

Cassandra Bossong

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EDUCATION

Carthage College, Kenosha, WI (Graduation: May 2021)

B.A. Physics, Minor in Mathematics

Cumulative GPA: 3.750

Relevant Coursework: Technical Project Management, Systems Engineering, Principles of Management, Financial Accounting, Analytical Business Models, Project Management Institute PMP Exam Prep.

PROFESSIONAL EXPERIENCE AND OUTREACH

Project Manager • Funded via NASA Wisconsin Space Grant Consortium (WSGC)

April 2019 - PRESENT

- Modal Propellant Gauging (MPG)
 - Participated in improving a research payload involving the Modal Propellant Gauging (MPG) modal analysis technique, a lightweight method of measuring fuel in microgravity environments. Developed extensive experience with project documentation and planning, as well as scheduling and active communication. This MPG payload had successfully flown on the Blue Origin New Shepard suborbital rocket in both January and December 2019.
 - Promoted the advancement of space technology at multiple oral and poster presentations at national conferences and public events, as well as Celebration of Scholars.
 - Published report on MPG: <https://wsgc.carthage.edu/ojs/index.php/wsc/article/view/300>
- Modal Propellant Gauging- Propellant Refueling and on-Orbit Transfer Operations (MPG-PROTO)
 - Developed the concept of operations on LucidChart that corresponds with an upcoming flight on Blue Origin's New Shepard rocket as well as parabolic flight campaigns.
 - Implemented project management techniques (both iterative and traditional) in order to enhance the efficiency and effectiveness of the team, including scheduling, use of Microsoft Office, time management, budgeting, timely communication using Slack, reducing duplication of effort, and increased the team's ability to collaborate.
 - Managed several Payload Design Reviews and lead student team meetings.
- Magneto-active Slosh Control (MaSC)
 - Designed, built, integrated, and tested a metallic membrane surrounded by magnets and Helmholtz Coils in a propellant tank and used software to control the membrane's position in low gravity environments.
 - Developed payload documentation for parabolic flight, including structural analysis, safety and hazard analysis, and project schedule.

Planetarium Operator/Media Outreach Assistant • Carthage College

February 2019 - PRESENT

- Researched astronomy topics and created shows in order to run the StarryNight system as well as presented to various audiences of all ages.
- Coordinated and hosted events for the physics community and the general public in support of the Society of Physics Students (SPS), WSGC and Carthage College.

AWARDS, HONORS & CERTIFICATIONS

- On track to obtain Project Management Professional (PMP) certification in 2021.
- Recipient of Lemelson MIT Student Prize Competition in the "Move it!" Category in 2020 for Modal Propellant Gauging (MPG) project.
- Inducted into Sigma Pi Sigma for academic excellence in physics and leadership in March 2021.