

Maryum Sayeed

 0000-0001-6180-8482

 NASA ADS

 [~maryumsayeed.github.io](https://github.com/maryumsayeed.github.io)

EDUCATION

Columbia University

Ph.D. in Astronomy

Expected 2026

- Advisors: Melissa K. Ness and Daniel Huber
- Thesis: Studying Anomalous Stellar Populations with Spectroscopy and Asteroseismology
- LSSTC Data Science Fellow 2021 – 2023
- National Osterbrock Leadership Fellow 2021 – 2023

Master of Philosophy in Astronomy

2024

Master of Arts in Astronomy

2023

University of British Columbia

B.Sc in Honors Physics & Astronomy

2015 – 2020

GRANTS, AWARDS, & HONORS

NSERC Canada Graduate Scholarship, Government of Canada (*63k CAD*)

2022 – 2025

National Osterbrock Leadership Fellowship, AAS (*4k USD*)

2021

LSSTC Data Science Fellowship, LSSTC

2021

Columbia University Graduate Fellowship, Columbia University

2021 – 2026

Trottier Excellence Grant, Institute for Research on Exoplanets (*6k CAD*)

2018

Choquette Family Foundation Global Award (declined), UBC (*10k CAD*)

2018

BSc with Distinction, University of British Columbia

2020

Dean's Honour List, University of British Columbia

2020

Dean's Honour List, University of British Columbia

2019

Rhodes Scholar (nominated), University of British Columbia

2019

PUBLICATIONS

Summary: 12 total, 6 first-author, 6 co-author, 136+ citations

First Author: 6 publications with 43+ citations

1. [M. Sayeed](#), A. R. Casey, B. T. Montet, *et al.*, (2025), “[Looking for Companionship: Radial Velocity Follow-Up of Lithium-Rich Giants with ESPRESSO](#)”, arXiv e-prints, *Submitted to ApJ*
2. [M. Sayeed](#), S. F. Yang, G. Cinquegrana, *et al.*, (2025), “[Probing Binary Architectures of Lithium-rich Giants in GALAH with COSMIC and Stellar Models](#)”, *ApJ*, 991, 1, *Citations: 1*
3. [M. Sayeed](#), D. Huber, A. Chontos, and Y. Li, (2025), “[A Homogeneous Catalog of Oscillating Solar-type Stars Observed by the Kepler Mission and a New Amplitude Scaling Relation Including Chromospheric Activity](#)”, *AJ*, 170, 4, *Citations: 1*
4. [M. Sayeed](#), R. Angus, T. A. Berger, *et al.*, (2025), “[Exoplanet Occurrence Rate with Age for FGK Stars in Kepler](#)”, *AJ*, 169, 2, *Citations: 4*

5. M. Sayeed, M. K. Ness, B. T. Montet, *et al.*, (2024), “Many Roads Lead to Lithium: Formation Pathways For Lithium-rich Red Giants”, ApJ, 964, 1, *Citations: 20*
6. M. Sayeed, D. Huber, A. Wheeler, and M. K. Ness, (2021), “The Swan: Data-driven Inference of Stellar Surface Gravities for Cool Stars from Photometric Light Curves”, AJ, 161, 4, *Citations: 14*

Co-Author: 6 publications with 93+ citations

7. Y. Lu, C. Manea, M. Sayeed, *et al.*, (2025), “Spectroscopic Follow-up of Young High- Dwarf Star Candidates: Still Likely Genuinely Young”, arXiv e-prints, *Submitted to AJ*
8. Y. Lu, I. L. Colman, M. Sayeed, *et al.*, (2025), “Evidence of Truly Young High- α Dwarf Stars”, AJ, 169, 3, *Citations: 6*
9. M. N. Lund, S. Basu, A. Bieryla, *et al.*, (2024), “The K2 Asteroseismic KEYSTONE sample of Dwarf and Subgiant Solar-Like Oscillators. I. Data and Asteroseismic parameters”, A&A, 688, *Citations: 8*
10. J. Tayar, J. K. Carlberg, C. Aguilera-Gómez, and M. Sayeed, (2023), “Lithium in Kepler Red Giants: Defining Normal and Anomalous”, AJ, 166, 2, *Citations: 9*
11. S. Mathur, R. A. García, S. Breton, *et al.*, (2022), “Detections of solar-like oscillations in dwarfs and subgiants with Kepler DR25 short-cadence data”, A&A, 657, *Citations: 29*
12. A. Chontos, D. Huber, M. Sayeed, and P. Yamsiri, (2022), “pySYD: Automated measurements of global asteroseismic parameters”, The Journal of Open Source Software, 7, 79, *Citations: 40*

TELESCOPE TIME

Principal Investigator: 80+ hours

ESO VLT Phase 2 (ESPRESSO) → 27.0 hours	2025
<i>Measuring binarity of lithium-rich red giants</i>	
ESO VLT Phase 3 (ESPRESSO) → 27.1 hours	2024
<i>Measuring binarity of lithium-rich red giants</i>	
ESO VLT Phase 2 (ESPRESSO) → 27.1 hours	2023
<i>Measuring binarity of lithium-rich red giants</i>	

