

Yuan-Sen TING 丁源森

Email: ting.74@osu.edu
Homepage: <https://www.ysting.space>
ORCID: [0000-0001-5082-9536](https://orcid.org/0000-0001-5082-9536)
Google Scholar: [Link](#)

PROFESSIONAL APPOINTMENTS

2024 - present	Associate Professor in Astrophysics <i>The Ohio State University</i> Center for Cosmology and Astroparticle Physics, Faculty
2024 - present	Adjunct Scientist <i>Max Planck Institute for Astronomy</i>
2024 - present 2022 - 2024 2021	Visiting Professor in Computer Science Associate Professor in Astrophysics & Computer Science Assistant Professor in Astrophysics & Computer Science <i>Australian National University</i> CSIRO/Data61, National Lab - Machine Learning group, Long-term Associate Visiting Grant - Univ. of Chicago (2023), Univ. of Toronto (2024), Harvard-Smithsonian (2024) Visiting Professor - Johns Hopkins (2022), Universiti Malaya (2024-25), Tsinghua (2024-27)
2017 - 21	NASA Hubble Fellow, Carnegie-Princeton Fellow, Institute for Advanced Study Fellow <i>Institute for Advanced Study, Princeton</i> <i>Princeton University</i> <i>Carnegie Institution for Science</i> A four-way joint postdoctoral fellowship position at these three institutions

EDUCATION

2017	PhD, Astrophysics and Astronomy <i>Harvard University</i> Supervisor: Charlie Conroy Funded through a NASA Earth and Space Science Fellowship
2014	Master of Arts, Astrophysics and Astronomy <i>Harvard University</i>
2012	Bachelor (First-Class Honours, 2011) and Master of Science, Physics, minor in Mathematics <i>National University of Singapore</i> National Academy of Science Award for being the best Master student in Physics Institute of Physics Medal for being the best Honours year student in Physics Jurong Book Prize for being the best sophomore student in Physics
2011	Engineer's Degree (equivalent to Bachelor and Master of Engineering) <i>Ecole Polytechnique, France</i> Concurrent with the degrees from the National University of Singapore Funded through a full Eiffel scholarship

RESEARCH INTEREST

Our research group advances statistical inference in astronomy through the application of deep learning techniques, leveraging the wealth of data from large-scale surveys across various observational domains: spectroscopy (SDSS-V, DESI), astrometry (Gaia), photometry (Euclid, Roman), and time-series observations (LSST, TESS). We investigate a wide range of topics spanning all cosmic scales, with a primary focus on galactic evolution, particularly our own Milky Way. Our work extends to refining inference techniques in stellar spectroscopy and asteroseismology by developing deep learning foundation models for both time series and spectroscopic data. Additionally, we are pushing the boundaries of cosmological inference in weak lensing and reionization through simulation-based inference with deep generative models. Our group is at the forefront of agentic research, harnessing the capabilities of large language models as research agents to autonomously formulate scientific hypotheses, design experiments and execute research.

OTHER PROFESSIONAL EXPERIENCES

2020-present	Columnist <i>Sin Chew Daily, Malaysia</i> 星洲日报 Largest Chinese newspaper outside Greater China, with a daily circulation > one million
2020-21	Chief Science Officer <i>Hephaestus Analytical, London</i> London-based start-up leveraging advanced data analytics to combat art forgeries

RESEARCH INCOME AS THE PRINCIPAL INVESTIGATOR

U\$3.5M in funding + U\$13.3M worth of computing

2025	NSF National Artificial Intelligence Research Resource Program	
2024	NSF Astronomy and Astrophysics Research Grants	
2024	Alexander von Humboldt Fellowship	
2023-25	Microsoft Accelerating Foundation Models Academic Research Grant	
2023	OpenAI Research Access Program	
2021	Australian Research Council DECRA Fellowship	
2021	International Astronomical Union Grant to host the first IAU Symposium in Southeast Asia since 1990	
2020	ANU Futures Scheme	
2018	NASA Hubble Research Award	
2017	Alexander von Humboldt Research Award (<i>relinquished</i>)	
2015	NASA Earth and Space Science Research Award	
2026	Innovative Novel Comp. Impact on Theory and Experiment (INCITE, Co-PI)	3.76M GPU Hours
2025	NVIDIA Academic Grant Program	26K GPU Hours
2024-25	Oak Ridge National Laboratory Frontier Nodes	620K GPU Hours
2020-24	Australian National Computational Infrastructure	112M CPU Hours

AWARDS AND HONOURS

2025	OSU MKHSTRY (Make History) Fellow	
2024	Alexander von Humboldt Fellowship	
2021	Australian Research Council Discovery Early Career Researcher Award (DECRA)	
2019	AURA Future Leader	by The Association of Universities for Research in Astronomy
2018	NASA Hubble Fellowship	
2017	Institute for Advanced Study Fellowship	
2017	Carnegie-Princeton Fellowship	
2017	CCAPP Prize Prize in Cosmology and AstroParticle Physics	
2016	Selected to attend the Lindau Meeting of Nobel Laureates	
2015	NASA Earth and Space Science Fellowship	
2014	Malaysian Perdana Scholar Award	
2005	Australian Mathematics Competition Gold Medal	1/10,000 participants from >8 countries
2005	Top 10 in both Mathematics and Computer Science Nationwide, Unified Examination Certificate	

REFEREED ARTICLES

Total refereed publications: 244 This includes 1 in Annual Review of Astronomy and Astrophysics, 1 in Nature and 3 in Nature Astronomy and 1 in ICCV conference, 15 in ICML (with 3 workshop spotlight), as well as 4 NeurIPS workshop
103 papers as first/joint first (32) or supervising author, and 30 other papers as second/third author These are referred to as “key role” papers, comprising more than half (133/244) of my total publications.
Total citations: >11000 4500 citations are from key role papers
h-index: 57 Out of which, the h-index from key role papers is 35

ACADEMIC PRESENTATION

Departmental colloquia/seminars: a career total of 218 talks
including 58 invited departmental colloquia + two-thirds (144/218) were invited talks
Invited departmental colloquia includes Yale, MIT, Tokyo U., Tsinghua, Peking U., Max Planck, EPFL, UToronto, Georgia Tech, UTAustin, OSU, UBC, Melbourne, Hawaii, Penn State, Maryland

Conferences: a career total of 86 presentations, of which two-thirds (48/86) were invited

RESEARCH HIGHLIGHTS

Works from students and postdocs whom I supervised are indicated with *

Machine Learning

Agentic AI Systems for Astronomy

Pioneered autonomous discovery using real astronomical data through multi-agent LLM collaboration;
Developed the AstroSage and AstroLLaMA series, the first astronomy-specialized large language model.

*Sun**, YST+, 2024b, 2024a | YST & AstroMLab, 2024 | *Nguyen**, YST+ 2023

Beyond Field-Level Inference with Graph Neural Networks and Point Cloud Generative Models

Advanced cosmological and galactic inferences using graph and point cloud generative deep learning models

Lee+ 2024 | YST & *Sharma**, ICML W, 2023 | *Tang** & YST, ICML W, 2022 (ICML spotlight talk)

Physics-Inspired Neural Networks

Developed neural network-based solvers for PDEs to determine gravitational potentials and CGM properties.

Green, YST & *Kamdar**, 2023 | *Nguyen*, YST+, NeurIPS W, 2023 | *Green* & YST, NeurIPS W, 2020

Cosmology

Alternate Statistics for Higher-Order Moments

Introduced scattering transform to enhance quantification of cosmic web, reionization, and parity violation.

*Craigie**, Taylor, YST+ 2024 | *Greig**, YST+ 2022 | *Cheng**, YST+ 2020 (Intl. Astrostatistics Assoc. Award)

Black Hole Physics & Lyman-Alpha Forest

Developed unsupervised methods (QFA) to infer quasar continua from the observed quasar spectra

*Sun**, YST & Zheng, 2023 | *Sun**, YST & Zheng, ICML W, 2022

Galaxy Evolution

Star Formation, Interstellar Medium & Galactic Outflow

Advanced statistical modeling to probe star formation, ISM dynamics via the elemental signatures in stars.

YST & Ji 2024 | Sharda, YST+ 2024 | YST & Weinberg 2022 | Krumholz & YST, 2018

Secular Evolution of Galaxies

Quantified how star migration and molecular cloud interactions contribute to the Milky Way's evolution.

*Frankel**, Sanders, YST+, 2020 (Ernst Patzer Prize) | YST & Rix, 2019 | *Frankel**, Rix, YST+, 2018

Stellar Astrophysics

Stellar Binaries, Close & Wide

Developed single-epoch methods for detecting binaries, improving mass calibration and formation studies.

Hwang, YST, Cheng & Speagle, 2023 | *Hwang**, YST, & Zakamska, 2022 | *El-Badry**, YST+, 2019

Stellar Spectroscopy and Asteroseismology

Developed Transformer-based neural networks to extract detailed stellar properties from spectra.

Established neural scaling laws for spectroscopy and time series data, advancing foundational models.

*Rozanski**, YST+, 2024 | *Pan**, YST+ 2024 | Zhang, Xiang, YST+ 2024 | Xiang, YST+, 2019 | YST+, 2019

Exoplanet

Planet Engulfment

Showed that > 10% of stars consume planets, suggesting frequent scattering in super-Earth systems.

*Liu**, YST, *Yong**+, Nature (Cover Page), 2024 | *Yong**, *Liu**, YST+, 2023

SUPERVISION

- Supervised 12 postdocs + 63 students (34 PhDs, 1 Law School, 6 Masters, 19 undergrads, 3 high-school)
34 of these postdocs/students are from my home institutions (OSU/ANU)
- which has led to 75 refereed publications
Three of which have won key awards, including International Astrostatistics Associate Award
Max Planck's Ernst Patzer Prize, and IOP Publishing Top Cited Paper Award

TEXTBOOK

- Statistical Machine Learning for Astronomy - 2025 [arxiv:2506.12230](#)
This ~700-page textbook provides a systematic treatment of statistical machine learning for astronomical research through a unified Bayesian framework that connects modern data analysis techniques with statistical methods.
- Coding Essentials for Astronomers - 2025 [Open Textbook](#)
Foundational Python, scientific computing, and modern coding practices with large language models.

TEACHING

2024-present	Lecturer <i>The Ohio State University</i> <ul style="list-style-type: none"> — Advanced Data Analysis in Astronomy (ASTRON 5550), undergraduate final-year level — Astronomy Data Analysis (ASTRON 1221), undergraduate freshman level — AI Fluency Weekly Seminar, upskilling students and faculty in the astronomy department
2022-24	Lecturer <i>Australian National University</i> <ul style="list-style-type: none"> — Astronomical Computing (ASTR4004/8004), undergraduate and graduate school level — Statistical Machine Learning (COMP4670/8600), undergraduate and graduate school level
2020-present	Summer School Lecturer / Workshop Lecturer / Guest Lecturer / Special Seminar <ul style="list-style-type: none"> NASA AI/ML Science & Tech. Interest Group (2025) LLMs as Autonomous Agents Max Planck Inst. Astronomy (2025) Teaching Astronomy with Large Language Models The Ohio State University (2025) Teaching Astronomy with Large Language Models American University of Sharjah (2024) Deep Learning and Stellar Spectroscopy Intersect 4th collaborative course (2024) HPC and Data in Astrophysics Westlake University (2024) Expediting Astronomical Research with LLMs and SBI University of Chicago (2024) Generative Models for Astronomy University of Rwanda (2024) Unsupervised Learning with Neural Networks Universiti Malaya (2023) Introduction to Python with Co-Pilot and ChatGPT University of Hawaii (2023) Introduction to Simulation-Based Inferences IAU Symposium 377 (2023) Introduction to Python and Deep Learning Australian ANITA (2022) Introduction to Flow-Based Generative Modeling Tsinghua University (2020) Higher-Order Moment Statistics with Scattering Transform
2023	Online Education Platform Contributor <i>Frogasia</i>
2021-23	Academic Council <i>Malaysian Olympiad on Astronomy & Astrophysics</i> Lecturing, setting test questions, and selecting a Malaysian team for the International Olympiad
2017	Community Teaching in Mathematics <i>Princeton Prison Teaching Initiative (PTI)</i> PTI is a volunteer program teaching accredited college classes to prison inmates in New Jersey
2014	Teaching Assistant in Astrophysics <i>Harvard University</i> — Stellar Astrophysics, graduate school Level
2010-11	Instructor in Physics and Mathematics <i>National University of Singapore</i> <ul style="list-style-type: none"> — Mathematics: 1. Topology 2. Linear Algebra 3. Algebra — Physics: 1. Classical Mechanics 2. Electromagnetism The French-NUS program selects a group of 15 best students from NUS each year. These intense and accredited courses aim to prepare this unique group of students for the French Grande Ecoles entrance exam, with the specific format and mathematic rigour tailored for the Grand Ecoles. I designed the syllabus, gave lectures, and set all homeworks and exams.

