

# Anna Clare Baum

Curriculum Vitae

Department of Physics  
Lehigh University  
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## Education

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LEHIGH UNIVERSITY		
PhD	Physics <i>Advisor: Joshua Pepper</i>	2020-present
MS	Physics	May 2022
PENN STATE UNIVERSITY		
BS	Astronomy & Astrophysics <i>Advisor: Jason Wright</i>	May 2020
Minors	Physics, English	

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## Research Positions

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<b>Graduate Research Assistant</b> , Lehigh University <i>Advisor: Joshua Pepper</i>	Jun. 2021-present
<b>Undergraduate Researcher</b> , Penn State University <i>Advisor(s): Jason Wright</i>	Jun. 2019-2020
<b>Eberly College of Science Summer Undergraduate Research Program</b> <i>Advisor: Fabienne Bastien</i>	Summer 2018
<ul style="list-style-type: none"><li>• Attended professional development seminars</li><li>• Developed communication of scientific concepts to general audience</li></ul>	

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## Teaching Positions

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<b>Teaching Assistant</b> , Lehigh University	
<ul style="list-style-type: none"><li>• Introductory Physics Lab</li><li>• Introductory Physics Recitation</li></ul>	Fall 2020, Spring 2021 Fall 2021, Spring 2024

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## First-Author Publications

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1. *ECLIPSE DEPTH VARIATIONS IN SEVEN ECLIPSING BINARIES AS OBSERVED BY KELT AND TESS*  
**Anna C. Baum**, Joshua Pepper, James R.A. Davenport, Steve B. Howell, 2024 (under revision)
2. *FIVE DECADES OF CHROMOSPHERIC ACTIVITY IN 59 SUN-LIKE STARS AND NEW MAUNDER MINIMUM CANDIDATE HD 166620*  
**Anna C. Baum**, Jason T. Wright, Jacob K. Luhn, and Howard Isaacson, 2022, *AJ* **163**, 183.

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## Co-Author Publications

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1. *HD 166620: PORTRAIT OF A STAR ENTERING A GRAND MAGNETIC MINIMUM*  
Jacob K. Luhn, Jason T. Wright, Gregory W. Henry, Steven H. Saar, **Anna C. Baum**, 2022, *ApJL* **936**, 2.

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### Invited Talks/Oral Presentations

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*TOWARDS PRECISE STELLAR PARAMETERS: ASTEROSEISMOLOGY OF RED GIANTS IN ECLIPSING BINARY STARS*

- Invited Colloquium: Villanova University, *Philadelphia, PA* Apr. 26 2024

*FIVE DECADES OF CHROMOSPHERIC ACTIVITY IN SUN-LIKE STARS AND THE DISCOVERY OF NEW MAUNDER MINIMUM STAR HD 166620*

- Invited Seminar: Penn State University, *State College, PA* Dec. 4 2023
- Invited Seminar: Carnegie Earth and Planets Laboratory, *Washington, D.C.* Apr. 14 2023

*DISCOVERING THE FIRST SUN-LIKE STAR TO ENTER A MAUNDER MINIMUM*

- Guest Lecture: Lehigh University Energy Systems Engineering 405 Jun. 28 2022

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### Poster Presentations

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*THE EFFECTS OF SHIFTING TIMESTAMPS TO FILL GAPS IN LIGHT CURVES ON THE RESULTING POWER SPECTRA OF SOLAR-LIKE OSCILLATORS*

**Anna C. Baum**, Joshua Pepper, Kelly Hambleton

- 243<sup>rd</sup> American Astronomical Society Meeting, *New Orleans, LA* Jan. 2024

*A SEARCH FOR PULSATING RED GIANTS IN ECLIPSING BINARIES*

**Anna C. Baum**, Joshua Pepper, Kelly Hambleton

- TASC7/KASC14, *Honolulu, HI* Jul. 2023

*CHANGING INCLINATION ECLIPSING BINARY SYSTEMS OBSERVED WITH KELT*

**Anna C. Baum**, Joshua Pepper, James R. A. Davenport

- 240<sup>th</sup> American Astronomical Society Meeting, *Pasadena, CA* Jun. 2022  
[Chambliss Competition Honorable Mention]
- Lehigh University Graduate Research Exhibition Sept. 2021

*FIVE DECADES OF CHROMOSPHERIC ACTIVITY IN 185 SUNLIKE STARS*

**Anna C. Baum**, Jason T. Wright, Jacob K. Luhn

- 235<sup>th</sup> American Astronomical Society Meeting, *Honolulu, HI* Jan. 2020

*THE CLASSIFICATION AND CHARACTERIZATION OF STELLAR ACTIVITY*

**Anna C. Baum**, Fabienne Bastien, Jason T. Wright, Jacob K. Luhn

- Penn State Undergraduate Research Exposition Aug. 2018, Sept. 2019
- Benefactor and Distinguished Faculty Recognition Poster Session, Penn State University 2018

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### Public Talks/Outreach

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THE TOTAL SOLAR ECLIPSE

- Guest Talk: Allentown Building 21 School Assembly Apr. 5 2024

SCIENCE UNDER THE STARS, DA VINCI SCIENCE CENTER

- Volunteer, *Allentown, PA* Oct. 14 2023

*CHROMOSPHERIC ACTIVITY IN SUN-LIKE STARS AND THE MYSTERY OF THE MAUNDER MINIMUM*

- Guest Talk: Lehigh Valley Amateur Astronomical Society, *Allentown, PA* Apr. 2 2023

*JWST: UNFOLDING THE SECRETS OF THE UNIVERSE*

- Public Talk: Parkland Community Library, *Allentown, PA* Jan. 31 2023

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### Awards/Honors

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Poster Honorable Mention, Chambliss Astronomy Achievement Student Award	Jun. 2022
• 240 <sup>th</sup> American Astronomical Society Meeting	
Penn State University Dean's List	5 semesters

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### Scholarships

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College of Arts and Sciences Dean's Research Fellowship	Fall 2023
Homer Braddock Eberly College of Science Scholarship	2016-2020
Provost Award	2016-2020

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### Professional Memberships and Service

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NASA ADAP Panel Executive Secretary	Aug. 7-11 2023
American Astronomical Society (AAS) Member	2019-present
AAS Astronomy Ambassador	2022-present
• Facilitate and promote astronomy outreach and public communication	
TESS Asteroseismic Science Consortium (TASC) Member	2022-present
A-7, Penn State THON Organization	
<i>President</i>	2019-2020
<i>Public Relations Chair</i>	2017-2019
• Raised money for Four Diamonds Foundation, supporting families with pediatric cancer	
• Paired with Four Diamonds family to provide year-round support	

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### Professional Workshops

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PHOEBE Workshop, <i>Villanova University, Philadelphia, PA</i>	Jun. 2022
• Learned advanced modeling and analysis techniques using PHOEBE software	
AAS Ambassadors Workshop, <i>online</i>	Feb.-Mar. 2022
• Developed public outreach skills	
• Learned effective communication techniques	