Ting Li

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Research Interests

Near-field Cosmology, Galactic Archaeology, Dark Matter, Dwarf Galaxies, Stellar Streams, Metal-poor Stars, Stellar Populations, Ground-based Instrumentation, Multi-object Spectrograph, Big Data and Survey Science.

Employment

Assistant Professor — 2021 –
Department of Astronomy and Astrophysics, University of Toronto
Toronto, Canada

NASA Hubble Fellowship Program Einstein Fellow, Carnegie-Princeton Fellow — 2019 – 2021
Carnegie Observatories, Carnegie Institution for Science
Pasadena, California, USA
Department of Astrophysical Sciences, Princeton University
Princeton, New Jersey, USA

Leon M. Lederman Fellow in Experimental Physics — 2016 – 2019
Fermi National Accelerator Laboratory
Batavia, Illinois, USA

Research Associate — 2011 – 2016
Department of Physics & Astronomy, Texas A&M University
College Station, Texas, USA

Education

Ph.D., Physics, Texas A&M University, Texas, USA — 2010 - 2016
Thesis: *Exploring Milky Way Halo Substructures with Large-area Sky Surveys*
Advisors: *Dr. Darren L. DePoy, Dr. Jennifer L. Marshall* (Co-chair)

M.S., Space Science and Technology (SpaceMaster – Erasmus Mundus Course) — 2008 - 2010
Luleå University of Technology, Kiruna, Sweden
Université Paul Sabatier Toulouse III, Toulouse, France
Thesis: *Design of the High Energy Particle Instrument for Electrons for the Energization and Radiation in Geospace Mission*
Advisor: *Masafumi Hirahana, University of Tokyo / JAXA*

B.S., Physics, Fudan University, Shanghai, China — 2004 - 2008
Thesis: *Study of Quasar Accretion Disk with Microlensing*
Advisor: *Feng Yuan, Shanghai Astronomical Observatory*

Minor, Diplomacy, Fudan University, Shanghai, China — 2004 - 2008

Grant

Science Projects

Canadian Space Agency JWST CYCLE 3 AO 2024 (PI, **$100,000 CAD**) 2025 – 2027
A Closer Look at the Formation and Evolution of M31's Inner Disk

Canada NSERC Alliance International Catalyst Grant (PI, **$25,000 CAD**) 2023 – 2024
Towards a Unified Framework for Dwarf Galaxy Kinematics

Univ. of Toronto Data Science Institute Catalyst Grant (Co-PI, **$100,000 CAD**) 2023 – 2025
Spectroscopy by the Millions: A Fast, Reproducible Framework to Yield Chemical Compositions of 4 Million Stars

Univ. of Toronto Connaught New Researcher Grant (PI, **$20,000 CAD**) 2022 – 2024
Probe the Nature of Dark Matter with Milky Way's Satellite Galaxies

Australia research Council (Co-I, **$700,000 AUD**) 2022 – 2026
Seeing Dark with Light: Revealing the Milky Way with Stellar Stream

Canada NSERC Discovery Grant (PI, **$155,000 CAD**) 2022 – 2027
Near Field Cosmology w/ Milky Way's Satellite Galaxies & Stellar Streams

NASA Hubble Fellowship Program (Science PI, **$340,000 USD**) 2019 – 2021
Constraining Dark Matter with Stellar Streams and Dwarf Galaxies

Instrumentation Projects

Dunlap Seed Fund (Co-PI, **$30,000 CAD**) 2024 – 2026
DMD-MOS Development for Astronomical Observation
*DMD-MOS: Digital Micromirror Device-based Multi-Object Spectrograph

Univ. of Toronto XSeed Joint Seed Grant (Co-PI, **$120,000 CAD**) 2023 – 2025
Constructing the human olfactory system ex vivo

Dunlap Seed Fund (Co-PI, **$75,000 CAD**) 2023 – 2025
Investigating Scientific CMOS Detectors for Astronomical Application

Canada CFI/JELF Grant (PI, **$350,000 CAD**) 2022 – 2027
An Advanced Optical Instrumentation Laboratory For the Development of the Next Generation Spectroscopic Surveys

Honors & Awards

OCPA Outstanding Young Researcher Award (OYRA Ardentec Prize) 2025
Scialog Fellow: Early Science with the LSST 2024
Dorothy Shoichet Women Faculty in Science Award of Excellence 2023
Rising Stars in Physics, Princeton University 2022
NASA Hubble Fellowship 2019 – 2021
Carnegie-Princeton Fellowship 2019 – 2021
KICP Associate Fellow, University of Chicago 2016 – 2019
Leon M. Lederman Fellow in Experiment Physics 2016 – 2019
Mitchell Institute Graduate Fellowship 2015 – 2016
Dr. Chia-Lai Wang Memorial Scholarship 2013 – 2014
Erasmus Mundus Scholarship 2008 – 2010
Graduated with First - Class Student, Fudan Univeristy 2008
People's Scholarship, Fudan University 2004 – 2008

Mentorship

Only students and postdoctoral researchers with first-author publications completed under my direct supervision are listed here. Many of my former undergraduates have gone on to pursue graduate studies

at leading institutions such as MIT, Yale, UC Berkeley, Caltech, and UArizona.