COMMUNITY ENGAGEMENT

Public engagement and media outreach are integral parts of my academic career. I have given a [TEDx talk](#) in my home country of Malaysia, participated in a [podcast](#), and have been writing [monthly columns](#) for Malaysia's largest Chinese newspaper since 2020. My experiences growing up in Malaysia have instilled in me a strong belief in the transformative power of education and have driven me to create various educational resources, including two [TED educational videos](#) that have collectively amassed approximately four million views worldwide. I have also developed the first interactive kiosk at the Harvard Science Center and designed numerous [interactive applets](#), participated in the [Skype a Scientist program](#) during the pandemic and [taught in prison](#). Furthermore, I have contributed to online education by creating a course on edX and editing a [1200-page quantum field theory \(QFT\) textbook](#) by Sidney Coleman.

Media

2023	TEDx Talk @ Petaling Street, Kuala Lumpur, Malaysia <i>Seeing Humanity through Dystopian AI</i>	
2020-24	Monthly Columns, Sin Chew Daily, Malaysia. A recent example below 2023/08: AI, ChatGPT, and My Mom's Roomba	translation
2025	The Ohio State University's "Astronomy In Real Life" Featured Interview	
2025	The Ohio State University's "Scholar Feature" Featured Article	
2025	The Ohio State University's "Science Sundays" Public Lecture	
2025	The Ohio State University's "Voices of Excellence" Podcast	
2024	TEDx Podcast 启动一刻 , Kuala Lumpur, Malaysia	
2024	Featured Interview regarding the Nature publication, Sin Chew Daily, Malaysia	
2024	Featured Interview on Astrobites	
2023	Featured on ANU's computer science departmental webpage's frontpage	
2023	Featured on ANU's computer science "AI Feature"	
2023	Featured on an NASA Cosmic Origins Program interview	
2023	Featured on UK's Royal Astronomical Society - "The Observatory"	
2022	Featured in the "Search for Life in the Universe," a Malaysian government-funded documentary	
2022	Featured in Australian Government Global Talent Program as a highlighted recipient	
2020	Featured Interview , National Newspaper, Nanyang Daily, Malaysia	translation
2020-22	Featured Interview 1 , 2 , National Newspaper, Sin Chew Daily, Malaysia	translation
2018	Featured in Institute for Advanced Study Newsletters, Featured Article 1 , Featured Article 2	
2013	TED-Ed Video: How to Measure Extreme Distances (viewed 3.5M times)	
2013	TED-Ed Video: How do We Study the Stars? (viewed 1M times)	

Interactive Applets

2014	Lead developer of an EdX course , showcasing interactive applets for teaching astronomy
2014	Lead developer of the first Harvard scientific interactive kiosk at the Harvard science center

Other Writing

2019	Editor, <i>International Astronomical Union Symposium 377 Proceeding</i>
2019	Editor, textbook), <i>Quantum Field Theory, Lectures of Sidney Coleman</i>
2013	Astrobites contributor
2013	Harvard Science in the News contributor
2013	Classroom visit, "There's a Scientist in My Classroom!" Program, Cambridge, MA

PROFESSIONAL LEADERSHIPS AND SERVICES

I have embraced leadership roles in both AI for science and spectroscopic survey advancement. As astronomy's representative, I co-lead an NSF white paper on AI for Science spanning the Mathematics and Physical Sciences directorate. I have served as inaugural chairperson of the [NASA Cosmic Program Star Interest Group](#) (2021-2015) and the [AI/ML Interest Group](#) (2025-). In shaping the future of wide-field surveys, I currently co-lead the Milky Way group for the [MUST survey](#) and previously led the machine learning group for the [FOBOS survey](#). My initiation of the C3PO program, designed to study nearby comoving stars with unprecedented precision, culminated in a [Nature publication](#) featured on the cover. Deeply connected to my Malaysian heritage, I am dedicated to advancing astronomy in my homeland, where only 30 individuals among 30 million hold astronomy PhDs. In 2023, I organized Malaysia's first two major astronomy conferences and summer school. I co-founded the [Global Malaysian Astronomer Convention](#) to showcase Malaysian astronomers' work globally and discuss national educational policies. My successful IAU grant proposal brought the [first-ever IAU symposium to Malaysia](#)—Southeast Asia's first IAU conference since 1990. I was also the Malaysia's representative to the [East Asian Observatory](#), strengthening astronomy across developing Southeast Asian nations.

Other Involvements:

2026-present	Executive Committee	After Sloan 5's Hidden Galaxy Explorer
2026-present	Working Group Chair	After Sloan 5's Hidden Galaxy Explorer
2025-present	Committee	CCAPP Science Board, OSU
2025-present	Advisory Committee	BuckAI Observatory (OSU Institute for AI in Earth Sciences)
2024-present	Institution Lead	SDSS-V Collaboration Council
2022-present	Co-Chair	IEEE "Deep Vision in Space" Task Force
2026	Chair	247th AAS Meeting Splinter Session - AI/ML in Astronomy
2025-26	Committee	Colloquium Committee, OSU
2025-26	Committee	Graduate Studies Committee, OSU
2025	Co-Chair	IJCNN 2026 Workshop - Deep Vision in Space @ Maastricht, Netherlands
2026	Reviewer	Chilean National Agency for Research and Development
2025	Co-Organizer	Philosophy Sees the Algorithm: Reconsidering Knowledge/Community
2025	Reviewer	Swiss National Science Foundation
2025	Reviewer	RCSA's Cottrell SEED New Research Directions Award
2025	Reviewer	NASA's Research Opportunities in Space and Earth Science
2025	Committee	Graduate Student Admission Committee, OSU
2025	Review Panelist	NASA's Roman Space Telescope Research Participation Opportunities
2025	Co-Chair	IJCNN 2025 Workshop - Deep Vision in Space @ Rome, Italy
2025	Reviewer	Chilean Agency for Research and Development
2024-25	Co-PI	NSF's Future of AI and the Mathematical and Physical Sciences Workshop
2024-25	Committee	Graduate Student Committee, OSU
2024	Reviewer	Hubble Space Telescope Cycle 32 Bridge
2024	Committee	Graduate Student Admission Committee, OSU
2024	PhD Thesis Committee	Wassim Tenachi - Observatoire Astronomique de Strasbourg
2024	Organizing Committee	4th Collab. Graduate Edu. - HPC and Data in Astro. @ Australia
2024	Reviewer	Austrian Science Fund (FWF) ESPRIT Programme
2024	Co-Chair	IJCNN 2024 Workshop - Deep Vision in Space @ Yokohama, Japan
2024	SOC	Astronomy Big Data Exploration Camp @ Yunnan, China
2024	SOC	Simulation-Based Inference for Galaxy Evolution @ Bristol, UK
2024	SOC	New Comp. Methods in Milky Way Dynamics @ Ringberg, Germany
2024	Reviewer	NASA Future Investigators in Earth, Space Science & Technology
2023-24	Advisory Committee	Machine Learning in Australian Astronomy
2023	Australia Co-I	SpelTel: A 10-12 meter class Spectroscopic Survey Telescope
2023	Co-Chair	Computational Genomics Conference @ ANU
2023	Colloquium Committee	ANU Research School for Astrophysics and Astronomy
2023	Editor	Computational Astronomy, Intelligent Computing, AAAS
2023	SOC	IEEE WHISPER Multi-Modal Segmentation Contest @ Rome, Italy
2023	SOC Workshop Chair	International Joint Conf. on Neural Networks @ Gold Coast, Australia
2023	SOC	Astronomical Stellar Parameter Measurement @ Yunnan, China
2022	Reviewer	Australian Research Council (ARC) Laureate Fellowship (LF23)
2022	Reviewer	ARC Linkage Infrastructure, Equipment & Facilities (LE23)
2022	Reviewer	ARC Discovery Project Research Grant (DP23)
2022	Reviewer	ARC Discovery Early Career Researcher Award (DECRA, DE23)
2022	Advisory Committee	ANU Jubilee Fellowship
2022	Book Reviewer	World Scientific
2022	SOC	Machine Learning in Cool Stars @ Toulouse, France
2022	Committee	Graduate Student Admission Committee, ANU
2021-2025	PhD Thesis Committee	Samantha Usman - University of Chicago
2021-24	Chief Investigator	Australian-Rubin Observatory Agreement
2021	Advisory Committee	CSST, a UV-optical deep imaging satellite
2020-21	Working Group Leader	Earth2.0, a space satellite searching for Earth-analogs
2020	Review Panelist	NASA Astrophysics Data Analysis Program
2020	SOC	Machine Learning and Physics Conference @ Beijing, China

2020	Time Allocation Committee	Japan Subaru Telescope
2019-20	Reviewer	NASA Future Investigators in Earth, Space Science & Technology (x2)
2019	Time Allocation Committee	Gemini Observatory - Canada
2018-19	Time Allocation Committee	United States National Optical Astronomy Observatory
2018	Time Allocation Committee	China Telescope Access Program
2017-18	SOC Chair	The 1 st and 2 nd Princeton Postdocs Symposium
2013-16	Lead Ambassador	World-Wide Telescope (WWT) Ambassador Program
2012	Instructor	Harvard College Observing Program
2019-2023	PhD Thesis Committee	Tyler Nelson - University of Texas, Austin
2019	Master Thesis Committee	Spencer Bialek - University of Victoria
2017-present	Journal Referee	Nature, Nature Astronomy, Sci. Reports, ApJ, ApJL, AJ, MNRAS, A&A, Journal Geophysical Research, Annal Institute of Stat. Mathematics, Engineering Applications of Artificial Intelligence, ICML, JCAP, Modern Physics Letter A, The Innovation, Universe, Physics of the Dark Universe

REFERENCES

Prof. David Weinberg Ohio State University	Distinguished University Professor <i>phone: +1-614-292-2022, email: weinberg.21@osu.edu</i>
Prof. Hans-Walter Rix Max Planck Institute for Astronomy	Director <i>phone: +49-6221-528-210, email: rix@mpia.de</i>
Dr. John Mulchaey Carnegie Institution for Science	President <i>phone: +1-626-304-0257, email: mulchaey@carnegiescience.edu</i>
Prof. Brice Ménard Johns Hopkins University	Professor <i>phone: +1-410-516-5743, email: menard@jhu.edu</i>
Prof. Charlie Conroy Harvard University	Professor <i>phone: +1-617-495-7005, email: cconroy@cfa.harvard.edu</i>
Prof. Doug Finkbeiner Harvard University	Professor <i>phone: +1-617-384-8393, email: dfinkbeiner@cfa.harvard.edu</i>

COMPLETE LIST OF SUPERVISIONS

I have acted as the main supervisor (“primary”) or as one of the two key supervisors (“secondary”) for my students. This list includes only those students with whom I interact on a weekly basis throughout my supervision period.

- ‘Term’ denotes short-term projects, lasting from six months to a year.
- ‘Thesis’ indicates multi-year projects.
- ‘HD’ represents an Honours thesis awarded with high distinction, first-class honors or both.

