

## EDUCATION

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<b>Australian National University</b> Ph.D. in Astronomy and Astrophysics – Thesis: “Make the star-forming clouds less cloudy” (Ongoing)	Canberra, Australia Jul.2021 –Current
<b>Australian National University</b> M.S. in Astronomy and Astrophysics, GPA: 6.625/7 – Thesis: “Reconstructing three-dimensional densities from two-dimensional observations of molecular gas”	Canberra, Australia Jul.2018 –Dec.2020
<b>The Chinese University of Hong Kong</b> B.S. in Physics, First Class Honour, GPA: 3.717/4, Major GPA: 3.773/4 – Thesis: “Hydrodynamical simulation of the barred spiral galaxy NGC 1097”	Hong Kong, China Sep.2014 –Jul.2018
<b>University of California, Berkeley</b> International student exchange program, Term GPA: 4.0/4.0	Berkeley, USA Jan.2017 –May.2017

## EXPERIENCE

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<b>Star Formation Group, ANU</b> Master/PhD Student – Reconstruction of volume densities from 2D observations of molecular gas – Explain the transition of magnetic criticality observed in molecular clouds – Study the effect of HII region in molecular cloud evolution – Analyze the effect of partial polarization in Chandrasekhar - Fermi method	Canberra, Australia Jul.2018 –Current
<b>Galaxy Simulation Group, CUHK</b> Research Assistant – Galaxy simulation to mimic NGC 1097 – Analyze simulation data to understand the evolution of NGC 1097, especially the formation of its star burst ring	Hong Kong, China Sep.2017 –Jul.2018
<b>Star Formation Group, UCB</b> Research Assistant – Verification of Chandrasekhar - Fermi method – Create mock observations from simulation data and check how effective Chandrasekhar - Fermi method is under different conditions	Berkeley, USA Feb.2017 –Aug.2017
<b>Star Formation Group, CUHK</b> Research Assistant – Role of magnetic field in star formation – Trace the evolution of clumps in simulations and analyze how B-field regulates their gravitational collapses	Hong Kong, China Feb.2016 –Dec.2016

## PUBLICATIONS

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1. Zipeng Hu, Mark R Krumholz, Christoph Federrath, Riway Pokhrel, Robert A Gutermuth, Reconstructing three-dimensional densities from two-dimensional observations of molecular gas, *Monthly Notices of the Royal Astronomical Society*, Volume 502, Issue 4, April 2021, Pages 5997–6009, <https://doi.org/10.1093/mnras/stab356>
2. Zipeng Hu, Mark R Krumholz, Riway Pokhrel, Robert A Gutermuth, High-precision star-formation efficiency measurements in nearby clouds, *Monthly Notices of the Royal Astronomical Society*, Volume 511, Issue 1, March 2022, Pages 1431–1438, <https://doi.org/10.1093/mnras/stac174>
3. Zipeng Hu, Benjamin D WibKing, Mark R Krumholz, The sub-critical illusion: synthetic Zeeman effect observations from galactic zoom-in simulations, *Monthly Notices of the Royal Astronomical Society*, Volume 521, Issue 4, June 2023, Pages 5604–5615, <https://doi.org/10.1093/mnras/stad931>
4. Zipeng Hu, Benjamin D WibKing, Mark R Krumholz, Christoph Federrath, On the limitations of H $\alpha$  luminosity as a star formation tracer in spatially resolved observations, submitted to *Monthly Notices of the Royal Astronomical Society*, <https://arxiv.org/abs/2406.11155>

## CONFERENCES

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- Protostar and Planets VII Kyoto, April 2023
  - Poster presentation: synthetic Zeeman effect observations from galactic zoom-in simulations
- Astronomical Society of Australia Annual Science Meeting Sydney, July 2023
  - Talk: role of magnetic field in cloud formation

## SCHOLARSHIPS AND AWARDS

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- Charles. K. Kao Scholarship 2017
  - Competitive scholarship for student research internships
- C.N. Yang Scholarship 2017
  - Competitive scholarship for students with excellent academic performance
- Yasumoto International Exchange Scholarship 2016
  - Competitive scholarship for students with excellent academic performance
- Good Earth Foundation Scholarship 2015
  - Competitive scholarship for outstanding performance in extra-curricular activities