

Simin Tong

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EDUCATIONAL BACKGROUND

University of Leicester

Ph.D., Astrophysics

Supervisor: Prof. Richard Alexander

Leicester, the United Kingdom

Sept. 2022-

Leiden University

M.Sc. (cum laude), Astronomy

with 1-year Pre-Master, Astronomy

Leiden, the Netherlands

Sept. 2019- Aug.2022

Jilin University

B.Sc., Physics and LL.B., Law

Jilin, China

Sept. 2015 -Jun. 2019

PUBLICATIONS

1. **Tong, S.** & Alexander, R. (2024) An alternative way to form compact discs. (*in prep.*)
2. **Tong, S.**, Alexander, R., & Rosotti, G. (2024). A question of personalities: evolution of viscous and wind-driven protoplanetary discs in the presence of dead zones. *MNRAS*(*in press*) [[ADS](#)]
3. **Tong, S.**, van der Marel, N. et al. (2024). High-resolution Dust Disk Survey towards Serpens Star-forming Region. (*in prep.*)
4. Anderson, A. R. et al. (2022) (inc. **Tong, S.**) Protostellar and Protoplanetary Disk Masses in the Serpens Region. *The Astrophysical Journal*, 938(1), 55. [[ADS](#)]

PRESENTATION

- (*upcoming*) UKI Discs Meeting @Warwick, UK [[Oral](#)] Sept., 2024
- New Heights in Planet Formation @Garching, Germany [[Poster](#)] Jul., 2024
- COST Action Kick-off Meeting @Torun, Poland [[Oral](#)] Jul., 2024
- Group Meeting at the Center for Computational Astrophysics, Flatiron Institute @NY, US May, 2024
- National Astronomy Meeting 2023 @Cardiff, UK [[Poster](#)] Jul., 2023
- Midland Discs Meeting @Leicester, UK [[Oral](#)] Jun., 2023
- Protostars and Planets VII @Kyoto, Japan [[Poster](#)] Apr., 2024

RESEARCH EXPERIENCES

Dispersal of Protoplanetary Disks by Viscosity, MHD winds and Photoevaporation

Sept. 2022-Present

University of Leicester, UK

Supervisor: Prof. Richard Alexander

- Built a 1D grid-based viscosity + MHD wind + photoevaporation disk code.
- Modelled transition profiles for the strengths of turbulence (dead zone + MRI-active region) and α -description MHD winds.
- Exploring parameters in the transition profiles and hyper-parameters in the disk model.

Protoplanetary Disk Survey in Serpens Star-forming Region

Sept. 2021-Present

Leiden Observatory, the Netherlands

Supervisor: Dr. Nienke van der Marel

- Performed individual data reduction on ALMA continuum and line observations for > 300 young stellar objects from Serpens star-forming region using CASA and self-written Python script.
- Analysed dust disk mass distribution for targets in Serpens.
- Modelled visibility curves of transition disk candidates observed in Serpens with Markov Chain Monte Carlo.
- Concatenated low- and high-resolution data to characterize the morphology of outflows.

ALMA Archive Mining of High-mass Star Formation

Sept. 2020-Aug. 2021

Leiden Observatory, the Netherlands

Supervisor: Prof. Michiel Hogerheijde, Dr. Aida Ahmadi, Prof. Serena Viti

- Constructed inventories of ALMA projects on broad topics of high-mass star formation by mining ALMA science archive with a Python package ALminer.
- Performed individual data reduction on ALMA observations towards a high-mass star using CASA and identified potential molecular species with CASSIS.

ADDITIONAL ACADEMIC ACTIVITIES

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| • (<i>upcoming</i>) EXHOST Summer School @Tartu, Estonia | Sept., 2024 |
| • Secondment to SUNY, Stony Brook/CCA, Flatiron Institute @New York, US | Apr.-Jul., 2024 |
| • DUSTBUSTERS Winter School II @Lyon, France | Jan., 2024 |
| • Core2Disc Conference III @Paris, France | Oct., 2023 |
| • Disc and Planet Formation Summer School @Beijing, China (remote) | Jul., 2022 |
| • Summer Student at Institute of Astronomy and Astrophysics, Academia Sinica @Taipei | Jul.-Aug., 2019 |
| • The 4th SKA Summer School @Shanghai, China | Jul. 2018 |
| • Internship at Institute of Physics, Chinese Academy of Sciences @Beijing, China | Jan. 2018 |
| • Summer Student at Shanghai Astronomical Observatory @Shanghai, China | Jul. 2017&2018 |

SCHOLARSHIPS & AWARDS

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| • Leicester Future 100 Studentship (international tuition fee + maintenance) | 2022- |
| • Leiden International Tuition Fee Waiver | 2020-2022 |
| • Leiden Science China Scholarship (declined) | 2019 |
| - 25% waiver of the non-EU/EEA tuition fee | |
| • Outstanding Undergraduate Thesis Award | 2019 |
| • Dean's Scholarship | 2019 |
| - the highest honour for undergraduate students at the Department of Physics, JLU | |
| • Outstanding Graduate in Jilin University | 2019 |
| • Chinese Academy of Sciences Undergraduate Scholarship | 2017 |
| • University Scholarship | 2016-2019 |

SKILLS& LANGUAGES

- **Programming languages:** Python, L^AT_EX, Fortran(basic), C(basic), HTML&CSS(basic)
- **Professional packages:** CASA, DustPy, RADMC-3D
- **Languages:** English (Professional Proficiency); Mandarin (Native Proficiency);