Postdocs

2025–present	Milan Pesta	OSU (Astrophysics)	primary supervisor	
2023–present	Tomasz Rózański	ANU (Astrophysics)	primary supervisor	3 papers
2025–present	Xiaosheng Zhao	Johns Hopkins	secondary supervisor	4 papers
2025–present	Yuting Wang	Max Planck	secondary supervisor	
2023–present	Jiadong Li	Max Planck	secondary supervisor	4 papers
2022–25	Erwin Chen	OSU (Astro)	primary supervisor	2 papers
2023–24	Bradley Greig	ANU (Astro) → Government	primary supervisor	5 papers
2022–24	Jie Yu	ANU (CS) → Nanjing Faculty	primary supervisor	3 papers
2020–24	Ioana Ciucă	ANU (Astro)	primary supervisor	4 papers
2020–23	David Yong	ANU (Astro) → Government	primary supervisor	1 paper
2023–24	Qinghui Sun	Tsinghua → STJU Faculty	secondary supervisor	2 papers
2021–24	Fan Liu	Swinburne → NAOC Staff	secondary supervisor	1 paper

PhD/Graduate Students

2025–present	Serat Saad	OSU (Astrophysics)	primary supervisor (thesis)	1 paper
2025–present	Anning Gao	OSU (Astrophysics)	primary supervisor (thesis)	
2025–present	Devisree Tallapaneni	OSU (Astrophysics)	secondary supervisor (semester)	
2025–present	Blaise Tayese	OSU (Law, AI Regulation)	secondary supervisor (thesis)	
2025–present	Lucas Pinheiro	OSU (Engineering)	secondary supervisor (semester)	1 paper
2025–present	Chuhan Zhang	ANU (Astrophysics)	secondary supervisor (thesis)	
2023–present	Yanjun Sheng	ANU (Astrophysics)	primary supervisor (thesis)	2 papers
2024–present	James McNeil	ANU (Computer Science)	primary supervisor (thesis)	
2024–present	Yuwei Yang	ANU (Computer Science)	primary supervisor (thesis)	1 paper
2022–present	Zechang Sun	Tsinghua University	primary supervisor (thesis)	5 papers
2024–25	Dylan Leung	OSU (Physics)	primary supervisor (term)	
2023–24	Maja Jablonska	ANU (Astrophysics)	secondary supervisor (thesis)	
2022–23	Zefeng Li	ANU → Durham Postdoc	secondary supervisor (thesis)	1 paper
2017–19	Jane Lin	ANU → industry	secondary supervisor (thesis)	2 papers
2024	Milan Pesta	Charles University → OSU Fellow	primary supervisor (term)	
2023–24	Junhui Liu	Xiamen University	primary supervisor (term)	1 paper
2023–24	Rui Pan	Hong Kong UST → UIUC PhD	secondary supervisor (term)	2 papers
2022–25	Matt Craigie	U. Queensland → JPL/NASA Fellow	primary supervisor (thesis)	3 papers
2022–23	Jiaxuan Li	Princeton University	primary supervisor (term)	
2022–23	Xiaosheng Zhao	Tsinghua → John Hopkins	primary supervisor (term)	1 paper
2022–23	Tomasz Rózański	Wroclaw University → ANU	primary supervisor (term)	1 paper
2021–22	Sunny Tang	UIUC → Finance, JP Morgan	primary supervisor (term)	1 paper
2021–22	Danny H. Darrington	Liverpool LJMU → CCA Fellow	primary supervisor (term)	
2020–21	Hsiang-Chih Hwang	J. Hopkins → IAS → Renaissance	primary supervisor (term)	3 papers
2020–21	Tyler Nelson	UT Austin → U. Southern Maine	primary supervisor (term)	1 paper
2020–21	Sankalp Gilda	U. Florida → industry	secondary supervisor (term)	1 paper
2019–21	Madeline Lucey	UT Austin → UPenn/NSF Fellow	primary supervisor (term)	2 papers

2019–21	Rohan Naidu	Harvard → MIT Pappalardo/Hubble	secondary supervisor (term)	1 paper
2019–20	Sihao Cheng	J. Hopkins → IAS-Perimeter Fellow	secondary supervisor (thesis)	1 paper
2018–20	Nathan Sandford	UC Berkeley → U. of Toronto	secondary supervisor (term)	2 papers
2018–20	Lachlan Lancaster	Princeton → Simons Junior Fellow	secondary supervisor (term)	1 paper
2017–20	Neige Frankel	Max Planck → UToronto Fellow	secondary supervisor (thesis)	3 papers
2017	Kareem El-Badry	Berkeley → Harvard Fellow	secondary supervisor (term)	2 papers
2016–21	Harshil Kamdar	Harvard → industry	secondary supervisor (thesis)	3 papers
2016–19	Mikhail Kovalev	Max Planck → Yunnan postdoc	secondary supervisor (thesis)	1 paper

Master/Postbac Students

2025-present	Maxwell Zhang	OSU (Postbac, Astro)	primary supervisor (thesis)	
2025-present	Jinchu Li	Georgia Tech (MSc, CS)	primary supervisor (term)	
2025	Yuting Shen	Georgia Tech (MSc, CS)	primary supervisor (term)	
2023	Josh Nguyen	ANU (MSc, CS) → UPenn PhD	primary supervisor (term)	1 paper
2022–23	Yanjun Sheng	ANU (MSc, Astro) → ANU PhD	primary supervisor (thesis)	1 paper
2022–23	Rachel Lim	Cambridge → Finance, Deloitte	primary supervisor (term)	

Undergraduates

2025–present	Chee Chung Chan	Universiti Malaya (Honours, Physics)	secondary supervisor (thesis)	
2022–23	Ziqi Yuan	ANU (Honours, Astro) → Lund PhD	primary supervisor (thesis)	HD
2022–25	Bhaves Sharma	ANU (Honours, CS) → Melbourne MSc	primary supervisor (thesis)	HD, 1 paper
2023	Anthony Siharath	ANU (Honours, CS) → Software Eng	secondary supervisor (thesis)	HD
2022	Shu Zou	ANU (Honours, CS) → ANU PhD	primary supervisor (thesis)	HD
2022	Bowen Tang	ANU (Honours, CS) → ANU PhD	primary supervisor (thesis)	HD
2021–23	Zeefan Khan	ANU (Honours, Eng) → Software Eng	primary supervisor (thesis)	
2023–24	Charles O'Neill	ANU (CS, PhB) → Oxford PhD	secondary supervisor (term)	
2022	Bede Denham	ANU (Engineering)	secondary supervisor (term)	
2021–22	Anne Xie	ANU (Astro, PhB) → Teaching	primary supervisor (term)	
2021–22	Ashley Tan	ANU (Astro)	primary supervisor (term)	
2021–22	Yangda Bei	ANU (CS, PhB)	primary supervisor (term)	
2020–21	Yukang Liu	ANU (CS) → Simon Fraser PhD	primary supervisor (term)	
2021–24	Jiashu Pan	Nanjing → Westlake PhD	primary supervisor (thesis)	3 papers
2021–22	Zechang Sun	Tsinghua → Tsinghua PhD	primary supervisor (thesis)	1 paper
2021–22	Yong-Sheng Yap	National Tsinghua → Cambridge PhD	primary supervisor (term)	
2020–21	Vedant Chandra	Johns Hopkins → Harvard PhD	primary supervisor (term)	
2019–20	Teaghan O'Briain	Victoria → UVictoria PhD	secondary supervisor (thesis)	2 papers
2018	Erwin Chen	Wisconsin → USydney PhD → ANU	primary supervisor (term)	

High School Students

2025	Howard Qian	High School	primary supervisor (term)	
2024–25	Dun Li Chan	High School	primary supervisor (term)	
2019	Jupiter Ding	High school → Princeton UG	primary supervisor (term)	

RECENT ACADEMIC PRESENTATIONS (from the past year)

Conference Presentations

Contributed Talk, "AAS Meeting- NASA AI/ML Science & Tech. Interest Group," Phoenix, United States	Jan 2026
Contributed Talk, "AAS Meeting- NASA Joint Program Analysis Group," Phoenix, United States	Jan 2026
Contributed Talk, "Philosophy Sees the Algorithm: Reconsidering Knowledge," Columbus, United States	Dec 2025
Contributed Talk, "The 3rd Workshop on A.I. for Scientific Publications," remote event	Dec 2025
Contributed Talk, "Philosophy Sees the Algorithm: Reconsidering Knowledge," Columbus, United States	Dec 2025
Invited Talk , "NASA's Cosmic Origins Program Early Career Workshop," remote event	Oct 2025
Invited Talk , "College of Arts and Sciences AI Summit," Columbus, United States	Oct 2025
Poster, "SDSS-V Collaboration Meeting," Heidelberg	June 2025
Invited Talk , "AI-Empowered Astronomy for Open Science," remote event	April 2025

Departmental Colloquia & Seminars

Invited talks are in **boldface**, departmental colloquia are marked with **.

NSF-Simons AI Institute for the Sky **, Chicago, United States	Nov 2025
Argonne National Laboratory **, Lemont, United States	Nov 2025
Indiana University **, Bloomington, United States	Nov 2025
Space Research Centre of Polish Academy of Sciences , Warsaw, Poland	July 2025
Max Planck Institute for Astronomy **, Heidelberg, Germany	June 2025
University of Wrocław, Wrocław, Poland	June 2025
Max Planck Institute for Astronomy , Heidelberg, Germany	May 2025
Stanford University , Palo Alto, United States	April 2025
Stanford University, KIPAC , Palo Alto, United States	April 2025
University of Chicago , Chicago, United States	April 2025
ESO AI Forum Seminar Series , remote event	April 2025
NSF-Simons AI Institute for Cosmic Origins (CosmicAI) **, Austin, United States	April 2025
The University of Texas at Austin **, Austin, United States	April 2025
Boston University **, Boston, United States	Feb 2025

*: publications from students or postdocs whom I supervised.

**: equal contribution / joint first-authored

— Refereed Publications - As 1st-3rd or Supervising Author—

— 2026 —

- 244. **Y.-S. Ting**, *Annual Review of Astronomy and Astrophysics*, in-press.
Deep Learning in Astrophysics
- 243. **Y.-S. Ting**, *The Open Journal of Astrophysics*, submitted
Why Machine Learning Models Systematically Underestimate Extreme Values II: How to Fix It with LatentNN
- 242. **S. Saad*** & **Y.-S. Ting**, *The Open Journal of Astrophysics*, submitted
High-Precision Differential Radial Velocities of C3PO Wide Binaries: A Test of Modified Newtonian Dynamics (MOND)
- 241. **Y.-S. Ting**, **S. Saad**, F. Liu, & Y. Shen, *The Open Journal of Astrophysics*, submitted
Egent: An Autonomous Agent for Equivalent Width Measurement
- 240. **B. Chen***, M. Orkney, **Y.-S. Ting**, & M. Hayden, *The Open Journal of Astrophysics*, submitted
The Dawn is Quiet Here II: Gaia XP Constraints on the Milky Way's Proto-Galaxy from Very Metal-Poor MDF Tails
- 239. **J. Li***, H.-W. Rix, **Y.-S. Ting**, et al., *The Astrophysical Journal*, submitted
Variations in the Milky Way's Stellar Mass Function at $[Fe/H] < -1$
- 238. **X. Zhao***, **Y.-S. Ting**, et al., *The Astrophysical Journal*, submitted
Generalization from Low- to Moderate-Resolution Spectra with Neural Networks for Stellar Parameter Estimation: A Case Study with DESI
- 237. **L. Pinheiro***, Z. Chen, B. Piazza, N. Shroff, Y. Liang, **Y.-S. Ting**, H. Sun, submitted
Large Language Models Achieve Gold Medal Performance at the International Olympiad on Astronomy & Astrophysics (IOAA)
Notable media mention: [新智元](#), [知乎](#), [机器之心](#)
- 236. M. Krumholz, **Y.-S. Ting**, et al., *Monthly Notices of the Royal Astronomical Society*, submitted
Metallicity Fluctuation Statistics in the Interstellar Medium and Young Stars - II. Elemental Cross-Correlations and the Structure of Chemical Abundance Space
- 235. **Y.-S. Ting** & T. O'Briain, *The Open Journal of Astrophysics*, submitted
Teaching Astronomy with Large Language Models
- 234. **M. Craigie***, E. Huff, **Y.-S. Ting**, R. Ruggeri, & T. Davis, *Physical Review D*, submitted
Learning Intrinsic Alignments from Local Galaxy Environments
- 233. **M. Craigie***, **Y.-S. Ting**, R. Ruggeri, & T. Davis, *Physical Review D*, submitted
Learning Balanced Field Summaries of the Large-Scale Structure with the Neural Field Scattering Transform
- 232. **Z. Sun***, **Y.-S. Ting**, et al., *The Astrophysical Journal*, submitted
Mephisto: Self-Improving Large Language Model-Based Agents for Automated Interpretation of Multi-band Galaxy Observation
- 231. T. de Haan, **Y.-S. Ting**, & Team AstroMLab
AstroMLab 4: Benchmark-Topping Performance in Astronomy Q&A with a 70B-Parameter Domain-Specialized Reasoning Model

