

## Biographical sketch – Tao Han (Spring 2024)

### Professional Preparation

Nankai University	Theoretical Physics	M.S.	1983
University of Wisconsin, Madison	Physics	Ph.D.	1990
Fermi National Accelerator Lab	Theoretical Physics	Post Doc	1990-93

### Appointments

Director, PITT PACC	University of Pittsburgh	2011-present
Distinguished Professor	University of Pittsburgh	2014-present
Professor	University of Pittsburgh	2011-2014
Co-Director, Phenomenology Inst.	University of Wisconsin-Madison	2006-2011
Professor	University of Wisconsin-Madison	2001-2011
Associate Professor	University of Wisconsin-Madison	1997-2001
Associate Professor II	University of California-Davis	1997
Assistant Professor	University of California-Davis	1993-1997

### Awards and Honors

National Superconducting Super-Collider Fellowship	1991-92
H.I. Romnes Faculty Fellowship, UW-Madison	2001-06
Hilldale Undergraduate/Faculty Research Award, UW-Madison	2001
Elected APS Fellow, American Physical Society	2003
Fermilab Frontier Fellowship	2004
Elected member of CTEQ Collaboration	2012-present
Elected general member of Aspen Center for Physics	2016-present
Elected to APS April Meeting Chair line: Chair 2020	2018-2021
Elected to APS DPF Chair line: Chair-elect 2020; Chair 2021; Past chair 2022	2019-2022
Elected AAAS Fellow, American Association Advancement of Science	2019

### Synergistic Activities

- Editorial Board: Physical Review D, 2008-2010;
- J. Physics G, 2010-2013; EPL, Co-Editor, 2012-2015.
- HEPAP member 2013-2015, University-based theorist; 2021 DPF Ex Officio
- Lecture series at international schools: TASI-04; Univ. of Bonn, Germany, 2005; CERN LHC Olympics 2006; Asian School of Particle, String, Cosmology, Japan 2006; National School of LHC Physics, Israel 2006; BUSSTEPP, Liverpool U 2009 & Swansea U 2010; German Physical Society School on LHC, 2012; KIAS Lectures, Korea 2013; TASI-14 on Higgs physics; SLAC Summer Institute, 2015 & 2019; iSTEP-China, 2016 & 2017; 5<sup>th</sup> Chilean School of HEP, 2018; Mainz Summer School, 2018; KIT on BMS, 2019.
- TASI Scientific Advisory Board 2010-2016.
- DOE Committee of Visitors (for OHEP), 2016.
- HEPAP Portfolio review subpanel member 2017-2018.
- APS April Meeting Chair line: Vice Chair 2018; Chair Elect 2019; Chair 2020; Past Chair 2021.
- KEK Scientific Advisory Committee 2019-2021.
- IPPP Steering Committee, Durham, UK, 2020-2022.
- APS DPF 2024 Meeting Co-Chair
- Co-organizer, CTEQ Summer Schools, 1999-present.
- Chair, Organizing Committee, Phenomenology Symposia, 1998-present.

### Collaborators & Other Affiliations

(i) Recent collaborators in the past 5 years: Nima Arkani-Hamed, Brian Batell, Ben Carlson, Anadi Canepa, Andre de Gouvea, Bhupal Dev, Bhaskar Dutta, Dorival Goncalves, Wolfgang Kilian, Adam Leibovich, Ian Lewis, Zhen Liu, Ian Low, Danny Marfatia, Fabio Maltoni, M. Mangano, Ben Nachman, Tilman Plehn, Juergen Reuter, Richard Ruiz, Shufang Su, Lian-Tao Wang

(ii) Supervision of graduate students: Recent Ph.D. graduate students:

Name	Degree	Year	Current Post	Current Institution
Han Qin	PhD	2021	Industry	FaceBook
Hongkai Liu	PhD.	2021	Assistant prof.	Zhongshan University
Xing Wang	PhD.	2019	Postdoc	UC-San Diego
Iris Leung	PhD.	2022	Finance Industry	Finance industry
Yang Ma	PhD.	2022	Postdoc	Univ. Bologna

(iii) Supervision of postdoctoral fellows: Recent postdoctoral fellows:

Name	Position	Years	Current Post	Current Institution
Da Liu	Postdoc	2023-	Postdoc	University of Pittsburgh
Matt Low	Postdoc	2021-	Postdoc	University of Pittsburgh
Arnab Dasgupta	Pitt PACC Fel.	2021-	Postdoc	University of Pittsburgh

