

Contact Information	sko36@cornell.edu https://orcid.org/0000-0002-4941-5333	Space Sciences Building 122 Sciences Dr. Ithaca, NY, 14850
Education	Ph.D. in Astronomy (in progress) Cornell University, Ithaca NY	2023 (expected)
	B.A. with High Honors Major: Physics Concentration: Astrophysics Minor: English Oberlin College, Oberlin OH	2018
Research Interests	Radio transients, including fast radio bursts and pulsars; Precision pulsar timing and its applications, including gravitational wave detection and tests of General Relativity; Turbulence in the interstellar medium	
Awards & Fellowships	Cranson and Edna B. Shelley Outstanding Teaching Assistant Award Honorable Mention, NSF Graduate Research Fellowship Competition Cornell Graduate Student Fellowship Cornell Graduate Travel Grant Carl E. Howe Prize in Physics, Oberlin College Oberlin Physics & Astronomy Department Honors Program Robert Weinstock Prize for Outstanding Achievement in Physics Coursework John Frederick Oberlin Merit Scholarship Valedictorian, Sir Francis Drake High School Ellsworth Hagen Scholarship, Drake Scholarship Foundation	2020 2020 2018-2019 2019 2018 2017-2018 2017 2014-2018 2014 2014
Undergraduate Research Assistantships	Honors Program Dept. of Physics & Astronomy, Oberlin College Title: "Testing the Production of Scintillation Arcs with the Pulsar B1133+16" Investigator: Prof. Dan Stinebring McGill Space Institute, McGill University Title: "Modeling the Repeating Fast Radio Burst as a Poisson Process" Title: "Searching for Neutral Hydrogen Absorption in the Repeating Fast Radio Burst" Investigator: Prof. Victoria Kaspi Dept. of Physics & Astronomy, San Francisco State University Title: "Modeling the retrieval of lens star spectra during microlensing events" Investigator: Prof. Stephen Kane Dept. of Physics & Astronomy, Oberlin College Title: "Testing Physical Models for the Production of Scintillation Arcs" Investigator: Prof. Dan Stinebring REU program National Solar Observatory Title: "Characterizing the effects of spatial smoothing on solar magnetic helicity parameters and the solar hemispheric helicity sign rule" Investigator: Dr. Gordon Petrie	2017-18 Summers of 2017 & 2016 2016-2017 2015-2016 Summer 2015

Talks & Posters	<p><u>Ocker SK</u>, Rickett B.J., Stinebring D. A Multi-Frequency Scintillation Arc Study of Pulsar B1133+16. Poster. 233rd AAS Meeting 2019.</p> <p><u>Ocker SK</u>, Stinebring D. Multiple scintillation arcs in a nearby pulsar, B1133+16: crucial clues? Talk. University of Toronto Scintillometry with Pulsar VLBI Workshop 2017.</p> <p><u>Ocker SK</u>, Petrie G. The effects of spatial smoothing on solar magnetic helicity and the hemispheric helicity sign rule. Poster. 47th AAS/Solar Physics Division Meeting 2016.</p>
Refereed Publications	<p><u>Ocker SK</u>, Cordes JM, Chatterjee S. Electron density structure of the local Galactic disk. arXiv:2004.11921.</p> <p>Stinebring DR, Rickett BJ, <u>Ocker SK</u>. The frequency dependence of scintillation arc thickness in pulsar B1133+16. <i>ApJ</i>. 870:2. https://doi.org/10.3847/1538-4357/aaef80 (2019).</p> <p><u>Ocker SK</u>, Petrie G. The effects of spatial smoothing on solar magnetic helicity parameters and the hemispheric helicity sign rule. <i>ApJ</i>. 832:162. doi:10.3847/0004-637X/832/2/162 (2016).</p>
Non-refereed Publications	<p><u>Ocker SK</u>. Testing the production of scintillation arcs with the pulsar B1133+16. Electronic Thesis. Oberlin College, 2018. <i>OhioLINK Electronic Theses and Dissertations Center</i>. http://rave.ohiolink.edu/etdc/view?acc_num=oberlin1526565414057674</p>
Member Affiliations	<p>Associate Member, North American Nanohertz Observatory for Gravitational Waves (NANOGrav) 2019-present</p> <p>Graduate Student Member, American Astronomical Society (AAS) 2018-present</p> <p>Graduate Student Member, American Physical Society (APS) 2019</p>
Approved Observing Proposals	<p>Title: “Pulsar Scintillation Arcs - An L-band Follow-up to Previous GBT Detections” 2017</p> <p>Instrument: Greenbank Telescope, NRAO</p> <p>Proposal ID: GBT18A-349</p> <p>Proposal Authors: Jussila A, <u>Ocker SK</u>, Rickett BJ, McLaughlin M, Minter A, Stinebring DR</p>
Teaching Experience	<p>Cornell University Department of Astronomy</p> <p>Head Teaching Assistant, <i>ASTRO 1102/1104: Our Solar System</i> 2020</p> <p>Teaching Assistant, <i>ASTRO 1101/1103: From New Worlds to Black Holes</i> 2019</p> <p>Oberlin College, Department of Physics & Astronomy</p> <p>Teaching Assistant, <i>PHYS 111: Electricity, Magnetism, & Thermodynamics</i> 2017</p> <p>Teaching Assistant, <i>PHYS 110: Mechanics & Relativity</i> 2016</p> <p>Student Tutor, Quantitative Skills Center 2015-16</p>
Outreach	<p>Head Organizer, Museum in the Dark, Museum of the Earth, Ithaca NY October 2019</p> <p>Organizer, Astronomy event with Cornell STEP program July 2019</p> <p>Program Leader, 4-H Career Explorations, Cornell University June 2019</p> <p>Workshop Volunteer, Expanding Your Horizons, Cornell University April 2019</p> <p>Coordinator, Kids’ Science Day at the Big Red Barn, Cornell University May 2019</p>

Professional Service	<u>Cornell University, Department of Astronomy</u>	
	<i>President, Astronomy Graduate Network</i>	2020-2021
	Description: Contributed to creation of Cornell Astronomy Graduate Student Handbook and the Astronomy Graduate Peer Mentoring Network	
	<i>Secretary & Outreach Coordinator, Astronomy Graduate Network</i>	2019-2020
	Description: Organizing the weekly graduate student and post-doc seminar; lead organizer of all outreach events involving graduate students; coordinating graduate student lectures at Ithaca public libraries	
	<u>Oberlin College, Department of Physics & Astronomy</u>	
	<i>Student Representative</i>	2016-2018
	Description: Gave student input at all faculty meetings; led student committee for 2017 faculty search; organized Women/Trans/Nonbinary in Physics Tea; organized annual departmental t-shirt contest; awarded Carl E. Howe Prize in Physics for service as student representative	
Technical Skills	Python (expert-level)	
	Latex	
	IDL	
	SQL	
	SuperMongo	
	Operating Systems: Unix, Linux, OS, Windows	
Extracurricular	Cleanliness Coordinator, Kosher-Halal Cooperative, Oberlin College	2018
	Head Treasurer, Kosher-Halal Cooperative, Oberlin College	2017
	Assistant Treasurer, Kosher-Halal Cooperative, Oberlin College	2017
	Treasurer, Ballet Oberlin, Oberlin College	2016-present
	Chair, Ballet Oberlin, Oberlin College	2015