

ALYSSA D. SOKOL, PHD

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EDUCATION

University of Massachusetts Amherst
Amherst, MA

August 2015 - December 2022

PhD in Astronomy, 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

TEACHING EXPERIENCE

Visiting Assistant Professor of Physics and Astronomy

2024- Present

Vassar College, Poughkeepsie NY

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

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 $z \sim 2.5$: 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 SKILLS

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

RESEARCH ADVISING/MENTORING EXPERIENCE

Private Tutor	January 2024 - Present
<i>Private tutor for high school and college level Geometry, Calculus, Physics, and Business Statistics.</i>	
Research Supervisor	January 2023- Present
<i>Managing and supervising Astrophysics research project for two high school students. Teaching coding and python skills, data visualization & analysis, managing project progress and trajectories.</i>	

RESEARCH FELLOWSHIPS

Spaulding-Smith Diversity Fellowship for minorities in STEM	2015-2022
<i>Fully funded first and final year of PhD program for underrepresented minorities pursuing STEM fields.</i>	
Massachusetts Space Grant Consortium Summer Fellowship	2017-2022
2018 Australia-Americas PhD Visiting Research Fellowship	2018
<i>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.'</i>	

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”	
<i>Physics & Astronomy Colloquium</i>	
Colgate University, NY	March 2021
“H-alpha Luminous Star Clusters in Dwarf Galaxies: Investigating the Universality of the IMF with Bayesian SED fitting”	
<i>Research School of Astronomy and Astrophysics Colloquium</i>	
Australia National University, Canberra, ACT	July 2018
<i>Physics & Astronomy Colloquium</i>	

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- Honolulu, 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, Puebla, 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

SERVICE

UMass Amherst Astronomy Department:

Graduate Program Curriculum Restructuring Committee, Member	2019-2020
<i>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 liaison between faculty, committee, and graduate students to solicit feedback and approval on implementing new design and ideas.</i>	
Volunteer at UMass AAS Undergraduate Reception Booth	2017,2020
Graduate Student Recruitment Committee, Chair	2017-2021
<i>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.</i>	
Mary Dailey Irvine Travel Grant Committee, Member	2018

DIVERSITY & INCLUSION SERVICE

UMass Amherst Astronomy Department:

Diversity, Equity & Inclusion Committee, Graduate Student Member	2020
<i>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).</i>	
Department Climate Committee, Graduate Student Member	2018
<i>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.</i>	

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.