,” Proceedings of the Theoretical Advanced Study Institute in Elementary Particle Physics, eds. C. Csaki and S. Dodelson, arXiv:1003.1162 [hep-ph].
28. “Continuum Superpartners from Supersymmetric Unparticles,” H. Cai, H.-C. Cheng, A. D. Medina and J. Terning, *Phys. Rev.* **D80**, 115009 (2009) arXiv:0910.3925 [hep-ph].
29. “Accurate Mass Determinations in Decay Chains with Missing Energy: II,” H.-C. Cheng, J. F. Gunion, Z. Han and B. McElrath, *Phys. Rev.* **D80** 035020 (2009) arXiv:0905.1344 [hep-ph].
30. “A Quirky Little Higgs Model,” H. Cai, H.-C. Cheng and J. Terning, *JHEP* **0905**, 045 (2009) arXiv:0812.0843 [hep-ph].
31. “Minimal Kinematic Constraints and MT2,” H.-C. Cheng and Z. Han, *JHEP* **0812**, 063 (2008) arXiv:0810.5178 [hep-ph].
32. “A spin-1 top quark superpartner,” H. Cai, H.-C. Cheng and John Terning, *Phys. Rev. Lett.* **101**, 171805 (2008) arXiv:0806.0386 [hep-ph]
33. “Accurate mass determinations in decay chains with missing energy,” H.-C. Cheng, D. Engelhardt, J. F. Gunion, Z. Han and B. McElrath, *Phys. Rev. Lett.* **100** 252001, (2008), arXiv:0802.4290 [hep-ph].
34. “Little Higgs, non-standard Higgs, no Higgs and all that,” H.-C. Cheng, Proceedings of The 15th International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY07), Karlsruhe, Germany, 26 Jul – 1 Aug 2007, arXiv:0710.3407 [hep-ph].
35. “Mass determination in SUSY-like events with missing energy,” H.-C. Cheng, J. F. Gunion, Z. Han, G. Marandella and B. McElrath, *JHEP* **0712** 076 (2007), arXiv:0707.0030 [hep-ph].
36. “Dynamics of gravity in a Higgs phase,” N. Arkani-Hamed, H.-C. Cheng, M. A. Luty, S. Mukohyama and T. Wiseman, *JHEP* **0701** 036 (2007), arXiv:hep-ph/0507120.
37. “Little M-theory,” H.-C. Cheng, J. Thaler and L.-T. Wang, *JHEP*, **0609** 003 (2006), arXiv:hep-ph/0607205.

38. “Spontaneous Lorentz breaking at high energies,” H.-C. Cheng, M. A. Luty, S. Mukohyama and J. Thaler, *JHEP* **0605** 076 (2006), arXiv:hep-th/0603010.
39. “Top partners in little Higgs theories with T-parity,” H.-C. Cheng, I. Low and L.-T. Wang, *Phys. Rev.*, **D74** 055001 (2006), arXiv:hep-ph/0510225.
40. “Universal dynamics of spontaneous Lorentz violation and a new spin-dependent inverse-square law force,” N. Arkani-Hamed, H.-C. Cheng, M. Luty and J. Thaler, *JHEP* **0507**, 029 (2005), arXiv:hep-ph/0407034.
41. “Little hierarchy, little Higgses, and a little symmetry,” H.-C. Cheng and I. Low, *JHEP* **0408**, 061 (2004), arXiv:hep-ph/0405243.
42. “Ghost condensation and a consistent infrared modification of gravity,” N. Arkani-Hamed, H.-C. Cheng, M. A. Luty and S. Mukohyama, *JHEP* **0405**, 074 (2004), arXiv:hep-th/0312099.
43. “TeV symmetry and the little hierarchy problem,” H.-C. Cheng and I. Low, *JHEP* **0309**, 051 (2003), arXiv:hep-ph/0308199.
44. “Pseudonatural inflation,” N. Arkani-Hamed, H.-C. Cheng, P. Creminelli and L. Randall, *JCAP* **0307**, 003 (2003), arXiv: hep-th/0302034.
45. “Extranatural inflation,” N. Arkani-Hamed, H.-C. Cheng, P. Creminelli and L. Randall, *Phys. Rev. Lett.* **90**, 221302 (2003), arXiv: hep-th/0301218.
46. “Kaluza-Klein dark matter,” H.-C. Cheng, J. L. Feng and K. T. Matchev, *Phys. Rev. Lett.* **89**, 211301 (2002), arXiv:hep-ph/0207125.
47. “Universal extra dimensions at the e- e- colliders,” H.-C. Cheng, presented at 4th International Workshop on Electron-Electron Interactions at TeV Energies (e- e- 01), Santa Cruz, California, 7-9 Dec 2001, arXiv:hep-ph/0206035.
48. “Bosonic supersymmetry? Getting fooled at the LHC,” H.-C. Cheng, K. T. Matchev and M. Schmaltz, *Phys. Rev.* **D66**, 056006 (2002), arXiv:hep-ph/0205314.
49. “Radiative corrections to Kaluza-Klein masses,” H.-C. Cheng, K. T. Matchev and M. Schmaltz, *Phys. Rev.* **D66**, 036005 (2002), arXiv:hep-ph/0204342.
50. “The beyond the standard model working group: Summary report,” G. Azuelos *et al.*, to appear in the proceedings of Workshop on Physics at TeV Colliders, Les Houches, France, 21 May - 1 Jun 2001. arXiv:hep-ph/0204031.
51. “GUT breaking on the lattice,” H.-C. Cheng, K. T. Matchev and J. Wang, *Phys. Lett.* **B521**, 308 (2001), arXiv:hep-ph/0107268.
52. “Linear collider physics resource book for Snowmass 2001,” T. Abe *et al.* [American Linear Collider Working Group Collaboration], SLAC-570, hep-ex/0106057.

