

Mehrnoosh Tahani

(she/her)

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GitHub: [MehrnooshTahani](#)
• [DragonflyPol](#) • [Cultural Astronomy](#) • [3D Fields](#)
[ADS Publications](#)

Professional Appointments

University of South Carolina

Assistant Professor, Department of Physics & Astronomy

Aug 2025 – present

Stanford University

Banting & KIPAC Postdoctoral Fellow

Sep 2022 – Aug 2025

Nagoya University, Japan

Japan Society for Promotion of Science (JSPS) Fellow

Apr 2023

Dominion Radio Astrophysical Observatory, National Research Council Canada

Covington Postdoctoral Fellow (Research Associate)

Sep 2019 – Sep 2022

University of Calgary, Canada

Sessional Instructor

Jul – Aug 2019

Postdoctoral Research Assistant

Feb – Jun 2019

Sessional Instructor

Jul – Aug 2016

Education

Ph.D. in Astrophysics: University of Calgary, Canada¹

Jan 2013 – Jan 2019

Thesis: *Large-Scale Structure of Magnetic Fields Associated with Molecular Clouds*

M.Sc. in Physics (*Particle Physics*): University of Regina, Canada

Jan 2010 – Aug 2012

Thesis: *Large Area MultiPixel Photon Counters on the Search for Exotic Hybrid Mesons*

B.Sc. in Physics: Sharif University of Technology, Iran

Sep 2005 – Sep 2009

Honors project: *Angular Momentum Transport in Astrophysical Accretion Disks*

Honors, Awards, Recognitions & Grants

Grants (Principal Investigator)

ASPIRE AI Funding Program, University of South Carolina

2026 – 2027

KIPAC Innovation Grant, Stanford University (for Dragonfly Polarimetry)

2024 – 2025

Iranian Studies Grant, Stanford University (for Cultural Astronomy)

2023 – 2024

Fellowships

KIPAC Fellowship, Stanford University

Sep 2022 – Aug 2025

Banting Fellowship, Government of Canada (NSERC)

Sep 2022 – Aug 2024

Japan Society for the Promotion of Science (JSPS) Fellowship

Apr 2023

Covington Fellowship, National Research Council Canada

Sep 2019 – Sep 2022

Selected Awards & Scholarships

Herzberg Astronomy & Astrophysics Instant Award

Jul 2021

Taylor Institute for Teaching and Learning Teaching Award

Apr 2018

Named to the Taylor Institute Wall of Fame

Eyes High International Doctoral Scholarship

2017 – 2018

Graduate Student Excellence Award

2014, 2015, 2017, 2018

People's Choice Award for best oral presentation

Nov 2015

Graduate Teaching Assistantship Award, University of Regina

Fall 2011

Graduate Scholarship, University of Regina

Fall 2010

Thesis Award Nominations

Nominated for the IAU PhD Prize

Dec 2019

Nominated for the Plaskett PhD Medal, Canada

Dec 2019

¹Included switching from particle physics to astronomy in 2015 and caregiver leave of absence

Awarded Observing Time

Principal Investigator (6 proposals, 235+ hrs)

MeerKAT: <i>First 3D Magnetic Map of Vela C</i> , MKT-25130	95 hrs, 2026
FAST: <i>Three-Dimensional Magnetic Field of Perseus</i> , SQB-2024-0078	11 hrs, 2024
VLA: <i>Three-Dimensional Magnetic Field of Perseus</i> , VLA/24A-376, Config. D	59 hrs, 2024A
VLA: <i>Magnetic Fields in Molecular Clouds</i> , VLA/20A-165, Config. C	5 hrs, 2020A
VLA: <i>Magnetic Fields in Molecular Clouds</i> , VLA/19B-053, Config. D	65 hrs, 2019B
DRAO Synthesis Telescope: <i>Magnetic Fields Surrounding B211/13 Filament, Taurus</i>	2019

Collaborator/Co-Investigator (10 proposals, ~389 hrs total)

MeerKAT: <i>The Present of Hydride Studies</i> , MKT-25052	17.3 hrs
MeerKAT: MAUVE-MeerKAT: <i>A Pilot S-band Survey of Virgo Cluster Galaxies</i> , MKT-25083	38 hrs
MeerKAT: <i>Measuring Magnetic Field Strengths in Star-forming Regions</i> , MKT-24114	7 hrs
Effelsberg-100m: <i>Multi-band Polarized Synchrotron Observations of the Crab Nebula</i> , 61-23	6 hrs
JCMT: <i>Role of the Magnetic Field in the Evolution of the Serpens South</i>	21 hrs
JCMT: <i>Magnetic Fields in the NGC7023 Reflection Nebula</i>	22.4 hrs
JCMT: <i>Testing Grain Alignment of Carbonaceous and Silicate Grains</i>	16 hrs
JCMT: <i>Completing the Magnetic Field Across the Oph Filament</i>	14 hrs
JCMT: <i>Magnetic Fields in Massive Dense Cores and Filaments in NGC 6357</i>	12.11 hrs
JCMT: <i>B-Fields in Star-Forming Region Observations 3 (BISTRO-3)</i>	224 hrs

Publications and Research Impact

Major Achievements: [DragonflyPol](#), a wide-field optical polarimetry program using the Dragonfly Telephoto Array through a cost-effective approach; MC-BLOS, open-source software for line-of-sight magnetic field determination of molecular clouds; far-infrared polarimetric work showing how HII region feedback shapes field morphology, constraining energy balances; and the first 6D magnetic maps of nearby clouds, uncovering a previously unknown structure later confirmed independently and demonstrating the technique's discovery power.

