MICHIGAN SOLAR SEA

2020-2021 SPONSORSHIP PACKET

mss.engin.umich.edu

WHAT WE ARE

Michigan Solar Sea (MSS) is a student-led project team founded in 2019 at the University of Michigan. Each year, MSS will design, build, and race a manned electric boat to compete in the Promoting Electronic Propulsion (PEP) competition hosted by the American Society of Naval Engineers.

Our members come from all walks of life, but we all share one important commonality: We strive to challenge ourselves to implement sustainable technologies to educate the next generation of engineers.

MSS VALUES

Collaboration

MSS values diversity. Our members hail from all walks of life. MSS members thrive in the pursuit of over 11 different majors across an array of different colleges. Diversity is vital to our team, and we recognize the value that it brings.

Innovation

No idea is a bad idea. We encourage taking risks and believe this is how learning is done best. Our members are mainly underclassmen and we want them to apply their theoretical skills to an actual project with room to experiment.

Adaptability

We were founded in uncertain times; MSS began during the COVID-19 pandemic. Despite the many setbacks we have encountered, we remain undetered. Adaptability is an integral part of who we are, and it allows us to strive for greatness.

Sustainability

We are committed to carbon-neutrality. This committment to sustainability is deep-seated in MSS' mission. Our vessel will be charged with solar energy, decreasing our reliance on fossil fuels.

WHAT WE DO

HULL AND DRIVETRAIN SUBTEAM

Designs hull and hydrofoil structures alongside motor and electrical system integration

- **Hydrofoils** - Designs and chooses optimal hydrofoils to reduce drag and maximize lift
- **Motor** - Selects and mounts motor to maximize power output from the boat
- **Propeller** - Researches and designs potential propellers for efficient propulsion
- **Hull** - Models and ensures stability of hull structure while incorporating hydrofoils

ELECTRICAL SUBTEAM

Researches and builds our motor and safety systems with key software controls, and implements our solar array

- **Sensors** - Researches sensor and control hardware for automated or manual flight control
- **Motor** - Integrates control surfaces and propulsion motors with their controller systems
- **Battery** - Implements battery and charging systems to provide power to motors and other systems

BUSINESS SUBTEAM

Facilitates public relations through social media marketing and website development, as well as manages project team finances

- **Social Media** - Manages our social media accounts: Twitter, Facebook, Instagram, and YouTube
- **Graphic Design** - Designs logos, outreach materials, videos, and captures photos
- **Finance** - Tracks team spending and forecasts the MSS budget
- **Web Design** - Designs and maintains the MSS official website
- **Fundraising** - Contacts potential donors and maintains relationships with current sponsors

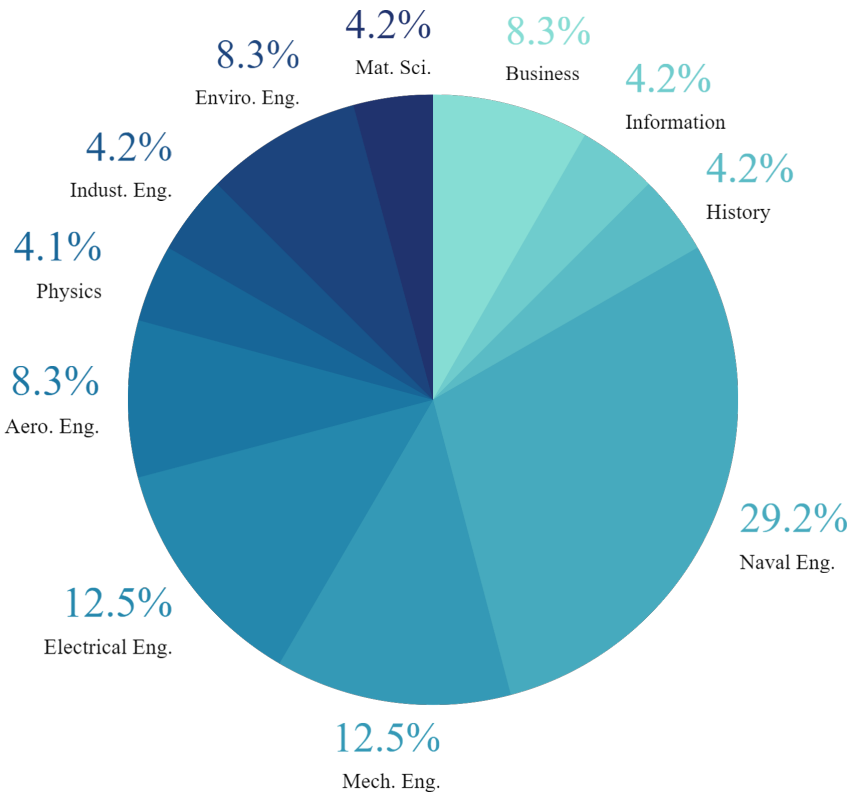
Top View
Left Hull

WHO WE ARE

DEI INITIATIVE

Diversity is paramount to MSS' success. We are building the next generation of leaders in the field of engineering. Everyone is welcome on our team. Regardless of your background, or area of expertise, there is a place for you at MSS.