Nathan Sandford (Postdoc at UToronto) 2024 –
- Sandford, Li, et al, ApJ submitted, 2025

Gustavo Medina (Postdoc at UToronto) 2023 –
- Medina, Li, et al, ApJ submitted, 2025a
- Medina, Li, et al, ApJ submitted, 2025b
- Medina, Li, et al, ApJ submitted, 2025c

Mairead Heiger (Graduate at UToronto) 2022 –
- Heiger, Li, ApJ, 2024
- Heiger, Ji, Li, ApJ submitted, 2025

Petra Awad (former graduate at U of Groningen; postdoc at Leiden since 2025) 2023 – 2025
- Awad, Li, et al. A&A, 2025

Adi Khandelwal (former undergrad at UToronto; graduate at UArizona since 2025) 2023 – 2025
- Khandelwals, ..., Li, et al. SPIE, 2024

Peter Ma (former undergrad at UToronto; graduate at Berkeley since 2024) 2023 – 2025
- Ma, Rogers, Li, et al. ApJ, 2025

Grace Yu (former undergrad at UToronto; graduate at Caltech since 2024) 2022 – 2024
- Yu, Li, et al. ApJ, 2024

Jordan Bruce (former undergrad at UToronto; graduate at Indiana since 2023) 2021 – 2023
- Bruce, Li, ApJ, 2023

William Cerny (former undergrad at UChicago; graduate at Yale since 2022) 2020 –
- Cerny, Drlica-Wagner, Li, ApJ, 2023
- Cerny, Simon, Li, ApJ, 2023

Sydney Jenkins (former undergrad at UChicago; graduate at MIT since 2022) 2018 – 2021
- Jenkins, Li, et al. ApJ, 2021

Nora Shipp (former graduate at UChicago; faculty at UW since 2024) 2017 – 2021
- Shipp, Li, et al. ApJ, 2019

Major Scientific Collaboration Involvement

Dark Energy Spectroscopic Instrument (DESI)
- Milky Way Working Group (WG) Chair 2022-now – a WG with about 50 active members
- Builder since 2023 – for the contribution to the DESI focus and alignment system, commissioning and science verification.
- Member since 2016

Dark Energy Survey (DES)
- Milky Way Working Group Chair 2018-2021 – a WG with about 40 active members
- Builder since 2015 – for the contribution to the DES calibration systems, commissioning, operation, and data release
- Member since 2012

Southern Stellar Stream Spectroscopic Survey (S5)
- Leader/Founder since 2018 – a group of about 40 active members

Euclid Consortium
- Member since 2023

SDSS-V
- Member since 2021

DECam Local Volume Exploration (DELVE)
- Member since 2018, Builder since 2025

LSST Dark Energy Science Collaboration (DESC)
- Member since 2016

Public Outreach

Presenter, Starfest (Canada's largest amateur astronomy conference), NYAA	2025
Presenter, Star Talks, Astronomy & Space Exploration Association, U. of Toronto	2024
Instructor, Vision of Science Summer Intern Program	2022
Presenter, Astronomy on Tap	2018 –
Lecturer, Fermilab Lifelong Learning Institute (LLI) Program	2018 – 2019
Lecturer, Fermilab Saturday Morning Physics for High School Students	2017 – 2019
Coordinator, Fermilab Saturday Morning Physics for High School Students	2016 – 2019
E/PO representative, Dark Energy Survey	2014 – 2016
Coordinator, Science Olympiad	2014
Instructor, "Expanding Your Horizons" Workshop	2012
Organizer, Texas A&M Physics and Astronomy Festival	2011 – 2014
Organizer, Texas A&M Star Parties	2011 – 2013

Service and Leadership

Canadian representative on the CFHT SAC	2023 – 2027
CADC (Canadian Astronomy Data Centre) User Board	2023 – 2025
Roman 2022 Peer Review Penalist	2023
CASTOR Science Team Member	2022 –
Canadian TAC(Time Allocation Committee) for Gemini and CFHT	2022 – 2024
HST Cycle 30 Peer Review Panelist	2022
DESI Publication Board	2021 – 2022
Canadian Rep on the MSE Science Advisory Group	2021 –
TMT/WFOS Science Team Member	2021 –
Group Leader, Dark Matter Group for Maunekea Spectroscopic Explorer	2018 – 2022
Group Leader, DES Chromatic Correction and Interstellar Reddening Task Force	2017 – 2019
DES Early Career Scientist Committee	2016 – 2018
Referee/reviewer for Nature, ApJ, ApJL, MNRAS, A&A, PASP	2015 –

Observation, Data Reduction & Instrumentation Experience

Contribution to DES:
- Commissioning and Operation, Photometric Calibration, Data Release
- Designed and built the Atmospheric Transmission Monitoring Camera (aTmCam), including 100+ nights of prototype testing and instrument commissioning
- Earned **DES builder status (authorship)** and **personal data rights** since 2015

Contribution to DESI:
- Active Optics System on Focus and Alignment for DESI
- Target selection and survey planning for Milky Way Survey
- Earned **DESI external participant status** since 2019
- Earned **DESI Builder status** since 2023

Assembled over 80 Instrument Collimators of the Visible Integral-Field Replicable Unit Spectrographs for the Hobby-Eberly Telescope Dark Energy Experiment (HETDEX)

Extensive observing experience:
- Optical imaging: Blanco(4m)/DECam (80+ nights)
- Optical spectroscopy: Magellan(6.5m)/IMACS (60+ nights), Magellan(6.5m)/MIKE (20+ nights), Magellan(6.5m)/M2FS (8 nights); McDonald Observatory, 2.1m/ES2 (30+ nights), 2.7m/VIRUS-P (9

nights).