Impact: 1,820+ citations, 1,770+ since 2021; h-index: 26; [\[Full ADS record\]](#)

Underline = mentored student; ● Radio ■ FIR/submm ▲ Optical ◆ Multi-wavelength

First- and Sole-Author Publications

57. **Tahani, M.**, Hollberg, L., Akitaya, H., Kim, J., Abraham, R., van Dokkum, P., Bowman, W., Gamage, V., Regmi, P., Doi, Y., Kawabata, K. DragonflyPol: Wide-Field Optical Linear Polarimetry with the Dragonfly Telephoto Array. *Publications of the Astronomical Society of the Pacific*, submitted. [arXiv:2607.14258](#) ▲
56. **Tahani, M.**, Ordog, A., West, J., Panopoulou, G., Shinnaga, H., Haverkorn, M. 3D Magnetic Field Vectors in Space: Bubbles, Clouds, and Filaments. Chapter in *Advancing Astrophysics with the SKA-II* (2026). [arXiv:2606.27346](#) ◆
55. **Tahani, M.**, Ngo, J., Glover, J., Zarazua, G., Clairmont, R., Plume, R. MC-BLOS: Line-of-Sight Magnetic Field Determination Software. *Astrophysical Journal* 992, 23 (2025). [arXiv:2407.13005](#) ●
54. **Tahani, M.**, the BISTRO Collaboration et al. JCMT BISTRO Observations: Magnetic Field Morphology of Bubbles Associated with NGC 6334. *Astrophysical Journal* 944, 139 (2023). [arXiv:2212.10884](#) ■
53. **Tahani, M.** Three-dimensional magnetic fields of molecular clouds. *Frontiers in Astronomy and Space Sciences* 9:940027 (2022). [arXiv:2209.12102](#) ◆
52. **Tahani, M.**, Lupypciw, W., Glover, J., Plume, R., West, J., Kothes, R., et al. 3D Magnetic Field Morphology of the Perseus Molecular Cloud. *Astronomy & Astrophysics* 660, A97 (2022). [arXiv:2201.04718](#)

51. **Tahani, M.**, Glover, J., Lupypciw, W., West, J., Kothes, R., Plume, R., Inutsuka, S., et al. Orion A's Complete 3D Magnetic Field Morphology. *Astronomy & Astrophysics* 660, L7 (2022). [arXiv:2203.08763](#)
50. **Tahani, M.**, Plume, R., Brown, J., Soler, J., Kainulainen, J. Could Bow-Shaped Magnetic Morphologies Surround Filamentary Molecular Clouds? *Astronomy & Astrophysics* 632, A68 (2019). [arXiv:1910.07619](#)
49. **Tahani, M.**, Plume, R., Brown, J., Kainulainen, J. Helical Magnetic Fields in Molecular Clouds? A new method to determine the line-of-sight magnetic field structure in molecular clouds, *Astronomy & Astrophysics* 614, A100 (2018). [arXiv:1802.07831](#) ●

Peer-Reviewed Book Chapter (Substantive Co-Author)

48. Pattle, K., Fissel, L., **Tahani, M.**, Ntormousi, E., Liu, T. Magnetic Fields in Star Formation: From Clouds to Cores. *Protostars and Planets VII*, Astronomical Society of the Pacific Conference Series 534 (2023). [arXiv:2203.11179](#)

Student-Led Publications

47. Lei, M., Clark, S., **Tahani, M.**, et al. Imprints of the Neutral Interstellar Medium on Polarized Synchrotron Emission and Faraday Rotation. *Astrophysical Journal*(2026). [arXiv:2606.11359](#) ●
46. Hajizadeh, H., Stil, J., Plume, R., **Tahani, M.**, Jagannathan, P. A Comprehensive Catalog of Radio Sources and Rotation Measures in the Perseus Molecular Cloud from Very Large Array Observations. *Astrophysical Journal* 283, 54 (2026). [arXiv:2602.17980](#) ●
45. Halal, G., Clark, S., **Tahani, M.** Imprints of the Local Bubble and Dust Complexity on Polarized Dust Emission. *Astrophysical Journal* 973, 54 (2024). [arXiv:2404.11009](#) ■
44. Nuñez, A., **Tahani, M.**, Clark, S., Lopez-Rodriguez, E., Van Eck, C.L. Consolidated Rotation Measure Catalog Update. *Research Notes of the AAS* 8, 144 (2024). [Link](#) ●

Peer-Reviewed Publications (Co-Author)

