Robert C. Allen, Ph.D.

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PROFILE

Multi-spacecraft research follows energetic particles across the solar system, from stream interaction regions and shocks driven by coronal mass ejections to the space environments of Venus, Earth, Saturn, and Uranus, where plasma waves energize and scatter the particles. Recent work showed that a corotating interaction region likely caused the surprisingly intense electron radiation belt Voyager 2 found at Uranus, and found evidence that particle events with a delayed maximum energy arise from dynamics in the inner heliosphere, not in the corona.

EDUCATION

2014–2017	Ph.D. Physics University of Texas, San Antonio
2008–2011	B.S. Physics University of Texas, Arlington
2012	CISM Summer School

APPOINTMENTS

2026–present	Solar & Heliosphere Group Leader Southwest Research Institute
2024–present	Lead Scientist Southwest Research Institute
2019–2024	Senior Professional Staff Johns Hopkins Applied Physics Lab
2017–2019	Post-doctoral Fellow Johns Hopkins Applied Physics Lab
2017	General Associate NASA Goddard Planetary Heliophysics Institute - UMB
2014–2017	Graduate Research Assistant Southwest Research Institute - UTSA
2011–2013	Research Assistant University of New Hampshire
2008–2011	Undergraduate Research Assistant University of Texas, Arlington
2008–2009	Planetarium Educator University of Texas, Arlington

AWARDS AND DISTINCTIONS

2019	NASA Silver Achievement Medal: Parker Solar Probe Team
2018	NASA Group Achievement Award: Cassini Magnetospheric Imaging Instrument (MIMI) Team
2025	Top Viewed Article, Space Weather (Co-author)
2023	JGR Top 10% Downloaded Papers (First author, Co-author)
2021	JGR Top 10% Downloaded Papers (Co-author)
2020	JGR Top 10% Downloaded Papers (First author, Co-author, Co-author, & Co-author)

PUBLICATION SUMMARY

Category	First author	Co-author	Total
Refereed journal articles	23	102	125
Peer-reviewed items incl. chapters, proceedings, editorials, thesis	24	105	129
White papers	3	16	19

Citations 3566, h-index 31, i10-index 89 (Google Scholar (All column), as of 2026-09-23). 37 invited talks including 2 plenaries; 87 oral presentations and 30 posters.

FIRST-AUTHOR PUBLICATIONS

1. **Allen, R. C.**, B. Gallardo-Lacourt, S. Raptis, C. R. Gilly, L. C. Gasque, B. L. Alterman, J. C. Buitrago-Casas, E. P. Macho, G. Malhotra, R. M. McGranaghan, P. Mostafavi, & S. K. Vines (2026) State of the Early Career Profession in Space Physics and Aeronomy: Climatological Survey Results, JGR Space Physics, doi:10.1029/2026ja035166
2. **Allen, R. C.**, G. C. Ho, G. M. Mason, Z. Ding, M. H. Walker, A. Kouloumvakos, R. F. Wimmer-Schweingruber, J. Rodriguez-Pacheco, S. K. Vines, R. J. Filwett, Z. Xu, & C. M. S. Cohen (2026) Delayed maximum energy solar energetic particle events: Statistical analysis from Solar Orbiter, A&A, doi:10.1051/0004-6361/202557079
3. **Allen, R. C.**, G. C. Ho, G. M. Mason, A. Kouloumvakos, G. Li, R. J. Filwett, M. Dayeh, M. H. Walker, S. K. Vines, R. F. Wimmer-Schweingruber, & J. Rodriguez-Pacheco (2025) The Radial Variation of Suprathermal Particles in Stream Interaction Regions: Comparisons between Solar Orbiter, ACE, and STEREO-A, ApJ, doi:10.3847/1538-4357/adbe37
4. **Allen, R. C.**, S. K. Vines, & G. C. Ho (2025) Solving the Mystery of the Electron Radiation Belt at Uranus: Leveraging Knowledge of Earth's Radiation Belts in a Re-Examination of Voyager 2 Observations, Geophysical Research Letters, doi:10.1029/2025gl119311
5. **Allen, R. C.**, S. K. Vines, C. P. Paranicas, W. Mo, & K. Dialynas (2025) Ion Phase Space Density Profiles Within the Magnetosphere of Saturn: Investigating the Source of Suprathermal Ions, JGR Space Physics, doi:10.1029/2024ja033563
6. **Allen, R. C.**, V. Toy-Edens, S. K. Vines, S. Eriksson, J. M. Raines, S. Lepri, G. Li, Y. Wu, A. Russell, & G. C. Ho (2025) Spatial Variability and Correlation Lengths Within Stream Interaction Regions at 1 au: Comparison Between ACE and Wind, JGR Space Physics, doi:10.1029/2025ja034468
7. **Allen, R. C.**, S. E. Gibson, I. Hewins, S. K. Vines, L. Qian, G. de Toma, B. J. Thompson, M. Hudson, C. O. Lee, R. J. FIlwett, P. Mostafavi, W. Mo, & M. E. Hill (2023) A Mosaic of the Inner Heliosphere: Three Carrington Rotations During the Whole Heliosphere and Planetary Interactions Interval, JGR Space Physics, doi:10.1029/2023ja031361
8. **Allen, R. C.**, E. J. Smith, B. J. Anderson, J. E. Borovsky, G. C. Ho, L. Jian, S. Krucker, S. Lepri, G. Li, S. Livi, N. Lugaz, D. M. Malaspina, B. A. Maruca, P. Mostafavi, J. M. Raines, D. Verscharen, J. Vievering, S. K. Vines, P. Whittlesey, L. B. Wilson III, & R. F. Wimmer-Schweingruber (2022) Interplanetary mesoscale observatory (InterMeso): A mission to untangle dynamic mesoscale structures throughout the heliosphere, Front. Astron. Space Sci, doi:10.3389/fspas.2022.1002273
9. **Allen, R. C.**, G. C. Ho, G. M. Mason, G. Li, L. K. Jian, S. K. Vines, N. A. Schwadron, C. J. Joyce, S. D. Bale, J. W. Bonnell, A. W. Case, E. R. Christian, C. M. S. Cohen, M. I. Desai, R. Filwett, K. Goetz, P. R. Harvey, M. E. Hill, J. C. Kasper, K. E. Korreck, D. Lario, D. Larson, R. Livi, R. J. MacDowall, D. M. Malaspina, D. J. McComas, R. L. McNutt Jr., D. G. Mitchell, K. W. Paulson, M. Pulupa, N. Raouafi, M. L. Stevens, P. L. Whittlesey, & M. Wiedenbeck (2021) Radial Evolution of a CIR: Observations From a Nearly Radially Aligned Event Between Parker Solar Probe and STEREO-A, Geophysical Research Letters, doi:10.1029/2020gl091376
10. **Allen, R. C.**, G. C. Ho, L. K. Jian, S. K. Vines, S. D. Bale, A. W. Case, M. E. Hill, C. J. Joyce, J. C. Kasper, K. E. Korreck, D. M. Malaspina, D. J. McComas, R. L. McNutt Jr., C. Möstl, D. Odstrcil, N. Raouafi, N. A. Schwadron, & M. L. Stevens (2021) A living catalog of stream interaction regions in the Parker Solar Probe era, A&A, doi:10.1051/0004-6361/202039833
11. **Allen, R. C.**, G. M. Mason, G. C. Ho, J. Rodríguez-Pacheco, R. F. Wimmer-Schweingruber, G. B. Andrews, L. Berger, S. Boden, I. Cernuda, F. Espinosa Lara, J. L. Freiherr von Forstner, R. Gómez-Herrero, J. R. Hayes, S. R. Kulkarni, W. J. Lees, C. Martin, D. Pacheco, O. R. Polo, M. Prieto, A. Ravanbakhsh, S. Sánchez-Prieto, C. E. Schlemm, H. Seifert, J. C. Terasa, K. Tyagi, Z. Xu, & M. Yedla (2021) Suprathermal particles from corotating interaction regions during the first perihelion pass of Solar Orbiter, A&A, doi:10.1051/0004-6361/202039870
12. **Allen, R. C.**, I. Cernuda, D. Pacheco, L. Berger, Z. G. Xu, J. L. Freiherr von Forstner, J. Rodríguez-Pacheco, R. F. Wimmer-Schweingruber, G. C. Ho, G. M. Mason, S. K. Vines, Y. Khotyaintsev, T. Horbury, M. Maksimovic, L.