- **Served as PI or co-PI for over 100 nights on 4m–8m class telescopes, including 100+ nights on Anglo-Australian Telescope, 40+ nights on Magellan, and 100+ hours on VLT**

Selected Recent Conferences, Seminars, Colloquia (past 6 years)

58. SOC, Spec-S5 Dark Matter Meeting, Chicago, USA, Nov 2025
57. Invited Talk, IAU Symposium 403 "The Hidden Beauty of the Galactic Outskirts", Cordoba, Spain, Oct 2024
56. Astro Seminar, Division of Astrophysics | Division of Astrophysics, Lund University, Sweden, Jun 2025
55. SOC and contributed talk, Valencia Workshop on "the Small-Scale Structure of the Universe and Self-Interacting Dark Matter", Valencia, Spain, Jun 2025
54. SOC, CFHT User's Meeting, Montreal, Canada, May 2025
53. Invited talk, Workshop "Cosmological Probes of New Physics", Notre Dame, USA, April 2025
52. Colloquium, Department of Physics & Astronomy, McMaster University, Canada, Feb, 2025
51. Invited Review Talk, IAU Symposium 395 "Stellar populations in the Milky Way and beyond", Paraty, Brazil, Nov 2024
50. Colloquium, Department of Astronomy, University of Arizona, Tucson, AR, Nov 2024
49. Invited Talk, Conference "Galphases24: Accretion in the Local Group", Strasbourg, France, Aug 2024
48. Colloquium, Astronomisches Rechen-Institut, Heidelberg University, Germany, Aug 2024
47. Invited Review Talk, KICP Workshop "Dwarf Galaxies, Star Clusters, and Streams in the LSST Era", University of Chicago, IL, Jul 2024
46. Invited long-term participants, KITP Program "Dark Matter Theory, Simulation, and Analysis in the Era of Large Surveys", University of Santa Barbara, CA, Jun 2024
45. SOC, CASCA (Canadian Annual Conference), Toronto, Jun 2024
44. SOC, Workshop "Globular Clusters and Their Tidal Tails: From the Milky Way to the Local Group", Toronto, June 2024
43. Invited Talk, KITP Conference "Cosmic Signals of Dark Matter Physics: New Synergies", University of Santa Barbara, CA, Jun 2024
42. Invited Astroseminar Talk, Waterloo Centre for Astrophysics, University of Waterloo, ON, Mar 2024
41. Colloquium, Department of Astronomy, Ohio State University, Columbus, OH, Jan 2024
40. Colloquium, Department of Astronomy and Physics, Saint Mary's University, Halifax, NS, Nov 2023
39. Colloquium, Department of Physics, Engineering Physics & Astronomy, Queen's University, Kingston, ON, Oct 2023
38. Colloquium, Department of Astronomy, UC Berkeley, Berkeley, CA, Sept 2023
37. Colloquium, IAS/Department of Astrophysical Sciences, Princeton University, Princeton, NJ, Sept 2023
36. Contributed Talk, Workshop "Great Lakes Clusters and Streams", University of Michigan, Ann Arbor, MI, Aug 2023
35. Contributed Talk, Conference "MODEST-23: Star Clusters in the Post-Pandemic Era", Northwestern University, Evanston, IL, Aug 2023
34. Invited Plenary Talk, DESI Collaboration Meeting, Durham University, Durham, UK, Jul 2023
33. Invited Seminar Talk, Durham University, UK, Jul 2023
32. Invited Seminar Talk, University of Surrey, UK, Jul 2023
31. Colloquium, Kapteyn Astronomical Institute, University of Groningen, the Netherlands, Jul 2023
30. Colloquium, Leiden Observatory, Leiden University, the Netherlands, Jul 2023

29. Invited Review Talk, Pollica Workshop "Self-Interacting Dark Matter: Models, Simulations and Signals", Pollica, Italy, Jun 2023
28. Colloquium, National Astronomical Observatories of China (NAOC), Beijing, China, Jun 2023
27. Colloquium, The Kavli Institute for Astronomy and Astrophysics (KIAA), Peking University, Beijing, China, Jun 2023
26. Invited Topical Talk, IAU Symposium 379 "Dynamical Masses of Local Group Galaxies", Potsdam, Germany, Mar, 2023
25. Invited Virtual (Science & Diversity) Seminar, AAS Division Dynamical Astronomy Community Seminar (Link to Talk), Mar 16, 2023
24. Invited Seminar, University of Victoria, Victoria, BC, Feb 2023
23. Invited Seminar, National Research Council of Canada's Herzberg Astronomy and Astrophysics Research Centre, Victoria, BC, Feb 2023
22. Colloquium, Department of Physics, University of Michigan, Ann Arbor, MI, Nov 2022
21. Astrophysics Colloquium, MIT Kavli Institute, Cambridge, MA, Nov 2022
20. Colloquium, Department of Physics, University of Toronto, Toronto, Canada, Sept 2022
19. Contributed Talk, DECam at 10 Years Workshop, Tucson, AZ, USA, Sept, 2022
18. Invited Seminar Talk, Texas A&M University, College Station, TX, Aug 2022
17. Invited Seminar Talk, University of Notre Dame, Notre Dame, IN, Apr 2022
16. (remote) Invited Plenary Talk, TeV Particle Astrophysics 2021 Conference, Chengdu, China, Oct 27, 2021
15. (remote) Colloquium, Indiana University, Bloomington, IN, USA, Oct 19, 2021
14. (remote) Colloquium, National Research Council of Canada's Herzberg Astronomy and Astrophysics Research Centre, Victoria, BC, Sept 28, 2021
13. (remote) Invited Seminar Talk at N3AS (Link to Talk), May 11, 2021
12. (remote) Colloquium, the University of British Columbia, Vancouver, Canada, Apr 19, 2021
11. (remote) Invited Seminar Talk, the University of Kentucky, Lexington, KY, Feb 3, 2021
10. (remote) Invited Seminar Talk, UC Davis, Davis, CA, Jan 28, 2021
9. (remote) Invited Seminar Talk, University College London, London, England, Nov 2 2020
8. (remote) Invited Seminar Talk, McGill Space Institute, Montreal, Canada, Oct 13 2020
7. iPoster, 235th AAS Meeting, Honolulu, Hawaii, Jan 2020
6. Colloquium, UC Santa Cruz, Santa Cruz, CA, Nov 2019
5. Colloquium, University of Toronto, Toronto, Canada, Oct 2019
4. Invited Talk, LSST Dark Matter Workshop, University of Chicago, Chicago, IL, Aug 2019
3. Invited Talk, IAU Symposium 353 "Galactic Dynamics in the Era of Large Surveys", Shanghai, China, Jul 2019
2. Invited Talk, Conference "Science in our own Backyard: Exploring the Galaxy and the Local Group with WFIRST", Caltech, Pasadena, CA, Jun 2019
1. Invited Talk, KITP Workshop "In the Balance: Stasis and Disequilibrium in the Milky Way", Santa Barbara, CA, Apr 2019

