Jennifer Wallace

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Research Interests

I am an observational astronomer primarily interested in the process of star formation and how it is influenced by local and galactic-scale environmental conditions. In particular, I am interested in the relation between gas dynamics and star formation and how these systems interact in a galaxy's Central Molecular Zone. I am also curious about how mass flows from cloud to core-scales, and how this process changes at different points in a systems evolution, especially with respect to the formation of high-mass stars.

Education

Ph.D. Physics, University of Connecticut, *Advisor: Dr. Cara Battersby*	Expected Spring 2026
M.S. Physics, University of Connecticut, *Advisor: Dr. Cara Battersby*	Spring 2023
B.S. Physics, Miami University, *Advisor: Dr. Stephen Alexander*	Spring 2019

Leadership Experience

Steering Group Member for the ACES Collaboration 2022–present
Lead management role in the ALMA CMZ Exploration Survey (ACES), an ALMA large program with > 100 international astronomers.

Lead Supervisor for Student Research:

Stefania Schuler	First author on a submitted paper	Schuler et al. submitted
Sophia Kempe	Co-author on a manuscript in preparation	Lipman et al. in preparation
Taevis Kolz	Second author on an accepted paper	Wallace et al. accepted

Lead Organizer for the UConn Astronomy Journal Club 2023-2025

Executive roles in Physics Department Student Associations

UConn Physics Graduate Student Association	Treasurer	2021-2023
Miami University Society of Physics Students	Secretary	2017-2018

Research Highlights

Investigating the hierarchical continuum structure of star forming regions in the ALMAGAL survey

- Developed a dendrogram-based algorithm for identifying the hierarchical structures present in 1.38 mm continuum observations from ALMAGAL, an ALMA Large survey targeting > 1000 potential high-mass star forming regions spanning Galactocentric radii from 3-14 kpc and the full spectrum of evolution, from infrared dark clouds to HII regions.
- Characterized dendrogram structures and quantified how the relative level of hierarchical sub-structure relates to the evolutionary stage of a clump and investigated how mass flows from the clump down to the core-scale as star forming systems evolve.

Generating a compact continuum source catalog for the CMZ using ACES

- Generated a pipeline for cataloging compact continuum sources in the ACES survey using both an automated dendrogram-based algorithm and a manual classification procedure using the online citizen science platform Zooniverse.
- Discovered thousands of new compact continuum sources that may be potentially star forming and constrained the extent by which estimates of the current star formation rate in the CMZ might change when including this large sample of new compact detections.

Characterizing molecular filaments in the Sagittarius E star forming region

- Used spectral line observations from ALMA to analyze filamentary structure in the Sgr E region, a star forming complex located at the intersection of the 'far' dust lane of the Galactic bar and the Central Molecular Zone.
- Used moment analysis and position-velocity diagrams to estimate basic physical and kinematic properties of the filaments using three different CO isotopologues: ^{12}CO (1-0), ^{13}CO (1-0), and C^{18}O (1-0).
- Demonstrated that these newly discovered filaments are potentially gas parcels that have been "stretched" by the gravitational influence of the bar as they traveled along the "far" dust lane based on their parallel orientation with respect to the Galactic plane, kinematic properties, lack of continuum emission associated with star formation and supporting simulations.

Selected scientific presentations

Invited Talks

European Southern Observatory "Lunch Talk" Seminar	Jun. 2024
University of Kansas Astronomy and Space Physics Seminar	Oct. 2021

Additional Presentations

Harvard-Smithsonian Center for Astrophysics ITC luncheon (Talk)	Jan. 2026
University of Connecticut Astronomy Seminar (Talk)	Oct. 2025
Stellar Origins Conference (Poster)	Sept. 2025
New England Star and Planet Formation Meeting (Talk)	Aug. 2025
New England Star and Planet Formation Meeting (Poster)	Jul. 2024
Protostars and Planets VII (Poster)	Apr. 2023
Seeing the Future: Of the Universe, Data, Learning, & Digital Scholarship (Flash Talk)	May 2022

