

# Evan H. Anders

PH.D. CANDIDATE — ASTROPHYSICAL AND PLANETARY SCIENCES

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## Education

### University of Colorado – Boulder (CU Boulder)

PH.D IN ASTROPHYSICAL AND PLANETARY SCIENCES · EXPECTED MAY 2020

M.S. IN ASTROPHYSICAL AND PLANETARY SCIENCES · DECEMBER 2016

*Boulder, CO*

*Aug. 2014 - Present*

### Whitworth University

B.S. IN PHYSICS; MINORS IN COMPUTER SCIENCE & MATH · CUMULATIVE GPA 4.0/4.0

*Spokane, WA*

*Aug. 2010 - May 2014*

## Research Experience

### CU Boulder & Laboratory for Atmospheric and Space Physics (LASP)

GRADUATE RESEARCH ASSISTANT

- Working to understand the fundamental heat transport properties of stratified convection.
- Performing large-scale numerical simulations on NASA Pleiades.

*Boulder, CO*

*May 2015 - Present*

### Laser Interferometer Gravitational-Wave Observatory (LIGO)

NSF SURF FELLOW

- Developed a tool in Python to analyze calibration lines in LIGO's power spectrum.
- Analyzed the consistency between input and output channels in LIGO's photon calibration system.

*Hanford, WA*

*Summer 2013*

### Pacific Northwest National Laboratory (PNNL)

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- Optimized functions in GAIN, a Python module which applies PNNL's Global Arrays parallel programming toolkit to the NumPy Python module.
- Designed new parallel algorithms for the GAIN 'reduce' function and developed the foundation of the GAIN 'master-slave' interface.

*Richland, WA*

*Summer 2012*

## Relevant Publications

**Anders, E.H.**, Brown, B.P. and Oishi, J. S. "Accelerated convergence of convective simulations...". 2018. Submitted to Phys. Rev. Fluids.

**Anders, E.H.** and Brown, B.P. "Convective heat transport in stratified atmospheres...". 2017. Phys. Rev. Fluids 2, 083501.

## Conference Talks & Posters

### Foreign Conferences

**Compressible Convection Conference 2017**, 25-minute talk. "Convective heat transport...".

*Lyon, France*

### Domestic Conferences

**APS Division of Fluid Dynamics 2017**, 10-minute talk. "The effects of Mach number..."

**APS Division of Fluid Dynamics 2016**, 10-minute talk. "Sustained shear flows..."

**AAS Solar Physics Division 2016**, Poster. "The structure and evolution of boundary layers..."

*Denver, Colorado*

*Portland, Oregon*

*Boulder, Colorado*

## Awards & Honors

2015-18 **George Ellery Hale Graduate Fellowship**, providing funding for three years of graduate research

*CU Boulder / NSO*

2016 **High Pass**, for defense of publication-ready research on CU APS Comprehensive Exam II

*CU Boulder*

2016 **Carl Hansen Graduate Fellowship**, awarded to a graduate student studying stellar interiors

*CU Boulder*

2014 **President's Award for Outstanding Academic Achievement**, for graduating with a 4.0 GPA

*Whitworth U.*

2013 **Johnston-Hansen Foundation Scholarship**, awarded to a Physics student

*Whitworth U.*

2012 **Carl Hansen Pre-Engineering Scholarship**, awarded to an Engineering student

*Whitworth U.*

2012 **Math / Comp. Sci. Departmental Scholarship**, awarded to a student in the Math / Comp. Sci. department

*Whitworth U.*

2011 **Carl Hansen Pre-Engineering Scholarship**, awarded to an Engineering student

*Whitworth U.*

2010 **Mind & Heart Scholarship**, awarded to an entering undergraduate to assist with four years of tuition

*Whitworth U.*

## Service

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2017-18	<b>Member</b> , Graduate admissions committee	<i>CU Boulder</i>
2016-17	<b>Member</b> , Hiring committee for director of Fiske Planetarium	<i>CU Boulder</i>
2016	<b>Graduate Student Member</b> , Exam committee for CU APS Comprehensive Exam 1	<i>CU Boulder</i>
2016	<b>Chair</b> , Graduate student committee for NSO/CU faculty appointment	<i>CU Boulder</i>
2015	<b>Member</b> , Graduate student committee for three-year NSO/CU appointment	<i>CU Boulder</i>

## Teaching Experience

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### CU Boulder

*Boulder, CO*

#### GRADUATE PART-TIME INSTRUCTOR FOR ASTR 2600

*Summer 2017*

- Co-instructor of record for an introductory course in Python programming
- Developed curriculum including lectures, tutorials, homework, and the final exam.

#### GRADUATE TEACHING ASSISTANT FOR ASTR 1010

*Fall 2014, Fall & Spring 2015, Fall 2017*

- Delivered mini-lectures to familiarize students with lab material.
- Held office hours and helped staff the Astronomy Help Room (AHR).

#### LEAD GRADUATE TEACHER

*Fall 2016 - Spring 2017*

- Led video consultations with Graduate Teaching Assistants
- Coordinated and ran orientation for new Teaching Assistants in the department.

### Whitworth University

*Spokane, WA*

#### COMPUTATIONAL PHYSICS TEACHING ASSISTANT

*January 2014*

- Guided students in designing computational models of physical phenomena.
- Assisted students in translating mathematical operations into numerical algorithms.

#### PHYSICS TUTOR

*Fall 2012 - May 2014*

- Reviewed basic concepts with students to help improve problem-solving skills.
- Provided supplemental instruction to clarify course material for students.

#### PHYSICS LAB TEACHING ASSISTANT

*Fall 2011 - Spring 2012*

- Instructed students through the completion of laboratory activities.

## Outreach

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### (CU STARS) CU Boulder Science, Technology, and Astronomy RecruitS

*Boulder, CO*

#### GRADUATE COORDINATOR

*August 2016 - Present*

- Guided undergraduate students in designing hands-on high school-level lessons to teach basic concepts in astronomy and astrophysics.
- Ensured middle/high school visits across Colorado ran smoothly.