43. Bourke, T., et al. incl. **Tahani, M.** Measuring Magnetic Field Strengths in Galactic Star-forming Regions via the Zeeman Effect with the SKA. Chapter in *Advancing Astrophysics with the SKA-II* (2026). [arXiv:2606.22090](#) ●
42. Doi, Y., et al. incl. **Tahani, M.** Smooth Magnetic Field Structure in the High-Mass Star-Forming Complex W33 Revealed by Tomographic Polarization Analysis. *Astrophysical Journal*, accepted. ▲
41. Yin, S., et al. incl. **Tahani, M.** Magnetic Field Alignment with Dense Cores in the Transition Between Cloud and Core Scales. *Astrophysical Journal*, submitted. ■
40. Burger-Scheidlin, C., et al. incl. **Tahani, M.** Radio Detection of Supernova Remnant G310.7-5.4 with γ -ray Counterpart: Abeona SNR. *Astronomy & Astrophysics*, accepted. [arXiv:2604.19897](#) ●
39. Ordog, A., et al. incl. **Tahani, M.** GMIMS-DRAGONS: A Faraday Depth Survey of the Northern Sky Covering 350 to 1030 MHz. *Astrophysical Journal* 282, 53 (2026). [arXiv:2510.09759](#) ●
38. Ball, B., et al. incl. **Tahani, M.** A Catalog of Galactic Supernova Remnants and Supernova Remnant Candidates from the EMU/POSSUM Radio Sky Surveys. I. *Astrophysical Journal* 988, 75 (2025). [arXiv:2507.19625](#) ●
37. Sharma, E., et al. incl. **Tahani, M.** Magnetic Fields Towards NGC 7023 Using JCMT POL-2 Observations. *Astrophysical Journal*, accepted. [arXiv:2503.20721](#) ■
36. Yang, M., et al. incl. **Tahani, M.** The JCMT BISTRO Survey: Unveiling the Magnetic Fields around Galactic Center. *Astrophysical Journal* 983, 184 (2025). [arXiv:2503.05198](#) ■
35. Hwang, J., et al. incl. **Tahani, M.** Variation of Magnetic Field in pc and sub-pc Scales Toward the G28.34+0.06 Massive Star-Forming Region. *Astrophysical Journal* 985, 222 (2025). [arXiv:2505.14047](#) ■
34. Choi, Y., et al. incl. **Tahani, M.** The JCMT BISTRO Survey: The Magnetic Fields of the IC 348 Star-forming Region. *Astrophysical Journal* (2024). [arXiv:2411.01960](#) ■

33. Wu, J., et al. incl. **Tahani, M.** A Tale of Three: Magnetic Fields along the Orion Integral-Shaped Filament as Revealed by JCMT BISTRO Survey. *ApJL* 977, L31 (2024). [arXiv:2412.17716](#) ■
32. Rudnik, L., et al. incl. **Tahani, M.** Pseudo-3D Structures in Polarized Radio Sources. *MNRAS* 535, 2115–2128 (2024). [arXiv:2409.13973](#) ●
31. Jung, S., et al. incl. **Tahani, M.** Magnetised HI Superbubbles in the Small Magellanic Cloud Revealed by the POSSUM Pilot Survey. *MNRAS*, stae2245 (2024). [arXiv:2409.17666](#) ●
30. Raycheva, N., et al. incl. **Tahani, M.** Faraday Moments of the Southern Twenty-Centimeter All-sky Polarization Survey (STAPS). *Astronomy & Astrophysics* 695, A101 (2025). [arXiv:2406.06166](#) ●
29. Chen, M., et al. incl. **Tahani, M.** Relative Alignments Between Magnetic Fields, Velocity Gradients and Dust Emission Gradients in NGC 1333. *MNRAS*, stae1829 (2024). [arXiv:2407.18375](#) ◆
28. Mohammed, N., et al. incl. **Tahani, M.** Faraday Tomography with CHIME: The “Tadpole” Feature G137+7. *Astrophysical Journal* 971, 100 (2024). [arXiv:2405.15678](#) ●
27. Vanderwoude, S., et al. incl. **Tahani, M.** Prototype Faraday Rotation Measure Catalogs from the Polarization Sky Survey of the Universe’s Magnetism (POSSUM) Pilot Observations. *Astrophysical Journal* 167, 226 (2024). [arXiv:2403.15668](#) ●
26. Doi, Y., et al. incl. **Tahani, M.** Tomographic Imaging of the Sagittarius Spiral Arm’s Magnetic Field Structure. *Astrophysical Journal* 961, 13 (2024). [arXiv:2311.13054](#) ▲
25. Martin-Alvarez, S., et al. incl. **Tahani, M.** Extragalactic Magnetism with SOFIA (SALSA Legacy Program). VII. A Tomographic View of Far Infrared and Radio Polarimetric Observations Through MHD Simulations of Galaxies. *Astrophysical Journal* 966, 43 (2024). [arXiv:2311.06356](#)
24. Wang, J., et al. incl. **Tahani, M.** Filamentary Network and Magnetic Field Structures Revealed with BISTRO in the High-Mass Star-Forming Region NGC2264 – Global Properties and Local Magneto-Gravitational Configurations. *Astrophysical Journal* 962, 136 (2024). [arXiv:2401.12728](#) ■
23. Andersson, B-G., et al. incl. **Tahani, M.** Sub-mm Wavelength Polarimetry of IRC+10 216. *Astrophysical Journal* 963:76 (2024). [arXiv:2312.14666](#) ■
22. Karoly, J., et al. incl. **Tahani, M.** The JCMT BISTRO Survey: Studying the Complex Magnetic Field of L43. *Astrophysical Journal* 952, 29 (2023). [arXiv:2305.11306](#) ■
21. Borlaff, A., et al. incl. **Tahani, M.** Extragalactic Magnetism with SOFIA (SALSA Legacy Program) – V: First Results on the Magnetic Field Orientation of Galaxies. *Astrophysical Journal* 952, 4 (2023). [arXiv:2303.13586](#) ◆
20. CCAT-Prime Collaboration, incl. **Tahani, M.** Prime-Cam and the CCAT-Prime Collaboration: Science Goals and Forecasts. *Astrophysical Journal Supplement Series* 264, 7 (2023). [arXiv:2107.10364](#) ■
19. Ward-Thompson, D., et al. incl. **Tahani, M.** First BISTRO Observations of the Dark Cloud Taurus L1495A-B10: The Role of the Magnetic Field in the Earliest Stages of Low-mass Star Formation. *Astrophysical Journal* 964, 62 (2023). [arXiv:2302.12058](#) ■
18. Ching, T., et al. incl. **Tahani, M.** The JCMT BISTRO-2 Survey: Magnetic Fields of the Massive DR21 Filament. *Astrophysical Journal* 941, 122 (2022). [arXiv:2212.01981](#) ■
17. Hwang, J., et al. incl. **Tahani, M.** The JCMT BISTRO Survey: A Spiral Magnetic Field in a Hub-Filament Structure, Monoceros R2. *Astrophysical Journal* 941, 51 (2022). [arXiv:2210.05937](#) ■
16. Andersson, B-G., et al. incl. **Tahani, M.** Grain Alignment in the Circumstellar Shell of IRC+10° 216. *Astrophysical Journal* 931, 80 (2022). DOI: [10.3847/1538-4357/ac64a4](#) ■
15. Gupta, A., et al. incl. **Tahani, M.** The JCMT BISTRO Survey: Effects of Magnetic Field Orientation in Dense Cores on Gas Kinematics in Protostellar Envelopes. *Astrophysical Journal* 930, 67 (2022). [arXiv:2204.05636](#) ■
14. Kwon, W., et al. incl. **Tahani, M.** B-fields in Star-forming Region Observations (BISTRO): Magnetic Fields in the Filamentary Structures of Serpens Main. *Astrophysical Journal* 926, 163 (2022). [arXiv:2201.05059](#) ■
13. Doi, Y., et al. incl. **Tahani, M.** The JCMT BISTRO Survey: Evidence for Pinched Magnetic Fields in Quiescent Filaments of NGC 1333. *ApJL* 923, L9 (2021). [arXiv:2111.12230](#) ■
12. Lyo, A., et al. incl. **Tahani, M.** The JCMT BISTRO Survey: An 850/450 μm Polarization Study of NGC 2071IR in Orion B. *Astrophysical Journal* 918, 85 (2021). [arXiv:2109.13543](#) ■