53. “Deconstructing gaugino mediation,” H.-C. Cheng, D. E. Kaplan, M. Schmaltz and W. Skiba, *Phys. Lett* **B515**, 395 (2001), arXiv:hep-ph/0106098.
54. “Dynamical electroweak breaking and latticized extra dimensions,” H.-C. Cheng, C. T. Hill and J. Wang, *Phys. Rev.* **D64**, 095003 (2001), arXiv:hep-ph/0105323.
55. “The standard model in the latticized bulk,” H.-C. Cheng, C. T. Hill, S. Pokorski and J. Wang, *Phys. Rev.* **D64**, 065007 (2001), arXiv:hep-th/0104179.
56. “Axions and a gauged Peccei-Quinn symmetry,” H.-C. Cheng and D. E. Kaplan, arXiv:hep-ph/0103346.
57. “Electroweak symmetry breaking and extra dimensions,” H.-C. Cheng, presented at 5th International Linear Collider Workshop (LCWS 2000), Fermilab, Batavia, Illinois, 24-28 Oct 2000, arXiv:hep-ph/0012263.
58. “Bounds on universal extra dimensions,” T. Appelquist, H.-C. Cheng, B. A. Dobrescu, *Phys. Rev.* **D64**, 035002 (2001), arXiv:hep-ph/0012100.
59. “Minimal electroweak symmetry breaking model in extra dimensions,” H.-C. Cheng, presented at The Meeting of The Division of Particles and Fields of The American Physical Society (DPF2000), August 9-12, 2000, The Ohio State University, Columbus, Ohio, arXiv:hep-ph/0011061.
60. “Self-breaking of the standard model gauge symmetry,” N. Arkani-Hamed, H.-C. Cheng, B. A. Dobrescu and L. J. Hall, *Phys. Rev.* **D62**, 096006 (2000), arXiv:hep-ph/0006238.
61. “Electroweak symmetry breaking by extra dimensions,” H.-C. Cheng, B. A. Dobrescu and C. T. Hill, presented at The 7th International Symposium on Particles, Strings and Cosmology (PASCOS99), Granlibakken, Lake Tahoe, California December 10-16, 1999, arXiv:hep-ph/0004072.
62. “Report of mSUGRA working group for Run II of the Tevatron,” S. Abel et al., arXiv:hep-ph/0003154.
63. “Electroweak symmetry breaking and extra dimensions,” H.-C. Cheng, B. A. Dobrescu and C. T. Hill, *Nucl. Phys.* **B589**, 249 (2000), arXiv:hep-ph/9912343.
64. “New Higgs signals from flavor physics in large extra dimensions,” H.-C. Cheng and K. T. Matchev, *Nucl. Phys.* **B563**, 21 (1999), arXiv:hep-ph/9908328.
65. “Gauge coupling unification with extra dimensions and gravitational scale effects,” H.-C. Cheng, B. A. Dobrescu and C. T. Hill, *Nucl. Phys.* **B573**, 597 (2000), arXiv:hep-ph/9906327.
66. “Doublet-triplet splitting and fermion masses with extra dimensions,” H.-C. Cheng, *Phys. Rev.* **D60**, 075015 (1999), arXiv:hep-ph/9904252.

