

Qinrui LIU

Curriculum Vitae

BASIC INFORMATION

Department of Physics &
Wisconsin IceCube Particle Astrophysics Center,
University of Wisconsin-Madison

EMAIL: qliu@icecube.wisc.edu
ORCID: [0000-0003-3379-6423](https://orcid.org/0000-0003-3379-6423)

PHONE: +1 (608)698-8854

ADDRESS: 222 W. Washington Ave, Suite 500, Madison, WI 53703 USA

CITIZENSHIP: China

APPOINTMENTS

2017-CURRENT	<i>Research Assistant</i> , Department of Physics and Wisconsin IceCube Particle Astrophysics Center (WIPAC), University of Wisconsin-Madison
2016-2017	<i>Teaching Assistant</i> , Department of Physics, University of Wisconsin-Madison

EDUCATION

2016-CURRENT	Ph.D. student, Physics, University of Wisconsin-Madison <i>Advisor: Prof. Francis Halzen</i>
2012-2016	B.Sc., Honors Physics, Wuhan University

HONORS AND AWARDS

2019	Emanuel Piore Award, <i>University of Wisconsin-Madison</i>
2013, 2014, 2015	University Scholarship, <i>Wuhan University</i>
2013, 2014, 2015	Peng Huanwu Excellent Student Scholarship, <i>Institute of Theoretical Physics, Chinese Academy of Sciences</i>
2013, 2014, 2015	Merit Student, <i>Wuhan University</i>
2012	Merit Student of the Province, <i>Education Department of Sichuan Province</i>

CONFERENCES AND WORKSHOPS

Talks

1. *Neutrino Fluxes from Dark Matter*, IceCube Collaboration Meeting, Chiba University, Chiba, Japan, 9/2019
2. *Search for Neutrinos from X-ray binaries*, IceCube Collaboration Meeting, Chiba University, Chiba, Japan, 9/2019
3. *Searching for High-Energy Neutrino Emission from TeV Pulsar Wind Nebulae*, ICRC, University of Wisconsin-Madison, Madison, WI, USA, 7/2019
4. *Stacking Search for Neutrinos from PWNe*, Invisibles 19, University of Valencia, Valencia, Spain, 6/2019
5. *Search for Neutrinos from Dark Matter Annihilation from the Sun*, IceCube Collaboration Meeting, University of Wisconsin-Madison, Madison, WI, USA, 5/2019
6. *Search for Neutrinos from X-ray binaries*, IceCube Collaboration Meeting, University of Wisconsin-Madison, Madison, WI, USA, 5/2019
7. *Stacking Search for Neutrinos from PWNe and Results*, IceCube Collaboration Meeting, Stockholm University, Stockholm, Sweden, 9/2018

8. *PWNe Stacking Update*, IceCube Collaboration Meeting, Georgia Tech, Atlanta, GA, USA, 5/2018
9. *A Search for Neutrino Emission from Binary Sources*, IceCube Collaboration Meeting, Humboldt University, Berlin, Germany, 10/2017
10. *Stacking Search for Neutrinos from Pulsar Wind Nebulae*, IceCube Collaboration Meeting, Humboldt University, Berlin, Germany, 10/2017

Posters

1. *Solar WIMP Annihilation Search with IceCube*, ICRC, University of Wisconsin-Madison, Madison, USA, 7/2019
2. *Search for Neutrinos from X-ray binaries*, Invisibles 19, University of Valencia, Valencia, Spain, 6/2019
3. *Searching for Neutrinos from Pulsar Wind Nebulae*, 8th International Fermi Symposium, Baltimore, MD, USA, 10/2018
4. *Searching for Neutrinos from Pulsar Wind Nebulae*, 21st International School of Cosmic Ray Astrophysics, Erice, Sicily, Italy, 8/2018

PEER REVIEWED PAPERS

For all please see [INSPIRE](#)

1. M.G. Aartsen et al. IceCube Search for High-Energy Neutrino Emission from TeV Pulsar Wind Nebulae. 3 2020 [arxiv:2003.12071](#) accepted by ApJ.
2. Guo-yuan Huang and Qinrui Liu. Hunting the glashow resonance with pev neutrino telescopes. *JCAP*, 03(03):005, 2020 [arxiv:1912.02976](#)

PAPERS IN PREPARATION

1. Qinrui Liu, Carlos A. Argüelles, Francis Halzen, Ali Kheirandish, Jeffrey Lazar, DMFlux: a tool for neutrino flux generation from WIMP annihilation and decay, under preparation

CONFERENCE PROCEEDINGS

1. Carlos A. Argüelles, Ali Kheirandish, Jeffrey Lazar, and Qinrui Liu. Search for Dark Matter Annihilation to Neutrinos from the Sun. In *IceCube Contributions to the 36th International Cosmic Ray Conference (ICRC2019)*, 2019 [arxiv:1909.03930](#)
2. Qinrui Liu and Ali Kheirandish. Searching for High-Energy Neutrino Emission from TeV Pulsar Wind Nebulae. In *IceCube Contributions to the 36th International Cosmic Ray Conference (ICRC2019)*, 2019 [arxiv:1908.05279](#)

SOFTWARE

- Languages: Python, C++, Mathematica
- Work Experience in csky, Herwig, nuSQuIDs, PROPOSAL, PYTHIA, SkyLab, etc.
- I have been developing a Monte Carlo generator for neutrino fluxes from dark matter - **DMFlux** and participated in the development of **SkyLab**, an analysis framework for astrophysical neutrino source analyses.

TEACHING EXPERIENCE

2016-2017	Teaching Assistant of Physics 201 (Classical Mechanics) for undergraduate students in Engineering, in charge of <i>discussion, grading and lab instruction</i> .
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REFERENCES

- Prof. Carlos Argüelles, Havard University
carguelles@fas.harvard.edu

- Prof. Francis Halzen, University of Wisconsin-Madison
halzen@icecube.wisc.edu