11. Doi, Y., Hasegawa, T., Bastien, P., **Tahani, M.**, et al. A Two-component Magnetic Field along the Line of Sight to the Perseus Molecular Cloud: Contribution of the Foreground Taurus Molecular Cloud. *Astrophysical Journal* (2021). [arXiv:2104.11932](#) ▲
10. Pattle, K., et al. incl. **Tahani, M.** OMC-1 Dust Polarization in ALMA Band 7: Diagnosing Grain Alignment Mechanisms in the Vicinity of Orion Source I. *MNRAS* 503, 3 (2021). [arXiv:2009.14758](#) ◆
9. Hwang, J., et al. incl. **Tahani, M.** The JCMT BISTRO Survey: The Distribution of Magnetic Field Strengths towards the OMC-1 Region. *Astrophysical Journal* 913, 85 (2021). [arXiv:2103.16144](#) ■
8. Könyves, V., et al. incl. **Tahani, M.** The JCMT BISTRO-2 Survey: The Magnetic Field in the Center of the Rosette Molecular Cloud. *Astrophysical Journal* 913, 57 (2021). [arXiv:2104.00121](#) ■
7. Eswaraiah, C., et al. incl. **Tahani, M.** Revealing the Diverse Magnetic Field Morphologies in Taurus Dense Cores with Sensitive Sub-millimeter Polarimetry. *Astrophysical Journal* 912, L27 (2021). [arXiv:2103.02219](#) ■
6. Arzoumanian, D., Furuya, R., Hasegawa, T., **Tahani, M.**, et al. Dust Polarized Emission Observations of NGC 6334. *Astronomy & Astrophysics* 647, A78 (2021). [arXiv:2012.13060](#) ■
5. Ngoc, B. N., et al. incl. **Tahani, M.** Observations of Magnetic Fields Surrounding LkH α 101 Taken by the BISTRO Survey with JCMT-POL2. *Astronomy & Astrophysics* 908, 10 (2021). [arXiv:2012.04297](#) ■
4. Pattle, K., et al. incl. **Tahani, M.** JCMT POL2 and BISTRO Survey Observations of Magnetic Fields in the L1689 Molecular Cloud. *Astrophysical Journal* 907, 88 (2021). [arXiv:2011.09765](#) ◆
3. Yen, H.-W., et al. incl. **Tahani, M.** The JCMT BISTRO Survey: Alignment Between Outflows and Magnetic Fields in Dense Cores/Clumps. *Astrophysical Journal* 907, 33 (2021). [arXiv:2011.06731](#) ■
2. Doi, Y., et al. incl. **Tahani, M.** The JCMT BISTRO Survey: Magnetic Fields Associated with a Network of Filaments in NGC 1333. *Astrophysical Journal* 899, 1 (2020). [arXiv:2007.00176](#) ◆
1. Kim, S., et al. incl. **Tahani, M.** First Detection of Hourglass-shaped Magnetic Fields in the L1544 Prestellar Core. *Nature Astronomy*, submitted. ■

Software

2. **Tahani, M.**, Ngo, J., Glover, J., Zarazua, G., Clairmont, R., Plume, R. [MC-BLOS Software](#) (2025). ●
1. **Tahani, M.**, Glover, J., Ngo, J., [BLOS Mapping Code](#) (2021). ASCL: [ascl.net/code/v/3172](#). Earlier version of the line-of-sight mapping code, predecessor to [MC-BLOS](#). ●

Conference Proceedings

2. **Tahani, M.**, Plume, R., Brown, J. The Line-of-Sight Magnetic Field Structure in Molecular Clouds. *XXX IAU General Assembly, Astronomy in Focus*, Cambridge University Press (2020).
1. Jimenez, G., **Tahani, M.**, Clark, S. Exploring Line-of-Sight Magnetic Fields Surrounding Diffuse Interstellar Clouds. *BAAS* 56 (2024).