67. “Generic and chiral extensions of the supersymmetric standard model,” H.-C. Cheng, B. A. Dobrescu, and K. T. Matchev, *Nucl. Phys.* **B543**, 47 (1999), arXiv:hep-ph/9811316.
68. “A chiral supersymmetric standard model,” H.-C. Cheng, B. A. Dobrescu, and K. T. Matchev, *Phys. Lett.* **B439**, 301 (1998), arXiv:hep-ph/9807246.
69. “Duality after supersymmetry breaking,” Y. Shadmi and H.-C. Cheng, presented by Y. Shadmi at 33rd Rencontres de Moriond: Electroweak Interactions and Unified Theories, Mar. 14-21, 1998, Les Arcs, arXiv:hep-th/9806076.
70. “Duality in the presence of supersymmetry breaking,” H.-C. Cheng, Y. Shadmi, *Nucl. Phys.* **B531**, 125 (1998), arXiv:hep-th/9801146.
71. “Precision SUSY measurements at the e^-e^- collider,” H.-C. Cheng, presented at 2nd International Workshop on Electron-Electron Interactions at TeV Energies, Sep. 22-24, 1997, University of California, Santa Cruz, arXiv:hep-ph/9801234, Published in *Int. J. Mod. Phys.* **A13**, 2329-2336 (1998), Editor: C. A. Heusch.
72. “Flavor and CP violations from sleptons at the muon collider,” H.-C. Cheng, presented at Workshop on Physics at the First Muon Collider and at the Front End of a Muon Collider, Nov. 6-9, 1997, Fermilab, Batavia, Illinois, arXiv:hep-ph/9712427, Published in *AIP Conference Proceedings 435*, p. 561, Editors: S. H. Geer and R. Raja.
73. “Signatures of multi-TeV scale particles in supersymmetric theories,” H.-C. Cheng, J. L. Feng, and N. Polonsky, *Phys. Rev.* **D57**, 152 (1998), arXiv:hep-ph/9706476.
74. “Superoblique corrections and nondecoupling of supersymmetry breaking,” H.-C. Cheng, J. L. Feng, and N. Polonsky, *Phys. Rev.* **D56**, 6875 (1997), arXiv:hep-ph/9706438.
75. “Supersymmetric lepton flavor violation at the NLC,” H.-C. Cheng, presented at Symposium on Flavor-Changing Neutral Currents: Present and Future Studies (FCNC 97), Feb. 19-21, 1997, Santa Monica, California, arXiv:hep-ph/9704289, Published in Proceedings of the Symposium on Flavor-Changing Neutral Currents: Present and Future Studies, p. 219, Editor: D. B. Cline.
76. “CP violation from slepton oscillations at the LHC and NLC,” N. Arkani-Hamed, H.-C. Cheng, J. L. Feng, and L. J. Hall, *Nucl. Phys.* **B505**, 3 (1997), arXiv:hep-ph/9704205.
77. “Supersymmetric dynamical generation of the grand unification scale,” H.-C. Cheng, *Phys. Lett.* **B410**, 45 (1997), arXiv:hep-ph/9702214.
78. “Nonunified gaugino masses in supersymmetric missing partner models with hypercolor,” N. Arkani-Hamed, H.-C. Cheng, and T. Moroi, *Phys. Lett.* **B387**, 529 (1996), arXiv:hep-ph/9607463.

79. “Probing lepton flavor violation at future colliders,” N. Arkani-Hamed, H.-C. Cheng, J. L. Feng, and L. J. Hall, *Phys. Rev. Lett.* **77**, 1937 (1996), arXiv:hep-ph/9603431.
80. “A supersymmetric theory of flavor with radiative fermion masses,” N. Arkani-Hamed, H.-C. Cheng, and L. J. Hall, *Phys. Rev.* **D54**, 2242 (1996), arXiv:hep-ph/9601262.
81. “A new supersymmetric framework for fermion mass,” N. Arkani-Hamed, H.-C. Cheng, and L. J. Hall, *Nucl. Phys.* **B472**, 95 (1996), arXiv:hep-ph/9512302.
82. “Flavor mixing signals for realistic supersymmetric unification,” N. Arkani-Hamed, H.-C. Cheng, and L. J. Hall, *Phys. Rev.* **D53**, 413 (1996), arXiv:hep-ph/9508288.
83. “Squark and slepton mass relations in grand unified theories,” H.-C. Cheng and L. J. Hall, *Phys. Rev.* **D51**, 5289 (1995), arXiv:hep-ph/9411276.
84. “SO(10) operator analysis for $\nu_\mu \nu_\tau$ oscillations,” H.-C. Cheng, M. S. Gill, and L. J. Hall, *Phys. Rev.* **D49**, 4826 (1994), arXiv:hep-ph/9307275.