Awards, Grants, and Proposals

Accepted Observing Proposals

A census of prestellar and protostellar cores in the CMZ (Co-I)	ALMA (2023)

Grants

NRAO Student Observing Support Grant ($34,192)	ALMA Cycle 7 (2019-2021)

Scholarships

Womens Club Scholarship	Miami University
Carol Jo Crannell Physics Scholarship	Miami University
DuBois Bookstore Scholarship	Miami University
Redhawk Excellence Scholarship	Miami University

Skills and Additional Training

Penn State Astrostatistics Summer School

- Developed skills relating to the statistical interpretation of astronomical data.
- Learned statistical methods and their implementation in an astronomical context.

NRAO Summer School

- Learned the fundamentals of radio astronomy through online lectures and interactive tutorials.
- Gained experience with reducing interferometric data products using CASA (Common Astronomy Software Applications).

Technical Skills

- Coding and Analysis: Python (proficient), CASA (proficient), Matlab (familiar), Fortran (basic).
- Data Visualization: DS9 (proficient), CARTA (proficient), and glueviz (proficient).

Personal Skills

- Elementary level Japanese

Publications

Refereed:

Wallace, J., Battersby, C., Mills, E. A. C., Henshaw, J. D., Sormani, M. C., Ginsburg, A., Barnes, A. T., Hatchfield, H. P., Glover, S. C. O., and Anderson, L. D. (Nov. 2022). "ALMA Uncovers Highly Filamentary Structure toward the Sgr E Region". In: 939.1, 58, p. 58. DOI: 10.3847/1538-4357/ac951a. arXiv: 2209.11781 [astro-ph.GA].

Nonhebel, M., Barnes, A. T., Immer, K., Armijos-Abendaño, J., Bally, J., Battersby, C., Burton, M. G., Butterfield, N., Colzi, L., García, P., Ginsburg, A., Henshaw, J. D., Hu, Y., Jiménez-Serra, I., Klessen, R. S., Kruijssen, J. M. D., Liang, F. -H., Longmore, S. N., Lu, X., Martín, S., Mills, E. A. C., Nogueras-Lara, F., Petkova, M. A., Pineda, J. E., Rivilla, V. M., Sánchez-Monge, Á., Santa-Maria, M. G., Smith, H. A., Sofue, Y., Sormani, M. C., Tolls, V., Walker, D. L., **Wallace, J.**, Wang, Q. D., Williams, G. M., and Xu, F. -W. (Nov. 2024). "Disruption of a massive molecular cloud by a supernova in the Galactic Centre: Initial results from the ACES project". In: 691, A70, A70. DOI: 10.1051/0004-6361/202451190. arXiv: 2409.12185 [astro-ph.GA].

Wells, M. R. A., Beuther, H., Molinari, S., Schilke, P., Battersby, C., Ho, P., Sánchez-Monge, Á., Jones, B., Scheuck, M. B., Syed, J., Gieser, C., Kuiper, R., Elia, D., Coletta, A., Traficante, A., **Wallace, J.**, Rigby, A. J., Klessen, R. S., Zhang, Q., Walch, S., Beltrán, M. T., Tang, Y., Fuller, G. A., Lis, D. C., Möller, T., van der Tak, F., Klaassen, P. D., Clarke, S. D., Moscadelli, L., Mininni, C., Zinnecker, H., Maruccia, Y., Pezzuto, S., Benedettini, M., Soler, J. D., Brogan, C. L., Avison, A., Sanhueza, P., Schisano, E., Liu, T., Fontani, F., Rygl, K. L. J., Wyrowski, F., Bally, J., Walker, D. L., Ahmadi, A., Koch, P., Merello, M., Law, C. Y., and Testi, L. (Oct. 2024). "Dynamical accretion flows: ALMAGAL: Flows along filamentary structures in high-mass star-forming clusters". In: 690, A185, A185. DOI: 10.1051/0004-6361/202449794. arXiv: 2408.08299 [astro-ph.GA].

