David M. Johnson

Email: dmj68@cornell.edu
Phone: +1 (607) 279-8174
Website: david-m-johnson.github.io/site
LinkedIn: linkedin.com/in/david-mcqueston-johnson

Education

B.S. Engineering Physics, Cornell University May 2026

Notable Courses:

Physics: Classical Mechanics I & II, Quantum Mechanics I & II; E&M I, II, & III; Graduate-Level Plasma Physics; Fusion Energy; Statistical Mechanics
Computing: Object-Oriented Programming & Data Structures; Electronic Circuits; Introduction to Electrical and Computer Engineering (Digital Logic)
Mathematics: Mathematical Physics I & II; Linear Algebra; Differential Equations
Other: Probability Models & Statistical Inference, Intellectual Property Law & Policy; Engineering General Chemistry

Professional and Project Experience

PUFFIN Pulsed Power Laboratory, Cornell University *Jan 2025 – May 2026*
Undergraduate Researcher

- Modeled magnetic reconnection in a plasma using an HPC and full magnetohydrodynamics code
- Created publication-ready figures using custom data reader, conda environment, and scripts
- Compared results to existing experimental literature to generate ideas for future experiments

Plasma Physics Group, Imperial College London *Jun 2025 – Aug 2025*
Undergraduate Researcher

- Investigated Sheared-Flow Stabilized Z-Pinches using a radial wire array with an axial target
- Tuned initial conditions and wrote magnetic boundary conditions, including for cylindrical geometry
- Developed a flexible framework for adding inductance to electrodes to change current division

Laboratory of Plasma Studies, Cornell University *Oct 2023 – Jan 2025*
Undergraduate Researcher *Full Time: Summer 2024*

- Simulated the plasma formed by an exploding gas puff using a snowplow model (nonlinear ODE)
- Fabricated gas-release mechanism based simulation results using mill, lathe, and other tools
- Designed, built, and calibrated magnetic diagnostics, like Rogowski coils and B-dot probes
- Built an 18-inch Helmholtz Coil; wrote capacitor bank safety manual; calibrated current monitor

General Dynamics Electric Boat, New London, CT *Jun 2023 – Aug 2023*
Design & Engineering Intern

- Identified a design inefficiency that was elevated to a VP of the company with 20,000+ employees
- Composed a detailed letter describing the inefficiency; Received return offer to solve the issue
- Learned valuable lessons in engineering management and systems design

Lab Experiment (PHYS 2210), Cornell University *Jan 2024 – May 2024*
Student Researcher

- Studied the wavelength response of solar panels under different lighting conditions
- Wrote a comprehensive research proposal and a polished final report detailing process and results
- Presented findings publicly, including fielding questions from five faculty members. Received A+

Cislunar Explorers, Space Systems Design Studio *Jan 2023 – May 2023*
Electrical Subteam

- Researched and selected hardware components for telemetry, tracking, and communication
- Assisted the team to converge on a 12U CubeSat design with onboard demonstrative technologies

Teaching Experience

Redwoods Tree Climbing, Instructor	Spring 2025
Tree Climbing, Instructor	Fall 2024, Spring 2025
Physics Learning Strategies Center, Tutor	Fall 2024, Spring 2025
Cornell Outdoor Education Land Staff Training, Facilitator	Fall 2024
Cornell Outdoor Odyssey Guide Training, Facilitator	2023, 2024
Cornell Outdoor Odyssey, Guide	2023, 2024
Rock Climbing, Instructor	Fall 2024
Canoeing, Instructor	Summer 2024
Day Hiking, Instructor	Summer 2024
Backpacking, Instructor	Spring 2024

Leadership & Extracurricular Experience

Cornell Outdoor Education — Instructor, Guide Sept 2022 – Present
Teaching physical education classes; Training new instructors and guides

Physics Learning Strategies Center — Tutor Aug 2024 – May 2025
Tutored 15+ physics courses across multiple departments

Cornell *Claritas* — Senior Editor Aug 2024 – May 2025
Edits articles for content, style, and usage; Leads writing workshops

Society of Physics Students — Peer Mentor Aug 2024 – Present
Mentors two first-year physics students on research, physics, and the adjustment to college

Logos Seminar — Fellow Aug 2023 – May 2024
Participated in a closed seminar studying foundational writings in philosophy & theology

Published Writing

Stuck in the Middle with Me, *Claritas*, Fall 2024, "Margins."
Hey Zeus!, *Claritas*, Spring 2024, "Home."
Cornell's Secular Sabbath, *Mere Orthodoxy*, January 2024.
The Weight of Story, *Claritas*, Fall 2023, "Stages."
Stages, *Claritas*, Fall 2023, "Stages."
Windows Imply Doors, *Claritas*, Spring 2023, "Love."
Life, Death, and Dirty Dishes, *Claritas*, Fall 2022, "Mystery."

Skills, Certifications, & Awards

Languages: Python, Java, Fortran, LaTeX, SQL, HTML, CSS
Software/Tools: FEA (ANSYS), CAD (NX, Fusion, AutoCAD), HPC, SSH
Other: OOP, Data Structures, Scientific Computing, Clean Room, Technical Writing
Certifications: DoD SECRET Clearance, Wilderness First Responder (WFR)
Awards/Grants:

- **Dean's List**, All Semesters
- **Cornell Engineering International Summer Research Grant** (2025)
- **Caltech Summer Undergraduate Research Fellowship (SURF)** (2025, declined)
- **Outstanding Article of 2024** (one of five), Augustine Collective, for "The Weight of Story"