

# Yingtian “Bill” Chen

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## Education

- **University of Michigan Department of Astronomy** | Ann Arbor, US 2020 – 2026  
Ph.D. candidate in Astronomy and Astrophysics  
M.S. in Astronomy and Astrophysics
- **Peking University School of Physics** | Beijing, China 2016 – 2020  
B.S. in Physics (with honours)

## Experience

- **Visiting Researcher**, MIT Kavli Institute | Cambridge, US 2019

## Research Interests

Galaxy formation · Star clusters · Stellar streams · Computational astrophysics

- Galaxy and star cluster formation in high-resolution hydrodynamical simulations.
- Semi-analytical modeling of star cluster evolution in cosmological contexts.
- Probing the structure and evolution of galaxies and star clusters via stellar streams.

## Publications

See [ADS](#) for the complete list of publications

- **10 publications in total:** citations > 110, h-index = 7
- **8 publications as first author:** citations > 100, h-index = 6

### Publications as first author

1. **Chen**<sup>✉</sup>, Li<sup>✉</sup>, & Gnedin (2025) *Stellar streams reveal the mass loss of globular clusters*, *ApJL* **980**, L18.
2. **Chen**<sup>✉</sup>, Valluri, Gnedin, & Ash (2025) *Improved particle spray algorithm for modeling globular cluster streams*, *ApJS* **276**, 32.
3. **Chen**<sup>✉</sup> & Gnedin (2024) *Galaxy assembly revealed by globular clusters*, *OJAp* **7**, 23.
4. **Chen**<sup>✉</sup> & Gnedin (2024) *Catalogue of model star clusters in the Milky Way and M31 galaxies*, *MNRAS* **527**, 3692.
5. **Chen**<sup>✉</sup> & Gnedin (2023) *Formation of globular clusters in dwarf galaxies of the Local Group*, *MNRAS* **522**, 5638.
6. **Chen**<sup>✉</sup> & Gnedin (2022) *Modeling the kinematics of globular cluster systems*, *MNRAS* **514**, 4736.
7. **Chen**, Li<sup>✉</sup>, & Vogelsberger (2021) *Effects of initial density profiles on massive star cluster formation in giant molecular clouds*, *MNRAS* **502**, 6157.
8. **Chen** & Ma<sup>✉</sup> (2021) *Novel pre-burst stage of gamma-ray bursts from machine learning*, *JHEAp* **32**, 78.

### Other publications

9. Ash<sup>✉</sup>, Valluri, **Chen**, & Bell (2024) *Stellar bars form dark matter counterparts in TNG50*, *ApJ* **976**, 189.
10. Pearson<sup>✉</sup>, Bonaca, **Chen**, & Gnedin (2024) *Forecasting the population of globular cluster streams in Milky Way-type galaxies*, *ApJ* **976**, 54.

## Honours and Awards

• Rackham Conference Travel Grant	2023 & 2024
• Rackham International Student Fellowship	2021
• Weiming Physics Scholarship (未名物理学子)	2020
• Outstanding Graduate (北京市普通高等学校优秀毕业生)	2020
• First Prize & Best speaker, Xingcheng Forum (兴诚本科生学术论坛)	2019
• Huabao Funding for Undergraduate Research Program (本科生科研华宝基金)	2018
• National Scholarship (国家奖学金)	2018
• Pacemaker to Merit Student (三好学生标兵)	2018
• Outstanding Award & SIAM Award, Mathematical Contest in Modeling	2018
• Gold Medal, Chinese Physics Olympiad (全国中学生物理竞赛)	2015

## Selected Talks

• Invited talk, <i>DESI MWS telecon</i>   Remote	2024
• Poster & flash talk, <i>DGSCS 2024</i> , UChicago   Chicago, US	2024
• Invited seminar, PKU & THU & SHNU & SHAO & SJTU & PMO & NJU & ZJU   Beijing & Shanghai & Nanjing & Hangzhou, China	2024
• Lunch talk, <i>Astronomy graduate student lunch talk series</i> , UM   Ann Arbor, US	2021 – 2024
• Invited talk, <i>Galaxy formation group meeting</i> , CCA, Flatiron Institute   New York, US	2024
• Invited talk, UChicago   Remote	2024
• Invited talk, <i>SMWL V Star Clusters Working Group meeting</i>   Remote	2023
• Conference talk, <i>MODEST-23</i> , NU   Evanston, US	2023
• Conference talk, <i>Great Lakes Clusters and Streams</i> , UM   Ann Arbor, US	2023
• Talk, <i>Seminar for undergraduate students</i> , PKU   Beijing, China	2019
• Talk, <i>Xingcheng Forum</i> , PKU   Beijing, China	2019
• Talk, <i>Seminar for theoretical physics</i> , FDU   Shanghai, China	2019

## Service

### Professional service

• Referee: <i>ApJ</i> and <i>MNRAS</i>	Since 2023
• Session co-chair: <i>DGSCS 2024</i>	2024
• Local organizing committee chair: <i>Great Lakes Clusters and Streams</i>	2023
• Code developer: ART, gala, galax, galpy	Since 2024
• Organizer: UM Stellar Halos Group meeting (weekly)	Since 2024

### University service

• Organizer: Astronomy graduate student lunch talk series (weekly)	2024 – 2025
• Organizer: Astrocoffee journal club (bi-weekly)	2022 – 2025
• Chair: UM Chinese astronomers networking group	Since 2022
• Graduate student instructor: ASTRO 104, 106, 115	2021 & 2024
• Organizer: Preliminary examination preparation club (weekly)	2022 – 2023
• Department bread baker (weekly)	2021 – 2022

## Skills

High performance computing · Data analysis and visualization · Machine learning · Web development

- **Programming Languages:** C/C++, Python, Latex, MATLAB, HTML/CSS
- **Software/packages:** ART, AREPO, GADGET, MPI, AGAMA, multiprocessing, NumPy, Matplotlib, SciPy, scikit-learn, PyTorch, Astropy, yt, gala, galax, galpy, Bootstrap, Git
- **Languages:** Mandarin Chinese (native), English (fluent)

## References

- **Dr. Oleg Y. Gnedin**, Professor, UM, ✉[ognedin\(at\)umich.edu](mailto:ognedin(at)umich.edu)
- **Dr. Monica Valluri**, Research Professor, UM, ✉[mvalluri\(at\)umich.edu](mailto:mvalluri(at)umich.edu)
- **Dr. Hui Li (李辉)**, Assistant Professor, THU, ✉[hliastro\(at\)tsinghua.edu.cn](mailto:hliastro(at)tsinghua.edu.cn)