

Brenna Mockler

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Education

UCSC

June 2022 (expected)

M.Sc. (2018)

Ph.D, Astronomy & Astrophysics

Cornell University

May 2016

B.A. Physics and College Scholar

Publications

Summary: 13 accepted publications, 1 waiting review, 2 first author

Gagliano, A., et al. inc. **Mockler, B.**, 2021, submitted to ApJ, [arXiv:2105.09963](https://arxiv.org/abs/2105.09963)

An Early-Time Optical and Ultraviolet Excess in the type-Ic SN 2020oi

Hung, T., et al. inc. **Mockler, B.**, 2021, [ApJ](https://doi.org/10.1086/71111), 917, 9

Discovery of a Fast Iron Low-ionization Outflow in the Early Evolution of the Nearby Tidal Disruption Event AT2019qiz

Jones, D.O., et al. inc. **Mockler, B.**, 2021, [ApJ](https://doi.org/10.1086/71111), 908, 143

The Young Supernova Experiment: Survey Goals, Overview, and Operations

Mockler, B. & Ramirez-Ruiz, E., 2021, [ApJ](https://doi.org/10.1086/71111), 906, 101

An Energy Inventory of Tidal Disruption Events

Law-Smith, J. A. P., et al. inc. **Mockler, B.**, 2020, [ApJ](https://doi.org/10.1086/71111), 905, 141

Stellar TDEs with Abundances and Realistic Structures (STARS): Library of Fallback Rates

Hung, T., et al. inc. **Mockler, B.**, 2020, [ApJ](https://doi.org/10.1086/71111), 903, 31

Double-peaked Balmer Emission Indicating Prompt Accretion Disk Formation in an X-Ray Faint Tidal Disruption Event

Roth, N., et al. inc. **Mockler, B.**, 2020, [Space Sci. Rev.](https://doi.org/10.1086/71111), 216, 114

Radiative Emission Mechanisms of Tidal Disruption Events

Holoien, T.W.-S., et al. inc. **Mockler, B.**, 2020, [ApJ](https://doi.org/10.1086/71111), 898, 161

The Rise and Fall of ASASSN-18pg: Following a TDE from Early To Late Times

Leloudas, G., et al. inc. **Mockler, B.**, 2019, [ApJ](https://doi.org/10.1086/71111), 887, 218

The spectral evolution of AT 2018dyb and the presence of metal lines in tidal disruption events

Mockler, B., Guillochon, J., & Ramirez-Ruiz, E., 2019, [ApJ](https://doi.org/10.1086/71111), 872, 151

Weighing Black Holes with Tidal Disruption Events

Ascenzi, S., et al. inc. **Mockler, B.**, 2019, [MNRAS](https://doi.org/10.1086/71111), 486, 672

A luminosity distribution for kilonovae based on short gamma-ray burst afterglows

Perley, D., et al. inc. **Mockler, B.**, 2019, [MNRAS](https://doi.org/10.1086/71111), 484, 1031

The fast, luminous ultraviolet transient AT2018cow: extreme supernova, or disruption of a star by an intermediate-mass black hole?

Guillochon, J., et al. inc. **Mockler, B.**, 2018, [ApJS](https://doi.org/10.1086/71111), 236, 6

MOSFiT: Modular Open-Source Fitter for Transients

Gallardo., P. A. et al. inc. **Mockler, B.**, 2017, [Appl. Opt.](https://doi.org/10.1086/71111) 56, 2796

Deep reactive ion etched anti-reflection coatings for sub-millimeter silicon optics

