

# Curriculum Vitae

Chi-Jen David Lin

Institute of Physics, National Yang Ming Chiao Tung University  
Hsinchu 30010, Taiwan

July 16, 2023

**Date of birth** April 8th, 1971

**Place of birth** Taipei City

**Nationality** Taiwanese

**Work Address**

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**Research interests**

- Lattice Field Theory
- Effective Field Theory
- Quantum Chromodynamics
- Hadron Structure
- Flavour Physics
- Composite Higgs Models
- Tensor Networks

**Education**

- October 1995 - January 1999, PhD,  
Department of Physics and Astronomy,  
the University of Edinburgh

- September 1989 - June 1993, BSc,  
Department of Physics,  
National Taiwan University

### **Work experience**

- February 2021 - present, Professor,  
Institute of Physics,  
National Yang Ming Chiao Tung University, Hsinchu, Taiwan
- April 2020 - present, Visiting Scientist,  
Centre for Computational Sciences,  
RIKEN, Kobe, Japan
- August 2016 - January 2021, Professor,  
Institute of Physics,  
National Chiao-Tung University, Hsinchu, Taiwan
- February 2016 - September 2016, Visiting Scientist,  
Centre de Physique Theorique,  
CNRS Luminy, Marseille, France
- August 2012 - July 2016, Associate Professor,  
Institute of Physics,  
National Chiao-Tung University, Hsinchu, Taiwan
- February 2007 - July 2012, Assistant Professor,  
Institute of Physics,  
National Chiao-Tung University, Hsinchu, Taiwan
- February 2007 - January 2012, Centre Scientist,  
Physics Division,  
National Centre for Theoretical Sciences, Hsinchu, Taiwan
- October 2006 - January 2007, Visiting Scientist,  
DAMTP,  
University of Cambridge, UK
- September 2003 - September 2006, Postdoctoral Research Fellow,  
Department of Physics and Institute for Nuclear Theory,  
University of Washington, Seattle, WA, USA
- October 1999 - August 2003, Postdoctoral Research Fellow,  
Department of Physics and Astronomy,  
University of Southampton, Southampton, UK
- January 1999 - September 1999, Postdoctoral Research Fellow,  
Department of Physics and Astronomy,  
University of Kentucky, Lexington, KY, USA

## Service for the community

- Journal referee
  - *Journal of High Energy Physics*
  - *Physical Review C*
  - *Physical Review D*
  - *Physical Review Letters*
  - *Physics Letters B*
  - *Progress of Theoretical and Experimental Physics*
- Project referee
  - Department of Energy (USA)
  - Ministry of Science and Technology (Taiwan)
  - MIT Global Seed Fund (MIT, USA)
  - Partnership for Advanced Computing in Europe (EU)
  - Science and Technology Facilities Council (UK)
- International advisory committee member
  - *The 40th International Symposium on Lattice Field Theory*, the 30th of July - the 5th of August 2023, Fermi National Accelerator Laboratory, USA
  - *The 38th International Symposium on Lattice Field Theory*, the 25th - 30th of July 2021, Massachusetts Institute of Technology, USA (online)
  - *The 36th International Symposium on Lattice Field Theory*, the 22nd - the 28th of July 2018, Michigan State University, USA
  - *The 35th International Symposium on Lattice Field Theory*, the 18th - the 24th of June 2017, the University of Granada, Spain
  - *The 34th International Symposium on Lattice Field Theory*, the 24th - the 30th of July 2016, the University of Southampton, UK
  - *Origin of Mass 2013*, the 5th - the 23rd of August 2013, Southern Denmark University, Odense, Denmark
  - *The 30th International Symposium on Lattice Field Theory*, the 24th - the 30th of June 2012, Cairns, Australia
- International conference organising committee member
  - *Asia-Pacific Symposium on Lattice Field Theory 2020*, the 4th - the 7th of August 2020, KEK, Japan (online)

- *The 37th International Symposium on Lattice Field Theory*,  
the 16th - the 22nd of June 2019,  
Wuhan, China
- *Beautiful Mesons and Baryons on the Lattice*,  
the 2nd - the 6th of April 2012,  
ECT\*, Trento, Italy
- *The 27th International Symposium on Lattice Field Theory*,  
the 26th - the 31st of July 2009,  
Beijing, China
- Service for Taiwan Physical Society
  - January 2020 - December 2021 ,  
Deputy director, Division of Academy
  - September 2020 - December 2021 ,  
Executive committee member, Division of Particle and Field