230. A. Ferguson**, M. LaFleur**, L. Ruthotto**, J. Thaler**, **Y.-S. Ting****, P. Tiwary**, S. Villar**, Perspective to Machine Learning: Science and Technology, in-press.
The Future of Artificial Intelligence and the Mathematical and Physical Sciences (AI+MPS)
 ** All authors here are co-organizers and contribute equally
229. **X. Zhao***, [+8 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, in-press.
SpecCLIP: Combining and Translating Spectroscopic Measurements for Stars
228. **J. Li***, H.-W. Rix, **Y.-S. Ting**, et al., *Astronomy & Astrophysics*, in-press.
Millions of Main-Sequence Binary Stars from Gaia BP/RP Spectra
227. Y. Lu, M. Pinsonneault, **Y.-S. Ting**, et al., *The Astronomical Journal*, 171, 38
Anchoring Stellar Age Indicators: A Cross Calibration of [C/N] and Gyrochronology Ages via the Age-Velocity Dispersion Relation
- 2025 —
226. W. Zhang, Q. Lin, **Y.-S. Ting**, et al. *Astronomy & Astrophysics*, 703, A276
Interpreting Deep Learning-Based Stellar Mass Estimation Via Causal Analysis and Mutual Information Decomposition
225. **Y. Sheng*** & **Y.-S. Ting**, *Monthly Notices Royal Astronomical Society*, 544, 2434
LMC-induced Perturbations in the Milky Way Halo: I. HaloDance Simulation Suite and Observational Forecasts
224. **Y.-S. Ting**, A. Accomazzi, T. Ghosal, et al., *International Joint Conference on Neural Networks (IJCNN) Workshop AstroMLab 5: Structured Summaries and Concept Extraction for 400,000 Astrophysics Papers*
223. **Q. Sun***, **Y.-S. Ting**, B. Twarog, B. Twarog, & F. Liu *The Astrophysical Journal*, 991, 185
C3PO V: Rotational Spin-Down as the Main Cause of the Main-Sequence Lithium Dip
222. **J. Li***, **Y.-S. Ting**, et al., *The Astrophysical Journal Supplement Series*, 277, 47
Identification of 30,000 White Dwarf-Main Sequence Binaries Candidates from Gaia DR3 BP/RP(XP) Low-Resolution Spectra
221. **J. Yu***, [+14 coauthors including **Y.-S. Ting**], *Nature Astronomy*, 9, 1045
Enhanced Magnetic Activity in Rapidly Rotating Binary Stars
220. **Y.-S. Ting**, *The Open Journal of Astrophysics*, 8
Why Machine Learning Models Systematically Underestimate Extreme Values
219. N. Ramachandra**, **Y.-S. Ting****, et al., *International Conference ML (ICML) Workshop Teaching LLMs to Speak Spectroscopy*
218. T. de Haan, **Y.-S. Ting**, & Team AstroMLab, *International Conference ML (ICML) Workshop AstroSage: Leading Performance in Astronomy Q&A with a 70B-Parameter Domain-Specialized Mode*
217. **T. Rozanski*** & **Y.-S. Ting**, *International Conference ML (ICML) Workshop Scaling Laws for Transformer-Based Stellar Spectral Emulation*
216. Z. Jin, Y. Lu, **Y.-S. Ting**, et al., *International Conference ML (ICML) Workshop Causal Discovery of Latent Variables in Galactic Archaeology*
215. **X. Zhao***, **Y.-S. Ting**, A. Szalay, R. Wyse & Y. Huang, *International Conference ML (ICML) Workshop*, **spotlight presentation**
Finetuning Stellar Spectra Foundation Models with LoRA
214. **J. Li***, M. Jian, **Y.-S. Ting**, & G. Green, *International Conference ML (ICML) Workshop, Differentiable Stellar Atmospheres with Physics-Informed Neural Networks*
213. **Y. Yang***, ..., **Y.-S. Ting**, L. Zheng. *International Conference on Computer Vision (ICCV)*, 2653
Effective Training Data Synthesis for Improving MLLM Chart Understanding
212. **T. Rozanski*** & **Y.-S. Ting**, *The Open Journal of Astrophysics*, 8
Scaling Laws for Emulation of Stellar Spectra

211. **M. Craigie*** P. Taylor, **Y.-S. Ting**, et al., *Physical Review D*, 112, 023503
Unsupervised Searches for Cosmological Parity Violation: Improving Detection Power with the Neural Field Scattering Transform
 210. M. Zhang, M. Xiang, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 279, 5
Homogeneous Stellar Atmospheric Parameters and 22 Elemental Abundances for Six Million FGK Stars Derived From LAMOST Low-resolution Spectra with DD-PAYNE
 209. **J. Yu***, **Y.-S. Ting**, et al., *Monthly Notices Royal Astronomical Society*, 538, 2408
C3PO IV: Co-natal Stars Depleted in Refractories are Magnetically More Active — Possible Imprints of Planets
 208. S. Zhang, H. Zhang, **Y.-S. Ting**, et al., *The Astrophysical Journal Supplement Series*, 277, 47
Half a Million M Dwarf Stars Characterized Using Domain-Adapted Spectral Analysis
 207. T. de Haan, **Y.-S. Ting**, & Team AstroMLab, *Nature's Scientific Reports*, 15, 13751
AstroMLab 3: Achieving GPT-4o Level Performance in Astronomy with a Specialized 8B-Parameters Large Language Model
 206. **Y.-S. Ting**, *Nature Astronomy*, 9, 317
Artificial Intelligence Compels the Astronomy Community to Rethink Research Identity and Redefine Excellence
Read the article [here](#)
 205. **Y.-S. Ting** & A. Ji, *The Open Journal of Astrophysics*, 8
Quantifying Bursty Star Formation in Dwarf Galaxies
 204. **T. Rozanski***, **Y.-S. Ting**, & **M. Jablonska***, *The Astrophysical Journal*, 980, 66
TransformerPayne: Enhancing Spectral Emulation Accuracy and Data Efficiency by Capturing Long-Range Correlations
 203. **Y.-S. Ting** & Team AstroMLab, *Astronomy & Computing*, 51, 100893
AstroMLab 1: Who Wins Astronomy Jeopardy!?
Notable media mention: [Nature Astronomy](#)
 202. **Q. Sun***, **Y.-S. Ting**, et al., *The Astrophysical Journal Letter*, 978, 107
C3PO III: Lithium Signatures Following Planet Engulfment by Stars
- 2024 —
201. **F. Liu***, **Y.-S. Ting**, **D. Yong***, et al., *Nature*, 627, 501
At Least One in a Dozen Stars Shows Evidence of Planetary Ingestion
Read the article [here](#), ranked [top 25](#) of > 1000 papers published in Nature based on online attention.
Notable media mention: [BBC](#), [Reuter](#), [The Conversation](#), [ANU Reporter](#), [Physics World](#), [SBS](#), [Scientific American](#), [Newscientist](#), [Physics.org](#), [Channel News Asia](#), [Cosmos](#), [USA Today](#), [The Guardian](#), [科普中国](#)
 200. **J. Liu***, B. Zhang, J. Wu, & **Y.-S. Ting**, *The Astrophysical Journal Supplementary Series*, 275, 40
Double-lined Spectroscopic Binaries from the LAMOST Low-Resolution Survey
 199. **Y. Sheng***, **Y.-S. Ting**, X. Xue, J. Chang, *Monthly Notices Royal Astronomical Society*, 534, 2694
Uncovering the First-Infall History of the LMC Through Its Dynamical Impact in the Milky Way Halo
 198. **Z. Sun***, **Y.-S. Ting**, et al., *Neural Information Processing Systems (NeurIPS) Workshop 2024*
Interpreting Multi-band Galaxy Observations with Large Language Model-Based Agents
Notable media mention: [Microsoft](#), [Microsoft Asia](#)
 197. **R. Pan***, Team AstroMLab, & **Y.-S. Ting**, SuperComputing (SC24) AI4S Workshop 2024
AstroMLab 2: AstroLLaMA-2-70B Model and Benchmarking Specialised LLMs
 196. **B. Chen***, **Y.-S. Ting**, & M. Hayden, *Publications of the Astronomical Society of Australia*, 41, e063
The Dawn is Quiet Here: Rise in $[\alpha/\text{Fe}]$ is a Signature of Massive Gas Accretion that Fueled Proto-Milky Way
 195. **B. Greig***, [+10 coauthors including **Y.-S. Ting**], *Monthly Notices Royal Astronomical Society*, 533, 3312
Blind QSO Reconstruction Challenge: Exploring Methods to Reconstruct the Ly α Emission Line of QSOs

194. **B. Greig***, D. Prelogovi, Y. Qin, **Y.-S. Ting** & A. Mesinger, *Mon. Not. Royal Astron. Soc.*, 533, 2530
Inferring Astrophysical Parameters using the 2D Cylindrical Power Spectrum from Reionisation
 193. **B. Greig***, D. Prelogovi, J. Mirocha, Y. Qin, **Y.-S. Ting** & A. Mesinger, *Mon. Not. Royal Astron. Soc.*, 533, 2502
Exploring the Role of the Halo Mass Function for Inferring Astrophysical Parameters During Reionisation
 192. **J. Pan***, **Y.-S. Ting**, et al., International Conference ML (ICML) Workshop
The Scaling Law in Stellar Light Curves
 191. **Z. Sun***, **Y.-S. Ting**, et al., International Joint Conference on Artificial Intelligence (IJCAI) AI4Research Workshop
Knowledge Graph in Astronomical Research with Large Language Models: Quantifying Driving Forces in Interdisciplinary Scientific Discovery
 190. P. Sharda, **Y.-S. Ting** & N. Frankel, *Monthly Notices Royal Astronomical Society*, 532, 1
A Path Towards Constraining the Evolution of the Intersellar Medium and Outflows in the Milky Way using APOGEE
 189. M. Zhang, M. Xiang, **Y.-S. Ting**, et al., *The Astrophysical Journal Supplementary Series*, 273, 19
Determining Stellar Elemental Abundances from DESI Spectra with Data-Driven Payne
 188. **J. Yu***, L. Casagrande, **I. Ciucă**, **Y.-S. Ting**, et al., *Monthly Notices Royal Astronomical Society*, 530, 2953
New Evidence of Binarity in Young α -rich Turn-Off and Subgiant Stars: Fast Rotation and Strong Magnetic Activity
 187. P. Taylor, **M. Craigie*** & **Y.-S. Ting**, *Physical Review D*, 109, 083518
Unsupervised Searches for Cosmological Parity-Violation I: A Investigation with Convolution Neural Networks
 186. **Z. Li***, Grand, Wisnioski, Mendel, Krumholz, **Ting+**, *Monthly Notices Royal Astronomical Society*, 528, 7103
Cosmological Evolution of Metallicity Correlation Functions from the Auriga Simulations
 185. **J. Pan****, **Y.-S. Ting**** & **J. Yu***, *Monthly Notices Royal Astronomical Society*, 528, 5890
Astroconformer: The Prospects of Analysing Stellar Light Curves with Transformer-Based Deep Learning Models
 184. H. Hwang, **Y.-S. Ting**, S. Cheng, J. Speagle, *Monthly Notices Royal Astronomical Society*, 528, 4272
Dynamical Masses across the Hertzsprung-Russell Diagram
Notable mention: [AstroPlot of the Week](#), [Gaia Image of the Week](#)
 183. E. Perkowski**, **R. Pan****, **T. Nguyen***, **Y.-S. Ting+**, *Research Notes of the AAS*, 8, 7
AstroLLaMA-Chat: Scaling AstroLLaMA with Conversational and Diverse Datasets
Notable media mention: [Machine Learning Street Talk](#)
- 2023 —
182. D. Nguyen, **Y.-S. Ting**, T. Thompson, L. Lopez & S. Lopez, *Neural Information Processing Systems Workshop 2023*
Neural ODEs as a Discovery Tool to Characterize the Structure of the Hot Galactic Wind of M82
 181. **Z. Sun***, S. Huang, J. Speagle, **Y.-S. Ting** & Z. Cai, *Neural Information Processing Systems Workshop 2023*
Zephyr : Stitching Heterogeneous Training Data with Normalizing Flow for Photometric Redshift Inference
 180. **D. Yong***, **F. Liu***, **Y.-S. Ting**, et al., *Monthly Notices Royal Astronomical Society*, 526, 2181
C3PO: Towards a Complete Census of Co-moving Pairs of Stars. I. High precision stellar parameters for 250 stars
 179. **I. Ciucă***, D. Kawata, **Y.-S. Ting**, et al., *Monthly Notices of the Royal Astronomical Society Letters*, 528, L122
Chasing the Impact of the Gaia-Sausage-Enceladus Merger of the Milky Way Thick Disc
Notable mention: [American Physics Society](#)
 178. **Z. Sun***, **Y.-S. Ting** & Z. Cai, *The Astrophysical Journal*, 269, 4
Quasar Factor Analysis – An Unsupervised and Probabilistic Quasar Continuum Prediction Algorithm with Latent Factor Analysis
 177. **T. Nguyen***, **Y.-S. Ting**, et al., International Joint Conference on Natural Language Processing
AstroLLaMA: Towards Specialized Foundation Models in Astronomy
Notable mention: [Hugging Face Daily](#)

