

# Qinrui LIU

## Curriculum Vitae

### BASIC INFORMATION

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Arthur B McDonald Canadian Astroparticle Physics Research Institute &  
Department of Physics, Engineering Physics and Astronomy,  
Queen's University

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### APPOINTMENTS

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| 2021-     | <i>Postdoctoral Fellow</i> , Arthur B McDonald Canadian Astroparticle Physics Research Institute, Department of Physics, Engineering Physics and Astronomy, Queen's University |
| 2017-2021 | <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

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| 2016-2021 | Ph.D., Physics, University of Wisconsin-Madison, USA<br><i>Advisor: Prof. Francis Halzen</i> |
| 2012-2016 | B.Sc., Honors Physics, Wuhan University, China   |

### HONORS AND AWARDS

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| 2020             | Chinese Government Award for Outstanding Students Abroad  |
| 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>                                  |

### SELECTED JOURNAL ARTICLES

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For a full publication list, please see [INSPIRE](#)

1. IceCube Collaboration. Search for High-Energy Neutrino Emission from Galactic X-ray Binaries with IceCube. 2 2022 [arXiv:2202.11722](#) submitted to ApJL

2. **Q. Liu**, J. Lazar, C. A. Argüelles, and A. Kheirandish.  $\chi_{\text{ar}\nu}$ : a tool for neutrino flux generation from WIMPs. *JCAP*, 10:043, 2020 [arXiv:2007.15010](#)
3. IceCube Collaboration. IceCube Search for High-Energy Neutrino Emission from TeV Pulsar Wind Nebulae. *Astrophys.J.*, 898(2):117, 2020 [arXiv:2003.12071](#)
4. G.-y. Huang and **Q. Liu**. Hunting the glashow resonance with peV neutrino telescopes. *JCAP*, 03(03):005, 2020 [arXiv:1912.02976](#)

## CONFERENCE PROCEEDINGS

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1. **Q. Liu** and A. Kheirandish. Searching for time-dependent high-energy neutrino emission from X-ray binaries with IceCube. volume ICRC2021, page 1136, 2021 [arXiv:2107.12383](#)
2. J. Lazar, **Q. Liu**, C. Argüelles, and A. Kheirandish. Searching for Dark Matter from the Sun with the IceCube Detector. *PoS*, ICRC2021:20, 2021 [PoS](#)
3. **Q. Liu**, J. Lazar, C. Argüelles, and A. Kheirandish.  $\chi_{\text{ar}\nu}$ : a tool for neutrino flux generation from WIMPs. *PoS*, ICRC2021:559, 2021 [PoS](#)
4. C. A. Argüelles, A. Kheirandish, J. Lazar, and **Q. 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](#)
5. **Q. Liu** and A. 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](#)

## SEMINARS

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1. *The Origin of High-Energy Cosmic Neutrinos*, McDonald Institute Seminar Series, Queen's University, Kingston, ON, Canada, 11/2021
2. *High-Energy Astrophysical Neutrinos as a Window to the Universe*, CCAPP Seminar, The Ohio State University, Columbus, OH, USA, 1/2021

## CONFERENCES AND WORKSHOPS

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### Talks

1. **Invited** *Neutrino Astronomy at High Energies*, IAS Program on High Energy Physics (HEP 2022), HKUST, Hong Kong, China, 1/2022
2. **Plenary** *High-Energy Neutrino Observation Highlights from IceCube*, TeVPA 2021, Chengdu, China, 10/2021
3. *Search for High-energy Neutrino Emission from X-ray Binaries with IceCube*, APS April Meeting 2021, online, USA, 4/2021
4. *Hunting for Glashow Resonance with PeV Neutrino Telescopes*, NeuTel 2021, University of Padova, Padova, Italy, 2/2021
5. *Neutrino Flux from Dark Matter Annihilation and Decay*, Snowmass TF11 - Neutrino Theory mini-workshop, FNAL, USA, 9/2020
6. *Neutrino Flux Generation from DM annihilation and decay*, IceCube Collaboration Meeting, University of Wisconsin-Madison, Madison, WI, USA, 9/2020
7. *Search for Neutrinos from X-ray binaries*, IceCube Collaboration Meeting, University of Wisconsin-Madison, Madison, WI, USA, 9/2020

8. *Neutrino Fluxes from Dark Matter*, IceCube Collaboration Meeting, Chiba University, Chiba, Japan, 9/2019
9. *Search for Neutrinos from X-ray binaries*, IceCube Collaboration Meeting, Chiba University, Chiba, Japan, 9/2019
10. *Searching for High-Energy Neutrino Emission from TeV Pulsar Wind Nebulae*, ICRC, University of Wisconsin-Madison, Madison, WI, USA, 7/2019
11. *Stacking Search for Neutrinos from PWNe*, Invisibles 19, University of Valencia, Valencia, Spain, 6/2019
12. *Search for Neutrinos from Dark Matter Annihilation from the Sun*, IceCube Collaboration Meeting, University of Wisconsin-Madison, Madison, WI, USA, 5/2019
13. *Search for Neutrinos from X-ray binaries*, IceCube Collaboration Meeting, University of Wisconsin-Madison, Madison, WI, USA, 5/2019
14. *Stacking Search for Neutrinos from PWNe and Results*, IceCube Collaboration Meeting, Stockholm University, Stockholm, Sweden, 9/2018
15. *PWNe Stacking Update*, IceCube Collaboration Meeting, Georgia Tech, Atlanta, GA, USA, 5/2018
16. *A Search for Neutrino Emission from Binary Sources*, IceCube Collaboration Meeting, Humboldt University, Berlin, Germany, 10/2017
17. *Stacking Search for Neutrinos from Pulsar Wind Nebulae*, IceCube Collaboration Meeting, Humboldt University, Berlin, Germany, 10/2017

## Posters

1. *Neutrino Flux from WIMP Annihilation and Decay*, KASHIWA DARK MATTER SYMPOSIUM, 11/2020
2. *DMFlux: A Tool for Neutrino Flux Generation from Dark Matter Annihilation and Decay*, Neutrino 2020, FNAL, 6/2020
3. *Search for Neutrino Emission from X-ray Binaries with IceCube*, Neutrino 2020, FNAL, 6/2020
4. *Solar WIMP Annihilation Search with IceCube*, ICRC, University of Wisconsin-Madison, Madison, USA, 7/2019
5. *Search for Neutrinos from X-ray binaries*, Invisibles 19, University of Valencia, Valencia, Spain, 6/2019
6. *Searching for Neutrinos from Pulsar Wind Nebulae*, 8th International Fermi Symposium, Baltimore, MD, USA, 10/2018
7. *Searching for Neutrinos from Pulsar Wind Nebulae*, 21st International School of Cosmic Ray Astrophysics, Erice, Sicily, Italy, 8/2018

## SERVICE & OUTREACH

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- Organizer of 2020 IceCube Bootcamp
- Organizer of WIPAC X-Meeting, 2020-2021
- Translation of IceCube comic *Adventures with Rosie & Gibbs: the Lost Penguins* to Chinese.

## TEACHING EXPERIENCE

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