White Papers

3. Di Francesco, J., et al. incl. **Tahani, M.** The Formation of Stars – From Filaments to Cores to Protostars and Protoplanetary Disks. *Canada Long Range Plan 2020 White Paper*. [arXiv:1911.01989](#)
2. Rosolowsky, E., et al. incl. **Tahani, M.** Star Formation in the Galactic Ecosystem. *Canada Long Range Plan 2020 White Paper*. e-print: 3758368
1. Di Francesco, J., et al. incl. **Tahani, M.** The Next Generation Very Large Array. *Canada Long Range Plan 2020 White Paper*. [arXiv:1911.01517](#)

VizieR Data Catalogs

3. **Tahani, M.**, Plume, R., Brown, J., Kainulainen, J. Molecular Clouds LOS Magnetic Field Structure. *VizieR Online Data Catalog* (2018): J/A+A/614/A100
2. Doi, Y., Hasegawa, T., Bastien, P., **Tahani, M.**, et al. Stellar Polarimetry with Gaia DR2 Data. *VizieR Online Data Catalog* (2021): J/ApJ/914/122
1. Arzoumanian, A., Furuya, R., Hasegawa, T., **Tahani, M.**, et al. NGC6334 850 μ m I, Q, U Stokes Parameter Maps. *VizieR Online Data Catalog* (2021): J/A+A/647/A78

3. **Tahani, M.**, Fissel, L., Lopez Rodriguez, E., Pattle, K. Tracing Cloud Formation and Evolution Through 3D Magnetic Field Mapping. *GO PRIMA Portfolio* (2025). [arXiv:2510.24015](#)
2. The GlueX Collaboration, incl. **Tahani, M.** An Initial Study of Mesons and Baryons Containing Strange Quarks with GlueX (A Proposal to the 40th Jefferson Lab Program Advisory Committee) (2013). [arXiv:1305.1523](#)
1. The GlueX Collaboration, incl. **Tahani, M.** A Study of Meson and Baryon Decays to Strange Final States with GlueX in Hall D (A Proposal to the 39th Jefferson Lab Program Advisory Committee) (2012). [arXiv:1210.4508](#)

Research Presentations

Invited Talks and Seminars

Conference, GrandMagnet 2026 Conference, South Korea	Nov 2026
Talk, KIPAC Tea Talk, Stanford, USA	Aug 2026
Conference, Formation of Stars and Planets , Okinawa, Japan	Aug 2026
Center for Industry Solutions, University of South Carolina	May 2026
Workshop, Midwest Magnetic Fields , Florida, USA	May 2026
Conference, International Symposium on Cosmic Magnetic Fields, Beijing, China	Oct 2025
NAPP Seminar, University of South Carolina, USA	Sep 2025
Astronomy on Tap, Columbia, South Carolina, USA	Sep 2025
Workshop, The 2025 SAGI Astrophysics Workshop, Quy Nhon, Vietnam	May 2025
Conference, PRIMA and the Future of Far-Infrared Science, Pasadena, USA	May 2025
Colloquium, University of South Carolina, USA	Jan 2025
Seminar, Osaka Metropolitan University, Japan	Dec 2024
Colloquium, Nagoya University, Japan	Dec 2024
Colloquium, Brandon University, Manitoba, Canada	Oct 2024
Short seminar, DSA-2000, via Zoom	Oct 2024
Seminar, Origins Seminar Series, University of Arizona, USA	Sep 2024
Seminar, National Astronomical Observatory of Japan (NAOJ), Japan	Jun 2024
Seminar, University of Tokyo, Japan	Jun 2024
Seminar, Nagoya University, Japan	May 2024
Conference, Turbulence in Astrophysics Conference, Santa Barbara, USA	Feb 2024
Colloquium, Radio Astronomy Lunch Talk, Caltech, Pasadena, USA	Feb 2024
Seminar/Guest Lecturer, Okanagan College, British Columbia, Canada	Feb 2024
Workshop, Turbulence in Astrophysics, KITP, Santa Barbara, USA	Jan 2024
Conference, Second SAGI Workshop on Dust Polarimetry, Quy Nhon, Vietnam	Nov 2023
Colloquium, National Radio Astrophysical Observatory in Socorro, NM, USA	Sep 2023
International Filament Working Group Meeting, via Zoom	Sep 2023
Conference, CMB-S4 Collaboration Meeting, SLAC, California, USA	Aug 2023
Seminar, Dominion Astrophysical Observatory, Victoria, BC, Canada	Jul 2023
Colloquium, Observational Astronomy Department, Nagoya University, Nagoya, Japan	Apr 2023
Colloquium, University College London, via Zoom	Feb 2023
Seminar/Guest Lecturer, Okanagan College, British Columbia, Canada	Feb 2023
Conference, Galactic Science and CMB Foreground Workshop, Spain	Dec 2022
Colloquium, University of Manitoba, Winnipeg, Manitoba, Canada	Nov 2022
CANadian Virtual Astronomy Seminar Series (CANVAS), via Zoom	Oct 2022
Colloquium, University of Crete, Institute of Astrophysics – FORTH, Greece, via Zoom	Sep 2022
Colloquium, Instituto de Astronomia, São Paulo (IAG-USP), Brazil, via Zoom	May 2022
POSSUM Collaboration Meeting, via Zoom	Mar 2022
Tea Talk, Kavli Institute for Particle Astrophysics and Cosmology, Stanford University, USA	Dec 2021
Colloquium, Institute for Advanced Studies (IAS), Princeton University, USA	Dec 2021