176. **X. Zhao**^{*,**}, **Y.-S. Ting**^{**}, K. Diao & Y. Mao, *The Astrophysical Journal*, 526, 1699
Can Diffusion Model Conditionally Generate Astrophysical Images?
175. **Y.-S. Ting**^{**}, & **B. Sharma**^{*,**}, International Conference ML (ICML) Workshop
Weisfeiler-Lehman Graph Kernel Method: A New Approach to Weak Chemical Tagging
174. **T. Rozanski**^{*,**}, **Y.-S. Ting**^{**}, & M. Jablonska, International Conference ML (ICML) Workshop
Toward a Spectral Foundation Model: An Attention-Based Approach with Domain-Inspired Fine-Tuning and Wavelength Parameterization
173. **I. Ciucă**^{*,**}, **Y.-S. Ting**^{**}, S. Kruk & K. Iyer, International Conference ML (ICML) Workshop
Harnessing the Power of Adversarial Prompting and Large Language Models for Robust Hypothesis Generation in Astronomy
172. **I. Ciucă**^{*} & **Y.-S. Ting**, Research Notes of the American Astronomical Society, 7, 9
Galactic ChitChat: Using Large Language Models to Converse with Galactic Archaeology Literature
171. **M. Lucey**^{*}, N. Al Kharusi, K. Hawkins, **Y.-S. Ting**, et al., *Monthly Notices Royal Astronomical Society*, 523, 4049
Carbon-Enhanced Metal-Poor Star Candidates from BP/RP Spectra in Gaia DR3
170. **N. Sandford**^{*}, D. Weisz & **Y.-S. Ting**, *The Astrophysical Journal Supplementary Series*, 267, 18
Validating Stellar Abundance Measurements from Multiresolution Spectroscopy
169. **B. Greig**^{*}, **Y.-S. Ting**, & A. Kaurov, *Monthly Notices of the Royal Astronomical Society*, 519, 5288
Detecting the Non-Gaussianity of the 21-cm Signal during Reionisation with the Wavelet Scattering Transform
168. G. Green, **Y.-S. Ting** & **H. Kamdar**^{*}, *The Astrophysical Journal*, 942, 26
Deep Potential: Recovering the Gravitational Potential from a Snapshot of Phase Space

— 2022 —

167. J. Leja, J. Speagle, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 936, 165
A New Census of the $0.2 < z < 3.0$ Universe, Part II: The Star-Forming Sequence
166. **I. Ciucă**^{*,**} & **Y.-S. Ting**^{**}, International Conference ML (ICML) Workshop, **spotlight presentation**
Unsupervised Learning for Stellar Spectra with Deep Normalizing Flows
165. **K. Tang**^{*,**} & **Y.-S. Ting**^{**}, International Conference ML (ICML) Workshop, **spotlight presentation**
Galaxy Merger Reconstruction with Equivariant Graph Normalizing Flows
164. **Z. Sun**^{*}, **Y.-S. Ting** & Z. Cai, International Conference ML (ICML) Workshop
An Unsupervised Learning Approach for Quasar Continuum Prediction
163. **J. Pan**^{*,**}, **Y.-S. Ting**^{**} & **J. Yu**^{*}, International Conference ML (ICML) Workshop
Astroconformer: Inferring Surface Gravity of Stars from Stellar Light Curves with Transformer
162. M. Xiang, H.-W. Rix, **Y.-S. Ting**, et al., *Astronomy & Astrophysics*, 662, 66
Stellar Labels for Hot Stars from Low-Resolution Spectra - I. the HotPayne Method and Results for 330,000 Stars from LAMOST DR6
161. **B. Greig**^{*}, **Y.-S. Ting**, & A. Kaurov, *Monthly Notices of the Royal Astronomical Society*, 513, 1719
Exploring the Cosmic 21-cm Signal from the Epoch of Reionisation Using the Wavelet Scattering Transform
160. **H. Hwang**^{*}, **Y.-S. Ting**, at al., *Monthly Notices of the Royal Astronomical Society*, 513, 754
Wide Binaries from the H3 Survey: The Thick Disk and Halo have Similar Wide Binary Fractions
159. **H. Hwang**^{*}, **Y.-S. Ting**, & N. Zakamska, *Monthly Notices of the Royal Astronomical Society*, 512, 3383
The Eccentricity Distribution of Wide Binaries and Their Individual Measurements
158. **Y.-S. Ting** & D. Weinberg, *The Astrophysical Journal*, 927, 209
How Many Elements Matter?

— 2021 —

157. **H. Kamdar**^{*}, C. Conroy, **Y.-S. Ting**, K. El-Badry, *The Astrophysical Journal*, 922, 49
Spatial and Kinematic Clustering of Stars in the Galactic Disk

156. **T. Nelson***, **Y.-S. Ting**, K. Hawkins, A. Ji, H. Kamdar, K. El-Badry, *The Astrophysical Journal*, 921, 118
Distant Relatives: The Chemical Homogeneity of Comoving Pairs Identified in Gaia
155. Greene, Lancaster, **Ting**, Koposov, Danieli, Huang, Jiang, Greco, Strader, *The Astrophysical Journal*, 917, 17
A Search for Wandering Black Holes in the Milky Way with Gaia and DECaLS
154. L. Spina, **Y.-S. Ting**, N. Frankel, et al., *Monthly Notices of the Royal Astronomical Society*, 503, 3279
The GALAH Survey: Tracing the Galactic Disc with Open Clusters
153. M. Xiang, H.-W. Rix, **Y.-S. Ting**, et al., *The Astrophysical Journal Supplement Series*, 253, 22
Data-Driven Spectroscopic Estimates of Absolute Magnitude, Distance, and Binarity Method and Catalog of 16,002 O- and B-type Stars from LAMOST
152. **H. Hwang***, **Y.-S. Ting**, K. Schlaufman, N. Zakamska, *The Astrophysical Journal*, 501, 4329
The Non-Monotonic, Strong Metallicity Dependence of the Wide-Binary Fraction
151. **T. O'Briain***, **Y.-S. Ting**, S. Fabbro, K. Yi, K. Venn, S. Bialek, *The Astrophysical Journal*, 906, 130
Cycle-StarNet: Bridging the Gap between Theory and Data by Leveraging Large Data Sets

— 2020 —

150. **S. Cheng***, **Y.-S. Ting**, B. Menard, J. Bruna, *Monthly Notices of the Royal Astronomical Society*, 499, 5902
A New Approach to Observational Cosmology using the Scattering Transform
awarded the **International Astrostatistics Association Award** - for an outstanding publication
149. G. Green & **Y.-S. Ting**, *Neural Information Processing Systems (NeurIPS) Workshop 2020*
Deep Potential: Recovering the Gravitational Potential from a Snapshot of Phase Space
148. **S. Gilda***, **Y.-S. Ting**, et al., *Neural Information Processing Systems (NeurIPS) Workshop 2020*
Astronomical Image Quality Prediction based on Environmental and Telescope Operating Conditions
147. **Naidu***, Conroy, Bonaca, Johnson, **Y.-S. Ting**, Caldwell, Zaritsky, Cargile, *The Astrophysical Journal*, 901, 48
Evidence from the H3 Survey that the Stellar Halo is entirely Comprised of Substructure
IOP Publishing Top Cited Paper Award - one of the most cited papers from North America (2020-22)
146. **L. Lancaster***, J. Greene, **Y.-S. Ting**, S. Koposov, B. Pope, R. Beaton, *The Astronomical Journal*, 160, 125
A Mystery in Chamaeleon: Serendipitous Discovery of a Galactic Symbiotic Nova
Notable media mention: **AAS Nova**
145. M. Xiang, H.-W. Rix, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 898, 28
Chemically Peculiar A and F Stars with Enhanced s-Process and Iron-Peak Elements: Stellar Radiative Acceleration at Work
144. **N. Sandford***, D. Weisz & **Y.-S. Ting**, *The Astrophysical Journal Supplement Series*, 249, 24
Forecasting Chemical Abundance Precision for Extragalactic Stellar Archaeology
143. **T. O'Briain***, **Y.-S. Ting**, S. Fabbro, K. Yi, K. Venn, S. Bialek, *International Conference ML (ICML) Workshop*
Interpreting Stellar Spectra with Unsupervised Domain Adaptation
142. **N. Frankel***, J. Sanders, **Y.-S. Ting**, H.-W. Rix, *The Astrophysical Journal*, 896, 15
Keeping it Cool: Much Orbit Migration, yet Little Heating, in the Galactic Disk
the **Ernst Patzer Prize** - the best publication by a young Max Planck Institute for Astronomy scientist
141. **M. Lucey***, **Y.-S. Ting**, N. Ramachandra, K. Hawkins, *Monthly Notices Royal Astronomical Society*, 495, 3087
From the Inner to Outer Milky Way: a Photometric Sample of 2.6 Million Red Clump Stars
140. K. Hawkins, M. Lucey, **Y.-S. Ting**, et al., *Monthly Notices of the Royal Astronomical Society*, 492, 1164
Identical or Fraternal Twins? The Chemical Homogeneity of Wide Binaries from Gaia DR2
139. **J. Lin***, M. Asplund, **Y.-S. Ting**, et al. *Monthly Notices of the Royal Astronomical Society*, 491, 2043
The GALAH Survey: Temporal Chemical Enrichment of the Galactic Disc

— 2019 —

138. M. Xiang, **Y.-S. Ting**, H.-W. Rix, et al., *The Astrophysical Journal*, 245, 34
Abundance Estimates for 16 Elements in 6 Million Stars from LAMOST DR5 Low-Resolution Spectra