Molinari, S., Schilke, P., Battersby, C., Ho, P. T. P., Sánchez-Monge, Á., Traficante, A., Jones, B., Beltrán, M. T., Beuther, H., Fuller, G. A., Zhang, Q., Klessen, R. S., Walch, S., Tang, Y. -W., Benedettini, M., Elia, D., Coletta, A., Mininni, C., Schisano, E., Avison, A., Law, C. Y., Nucara, A., Soler, J. D., Stroud, G., **Wallace, J.**, Wells, M. R. A., Ahmadi, A., Brogan, C. L., Hunter, T. R., Liu, S. -Y., Pezzuto, S., Su, Y. -N., Zimmermann, B., Zhang, T., Wyrowski, F., De Angelis, F., Liu, S., Clarke, S. D., Fontani, F., Klaassen, P. D., Koch, P., Johnston, K. G., Lebreuilly, U., Liu, T., Lumsden, S. L., Moeller, T., Moscadelli, L., Kuiper, R., Lis, D., Peretto, N., Pfalzner, S., Rigby, A. J., Sanhueza, P., Rygl, K. L. J., van der Tak, F., Zinnecker, H., Amaral, F., Bally, J., Bronfman, L., Cesaroni, R., Goh, K., Hoare, M. G., Hatchfield, P., Hennebelle, P., Henning, T., Kim, K. -T., Kim, W. -J., Maud, L., Merello, M., Nakamura, F., Plume, R., Qin, S. -L., Svoboda, B., Testi, L., Veena, V. S., and Walker, D. (Apr. 2025). "ALMAGAL: I. The ALMA evolutionary study of high-mass protocluster formation in the Galaxy: Presentation of the survey and early results". In: 696, A149, A149. DOI: 10.1051/0004-6361/202452702. arXiv: 2503.05555 [astro-ph.GA].

Paré, D. M., Feng, Z., Hu, Y., Petkova, M. A., Sullivan, J., Tress, R. G., Battersby, C., Karoly, J., Lazarian, Alex, Lipman, D., Pan, X., Donati, M., Sormani, M. C., Bally, J., Barnes, A. T., Butterfield, N. O., Colzi, L., Federrath, C., Garcia, P., Ginsburg, A., Gramze, S. R., Schmiedeke, A., Henkel, C., Henshaw, J. D., Ho, P. T., Hsieh, P., Jimenez-Serra, I., Klessen, R. S., Kruijssen, J. M. D., Longmore, Steven N., Lu, X., Mills, E. A. C., Sánchez-Monge, Á., Walker, D. L., **Wallace, J.**, and Zhang, Q. (Nov. 2025). "ACES: The Magnetic Field in Large Filaments in the Galactic Center". In: *arXiv e-prints*, arXiv:2511.18029. Accepted for publication in ApJ., arXiv:2511.18029. DOI: 10.48550/arXiv.2511.18029. arXiv: 2511.18029 [astro-ph.GA].

Sánchez-Monge, Á., Brogan, C. L., Hunter, T. R., Ahmadi, A., Avison, A., Beltrán, M. T., Beuther, H., Coletta, A., Fuller, G. A., Johnston, K. G., Jones, B., Liu, S. -Y., Mininni, C., Molinari, S., Schilke, P., Schisano, E., Su, Y. -N., Traficante, A., Zhang, Q., Battersby, C., Benedettini, M., Elia, D., Ho, P. T. P., Klaassen, P. D., Klessen, R. S., Law, C. Y., Lis, D. C., Liu, T., Maud, L., Möller, T., Moscadelli, L., Pezzuto, S., Rygl, K. L. J., Sanhueza, P., Soler, J. D., Stroud, G., Tang, Y., van der Tak, F. F. S., Walker, D. L., **Wallace, J.**, Walch, S., Wells, M. R. A., Wyrowski, F., Zhang, T., Allande, J., Bronfman, L., Dann, E., De Angelis, F., Fontani, F., Henning, Th., Kim, W. -J., Kuiper, R., Merello, M., Nakamura, F., Nucara, A., and Rigby, A. J. (Apr. 2025). "ALMAGAL: II. The ALMA evolutionary study of high-mass protocluster formation in the Galaxy: ALMA data processing and pipeline". In: 696, A150, A150. DOI: 10.1051/0004-6361/202452703. arXiv: 2503.05559 [astro-ph.GA].

