Sarah Parker
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EDUCATION

University of Missouri, Columbia, MO
Doctor of Philosophy, Physics, Expected 05/23

University of Wisconsin-Stevens Point (UWSP), Stevens Point, WI
Bachelor of Science, Physics, 2018

- 3.23 GPA
- Honors, Semester I
- Math Minor
- Relevant Coursework: Unveiling the Universe (Astr 100), History of Astronomy (Astr 305), Calculus I (Math 120), Calculus II (Math 121), Introduction to Linear Algebra (Math 213), Calculus III (Math 222), Introduction to Proofs with Real Analysis (Math 300), Differential Equations (Math 320), Probability and Statistics I (Math 356), University Physics I (Phys 240), University Physics II (Phys 250), Modern Physics (Phys 300), Astrophysics (Phys 384), Research Participation (Phys 388), Thermodynamics and Statistical Mechanics (Phys 435), The Solar System (Astr 205), Electricity and Magnetism (Phys 320), Quantum Mechanics (Phys 405), Experimental Physics (Phys 470)

Cedar Grove-Belgium High School, Cedar Grove, WI
Diploma, 2014

- 3.5196 GPA
- Honor Roll and High Honor Roll

PUBLICATIONS AND PRESENTATIONS

“Lenticular Galaxies in Different Environments – Isolated versus Group Environment”
University of Wisconsin-Stevens Point Poster Presentation, May 2018

“Researching Light Curves of Type Ia Supernovae: Texas A&M REU 2017”
University of Wisconsin-Stevens Point Department of Physics and Astronomy Colloquium, October 2017

“Elliptical Galaxies in Different Environments – Isolated versus Group Environment”
Wisconsin Space Grant Consortium Conference Poster Session, August 2017

“Comparison of Light Curves for Type Ia Supernovae in the Optical and Ultraviolet”
Texas A&M REU Poster Presentation, August 2017

“Elliptical Galaxies in Different Environments – Isolated versus Group Environment”
University of Wisconsin-Stevens Point Poster Presentation, May 2017

“To Infinity and Back: Construction and Flight of an Experimental High Altitude Rocket”
University of Wisconsin-Stevens Point Poster Presentation, May 2017

RESEARCH EXPERIENCE

Research On Lenticular Galaxies, Advisor: Dr. Adriana Durbala
September 2017-May 2018

- Study how lenticular galaxies are affected by their environment (isolated vs. group)
- Use astronomical software such as IRAF and ds9 to edit, clean, and analyze pictures of galaxies
- Use online databases such as NASA/IPAC Extragalactic Database (NED) and (SDSS)

Observing Run at Kitt Peak National Observatory, Advisor: Dr. Adriana Durbala
April 2016, October 2016, and October 2017

- Operate the 0.9m WIYN research grade telescope
- Use a CCD camera to take images

Solar Eclipse Research, Advisor: Prof. Arthur Stevenson
August 2017

- Operate a Meade Telescope
- Record a video of Bailey’s Beads during totality
- Analyze the geometry of the Bailey’s Beads

REU at Texas A&M University, Advisor: Dr. Peter Brown
May-August 2017

- Compare the light curves of Type Ia supernovae
- Use astronomical software to do the photometry and create false-color images of the supernovae and their host galaxies
- Use python to graph the light curves of each supernova and create a template for the light curves

Observing Run at McDonald Observatory, Advisor: Dr. Jennifer Marshall
July 2017

- Operate the 0.8m research grade telescope
- Use a CCD camera to take images

Research On Elliptical Galaxies, Advisor: Dr. Adriana Durbala
January 2016-May 2017

- Study how elliptical galaxies are affected by their environment (isolated vs. group)
- Use astronomical software such as IRAF and ds9 to edit, clean, and analyze pictures of galaxies
- Use online databases such as NASA/IPAC Extragalactic Database (NED) and (SDSS)

ALFALFA Workshop at Green Bank Observatory, Advisor: Dr. Adriana Durbala
June 2016

- Do graduate level work in extragalactic astronomy
- Learn to use astronomical software such as TOPCAT
- Operate and observe with a radio telescope

COMPUTER SKILLS

- 31 months of experience with the Linux operating system
- 31 months of experience with astronomical software such as IRAF, ds9, and Fortran (BUDDA) code
- 22 months of experience with Mathematica
- 22 months of experience with Arduino programming
- 19 months of extensive Python experience, during a computational physics course and REU at Texas A&M
- Some TOPCAT experience, learned during a one-week workshop at Green Bank Observatory
- Also familiar with Windows and Mac operating systems

WORK AND PUBLIC OUTREACH

Society of Physics Students (SPS) President
September 2017-May 2018

- Organize public outreach and club activities
- Lead club meetings
- Communicate scholarship opportunities to SPS members

Planetarium Lecturer Allen F. Blocher Planetarium, UWSP
January 2015-May 2018

- Provide educational shows to school groups, clubs, and the general public
- Operate multiple projectors, star ball, control panel, and computer

Telescope Operator Arthur J. Pejsa Observatory, UWSP
January 2015-May 2018

- Operate a 0.4 meter Meade computer-controlled telescope
- Manage large groups of people
- Provide relevant information on objects viewed through telescope

Star Party Host, Texas A&M University
May-August 2017

- Operate various Meade telescopes
- Provide relevant information on the objects viewed through the telescope

Astronomy Tutor, Tutoring-Learning Center
October 5, 2015-May 2017

- Help students improve study skills and test taking strategies
- Have a thorough knowledge of Astronomy 100 course content
- Develop activities and work with course instructor to promote learning

Society of Physics Students Treasurer
January 2015-May 2017

- Manage club funds
- Help with organizing public outreach and club activities

Team Lead, WSGC Collegiate Rocket Launch
October 2016-May 2017

- Founded UWSP’s first Collegiate Rocket Team

- Design and fabricate a high-powered rocket from scratch which generated energy during flight, as well as using Python to predict altitude and power output
- Program Arduino Uno units to record in-flight data
- Manage and delegate responsibilities to the team, write reports, and give presentations

AWARDS

- UWSP Department of Physics & Astronomy Monica E. Bainter Scholarship, May 2017
- Wisconsin Space Grant Consortium (WSGC) Undergraduate Research Fellowship, March 2017
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- Wisconsin Space Grant Consortium (WSGC) Undergraduate Research Fellowship, March 2016
- Wisconsin Space Grant Consortium (WSGC) Undergraduate Scholarship, March 2016
- UWSP Department of Physics & Astronomy First-Year Scholarship, September 2014
- Bruce Krier Foundation Scholarship, September 2014
- Federal Employee Education and Assistance Fund (FEEA), September 2014