### Research grants and HPC resource allocation

- Ching-Ling Hsu, Chung-Wen Kao, Hsiu-Hau Lin, C.-J. David Lin,  
Chi-Ting Shih,  
“*QuBear*”,  
September 2022 - August 2027,  
Ministry of Science and Technology, Taiwan,  
Co-PI
- Nan-Yow Chen, Pochung Chen, Shou-Chuan Hsu, C.-J. David Lin,  
Yu-Cheng Lin, Chiao-Hsuan Wang,  
“*Quantum Virtual Machine*”,  
March 2022 - February 2027,  
Ministry of Science and Technology, Taiwan,  
Co-PI
- Paoti Chang, Kai-Feng Chen, George W.-S. Hou, C.-J. David Lin,  
“*Decadal mission in the era of new Higgs/flavour physics*”,  
August 2021 - July 2026,  
Ministry of Science and Technology, Taiwan,  
Co-PI
- C.-J. David Lin,  
“*New methods and new problems in Lattice Field Theory*”,  
August 2020 - July 2023,  
Ministry of Science and Technology, Taiwan,  
Principle Investigator

- Pochung Chen, Ying-Jer Kao, Che-Rong Lee, C.-J. David Lin, Yu-Cheng Lin,  
*“Application of tensor networks in condensed matter physics, quantum field theory and machine learning”*,  
 August 2019 - July 2022,  
 Ministry of Science and Technology, Taiwan,  
 Co-PI
- C.-J. David Lin,  
*“Lattice Field Theory at the Frontier of Particle Physics”*,  
 August 2016 - July 2020,  
 Ministry of Science and Technology, Taiwan,  
 Principle Investigator
- C.-J. David Lin,  
*“Lattice Field Theory and Physics of the Large Hadron Collider”*,  
 August 2013 - July 2016,  
 Ministry of Science and Technology, Taiwan,  
 Principle Investigator
- William Detmold, C.-J. David Lin, Stefan Meinel, Matthew Wingate,  
*“Physics of Bottom Baryons in Lattice QCD”*,  
 January 2011 - January 2016,  
 NERSC / Department of Energy, U.S.A.,  
 Co-PI
- William Detmold, C.-J. David Lin, Stefan Meinel, Konstantino Orginos, Matthew Wingate,  
*“Physics of Charm and Bottom Baryons”*,  
 July 2011 - June 2015,  
 XSEDE / National Science Foundation, U.S.A.,  
 Co-PI
- C.-J. David Lin,  
*“Strongly-Interacting Field Theories in Physics of the Large Hadron Collider”*,  
 August 2010 - July 2013,  
 National Science Council, Taiwan,  
 Principle Investigator
- C.-J. David Lin,  
*“Lattice QCD and Flavour Physics”*,  
 August 2007 - July 2010,  
 National Science Council, Taiwan,  
 Principle Investigator

## Awards

- Outstanding junior investigator research grant,  
August 2016 - July 2020,  
Ministry of Science and Technology, Taiwan,

## Selected recent invited presentations at international conferences/schools

- “Pion light-cone distribution amplitude from a heavy-quark OPE”,  
at *Workshop on particle physics and cosmology*,  
the 7th - the 11th of November 2022,  
Busan, South Korea
- “Sp(4) gauge theories for BSM models on the lattice: strategies,  
opportunities and challenges”,  
at *LIO international conference on composite connections of Higgs,  
dark matter and neutrinos*,  
the 21st - the 25th of September 2020,  
the University of Lyon I, Lyon, France (partly online)
- “Physics beyond the Standard Model from lattice calculations”  
(three lectures),  
at *Summer School on Frontiers in Lattice QCD*,  
the 24th of June - the 12th of July 2019,  
Peking University, Beijing, China
- “Investigation of the (1+1)-dimensional Thirring model using the  
method of matrix product states”,  
at *Tensor Networks from Simulation to Holography II*,  
the 4th - the 8th of March 2019,  
DESY Zeuthen and MPI Golm, Berlin, Germany
- “Pion light-cone distribution amplitude from lattice QCD with  
valence heavy quark”,  
at *Lattice Parton Distribution Functions*,  
the 6th - the 8th of April 2018,  
The University of Maryland, College Park, USA
- “Strongly-coupled BSM models on the lattice”,  
at *Fundamental composite dynamics: From the lattice via collider  
into the sky*,  
the 4th - the 8th December 2017,  
Institute of Basic Science, Daejeon, South Korea

