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: *ALMA Observations of Molecular Gas Emission from a Protoplanetary Disk in the Orion Nebula*
B.A., Physics and Computer Science, GPA: 3.93 **2014**

HONORS, AWARDS & CERTIFICATIONS

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**
Open Water Diver, PADI **2013 – Present**
Wilderness First Responder, Wilderness Medical Associates **2013 – 2015**

EXPERIENCE

Graduate Student Researcher (Advisor: Dr. Adam Kraus) **2015 – Present**
Astronomy Department, The University of Texas at Austin, Austin, TX
- 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
- 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
- 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

Kernel-Phase Interferometry for Super-Resolution Detection of Faint Companions,
PI of Cycle 24 Hubble Space Telescope Archival Research Grant, 2016, $141,430

John W. Cox Graduate Excellence Fellowship,
University of Texas at Austin, 2015, One Semester Fellowship

Travel to: 225th Meeting of the American Astronomical Society, Seattle, Washington,
PI of Student Travel Grant, CT Space Grant College Consortium, 2015, $1,000

PUBLICATIONS

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, 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

MEMBERSHIPS

Junior Member, American Astronomical Society

EXTRACURRICULAR ACTIVITIES

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**

Assistant Coach, Camp Randall Rowing Club, Madison, WI **2011**
Youth Paddling Instructor, Rutabaga Paddlesports Outdoor Programs, Madison, WI **2010 – 2011**

PROGRAMMING LANGUAGES & SOFTWARE

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