

Isaac R. Wang

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EDUCATION

Rutgers University - New Brunswick

Ph.D, theoretical particle physics

Sep. 2017 - Jun. 2023 (expected)

New Jersey, USA

• Advisor: Prof. David Shih (Rutgers) and Prof. Keisuke Harigaya (UChicago)

Fudan University

B.Sc, department of physics

Sep. 2013 - Jun. 2017

Shanghai, China

• Advisor: Prof. Huan Zhong Huang (UCLA & Fudan U.) and Prof. Xu-Guang Huang (Fudan U.)

• Thesis: Microcausality and CPT violation in chiral quantum electrodynamics

RESEARCH INTERESTS

- BSM and particle cosmology: baryogenesis, electroweak phase transitions, axion, dark matter, strong CP problem, and gravitational waves
- Collider physics
- QCD, heavy ion physics, quark gluon plasma (previous)

PUBLICATIONS

- [1] First-Order Electroweak Phase Transition and Baryogenesis from a Natural Light Singlet Scalar, *Keisuke Harigaya* and **IW**, arXiv: 2207.02867
- [2] Dark Photon and Displaced Vertices in MUonE Experiment, *Iftah Galon, David Shih* and **IW**, arXiv: 2202.08843
- [3] Axiogenesis from $SU(2)_R$ Phase Transition, *Keisuke Harigaya* and **IW**, arXiv: 2107.09679, doi: 10.1007/JHEP10(2021)022
- [4] Electroweak-like Baryogenesis with New Chiral Matter, *Kohei Fujikura, Keisuke Harigaya, Yuichiro Nakai* and **IW**, arXiv: 2103.05005, doi: 10.1007/JHEP07(2021)224

SELECTED AWARDS

- Torrey Fellowship, Rutgers University **Sep. 2017**
- Undergraduate Major Scholarship, Fudan University **Dec. 2015**

TEACHING EXPERIENCE

- Teaching Assistant, Rutgers University, Introduction to Cosmology 444 **Fall 2021**
- Teaching Assistant, Rutgers University, Analytical Physics 124 **Spring 2019**
- Teaching Assistant, Rutgers University, Analytical Physics 123 **Fall 2018**
- Teaching Assistant, Rutgers University, General Physics Lab 205 **Fall 2017**

SELECTED TALKS

- **Electroweak phase transition and baryogenesis from a naturally light scalar singlet** **Aug. 2022**
Cambridge High Energy Workshop, Harvard/MIT, Cambridge, MA, USA *Parallel*
- **Dark photon and displaced vertex search at the MUonE experiment** **Jun. 2022**
11th Workshop of the Long-Lived Particle Community (Virtual), CERN, Zurich
- **Dark photon and displaced vertex search at the MUonE experiment** **May. 2022**
Pheno-2022, Pittsburgh, PA, USA *Parallel*
- **Baryogenesis from $SU(2)_R$ phase transition** **Jan. 2022**
High-scale Baryogenesis Workshop (Virtual), IPMU, Kashiwa, Japan *Plenary*
- **Axiogenesis from $SU(2)_R$ phase transition** **Dec. 2021**
AstroDark-2021 (Virtual), IPMU, Kashiwa, Japan *Poster*

- **Axiogenesis from $SU(2)_R$ phase transition**
BNL Forum 2021 (Virtual), Brookhaven National Laboratory, NY, USA
- **Electroweak-like baryogenesis with new chiral matter**
Rutgers University (Virtual), NJ, USA

Nov. 2021
Parallel
Jul. 2020
Journalclub

OTHER CONFERENCES/WORKSHOPS

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| · TASI 2022, <i>Boulder, CO, USA</i> | Jun.2022 |
| · SUSY 2021, <i>Shanghai, China (Virtual)</i> | Aug. 2021 |
| · COSMO-21, <i>UIUC, IL (Virtual), USA</i> | Aug. 2021 |
| · Cambridge High Energy Workshop 2021, <i>Harvard/MIT, MA (Virtual), USA</i> | Jul. 2021 |

SKILLS

Natural Languages	English, Chinese Mandarin
Programming Languages	Python, C/C++, Mathematica, Emacs-Lisp
Computer Skills	Git, L ^A T _E X, Vim/Emacs/VSC, Linux/Unix, Keynote, MS Offices

REFERENCES

Prof. David Shih	PhD thesis advisor, Rutgers University, dshih@physics.rutgers.edu
Prof. Keisuke Harigaya	University of Chicago, kharigaya@uchicago.edu