- “Topics on lattice studies of the Higgs-Yukawa model”,  
at *Composite models, electroweak physics and the Large Hadron Collider*,  
the 5th - the 8th of September 2016,  
the University of Lyon I, Lyon, France
- “Lattice study of the Higgs-Yukawa model with a dimension-six operator”,  
at *Strongly-Coupled Gauge Theory 2015*,  
the 3rd - the 6th of March 2015,  
KMI, Nagoya University, Nagoya, Japan

### Selected publications

- E. Bennett, D.-K. Hong, H. Hsiao, J.-W. Lee, C.-J.D. Lin, B. Lucini, M. Mesiti, M. Piai, D. Vadacchino,  
“*Lattice studies of the  $Sp(4)$  gauge theory with two fundamental and three antisymmetric Dirac fermions*”,  
**arXiv:2202.05516 [hep-lat]**,  
Phys. Rev. **D106** (2022) 1, 014501
- W. Detmold, A.V. Grebe, I. Kanamori, C.-J.D. Lin, R.J. Perry, Y. Zhao,  
“*Parton physics from a heavy-quark operator product expansion: Formalism and Wilson coefficients*”,  
**arXiv:2103.09529 [hep-lat]**,  
Phys. Rev. **D104** (2021) 7, 074511
- M.C. Banuls, K. Cichy, Y.-J. Kao, C.-J.D. Lin, Y.-P. Lin, D.T-L. Tan,  
“*Phase structure of the 1+1 dimensional Thirring model from matrix product states*”,  
**arXiv:1908.04536 [hep-lat]**,  
Phys. Rev. D **100** (2019) 094504
- E. Bennett, D.-K. Hong, J.-W. Lee, C.-J.D. Lin, B. Lucini, M. Piai, D. Vadacchino,  
“ *$Sp(4)$  gauge theory on the lattice: towards  $SU(4)/Sp(4)$  composite Higgs (and beyond)*”,  
**arXiv:1712.04220 [hep-lat]**,  
JHEP **1803** (2018) 185
- C.-J.D. Lin, K. Ogawa, A. Ramos,  
“*The Yang-Mills gradient flow and  $SU(3)$  gauge theory with 12 massless fundamental fermions in a colour-twisted box*”,

**arXiv:1510.05755 [hep-lat]**,  
JHEP **1512** (2015) 103

- D.Y.-J. Chu, K. Jansen, B. Knippschild, C.-J.D. Lin, A. Nagy,  
“A lattice study of a chirally invariant Higgs–Yukawa model including a higher dimensional  $\Phi^6$  term”,  
**arXiv:1501.05440 [hep-lat]**,  
Phys. Lett. **B744**, 146 (2015)
- W. Detmold, C.-J.D. Lin, S. Meinel,  
“Axial couplings and strong decay widths of heavy hadrons”,  
**arXiv:1109.2480 [hep-lat]**,  
Phys. Rev. Lett. **108**, 172003 (2012)
- W. Detmold, C.-J.D. Lin,  
*Deep-inelastic scattering and the operator product expansion in lattice QCD*,  
**arXiv: hep-lat/0507007**,  
Phys. Rev. **D73** (2006) 014501
- D. Arndt, C.-J.D. Lin,  
*Heavy meson chiral perturbation theory in finite volume*,  
**arXiv: hep-lat/0403012**,  
Phys. Rev. **D70** (2004) 014503
- C.-J.D. Lin, G. Martinelli, C. T. Sachrajda, M. Testa  
 *$K \rightarrow \pi\pi$  decays in a finite volume*,  
**arXiv: hep-lat/0104006**,  
Nucl. Phys. **B619** (2001) 467-498
- L. Lellouch, C.-J.D. Lin,  
*Standard model matrix elements for neutral B meson mixing and associated decay constants*,  
**arXiv: hep-ph/0011086**,  
Phys. Rev. **D64** (2001) 094501