Z. Hadid, M. Volwerk, A. P. Dimmock, L. Sorriso-Valvo, K. Stergiopoulou, G. B. Andrews, V. Angelini, S. D. Bale, S. Boden, S. I. Böttcher, T. Chust, S. Eldrum, P. P. Espada, F. Espinosa Lara, V. Evans, R. Gómez-Herrero, J. R. Hayes, A. M. Hellín, A. Kollhoff, V. Krasnoselskikh, M. Kretzschmar, P. Kühl, S. R. Kulkarni, W. J. Lees, E. Lorfèvre, C. Martin, H. O'Brien, D. Plettemeier, O. R. Polo, M. Prieto, A. Ravanbakhsh, S. Sánchez-Prieto, C. E. Schlemm, H. Seifert, J. Souček, M. Steller, Š. Štverák, J. C. Terasa, P. Trávníček, K. Tyagi, A. Vaivads, A. Vecchio, & M. Yedla (2021) Energetic ions in the Venusian system: Insights from the first Solar Orbiter flyby, A&A, doi:10.1051/0004-6361/202140803

13. **Allen, R. C.**, D. Lario, D. Odstrcil, G. C. Ho, L. K. Jian, C. M. S. Cohen, S. T. Badman, S. I. Jones, C. N. Arge, M. L. Mays, G. M. Mason, S. D. Bale, J. W. Bonnell, A. W. Case, E. R. Christian, T. D. de Wit, K. Goetz, P. R. Harvey, C. J. Henney, M. E. Hill, J. C. Kasper, K. E. Korreck, D. Larson, R. Livi, R. J. MacDowall, D. M. Malaspina, D. J. McComas, R. L. McNutt Jr., D. G. Mitchell, M. Pulupa, N. Raouafi, N. Schwadron, M. L. Stevens, P. L. Whittlesey, & M. Wiedenbeck (2020) Solar Wind Streams and Stream Interaction Regions Observed by the Parker Solar Probe with Corresponding Observations at 1 au, ApJS, doi:10.3847/1538-4365/ab578f
14. **Allen, R. C.**, G. C. Ho, L. K. Jian, G. M. Mason, S. K. Vines, & D. Lario (2020) Predictive Capabilities and Limitations of Stream Interaction Region Observations at Different Solar Longitudes, Space Weather, doi:10.1029/2019sw002437
15. **Allen, R. C.**, C. P. Paranicas, F. Bagenal, S. K. Vines, D. C. Hamilton, F. Allegrini, G. Clark, P. A. Delamere, T. K. Kim, S. M. Krimigis, D. G. Mitchell, T. H. Smith, & R. J. Wilson (2019) Energetic Oxygen and Sulfur Charge States in the Outer Jovian Magnetosphere: Insights From the Cassini Jupiter Flyby, Geophysical Research Letters, doi:10.1029/2019gl085185
16. **Allen, R. C.**, G. C. Ho, & G. M. Mason (2019) Suprathermal Ion Abundance Variations in Corotating Interaction Regions over Two Solar Cycles, ApJL, doi:10.3847/2041-8213/ab3f2f
17. **Allen, R. C.**, D. G. Mitchell, C. P. Paranicas, D. C. Hamilton, G. Clark, A. M. Rymer, S. K. Vines, E. C. Roelof, S. M. Krimigis, & J. Vandegriff (2018) Internal Versus External Sources of Plasma at Saturn: Overview From Magnetospheric Imaging Investigation/Charge-Energy-Mass Spectrometer Data, JGR Space Physics, doi:10.1029/2018ja025262
18. **Allen, R. C.** (2017), Plasma Source and Evolution in the Global Magnetosphere and Wave Generation in the Outer Magnetosphere, (Order No. 10270397, The University of Texas at San Antonio), ProQuest Dissertations and Theses, 242, isbn:9781369775587
19. **Allen, R. C.**, S. A. Livi, S. K. Vines, J. Goldstein, I. Cohen, S. A. Fuselier, B. H. Mauk, & H. E. Spence (2017) Storm time empirical model of O^{+} and O^{6+} distributions in the magnetosphere, JGR Space Physics, doi:10.1002/2017ja024245
20. **Allen, R. C.**, J.-C. Zhang, L. M. Kistler, H. E. Spence, R.-L. Lin, B. Klecker, M. W. Dunlop, M. André, & V. K. Jordanova (2016) A statistical study of EMIC waves observed by Cluster: 2. Associated plasma conditions, JGR Space Physics, doi:10.1002/2016ja022541
21. **Allen, R. C.**, S. A. Livi, & J. Goldstein (2016) Variations of oxygen charge state abundances in the global magnetosphere, as observed by Polar, JGR Space Physics, doi:10.1002/2015ja021765
22. **Allen, R. C.**, S. A. Livi, S. K. Vines, & J. Goldstein (2016) Magnetic latitude dependence of oxygen charge states in the global magnetosphere: Insights into solar wind-originating ion injection, JGR Space Physics, doi:10.1002/2016ja022925
23. **Allen, R. C.**, J.-C. Zhang, L. M. Kistler, H. E. Spence, R.-L. Lin, B. Klecker, M. W. Dunlop, M. André, & V. K. Jordanova (2015) A statistical study of EMIC waves observed by Cluster: 1. Wave properties, JGR Space Physics, doi:10.1002/2015ja021333
24. **Allen, R. C.**, J.-C. Zhang, L. M. Kistler, H. E. Spence, R.-L. Lin, M. W. Dunlop, & M. André (2013) Multiple bidirectional EMIC waves observed by Cluster at middle magnetic latitudes in the dayside magnetosphere, JGR Space Physics, doi:10.1002/jgra.50600