137. **H. Kamdar***, C. Conroy, **Y.-S. Ting**, A. Bonaca, M. Smith, A. Brown, *The Astrophysical Journal Letters*, 884, L42
Stars that Move Together Were Born Together
136. **H. Kamdar***, C. Conroy, **Y.-S. Ting**, A. Bonaca, B. Johnson, P. Cargile, *The Astrophysical Journal*, 884, 173
A Dynamical Model for Clustered Star Formation in the Galactic Disk
135. **N. Frankel***, J. Sanders, H.-W. Rix, **Y.-S. Ting**, M. Ness, *The Astrophysical Journal*, 884, 99
The Inside-Out Growth of the Galactic Disk
134. **M. Kovalev***, M. Bergemann, **Y.-S. Ting**, H.-W. Rix, *Astronomy & Astrophysics*, 728, 54
Non-LTE Chemical Abundances in Galactic Open and Globular Clusters
133. **Y.-S. Ting**, C. Conroy, H.-W. Rix, P. Cargile, *The Astrophysical Journal*, 879, 69
The Payne: Self-Consistent Ab Initio Fitting of Stellar Spectra
132. **Y.-S. Ting** & H.-W. Rix, *The Astrophysical Journal*, 878, 21
The Vertical Motion History of Disk Stars throughout the Galaxy
- 2018 —
131. **N. Frankel***, H.-W. Rix, **Y.-S. Ting**, M. Ness, D. Hogg, *The Astrophysical Journal*, 865, 96
Measuring Radial Orbit Migration in the Galactic Disk
130. J. Choi, C. Conroy, **Y.-S. Ting**, A. Dotter, *The Astrophysical Journal*, 863, 65
Star Cluster Ages in the Gaia Era
129. **Y.-S. Ting**, C. Conroy, H.-W. Rix, M. Asplund, *The Astrophysical Journal*, 860, 159
Measuring Oxygen Abundances from Stellar Spectra without Oxygen Lines
128. **Y.-S. Ting**, K. Hawkins & H.-W. Rix, *The Astrophysical Journal Letters*, 858, L7
*A Large and Pristine Sample of Standard Candles across the Milky Way:
~ 100 000 Red Clump Stars with 3% Contamination*
127. **J. Lin***, A. Dotter, **Y.-S. Ting**, M. Asplund, *Monthly Notices of the Royal Astronomical Society*, 477, 2606
*Stellar Ages and Masses in the Solar Neighbourhood: Bayesian Analysis
using Spectroscopy & Gaia DR1 Parallaxes*
126. **K. El-Badry***, **Y.-S. Ting**, H.-W. Rix, et al., *Monthly Notices of the Royal Astronomical Society*, 476, 528
Discovery and Characterization of 3000+ Main-Sequence Binaries from APOGEE Spectra
125. K. Hawkins, **Y.-S. Ting** & H.-W. Rix, *The Astrophysical Journal*, 853, 20
Photospheric Diagnostics of Core Helium Burning in Giant Stars
124. M. Krumholz & **Y.-S. Ting**, *Monthly Notices of the Royal Astronomical Society*, 475, 2236
Metallicity Fluctuation Statistics in the Interstellar Medium and Young Stars - I. Variance and Correlation
123. **K. El-Badry***, H.-W. Rix, **Y.-S. Ting**, et al., *Monthly Notices of the Royal Astronomical Society*, 473, 5043
Signatures of Unresolved Binaries in Stellar Spectra: Implications for Spectral Fitting
- 2017 —
122. **Y.-S. Ting**, H.-W. Rix, C. Conroy, A. Ho, J. Lin, *The Astrophysical Journal Letters*, 849, L9
Measuring 14 Elemental Abundances with R = 1800 LAMOST Spectra
121. **Y.-S. Ting**, C. Conroy, H.-W. Rix, P. Cargile, *The Astrophysical Journal*, 843, 32
Prospects for Measuring Abundances of >20 Elements with Low-resolution Stellar Spectra
- 2016 —
120. H.-W. Rix, **Y.-S. Ting**, C. Conroy, D. Hogg, *The Astrophysical Journal Letters*, 826, L25
Constructing Polynomial Spectral Models for Stars
119. **Y.-S. Ting**, C. Conroy & H.-W. Rix, *The Astrophysical Journal*, 826, 83
Accelerated Fitting of Stellar Spectra

118. **Y.-S. Ting**, C. Conroy & H.-W. Rix, *The Astrophysical Journal*, 816, 10
APOGEE Chemical Tagging Constraint on the Maximum Star Cluster Mass in the α -Enhanced Galactic Disk
— 2015 and earlier —
117. **Y.-S. Ting**, C. Conroy & A. Goodman, *The Astrophysical Journal*, 807, 104 (2015)
Prospects for Chemically Tagging Stars in the Galaxy
116. **Y.-S. Ting**, H.-W. Rix, J. Bovy, G. van de Ven, *Monthly Notices of the Royal Astronomical Society*, 434, 652 (2013)
Constraining the Galactic Potential via Action-Based Distribution Functions for Mono-Abundance Stellar Populations
115. **Y.-S. Ting**, G. De Silva, K. Freeman, S. Parker, *Monthly Notices of the Royal Astronomical Society*, 427, 882 (2012)
High-Resolution Elemental Abundance Analysis of the Open Cluster IC 4756
114. S. Shabala, **Y.-S. Ting**, S. Kaviraj, et al., *Monthly Notices of the Royal Astronomical Society*, 423, 59 (2012)
Galaxy Zoo: Dust Lane Early-Type Galaxies are Tracers of Recent, Gas-Rich Minor Mergers
113. S. Kaviraj, **Y.-S. Ting**, M. Bureau, et al., *Monthly Notices of the Royal Astronomical Society*, 423, 49 (2012)
Galaxy Zoo: Dust and Molecular Gas in Early-Type Galaxies with Prominent Dust Lanes
112. **Y.-S. Ting**, K. Freeman, C. Kobayashi, et al., *Monthly Notices of the Royal Astronomical Society*, 421, 1231 (2012)
Principal Component Analysis on Chemical Abundances Spaces

— Refereed Publications - Other Contributions —

— 2026 —

111. P. Hu, J. Pan, R. Feng, T. Zhang, Z. Ma, **Y.-S. Ting**, G. Li, T. Wu, submitted
Solving Inverse Problems of Chaotic Systems with Bidirectional Conditional Flow Matching
110. M. Jabłońska, [+6 authors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, submitted
SPICE - Software for Modelling Synthetic Spectra of Stars with Non-Homogenous Surfaces
109. Brooks, Sanders, Chandra, Garavito-Camargo, Dillamore, Price-Whelan, **Ting**, *MNRAS*, submitted
The Milky Way - Large Magellanic Cloud Interaction with Simulation Based Inference
108. J. Liang, Y. Li, A. Luo, **Y.-S. Ting**, et al., *The Astrophysical Journal*, submitted
PISP: Principal-Space Inference of Stellar Parameters
107. J. Zou, [+23 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, submitted
The Dark Energy Spectroscopic Instrument (DESI) Damped Ly α System (DLAs) Survey: Data Release 1 (DR1) Automated Detection and New Constraints on Cosmic HI at $z > 2$
106. D. Qiu, Johnson, Liu, Souto, Medan, Stringfellow, Way, **Y.-S. Ting**, et al., *The Astrophysical Journal*, submitted
Stellar Parameters of SDSS-V/BOSS M Dwarfs
105. F. Cappello, [+24 coauthors including **Y.-S. Ting**], *International Journal of HPC Applications*, submitted
EAIRA: Establishing a Methodology to Evaluate Large Language Models as Scientific Research Assistants
104. J. Speagle, [+21 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, submitted
Deriving Stellar Properties, Distances, and Reddenings using Photometry and Astrometry with BRUTUS
103. SDSS Collaboration, [+211 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, in-press.
The Nineteenth Data Release of the Sloan Digital Sky Survey
102. C. Ma, Z. Sun, T. Jing, Z. Cai, **Y.-S. Ting**, et al., *The Astrophysical Journal*, in-press.
Can AI Dream of Unseen Galaxies?
Conditional Galaxy Image Synthesis for Data Augmentation with Diffusion Model
Interactive [webpage](#)
101. J. Kollmeier, [+217 coauthors including **Y.-S. Ting**], *The Astronomical Journal*, 171, 52
Sloan Digital Sky Survey-V: Pioneering Panoptic Spectroscopy

100. X. Zuo, [+16 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 171, 10
*FALCO: Foundation model of Astronomical Light Curves for time domain astronomy.
Implementation and Applications on Kepler data*
- 2025 —
99. Q. Sun, C. Ji, S. Wang, Z. Lin, J. Teske, **Y.-S. Ting** & F. Liu, *Astronomy & Astrophysics*, 701, A107
*Planets Around Solar Twins/Analogues (PASTA) II.: Condensation Temperature Trend
for 22 Planet-Hosting Stars*
98. V. Chandra, [+13 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 988, 156
All-Sky Kinematics of the Distant Halo: The Reflex Response to the LMC
97. R. Emami, [+16 coauthors including **Y.-S. Ting**], *Publications of the Astronomical Society of Australia*, 42, e082
Unraveling the Role of Merger Histories in the Population of In Situ Stars: Linking TNG Simulation to H3 Survey
96. A. Myszkowski, [+13 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 540, 919
*Exploring the Chemical Content of Galaxies Using the SAMI Zoom Survey:
A Data Release of 92 Spatially Resolved H II Regions in Nearby Galaxies*
95. X. Han, H. Wang, G. Carraro, M. Lopez-Corredoira, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 985, 32
*The Structure, Populations and Kinematics of the Milky Way Central and Inner Bulge
with OGLE, APOGEE and Gaia Data*
94. T. Woody, [+8 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 978, 152
The Rapid Formation of the Metal Poor Milky Way
93. Q. Sun, S. Wang, T. Gan, C. Ji, Z. Lin, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 980, 179
*Planets Around Solar Twins/Analogues (PASTA) I.: High Precision Stellar Chemical Abundance
for 17 Planet-Hosting Stars and the Condensation Temperature Trend*
- 2024 —
92. K. Iyer, [+29 coauthors including **Y.-S. Ting**], *The Astrophysical Journal Supplementary Series*, 275, 38
pathfinder: A Semantic Framework for Literature Review and Knowledge Discovery in Astronomy
91. Q. Lin, [+8 coauthors including **Y.-S. Ting**], *Astronomy & Astrophysics*, 691, A331
CLAP-I: Resolving Miscalibration for Deep Learning-Based Galaxy Photometric Redshift Estimation
90. J. Lee, [+8 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 975, 38
*Inferring Cosmological Parameters on SDSS via Domain-Generalized Neural Networks
and Lightcone Simulations*
89. G. Wang, H. Wang, Y. Luo, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 974, 219
*Galactic-Seismology Substructures and Streams Hunter with LAMOST and Gaia. I.
Methodology and Local Halo Results*
88. J. Speagle, [+21 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 970, 121
Mapping the Milky Way in 5-D with 170 Million Stars
87. G. Limberg, [+5 coauthors], **Y.-S. Ting**, et al., *Monthly Notices of the Royal Astronomical Society*, 530, 2525
*Extending the Chemical Reach of the H3 Survey: Detailed Abundances
of the Dwarf-galaxy Stellar Stream Wukong/LMS-1*
86. Zhou, Christensen-Dalsgaard, Asplund, Li, Trampedach, **Ting** & Rorsted, *The Astrophysical Journal*, 962, 118
Does the ν_{\max} Scaling Relation Depend on Metallicity? Insights from 3D Convection Simulations
85. J. Shen, J. Speagle, N. Frankel, T. Mackereth, **Y.-S. Ting**, & J. Bovy, *The Astrophysical Journal*, 960, 84
Disentangling Stellar Age Estimates from Galactic Chemodynamical Evolution
84. S. Zou, [+8 coauthors], **Y.-S. Ting**, et al., *The Astrophysical Journal*, 960, 34
*DESI Survey Validation Data in the COSMOS/HSC Field:
Cool Gas Trace Main Sequence Star-Forming Galaxies at the Cosmic Noon*

