

Seiji Engelkemier

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EDUCATION

- MS & PhD in Mechanical Engineering, Expected** 2019 - 2021/2024
Massachusetts Institute of Technology. GPA : 4.7/5.0
Advisor: Robert Armstrong (MS), Asegun Henry (PhD)
Society of Energy Fellows, 2021 - 2022
- BS in Mechanical Engineering** 2015 - 2019
Massachusetts Institute of Technology. GPA : 4.8/5.0
Minor in Energy Studies
Member of Pi Tau Sigma

EXPERIENCE

- Atomistic Simulation and Energy Research Group** Cambridge, MA
Research Assistant 2021 - Present
- Developing technologies for low-carbon hydrogen production
- MIT Energy Initiative** Cambridge, MA
Research Assistant 2019 - 2021
- Authoring chapters on thermal and compressed air energy storage systems for *Future of Storage* report
 - Conducting techno-economic analysis of proposed energy storage systems and designing new ones
 - Co-organize and run weekly MITeI research meetings
- Undergraduate Researcher* Sep 2018 - May 2019
- Assisted in development of U.S. electricity grid model to analyze effects of renewable energy on thermal power plants
 - Improved performance >50x by rewriting MATLAB script cross-referencing power plant information from various federal agency databases
 - Co-authored paper in *Environmental Research Communications*, DOI: 10.1088/2515-7620/abc86d
- Global Engineering (Senior Capstone)** Cambridge, MA
Team Member Sept - Dec 2018
- Worked in a team of six and with SunCulture, Kenya-based project sponsor, to provide more affordable solar powered drip irrigation systems
 - Co-designed patented control algorithm to operate pump energy-efficiently with drip irrigation
 - Co-authored ASME conference paper, "Feasibility of Pairing a Low-Cost Positive Displacement Pump With Low-Energy Pressure Compensating Drip Irrigation Emitters for Smallholder Farms in Africa"
- Ecovative Design** Troy, NY
Core Research Intern June - Aug 2018
- Designed, built, & operated lab scale solid-state fermentation reactor with temperature and airflow control to advance fundamental knowledge of mycelium
 - Experimented with mycelial growth and strength, quantified with mechanical testing
 - Developed cost models to explore opportunities with potential clients and new markets

COURSEWORK

Mechanical

Thermal-Fluids
Design & Manufacturing
Measurement & Instrumentation

Energy

Adv. Energy Conversion
Energy: Politics, Markets, and Policy
Urban Energy Systems and Policy

Computational

Artificial Intelligence
Numerical Computation
Intro to Modeling & Simulation