CO-AUTHORED PUBLICATIONS

1. Hart, S. T., G. C. Ho, M. Terres, G. C. Muro, **R. C. Allen**, M. A. Dayeh, R. Bučík, G. M. Mason, A. Kouloumvakos, & A. A. Shmies (2026) Sunward Streaming ^{3}He-rich Solar Energetic Particle Events Observed by Solar Orbiter and Parker Solar Probe during Perihelion Passage, ApJ, doi:10.3847/1538-4357/ae6863
2. Kouloumvakos, A., D. Lario, G. M. Mason, A. Vourlidas, **R. C. Allen**, N. Wijsen, X. Chen, Z. Ding, I. C. Jebaraj, P. Riley, D. J. McComas, C. M. S. Cohen, E. Paouris, S. Raptis, L. Rodríguez-García, Z. G. Xu, G. D. Berland, G. C. Ho, D. G. Mitchell, E. C. Roelof, J. Rodriguez-Pacheco, M. E. Hill, & R. F. Wimmer-Schweingruber (2026) Shock Properties for Solar Energetic Particle Events with Signatures of Inverse Velocity Arrival, ApJ, doi:10.3847/1538-4357/ae5e65

3. Mason, G. M., G. C. Ho, **R. C. Allen**, A. Kouloumvakos, P. Kühl, R. F. Wimmer-Schweingruber, & J. Rodríguez-Pacheco (2026) Solar Orbiter survey of inner heliosphere low energy ions (greater than ~100 keV/nucleon), 2020–2025, A&A, doi:10.1051/0004-6361/202659943
4. Shah, M., A. Raghav, N. Ghalsasi, O. Dhamane, K. Ghag, **R. C. Allen**, K. Kumbhar, M. Karari, A. Kumar, S. Kadam, A. Bhaskar, & S. T. Ram (2026) Radial Evolution of Effective Polytropic Index in Stream Interaction Regions from PSP to MAVEN, ApJ, doi:10.3847/1538-4357/ae90a8
5. Walker, M. H., **R. C. Allen**, G. C. Ho, G. M. Mason, C. M. S. Cohen, C. Lee, C. Möstl, E. E. Davies, & E. Weiler (2026) Radial Dependency of ICME-associated Particle Acceleration Processes: Statistical Multipoint Observations from 2016-2023, A&A, in press
6. Wimmer-Schweingruber, R. F., D. Trotta, R. Kieokaew, L. Yang, A. Kollhoff, L. Berger, P. Kühl, S. I. Böttcher, B. Heber, P. Louarn, A. Fedorov, J. Rodriguez-Pacheco, R. Gómez-Herrero, F. Espinosa Lara, I. Cernuda, Y. Kartavykh, L. Wang, G. C. Ho, **R. C. Allen**, G. M. Mason, Z. Ding, A. Larosa, G. Sindhuja, S. Eldrum, S. Fleth, & D. Lario (2026) A tale of two shocks, A&A, doi:10.1051/0004-6361/202555814
7. Xu, Z., C. M. S. Cohen, R. A. Leske, G. D. Muro, A. C. Cummings, O. M. Romeo, D. Lario, D. J. McComas, M. E. Cuesta, S. Pak, L. Y. Khoo, H. A. Farooki, M. M. Shen, S. Kasapis, E. R. Christian, J. G. Mitchell, D. G. Mitchell, R. L. McNutt Jr., A. Kouloumvakos, G. D. Berland, N. A. Schwadron, M. E. Wiedenbeck, M. L. Stevens, & **R. C. Allen** (2026) Parker Solar Probe observations of solar energetic particle events with inverse-velocity-arrival features, A&A, doi:10.1051/0004-6361/202660274
8. Dayeh, M. A., M. J. Starkey, G. Livadiotis, S. T. Hart, A. A. Shmies, **R. C. Allen**, R. Bučik, & H. A. Elliott (2025) Polytropic Behavior in Corotating Interaction Regions: Evidence of Alfvénic Heating, ApJL, doi:10.3847/2041-8213/adc4d7
9. Ding, Z., R. F. Wimmer-Schweingruber, A. Kollhoff, P. Kühl, L. Yang, L. Berger, A. Kouloumvakos, N. Wijsen, J. Guo, D. Pacheco, Y. Li, M. Temmer, J. Rodriguez-Pacheco, **R. C. Allen**, G. C. Ho, G. M. Mason, Z. Xu, & S. Gunaseelan (2025) Investigation of the inverse velocity dispersion in a solar energetic particle event observed by Solar Orbiter, A&A, doi:10.1051/0004-6361/202553806
10. Henderson, S. A., R. J. Filwett, C. O. Lee, R. Jolitz, **R. C. Allen**, M. A. Dayeh, A. Rahmati, D. Larson, J. S. Halekas, J. R. Gruesbeck, A. Galvin, H. Wei, & B. Heber (2025) Examining the Radial Evolution of a Corotating Interaction Region Observed at STEREO-A and MAVEN, ApJ, doi:10.3847/1538-4357/adfd55
11. Henderson, S. A., R. J. Filwett, **R. C. Allen**, C. O. Lee, J. S. Halekas, J. R. Espley, A. Galvin, & H. Wei (2025) Cataloging Stream Interaction Regions at MAVEN: A Cross-comparative Study with STEREO-A, ApJ, doi:10.3847/1538-4357/adb03b
12. Kouloumvakos, A., G. M. Mason, G. C. Ho, **R. C. Allen**, J. Rodriguez-Pacheco, & R. F. Wimmer-Schweingruber (2025) Solar Energetic Particle Events with Extremely High ^{3}He Content Observed by Solar Orbiter, ApJ, doi:10.3847/1538-4357/adbae7
13. Ma, X., S. Wing, P. Delamere, **R. C. Allen**, R. Wilson, J. Johnson, J.-Z. Wang, B. Burkholder, & B. Seo (2025) Statistical Survey of Magnetic Flux Integral Quantities in Saturn's Magnetosphere, JGR Space Physics, doi:10.1029/2025ja034299
14. Mason, G. M., A. Kouloumvakos, G. C. Ho, **R. C. Allen**, R. Gómez-Herrero, I. Cernuda, R. F. Wimmer-Schweingruber, & J. Rodríguez-Pacheco (2025) Simultaneous Ion Arrival Times during the Rise Phase of ^{3}He-rich Solar Energetic Particle Events, ApJ, doi:10.3847/1538-4357/ae0626
15. Mostafavi, P., V. K. Jagarlamudi, N. E. Raouafi, J. C. Palacios, **R. C. Allen**, M. E. Hill, L. Ofman, & G. C. Ho (2025) Preferential Energization of Solar Wind Ions Below the Alfvénic Surface, ApJL, doi:10.3847/2041-8213/ae0732
16. Paranicas, C., J. Kinrade, P. Kollmann, L. Regoli, G. Clark, T. Nordheim, S. Wing, N. Krupp, E. Roussos, **R. C. Allen**, S. K. Vines, N. Achilleos, & P. Guio (2025) Identifying Fast Plasma Injections in Data From Saturn, Geophysical Research Letters, doi:10.1029/2025gl117837
17. Shah, M., A. Raghav, K. Ghag, O. Dhamane, K. Kumbhar, G. Nicolaou, A. Bhaskar, **R. C. Allen**, & Z. Shaikh (2025) Thermodynamic Characterization of Solar Wind Interaction Regions Using PSP Observations: Evidence of Subadiabatic and Superadiabatic States, ApJ, doi:10.3847/1538-4357/ade9a3
18. Toy-Edens, V., W. Mo, **R. C. Allen**, S. K. Vines, & S. Raptis (2025) Automated classification of MESSENGER plasma observations via unsupervised transfer learning, Front. Astron. Space Sci, doi:10.3389/fspas.2025.1608091
19. Walker, M. H., **R. C. Allen**, G. Li, G. C. Ho, G. M. Mason, J. Rodríguez-Pacheco, R. F. Wimmer-Schweingruber, & A. Kouloumvakos (2025) Radial evolution of interplanetary coronal mass ejection-associated particle acceleration observed by Solar Orbiter and ACE, A&A, doi:10.1051/0004-6361/202450686
20. Ho, G. C., G. M. Mason, **R. C. Allen**, A. Kouloumvakos, R. F. Wimmer-Schweingruber, & J. Rodríguez-Pacheco (2024) Longitudinal Extent of ^{3}He-rich Solar Energetic Particle Events Near 1 au, ApJ, doi:10.3847/1538-4357/ad67ce

