

Michael J Monda

+1 (631) 320-6588

michaeljmonda@pm.me

mikemonda.net

PROFILE

Materials scientist and technologist with a passion for clean energy and automotive engineering. Recognized by the National Academy of Inventors for contributions to the field of hydrogen energy systems technology.

EDUCATION

M.S., Materials Science and Engineering
Worcester Polytechnic Institute
(Worcester MA)
January 2025 – May 2026
GPA: 3.61.
Societies: WPI Collegiate Entrepreneurs' Organization (President), WPI Philharmonic Orchestra, National Academy of Inventors.

B.S., Robotics Engineering
Worcester Polytechnic Institute
(Worcester MA)
August 2022 – May 2026
GPA: 3.58.
Dean's List: Fall 2022, Fall 2024.
Societies: Alpha Chi Rho Fraternity (Treasurer), WPI Philharmonic Orchestra, WPI Jazz Band.

INTERESTS

Hydrogen Energy Systems
Automotive Technology
Motorsports
Workforce Management
Solar Cells / Photolithography

SKILLS

3D Modeling / CAD
Product Development
Electromechanical Systems
Object-Oriented Programming
Workforce Organization
Management
Leadership

WORK EXPERIENCE

Student Researcher
The Charles Stark DRAPER Laboratory
October 2024 – May 2025

Designer, electrification and composites specialist for a full-autonomous dual drone docking and charging collaboration system. Integrated a custom computer vision setup and autonomous governance and communication subsystem into drone firmware. Managed product development process from the early concept phase through prototyping phase. 1st place prize awarded by DRAPER at research showcase for outstanding achievement.

RESEARCH AND PROJECTS

Hydrogen-Powered Combustion Engine
August 2026 – Present

Tech demonstrator for the magnesium alloy ingot-sponge based on a Mercedes-Benz OM617 R5 turbocharged diesel engine. Purpose is to demonstrate technological readiness within use conditions familiar to the majority. Work includes extensive 3D modelling, simulation of materials interactions, and surface engineering of existing engine components.

Magnesium Ingot-Sponge System
September 2025 – Present

Developing new methods of storing and releasing hydrogen using advanced metallurgical science and microstructure engineering. Used SEM and XRD to characterize sample microstructure and phase distribution. Five prototypes developed to date. Theoretical performance significantly exceeds industry standard.

Closed-Loop Hydrolysis Power Source
May 2023 – July 2025

Designed a semi-intelligent, water-fueled standby energy system capable of powering up to 200 homes. Features include OBD-II-derived self-diagnostics and novel combined-cycle gas-turbine powerplant for exceptional performance. Developed custom software solution to generate design requirements and evaluate metrics. US application #63/863,916. Work recognized by the National Academy of Inventors.

The Eagle Scout Project
December 2020 – May 2021

Facilitated the design and installation of four little libraries to improve and maintain youth literacy rates in Northport NY.