

# RACHEL R. LEE

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University of Connecticut, Storrs, CT 06269  
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## EDUCATION

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### University of Connecticut

PhD. Physics and Astronomy

*Advisors: Aleksandra Kuznetsova & Cara Battersby*

*August 2022 - Present*

Overall GPA: 4.00/4.00

### Purdue University

Bachelors of Science, Physics Honors

Minors in Astronomy and Mathematics

College of Science, Honors College

*August 2017 - May 2021*

Overall GPA: 3.67/4.00

Physics Honors GPA: 3.63/4.00

## RESEARCH INTERESTS

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**Stellar Formation:** Protostellar Variability, Stellar Mass Assembly, Protoplanetary Disk Evolution, Stellar Formation in Extreme Environments

**Observational and Time Domain Astronomy:** Supernovae, Supernova Remnant Morphology and Energetics, Progenitor System Analysis, Stellar Evolution and Formation, Spectroscopy, Stellar Classification

## REFEREED PUBLICATIONS

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1. **Lee, R. R.**, Milisavljevic, D., Weil, K. E., Banoventz, J. "Direct Supernova Remnant Distance Estimates Using NEID Spectroscopy of Gaia Stars," *in prep.* (2025).
4. **Lee, R. R.**, Battersby, C., Kuznetsova, A., Fischer, W. J., Beuther, H., Hasegawa, Y., Sewiło., M. "Investigating the Role of Protostellar Variability with PRIMA Using Monte Carlo Simulations," AAS Journal, (*submitted, Oct. 15, 2025; Accepted, XXX*).
3. Battersby, C., Santa-Maria, M. G., Lipman, D., Paré, D. M., **Lee, R. R.**, García, P., Jiménez-Serra, I., Pan, X., Walker, D. L., Sullivan, J., Albosani, D., Hatchfield, H. P., Hu, Y., Lazarian, A., Wallace, J., Zhang, Q. Lu, Z., Mills, E. A. C., Ginsburg, A., Barnes, A. T., Hsieh, P., Henshaw, J. D., Longmore, S. N., Bally, J., Colzi, L., Ho, P. T. P., Petkova, M., Sormani, M. C., Bulatek, A., Butterfield, N. O., Federrath, C., Glover, S. C. O., Gorski, M. D., Gramze, S. R., Henkel, C., Karoly, J., Klessen, R. S., Martín, S., Nogueras-Lara, F., Pineda, J. E., Riquelme-Vásquez, D., Rivilla, V. M., Sánchez-Monge, Á., Schmiedeke, A., Sofue, Y., Tolls, V. "ACES VI: ALMA Large Program Reveals a Highly Filamentary Central Molecular Zone," MNRAS, (*submitted, Jul. 28, 2025; Accepted, XXX*).
2. Fischer, W. J., Battersby, C., Johnstone, D., **Lee, R.**, Sewiło., M., Beuther, H., Hasegawa, Y., Ginsburg, A., Pon-toppidan, K. "Far-Infrared Luminosity Bursts Trace Mass Accretion onto Protostars," AAS Journals, (*submitted, Oct. 28, 2023; Accepted, Dec. 21, 2023*).
1. Garretson, B., Milisavljevic, D., Reynolds, J., Surbrayan, B., Weil, K. E., Banovetz, J., **Lee, R.** "Supernova Host Galaxy Association and Photometric Classification of Over 10,000 Light Curves from the Zwicky Transient Facility," RNAAS, (*Submitted, Dec. 3, 2021; Accepted, Dec. 7, 2021*).

## NON-REFEREED PUBLICATIONS

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8. Weil, K. E., Milisavljevic, D., Rupert, J., et al. and 17 other authors incl. **Lee, R.** "REFITT classification of SN 2021nxq (ZTF21abcpjsj)," Transient Name Server AstroNote, 182 (2021)
7. Weil, K. E., Milisavljevic, D., Andrews, M., et al. and 18 other authors incl. **Lee, R.** "REFITT classifications of optical transients using SOAR," Transient Name Server AstroNote, 30 (2021)

6. Weil, K. E., Subrayan, B. M., Milisavljevic, D., et al. and 17 other authors incl. **Lee, R.** "REFITT classifications of optical transients using SOAR," Transient Name Server AstroNote, 266 (2020)
5. Weil, K. E., Milisavljevic, D., Andrews, M., et al. and 18 other authors incl. **Lee, R.** "REFITT Discovery and Classification of SN2020abog (ZTF20acpgjac) using SOAR," Transient Name Server AstroNote, 243 (2020)
4. Weil, K. E., Milisavljevic, D., Andrews, M., et al. and 18 other authors incl. **Lee, R.** "REFITT classifications of optical transients using SOAR," Transient Name Server AstroNote, 242 (2020)
3. Weil, K. E., Milisavljevic, D., Andrews, M., et al. and 18 other authors incl. **Lee, R.** "REFITT classifications of optical transients using SOAR," Transient Name Server AstroNote, 232 (2020)
2. Weil, K. E., Milisavljevic, D., Andrews, M., et al. and 18 other authors incl. **Lee, R.** "REFITT Discovery and Classification of SN 2020zct (ZTF20acezhcf) using SOAR," Transient Name Server AstroNote, 227 (2020)
1. Weil, K. E., Milisavljevic, D., Andrews, M., et al. and 18 other authors incl. **Lee, R.** "REFITT classifications of optical transients using SOAR," Transient Name Server AstroNote, 225 (2020)