21. Kouloumvakos, A., A. Papaioannou, C. O. G. Waterfall, S. Dalla, R. Vainio, G. M. Mason, B. Heber, P. Kühl, **R. C. Allen**, C. M. S. Cohen, G. Ho, A. Anastasiadis, A. P. Rouillard, J. Rodríguez-Pacheco, J. Guo, X. Li, M. Hörlöck, & R. F. WImmer-Schweingruber (2024) The multi-spacecraft high-energy solar particle event of 28 October 2021, A&A, doi:10.1051/0004-6361/202346045
22. Lugaz, N., C. O. Lee, N. Al-Haddad, R. J. Lillis, L. K. Jian, D. W. Curtis, A. B. Galvin, P. L. Whittlesey, A. Rahmati, E. Zesta, M. Moldwin, E. J. Summerlin, D. E. Larson, S. Courtade, R. French, R. Hunter, F. Covitti, D. Cosgrove, J. D. Prall, **R. C. Allen**, B. Zhuang, R. M. Winslow, C. Scolini, B. J. Lynch, R. J. Filwett, E. Palmerio, C. J. Farrugia, C. W. Smith, C. Möstl, E. Weiler, M. Janvier, F. Regnault, R. Livi, & T. Nieves-Chinchilla (2024) The Need for Near-Earth Multi-Spacecraft Heliospheric Measurements and an Explorer Mission to Investigate Interplanetary Structures and Transients in the Near-Earth Heliosphere, Space Sci Rev, doi:10.1007/s11214-024-01108-8
23. Mason, G. M., A. Kouloumvakos, G. C. Ho, **R. C. Allen**, R. Gómez-Herrero, R. F. Wimmer-Schweingruber, & J. Rodríguez-Pacheco (2024) ^{3}He and Fe Spectral Properties in ^{3}He-rich Solar Energetic Particle Events, ApJ, doi:10.3847/1538-4357/ad6ddc
24. Mostafavi, P., **R. C. Allen**, V. K. Jagarlamudi, S. Bourouaine, S. T. Badman, G. C. Ho, N. E. Raouafi, M. E. Hill, J. L. Verniero, D. E. Larson, J. C. Kasper, & S. D. Bale (2024) Parker Solar Probe observations of collisional effects on thermalizing the young solar wind, A&A, doi:10.1051/0004-6361/202347134
25. Oliveira, D. M., **R. C. Allen**, L. R. Alves, S. P. Blake, B. A. Carter, D. Chakrabarty, G. D'Angelo, K. Delano, E. Echer, C. P. Ferradas, M. G. Finley, B. Gallardo-Lacourt, D. Gershman, J. W. Gjerloev, J. B. Habarulema, M. D. Hartinger, R. Hajra, H. Hayakawa, L. Juusola, K. M. Laundal, R. J. Leamon, M. Madelaire, M. Martínez-Ledesma, S. M. McIntosh, Y. Miyoshi, M. B. Moldwin, E. Nahayo, D. Nandy, B. Nilam, K. Nykyri, W. R. Paterson, M. Piersanti, E. Pietropaolo, C. J. Rodger, T. Shah, A. W. Smith, N. Srivastava, B. T. Tsurutani, S. T. Ram, L. A. Upton, B. Veenadhari, S. Vidal-Luengo, A. Viljanen, S. K. Vines, V. K. Yadav, J.-H. Yee, J. W. Weygand, & E. Zesta (2024) Predicting Interplanetary Shock Occurrence for Solar Cycle 25: Opportunities and Challenges in Space Weather Research, Space Weather, doi:10.1029/2024sw003964
26. Badman, S. T., P. Riley, S. I. Jones, T. K. Kim, **R. C. Allen**, C. N. Arge, S. D. Bale, C. J. Henney, J. C. Kasper, P. Mostafavi, N. V. Pogorelov, N. E. Raouafi, M. L. Stevens, & J. L. Verniero (2023) Prediction and Verification of Parker Solar Probe Solar Wind Sources at 13.3 $R_\odot$, JGR Space Physics, doi:10.1029/2023ja031359
27. Chen, Y., Q. Hu, **R. C. Allen**, & L. K. Jian (2023) Small-scale Magnetic Flux Ropes in Stream Interaction Regions from Parker Solar Probe and Wind Spacecraft Observations, ApJ, doi:10.3847/1538-4357/aca894
28. Dialynas, K., **R. C. Allen**, & E. Roussos (2023) Editorial: The links between space plasma physics and planetary science, Front. Astron. Space Sci, doi:10.3389/fspas.2023.1215526
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6. Halekas, J., M. Sarantos, L. Regoli, Y. Harada, Y. Zheng, M. Nishino, S. K. Vines, J. Szalay, P. Chi, O. Leon, B. Denevi, D. Sibeck, L.-J. Chen, C. Hartzell, M. Horanyi, A. Stanier, R. Lillis, H. F. Haviland, X. Wang, J. Keller, X.-D. Zou, F. Chu, X. Cao, S. Xu, L. Liuzzo, W. Kurth, G. Hospodarsky, V. Angelopoulos, S. Yokota, S. Fatemi, Y. Miyoshi, L. Morrissey, S. Bale, R. Sawyer, A. Jordan, M. Alves, P. Prem, **R. C. Allen**, M. Ridenti, D. Waller, D. Blewett, D. Malaspina, O. Tucker, A. Poppe, M. Nord, C. Grava, L. Hood, J. Deca, T. Dudok de Wit, G. Ho, G. Kramer, V. Krasnoselskikh, & P. Saxena (2023) The Value of the Moon for Heliophysics, Bulletin of the AAS, doi:10.3847/25c2cfeb.ed6f0be4
7. Halford, A. J., J. E. Stawarz, **R. C. Allen**, C. Dong, C. Bard, B. Walsh, L. B. Willson, J. Bortnik, P. Mostafavi, R. Filwett, M. W. Liemohn, L. H. Regoli, A. M. Keesee, A. G. Burrell, J. L. Verniero, J. Klenzing, K. Sigsbee, L. Blum, N. Turner, D. Malaspina, M. M. Jones Jr., J. P. Mason, S. Lejosne, M. S. F. Kirk, S. K. Vines, T. S. Sotirelis, S. T. Lepri, K. Garcia-Sage, B. Gallardo-Lacourt, M. Hartinger, N. Viall, L. Brandt, S. Badman, V. Ledvina, D. Turner, M. Zettergren, C. A. Young, A. Maute, H. Connor, E. Atz, L. H. Krause, R. McGranaghan, J.-M. Jahn, L. Goodwin, & B. Kosar (2023) An Inclusive Heliophysics Community, Bulletin of the AAS, doi:10.3847/25c2cfeb.3c6ae9b0
8. Halford, A. J., J. E. Stawarz, **R. C. Allen**, C. Dong, C. Bard, P. Mostafavi, M. W. Liemohn, L. H. Regoli, J. L. Verniero, K. Sigsbee, L. Blum, N. Turner, D. Malaspina, M. M. Jones Jr., J. P. Mason, S. Lejosne, M. S. F. Kirk, S. K. Vines, S. T. Lepri, B. Gallardo-Lacourt, M. Hartinger, N. Viall, L. Brandt, S. Badman, V. Ledvina, D. Turner, M. Zettergren, C. A. Young, H. Connor, L. H. Krause, R. McGranaghan, J.-M. Jahn, L. Goodwin, & B. Kosar (2023) Mentorship within Heliophysics, Bulletin of the AAS, doi:10.3847/25c2cfeb.157ffe7f
9. Hill, M. E., **R. C. Allen**, P. C. Brandt, R. B. Decker, M. Gkioulidou, S. M. Krimigis, P. Kollmann, R. L. McNutt Jr., P. Mostafavi, R. Nikoukar, E. Provornikova, E. C. Roelof, D. L. Turner, A. C. Cummings, R. A. Leske, R. A. Mewaldt, G. A. de Nolfo, J. G. Mitchell, K. Dialynas, V. F. Florinski, J. Kota, M. Opher, & J. D. Richardson (2023) Cosmic Rays Measurements on an Interstellar Probe: A Bold Approach to Concluding the Second Century of Space Aged Science, Bulletin of the AAS, doi:10.3847/25c2cfeb.d16c0c2f
10. Ho, G. C., **R. C. Allen**, S. K. Vines, L. Kepko, C. Cohen, M. Desai, A. Szabo, J. Westlake, A. Vourlidas, A. Pulkkinen, & S. Christe (2023) Perspectives on a NASA Heliophysics Mission Program for Addressing System Investigations, Bulletin of the AAS, doi:10.3847/25c2cfeb.fdf00a9b
11. Kenny, M. N., N. Mathews, M. Abler, A. Glenn, J. Verniero, A. Brosius, M. C. M. Cheung, K. van der Sande, J. Olson, N. Murphy, E. Lichko, D. Schaffner, A. Halford, J. Egedal, P. S. Pyakurel, B. Thompson, M. L. Stevens, B. J. Lynch, **R. C. Allen**, S. T. Badman, S. K. Vines, T. Niembro, B. Alterman, C. Johnston, L.-J. Chen, L. B. Wilson III, A. Jaynes, G. Kerr, S. Guidoni, T. Carter, S. Gibson, D. Malaspina, C. Haggerty, F. Carcaboso, A. Greeley, P. Cassak, A. Breneman, A. Higginson, M. Shumko, A. Pulkkinen, M. Miesch, A. Malanushenko, K. Nykyri, M. Velli, A. Marble, T. Y. Chen, J. G. Mitchell, E. Palmerio, A. Narock, R. Leamon, & K. Paulson (2023) Gender Diversity in Heliophysics, Bulletin of the AAS, doi:10.3847/25c2cfeb.0e9841dd
12. Lee, C. O., M. Mayyasi, S. Xu, P. Chamberlin, G. DiBraccio, B. Sanchez-Cano, E. E. Davies, C. Scolini, R. Filwett, R. Ramstad, E. Palmerio, B. J. Lynch, J. G. Luhmann, B. Ehresmann, J. Guo, **R. C. Allen**, S. K. Vines, R. M. Winslow, & H. Elliott (2023) Heliophysics and Space Weather Science at ~1.5 AU: Knowledge Gaps and Need for Solar and Solar Wind Monitors at Mars, Bulletin of the AAS, doi:10.3847/25c2cfeb.ef73e840
13. Lugaz, N., C. O. Lee, L. K. Jian, **R. C. Allen**, N. Al-Haddad, R. M. Winslow, R. Lillis, C. Moestl, B. Zhuang, E. Palmerio, B. J. Lynch, C. Scolini, E. E. Davies, F. Regnault, T. Nieves-Chinchilla, & C. J. Farrugia (2023) The Multi-spacecraft Heliospheric Mission (MHM), Bulletin of the AAS, doi:10.3847/25c2cfeb.ac2c2454
14. Lugaz, N., N. Al-Haddad, T. Török, C. J. Farrugia, E. Palmerio, B. J. Lynch, R. M. Winslow, A. Vourlidas, L. K. Jian, M. Jin, C. O. Lee, B. E. Wood, E. E. Davies, F. Regnault, T. Nieves-Chinchilla, C. Scolini, **R. C. Allen**, T. Salman, & T. Niembro (2023) The Importance of Fundamental Research on the Upper Coronal and Heliospheric Evolution of Coronal Mass Ejections, Bulletin of the AAS, doi:10.3847/25c2cfeb.b8b6712c
15. Lugaz, N., R. M. Winslow, N. Al-Haddad, C. O. Lee, S. K. Vines, K. Reeves, A. Caspi, D. Seaton, C. Downs, L. Glesener, A. Vourlidas, C. Scolini, T. Török, **R. C. Allen**, & E. Palmerio (2023) Work-Life Balance Starts with Proper Deadlines and Exemplary Agencies, Bulletin of the AAS, doi:10.3847/25c2cfeb.007ec3a4
16. Mandt, K., A. Rymer, J. Kalirai, **R. C. Allen**, A. Cocoros, K. Stevenson, D. Hurley, C. Lisse, K. Runyon, P. Dalba, S. Domagal-Goldman, S. R. Kane, P. Brandt, E. Provornikova, V. Meadows, R. Vervack, A. Roberge, C. Dong, G. Arney, D. Bodewits, A. Simon, E. Rivera-Valentine, K. Soderland, S. Diniega, A. Bayless, C. Richey, T. Becker, B. Schmidt, M. de Val-Borro, S. Milam, L. Quick, N. Turner, D. Angerhausen, D. Dyar, M. Samara, A. Hendrix, A. Soto, K. Miller, P. Mahaffy, E. Quintana, E. A. Bergin, M. R. Vidaurri, P. Bryne, W. C. Danchi, L. Mayorga, M. S. Marley, R. Barnes, A. D. Del Genio, P. Plavchan, M. C. Turnbull, D. M. Gelino, J. T. Wright, M. R. Meyer, J. Pepper, D. Dragomir, K. Garcia-Sage, A. Solmaz, N. Heavens, T. Beatty, S. Redfield, C. Melis, K. Stapelfeldt, J. Drake, K. Lovato, Y. Hasegawa, E. C. Smith, S. Curry, J. M. Jenkins, B. Jackson, R. Cartwright, I. J. Cohen, K. Retherford, N. Pinella-Alonso, F. Paganelli, A. Accomazzi, J. Fortney, R. Nikoukar, & T. Y. Chen (2023) Advancing Space Science Requires NASA Support for Coordination Between the Science Mission Directorate Communities, Bulletin of the AAS, doi:10.3847/25c2cfeb.e033d3ce