Colloquium, University of British Columbia, Canada, via Zoom	Sep 2021
Colloquium, Institute for Research in Fundamental Sciences, Tehran, Iran, via Zoom	Sep 2021
Conference, Cosmology with CMB-S4 Workshop, via Zoom	Aug 2021
Seminar, Pan-Experiment Galactic Science Meeting, via Zoom	May 2021
Colloquium, Queen's University, Department of Physics and Astronomy, via Zoom	Feb 2021
Colloquium, Astronomical Society of Ireland, Ireland	Dec 2020
National Research Council Canada President's Science Advisor Visit to HAA	Dec 2020
Seminar, Caltech (IPAC), Science Lunch Talk, via Zoom	Sep 2020
Conference, Cosmology with CMB-S4 Workshop, via Zoom	Aug 2020
CANadian Virtual Astronomy Seminar Series (CANVAS), via Zoom	Aug 2020
Conference, Magnetic Fields in the Universe 7 Conference, Quy Nhon, Vietnam	Feb 2020
Seminar, National Astronomical Observatory of Japan (NAOJ), Japan	Feb 2020
Seminar, Theoretical Physics & Astronomy, Nagoya University, Nagoya, Japan	Feb 2020
Colloquium, Institute of Astrophysics and Space Sciences, Porto, Portugal	Sep 2019
Seminar, Dominion Astrophysical Observatory, BC, Canada	May 2019
Seminar, Theoretical Physics & Astronomy, Nagoya University, Nagoya, Japan	Feb 2019
Seminar, Chalmers University of Technology, Sweden	Aug 2018
Colloquium, Max-Planck Institute for Astronomy, Heidelberg, Germany	Aug 2018
Colloquium, School of Astronomy, Institute for Research in Fundamental Sciences, Iran	Apr 2014
Cosmology Seminar, Sharif University of Technology, Tehran, Iran	Apr 2014
<i>Major Review Talks</i>	
Protostars & Planets VII meeting, Kyoto, Japan	Apr 2023
Protostars & Planets VII meeting, Recorded Intro Talk	Mar 2022
<i>Contributed Talks and Posters</i>	
Conference, MASC Conference, Furman University, USA	Mar 2026
Talk, 247th American Astronomical Society (AAS) Meeting, Arizona, USA	Jan 2026
Talk, John Dickey Celebration: ISM Structure and Polarization, Stanford, USA	Feb 2025
Talk, KIPAC Tea Talk, Stanford, USA	Aug 2024
Talk, Cosmic Magnetism in the pre-SKA Era, Kagoshima, Japan	May 2024
Talk, Field, Flow, Filament Conference, Stanford, USA	May 2024
Talk, Magnetic Fields from Clouds to Stars Conference, Tokyo, Japan	Mar 2024
International Filament Working Group Meeting, via Zoom	Oct 2023
Talk, KIPAC Tea Talk, Stanford, USA	Oct 2023
Talk, Frontiers in Radio Science & Engineering with Tom Landecker, Penticton, Canada	Jun 2023
Poster, Canadian Astronomy Society General Meeting, Penticton, BC, Canada	Jun 2023
Poster, Protostars and Planets VII meeting, Kyoto, Japan	Apr 2023
Visiting colloquium, Theoretical Physics Department, Nagoya University, Nagoya, Japan	Apr 2023
Talk, JCMT BISTRO Annual meeting, via Zoom	Nov 2022
Talk, CCAT-prime Collaboration Meeting	Jul 2022
Talk, POSSUM Science Support Week	Jun 2022
Talk, CCAT-Prime/FYST Collaboration Meeting	Apr 2022
Talk, Which Observatories for PCMI (Physics & Chemistry of the ISM), Paris, via Zoom	Oct 2021
Talk, Magnetic Fields and Filamentary ISM workshop, hosted by Sofia and JCMT, via Zoom	Jun 2021
Poster, IAU Astronomical Polarimetry 2020, Japan, via Zoom	Mar 2021
Talk, JCMT BISTRO Annual meeting, via Zoom	Nov 2020
Poster, Virtual Canadian Astronomical Society 2020 Conference, Canada	May 2020
Talk, Self-Organized Star Formation Process Workshop, Pascal Institute, Paris-Saclay	Oct 2019
Talk, Future of Canadian Radio Astronomy Conference, DRAO, Kaleden, Canada	May 2019
Talk, ALMA Workshop, Nagoya University, Japan	Mar 2019

Talk, XXX IAU General Assembly, Vienna, Austria	Aug 2018
Poster, Interstellar Filament Paradigm, Nagoya University, Japan	Nov 2018
Poster, Early Phase of Star-formation 2018, Ringberg Castle, Germany (Competitive Entry)	May 2018
Visiting Talk, MHD Simulation Research Group, McMaster University, Hamilton, Canada	Jul 2017
Poster, Canadian Astronomical Society 2017 Conference, Edmonton, AB, Canada	May 2017
Talk, American Physical Society NW meeting, Penticton, BC, Canada	May 2016
Talk, First PHAS Symposium	Nov 2015
Talk, R-Canada Workshop, Triumph, Vancouver, BC, Canada	Jun 2014
Talk, R-Canada Workshop, Triumph, Vancouver, BC, Canada (separate topic)	Jun 2014
Talk, The 50th Winter Particle Physics Conference, Banff, AB, Canada	Feb 2013
Poster, The 50th Winter Particle Physics Conference, Banff, Alberta, Canada	Feb 2013
Talk, Women in Physics 2012 Conference, University of British Columbia, BC, Canada	Aug 2012
Talk, 6th Annual University of Regina Graduate Student Research Conference, SK, Canada	Aug 2011
Talk, The 48th Winter Particle Physics Conference, Banff, Alberta, Canada	Feb 2011