Conference and Workshop talks

- “Thermal Dark Matter in Neutral Naturalness Models”
5th International Workshop on Dark Matter, Dark Energy and Matter-Antimatter Asymmetry, Fo-Guang-Shan, Kaohsiung, Taiwan, Dec 28–31, 2018
- “Light Resonances from a Hidden Color Gauge Group in Neutral Naturalness Models”
NCTS Annual Theory Meeting: Particle/String/Cosmology, National Center for Theoretical Sciences, Hsinchu, Taiwan, Dec. 17–20, 2018
- “A Supersymmetric Model with Uncolored Scalar Top Partners”
The 26th International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY 2018), Barcelona, Spain, July 23–17, 2018
- “Where Could the Stop Be Hiding?”
New Physics Interpretations at LHC II, Argonne National Laboratory, Apr. 5–7, 2017.
- “Theory Summary,”
Conference of IAS Program on High Energy Physics, HKUST Jockey Club Institute for Advanced Study, Hong Kong, Jan. 23–26, 2017.
- “Collider Signals for the Twin Higgs Model and Its UV Completion,”
IAS Program on High Energy Physics, HKUST Jockey Club Institute for Advanced Study, Hong Kong, Jan. 17, 2017.
- “Stop Searches in the Compressed Region,”
4th International Workshop on Dark Matter, Dark Energy, and Matter-Antimatter Asymmetry, National Center for Theoretical Sciences, Hsinchu, Taiwan, Dec. 29-31, 2016

- “Stop Searches in the Compressed Region,”
Hints of New Physics at the LHC Run 2 KITPC and TeV working group workshop,
KITPC, Beijing, China, July 26-28, 2016.
- “Twin Higgs Models and Their Collider Phenomenology,”
The 10th Monte Carlo Tools for Physics Beyond Standard Model (MC4BSM) UCAS,
Beijing, China, July 20–24, 2016.
- “Stop Searches in the Compressed Region,”
Workshop on New Physics Interpretation of Early LHC Data, Argonne National
Laboratory, May 2-4, 2016
- “Exotic Quarks in Twin Higgs Models,”
Neutral Naturalness Workshop, University of Maryland, Apr 28-30, 2016.
- “Exotic Quarks in Twin Higgs Models,”
NCTS Annual Meeting, National Center for Theoretical Sciences, Hsinchu, Taiwan,
Dec. 9–12, 2015.
- “Light Composite Higgs from Top Seesaw,”
Composite Higgs Program, Fermilab, Batavia, Illinois, USA, Oct. 26–Nov. 13, 2015.
- “Composite Higgs in Light of the 125 GeV Higgs Boson,”
Second KIAS-NCTS Joint Workshop, Taipei, Taiwan, Dec. 26–28, 2014.
- “Composite Higgs from Top Condensation,”
BSM Higgs Workshop @ LPC, Fermilab, Batavia, Illinois, USA, Nov. 3–5, 2014.
- “Non-SUSY BSM motivations for future circular colliders,”
The 2nd CFHEP Symposium on circular collider physics, Institute of High Energy
Physics, Beijing, Aug. 11-15, 2014.
- “A light Higgs boson from a composite Higgs theory,”
BSM2014 Workshop, KEK, Japan, Mar. 3-7, 2014.
- “A light Higgs boson from a composite Higgs theory,”
The 21th International Conference on Supersymmetry and Unification of Fundamen-
tal Interactions (SUSY 2013), ICTP, Trieste, Italy, Aug. 26-31, 2013.
- “Third generation squark searches with new kinematic variables,”
The 20th International Conference on Supersymmetry and Unification of Fundamen-
tal Interactions (SUSY 2012), Peking University, Beijing, China, Aug. 13–18, 2012.
- “Kinematic considerations for events with missing particles,”
Preworkshop on Very Heavy Quark at the LHC, National Taiwan University, Dec.
20–21, 2011.