### OBSERVING PROPOSALS

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6. Gemini Observatory Long Term Proposal, **Co-I**, 2026A. Time: 15 Hours (2026A, Submitted). "*Census of Early Time Narrow Features in Core-Collapse Supernovae.*"
5. Gemini Observatory Fast Turnaround Proposal, **PI**, 2025A. Time: 4.26 Hours (2025A, Accepted). "*Determining a Direct Distance Estimate to Puppis A Using Absorption Spectroscopy of Gaia Field Stars.*"
4. National Optical-Infrared Astronomy Observatory Proposal, **Co-I**, 2021B. Time: 4 Nights (2021A, Accepted). "*Spectroscopic Follow-up of Faint Transients from the ZTF Public Survey using REFITT.*"
3. National Optical-Infrared Astronomy Observatory Proposal, **Co-I**, 2021B. Time: 3 Nights (2021A, Accepted). "*Enhancing the ZTF Public Survey for Science Inferencing with REFITT.*"
2. National Optical-Infrared Astronomy Observatory Proposal, **Co-I**, 2021A. Time: 0.5 Nights (2020B, Accepted). "*Precise Distance Estimates to Nearby Supernova Remnants.*"
1. National Optical-Infrared Astronomy Observatory Proposal, **Co-I**, 2021A. Time: 40 Hours (2020B, Accepted). "*An ORACLE for Antares.*"

### PRESENTATIONS

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Oct. 2025	University of Connecticut Astronomy Seminar; Talk
May 2025	ESO RAVEYSO Workshop; Poster
Oct. 2022	University of Connecticut Astronomy Seminar; Talk
Jan. 2022	239 AAS Meeting; Poster

### TEACHING EXPERIENCE

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#### Graduate Assistant, University of Connecticut

Fall 2022	PHYS 1025: Introduction to Astronomy
Spring 2023	PHYS 1025: Introduction to Astronomy
Spring 2024	PHYS 1201: General Physics I

#### Course Assistant, University of Connecticut

Spring 2023	PHYS 1025: Introduction to Astronomy
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#### Physics Course and Individual Tutor, Purdue University

Spring 2021	PHYS 220: Mechanics
Fall 2021	PHYS 220: Mechanics
Spring 2022	PHYS 220: Mechanics

#### Polytechnic Physics and Math Tutoring Supervisor, Purdue University

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Fall 2021	PHYS 220: Mechanics
Fall 2021	PHYS 221: Electricity and Magnetism
Spring 2022	PHYS 220: Mechanics
Spring 2022	PHYS 221: Electricity and Magnetism

### OUTREACH AND SERVICE

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<b>Astronomy Journal Club Lead</b> , University of Connecticut	2025 – Present
<b>REFITT Education and Outreach Liaison</b> , Purdue University	2021 – 2022

### HONORS AND AWARDS

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· Margie and Don Bottorff Undergraduate Physics Scholarship	Aug. 2019–May 2021
· David G. Seiler Physics Scholarship	Aug. 2019–May 2020
· Lijuan Wang Memorial Award	Aug. 2019–May 2020
· Ascarelli Fellowship Recipient	Aug. 2017–May 2018
· Honors College	Aug. 2017–May 2021
· Semester Honors Recipient	Jan. 2019–May 2021
· Purdue University Dean's List	Jan. 2020–May 2021
· Purdue Promise Scholarship Recipient	Aug. 2017–May 2021
· 21st Century Scholar Recipient	Aug. 2017–May 2021

### MEMBERSHIPS

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· Purdue Undergraduate Physics Student Council, Co-Founder and Treasurer	Jan. 2019–May 2021
· Women in Physics, Member	Aug. 2017–May 2021
· Purdue University Astronomy Club, Member	Aug. 2018–May 2021
· Society of Physics Students, Member	Aug. 2018–May 2021
· University of Connecticut Physics Graduate Student Association, President	Aug. 2024 – May 2025
· American Astronomical Society, Member	Oct. 2021 – Present
· University of Connecticut Physics Graduate Student Association, Member	Aug. 2022 – Present