Talks & Posters

Summary: 13 talks (2 invited), 1 poster

EAS 2021	2021
Talk: <i>'Probing the stellar populations around supermassive black holes with tidal disruption events'</i>	
Supermassive Black Holes (originally in Pucon, Chile)	2020
Talk: <i>'Tidal Disruption Events'</i> , watch here .	
Chandra Frontiers in Time-Domain Science	2020
Talk: <i>'An Energy Inventory of Tidal Disruption Events'</i>	
Tidal Disruptions in Kyoto	2020
Talk: <i>'An Energy Inventory of Tidal Disruption Events'</i>	
TDEs in the Golden Age of Time Domain Astronomy – 235th AAS Meeting (invited)	2020
Talk: <i>'Weighing Black Holes with Tidal Disruption Events'</i>	
Hot-Wiring the Transient Universe VI	2019
Talk: <i>'Tidal Disruption Events with LSST'</i>	
University of Nova Gorica (invited colloquium)	2019
Talk: <i>'Weighing Black Holes with Tidal Disruption Events'</i>	
2019 Spring Symposium – The Deaths & Afterlives of Stars	2019
Poster: <i>'Weighing Black Holes with Tidal Disruption Events'</i>	
17th Meeting of the AAS High Energy Astrophysics Division	2019
Talk: <i>'Weighing Black Holes with Tidal Disruption Events'</i>	
Aspen Winter Conference: Using TDEs to study super-massive black holes	2018
Talk: <i>'Weighing Black Holes with MOSFiT'</i>	
DARK Institute for Cosmology	2018
Talk: <i>'The future of Black Hole population studies'</i>	
UC Santa Cruz FLASH	2018
Talk: <i>'Weighing Black Holes with MOSFiT'</i>	
TDE17: Piercing the sphere of influence	2017
Talk: <i>'Weighing Black Holes with MOSFiT'</i>	
Deciphering the violent universe	2017
Talk: <i>'Weighing Black Holes with MOSFiT'</i>	

Successful Grant Proposals (as PI)

NASA Swift Cycle 17 Guest Investigator	2021
<i>'MOSFIT: Connecting Models to Tidal Disruption Event Observations'</i>	

Recent Outreach, Teaching & Mentoring

Project Mentor & Workshop Leader - UC Santa Cruz	2020 - present
<i>Lamat REU program</i>	
REU focused on increasing the retention of diverse students in astronomy and planetary science. Recruits from local community colleges.	
Astro on Tap - Santa Cruz	2020
Informal public talk on black holes (watch here).	
Talk Coordinator Chair - UC Santa Cruz	2016 - present
<i>Women in Physics and Astronomy Group</i>	
Thesis advisor for undergraduate student - UC Santa Cruz	2016 - 2019
<i>Summer researcher/senior thesis</i>	
Project: The phase space of astronomical transients	

Teaching Assistant - UC Santa Cruz <i>ASTR119: Introduction to Scientific Computing; ASTR111: Order of Magnitude Astrophysics</i>	2017, 2018
Project Mentor - UC Santa Cruz <i>AY9: Introduction to Research in Astronomy</i> This class provides research opportunities to minority and disadvantaged students in their first year at UCSC	2016 - 2017
Founder and Leader of UWIP at Cornell - Cornell University <i>Undergraduate Women in Physics Group at Cornell</i>	2015 - 2016
Officer of Communications and Women in Physics - Cornell University <i>Cornell Society of Physics Students</i>	2014-2016

Selected Awards & Honors

AAUW American Dissertation Fellowship	2021-2022
UCSC President's Dissertation Year Fellowship	2021-2022
Denice Denton Excellence in Research Award	2021-2022
NSF Graduate Research Fellowship Honorable Mention	2018
UC Santa Cruz Astronomy Award for Excellence in Mentoring	2017-2018
Member of Mortar Board Der Hexenkreis Senior Honor Society	2016 - present
UC Santa Cruz Chancellor's Fellowship	2016 - 2017
UC Santa Cruz Regents' Fellowship	2016 - 2017
Maris and Andrew Rosenberg Scholarship	2016
P.E.O. Janet H. Griswold Scholarship, Ethel O. Gardner Scholarship	2015 - 2016
Cornell College Scholar	2013 - 2016
Cornell Varsity Soccer team	2012 - 2016
Neil Lubow Essay Prize for outstanding essay in Ethics	2013

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<http://nitens.org/taraborelli/cvtex>