— 2023 —

83. Johnson, Conroy, Johnson, Peter, Cargile, Bonaca, Naidu, & **Y.-S. Ting**, *The Astrophysical Journal*, 526, 5084
Dwarf Galaxy Archaeology from Chemical Abundances and Star Formation Histories
 82. V. Chandra, [+9 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 956, 110
Discovery of the Magellanic Stellar Stream Out to 100 Kiloparsecs
Notable media mention: [News Scientist](#), [Sky & Telescope](#)
 81. V. Chandra, [+8 coauthors], **Y.-S. Ting**, et al., *The Astrophysical Journal*, 951, 26
Distant Echoes of the Milky Way's Last Major Merger
 80. R. Wang, A. Luo, S. Zhang, **Y.-S. Ting**, et al., *The Astrophysical Journal Supplementary Series*, 266, 40
Stellar Parameters and Chemical Abundances Estimated from LAMOST-II DR8 MRS based on Cycle-StarNet
 79. C. Wang, H. Yuan, M. Xiang, **Y.-S. Ting**, Y. Huang, & X. Liu, *Astronomy & Astrophysics*, 674, A129
Spatial Metallicity Variations of Mono Temperature Stellar Populations Revealed by Early-Type Stars in LAMOST
 78. M. Zhang, M. Xiang, H. Zhang, **Y.-S. Ting**, Y. Wu & X. Liu, *The Astrophysical Journal*, 946, 110
Ba-Enhanced Dwarf and Subgiant Stars in the LAMOST Galactic Surveys
 77. A. Cooper, [+14 coauthors], **Y.-S. Ting**, et al., *The Astrophysical Journal*, 947, 37
Overview of the DESI Milky Way Survey
 76. X. Li, H. Wang, Y. Luo, M. Lopez-Corredoira, **Y.-S. Ting** & Z. Chrobakova, *The Astrophysical Journal*, 943, 88
Evidence for Population-Dependent Vertical Motions and the Long-lived Non-Steady Lopsided Milky Way Warp of Non-Gravitational Scenarios
 75. D. Liu, [+10 coauthors], **Y.-S. Ting**, et al., *Astronomy & Astrophysics*, 669, A128
Potential Scientific Synergies in Weak Lensing Studies between CSST and Euclid Space Probes
 74. A. Dey, [+47 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 944, 1
DESI Observations of the Andromeda Galaxy: Revealing the Immigration History of our Nearest Neighbor
Notable media mention: [Physics Today](#)
 73. A. Ji, R. Naidu, K. Brauer, **Y.-S. Ting** & J. Simon, *Monthly Notices of the Royal Astronomical Society*, 519, 4467
Chemical Abundances of the Typhon Stellar Stream
- 2022 —
72. M. Hayden, [+30 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 517, 5325
The GALAH Survey: Chemical Clocks
 71. M. Gull, [+19 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 941, 206
A Panchromatic Study of Massive Stars in the Extremely Metal-Poor Local Group Dwarf Galaxy Leo A
 70. V. Chandra, [+11 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 940, 127
A Ghost in Boötes: The Least Luminous Disrupted Dwarf Galaxy
 69. J. Han, [+6 coauthors], **Y.-S. Ting**, et al., *The Astronomical Journal*, 164, 249
The Stellar Halo of the Galaxy is Tilted & Doubly Broken
 68. Q. Li, Wang, López-Corredoira, Luo, Li, Deng, **Y.-S. Ting**, *The Astrophysics Journal Supp. Series*, 262, 20
Mass and Age Determination of the LAMOST Data with Different Machine Learning Methods
 67. H. Hwang, K. El-Badry, H.-W. Rix, C. Hamilton, **Y.-S. Ting**, N. Zakamska, *The Astrophys. Jour. Letters*, 933, L32
Wide Twin Binaries are Extremely Eccentric: Evidence of Twin Binary Formation in Circumbinary Disks
Notable media mention: [AAS Nova](#)
 66. J. Han, [+10 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 934, 14
A Tilt in the Dark Matter Halo of the Galaxy
 65. Weinberg, Holtzman, Johnson, Hayes, Hasselquist, Shetrone, **Y.-S. Ting**, *The Astrophysical Journal*, 260, 32
Chemical Cartography with APOGEE: Mapping Disk Populations with a Two-Process Model and Residual Abundances

64. Z. Wang, M. Hayden, S. Sharma, M. Xiang, **Y.-S. Ting**, et al., *Monthly Notices Royal Astron. Society*, 514, 1034
Reliable Stellar Abundances of Individual Stars with the MUSE Integral-Field Spectrograph
 63. Y. Zhou, C. Wang, H. Yan, Y. Huang, B. Zhang, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 931, 136
Li-rich Giants in LAMOST Survey. III. The Statistical Analysis of Li-rich Giants
 62. Hughes, Spitzer, Zucker, Nordlander, Simpson, Da Costa, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 930, 47
The GALAH Survey: A New Sample of Extremely Metal-Poor Stars Using A Machine Learning Classification Algorithm
 61. I. Straumit, [+16 coauthors including **Y.-S. Ting**], *The Astrophysical Journal*, 163, 236
ZETA-PAYNE: A Fully Automated Spectrum Analysis Algorithm for the Milky Way Mapper Program of the SDSS-V Survey
 60. J. Shen, G. Eadie, N. Murray, D. Zaritsky, J. Speagle, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 925, 1
The Mass of the Milky Way from the H3 Survey
Notable media mention: [SYFY Wire](#)
 59. R. Naidu, A. Ji, C. Conroy, A. Bonaca, **Y.-S. Ting**, et al., *The Astrophysical Journal Letters*, 926, L36
Evidence from Disrupted Halo Dwarfs that r-process Enrichment via Neutron Star Mergers is Delayed by >500 Myrs
 58. S. Buder, [+28 coauthors including **Y.-S. Ting**], *Monthly Notices Royal Astron. Society*, 510, 2407
The GALAH Survey: Chemical Tagging and Chrono-chemodynamics of Accreted Halo Stars with GALAH+ DR3 and Gaia eDR3
 57. Gilda, Drapper, Fabbro, Mahoney, Prunet, Withington, Wilson, **Ting**, Sheinis, *Mon. Not. Royal Astr. Soc.*, 510, 870
Uncertainty-Aware Learning for Improvements in Image Quality of the Canada-France-Hawaii Telescope
- 2021 —
56. R. Naidu, C. Conroy, A. Bonaca, D. Zaritsky, R. Weinberger, **Y.S. Ting**, et al., *The Astrophysical Journal*, 923, 92
Reconstructing the Last Major Merger of the Milky Way with the H3 Survey
 55. M. Zhang, M. Xiang, H. Zhang, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 922, 145
Most “Young” α -Rich Stars have High Masses but are Actually Old
 54. T. Zwitter, [+27 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 508, 4202
The GALAH+ Survey: A New Library of Observed Stellar Spectra Improves Radial Velocities and Reveals Motions within M67
 53. Liu, Bitsch, Asplund, Liu, Murphy, Yong, **Ting**, Feltzing, *Monthly Notices Royal Astronomical Society*, 508, 1227
Detailed Elemental Abundances of Binary Stars: Searching for Signatures of Planet Formation and Atomic Diffusion
 52. L. Casagrande, [+10 coauthors], **Y.-S. Ting**, et al., *Monthly Notices Royal Astronomical Society Letters*, 507, 2684
The GALAH Survey: Effective Temperature Calibration from the InfraRed Flux Method in the Gaia System
 51. J. Simpson, [+24 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 507, 43
The GALAH Survey: Accreted Stars also inhabit the Spite Plateau
 50. J. Kos, [+20 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 506, 4232
The GALAH Survey: Chemical Homogeneity of the Orion Complex
 49. S. Sharma, [+37 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 506, 1761
Fundamental Relations for the Velocity Dispersion of Stars in the Milky Way
 48. S. Buder, [+45 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 506, 150
The GALAH+ Survey: Third Data Release
 47. Munari, Traven, Masetti, Valisa, Hambach, Frigo, Cotar, **Ting+** *Monthly Notices Royal Astron. Society*, 505, 6121
The GALAH Survey and Symbiotic Stars - I. Discovery and Follow-Up of 33 Candidate Accreting-Only Systems
 46. Martell, Simpson, Balasubramaniam, Buder, Sharma, Hon, Stello, **Ting+**, *Mon. Not. Royal Astron. Soc.*, 505, 5340
The GALAH Survey: A Census of Lithium-Rich Giant Stars

45. D. Zucker, J. Simpson, S. Martell, G. Lewis, A. Casey, **Y.-S. Ting**+, *The Astrophysical Journal Letters*, 912, L30
The GALAH Survey: No Chemical Evidence of An Extragalactic Origin for the Nyx Stream
44. J. Clark, [+31 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 504, 4968
The GALAH Survey: Using Galactic Archaeology to Refine Our Knowledge of TESS Target Stars
43. A. Bonaca, [+9 coauthors] **Y.-S. Ting**, et al., *The Astrophysical Journal Letters*, 909, L26
Orbital Clustering Identifies the Origins of Galactic Stellar Streams
42. C. Carter, C. Conroy, D. Zaritsky, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 908, 208
Ancient Very Metal-Poor Stars Associated with the Galactic Disk in the H3 Survey
41. D. Hobbs, [+29 coauthors including **Y.-S. Ting**], *Experimental Astronomy*, 51, 783
All-Sky Visible and Near Infrared Space Astrometry
40. Y. Huang, [+11 coauthors] **Y.-S. Ting**, et al., *The Astrophysical Journal*, 907, 68
Milky Way Tomography with the SkyMapper Southern Survey. II. Photometric Re-calibration of SMSS DR2
39. Y. Li, Luo, Lu, Zhang, Li, Wang, Zuo, Xiang, **Y.-S. Ting**+, *The Astrophysics Journal Supplementary Series*, 252, 3
591 High-velocity Stars in the Galactic Halo Selected from LAMOST DR7 and Gaia DR2
38. Cotar, Zwitter, Traven, Bland-Hawthorn, Kos, Lewis, Stello, **Ting**+, *Monthly Notices Royal Astron. Soc.*, 500, 4849
The GALAH Survey: Characterization of Emission-Line Stars with Spectral Modelling using Autoencoders

— 2020 —

37. K. Bundy, [+24 coauthors including **Y.-S. Ting**], *Ground-based & Airborne Instru. for Astro. VIII*, 11447, 114471D
The Keck-FOBOS Spectroscopic Facility: Conceptual Design
36. Zaritsky, Conroy, Naidu, Cargile, Putman, Besla, Bonaca, Caldwell, Johnson, **Ting**, *The Astroph. Jour.*, 905, L3
Discovery of Magellanic Stellar Debris in the H3 Survey
35. B. Johnson, C. Conroy, R. Naidu, A. Bonaca, D. Zaritsky, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 900, 103
A Diffuse Metal-Poor Component of the Sagittarius Stream Revealed by the H3 Survey
34. P. Cargile, C. Conroy, B. Johnson, **Y.-S. Ting**, A. Bonaca, A. Dotter, *The Astrophysical Journal*, 900, 28
MINESweeper: Spectrophotometric Modeling of Stars in the Gaia Era
33. Traven, Feltzing, Merle, Van der Swaelmen, Cotar, Church, Zwitter, **Ting**+, *Astronomy & Astrophysics*, 638, 145
The GALAH Survey: Multiple Stars and our Galaxy. I. A Comprehensive Method for Deriving Properties of FGK Binary Stars
32. Y. Kumar, B. Reddy, S. Campbell, S. Maben, G. Zhao, **Y.-S. Ting**, *Nature Astronomy*, 4, 1059
Discovery of Ubiquitous Lithium Production in Low-Mass Stars
Notable media mentions: [Nature blog](#) | [The Conversation](#) | [The Telegraph](#) | [Physics.org](#) | [CCTV](#)
31. Bonaca, Conroy, Cargile, Naidu, Johnson, Zaritsky, **Y.-S. Ting**, et al., *The Astrophysical Journal Letters*, 897, L18
Timing the Early Assembly of the Milky Way with the H3 Survey
30. D. Nataf, Horiuchi, Costa, Wyse, **Y.-S. Ting**, et al., *Monthly Notices of the Royal Astronomical Society*, 496, 3222
The Predicted Properties of Helium-Enriched Globular Cluster Progenitors at High Redshift
29. X. Gao, [+24 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society Letters*, 497, L30
The GALAH Survey: A New Constraint on Cosmological Lithium and Galactic Lithium Evolution from Warm Dwarf Stars
28. M. Hayden, [+13 coauthors], **Y.-S. Ting**, et al., *Monthly Notices of the Royal Astronomical Society*, 493, 2952
The GALAH Survey: Chemodynamics of the Solar Neighbourhood
27. Simpson, Martell, Da Costa, Horner, Wyse, **Y.-S. Ting**+, *Monthly Notices Royal Astronomical Society*, 491, 3374
The GALAH Survey: Chemically Tagging the Fimbulthul Stream to the Globular Cluster ω Cen

— 2019 —

26. S. Sharma, [+36 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 490, 5335
The K2-HERMES Survey: Age and Metallicity of the Thick Disc

25. S. Khanna, [+19 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 489, 4962
The GALAH Survey and Gaia DR2: Linking Ridges, Arches, and Vertical Waves in the Kinematics of the Milky Way
24. S. Buder, [+33 coauthors including **Y.-S. Ting**], *Astronomy & Astrophysics*, 624, 19
The GALAH Survey: An Abundance, Age, and Kinematic Inventory of the Solar Neighbourhood made with TGAS
23. D. Nataf, R. Wyse, R. Schiavon, **Y.-S. Ting**, et al., *The Astrophysical Journal*, 158, 14
The Relationship between Globular Cluster Mass, Metallicity, and Light-element Abundance Variations
22. K. Cotar, [+18 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 487, 2474
The GALAH Survey: Unresolved Triple Sun-like Stars discovered by the Gaia Mission
21. J. Bland-Hawthorn, [+26 coauthors including **Y.-S. Ting**], *Monthly Notices Royal Astronomical Society*, 486, 1167
The GALAH Survey and Gaia DR2: Dissecting the Stellar Disc's Phase Space by Age, Action, Chemistry and Location
20. G. Traven, K. Cotar, T. Merle, M. Van der Swaelmen, **Y.-S. Ting**+, *Memorie della Societa Astron. Italiana*, 90, 327
Machine Learning Techniques Meet Binaries
19. K. Cotar, [+21 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 483, 3196
The GALAH Survey: A Catalogue of Carbon-Enhanced Stars and CEMP Candidates
18. Simpson, Martell, Da Costa, Casey, Freeman, Horner, **Ting**+, *Monthly Notices Royal Astron. Society*, 482, 5302
The GALAH Survey: Co-orbiting Stars and Chemical Tagging
17. Khanna, Sharma, Bland-Hawthorn, Hayden, Nataf, **Ting**+, *Monthly Notices Royal Astron. Society*, 482, 4215
The GALAH Survey: Velocity Fluctuations in the Milky Way using Red Clump Giants