Co-Investigator: 6.5 nights

Las Campanas Observatory, Magellan (MIKE) → 1.5 nights	2025
<i>A high precision analysis of lithium richness along the red giant branch</i>	
MDM McGraw–Hill (1.3m Telescope) → 5 nights	2022
<i>Photometric Confirmation and Ephemeris Refinement of TESS Planet Candidates</i>	

ADVISING

Madeline Maldonado Gutierrez , Columbia University (undergraduate)	Jan 2025 – May 2025
Selina Yang , Columbia University → Cornell University	May 2023 – Dec 2024
Forrest Weintraub , Columbia University (undergraduate)	Sep 2023 – Dec 2023
Leah McGee-Gold , Columbia University (undergraduate)	May 2022 – Aug 2022

SOFTWARE

Lead Developer, [The Swan](#) → inference of stellar surface gravity via linear regression

Co-Developer, [pySYD](#) → automated measurements of global asteroseismic parameters

TALKS

Contributed Talks

<i>Testing Binarity of Lithium-Rich Red Giants</i> → Cool Stars 2024	2024
<i>Formation Pathways for Lithium-Rich Red Giants</i> → GothamFest NYC	2023
<i>Investigating the Effects of Axion Quark Nuggets using X-ray and Gamma-ray Observations</i> → UBC	2020

Invited Seminars and Talks

<i>Looking for Companionship: Binarity of Lithium-Rich Giants</i> → Stars Seminar, OSU	2025
<i>Looking for Companionship: Binarity of Lithium-Rich Giants</i> → Journal Club, STScI	2025
<i>Looking for Companionship: Binarity of Lithium-Rich Giants</i> → AstroCoffee, JHU	2025
<i>Formation Pathways for Lithium-Rich Red Giants</i> → Montet Group Meeting, UNSW	2023
<i>Formation Pathways for Lithium-Rich Red Giants</i> → G.A.S.P., Australian National University	2023
<i>Glitch-PE: impact of glitches on parameter estimation of GW signals</i> → LIGO Group Meeting	2020
<i>Inference of Stellar Parameters Using Data-Driven Modelling</i> → Institute for Astronomy UH	2019
<i>Modelling multi-wavelength observations of IRS 48</i> → National Research Council of Canada	2019
<i>Hunt for Solar Oscillations – K2 Observations of Uranus</i> → Institute for Research on Exoplanets	2018

TEACHING

Graduate Teaching Assistant, Columbia University

Spring 2023: Theories of the Universe (UN1610)

Fall 2022: Astronomy Lab I (UN1903)

Spring 2022: Earth, Moon & Planets (UN1403)

Fall 2021: Stars & Atoms (UN1836)

Undergraduate Teaching Assistant, University of British Columbia

Spring 2018 – Fall 2019: Energy & Waves (PHYS101)

SERVICE

Graduate Mentorship Program → Coordinator	2022 – 2025
Colloquium Organizing Committee → Graduate Coordinator	2023 – 2024
Undergraduate/Graduate Mentorship Program → Mentor	2021 – 2025

OUTREACH

Astrobites → Author, Editor, Website Chair	2022 – 2024
Dec 2022: One Plot to Rule Them All!	
Dec 2022: Honey, I Shrunk the Orbit!	
Oct 2022: Astro Grads United	
Jun 2022: To Gaia & Beyond!	
May 2022: With Great Power Comes Great Asteroseismology	
Apr 2022: Women's History Month: Dr. Burçin Mutlu-Pakdil	
Mar 2022: Women's History Month: Dr. Munazza Alam	
Jan 2022: Make it or Brake it	
Skype A Scientist → Volunteer	2021 – 2025
UBC Astronomy Club → VP External	2015 – 2020
UBC Physics Society → VP Academic	2016 – 2017

POSTERS

- Sayeed, M.**, Ness, M., Montet, B. “Formation Pathways for Lithium Enriched Red Giants in GALAH & TESS”, July 2022
- Sayeed, M.**, Huber, D., Chontos, A., “A Homogeneous Catalog of Kepler Solar-like Oscillators Observed in Short Cadence”, TESS Science Conference II, Aug 2021 ([online](#))
- Chontos, A., **Sayeed, M.**, Huber, D., “pySYD: Automated Measurements of Global Asteroseismic Parameters”, TESS Science Conference II, Aug 2021 ([online](#))
- Sayeed, M.**, “Data-Driven Inference of Stellar Surface Gravities for Cool Stars from Photometric Light Curves”, American Astronomical Society Winter Meeting (237), Jan 2021
- Sayeed, M.**, “The Gravity of Machine Learning: Using Linear Regression to Infer Stellar Surface Gravity”, CASCA 2020, May 2020
- Sayeed, M.**, “Inference of Stellar Parameters Using Data-Driven Modelling”, American Astronomical Society Winter Meeting (235), Jan 2020