17. Mostafavi, P., **R. C. Allen**, P. Brandt, L. Burlaga, T. Y. Chen, R. Decker, B. DeMajistre, K. Dialynas, V. Florinski, M. E. Hill, R. L. McNutt Jr., M. Opher, E. Provornikova, J. Rankin, J. Richardson, E. Roelof, D. L. Turner, & E. J. Zirnstein (2023) Shock Waves Propagation Beyond the Heliosphere: How Far Does the Sun's Influence Extend into the Interstellar Medium?, Bulletin of the AAS, doi:10.3847/25c2cfeb.0f6d3efc
18. Palmerio, E., B. J. Lynch, C. O. Lee, L. K. Jian, T. Nieves-Chinchilla, E. E. Davies, B. E. Wood, N. Lugaz, R. M. Winslow, T. Török, N. Al-Haddad, F. Regnault, M. Jin, C. Scolini, F. Carcaboso, C. J. Farrugia, V. E. Ledvina, C. Downs, C. Kay, S. Pal, T. M. Salman, & **R. C. Allen** (2023) New Observations Needed to Advance Our Understanding of Coronal Mass Ejections, Bulletin of the AAS, doi:10.3847/25c2cfeb.ba5ccef8
19. Vines, S. K., B. Anderson, C. L. Waters, **R. C. Allen**, A. Maute, B. Kunduri, L. Paxton, R. J. Strangeway, D. Lin, R. Robinson, G. Le, Q. Zhu, S. Milan, D. Ozturk, H. Korth, K. Laundal, S. Ohtani, A. Chartier, K. Murphy, T. Matsuo, T. Sotirelis, D. Knipp, S. Califf, R. L. A. de Mesquita, H. Connor, J. Clemmons, & G. Lu (2023) Beyond AMPERE-NEXT: Envisioning the Next System of Global High-Latitude Electrodynamics, Bulletin of the AAS, doi:10.3847/25c2cfeb.76348bf9