Sofue, Y., Oka, Tomo., Longmore, S. N., Walker, D., Ginsburg, A., Henshaw, J. D., Bally, J., Barnes, A. T., Battersby, C., Colzi, L., Ho, P., Jimenez-Serra, I., Kruijssen, J. M. D., Mills, E., Petkova, M. A., Sormani, M. C., **Wallace, J.**, Armijos-Abendano, J., Dutkowska, K. M., Enokiya, R., Fukui, Y., Garcia, P., Guzman, A., Henkel, C., Hsieh, P. -Y., Hu, Y., Immer, K., Jeff, D., Klessen, R. S., Kohno, K., Krumholz, M. R., Lipman, D., Martin, S., Morris, M. R., Nogueras-Lara, F., Nonhebel, M., Ott, J., Pineda, J. E., Requena-Torres, M. A., Rivilla, V. M., Riquelme-Vasquez, D., Sanchez-Monge, A., Santa-Maria, M. G., Smith, H. A., Tanvir, T. S., Tolls, V., and Wang, Q. D. (Apr. 2025). "The Galactic-Centre Arms inferred from ACES (ALMA CMZ Exploration Survey)". In: *arXiv e-prints*, arXiv:2504.03331, arXiv:2504.03331. DOI: 10.48550/arXiv.2504.03331. arXiv: 2504.03331 [astro-ph.GA].

Wallace, J., Kolz, T., Battersby, C., Kuznetsova, A., Sánchez-Monge, Á., Schisano, E., Coletta, A., Zhang, Q., Molinari, S., Schilke, P., Ho, P. T. P., Kuiper, R., Zhang, T., Möller, T., Klessen, R. S., Beltrán, M. T., van der Tak, F., Pezzuto, S., Beuther, H., Traficante, A., Elia, D., Bronfman, L., Klaassen, P., Lis, D. C., Moscadelli, L., Rygl, K., Benedettini, M., Law, C. Y., Allande, J., Nucara, A., Koch, P. M., Kim, W., Sanhueza, P., Fuller, G., Stroud, G., Jones, B., Brogan, C., Hunter, T., Ahmadi, A., Avison, A., Johnston, K., Liu, S., Mininni, C., Su, Y., and Zinnecker, H. (Dec. 2025). "ALMAGAL VIII. Cataloging Hierarchical Mass Structure from Cores to Clumps across the Galactic Disk". In: *arXiv e-prints*, arXiv:2510.12892.

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Zhang, S., Lu, X., Ginsburg, A., Budaiev, N., Cheng, Y., Liu, H. B., Liu, T., Zhang, Q., Qiu, K., Feng, S., Pillai, T., Tang, X., Mills, E. A. C., Luo, Q., Li, S., Issac, N., Liu, X., Xu, Fengwei, **Wallace, J.**, Mai, X., Zhang, Y., Battersby, C., Longmore, S. N., and Shen, Z. (Mar. 2025). "Subclustering and Star Formation Efficiency in Three Protoclusters in the Central Molecular Zone". In: 982.1, L10, p. L10. DOI: 10.3847/2041-8213/adb30b. arXiv: 2503.00878 [astro-ph.GA].

