

2013 Team



Team Members (From Left to Right):

Tyler Wardlow (Telemetry/Power Systems)
Manthan Kothari (Propeller Design)
Thomas Burns (Endurance Drive Train/ Team Management)
Kyle Orr (Sprint Drive Train/Steering)
Brian Graham (Hull Design)

Awards

- 1999: 3rd Place Technical Report
Rookie Team with Highest Overall Score
- 2000: Best Visual Display
2nd Place Technical Report
- 2001: Best Technical Report
- 2002: Outstanding Workmanship
Best Technical Report
Outstanding Electrical System Design
- 2003: Outstanding System Design
- 2004: Best Technical Report
Outstanding Electrical System Design
3rd Place 300 Meter Sprint
5th Place Overall
- 2005: Outstanding Electrical System Design
2nd Place Solar Slalom
6th Place Overall
- 2008: Outstanding Electrical System Design
Best Technical Report
6th Place Overall
- 2009: Outstanding System Design
4th Place Overall
3rd Place 300 Meter Sprint
2nd Place Solar Slalom
- 2012: Outstanding Workmanship
Outstanding Hull Design
4th Overall
3rd Place Technical Report
5th Place 300m Sprint



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Memo: Solar/Electric Boat Team

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School of Engineering
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Ewing, NJ, 08628

Or Contact:

Dr. Karen Yan
609-771-2774

TCNJ Solar Boat 2013



What is Solar Splash?

SOLAR SPLASH is the World Championship of Solar/Electric boating. It is an international intercollegiate competition that takes place over five days. Technical Inspections are done on the first day, and the remainder of the time is occupied by five on-the-water competitive events. Points are earned in seven categories starting with Technical Reports that are submitted at the beginning of May. On-site competitions include Visual Displays and Workmanship. On-the-water events begin with a Sprint and a Maneuverability qualifier. This is followed by an event called the Solar Slalom, which is a combination of speed and maneuverability. The final days are spent in the Sprint and Endurance events.



2013 Proposed Design

Design Objectives:

Our boat design will minimize weight, be able to reach 40 mph in a sprint heat, and able to maintain 8 mph over two 2 hour heats during the endurance competition.

Key Boat Features:

- High Efficiency SCHOTT 240 Solar Panels
- Modular Reversible Catamaran
- Single Motor Sprint and Endurance Configuration
- Real-Time Telemetry

Solar Energy Impact:

The environmental impact of internal combustion engines found in recreational power boating needs to be addressed. In the US, 75 percent (14 million units) of all motorized boats and personal watercraft (jet skis) are powered by two-stroke engines. The EPA estimates that every year, two-stroke engines spill 15 times more fuel and oil into waterways than did the Exxon Valdez. Solar/Electric boats provide a viable alternative to the omnipresent combustion powered boat.

Proposed Budget

Power System:	\$ 1,800.00
Telemetry System:	\$ 300.00
Drive trains	\$ 2,300.00
Conference and Travel Expenses:	\$ 6,700.00
Hull Materials:	\$ 1,700.00
Propeller	\$ 600.00
Total Proposed Budget:	\$ <u>13,400.00</u>

Please help us win the 2013 Solar Splash Competition by supporting our 2013 Solar Boat Team. We appreciate contributions of any kind. Your donations are vital to our teams success in the 2013 Solar Splash competition.

Past Competition Teams



2001



2012



2009



2008



2002



2003



2004



2005