- “Hiding SUSY with Continuum Superpartners,”
International Workshop: Extra Dimensions in the Era of the LHC, Osaka University, Osaka, Japan, Dec. 12-14, 2011,
- “Kinematic techniques for missing energy events at hadron colliders,”
The 19th International Conference on Supersymmetry and Unification of Fundamental Interactions (SUSY 2011), Fermilab, Batavia, Illinois, USA, Aug. 28 – Sep. 02, 2011.
- “Measuring invisible particle masses using a single short decay chain,”
TH-LPCC Summer Institute on LHC Physics (THLPCC11), CERN, Geneva, Switzerland, Aug. 01 – Sep. 02, 2011.
- “Measuring invisible particle masses at hadron colliders,”
The Ninth Particle Physics Phenomenology Workshop (PPP9), National Central University, Zhongli, Taiwan, June 3–6, 2011.
- “Disentangling New Physics with Missing Energy at the LHC,”
NCTS LHC Topical Program, 2nd Workshop, National Center for Theoretical Sciences, Hsinchu, Taiwan, Dec. 8–10, 2010.
- “Continuum Superpartners from Supersymmetric Unparticles,”
2009 Nogoya Global COE Workshop, Strong Coupling Gauge Theory in LHC Era (SCGT09), Nagoya, Japan, Dec. 8–11, 2009.
- “Invisible particle mass determination at hadron colliders,”
Plenary talk at Planck 2009, 12th of the series “From the Planck Scale to the ElectroWeak Scale,” Padova, Italy, May 25–29, 2009.
- “Determining invisible particle masses at the LHC,”
National Taiwan University and University of California at Davis Joint Workshop: “From LHC To The Universe,” Physics Department, National Taiwan University, Taipei, Taiwan, Dec. 15–18, 2008.
- “Mass determination in SUSY-like events with missing energy,”
4th Working Class on LHC Physics, Jul. 2, 2008, Academia Sinica, Taipei, Taiwan.
- “A spin-1 top partner,”
IPMU workshop: Focus week on LHC physics, Jun. 23–27, 2008, Institute for the Physics and Mathematics of the Universe, Japan.
- “New approaches in electroweak symmetry breaking,”
Plenary talk at the 2008 Phenomenology Symposium, April 28–30, 2008, University of Wisconsin–Madison.
- “Mass determinations in decay chains with missing energy,”
KITP Program: Physics of the Large Hadron Collider, February 4 – June 6, 2008, Kavli Institute for Theoretical Physics, Santa Barbara, California.

- “Mass determination in SUSY-like events with missing energy,”
CERN BSM Theory Institute: New Physics and the LHC, Aug. 13 – Sep. 7, 2007,
CERN, Geneva, Switzerland.
- “Little Higgs, Non-standard Higgs, No Higgs and All That,”
Plenary talk at The 15th International Conference on Supersymmetry and Unification
of Fundamental Interactions, July 26 – Aug. 1, 2007, Karlsruhe, Germany.
- “Little Higgs M-theory,”
2006 International Workshop on Origin of Mass and Strong Coupling Gauge Theories
(SCGT 06), Nov. 21–24, 2006, Nagoya, Japan.
- “Little Higgs M-theory,”
Aspen Summer 2006 Workshop, “Particle Theory in Anticipation of the LHC” Aspen
Center for Physics, Jul. 31 – Sep. 3, 2006, Aspen, Colorado.
- “Little Higgs M-theory,”
The 14th International Conference on Supersymmetry and Unification of Fundamen-
tal Interactions, June 12-17, 2006, Irvine, California, USA.
- “Kaluza-Klein dark matter,”
Complementarity between Dark Matter Searches and Collider Experiments, June 10-
11, 2006, UC Irvine, California, USA.
- “Universal Extra Dimensions,”
Monte Carlo Tools for Beyond the Standard Model Physics, Mar. 20-21, 2006, Fer-
milab, Batavia, Illinois, USA.
- “Little Higgs theories and dark matter,”
TeV Particle Astrophysics Workshop 2005, July 13–15, 2005, Fermi National Accel-
erator laboratory, Batavia, Illinois, USA.
- “Ghost condensation and a consistent infrared modification of gravity,”
The 12th International Conference on Supersymmetry and Unification of Fundamen-
tal Interactions, June 17-23, 2004, Epochal Tsukuba, Tsukuba, Japan.
- “Little hierarchy problem and little Higgs theories,”
The 12th International Conference on Supersymmetry and Unification of Fundamen-
tal Interactions, June 17-23, 2004, Epochal Tsukuba, Tsukuba, Japan.
- “Little Higgs and the T-parity,”
Pisa Seminar on New Directions in Physics beyond the Standard Model, Scuola Nor-
male Superiore - Istituto Nazionale di Fisica Nucleare, May 31 – June 4 2004, Pisa,
Italy.
- “Bosonic supersymmetry? Phenomenology of universal extra dimensions,”
Summer 2002 Workshop, “Advances in Field Theory and Applications to Particle
Physics,” Aspen Center for Physics, Jul. 8 – Aug. 4, 2002, Aspen, Colorado.