Selected Refereed Publications

Summary: 200+ publications, including 10 1st author, 37 2nd/3rd author, 49 with significant contributions (listed below)
h-index: 92
citations: 40000
For a complete publication list, please refer to:
https://ui.adsabs.harvard.edu/public-libraries/UGFGnC9bTu-vBkgMrqObgg
or
https://scholar.google.com/citations?user=JTGDv7MAAAAJ&hl=en
Papers led by students or postdocs under my (co-)supervision are highlighted with underlines.

First authors

10. **Li, T. S.**, Ji, A. P., Pace, A. B. et al. "S^5: The Orbital and Chemical Properties of One Dozen Stellar Streams", 2022, ApJ, 928, 30

9. **Li, T. S.**, Koposov, S. E., Erkal, D., et al. "Broken into Pieces: ATLAS and Aliqa Uma as One Single Stream", 2021, ApJ, 911, 149

8. **Li, T. S.**, Koposov, S. E., Zucker, D. B., et al. "The Southern Stellar Stream Spectroscopic Survey (S^5): Overview, Target Selection, Data Reduction, Validation, and Early Science", 2019, MNRAS, 490, 3508

7. **Li, T. S.**, Simon, J. D., Kuehn, K., et al., "The First Tidally Disrupted Ultra-Faint Dwarf Galaxy? - Spectroscopic Analysis of the Tucana III Stream", 2018, ApJ, 866, 22.

6. **Li, T. S.**, Simon, J. D., Pace, A. B., et al. "Ships Passing in the Night: Spectroscopic Analysis of Two Ultra-faint Satellites in the Constellation Carina", 2018, ApJ, 857, 145.

5. **Li, T. S.**, Sheffield, A. A., Johnston, K. V., Marshall, J. L., Majewski, S. R. et al., "Exploring Halo Substructure with Giant Stars", 2017, ApJ, 844, 74.

4. **Li, T. S.**, Simon, J. D., Drlica-Wagner, A., Bechtol, K., et al. "Farthest Neighbor: The Distant Milky Way Satellite Eridanus II", 2017, ApJ, 838, 8

3. **Li, T. S.**, DePoy, D. L., Marshall, J. L., Tucker, D. L., Bernstein, G. M., et al. "Assessment of Systematic Chromatic Errors that Impact Sub-1% Photometric Precision in Large-Area Sky Surveys", 2016, AJ, 151, 157

2. **Li, T. S.**, Balbinot, E., Mondrik, N., et al. "Discovery of a Stellar Overdensity in Eridanus-Phoenix in the Dark Energy Survey", 2016, ApJ, 817, 135

1. **Li, T. S.**, Marshall, J. L., Lépine, S., Williams, P., Chavez, J., "Optical BVRI Photometry of Common Proper Motion F/G/K+M Wide Separation Binaries", 2014, AJ, 148, 60

Second or Third authors, mostly led by my mentees

37. Heiger, M., Ji, A. P., **Li, T. S.**, et al. "Not-so-heavy metal(s): Chemical Abundances in the Ultra-faint Dwarf Galaxies Eridanus IV and Centaurus I", arXiv:2508.11012

36. Sandford, N. R., **Li, T. S.**, Koposov, S. E., et al. "Chemodynamics of Boötes I with S^5: Revised Velocity Gradient...", arXiv:2509.02546

35. Medina, G. E., **Li, T. S.**, Eadie, G. M., et al. "The mass of the Milky Way from outer halo stars measured by DESI DR1", arXiv:2508.19351

34. Medina, G. E., **Li, T. S.**, Allende Prieto, C., et al. "The DESI Y1 RR Lyrae catalog II: The metallicity dependency of pulsational properties...", arXiv:2505.10614

33. Medina, G. E., **Li, T. S.**, Koposov, S. E., et al. "The DESI Y1 RR Lyrae catalog I: Empirical modeling of the cyclic variation of spectroscopic properties and a chemodynamical analysis of the outer halo", arXiv:2504.02924

32. Ding, J., Rockosi, C., **Li, T. S.**, et al. "The Draco Dwarf Spheroidal Galaxy in the First Year of DESI Data", arXiv:2509.21822