INVITED TALKS

1. **Allen, R. C.**, Reconstructions of two CME-driven shocks (Invited), Oral presentation at the Geospace Environment Modeling (GEM) Workshop, Portland, ME.
2. **Allen, R. C.**, Reconstruction of Interplanetary Shock Surfaces Using Multiple Spacecraft: Use Case of the Bézier Curve Boundary Reconstruction Technique (Invited), Oral presentation at the Geospace Environment Modeling (GEM) Workshop, Portland, ME.
3. **Allen, R. C.**, Cross-scale Structuring of Coronal Mass Ejection-driven Shocks with Implications to Suprathermal to Energetic Particles (Invited), Oral presentation at the Solar Orbiter Science Working Group on Energetic Particles, Shocks, and Solar Activity, virtual.
4. **Allen, R. C.**, Cross-scale Structuring of Coronal Mass Ejection-driven Shocks with Implications to Suprathermal to Energetic Particles (Invited), Oral presentation at Solar Wind 17, Bath, UK.
5. **Allen, R. C.**, State of the Early Career Profession in Space Physics and Aeronomy: Climatological Survey Results (Invited), Oral presentation and panel member at the European Geosciences Union General Assembly, Vienna, Austria.
6. **Allen, R. C.**, Delayed Maximum Energy Solar Energetic Particle Events: Statistical Analysis from Solar Orbiter (Invited), Oral presentation at the Solar Orbiter Science Working Group on Energetic Particles, Shocks, and Solar Activity, virtual.
7. **Allen, R. C.**, Solar Polar Orbiter Mission: Synergies with Solar Orbiter (Invited Panelist), Solar Heliospheric and INterplanetary Environment (SHINE) Workshop, Charleston, SC.
8. **Allen, R. C.**, Suprathermal to Energetic Particles in the Heliosphere: What do they tell us and why are they useful? (Invited Plenary), Oral presentation at the Solar Heliospheric and INterplanetary Environment (SHINE) Workshop, Juneau, AK.
9. **Allen, R. C.**, et al., A Mosaic of the Inner Heliosphere: Three Carrington Rotations During the Whole Heliosphere and Planetary Interactions Interval (Invited), Oral presentation at the WHPI Virtual Colloquia
10. **Allen, R. C.**, et al., Exploring the Impacts of Corotating Interaction Regions in the Inner Heliosphere (Invited), Oral presentation at the Southwest Research Institute (SwRI) Seminar Series, San Antonio, TX.
11. **Allen, R. C.**, et al., Interplanetary Mesoscale Observatory (InterMeso): A mission to untangle dynamic mesoscale structures throughout the heliosphere (Invited), Oral presentation at the Solar Heliospheric and INterplanetary Environment (SHINE) Workshop, Stowe, VT.
12. **Allen, R. C.**, Multipoint observations in the inner heliosphere: Challenges for data analysis (Invited), Oral presentation at the Solar Heliospheric and INterplanetary Environment (SHINE) Workshop, Stowe, VT.
13. **Allen, R. C.**, Overview of future mission concepts to explore large scale transients (Invited), Oral presentation at the Solar Heliospheric and INterplanetary Environment (SHINE) Workshop, Stowe, VT.
14. **Allen, R. C.**, et al., Interplanetary Mesoscale Observatory (InterMeso): A mission to untangle dynamic mesoscale structures throughout the heliosphere (Invited), Oral presentation to the National Academies of Sciences Decadal Survey for Solar and Space Physics (Heliophysics) 2024–2033: Panel on the Physics of the Sun and Heliosphere, Virtual.
15. **Allen, R. C.**, Contributions of Solar Orbiter to our understanding of Solar Energetic Particles (Invited), Oral presentation at the American Geophysical Union (AGU) Fall Meeting, Chicago, IL.
16. **Allen, R. C.**, Advances in Understanding Suprathermal Particle Populations at Transients From the Heliophysics System Observatory (Invited), Oral presentation Triennial Earth-Sun Summit, Bellevue, WA.
17. **Allen, R. C.**, Parker Solar Probe In the Multi-Messenger Era (Invited), Oral presentation at the International Astronomical Union General Assembly, Busan, South Korea
18. **Allen, R. C.**, Heliophysics missions and instrumentation: Past progress towards future implementations (Invited Plenary), Geospace Environment Modeling (GEM) Workshop, Honolulu, HI.