- “Phenomenology of universal extra dimensions,”
The XVI Spring School on Particles and Fields March 27-30, 2002, National Taiwan Normal University, Taipei, Taiwan.
- “Universal extra dimensions and the e^-e^- collider,”
The 4th International Workshop on Electron-Electron Interactions at TeV energies, Dec. 7-9, 2001, University of California, Santa Cruz.
- “Electroweak symmetry breaking and extra dimensions,”
The P3 “Scales Beyond 1 TeV” Group at the Snowmass 2001 meeting, Snowmass, CO, Jun. 30–Jul. 21, 2001.
- “Composite Higgs from extra dimensions,”
Workshop on the Future of Higgs Physics, Fermi National Accelerator Laboratory, Batavia, IL, May 3–5, 2001.
- “The e^-e^- option,”
2nd International Workshop on High Energy Photon Colliders, Fermi National Accelerator Laboratory, Batavia, IL, Mar. 14–17, 2001.
- “Top quark condensate models in extra dimensions,”
Thinkshop2 on Top-quark physics for Run II and beyond, Fermi National Accelerator Laboratory, Batavia, IL, November 10 - 12, 2000.
- “Electroweak symmetry breaking and extra dimensions,”
Linear Collider Workshop 2000 (LCWS 2000) Fermi National Accelerator Laboratory, Batavia, IL, October 24-28, 2000.
- “Composite Higgs and extra dimensions,”
Aspen Workshop Summer 2000 “New Physics at the Weak Scale and Beyond,” Aspen, CO, Aug 7-Sep 10, 2000.
- “Minimal electroweak symmetry breaking model in extra dimensions,”
The Meeting of The Division of Particles and Fields of The American Physical Society (DPF2000), August 9-12, 2000, Ohio State University, Columbus, Ohio.
- “Composite Higgs and extra dimensions,”
Santa Fe 2000 Summer Workshop “Supersymmetry, Branes and Extra Dimensions,” Sante Fe, NM, July 31-August 11, 2000.
- “Composite Higgs as a prediction of extra dimensions,”
The 8th International Conference on Supersymmetries in Physics (SUSY2K) CERN, Geneva, Switzerland, 26 June – 1 July 2000.
- “Dynamical electroweak symmetry breaking in extra dimensions,”
Theoretical Institute on SUSY and Higgs 2000, Argonne National Laboratory, April 25th to May 12th, 2000.

- “Electroweak symmetry breaking from extra dimensions,”
Pheno 2000 Symposium: Phenomenology for the Nu Century, University of Wisconsin, Madison, April 17–19, 2000.
- “Electroweak symmetry breaking by extra dimensions,”
The 7th International Symposium on Particles, Strings and Cosmology Granlibakken, Lake Tahoe, California, December 10-16, 1999.
- “Doublet-triplet splitting and fermion masses with extra dimensions,”
The 7th International Conference on Supersymmetries in Physics (SUSY99), June 14-19, 1999, Fermi National Accelerator Laboratory, Batavia, Illinois.
- “A chiral supersymmetric standard model,”
The 6th International Conference on Supersymmetries (SUSY98), Jul. 11–17, 1998, Oxford University, Oxford, England.
- “Superoblique corrections and precision SUSY coupling measurements,”
Pheno-CTEQ Symposium 98, Mar. 23–26, 1998, Madison, Wisconsin.
- “Flavor and CP violations from sleptons at the muon collider,”
Workshop on Physics at the First Muon Collider and at the Front End of a Muon Collider, Nov. 6–9, 1997, Fermilab, Batavia, Illinois.
- “Precision SUSY measurements at the e^-e^- collider,”
The 2nd International Workshop on Electron-Electron Interactions at TeV Energies, Sep. 22–24, 1997, University of California, Santa Cruz.
- “Supersymmetric lepton flavor violation at the NLC,”
Symposium on Flavor-Changing Neutral Currents: Present and Future Studies (FCNC 97), Feb. 19–21, 1997, Santa Monica, California.

Seminars, Colloquia, and Lectures

- “Coscattering/Coannihilation Dark Matter in a Fraternal Twin Higgs Model”
National Central University, Sep. 19, 2018
National Taiwan University, Sep. 12, 2018
NCTS and National Tsinghua University, Sep. 11, 2018
Academia Sinica, July 6, 2018
- “A Model of Neutral Scalar Top Partners”
NCTS and National Tsinghua University, Jan. 2, 2018
National Taiwan University, Dec. 27, 2017
- “Collider Signals of the Twin Higgs Model and Its UV Completion”
Center for Cosmological and Particle Physics, New York University, Feb. 22, 2017;
National Taiwan University, Dec. 26, 2016