31. Koposov, S. E., **Li, T. S.**, Allende Prieto, C., et al. "DESI Data Release 1: Stellar Catalogue", arXiv:2505.14787

30. Pace, A. B., **Li, T. S.**, Ji, A. P., et al. "Spectroscopic Analysis of Pictor II: a very low metallicity ultra-faint dwarf galaxy bound to the Large Magellanic Cloud", 2025, *OJAp*, 8, E112

29. Kim, B., Koposov, S. E., **Li, T. S.**, et al. "Nearby stellar substructures in the Galactic halo from DESI Milky Way Survey Year 1 Data Release", 2025, *MNRAS*, 540, 264

28. Ma, P. X., Rogers, K. K., **Li, T. S.**, et al. "Toward Characterizing Dark Matter Subhalo Perturbations in Stellar Streams with Graph Neural Networks", 2025, *ApJ*, 987, 96

27. Awad, P., **Li, T. S.**, Erkal, D. et al., "S5: New insights from deep spectroscopic observations of the tidal tails of the globular clusters NGC 1261 and NGC 1904", 2024, A&A, in press.

26. Simon, J. D., **Li, T. S.** et al. "Eridanus III and DELVE 1: Carbon-rich Primordial Star Clusters or the Smallest Dwarf Galaxies?", 2024, ApJ, 976, 256S

25. Yu, F., **Li, T. S.**, Speagle, J. S. et al., "The Power of High Precision Broadband Photometry: Tracing the Milky Way Density Profile with Blue Horizontal Branch stars in the Dark Energy Survey", 2024, ApJ, 975, 81Y

24. Hansen, T. T., Simon, J. D., **Li, T. S.** et al. "Chemical Diversity on Small Scales: Abundance Analysis of the Tucana V Ultrafaint Dwarf Galaxy", 2024ApJ, 968, 21H.

23. Usman, S. A., Ji, A. P., **Li, T. S.**, et al., "Multiple Populations and a CH Star Found in the 300S Globular Cluster Stellar Stream", 2024, MNRAS, 529, 2413.

22. Heiger, M. E., **Li, T. S.**, Pace, A. B. et al. "Reading Between the (Spectral) Lines: Magellan/IMACS spectroscopy of the Ultra-faint Dwarf Galaxies Eridanus IV and Centaurus I", 2024, ApJ, 961, 234H.

21. Cerny, W., Drlica-Wagner, A., **Li, T. S.**, et al. "DELVE 6: An Ancient, Ultra-faint Star Cluster on the Outskirts of the Magellanic Clouds", 2023, ApJ, 953L, 21C

20. Koposov, S. E., Erkal, D., **Li, T. S.** et al. "S5: Probing the Milky Way and Magellanic Clouds potentials with the 6D map of the Orphan-Chenab stream", 2023, MNRAS, 521, 4936

19. Bruce, J., **Li, T. S.** Pace, A. B. et al. "Spectroscopic analysis of Milky Way outer halo satellites: Aquarius II and Bootes II", 2023, ApJ, 950, 167B

18. Hansen, T. T., Simon, J. D., **Li, T. S.** et al. "Evidence for multiple nucleosynthetic processes from carbon-enhanced metal-poor stars in the Carina dwarf spheroidal galaxy", 2023, A&A, 674A, 180H

17. Cerny, W., Simon, J. D., **Li, T. S.** et al. "Pegasus IV: Discovery and Spectroscopic Confirmation of an Ultra-Faint Dwarf Galaxy in the Constellation Pegasus", 2023, ApJ, 942, 111

16. Pace, A. B., Erkal, D., **Li, T. S.**, "Proper Motions, Orbits, and Tidal Influences of Milky Way Dwarf Spheroidal Galaxies", 2022, ApJ, 940, 136

15. Ji, A. P., Koposov, S. E., **Li, T. S.**, et al. "Kinematics of Antlia 2 and Crater 2 from the Southern Stellar Stream Spectroscopic Survey (S^5)", 2021, ApJ, 921, 32

14. Jenkins, S., **Li, T. S.**, Pace, A. B., et al. "VLT Spectroscopy of Ultra-Faint Dwarf Galaxies. 1. Boötes I, Leo IV, Leo V", 2021, ApJ, 920, 92J

13. Ji, A. P., **Li, T. S.**, Hansen, T. T., et al. "The Southern Stellar Stream Spectroscopic Survey (S5): Chemical Abundances of Seven Stellar Streams", 2020, AJ, 160, 181

12. Simon, J. D., **Li, T. S.**, Erkal, D., et al. "Birds of a Feather? Magellan/IMACS Spectroscopy of the Ultra-faint Satellites Grus II, Tucana IV, and Tucana V", 2020, ApJ, 892, 137

11. Wan, Z., Lewis, G. F., **Li, T. S.**, et al. "The tidal remnant of an unusually metal-poor globular cluster", 2020, Nature, 583, 768

10. Koposov, S. E., Boubert, D., **Li, T. S.**, et al. "Discovery of a nearby 1700 km/s star ejected from the Milky Way by Sgr A*", 2020, MNRAS, 491, 2465

9. Ji, A. P., **Li, T. S.**, Simon, J. D., et al. "Detailed Abundances in the Ultra-faint Magellanic Satellites Carina II and III", 2020, ApJ, 889, 27J

8. Shipp, N., **Li, T. S.**, Pace, A. B., et al. "Proper Motions of Stellar Streams Discovered in the Dark Energy Survey", 2019, ApJ, 885, 3

7. Koposov, S. E., Belokurov, V., **Li, T. S.**, et al. "Piercing the Milky Way: an all-sky view of the Orphan Stream", 2019, MNRAS, 485, 4726

6. Pace, A. B. & **Li, T. S.**, "Proper motions of Milky Way Ultra-Faint satellites with *Gaia* DR2 $\times$ DES DR1", 2019, ApJ, 875, 77

5. Erkal, D., **Li, T. S.**, Koposov, S. E., Belokurov, V., et al., "Modelling the Tucana III stream - a close passage with the LMC", 2018, MNRAS, 481, 3148.