19. **Allen, R. C.**, et al., Heliospheric Distributed In-Situ Constellation (HelioDISC): A mission to untangle the dynamic mesoscale Sun-Earth connection (Invited), Oral presentation at The CU-Boulder LASP Colloquia, virtual meeting
20. **Allen, R. C.**, et al., Heliospheric Distributed In-Situ Constellation (HelioDISC): A mission to untangle the dynamic mesoscale Sun-Earth connection (Invited), Oral presentation at Goddard Space Flight Center HSD Colloquia, virtual meeting
21. **Allen, R. C.**, et al., Heliospheric Distributed In-Situ Constellation (HelioDISC): A mission to untangle the dynamic mesoscale Sun-Earth connection (Invited), Oral presentation at the SolFER Drive Center Colloquia, virtual meeting
22. **Allen, R. C.**, et al., Heliospheric Distributed In-Situ Constellation (HelioDISC): A mission to untangle the dynamic mesoscale Sun-Earth connection (Invited), Oral presentation at the Mini-Geospace Environment Modeling Workshop, New Orleans, LA
23. **Allen, R. C.**, et al., Heliospheric Distributed In-Situ Constellation (HelioDISC): A mission to untangle the dynamic mesoscale Sun-Earth connection (Invited), Oral presentation to the Parker Solar Probe Theory & Modeling Group, virtual meeting
24. **Allen, R. C.**, Parker Solar Probe: Ushering a New Frontier in Space Physics (Invited), Oral lecture at the Galesville Astrophysical Society, virtual public lecture
25. **Allen, R. C.**, et al., Stream Interaction Regions in the Inner Heliosphere (Invited), Oral presentation at the Solar Orbiter "CMEs, CIRs, HCS and large-scale structure" working group, virtual seminar
26. **Allen, R. C.**, et al., Energetic Ions in the Venusian System: Insights from the First Orbiter Flyby (Invited), Oral presentation at the Solar Orbiter "shocks and particle energization" working group, virtual seminar
27. **Allen, R. C.**, et al., Suprathermal Ions in the Outer Heliosphere (Invited), Oral presentation at COSPAR, virtual
28. **Allen, R. C.**, et al., EPD Suprathermal Ion Spectrograph (SIS) First Observations (Invited), Oral presentation at the Solar Orbiter "Origin and Transport of Energetic Particles" working group, virtual seminar
29. **Allen, R. C.**, et al., Radial and temporal evolution of stream interaction regions and co-rotating interaction regions (Invited), Oral presentation at the University of New Hampshire Space Science Center Seminar, virtual colloquia
30. **Allen, R. C.**, et al., Radial evolution of CIRs (Invited), Oral presentation at the 19th Parker Solar Probe SWG Meeting, virtual
31. **Allen, R. C.**, Parker Solar Probe Show and Tell (Invited), Oral presentation and tutorial for the First Whole Heliosphere & Interplanetary Interactions Show and Tell Day, virtual
32. **Allen, R. C.**, et al., Solar wind as a source of magnetospheric plasma (Invited), Oral presentation at the Japanese Geoscience Union (JpGU) meeting, virtual meeting
33. **Allen, R. C.**, et al., Radial and temporal evolution of stream interaction regions and corotating interaction regions (Invited), Oral presentation for the PSP Theory and Modeling Telecon, virtual colloquia series
34. **Allen, R. C.**, et al., Solar wind as a source of magnetospheric plasma (2-part Invited Seminar), Oral presentation at the SMILE Theory and Modeling Telecon, virtual colloquia series
35. **Allen, R. C.**, et al., Radial and temporal evolution of high-speed streams observed at Parker Solar Probe and 1 au (Invited), Parker Solar Probe Science Working Group Meeting, virtual colloquia series
36. **Allen, R. C.**, et al, Solar wind streams and stream interaction regions observed by Parker Solar Probe with corresponding observations at one au and a look to the future (Invited), Oral presentation at the International Space Weather Action Team (ISWAT) Meeting, Cape Canaveral, FL.
37. **Allen, R. C.**, K. Sorathia, S. K. Vines, D. G. Mitchell, C. P. Paranicas, and S. A. Livi, Solar Wind Source of Plasma within a Magnetosphere: Lessons learned from Earth and Saturn (Invited), Oral presentation at the Ion Composition in the Sun Earth System (ICSES) meeting, Durango, CO.

PROFESSIONAL SERVICE

2022–present	Committee Member (Co-chair 2024; Chair 2025) AGU Space Physics and Aeronomy (SPA) Early Career Leadership Advisory Committee
2024–present	Committee Member AGU Space Physics and Aeronomy (SPA) Section Executive Committee
2019–present	Team Member COSPAR ISWAT team on Understanding the Suprathermal Seed Population
2025	Convener New insights into particle access and transport in the inner heliosphere session SHINE Workshop
2020–2024	Colloquia Organizer and Host Whole Heliosphere and Planetary Interactions (WHPI) Colloquia Series
2019–2024	Coordinator for Project Science Team Parker Solar Probe Encounter Footpoint Predictions