Submitted:

Battersby, C., Santa-Maria, M.G, Lipman, D., Paré, D. M., Lee, Rachel, García, P., Jim-Serra, I., Pan, X., Walker, D. L., Sullivan, J., Alboslani, D., Hatchfield, H. P., Hu, Y., Lazarian, A., **Wallace, J.**, Zhang, Q., Lu, X., Mills, E. A. C., Ginsburg, A., Barnes, A. T., Hsieh, P., Henshaw, J., Longmore, S. N., Bally, J., Colzi, L., Ho, P. T. P., Petkova, M. A., Sormani, M. C., Bulatek, A., Butterfield, N. O., Federrath, C., Glover, S. C. O., Gorski, M. D., Gramze, S., Henkel, C., Karoly, J., Klessen, R. S., Martín, S., Nogueras-Lara, F., Pineda, J. E., Riquelme-Vásquez, D., Rivilla, V. M., Sánchez-Monge, A., Schmiedeke, A., Sofue, Y., and Volker, T. (July 2025). "ACES VI. ALMA Large Program Reveals a Highly Filamentary Central Molecular Zone". Submitted.

Ginsburg, A., Walker, D., Sánchez-Monge, A., Barnes, A. T., Lu, X., Pineda, J. E., Immer, K., Zhang, Q., Bally, J., Budaiev, N., Colzi, L., García, P., Gramze, S. R., Henshaw, J. D., Hsieh, P., Jeff, D., Jiménez-Serra, I., Klessen, R. S., Dicker, S. R., Longmore, S. N., Nogueras-Lara, F., Rivilla, V. M., Santa-Maria, M., Wang, Q. D., Xu, F., Battersby, C., Ho, P. T. P, Kruijssen, J. M. D., Mills, E. A. C., Petkova, M., Sormani, M. C., Tress, R. G., **Wallace, J.**, Armijos-Abendaño, J., Armillotta, L., Bijas, N., Buddhacharya, R., Bulatek, A., Busch, L. A., Butterfield, N. O., Chevance, M., Cook, C., Crowe, S., Díaz-Rodríguez, A. K., Dutkowska, K. M., Fedriani, R., Federrath, C., Glover, S. C. O., Gu, Q., Houghton, R. J., Hu, Y., Issac, N., Karoly, J., Krumholz, M. R., Liang, F., Martín, S., Mazoochi, F., Pan, X., Paré, D., Pillai, T., Pound, M. W., Riquelme-Vásquez, D., Schmiedeke, A., Sofue, Y., Tolls, V., Williams, G. M., Zhang, S., Moravec, E., Romero, C. E., Mason, B. S., and Orlowski-Scherer, J. (July 2025). "ALMA Central Molecular Zone Exploration Survey (ACES) II: 3mm continuum images". Submitted.

Gramze, S., Ginsburg, A., Budaiev, N., Bulatek, A., Richardson, T., Barnes, A. T., Santa-Maria, Miriam G., Sormani, M. C., Lu, X., Nogueras-Lara, F., Gaches, B. A. L., Battersby, C. D., **Wallace, J.**, Walker, D. L., Mills, E. A. C., and Mattern, M. (Sept. 2025). "Mapping CO Ice in a Star-Forming Filament in the 3 kpc Arm with JWST". In: *arXiv e-prints*, arXiv:2509.21763, arXiv:2509.21763. arXiv: 2509.21763 [astro-ph.GA].

Hsieh, P., Walker, D., Ginsburg, A., Barnes, A. T., Armijos-Abendaño, J., Budaiev, N., Gramze, S. R., Cook, C., Henshaw, J. D., Immer, K., Issac, N., Liang, F., and Longmore, S. N. and Lu, X. and Martín, S. and Pan, X. and Pineda, J. E. and Pound, M. W. and Sánchez-Monge, A. and Zhang, Q. and Bally, J. and Battersby, C. and Colzi, L. and Ho, P. T. P and Jiménez-Serra, I. and Kruijssen, J. M. D. and Mills, E. A. C. and Petkova, M. and Sormani, M. C. and Tress, R. G. and **Wallace, J.** and Armillotta, L. and Bijas, N. and Buddhacharya, R. and Busch, L. A. and Butterfield, N. O. and Chevance, M. and Díaz-Rodríguez, A. K. and Federrath, C. and Fedriani, R. and García, P. and Gu, Q. and Houghton, R. J. and Hu, Y. and Karoly, J. and Klessen, R. S. and Krumholz, M. R. and Mazoochi, F. and Nogueras-Lara, F. and Paré and Riquelme-Vásquez, D. and Rivilla, V. M. and Santa-Maria, M. and Schmiedeke, A. and Sofue, Y. and Tolls, V. and Wang, Q. D. and Williams, G. M. and Xu, F. and Zhang, S. (July 2025). "ALMA Central molecular zone Exploration Survey (ACES) V: CS(2-1), SO($2_3 - 1_2$), CH_3CHO ($5_{(1,4)} - 4_{(1,3)}$), HC_3N(11-10) and H40α lines data preview". Submitted.

