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

Other publications

9. Ash✉, Valluri, **Chen**, & Bell (2024) *Stellar bars form dark matter counterparts in TNG50*, ApJ **976**, 189.
10. Pearson✉, 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**, *DESI MWS telecon* | Remote 2024
- **Poster & flash talk**, *DGSCS 2024*, UChicago | Chicago, US 2024
- **Invited seminar**, PKU & THU & SHNU & SHAO & SJTU & PMO & NJU & ZJU | Beijing & Shanghai & Nanjing & Hangzhou, China 2024
- **Lunch talk**, *Astronomy graduate student lunch talk series*, UM | Ann Arbor, US 2021 – 2024
- **Invited talk**, *Galaxy formation group meeting*, CCA, Flatiron Institute | New York, US 2024
- **Invited talk**, UChicago | Remote 2024
- **Invited talk**, *SMWLV Star Clusters Working Group meeting* | Remote 2023
- **Conference talk**, *MODEST-23*, NU | Evanston, US 2023
- **Conference talk**, *Great Lakes Clusters and Streams*, UM | Ann Arbor, US 2023
- **Talk**, *Seminar for undergraduate students*, PKU | Beijing, China 2019
- **Talk**, *Xingcheng Forum*, PKU | Beijing, China 2019
- **Talk**, *Seminar for theoretical physics*, FDU | Shanghai, China 2019

Service

Professional service

- **Referee:** *ApJ* and *MNRAS* Since 2023
- **Session co-chair:** *DGSCS 2024* 2024
- **Local organizing committee chair:** *Great Lakes Clusters and Streams* 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
- **Dr. Monica Valluri**, Research Professor, UM, ✉mvalluri(at)umich.edu
- **Dr. Hui Li** (李辉), Assistant Professor, THU, ✉hliastro(at)tsinghua.edu.cn