Invited Public Talks

Invited public talk, Galactic Mysteries, Iranian Studies, Stanford, California, USA	Nov 2024
Invited public talk, Galesville Astrophysical Society, via Zoom, USA	Sep 2023
Invited Radio Interview, Peach City Radio, Penticton, BC, Canada	Apr 2020
Invited public talk, Okanagan Speakers Series, Penticton, BC, Canada	Mar 2020

Equity, Diversity, and Inclusion Talk

Invited, Astrobites x Earth Week 2024, “What Can We Learn from Indigenous Wisdom”	Apr 2024
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Referee & Editorial Roles

Government Grant Proposal Reviews

Czech Science Foundation	2026
Deutsche Forschungsgemeinschaft (DFG, German Research Foundation)	2025, 2026
Natural Sciences and Engineering Research Council of Canada (NSERC)	2025
National Science Foundation Review Panel (NSF)	2025

Time Allocation Committees

CanTAC Galactic Review Panel, Gemini Telescopes & Canada-France-Hawaii Telescope	2024 – 2027
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Editorial

Review Editor, Frontiers in Astronomy & Space Sciences; Frontiers in Physics	2023 – present
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Journal & Telescope Proposal Referee

Journals: Astrophysical Journal, Astronomy & Astrophysics, Galaxies, Astronomy	2020 – present
Telescopes: JCMT, CFHT	2020 – present

Leadership & Collaborations

40+ roles, including founding initiatives, organizing conferences, leading events, and assisting with events.

Founded Research Initiatives

Principal Investigator: [DragonflyPol](#) (wide-field optical polarimetry on Dragonfly Telephoto Array)

Principal Investigator: [3D Fields](#) (multi-wavelength 6D magnetic field mapping program)

Principal Investigator: [OCAF](#) (Open Cultural Astronomy Forum, research initiative)

Founding Positions (Community & Organizational)

Creator and co-organizer, Potluchinox, Physics & Astronomy, UCalgary	Mar 2016, 2017, 2018
Founder and president, Women, Work, and Leadership (Middle East focus), UCalgary	2013 – 2015

Selected International Collaborations

DragonflyPol: Wide-field Optical Polarimetry, Role: Principal Investigator	Jan 2024 – present
3D Fields: Mapping 3D Interstellar Fields, Role: Principal Investigator	Sep 2023 – present

SKA Magnetism: Square Kilometer Array Magnetism Science Working Group	Jun 2023 – present
GMIMS & GMIMS-CHIME: Global Magneto-Ionic Medium Survey	Dec 2022 – present
SALSA: Survey of Extragalactic Magnetism with SOFIA	Nov 2022 – present
ASKAP POSSUM: Polarization Sky Survey of the Universe's Magnetism with ASKAP	Jun 2021 – present
JCMT Transients Collaboration	Jan 2021 – present
CCAT-Prime Galactic Polarization Working Group	Apr 2020 – present
JCMT BISTRO Collaboration	Jul 2019 – present
<i>Selected Outreach and Conference Organization Roles (50+)</i>	
Magnetism in Tassie: Magnetism in Diffuse Universe with Faraday Tomography, SOC, Australia	2026
The Formation of Stars and Planets in the Evolving Galaxy, SOC, Japan	2026
Astronomy & Synchronous Fireflies, Congaree National Park Stargazing, USA	2026
Stargazing in South Carolina, Congaree National Park	2026
The JohnFest – in honor of John Dickey, LOC, USA	2025
Magnetic Fields from Clouds to Stars (Bfields-2024), SOC, Japan	2024
Canadian Astronomical Society AGM, SOC, Canada	2023
Canadian Astronomical Society AGM, Online Organizing Committee, Canada	2021
2nd Annual PHAS Symposium, LOC & SOC, UCalgary, Canada	2017
1st National Conference of Super Conductivity Progress, LOC, Sharif U, Iran	2008
<i>Co-authored 6 weekly newsletters to introduce superconductivity and the conference.</i>	
<i>Selected Committee Roles</i>	
Student Non-Academic Misconduct Appeals, Graduate Student Representative	Apr 2015 – 2018
Instructor Hiring Committee, Graduate Student Representative	Apr 2015, May 2016
Teaching Award Adjudication Committee, Graduate Student Representative	Feb 2016

Students & Postdocs Advised/Mentored

<i>Postdoctoral Scholar</i>	
Akshaya M. S. Subbanna, University of South Carolina	May 2026 – present
<i>Ph.D. Students</i>	
Corey McAllister, University of South Carolina	Aug 2026 – present
Vishwa J. Koshene Gamage, University of South Carolina	Aug 2025 – present
Paras Regmi, University of South Carolina	May 2025 – present
Shimpei Nishimoto (co-mentored), Osaka Metropolitan University, Japan	May 2025 – Feb 2026
Haleh Hajizadeh (co-mentored), University of Calgary, Canada	Jan 2023 – present
Minjie Lei (co-mentored), Stanford	Jan 2023 – Aug 2025
Fyza Parviz, Stanford, Cultural Astronomy	Jul 2024 – Aug 2025
George Halal (co-mentored), Stanford	Aug 2022 – Jun 2024
Charles Feng Yang, Stanford	Sep 2022 – Dec 2022
<i>MSc, Post-Graduate & Independent Researchers</i>	
Carlson Perrenoud, Post-Graduate, University of South Carolina	May 2026 – present
Mohammad Reza Nasirzadeh, Post-MSc Independent Researcher	May 2023 – present
Lucas Bayouri (co-mentored), Intern MSc student, Nagoya University, Japan	Apr – Aug 2023
<i>Undergraduate & REU</i>	
Aleks Mills, Undergraduate Student, University of South Carolina	Jan 2027 – present
Timothy Van Ryn, NSF REU Undergraduate Student, USA	May 2026 – present
Aden Harrington, Undergraduate Student, University of South Carolina	Feb 2026 – present
Sawyer Redd, Undergraduate Student, University of South Carolina	Feb 2026 – present
Doug Bignault, Undergraduate Student, University of South Carolina	Jan 2026 – present
Reagan Stanton, Undergraduate Student, University of South Carolina	Aug 2025 – present
Khwaish Billore, Undergraduate Student, Stanford	Jun 2023 – present
Violet Zhou, Undergraduate Student, Stanford	Jun – Aug 2024
Carlos Rodriguez, Undergraduate Student, Stanford	Jun – Aug 2024