Selected publications in Refereed Journals:

1. Some New Aspects of Supersymmetry R-Parity-Violating Interactions (V. Barger, G. Giudice and T. Han), Phys. Rev. D40 (1989) 2987.
2. Strong W-W Scattering Signals at pp Supercollider (V. Barger, K. Cheung, T. Han, and R.J.N. Phillips), Phys. Rev. D42 (1990) 3052.
3. Intermediate Mass Higgs boson physics at Hadron Colliders (V. Barger, G. Bhattacharya, T. Han, and B.A.Kniehl), Phys. Rev. D43 (1991) 779.
4. On Kaluza-Klein States from Large Extra Dimension (T. Han, J. Lykken and R.J. Zhang), Phys. Rev. D59, 105006 (1999).
5. Phenomenology of the Little Higgs Model (T. Han, H. Logan, B. McElrath, L.-T. Wang), Phys. Rev. D67 095004 (2003).
6. Signatures for Majorana Neutrinos at Hadron Colliders (T. Han and B. Zhang), Phys. Rev. Lett. 97, 171804 (2006).
7. Neutrino Masses and the CERN LHC: Testing Type II Seesaw (P. Fileviez Perez, T. Han, G.-Y. Huang, T. Li, and K. Wang), Phys. Rev. D78, 015018 (2008).
8. The “Top Priority” at the LHC (T. Han), Int. J. Mod. Phys. A23, 4107 (2008)
9. The Search for Heavy Majorana Neutrinos (A. Atre, T. Han, S. Pascoli, and B. Zhang), JHEP 0905:030 (2009).
10. Kinematic cusps: Determining the Missing Particle Masses at the LHC (Tao Han, I.W. Kim, J. Song), Phys. Lett. B693:575 (2010).
11. Colored Resonant Signals at the LHC: Largest Rate and Simplest Topology (T. Han, I. Lewis, Z. Liu), JHEP 1012:085 (2010).
12. Top Quark Initiated Processes at High-Energy Hadron Colliders (T. Han, J. Sayre, Susanne Westhoff), JHEP 1504 (2015) 072.
13. Physics Opportunities of a 100 TeV Proton-Proton Collider (N. Arkani-Hamed, T. Han, M. Mangano, and L.-T. Wang), Phys. Rept. 652 (2016) 1-49.
14. Electroweak Splitting Functions and High Energy Showering (J. Chen, T. Han, and B. Tweedie), JHEP 1711 (2017) 093.

15. Off-shell Higgs Probe to Naturalness (Dorival Goncalves, Tao Han, Satya Mukhopadhyay), Phys. Rev. Lett. 120 (2018) no.11, 111801.
16. Lepton Number Violation: Seesaw Models and Their Collider Tests (Yi Cai, Tao Han, Tong Li, Richard Ruiz) Front.in Phys. 6 (2018) 40.
17. Nonstandard Neutrino Interactions at COHERENT, DUNE, T2HK and LHC (Tao Han, Jiaojun Liao, Hongkai Liu, Danny Marfatia), JHEP 11 (2019) 028.
18. The Search for Electroweakinos (Anadi Canepa, Tao Han, Xing Wang), Ann. Rev. Nucl Part, Vol 70, p. 425 (2020).
19. High Energy Leptonic Collisions and Electroweak Parton Distribution Functions (Tao Han, Yang Ma, Keping Xie), Phys. Rev. D 103 (2021) 3.
20. WIMPs at High Energy Muon Colliders (Tao Han, Zhen Liu, Lian-Tao Wang, Xing Wang), Phys. Rev. D103 (2021) 7.
21. Precision Test of the Muon-Higgs Coupling at a High-Energy Muon Collider (Tao Han, Wolfgang Kilian, Nils Kreher, Yang Ma, Juergen Reuter, T. Striegl, Keping Xie), JHEP 12 (2021) 162.
22. A Guide to Diagnising Colored Resonances at Hadron Colliders (T. Han, I. Lewis, H. Liu, Z. Liu, X. Wang), JHEP 08 (2023) 173.
23. Heavy neutral Leptons at the electron-Ion Collider (Brian Batell, Tatha Ghosh, Tao Han, Keping Xie), JHEP 03 (2023) 020.
24. Quantum Entanglement and Bell Inequality Violation in Semi-Leptonic Top Decays (Tao Han, Matt Low, Tong Arthur Wu), e-Print: 2310.17696.