

Felicity Daniels

✉ fdaniels@carthage.edu

✉ [LinkedIn](#)

✉ [Website](#)

☎ +1 (262) 497-5781

EXPERIENCE

Research Fellow and Sub-Team Lead, [NASA Wisconsin Space Grant Consortium](#)

Modal Propellant Gauging - Propellant Refueling and on Orbit Transfer Operations

June. 2019 – Feb. 2021

- Designed and constructed propellant management devices for liquid control in microgravity environments
- Validated Designs through modeling with CAD software and testing for safety and reliability
- 3D Printed, ordered, milled and assembled parts, adjusting designs as necessary
- Tested all liquid containment and ensured readiness of the subsystem and all subsystem interfaces for flights

Research Project Manager and Team Lead, [NASA Colorado Space Grant Consortium](#)

Computational Fluid Dynamics Software Validation

June. 2019 – Feb. 2021

- Designed and constructed devices for both containment and measurement of fluid behaviors in microgravity environments
- Conducted and coordinated experimental investigations into the validity of computational fluid dynamics software applicable to aerospace systems and vehicles
- Oversaw mission simulation and full-integration testing throughout project life cycle.
- Managed budget, logistics, and meetings
- Determined mission requirements and assured compatibility of all subsystem interfaces

Research Assistant, [Carthage College SURE Program](#)

Development of Multidirectional Selective Plane Laser Imaging Microscopy

June. 2019 – August. 2020

- Participated in the development of requirements for design criteria, cost estimates, schedules, and feasibility of multidirectional selective plane imaging technology.
- designed a multidirectional selective plane imaging microscope for fluorescence microscopy
- Presented Research at the Celebration of Scholars.

Mechanical Engineer, [NASA Wisconsin Space Grant Consortium](#)

Collegiate High-powered Rocket Launch Competition

Sept. 2018 – May. 2019

- Constructed, designed, and flew a high-power, single-stage rocket that landed safely and deployed a Ground Excursion Module that moved under its own power and without external control after the rocket landed. Focused on the system design and performance.

Mathematics and Physics Tutor, [Carthage College Tutoring Department](#)

Teaching and Communication

Sept. 2018 – Sept. 2020

- Taught students mathematics including but not limited to Algebra, Trigonometry, Analysis, Statistics, Calculus I, Calculus II, Multivariable Calculus, Linear Algebra, and Differential Equations.
- Explained Introductory physics to students

EDUCATION

Carthage College, Kenosha, WI

B.A. Physics, Mathematics Minor

Sept. 2017 – May. 2021

Cumulative GPA: 3.6

Presentations and Publications

- Poster presentation for development multiplanar selective plane imaging microscopy at the [Carthage College Celebration of scholars 2019](#).
- Poster Presentation for Modal Propellant Gauging - Propellant Refueling and on Orbit Transfer Operations at the [Carthage College Celebration of scholars 2020](#).
- Poster Presentation for Capillary Flow Experiment: Validating CFD-Predicted Liquid configuration at the [Carthage College Celebration of scholars 2020](#).
- Authored and co-authored a few papers that are currently under review.

SKILLS

Mathematics: Differential Equations, Optimization, Multivariable Calculus

Management: Waterfall Project Management, Agile Project Management, Slack

Programming Languages: Python, R, C++, and Mathematica.

Mechanical: CAD Modeling in Inventor, some computational fluid dynamics in OpenFOAM

Misc.: Moderate experience in Excel, Proficient in LaTeX