Yingtian "Bill" Chen
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Version: July 2025
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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 · Galactic archaeology · 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.

Honours & Awards

- **Rackham Predoctoral Fellowship**, UM — 2025
- **Rackham Conference Travel Grant** × 2, UM — 2023 & 2024
- **Rackham International Student Fellowship**, UM — 2021
- **Weiming Physics Scholarship**, PKU (未名物理学子) — 2020
- **Outstanding Graduate** of Beijing (北京市普通高等学校优秀毕业生) — 2020
- **First Prize & Best speaker**, Xingcheng Forum, PKU (兴诚学术论坛一等奖 & 最佳报告奖) — 2019
- **Huabao Funding for Undergraduate Research Program**, PKU (本科生科研华宝基金) — 2018
- **National Scholarship** (国家奖学金) — 2018
- **Pacemaker to Merit Student**, PKU (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金牌) — 2015

Selected Talks

- **Conference talk & poster**, *Gravity in the Local Group*, CMU | Pittsburgh, US — 2025
- **Invited seminar**, *KICP seminar*, UChicago | Chicago, US — 2025
- **Invited seminar**, *Nearby Universe group meeting*, CCA, Flatiron Institute | New York, US — 2025
- **Invited seminar**, American Museum of Natural History | New York, US — 2025
- **Lunch talk** × 5, *Astronomy grad lunch talk series*, UM | Ann Arbor, US — 2021 – 2025
- **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

- **Invited seminar**, *Galaxy Formation seminar*, 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

Teaching

- **Guest lecturer**, *Hamiltonian Mechanics*, UM | Ann Arbor, US   2025
  Galactic Dynamics Summer Workshop
- **Guest lecturer**, *Cosmological N-body Simulations*, UM | Ann Arbor, US   2025
  ASTRO 534: The Extragalactic Universe (grad-level cosmology)
- **Graduate student instructor**, UM | Ann Arbor, US   2021 & 2024
  ASTRO 104: Alien Skies: A Tour Through the Universe
  ASTRO 106: Aliens
  ASTRO 115: Introductory Astrobiology: The Search for Life in the Universe

Services

Professional services

- **Referee**, A&A · ApJ · MNRAS   Since 2023
- **Code developer**, `ART` · `gala` · `galax` · `galpy`   Since 2024
- **Conference session co-chair**, *DGSCS 2024*, UChicago | Chicago, US   2024
- **Conference LOC chair**, *Great Lakes Clusters and Streams*, UM | Ann Arbor, US   2023
- **Organizer**, *Stellar Halos Group meeting* (weekly), UM | Ann Arbor, US   Since 2024

University services

- **Organizer**, *Build-Your-Website workshop*   2025
- **Organizer**, *Astronomy grad lunch talk series* (weekly)   2024 – 2025
- **Organizer**, *Astrocoffee journal club* (bi-weekly)   2022 – 2025
- **Organizer**, *Preliminary examination preparation club* (weekly)   2022 – 2025
- **Chair**, *UM Chinese astronomers networking group*   Since 2022
- **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` · `PeTar` · `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** (Ph.D. advisor), 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`

Publications

See

- **14 papers (10 refereed) in total:** citations > 140, h-index = 8
- **10 papers (8 refereed) as first author:** citations > 130, h-index = 7

Publications as first author or by †supervised students

1.	**Yingtian Chen**✉, Oleg Y. Gnedin, Vadim A. Semenov, & Hui Li, *Simulating clustered star formation in the early Universe*, in prep. for AAS journals.	2025
2.	**Yingtian Chen**✉, Oleg Y. Gnedin, Adrian M. Price-Whelan, & Colin Holm-Hansen, *Automatic detection algorithm for stellar streams*, in prep. for AAS journals.	2025
3.	†Colin Holm-Hansen✉, **Yingtian Chen**, & Oleg Y. Gnedin, *A Catalog of mock stellar streams in a Milky Way-like galaxy*, in prep. for OJAp.	2025
4.	**Yingtian Chen**✉, Hui Li✉, & Oleg Y. Gnedin, *Stellar streams reveal the mass loss of globular clusters*, ApJL **980**, L18.	2025
5.	**Yingtian Chen**✉, Monica Valluri, Oleg Y. Gnedin, & Neil Ash, *Improved particle spray algorithm for modeling globular cluster streams*, ApJS **276**, 32.	2025
6.	**Yingtian Chen**✉ & Oleg Y. Gnedin, *Galaxy assembly revealed by globular clusters*, OJAp **7**, 23.	2024
7.	**Yingtian Chen**✉ & Oleg Y. Gnedin (2024) *Catalogue of model star clusters in the Milky Way and M31 galaxies*, MNRAS **527**, 3692.	2024
8.	**Yingtian Chen**✉ & Oleg Y. Gnedin (2023) *Formation of globular clusters in dwarf galaxies of the Local Group*, MNRAS **522**, 5638.	2023
9.	**Yingtian Chen**✉ & Oleg Y. Gnedin, *Modeling the kinematics of globular cluster systems*, MNRAS **514**, 4736.	2022
10.	**Yingtian Chen**, Hui Li✉, & Mark Vogelsberger, *Effects of initial density profiles on massive star cluster formation in giant molecular clouds*, MNRAS **502**, 6157.	2021
11.	**Yingtian Chen** & Bo-Qiang Ma✉, *Novel pre-burst stage of gamma-ray bursts from machine learning*, JHEAp **32**, 78.	2021

Other publications

12.	Brandon Sike✉, Mateusz Ruszkowski, Oleg Y. Gnedin, **Yingtian Chen**, et al., *Resolving star cluster formation in galaxy simulations with cosmic ray feedback*, in prep. for AAS journals.	2025
13.	Neil Ash✉, Monica Valluri, **Yingtian Chen**, & Eric F. Bell, *Stellar bars form dark matter counterparts in TNG50*, ApJ **976**, 189.	2024
14.	Sarah Pearson✉, Ana Bonaca, **Yingtian Chen**, & Oleg Y. Gnedin, *Forecasting the population of globular cluster streams in Milky Way-type galaxies*, ApJ **976**, 54.	2024