4. Nagasawa, D. Q., Marshall, J. L., **Li, T. S.** et al. "Chemical Abundance Analysis of Three α-Poor, Metal-Poor Stars in the Ultra-Faint Dwarf Galaxy Horologium I", 2018, ApJ, 852, 99.

3. Simon, J. D., **Li, T. S.**, Drlica-Wagner, A., Bechtol, K., et al. "Nearest Neighbor: The Low-mass Milky Way Satellite Tucana III", 2017, ApJ, 838, 44

2. Balbinot, E., Yanny, B., **Li, T. S.**, et al. "The Phoenix stream: a cold stream in the Southern hemisphere", 2016, ApJ, 820, 58.

1. Simon, J. D., Drlica-Wagner, A., **Li, T. S.**, et al. "Stellar Kinematics and Metallicities in the Ultra-faint Dwarf Galaxy Reticulum II", 2015, ApJ, 808, 95

4th-8th author authors, with significant contributions

49. Yang, H., Wang, W., Zhu, L., **Li, T. S.**, et al. "The dark matter content of Milky Way dwarf spheroidal galaxies: Draco, Sextans and Ursa Minor", arXiv:2507.02284

48. Tan, C. Y., Drlica-Wagner, A., Pace, A. B., Cerny, W., Nadler, E. O., Doliva-Dolinsky, A., **Li, T. S.**, et al. "DELVE Milky Way Satellite Census I: Satellite Population and Survey Selection Function", arXiv:2509.12313

47. Byström, A., Koposov, S. E., Lilleengen, S., **Li, T. S.**, et al. "Exploring the interaction between the MW and LMC with a large sample of blue horizontal branch stars from the DESI survey", 2025, *MNRAS*, 542, 560

46. Valluri, M., Fagrelius, P., Koposov, S. E., **Li, T. S.**, et al. "GD-1 Stellar Stream and Cocoon in the DESI Early Data Release", 2025, *ApJ*, 980, 71

45. Li, S., Wang, W., Koposov, S. E., **Li, T. S.**, et al. "SpecDis: Value Added Distance Catalog for 4 Million Stars from DESI Year-1 Data", 2025, *AJ*, 170, 171

44. Aganze, C., Chandra, V., Wechsler, R. H., **Li, T. S.**, et al. "The Cocytos Stream: A Disrupted Globular Cluster from our Last Major Merger?", arXiv:2504.11687

43. Yang, Y., Lewis, G. F., Erkal, D., **Li, T. S.**, et al. "Flipping of the Tidal Tails of the Ophiuchus Stream due to the Decelerating Galactic Bar", 2025, *ApJ*, 984, 189

42. Usman, S. A., Ji, A. P., Rodriguez, J., Simpson, J. D., Martell, S. L., **Li, T. S.**, et al. "Chemical Abundances in the Metal-Poor Globular Cluster ESO 280-SC06: A Formerly Massive, Tidally Disrupted Globular Cluster", 2025, *OJAp*, 8, E86

41. Cohen, B., Ji, A. P., Ferguson, P. S., Koposov, S. E., Drlica-Wagner, A., Li, A. P., **Li, T. S.**, et al. "Sifting for a Stream: The Morphology of the 300*S* Stellar Stream", arXiv:2506.21410

40. Danieli, S., Kado-Fong, E., Huang, S., Luo, Y., **Li, T. S.** et al. "Merian: A Wide-Field Imaging Survey of Dwarf Galaxies at z 0.06-0.10", submitted to ApJ, arXiv:2410.01884

39. Hilmi, T., Erkal, D., Koposov, S. E., **Li, T. S.** et al. "Inferring dark matter subhalo properties from simulated subhalo-stream encounters", 2024, submitted to MNRAS, arXiv:2404.02953

38. Koposov, S. E., Allende P., C., Cooper, A. P., **Li, T. S.** et al. "DESI Early Data Release Milky Way Survey value-added catalogue", 2024, MNRAS, 533, 1012

37. Chiti, A., Mardini, M., Limberg, G. et al. (including **Li, T. S.**) "Enrichment by Extragalactic First Stars in the Large Magellanic Cloud", 2024, NatAs, 8, 637C.

36. Smith, S. E. T., Cerny, W., Hayes, C. R. et al., (including **Li, T. S.**) "The Discovery of the Faintest Known Milky Way Satellite Using UNIONS", 2024, ApJ, 961, 92S

35. Kent, S., Neilsen, E., Honscheid, K. et al. (including **Li, T. S.**) "Astrometric Calibration and Performance of the Dark Energy Spectroscopic Instrument Focal Plane", 2023, AJ, 166, 177K

34. Cerny, W., Martínez-Vázquez, C. E., Drlica-Wagner, A., (including **Li, T. S.**) "Six More Ultra-Faint Milky Way Companions Discovered in the DECam Local Volume Exploration Survey", 2023, ApJ, 953, 1C

33. Shipp, N., Panithanpaisal, N., Necib, L., (including **Li, T. S.**) "Streams on FIRE: Populations of Detectable Stellar Streams in the Milky Way and FIRE", 2023, ApJ, 949, 44S