TEAM DEMOGRAPHICS



54%

pursuing a minor

58%

pursuing graduate study

MICHIGAN SOLAR SEA FOUNDERS

Jimmy Chen
First Mate
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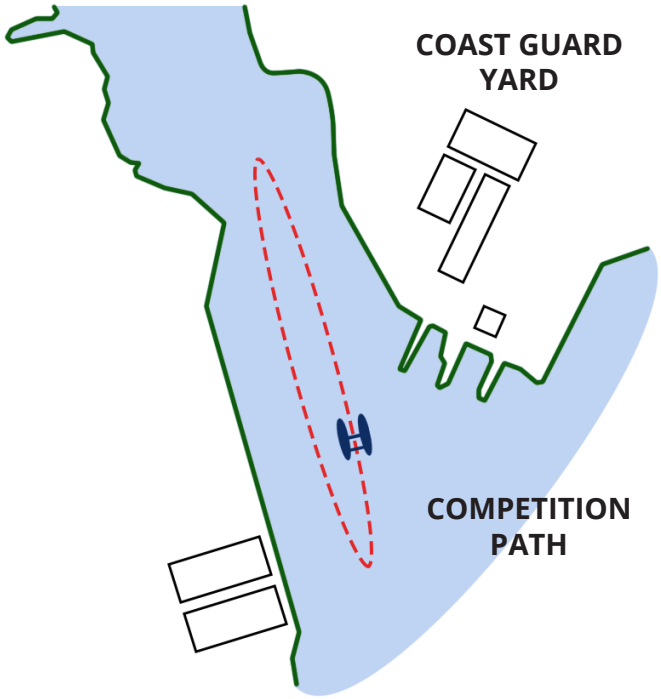
OUR COMPETITION

PROMOTING ELECTRIC PROPULSION (PEP) FOR SMALL CRAFT

In July of 2021, MSS will compete in a 5-mile race with our electric boat in Baltimore, MD. This competition gives students an opportunity to work with design software, a variety of tools, and collaborate to create an innovative final product.

MSS and our competitors are tasked with completing 5 laps in a short out and back circuit in the waters of Curtis Creek and Arundel Cove. The top three winners will be awarded $3,000, $2,000, and $1,000 at the conclusion of the competition.



OUR COMPETITORS

- Virginia Tech
- Stevens Institute of Tech.
- Catholic University
- George Mason University
- North Carolina A&T
- Old Dominion University
- Princeton University
- University of Washington
- Widener University
- University of Kentucky

OUR PREPARATION

- Research and design
- Data collection
- Calculations
- Team leadership meetings
- Weekly subteam meetings
- Team member training
- Underclassmen recruiting
- Networking
- Sponsorship outreach

2020-2021 GOALS

We grow as a team by providing our members with tangible goals to obtain over the course of each academic year.

ADMINISTRATION

- Foster inclusivity and community among a group of diverse individuals
- Expand upon our theoretical knowledge to create real-world solutions
- Further the younger generation's understanding of sustainable technologies
- Increase our number of active members by 10 during the 2021 Winter Semester recruitment cycle

BUSINESS SUBTEAM

- Obtain over $20,000 in funding by the end of the Winter 2021 semester
- Roll out the new MSS website by December 25th, 2020
- Increase our number of Instagram followers to 100+ by the end of the 2021 Winter Semester
- Complete the production of the "Intro to MSS" video and upload it to the MSS YouTube page by the end of the 2021 Winter Semester

ELECTRICAL SUBTEAM

- Design and build a complete electrical system capable of high performance
- Educate and provide leadership opportunities to members
- Gain experience to create more advanced systems in the future

HULL AND DRIVETRAIN SUBTEAM

- Manufacture a functional racing boat for the summer 2021 competition
- Complete data collection to utilize modeling software for calculations
- Integrate all team members in the design and build process to develop a stronger team culture
- Develop two-year plan for team structure and possible design upgrades

HOW YOU CAN HELP

PROJECT FUNDING

Monetary donations will be used for boat research and development. These funds will also be used to pay for essential tools, parts, programs, and travel to the PEP competition in Baltimore, MD.

MATERIAL DONATIONS

Any material donations that you can provide from our "MSS 2020-2021 Wishlist" would be extraordinarily helpful in achieving our goals.

BENEFITS

Sunlight Zone ($5000+)

- Company logo on boat and T-shirt
  - » 1st tier position
- Company logo in promotional videos
- Invitation to testing events
- All Twilight Zone benefits
- All Midnight Zone benefits
- All Hadal Zone benefits

Twilight Zone ($1000-$4999)

- Company logo on website
  - » Includes descrition and hyperlink
- Company logo on boat and T-shirt
  - » 2nd tier position
- All Midnight Zone benefits
- All Hadal Zone benefits

Midnight Zone ($500-$999)

- Company logo on website
  - » Includes hyperlink
- Access to team resume book
- All Hadal Zone benefits

Hadal Zone ($100-$499)

- Company logo on website
- Social media promotion
- Tax benefits

CURRENT SPONSORS

Detroit Electric Boat

PALM Industries

MICHIGAN ENGINEERING
UNIVERSITY OF MICHIGAN

ELECTRICAL & COMPUTER ENGINEERING
UNIVERSITY OF MICHIGAN

MECHANICAL ENGINEERING
UNIVERSITY OF MICHIGAN

Numerade

MICHIGAN SOLAR SEA

THANK YOU FOR CONSIDERING US!

Thank you for considering donating to MSS. Without generous sponsors, such as yourself, we would not be able to expand our knowledge through our innovative projects.

Our team would be more than happy to meet with you to answer any questions you may have, meet some of our members, or learn about our current projects! We would love to hear your thoughts!

Again, thank you for your time.

Please stay safe and healthy!

Deven Parmar
MSS Captain