Rena Aerey Lee

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Education

2020–2022 **M.S. in Earth and Planetary Sciences**, *University of Hawai'i at Mānoa*, Honolulu, HI, 3.88/4.0

2016 – 2020 **B.A. in Astronomy and Cognitive Science**, *Vassar College*, Poughkeepsie, NY, 3.52/4.0
Minor in Chemistry, Departmental Honors in Astronomy

Research

Interests Low Mass Stars, Planet Formation and Evolution, Planetary Atmospheres

Aug 2020 - Present **Dr. Eric Gaidos**, *Master's Thesis: Relating Multiplicity and Rotational Evolution among Young M Dwarf Stars in the Beta Pictoris Moving Group*, Honolulu, HI
- Obtaining, reducing, and analyzing IR data from Maunakea Observatories and other sources to study the rotation and activity of young M dwarf stars and the implications for the evolution of their planets; observational campaign to detect and measure the stellar masses of companions in binary systems.

Aug 2020 - Present **Dr. Peter Plavchan**, *TOI Follow-Up Program*, Fairfax, VA
- Collaborator and observer for IR spectroscopic follow-up of TESS Objects of Interest, detecting and characterizing exoplanets around M Dwarf stars by radial velocity analysis.

Aug 2021 - Present **Dr. Sonal Jain**, *MAVEN IUVS Science Team*, Boulder, CO
- Research Affiliate of the Mars Atmosphere and Volatile EvolutioN (MAVEN) Imagning UltraViolet Spectrograph (IUVS) Science Team at the Laboratory for Atmospheric and Space Physics; analyzing data from previous laboratory work with Dr. Joseph Ajello and preparing manuscripts for publication.

Aug 2019 - Aug 2020 **Dr. Joseph Ajello**, *Laboratory Study of Planetary UV Emissions*, Boulder, CO
- Analyzed laboratory UV emission spectra for application in planetary aeronomical modeling; laboratory operation; prepared manuscript for publication; data reduction, analysis, and quality assurance.

May 2019 - August 2019 **Dr. Joseph Ajello & Dr. Charles Malone**, *NSF Research Experience for Undergraduates*, Boulder, CO
- Operated and optimized laboratory vacuum chamber equipment, electron gun, and flight spare spectrographs (MAVEN IUVS, GOLD) to obtain electron impact-induced fluorescence spectra from common planetary gases; developed data reduction and visualization routines.

Awards and Honors

Graduate	National Science Foundation Graduate Research Fellowship	*Apr 2022*
	Fred Mason Bullard Fellowship, UH Mānoa	*Aug 2020*
Undergraduate	Austin Endowed Student Travel Grant, American Geophysical Union	*Dec 2019*
	Internship Grant Fund, Vassar College	*Nov 2019*
	Grace Hopper Celebration Research Scholarship, Computing Research Association	*Oct 2019*
	REU Student Conference Award, Boulder Solar Alliance	*Aug 2019*

Teaching

Undergraduate	Academic Intern (all-course Teaching Assistant), Astronomy Department	*Aug 2019 – May 2020*
	Academic Intern (all-course Teaching Assistant), Cognitive Science Department	*Jan 2020 – May 2020*
	Laboratory Teaching Assistant, Chemistry Department	*Aug 2018 – Dec 2019*
	Laboratory Teaching Assistant, Physics Department	*Aug 2018 – May 2019*

Academic Service

Graduate	Graduate Student Representative, Justice, Equity, Diversity, and Inclusion Committee	*Aug 2021 - Present*
	Peer Reviewer, Graduate Student Organization Merit Based Awards	*Spring 2021*

Volunteering and Outreach

Graduate	Mentor, HI-STAR (Hawai'i Student/Teacher Astronomy Research) Summer Camp	*2021, 2022*
	Volunteer, 3 events, UH Mānoa Institute for Astronomy Outreach	*2021-present*
	Alumna and Volunteer, QuestBridge Scholars	*Aug 2016 - Present*
Undergraduate	Organizer, Astronomy Night Events, Vassar College	*Aug 2019 - Feb 2020*
	Research and Coding Intern, Vassar Brothers Medical Center: The Heart Center	*Aug 2018 - May 2019*
	Middle School and College Prep Tutor, Vassar College Urban Education Initiative	*Aug 2016 - May 2018*

Technical Skills

Programming

Proficient	Python | IDL | LaTeX | Bash
Novice	MATLAB | C

Observing

74 hours	InfraRed Telescope Facility (iSHELL, SpeX)	*Aug 2020 - Present*
12 Hours	Subaru Telescope (IRD)	*Aug 2021 - Present*
20 Hours	Keck Observatory (NIRC2)	*Dec 2021*

Presentations

Talks	Earth and Planetary Sciences Department Colloquium Talk	*Nov 2021*
	American Geophysical Union Fall Meeting	*Dec 2019*
Posters	NExSci Sagan Summer Workshop	*Jul 2022*
	American Geophysical Union Fall Meeting	*Dec 2021*
	NExSci Sagan Summer Workshop	*Jul 2021*
	American Geophysical Union Fall Meeting	*Dec 2019*

Publications

3 First Author

Lee, R. A. et al. "Revisiting the β Pictoris Moving Group with Gaia EDR3: Membership Probabilities and Age" 2022, ApJL. *Submitted Apr 2022.*

Lee, R. A. et al. "Laboratory Study of the Cameron Bands and UV Doublet in the Middle Ultraviolet 180–300 nm by Electron Impact upon CO_2" 2021, AAS Journals. *Accepted Pending Revision Apr 2022.*

Lee, R. A. et al. "Laboratory Study of the Cameron Bands, the Fourth Positive Bands, and the First Negative Bands in the Middle Ultraviolet 180-300 nm by Electron Impact on CO" 2021, JGR: Planets, 126, 2020JE006602.

5 Contributing

El Mufti, M., + 95 authors, including **Lee, R. A.** "TOI 560 - Two Transiting planets Orbiting a K dwarf Validated with iSHELL, PFS and HIRES RVs" 2021, AAS Journals. *Accepted Pending Revision Apr 2022.* arXiv version

Cale, B. + 54 authors, including **Lee, R. A.** "Diving Beneath the Sea of Stellar Activity: Chromatic Radial Velocities of the Young AU Mic Planetary System" 2021, AJ, 162, 295.

Gaidos, E. + 23 authors, including **Lee, R. A.** "Zodiacal Exoplanets in Time (ZEIT) XII: A Directly-Imaged Planetary-Mass Companion to a Young Taurus M Dwarf Star" 2021, MNRAS, 512, 10.1093/mnras/stab3069.

Ajello, J. M. + 10 authors, including **Lee, R. A.** "The UV spectrum of the Lyman-Birge-Hopfield band system of N2 induced by cascading from electron impact" 2020, JGR: Space Physics, 125, 2019JA027546.

de Leeuw, J. + 18 authors, including **Lee, R. A.** "Similar event-related potentials to structural violations in music and language: A replication of Patel, Gibson, Ratner, Besson, & Holcomb (1998)" 2019, Metapsychology, 3, MP.2018.1481.

References available upon request.