

Ian R. Hermanson

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EDUCATION

Virginia Polytechnic Institute and State University (Virginia Tech)

Ph.D. in Aerospace Engineering

August 2026 to Present

Oregon State University

Honors B.S. in Mechanical Engineering, Minor in Studio Art

Graduated June 2024

Summa Cum Laude

RESEARCH EXPERIENCE

Pacific Northwest National Lab – *Research Associate*

March 2025 – July 2026

- Contributed to various energy transition projects, including microgrid planning for the Port of Port Orford and Shoalwater Bay Tribe, modeling a PV-battery powered aquaculture system, and illustrating wave energy devices for a new online library
- Co-led an eight-person multi-lab team to produce a countywide energy assessment report for the Lane County, Oregon Energy to Communities project.

National Renewable Energy Lab (now National Lab of the Rockies) – *Intern*

June 2024 – Nov. 2024

- Conducted research on harnessing ocean thermal gradients to power autonomous underwater gliders using thermoelectric generators (TEGs) combined with phase change materials (PCMs).
- Designed and manufactured a prototype vessel with PCM-integrated TEGs for experimental laboratory testing in an emulator tank.

OSU Marine Energy Collegiate Competition (MECC) – *Team Lead*

June 2022 - June 2024

- Led and managed a 15-person interdisciplinary student team competing in the national MECC.
- Fostered a collaborative relationship with Ocean Observatories Initiative (OOI) scientists to develop a reliable wave energy system for their inshore sensor buoys.
- Validated the design using computer simulations and a scaled-model test in the OSU wave basin.
- Tied for third place in the final competition and won the “Best Build and Test” award.

Honors Thesis – *Synergy in Painting and Engineering*

Defended May 2024

- Visited Sitka, Alaska to evaluate the city’s capacity to host a wave energy converter deployment
- Completed a series of oil paintings that demonstrate the transdisciplinary benefits of blending art, community-driven design, and engineering methods.
- Successfully defended the thesis to a panel of OSU faculty members and a PhD student.

Seasonal Wave Energy Deployments – *Undergraduate Researcher*

June 2023 - June 2024

- Worked with national lab and post-doc researchers to compare seasonal and continuous WEC deployments in isolated communities. Co-authored a peer-reviewed publication.

OSU Prototype Development Laboratory (PDL) - *Undergraduate Researcher*

Apr. 2022 – Sept. 2023

- Communicated directly with clients to engineer mechanical products.

Oregon Manufacturing Innovation Center (OMIC) - *Research Intern*

June 2022 – Sept. 2022

- Ideated, modeled, and manufactured aluminum caster wheel mounts in a two-person team.

TECHNICAL SKILLS: Prototype design, scaled-model testing, SOLIDWORKS, Python, MS Excel, WEC-Sim, MHKiT, MATLAB, Krita