- “Stop Searches in the Compressed Region,”
National Taiwan University, Aug. 1, 2016
- “Twin Higgs Models and Their Collider Phenomenology,”
National Center for Theoretical Sciences and National Tsinghua University, Dec. 24, 2015.
- “Who needs a 100 TeV collider,”
Introduction and panel discussion, National Center for Theoretical Sciences, North Branch, Sep. 1, 2014.
- “Lectures on extra dimensions, I, II, III,”
Center for Future High Energy Physics, Institute of High Energy Physics, Chinese Academy of Sciences, Jul. 24 & 26, 2014.
- “A light Higgs boson from a composite Higgs theory,”
National Tsinghua University, Sep. 18, 2014;
National Taiwan University, Sep. 17, 2014;
National Central University, Sep. 2, 2014;
Institute of Theoretical Physics, Chinese Academy of Sciences, Jul. 29, 2014;
University of Wisconsin, Madison, Feb. 21, 2014;
Academia Sinica, Dec. 25, 2013.
- “A holographic model of heavy-light mesons,”
University of California, Davis, LHC lunch, Dec. 4, 2013;
National Center for Theoretical Sciences, Sep. 17, 2013;
National Taiwan University, Sep. 16, 2013.
- “Heavy-light mesons in AdS/QCD,”
Academia Sinica, Dec. 28, 2012.
- “Kinematic variables for events with missing particles,”
National Taiwan University, Sep. 10, 2012; Academia Sinica, June 13, 2012;
National Center for Theoretical Sciences, June 12, 2012;
Princeton University, Apr. 30, 2012;
Argonne National Laboratory, Apr. 17, 2012;
SLAC National Accelerator Laboratory, Mar. 23, 2012.
- “A supersymmetric candidate for decaying dark matter,”
Academia Sinica, May 27, 2011.
- “Identifying missing energy event topologies at the LHC,”
Harvard University, Apr. 26, 2011.
- “Spin determination from kinematic reconstruction at the LHC,”
University of Maryland, College Park, Aug. 30, 2010;
National Center for Theoretical Sciences, Taiwan, July 15, 2010;
National Taiwan University, July 14, 2010.

- “Invisible particle mass determination at hadron colliders,”
Fermilab, Batavia, Aug. 26, 2010;
Northwestern University, Nov. 9, 2009.
- “Continuum superpartners from supersymmetric unparticles,”
Institute for Advanced Study, Princeton, Nov. 13, 2009;
National Taiwan University, Sep. 2, 2009;
National Center for Theoretical Sciences, Taiwan, Sep. 8, 2009;
National Central University, Sep. 9, 2009.
- “Introduction to extra dimensions,”
Lectures at TASI Summer School, University of Colorado, Boulder, June 1–26, 2009.
- “Determining invisible particle masses at the LHC,”
Johns Hopkins University, Mar. 24, 2009.
- “A spin-1 top partner,”
Academia Sinica, Jul. 4, 2008.
- “Mass determination in events with missing energy at the LHC I & II,”
National Taiwan University, Dec. 24 & 26, 2007;
National Tsinghua University, Dec. 27, 2007.
- “Mass determination in SUSY-like events with missing energy,”
Institute for Advance Study, Princeton, Sep. 11, 2007;
University of California, Berkeley, May 21, 2007;
University of California, Irvine, May 2, 2007.
- “Little Higgs M-theory,”
National Taiwan University, Dec. 25, 2006;
National Tsinghua University, Dec. 26, 2006;
Stanford Linear Accelerator Center, July 12, 2006.
- “A Higgs phase of gravity,”
Stanford Linear Accelerator Center, Dec. 2, 2005;
Johns Hopkins University, Apr. 2, 2004.
- “Little hierarchy problem and little Higgs theories,”
University of Maryland, College Park, Mar. 28, 2005;
University of California, Irvine, Mar. 16, 2005;
Fermilab, Batavia, Mar. 10, 2005;
University of California, Davis, Mar. 4, 2005.
- “Modifying gravity at large distances,”
Physics Department Colloquium, Syracuse University, Feb. 21, 2005;