Longmore, S. N., Bally, J., Barnes, A. T., Battersby, C., Colzi, L., Ginsburg, A., Henshaw, J. D., Ho, P. T. P., Jim-Serra, I., Kruijssen, J. M. D., Mills, E. A. C, Petkova, M., Sormani, M. C., Tress, R. G., Walker, D. L, **Wallace, J.**, Alkhuja, E., Armilotta, L., Budaiev, N., Bhuddacharya, R., Bulatek, A., Burton, M., Butterfield, N. O., Busch, L., Caselli, P., Chevance, M., Cook, C., Crowe, S., Díaz-Rodríguez, A. K., DiTeodoro, E., Dicker, S. R., Dutkowska, K. M., Fairley, A., Federrath, C., Fedriani, R., Fiteni, K., Fuller, G., García, P., Goicoechea, J., Girichidis, P., Glover, S. C. O., Gorski, M., Gramze, S. R., Gu, Q., Hatchfield, H. P., Houghton, R. J., Hsieh, P., Hu, Y., Immer, K., Jeff, D., Karoly, J., Kauffmann, J., Klessen, R. S., Krumholz, M. R., Lazarian, A., Levesque, E. M., Liang, F., Lipman, D., Liu, X., Lu, X., Luo, Q., Lupi, A., McCafferty, L., Martín, S., Mazoochi, Farideh, Morris, M. R., Nonhebel, M., Nogueras-Lara, F., Oka, T., Ott, J., Padovani, M., Pan, X., Pineda, J.E., Pillai, T. G. S., Pound, M. W., Torres, M. R., Riquelme-Vásquez, D., Rivilla, V. M., Salo, G., Sánchez-Monge, A., Santa-Maria, M. G., Schoedel, R., Schmiedeke, A., Schultheis, M., Smith, H. A., Sofue, Y., Testi, L., Tremblay, G. R., Vasini, A., Vermariën, G., Vikhlinin, A., Viti, S., Wang, Q. D., Xu, F., Zhang, S., and Zhang, Q. (July 2025). "ALMA Central Molecular Zone Exploration Survey (ACES) overview paper". Submitted.

Lu, X., Walker, D., Ginsburg, A., Barnes, A. T., Armijos-Abendaño, J., Budaiev, N., Gramze, S. R., Cook, C., Henshaw, J. D., Hsieh, P., Immer, K., Issac, N., Liang, F., and Longmore, S. N. and Martín, S. and Pan, X. and Pineda, J. E. and Pound, M. W. and Sánchez-Monge, A. and Zhang, Q. and Bally, J. and Battersby, C. and Colzi, L. and Ho, P. T. P and Jiménez-Serra, I. and Kruijssen, J. M. D. and Mills, E. A. C. and Petkova, M. and Sormani, M. C. and Tress, R. G. and **Wallace, J.** and Armillotta, L. and Bijas, N. and Buddhacharya, R. and Busch, L. A. and Butterfield, N. O. and Chevance, M. and Díaz-Rodríguez, A. K. and Federrath, C. and Fedriani, R. and García, P. and Gu, Q. and Houghton, R. J. and Hu, Y. and Karoly, J. and Klessen, R. S. and Krumholz, M. R. and Liu, X. and Mazoochi, F. and Nogueras-Lara, F. and Paré and Riquelme-Vásquez, D. and Rivilla, V. M. and Santa-Maria, M. and Schmiedeke, A. and Sofue, Y. and Tolls, V. and Wang, Q. D. and Williams, G. M. and Xu, F. and Zhang, S. (July 2025). "ALMA Central molecular zone Exploration Survey (ACES) IV: Data of the two intermediate-width spectral windows". Submitted.

