

Isaac Ruoquan Wang

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Education

Rutgers University - New Brunswick

Sep. 2017 - Aug. 2023 (expected)

Ph.D, theoretical particle physics

New Jersey, USA

- **Thesis Advisor:** Prof. David Shih
- **Co-advisor:** Prof. Keisuke Harigaya (U-Chicago)

Fudan University

Sep. 2013 - Jun. 2017

B.Sc, department of physics

Shanghai, China

- **Thesis Advisor:** Prof. Xu-Guang Huang
- **Co-advisor:** Prof. Huan Zhong Huang (UCLA & Fudan U.)
- **Thesis:** Microcausality and CPT violation in chiral quantum electrodynamics

Publications

- [1] Baryogenesis in a Parity Solution to the Strong CP Problem, *Keisuke Harigaya* and **Isaac R. Wang**, arXiv: 2210.16207
- [2] First-Order Electroweak Phase Transition and Baryogenesis from a Natural Light Singlet Scalar, *Keisuke Harigaya* and **Isaac R. Wang**, arXiv: 2207.02867, under review of JHEP.
- [3] Dark Photon and Displaced Vertices in MUonE Experiment, *Iftah Galon, David Shih* and **Isaac R. Wang**, arXiv: 2202.08843, under review of Phys.Rev.D.
- [4] Axionogenesis from $SU(2)_R$ Phase Transition, *Keisuke Harigaya* and **Isaac R. Wang**, arXiv: 2107.09679, doi: 10.1007/JHEP10(2021)022
- [5] Electroweak-like Baryogenesis with New Chiral Matter, *Kohei Fujikura, Keisuke Harigaya, Yuichiro Nakai* and **Isaac R. Wang**, arXiv: 2103.05005, doi: 10.1007/JHEP07(2021)224

Selected Talks

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| • Baryogenesis in a Parity Solution to the Strong CP Problem
<i>Pheno 2023</i> | May. 2023
<i>Parallel</i> |
| • Electroweak baryogenesis from a naturally light singlet scalar
<i>UCLA TEPAPP Seminars</i> | Oct. 2022
<i>Seminar</i> |
| • Electroweak baryogenesis from a naturally light singlet scalar
<i>Fermilab Theory Seminars</i> | Sep. 2022
<i>Seminar</i> |
| • Phase transition and baryogenesis from a naturally light scalar singlet
<i>Majorana-Raychaudhuri Seminars (Virtual)</i> | Sep. 2022
<i>Invited seminar</i> |
| • Phase transition and baryogenesis from a naturally light scalar singlet
<i>Cambridge High Energy Physics Workshop 2022, Harvard/MIT, Cambridge, MA, USA</i> | Aug. 2022
<i>Parallel</i> |
| • Dark photon and displaced vertex search at the MUonE experiment
<i>11th Workshop of the Long-Lived Particle Community (Virtual), CERN, Zurich</i> | Jun. 2022
<i>Short Plenary</i> |
| • Dark photon and displaced vertex search at the MUonE experiment
<i>Pheno 2022, Pittsburgh, PA, USA</i> | May. 2022
<i>Parallel</i> |

· Baryogenesis from $SU(2)_R$ phase transition <i>High-scale Baryogenesis Workshop (Virtual), IPMU, Kashiwa, Japan</i>	Jan. 2022 <i>Plenary</i>
· Axiogenesis from $SU(2)_R$ phase transition <i>AstroDark 2021 (Virtual), IPMU, Kashiwa, Japan</i>	Dec. 2021 <i>Poster</i>
· Axiogenesis from $SU(2)_R$ phase transition <i>Brookhaven Forum 2021 (Virtual), Brookhaven National Laboratory, NY, USA</i>	Nov. 2021 <i>Parallel</i>
· Electroweak-like baryogenesis with new chiral matter <i>Rutgers University (Virtual), NJ, USA</i>	Jul. 2020 <i>Journalclub</i>

Other Conferences/Workshops

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

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 Awards

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

Skills

Natural Languages	English, Chinese Mandarin
Programming Languages	Python, C/C++, Mathematica, Emacs-Lisp
Computer Skills	Git, \LaTeX , Vim/Emacs/VSC, Linux/Unix, Keynote, MS Offices

References

The following are people that have written reference letters for me since my PhD carrier.

Prof. David Shih	PhD thesis advisor , Rutgers University, dshih@physics.rutgers.edu
Prof. Keisuke Harigaya	University of Chicago, kharigaya@uchicago.edu
Prof. Yuichiro Nakai	Shanghai Jiaotong University & T.D.Lee Institute, ynakai@sjtu.edu.cn