- “Goldstone dynamics of spontaneous Lorentz violation,”
Syracuse University, Feb. 21, 2005;
University of Texas, Austin, Texas, Feb. 1, 2005;
University of Massachusetts, Amherst, Jan. 21, 2005;
National Taiwan University, Dec. 28, 2004;
Academia Sinica, Dec. 16, 2004;
National Center for Theoretical Sciences, Taiwan, Dec. 15, 2004;
Institute for Advanced Study, Princeton, Nov. 11, 2004;
Rutgers University, Piscataway, Nov. 5, 2004.
- “Universal dynamics of spontaneous Lorentz violation,”
National Taiwan University, Jun. 25, 2004;
National Center for Theoretical Sciences, Taiwan, Jun. 28, 2004.
- “Little hierarchy, little Higgs and a little symmetry,”
Joint theory seminar of Harvard, MIT and Boston University, Massachusetts Institute
of Technology, Feb. 4, 2004.
- “Modifying gravity in the infrared,”
Physics Department Colloquium at National Taiwan University, Dec. 23, 2003.
- “Ghost condensation and infrared modification of gravity,”
Cornell University, Oct. 1, 2003;
Yale University, Nov. 4, 2003;
Academia Sinica, Dec. 18, 2003;
National Taiwan University, Dec. 24, 2003;
National Center for Theoretical Sciences, Taiwan, Dec. 30, 2003;
University of Illinois, Chicago, Jan. 26, 2004;
Fermilab, Jan. 27, 2004.
- “TeV symmetry and the little hierarchy problem,”
National Taiwan University, Dec. 22, 2003;
National Center for Theoretical Sciences, Taiwan, Jan. 2, 2004.
- “Extranatural inflation,”
University of Maryland, College Park, Mar. 31, 2003;
University of Minnesota, Minneapolis, Apr. 3, 2003;
Boston University, Apr. 14, 2003;
Yale University, Apr. 15, 2003.
- “Really natural inflation,”
University of California, Berkeley, Feb. 20, 2003.
- “Kaluza-Klein dark matter,”
Harvard University, Oct. 2, 2002;
Los Alamos National Laboratory, Jan. 13, 2003.

- “Deconstructing extra dimensions,”
National Tsinghua University, Apr. 15, 2002;
National Taiwan University, Apr. 18, 2002.
- “Universal extra dimensions,”
New York University, Jan. 14, 2002;
Brookhaven National Laboratory, Jan. 16, 2002;
Fermilab, Jan. 24, 2002;
University of Chicago, Feb. 4, 2002.
- “(Almost) invisible extra dimensions,”
Harvard University, Nov. 6, 2001;
Yale University, Nov. 13, 2001;
University of Florida, Gainesville, Feb. 22, 2002;
Stanford Linear Accelerator Laboratory, Mar. 13, 2002;
University of California, Berkeley, Mar. 18, 2002.
- “Standard model in extra dimensions,”
Physics Department Colloquium at University of Utah, Salt Lake City, Apr. 5, 2001.
- “Strong CP problem and extra dimensions,”
Lawrence Berkeley National Laboratory, Apr. 4, 2001;
Stanford Linear Accelerator Center, Apr 13, 2001;
University of Illinois at Chicago, Apr 25, 2001.
- “Standard Model in Extra Dimensions,”
University of Illinois at Chicago, Feb. 5, 2001;
University of Toronto, Feb. 7, 2001;
University of British Columbia, Feb. 12, 2001.
- “Self-breaking of the Standard Model Gauge Symmetry,”
Center for Theoretical Science, Taiwan, Dec. 15, 2000;
Academia Sinica, Dec. 18, 2000;
National Taiwan University, Dec. 27, 2000.
- “Composite Higgs and extra dimensions,”
Michigan State University, Nov. 28, 2000.
- “Electroweak symmetry breaking from extra dimensions,”
National Chengkung University, Dec. 30, 1999;
Academia Sinica, Dec. 31, 1999;
National Taiwan University, Jan. 13, 2000;
Lawrence Berkeley National Laboratory, Mar. 22, 2000;
University of Wisconsin, Madison, May 19, 2000.
- “Lectures on extra dimensions 1–5”
presented between December 20, 1999 and January 14, 2000, at the NCTS Topical

Program “From Higgs to Supersymmetry”, National Center for Theoretical Sciences, Taiwan, August 1999 – May 2000.

- “Generic and chiral extensions of the supersymmetric standard model,”
University of Chicago, Jan. 6, 1999;
National Tsinghua University, Feb. 24, 1999.
- “A chiral supersymmetric standard model,”
Johns Hopkins University, Oct, 30, 1998;
University of Maryland, College Park, Nov. 2, 1998;
William and Mary College, Williamsburg, Virginia, Nov. 5, 1998.
- “Duality in the presence of supersymmetry breaking,”
Fermilab, Jan. 15, 1998.
- “Superoblique corrections and precision SUSY measurements,”
SLAC, Sep. 26, 1997;
National Tsinghua University, Jan. 23, 1998;
National Taiwan University, Feb. 13, 1998.
- “Probing lepton flavor Violation at the Next Linear Collider,”
Fermilab, Dec. 5, 1996;
Academia Sinica, Jan. 6, 1997;
Purdue University, Jan. 13, 1997.
- “A supersymmetric theory of flavor with radiative fermion masses,”
University of California, Berkeley, Feb. 1996.