32. Cooper, A. P., Koposov, S. E., Allende Prieto, C. et al. (including **Li, T. S.**) "Overview of the DESI Milky Way Survey", 2023, ApJ, 947, 37

31. Simon, J. D., Brown, T. M., Mutlu-Pakdil, B. et al. (including **Li, T. S.**) "Timing the r-process Enrichment of the Ultra-faint Dwarf Galaxy Reticulum II", 2023, ApJ, 944, 43

30. Lilleengen, S., Petersen, M. S., Erkal, D. et al. (including **Li, T. S.**) "The effect of the deforming dark matter haloes of the Milky Way and the Large Magellanic Cloud on the Orphan-Chenab stream", 2023, MNRAS, 518, 774

29. Chiti, A., Simon, J. D., Frebel, A., (including **Li, T. S.**) "Magellan/IMACS Spectroscopy of Grus I: A Low Metallicity Ultra-faint Dwarf Galaxy", 2022, ApJ, 939, 41

28. Mau, S., Nadler, E. O., Wechsler, R. H., (including **Li, T. S.**) "Milky Way Satellite Census. IV. Constraints on Decaying Dark Matter from Observations of Milky Way Satellite Galaxies", 2022, ApJ, 932, 128

27. Yuan, Z., Malhan, K., Sestito, F., (including **Li, T. S.**) "The Complexity of the Cetus Stream Unveiled from the Fusion of STREAMFINDER and StarGO", 2022, ApJ, 930, 103

26. Vivas, A. K., Martinez-Vazquez, C. E., Walker, A. R., Belokurov, V., **Li, T. S.** et al. "Variable Stars in the Giant Satellite Galaxy Antlia 2", 2022, ApJ, 926, 78

25. Tavangar, K., Ferguson, P., Shipp, N., (including **Li, T. S.**) "From the Fire: A Deeper Look at the Phoenix Stream", 2022, ApJ, 925, 118

24. Ferguson, P. S., Shipp, N., Drlica-Wagner, A., **Li, T. S.** et al. "DELVE-ing into the Jet: A Thin Stellar Stream on a Retrograde Orbit at 30 kpc", 2022, AJ, 163, 18

23. Shipp, N., Erkal, D., Drlica-Wagner, A., **Li, T. S.**, et al. "Measuring the Mass of the Large Magellanic Cloud with Stellar Streams Observed by S^5", 2021, ApJ, 923, 149

22. Casey, A, R., Ji, A. P., Hansen, T. T., **Li, T. S.**, et al. "Signature of a Massive Rotating Metal-poor Star Imprinted in the Phoenix Stellar Stream", 2021, ApJ, 921, 67

21. Hansen, T. T., Ji, A. P., Da Costa, G. S., **Li, T. S.**, et al. "S^5: The Destruction of a Bright Dwarf Galaxy as Revealed by the Chemistry of the Indus Stellar Stream", 2021, ApJ, 915, 103

20. Lu, W., Fuller, J., Raveh, Y., Perets, H. B., **Li, T. S.**, et al. "The former companion of hyper-velocity star S5-HVS1", 2021, MNRAS, 503, 603

19. Nadler, E. O., Drlica-Wagner, A., Bechtol, K., et al. (including **Li, T. S.**) "Constraints on Dark Matter Properties from Observations of Milky Way Satellite Galaxies", 2021, PhRvL, 126, 1101

18. Cerny, W., Pace, A. B., Drlica-Wagner, A., et al. (including **Li, T. S.**) "Discovery of an Ultra-faint Stellar System near the Magellanic Clouds with the DECam Local Volume Exploration Survey", 2021, ApJ, 910, 18

17. Tanoglidis, D., Drlica-Wagner, A., Wei, K., **Li, T. S.**, et al. "Shadows in the Dark: Low-surface-brightness Galaxies Discovered in the Dark Energy Survey", 2021, ApJS, 252, 18

16. Simon, J. D., Brown, T. M., Drlica-Wagner, **Li, T. S.**, et al. "Eridanus II: A Fossil from Reionization with an Off-center Star Cluster", 2021, ApJ, 908, 18

15. Chang, J., Yuan, Z., Xue, X-X, Simion, I. T., Kang, X., **Li, T. S.**, et al. "Is NGC 5824 the Core of the Progenitor of the Cetus Stream?", 2020, ApJ, 905, 100

14. Hansen, T. T., Marshall, J. L., Simon, J. D., **Li, T. S.**, et al. "Chemical Analysis of the Ultrafaint Dwarf Galaxy Grus II. Signature of High-mass Stellar Nucleosynthesis", 2020, ApJ, 897, 183

13. Li, Z-Z; Qian, Y-Z; Han, J.; **Li, T. S.**, et al. "Constraining the Milky Way Mass Profile with Phase-space Distribution of Satellite Galaxies", 2020, ApJ, 894, 10

12. Nadler, E. O., Wechsler, R. H., Bechtol, K. et al. (including **Li, T. S.**), "Milky Way Satellite Census. II. Galaxy-Halo Connection Constraints Including the Impact of the Large Magellanic Cloud", 2020, ApJ, 893, 48

11. Drlica-Wagner, A., Bechtol, K., Mau, S., McNanna, M., Nadler, E. O., Pace, A. B., **Li, T. S.** et al., "Milky Way Satellite Census. I. The Observational Selection Function for Milky Way Satellites in DES Y3 and Pan-STARRS DR1", 2020, ApJ, 893, 47