— 2018 —

16. X. Gao, [+28 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 481, 2666
The GALAH Survey: Verifying Abundance Trends in the Open Cluster M67 Using Non-LTE Modelling
15. T. Zwitter, [+36 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 481, 645
The GALAH Survey: Accurate Radial Velocities and Library of Observed Stellar Template Spectra
14. J. Kos, [+21 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 480, 5475
Holistic Spectroscopy: Complete Reconstruction of a Wide-Field, Multiobject Spectroscopic Image using a Photonic Comb
13. J. Kos, [+24 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 480, 5242
The GALAH Survey and Gaia DR2: (Non-)existence of Five Sparse High-Latitude Open Clusters
12. S. Buder, [+42 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 478, 4513
The GALAH Survey: Second Data Release
11. A. Quillen, [+32 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 478, 228
The GALAH Survey: Stellar Streams and How Stellar Velocity Distributions Vary with Galactic Longitude, Hemisphere and Metallicity
10. L. Duong, [+28 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 476, 5216
The GALAH Survey: Properties of the Galactic Disc(s) in the Solar Neighbourhood
9. van de Voort, Davis, Matsushita, Rowlands, Shabala, Allison, **Ting**+, *Monthly Notices Royal Astron. Soc.*, 476, 122
An ALMA View of Star Formation Efficiency Suppression in Early-Type Galaxies after Gas-Rich Minor Mergers
8. J. Kos, [+28 coauthors including **Y.-S. Ting**], *Monthly Notices of the Royal Astronomical Society*, 473, 4612
The GALAH Survey: Chemical Tagging of Star Clusters and New Members in the Pleiades
7. J. Choi, A. Dotter, C. Conroy, **Y.-S. Ting**, *The Astrophysical Journal*, 860, 131
On the Red Giant Branch: Ambiguity in the Surface Boundary Condition Leads to ~ 100 K Uncertainty in Model Effective Temperatures

— 2017 —

6. A. Ho, H.-W. Rix, M. Ness, D. Hogg, C. Liu, **Y.-S. Ting**, *The Astrophysical Journal*, 841, 40
Masses and Ages for 230,000 LAMOST Giants, via their Carbon and Nitrogen Abundances
5. Shabala, Deller, Kaviraj, Middelberg, Turner, **Ting+** *Monthly Notices of the Royal Astronomical Society*, 464, 4706
Delayed Triggering of Radio Active Galactic Nuclei in Gas-rich Minor Mergers in the Local Universe
4. G. Traven, [+26 coauthors including **Y.-S. Ting**], *The Astrophysical Journal Supplement Series*, 228, 24
The GALAH Survey: Classification and Diagnostics with t-SNE Reduction of Spectral Information

— 2015 and earlier —

3. Davis, Rowlands, Allison, Shabala, **Ting+**, *Monthly Notices of the Royal Astronomical Society*, 449, 3503 (2015)
Molecular and Atomic Gas in Dust Lane Early-Type Galaxies - I. Low Star Formation Efficiencies in Minor Merger Remnants
2. G. De Silva, [+46 coauthors including **Y.-S. Ting**], *Monthly Notices Royal Astronomical Society*, 449, 2604 (2015)
The GALAH Survey: Scientific Motivation
1. Kaviraj, Rowlands, Alpaslan, Dunne, **Ting+**, *Monthly Notices of the Royal Astronomical Society*, 435, 1463 (2013)
A Herschel-ATLAS Study of Dusty Spheroids: Probing the Minor-Merger Process in the Local Universe

— Proceeding —

- C. Ji, [+9 coauthors including **Y.-S. Ting**], *TESS Science Conference III, 2024*
The TOI Solar Analog Spectroscopic Survey (TSASS) I.
Solar Depletion Pattern of Refractory Elements Among 17 Analogs
- H.-F. Wang, X. Xiao, G. Carraro, M. Lopez-Corredoira, **Y.-S. Ting**, et al., *MULTIF2025 Conference Summary, 2025*
Towards Unveiling the Origins of the Milky Way Bulge through Multi-band-Messenger Sky Surveys
- H.-F. Wang, G.-Y. Wang, G. Carraro, **Y.-S. Ting**, et al., *Proceedings IAU Symposium No. 397, 2025*
Towards Understanding the Milky Way's Matter Field and Dynamical Accretion History based on AI-GS3 Hunter
- Y. Tao, [+13 coauthors including **Y.-S. Ting**], *Proceeding IAU Symposium No. 349, 2025*
FALCO: towards Foundation model of Astronomical Light Curves for time dOmain astronomy
- D. Nidever, [+11 coauthors including **Y.-S. Ting**], 2024, *Bulletin of the American Astronomical Society*, 56, 428
First JWST Results Find No Alpha-Bimodality in M31
- D. Nidever, [+10 coauthors including **Y.-S. Ting**], *Proceeding IAU Symposium No. 377, 2023*
The Prevalence of the α -bimodality: First JWST α -abundance Results in M31
- G. Cabrera**, **Y.-S. Ting****, S. Hong**, L. Nakazono**, D. Parkinson**, *Proc. IAU Symposium No. 368, 2022*
Panel Discussion: Practical Problem Solving for Machine Learning
- **H. Hwang***, **Y.-S. Ting**, N. Zakamska, 2022, *Bulletin of the American Astronomical Society*, 54, 105
Eccentricity of Wide Binary Stars
- **T. Nelson***, K. Hawkins, **Y.-S. Ting**, A. Ji, 2021, *Bulletin of the American Astronomical Society*, 53, 330
Chemistry of Wide Comoving Pairs
- G. Green & **Y.-S. Ting**, 2021, *Bulletin of the American Astronomical Society*, 53, 227
Deep Potential: Recovering the Gravitational Potential from Stellar Phase-Space Information
- **A. Marquez***, A. Ji, **Y.-S. Ting**, T. Hansen, 2021, *Bulletin of the American Astronomical Society*, 53, 140
Inferring Stellar Labels from Optical High-Resolution Spectra with The Payne

— Unpublished arXiv e-prints —

- J. Han, C. Conroy, D. Zaritsky, A. Bonaca, N. Caldwell, V. Chandra, **Y.-S. Ting**, arXiv:2406.12969
Our Halo of Ice and Fire: Strong Kinematic Asymmetries in the Galactic Halo
- **B. Chen***, M. Orkney, **Y.-S. Ting**, & M. Hayden, arXiv:2501.14089
Discovery of A Starburst in the Early Milky Way at $[Fe/H] < -2$

- **C. O'Neill***, J. Miller, **I. Ciucă***, **Y.-S. Ting** & T. Bui, arXiv:2308.13768
Adversarial Fine-Tuning of Language Models: An Iterative Optimisation Approach for the Generation and Detection of Problematic Content
- **C. O'Neill***, **Y.-S. Ting**, et al., arXiv:2308.07645
Steering Language Generation: Harnessing Contrastive Expert Guidance and Negative Prompting for Coherent and Diverse Synthetic Data Generation
- R. Naidu, C. Conroy, A. Bonaca, D. Zaritsky, **Y.-S. Ting**, et al., arXiv:2204.09057
Live Fast, Die α -Enhanced: The Mass-Metallicity- α Relation of the Milky Way's Disrupted Dwarf Galaxies
- C. Conroy, [+14 coauthors including **Y.-S. Ting**], arXiv:2204.02989
Birth of the Galactic Disk Revealed by the H3 Survey
- **H. Kamdar***, C. Conroy & **Y.-S. Ting**, arXiv:2106.02050
Stellar Streams in the Galactic Disk: Predicted Lifetimes and Their Utility in Measuring the Galactic Potential
- J. Simpson, D. Stello, S. Sharma, **Y.-S. Ting**, et al., arXiv:1804.05900
The GALAH and TESS-HERMES Surveys: High-Resolution Spectroscopy of Luminous Supergiants in the Magellanic Clouds and Bridge
- **Y.-S. Ting**, arXiv:1310.6089
Experimental Constraints on Anti-Gravity and Antimatter, in the Context of Dark Energy

— White papers —

18. C. Huang, G. Zhou, **Y.-S. Ting**, et al.,
Australian Exoplanet Demographics Exploration 2026-2035
17. V. Mainieri, [+215 coauthors including **Y.-S. Ting**], arXiv:2403.05398
The Wide-field Spectroscopic Telescope (WST) Science White Paper
16. L. Magrini, [+53 coauthors including **Y.-S. Ting**], arXiv:2312.08270
HRMOS White Paper: Science Motivation
15. D. Huppenkothen, [+21 coauthors including **Y.-S. Ting**], arXiv:2310.12528
Constructing Impactful Machine Learning Research for Astronomy: Best Practices for Researchers and Reviewers
14. J. Ge, [+176 coauthors including **Y.-S. Ting**], arXiv:2206.06693
ET White Paper: To Find the First Earth 2.0s
13. K. Gilbert, [+35 coauthors including **Y.-S. Ting**], 2019, *Bulletin of the American Astronomical Society*, 51, 540
Construction of an L^ Galaxy: The Transformative Power of Wide fields for Revealing the Past, Present and Future of the Great Andromeda System*
12. J. Kollmeier, [+32 coauthors including **Y.-S. Ting**], 2019, *Bulletin of the American Astronomical Society*, 51, 503
Precision Stellar Astrophysics and Galactic Archaeology: 2020
11. A. Dey, [+24 coauthors including **Y.-S. Ting**], 2019, *Bulletin of the American Astronomical Society*, 51, 489
Mass Spectroscopy of the Milky Way
10. J. Johnson, G. Zasowski, D. Weinberg, **Y.-S. Ting**+, 2019, *Bulletin of the American Astronomical Society*, 51, 463
The Origin of Elements Across Cosmic Time: Astro2020 Science White Paper
9. J. Kollmeier, [+56 coauthors including **Y.-S. Ting**], 2019, *Bulletin of the American Astronomical Society*, 51, 274
SDSS-V Pioneering Panoptic Spectroscopy
8. T. Li, [+56 coauthors including **Y.-S. Ting**], 2019, *Bulletin of the American Astronomical Society*, 51, 252
Dark Matter Physics with Wide Field Spectroscopic Surveys
7. M. Ness, [+30 coauthors including **Y.-S. Ting**], 2019, *Bulletin of the American Astronomical Society*, 51, 238
In Pursuit of Galactic Archaeology
6. K. Bundy, [+40 coauthors including **Y.-S. Ting**], 2019, *Bulletin of the American Astronomical Society*, 51, 198
FOBOS: A Next-Generation Spectroscopic Facility

5. M. Blanton, [+50 coauthors including **Y.-S. Ting**], 2019, *Bulletin of the American Astronomical Society*, 51, 196
The Sloan Digital Sky Survey as an Archetypal Mid-scale Program
4. K. Kreckel, [+14 coauthors including **Y.-S. Ting**], 2019, *Bulletin of the American Astronomical Society*, 51, 161
Mapping Gas Phase Abundances and Enrichment Patterns Across Galaxy Disks
3. H.-W. Rix, **Y.-S. Ting**, et al., 2019, *Bulletin of the American Astronomical Society*, 51, 104
Binaries Matter Everywhere: From Precision Calibrations to Re-ionization and Gravitational Waves
2. The MSE Science Team, [+254 coauthors including **Y.-S. Ting**], arXiv:1904.04907
The Detailed Science Case for the Maunakea Spectroscopic Explorer
1. M. Bergemann, [+69 coauthors including **Y.-S. Ting**], arXiv:1903.03157
Stellar Astrophysics and Exoplanet Science with the Maunakea Spectroscopic Explorer (MSE)