

CURRICULUM VITAE

SAMUEL M. FACTOR

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EDUCATION

The University of Texas at Austin , Austin, TX	
Ph.D. , Astronomy (Advisor: Dr. Adam Kraus)	2020 (expected)
Wesleyan University , Middletown, CT	
M.A. , Astronomy (Advisor: Dr. A. Meredith Hughes), GPA: 4.0	2015
Thesis Title: <i>ALMA Observations of Molecular Gas Emission from a Protoplanetary Disk in the Orion Nebula</i>	
B.A. , Physics and Computer Science, GPA: 3.93	2014

HONORS & AWARDS

Frank N. Edmonds, Jr. Memorial Fellowship in Astronomy , UT Austin	2016
ΦBK , Wesleyan University	Spring, 2014
Barry M. Goldwater Scholarship , Honorable Mention	2013
Karl Van Dyke Prize , Wesleyan University Physics Department	2013
Dean's List , Wesleyan University	2010 – 2014
NESCAC All Sportsmanship Team , New England Small College Athletic Conference	2014
Stewards' All Academic Team , Eastern College Athletic Conference	2012 – 2014
NESCAC All Academic Team , New England Small College Athletic Conference	2012 – 2014

EXPERIENCE

Graduate Student Researcher (Advisor: Dr. Adam Kraus)	2015 – Present
Astronomy Department, The University of Texas at Austin, Austin, TX	
<ul style="list-style-type: none">Developing a new pipeline for applying interferometric analysis techniques to archival HST imaging to look for companions at or below the diffraction limit.	
Teaching Assistant AST 301: Introduction to Astronomy	Fall 2015
Astronomy Department, The University of Texas at Austin, Austin, TX	
Graduate Student Researcher (Advisor: Dr. A. Meredith Hughes)	2014 – 2015
Astronomy Department, Wesleyan University, Middletown, CT	
<ul style="list-style-type: none">Modeling the temperature and density structure of a protoplanetary disk around a young star in the Orion Nebula Cluster using Atacama Large Millimeter/submillimeter Array (ALMA) observations of molecular gas.Markov Chain Monte Carlo (MCMC) analysis utilizing Wesleyan University's High Performance Compute Cluster.	
Teaching Assistant ASTR 107: The Universe, ASTR 211: Observational Astronomy	2014 – 2015
Astronomy Department, Wesleyan University, Middletown, CT	
Undergraduate Researcher (Advisor: Dr. Fred Ellis)	2012 – 2014
Physics Department, Wesleyan University, Middletown, CT	
<ul style="list-style-type: none">Built and tested the scattering properties of electronic circuits modeling optical systems.Research topics include: PT-Symmetric systems, wave transport, asymmetric transport, nonlinear systems, unidirectional lasing.	
Course Assistant COMP 112: Introduction to Programming, PHYS 215: Special Relativity	2012, 2013
Computer Science and Physics Departments, Wesleyan University, Middletown, CT	

FUNDING

<i>Kernel-Phase Interferometry for Super-Resolution Detection of Faint Companions,</i> PI Cycle 24 Hubble Space Telescope Archival Research Grant 14561, STScI, 2016	\$141,430
<i>John W. Cox Graduate Excellence Fellowship,</i> University of Texas at Austin, 2015	One Semester Fellowship
<i>Travel to: 225th Meeting of the American Astronomical Society, Seattle, Washington,</i> PI of Student Travel Grant, CT Space Grant College Consortium, 2015	\$1,000

PUBLICATIONS

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- S. Factor**, A. M. Hughes, K. Flaherty, R. K. Mann, J. Di Francesco, J. P. Williams, L. Ricci, B. C. Matthews, J. Bally, D. Johnstone, "ALMA Observations of Asymmetric Molecular Gas Emission from a Protoplanetary Disk in the Orion Nebula," *AAS Journals*, submitted September 2016
- J. M. Lee, **S. Factor**, Z. Lin, I. Vitebskiy, F. Ellis, T. Kottos, "Reconfigurable directional lasing modes in cavities with generalized PT~ Symmetry," *Phys. Rev. Lett.*, vol 112, p. 253902, Jun 2014
- M. Chitsazi, **S. Factor**, J. Schindler, H. Ramezani, F. M. Ellis and T. Kottos, "Experimental observation of lasing shutdown via asymmetric gain," *Phys. Rev. A*, vol. 89, p. 043842, Apr 2014
- N. Bender, **S. Factor**, J. D. Bodyfelt, H. Ramezani, D. N. Christodulides, F. M. Ellis, and T. Kottos, "Observation of asymmetric transport in structures with active nonlinearities," *Phys. Rev. Lett.*, vol. 110, p. 234101, June 2013

PRESENTATIONS

-
- Kernel-Phase Interferometry for Super-Resolution detection of Faint Companions (poster),
Sagan Exoplanet Summer Workshop, July 2016, Pasadena, CA
- ALMA Observations of Molecular Gas Emission from a Protoplanetary Disk in the Orion Nebula Cluster (poster), Frank N. Bash Symposium, Oct 2015, Austin, TX
- Characterizing a Young Protoplanetary Disk in the Orion Nebula Cluster (poster number 349.06),
American Astronomical Society Meeting #225, Jan 2015, Seattle, WA

OBSERVING EXPERIENCE

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- Harlan J. Smith Telescope, Robert G Tull Coudé Spectrograph (TS23), McDonald Observatory **9 nights**
Keck II, NIRC2 LGS AO Imager, Mauna Kea Observatory **1 night**

MEMBERSHIPS

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- Junior Member, American Astronomical Society **2015 – Present**

PROGRAMMING LANGUAGES & SOFTWARE

-
- Python, LaTeX, Git, MIRIAD, CASA, Mathematica, C, Ruby, Rails, Java, Visual Basic, SML, Agda

EXTRACURRICULAR ACTIVITIES

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- Volunteer Assistant Coach, Wesleyan University Men's Varsity Rowing **2015**
Wesleyan University Men's Varsity Rowing **2010 – 2014**
- Head of the Charles Men's Collegiate 8+, 5th place **2013**
 - New England Rowing Championships Men's JV 8+, 3rd place **2013, 2014**
- Certified Open Water Diver, PADI **2013 – Present**
Certified Wilderness First Responder, Wilderness Medical Associates **2013 – 2015**