Anthony Nunez, Undergraduate Student, Stanford	Jun 2023 – Jun 2024
Gisselle Jimenez, Undergraduate Student, California-Bridge program	Jun – Dec 2023
Patrick Tupoumalohi, Undergraduate Student, Stanford	Jun – Aug 2023
Ryan Anthony Clairmont, Undergraduate Student, Stanford	Jan – Aug 2023
Gabriel Munoz Zarazua, Undergraduate Student, San Francisco State University	Sep 2022 – May 2023
Gabriel Munoz Zarazua, Undergraduate Student, California-Bridge program, Stanford	Jun – Aug 2022
John Min Ngo, Undergraduate Government Student, NRC, DRAO, Canada	May – Aug 2022
Jennifer Glover, Undergraduate Government Student, NRC, DRAO, Canada	May – Dec 2021
Hsin-Yu Chen, Undergraduate Student, National Taiwan University	Jun 2020 – May 2021
Wednesday Lupypciw, Undergraduate Government Student, NRC, DRAO, Canada	Jan – Dec 2020
Matthew Bouchard, Undergraduate Student, UCalgary, Canada	Fall 2019

Ph.D. Thesis Examining Committee Roles

Ananthavishnu S. Unni, USC (Advisor: V. Kulkarni)	2026 – present
Karthik Putha, USC (Advisor: V. Kulkarni)	2025 – present
José Versteeg, Radboud University, Netherlands (Advisors: M. Haverkorn)	Aug 2024

High-School Interns & Job Shadow Opportunities

Hiya Patel, River Bluff High School, Intern	May 2026 - Aug 2027
Carter Dunham, Lexington High School, Job Shadow	Jan 2026

Teaching Experience

Assistant Professor

Radio Astronomy (ASTR320), University of South Carolina	Summer 2026
Galactic Astronomy (ASTR301), University of South Carolina	Spring 2026

Sessional Instructor (Instructor of Record)

ASTR209, Introduction to Astronomy II: The Cosmos, UCalgary	Summer 2019
ASTR209, Introduction to Astronomy II: The Cosmos, UCalgary	Summer 2016

Guest Lecturer (GL) and Teaching Assistant (TA)

ASTR210, Physical Processes in the Universe, U of British Columbia, GL 2 sessions	Nov 2019
ASTR209, Introduction to Astronomy II: The Cosmos, UCalgary, GL 2 sessions	Feb 2018
ASPH213, Introduction to Astrophysics, UCalgary, GL 2 sessions	Feb 2018
ASPH213, Introduction to Astrophysics, Tutorial & Marking, TA, UCalgary	Winter 2018
PHYS223, Electromagnetism & Thermal Physics Intro, Marking & Lab, TA, UCalgary	Winter 2017
PHYS323, Optics and Electromagnetism, Marking and Laboratory, TA, UCalgary	Fall 2016
PHYS375, Introduction to Optics and Waves, Marking, TA, UCalgary	Fall 2015
PHYS259, Electromagnetic Theory I, Laboratory & Marking, TA, UCalgary	Winter 2015
PHYS481, Computational Physics II, Marking, TA, UCalgary	Fall 2014
PHYS481, Computational Physics II, Laboratory, TA, UCalgary	Fall 2013
PHYS381, Computational Physics I, Laboratory, TA, UCalgary	Winter 2013
Phys I&II, First/Second Year, Marking, TA, URegina	Spring 2011, Spring 2012
Phys I&II, First/Second Year, Laboratory and Marking, TA, URegina	Winter 2011, 2012, Fall 2012
24-281, Physical Optics, Tutorial and Marking, Sharif University, TA	Winter 2009

Teaching Certificates & Professional Teaching Service

Fostering Student Learning, University of South Carolina	Oct 2025
Member of Teaching Academy, University of Calgary	2018 – 2020
Instructional Skills Workshop Certificate, Taylor Institute for Teaching and Learning	Aug 2016
Teaching Development Days Workshop Certificate, Teaching Development Centre, Regina	Jan 2011

Additional Remarks

Selected Computer and Technical Skills

Magnetohydrodynamic Simulations: [FLASH](#) Data Reduction: [CASA](#)

Programming Languages: **Python 3** (12 years), **JAVA** (2.5 years), **Fortran** (1.5 years, teaching assistant)

C++ (1.5 years), **ROOT** (2 years), **IDL** (briefly), **Mathematica** (briefly), **PASCAL** (briefly)

Languages

English: Fluent Persian: Native Arabic: Some familiarity

Selected Media Coverage

[USC astronomers open the skies at Congaree National Park](#) Apr 2026

[Night Sky – Cultural Astronomy \(CBC\)](#) Jun 2025

[New imagery technique helps understand the Universe](#) Oct 2024

[Revealing the invisible: detecting variations in extragalactic magnetic fields](#) Jul 2023

[Campus community celebrates extraordinary colleagues who create rich student learning](#) Apr 2018

[Image Release: Radar Observations Shine New Light on Near-Earth Asteroid](#) Jul 2015