10. Allende Prieto, C., Cooper, A. P., Dey, A., Gansicke, B. T., Koposov, S. E., **Li, T. S.**, et al. "Preliminary Target Selection for the DESI Milky Way Survey (MWS)", 2020, Research Notes of the AAS, 4, 10

9. Torrealba, G., Belokurov, V., Koposov, S. E., **Li, T. S.**, et al. "The hidden giant: discovery of an enormous Galactic dwarf satellite in Gaia DR2", 2019, MNRAS, 488, 2743

8. Erkal, D., Belokurov, V., Laporte, C. F. P., Koposov, S. E., **Li, T. S.**, et al. "The total mass of the Large Magellanic Cloud from its perturbation on the Orphan stream", 2019, MNRAS, 487, 2685

7. Wang, M. Y., de Boer, T., Pieres, A., **Li, T. S.**, et al. "The Morphology and Structure of Stellar Populations in the Fornax Dwarf Spheroidal Galaxy from Dark Energy Survey Data", 2019, ApJ, 881, 118

6. Wang, M. Y., Koposov, S., Drlica-Wagner, A., Pieres, A., **Li, T. S.**, "Rediscovery of the Sixth Star Cluster in the Fornax Dwarf Spheroidal Galaxy", 2019, ApJ, 875, 13

5. Shipp, N., Drlica-Wagner, A., Balbinot, E., Ferguson, P., Erkal, D., **Li, T. S.**, et al., "Stellar Streams Discovered in the Dark Energy Survey", 2018, ApJ, 862, 114.

4. Bernstein, G. M., Abbott, T. M. C., Armstrong, R., Burke, D. L., Diehl, H. T., Gruendl, R. A., Johnson, M. D., **Li, T. S.**, et al., "Photometric Characterization of the Dark Energy Camera", 2018, PASP, 130, 4501.

3. Bergemann, M., Sesar, B., Cohen, J., Serenelli, A. M., Sheffield, A. A., **Li, T. S.** et al., "Witnessing Galactic eviction – disc stars at extreme locations around our Galaxy", 2018, Nature, 555, 334.

2. Hansen, T. T., Simon, J. D., Marshall, J. L., **Li, T. S.**, et al. "An r-process Enhanced Star in the Dwarf Galaxy Tucana III", 2017, ApJ, 838, 11

1. Melendez, J., Placco, V. M., Tucci-Maia, M., Ramirez, I., **Li, T. S.**, "2MASS J18082002-5104378: The Brightest (V=11.9) Ultra Metal-Poor Star", 2016, A&A, 585, 5

Selected Conference Proceedings

Summary: Most of my conference proceedings are related to instrumentation work and have been published in the SPIE proceedings.

7. Khandelwal, A., et al. (including **Li, T. S.**), "Beyond CCDs: Characterization of sCMOS detectors for optical astronomy", 2024, Proc. of SPIE Vol. 13103, 131030R

6. Meisner, A. M., et al. (including **Li, T. S.**), "Performance of Kitt Peak's Mayall 4-meter telescope during DESI commissioning", 2020, Proc. of SPIE Vol. 11447, 1144794

5. Drlica-Wagner, A., Marrufo Villalpando, E., O'Neil, J., Estrada, J., Holland, S., Kurinsky, N., **Li, T. S.**, "Characterization of skipper CCDs for cosmological applications", 2020, Proc. of SPIE Vol. 11454, 114541A

4. **Li, T. S.**, DePoy, D. L., Marshall, J. L., Nagasawa, D. Q., Carona, D. W., Boada, S., "Monitoring the atmospheric throughput at Cerro Tololo Inter-American Observatory with aTmCam", 2014, Proc. of SPIE Vol. 9147, 91476Z, arXiv:14077047

3. DePoy, D. L., Allen, R., **Li, T. S.**, Marshall, J. L., Papovich, C., Prochaska, T., Shectman, S., "An update on the wide field, multi-object, moderate-resolution, spectrograph for the Giant Magellan Telescope", 2014, Proc. of SPIE Vol. 9147, 914720

2. Marshall, J. L., DePoy, D. L., Prochaska, T., Allen, R.D., Williams, P., Rheault, J.-P., **Li, T. S.**, and 22 colleagues, "VIRUS instrument collimator assembly", 2014, Proc. of SPIE Vol. 9147, 91473S

1. **Li, T. S.**, DePoy, D. L., Kessler, R., Burke, D. L., Marshall, J. L., Wise, J., Rheault, J.-P., Carona, D. W., Boada, S., Prochaska, T., Allen, R., "aTmcam: a simple atmospheric transmission monitoring camera for sub 1% photometric precision", 2012, Proc. of SPIE Vol. 8446, 84462L, arXiv:14077047

Selected White Papers, Reports, Books

7. Facilitator for Snowmass CF03 white papers (arXiv:2203.06200, arXiv:2209.08215)
6. Author for 7 Astro2020 Science White Papers (including one leading author).
5. Chapter Leader, The Detailed Science Case for the Maunakea Spectroscopic Explorer, 2019 edition, 2019, arXiv:1904.04907 (entire document), arXiv: 1903.03155 (one chapter)
4. Chapter Author, Probing the Fundamental Nature of Dark Matter with the Large Synoptic Survey Telescope, 2019, arXiv:1902.01055
3. Organizer and Chapter Author, Petabytes to Science, 2019, arXiv:1905.05116
2. Chapter Author, GMT Science Book 2018: https://www.gmto.org/gallery/gmt-resources/#GMT_Science_Book_2018
1. Chapter Author, Maximizing Science in the Era of LSST: A Community-Based Study of Needed US Capabilities, 2016, arXiv:1610.01661