

## CURRICULUM VITAE

### SAMUEL M. FACTOR

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### EDUCATION

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**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

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**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

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**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

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FUNDING

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*John W. Cox Graduate Excellence Fellowship,*

University of Texas at Austin, One Semester Fellowship, 2015

*Travel to: 225th Meeting of the American Astronomical Society, Seattle, Washington,*

Student Travel Grant, CT Space Grant College Consortium, \$1,000, 1/2015

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PUBLICATIONS

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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

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PRESENTATIONS

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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

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MEMBERSHIPS

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Junior Member, American Astronomical Society

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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**

Assistant Coach, Camp Randall Rowing Club, Madison, WI **2011**

Youth Paddling Instructor, Rutabaga Paddlesports Outdoor Programs, Madison, WI **2010 – 2011**

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PROGRAMMING LANGUAGES & SOFTWARE

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