ALYSSA D. SOKOL, PHD

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EDUCATION

University of Massachusetts Amherst *August 2015 - December 2022*
Amherst, MA
PhD in Astrophysics, Advisor: Dr. Min Yun
Dissertation title: "The coeval mass assembly of the universe via supermassive black hole accretion and star formation in galaxies"

Colgate University *August 2010 - May 2014*
Hamilton, NY
B.A. in Physics & Astronomy

RESEARCH SKILLS

Proficient Astronomy fitting codes: SED3FIT, MAGPHYS, CIGALE, Starburst99
Languages: Python (including Astropy), Fortran
Advanced Computing: MIT Supercloud Supercomputer

PUBLICATIONS

1. **Alyssa D. Sokol**, M. Yun, A. Pope, A. Kirkpatrick, K. Cooke, *UV-FIR SED modelling of AGNs in IR-luminous galaxies up to z∼ 2.5: Understanding the effects of torus models*, 2023 MNRAS.521..818
2. **Alyssa D. Sokol**, R. A. Gutermuth, G. Wilson, et. al, *Early science with the Large Millimetre Telescope: An LMT/AzTEC 1.1 mm Survey of dense cores in the Monoceros R2 giant molecular cloud*, 2019 MNRAS.483..407S
3. R. Pokhrel, R. A. Gutermuth, S. Betti, S. R. Offner, P. C. Myers, S. T. Megeath, **A. D. Sokol**, et al, *Star-Gas Surface Density Correlations in 12 Nearby Molecular Clouds. I. Data Collection and Star-sampled Analysis*, 2020 ApJ, 896, 60.
4. S. K. Betti, R. Gutermuth, S. Offner, G. Wilson, **A. D. Sokol**, and R. Pokhrel, *The Robustness of Synthetic Observations in Producing Observed Core Properties: Predictions for the TolTEC Clouds to Cores Legacy Survey*, 2021, ApJ, 923, 25

RESEARCH ADVISING/MENTORING EXPERIENCE

Research Supervisor January 2023- Present
Managing and supervising Astrophysics research project for two high school students. Teaching coding and python skills, data visualization & analysis, managing project progress and trajectories.

RESEARCH FELLOWSHIPS

Spaulding-Smith Diversity Fellowship for minorities in STEM 2015-2022
Fully funded first and final year of PhD program for underrepresented minorities pursuing STEM fields.
Massachusetts Space Grant Consortium Summer Fellowship 2017-2022
2018 Australia-Americas PhD Visiting Research Fellowship 2018
Visiting research fellowship funded by The Australian Academy of Science; 3-month visiting research fellow at Mount Stromlo Observatory part of Australian National University in Canberra, ACT. Advisor: Dr. Mark Krumholz, Project Title: 'Bayesian forward modelling of star cluster populations.'

TRAVEL GRANTS

AAS International Travel Grant	2018,2019
IAU Travel Grant	2019
Mary Daily Irvine Travel Grant	2017,2018,2019
AAS FAMOUS Diversity Travel Grant	2017

INVITED COLLOQUIUM TALKS

"The Connected Universe: An overview of galaxy evolution, black hole accretion, and star formation over cosmic time"
Physics & Astronomy Colloquium
Colgate University, NY — March 2021

"H-alpha Luminous Star Clusters in Dwarf Galaxies: Investigating the Universality of the IMF with Bayesian SED fitting"
Research School of Astronomy and Astrophysics Colloquium
Australia National University, Canberra, ACT — July 2018
Physics & Astronomy Colloquium
Colgate University, NY — April 2018

CONTRIBUTED PRESENTATIONS

Oral:

UMass Amherst Galaxy Lunch	April 2022
AAS Winter 2021- Dissertation Talk	January 2021
UMass Amherst Galaxy Lunch	November 2020
Dave Sanders' 30th Anniversary:Luminous Starbursts and AGN- Honoloulu, HI	January 2020
AAS Winter 2020- Honolulu, HI	January 2020
UMass Amherst Galaxy Lunch	November 2019
Calzetti-Kennicutt SF Meeting- Texas A&M University, TX	November 2017
New England Star Formation Conference- Yale University, CT	January 2017
NEROC Radio Science Symposium- MIT Haystack Observatory, MA	November 2016
Star Formation Lunch Talk- INAOE, Pueblo, Mexico	March 2016
New England Star Formation Conference- Harvard Center for Astrophysics, MA	January 2016

Poster:

IAU 352: Galaxy Evolution in the JWST and ALMA Era- Porto, Portugal	June 2019
Dusting the Universe Conference- Tucson, AZ	March 2019
The Olympian Symposium- Paralia, Greece	June 2018
AAS Winter 2017- Grapevine, TX	January 2017

TEACHING EXPERIENCE

Teaching Assistant: Astronomy 452: Astrophysics II- Galaxies — 2022
Graded calculus-based problem sets, assisted students with homework, led semester-long research project on nearby galaxy spectroscopy– taught students how to formulate science papers, mine archival data, and code using Marvin software for SDSS/MaNGA observations.

Instructor: Modern Astronomy Summer High School Course — 2019,2020,2021
Helped design summer school curriculum, taught lectures and led Python-based labs teaching photometry at UMass Amherst for high school students.

Instructor: Astronomy 100/101 Lab — 2018-2020

Led Team Based Learning lab classes, demonstrated interactive activities, lectured on relevant concepts and information.

Teaching Assistant: Astronomy 301: Scientific Writing 2019-2021

Provided commentary & feedback to improve grammar, style, and quality of science writing for Astronomy majors. Offered feedback on verbal research presentations to improve student public speaking skills.

Teaching Assistant: Astronomy 100/101: Solar System Astronomy 2018-2020

Assisted students with concepts, homework, and exam preparation. Substitute-taught lectures.

OBSERVING EXPERIENCE

The Large Millimeter Telescope- Puebla, Mexico

Instruments: AzTEC 1.1mm camera, Redshift Search Receiver March 2016

SERVICE

UMass Amherst Astronomy Department:

Graduate Program Curriculum Restructuring Committee, Member 2019-2020

Served as graduate student representative to redesign curriculum, inspection/familiarity with program structure at UMass and other departments, developed new ideas for restructuring course content, course sequence, and the qualifying exam. Acted as liason between faculty, committee, and graduate students to solicit feedback and approval on implementing new design and ideas.

Volunteer at UMass AAS Undergraduate Reception Booth 2017,2020

Graduate Student Recruitment Committee, Chair 2017-2021

Organized and led department visits for prospective graduate students, served as primary point of contact for all visiting students, scheduled and organized group research presentations and individual meetings for visits, primary contact person for sustained communication following visit.

Mary Dailey Irvine Travel Grant Committee, Member 2018

DIVERSITY & INCLUSION SERVICE

UMass Amherst Astronomy Department:

Diversity, Equity & Inclusion Committee, Graduate Student Member 2020

Organized department-wide meetings and discussion for STEM Strike for Black Lives, working with small team to create long-term plan of increasing diversity in Astronomy department, brainstorming recruitment techniques that increase diversity of applicant pool (working with bridge-to-PhD programs), managing support for minority students at UMass (fellowship information, mental health resources, graduate community).

Department Climate Committee, Graduate Student Member 2018

Developed new ways to make climate more collaborative, friendly, & immersive by planning new department lounge and events to bring together undergraduate, graduate, and faculty groups.

OUTREACH

Ask an Astronomer Day- Springfield Elementary School, MA 2018,2019

Eureka! Girls Inc. Summer 2016

Assisted in Astronomy portion of Summer Program to immerse 8th grade girls in STEM fields; taught and demonstrated concepts at UMass Sunwheel, observatory, and computer labs.