2022	Convener Coordinated Multi-spacecraft Observations in the Inner Heliosphere Session AGU Fall Meeting
2022	Chair Parker Two Science Organizing Committee
2022	Convener Connecting the Sun and Heliosphere through interdisciplinary coordinate observing campaigns and modeling session SHINE Workshop
2022	Chair In-Situ: Particle Detectors session of the Heliophysics 2050 Measurements and Technologies Pre-Decadal Workshop
2020–2022	Organizing Committee Member Parker Solar Probe Scholars
2021	Science Organizing Committee Member Whole Heliosphere and Planetary Interactions (WHPI) Workshop
2021	Convener Addressing the Mysteries of Inner Heliospheric Dynamics from a Multi-Spacecraft Vantage Point Session AGU Fall Meeting
2018–2019	Junior Scientist ISSI Team on Soft Protons in the Magnetosphere Focused by X-ray Telescopes
2018	Convener Comparative Plasma Environments Panel Series Triennial Earth-Sun Summit, AGU-AAS
2017	Participant (MD/DC/NJ region) AGU Congressional Visit Day
2016–2017	Member Anti-Harassment Policy Subcommittee, Geospace Environment Modeling (GEM) Workshop, NSF
2015–2017	Graduate Program Recruitment Student Representative SwRI/UTSA Joint Space Physics Program
2015–2017	Graduate Program Website Admin SwRI/UTSA Joint Space Physics Program
2015–2017	Writing Club Officer SwRI/UTSA Joint Space Physics Program
2014–2016	Student Representative Geospace Environment Modeling (GEM) Workshop, NSF
2015–2016	Local Organizing Committee Member Conference for Undergraduate Women in Physics, Hosted by UTSA and SwRI, AIP
2015–2016	Outreach Officer Graduate Society of Physics Students, UTSA
2014–2015	Society of Physics Students Liaison (Founding Officer) Graduate Society of Physics Students, UTSA
2010–2011	Vice-President Society of Physics Students University of Texas, Arlington
2009–2010	President Society of Physics Students University of Texas, Arlington
2008–2009	Secretary Society of Physics Students University of Texas, Arlington

MISSION AND INSTRUMENT ROLES

Includes Previous and Current Roles

Principal Investigator:
- Interplanetary mesoscale observatory (InterMeso) mission concept study (report)

Instrument Scientist:
- Solar Orbiter Suprathermal Ion Spectrograph (SIS)

Co-Investigator:
- Solar Orbiter Energetic Particle Detector (EPD)

Member:
- ACE Ultra Low Energy Isotope Spectrometer (ULEIS) team
- Cassini Magnetospheric Imaging Instrument (MIMI) team
- New Horizons Pluto Energetic Particle Spectrometer Science Investigation (PEPSSI) team
- Parker Solar Probe (PSP) Project Science team
- PSP Solar Wind Electrons Alphas and Protons (SWEAP) investigation team

- PSP Integrated Science Investigation of the Sun (ISOIS) instrument team
- Solar Orbiter Heavy Ion Sensor (HIS) instrument team
- Solar-Terrestrial Observer for Magnetospheric Dynamics (STORM) MIDEX Phase A Energetic Neutral Atom (ENA) instrument team

EDITORIAL AND REVIEW

Editorial Positions:
2021 - Present: Associate Editor
Frontiers in Astronomy and Space Sciences - Planetary Science
2025 - Present: Frontiers Research Topic Editor
Exploring Solar Wind Interactions with Inner Solar System Bodies: New Frontiers, Insights, and Future Directions
2022 - 2023: Frontiers Research Topic Editor
The Links Between Space Plasma Physics and Planetary Science

Peer-Reviewer for Journals:
- Geophysical Research Letters (GRL)
- Journal of Geophysical Research (JGR)
- Space Weather
- The Astrophysical Journal (ApJ)
- The Astrophysical Journal Letters (ApJ Letters)
- Astronomy and Astrophysics (A&A)
- Nature Communications
- Frontiers
- Solar Physics

Review Panels:
*including Chair position(s)
- NASA CDAP Review Panels
- NASA DDAP Review Panel
- NASA ECIP Review Panel
- NASA HGIO Review Panel
- NASA HSR Review Panel*
- NASA HUSPI Reviewer
- NASA LWS Review Panels*
- NASA LWSTM Review Panel - NASA Mission-GI Review Panel
- PDS Dataset Review Panel
- UKRI STFC Reviewer

ADVISING

Graduate Students:
- Sophia Davis (University of Texas, San Antonio, Department of Physics and Astronomy)
  - Years: 2025 - Present
  - Topic: SEP Transport
  - Degree Pursuing: PhD Physics
- Malik Walker (Johns Hopkins University, Department of Physics and Astronomy)
  - Years: 2022 - 2026
  - Thesis Title: Radial Evolution of ICME-Driven Shock Acceleration
  - Degree Earned: PhD Physics
  - Current Position: Postdoctoral Fellow at NRL

Postdoctoral Researchers:
- Parisa Mostafavi (JHU Applied Physics Lab)
  - Years: 2021 - 2022
  - Topic: Solar Wind Alpha-Proton Differential Flow
  - Current Position: Senior Professional Staff at APL

TEACHING

Guest Lecture at University of Texas San Antonio
- Fall 2026, 1 Lecture, PHYS 7703: Topics in Space Physics – Magnetospheric Physics
- Fall 2026, 3 Lectures, PHYS 6123: Plasma Physics and Magnetohydrodynamics
- Fall 2024, 1 Lecture, PHYS 7703: Topics in Space Physics – Heliospheric Physics

Lab Instructor at University of New Hampshire
- Spring 2012, 1 Section, Intro to Modern Astronomy

Lab Instructor at University of Texas, Arlington
- Spring 2011, 2 Sections, Astronomy I
- Spring 2011, 2 Sections, Astronomy II
- Fall 2010, 3 Sections, Astronomy II
- Spring 2010, 2 Sections, Astronomy I
- Spring 2010, 1 Section, Astronomy II
- Fall 2009, 1 Section, Astronomy I
- Fall 2009, 1 Section, Astronomy II

SOCIETIES AND MEMBERSHIPS

European Geosciences Union, joined 2020
American Geophysical Union, joined 2012
Honor Society of Phi Kappa Phi, inducted 2015
Alpha Chi Honor Society, inducted 2015
Golden Key International Honours, inducted 2014
Sigma Pi Sigma, inducted 2010

MISSIONS AND DATASETS USED

- Aditya-L1
- Acceleration, Reconnection, Turbulence, & Electrodynamics of Moon's Interaction with the Sun (ARTEMIS)
- Active Magnetosphere and Planetary Electrodynamics Response Experiment (AMPERE)
- Advanced Composition Explorer (ACE)
- Cassini
- Cluster
- Deep Space Climate Observatory (DSCOVR)
- Defense Meteorological Satellite Program (DMSP)
- Global scale Observations of Limb and Disk (GOLD)
- Interstellar Mapping and Acceleration Probe (IMAP)
- Magnetospheric Multi-scale (MMS)
- Mars Atmosphere and Volatile Evolution (MAVEN)
- New Horizons
- Parker Solar Probe
- Polar
- Space Weather Observations at L1 to Advance Readiness-1 (SOLAR-1)
- Solar Dynamics Observatory (SDO)
- Solar Orbiter
- Solar Terrestrial Relations Observatory (STEREO)
- Super Dual Auroral Radar Network (SuperDARN)
- SuperMAG
- Time History of Events and Macroscale Interactions During Substorms (THEMIS)
- Thermosphere, Ionosphere, Mesosphere Energetics & Dynamics (TIMED)
- Van Allen Probes (Radiation Belt Storm Probes)
- Voyager I & II
- Wind
- XMM-Newton