Schuler, S. F., **Wallace, J.**, Battersby, C., Hatchfield, H. P., Gutermuth, R., Lu, X., Zhang, S., and Zhang, Q. (July 2025). "Mass Segregation in the CMZoom Survey". Submitted.

Walker, D., Ginsburg, A., Barnes, A. T., Armijos-Abendaño, J., Budaiev, N., Bulatek, A., Gramze, S. R., Cook, C., Henshaw, J. D., Hsieh, P., Immer, K., Issac, N., Jeff, D., Liang, F., and Longmore, S. N. and Lu, X. and Mills, E. A. C. and Martín, S. and Pan, X. and Pillai, T. and Pineda, J. E. and Pound, M. W. and Sánchez-Monge, A. and Zhang, Q. and Bally, J. and Battersby, C. and Colzi, L. and Ho, P. T. P and Jiménez-Serra, I. and Kruijssen, J. M. D. and Petkova, M. and Sormani, M. C. and Tress, R. G. and **Wallace, J.** and Armillotta, L. and Bijas, N. and Buddhacharya, R. and Busch, L. A. and Butterfield, N. O. and Chevance, M. and Crowe, S. and Díaz-Rodríguez, A. K. and Dutkowska, K. M. and Federrath, C. and Fedriani, R. and García, P. and Glover, S. C. O. and Gu, Q. and Houghton, R. J. and Hu, Y. and Karoly, J. and Klessen, R. S. and Krumholz, M. R. and Mazoochi, F. and Nogueras-Lara, F. and Paré and Riquelme-Vásquez, D. and Rivilla, V. M. and Santa-Maria, M. and Schmiedeke, A. and Sofue, Y. and Tolls, V. and Wang, Q. D. and Williams, G. M. and Xu, F. and Zhang, S. (July 2025). "ALMA Central molecular zone Exploration Survey (ACES) III: Molecular line data reduction and HNCO and HCO^+ data preview". Submitted.

Advanced Drafts:

Wallace, J., Battersby, C., Budaiev, N., Hatchfield, H. P., A., Barnes, Yoo, T., Santa-Maria, M. G., Daley, A., Wang, Q. D., Schmiedeke, A., Sheriff, K., Armijos, J., Walker, D., Williams, G., Lipman, D., Farideh, M., Butterfield, N., Nogueras-Lara, F., Sofue, Y., Klessen, R. S., Glover, S. C. O., Immer, K., Gramze, S., Dutkowska, K. M., Buddhacharya, R., Colzi, L., Lieber, A., Bulatek, A., Wieber, M., García, P., Riquelme-

Vasquez, D., Pan, X., Kauffmann, J., Pound, M., Di Teodoro, E., Pillai, T., Alkhuja, E., Hu, Y., Perlot, D., Smith, H., Rivilla, V. M., Jiao, W., Xu, F., Ginsburg, A., Nguyen, K., Salo, G., Poznanski, J., Páre, D., and Petkova, M. and Esplugues, G. (Jan. 2026). "The ACES Compact Continuum Source Catalog". Manuscript in preparation.

Teaching Experience

Graduate Teaching Assistant Aug 2019 - May 2022

- Led the lab portion of introductory level electromagnetism for engineering students and for students with non-STEM majors.
- Led students through demonstrations and problem-solving tutorials during class.
- Graded quizzes, pre-lab assignments, lab reports, and exams.
- Hosted office hours and assisted students taking various different physics courses, such as astronomy, quantum mechanics, and the physics of sound.

Undergraduate Teaching Assistant Aug 2018 - Dec 2018

- Taught students about basic circuitry and coding for the Miami University electronics lab
- Helped students develop skills with troubleshooting technical issues during lab