MATE ROV 2021
World Championship

August 5-7, 2021 - East Tennessee State University, Johnson City, TN

TAKE BLUETECH TO NEW DEPTHS
The MATE ROV Competition uses underwater robotics (also known as remotely operated vehicles or ROVs) to inspire and challenge students to learn and creatively apply scientific, engineering, and technical skills to solving real-world problems. Working in partnership with the Marine Technology Society’s ROV Committee, the competition was created as a way to:

- Expose students to careers
- Provide access to materials and technical expertise that support student learning
- Strengthen students’ critical thinking, collaboration, entrepreneurship, and innovation

The MATE ROV Competition challenges K-12, community college, and university students from all over the world to tackle missions based on scenarios from the workplace. The competition’s class structure of beginner, beginner-intermediate, intermediate, and advanced complements the educational pipeline by providing students with the opportunity to build upon their skills as they engineer increasingly more complex ROVs for increasingly more complex mission tasks.

The MATE ROV Competition requires students to think of themselves as entrepreneurs and transform their teams into companies that manufacture, market, and sell “products.” In addition to engineering their ROVs, the students prepare technical reports, poster displays, and presentations that are delivered to working professionals who serve as competition judges.

The MATE ROV Competition encourages students to work together, network, and learn from technical professionals and each other. MATE’s philosophy is that collaborative learning experiences best simulate the real world and will serve students – and their future employers – well in the workplace.

Other MATE underwater robotics educational products include:

- Knowledge and Skill Guidelines for ROV professionals
- Curriculum and videos
- Workshops for teachers and students
- Internships for college students
- All levels of DIY Kits and free open source plans
- Microcontrollers for thrusters and sensors

### AT A GLANCE

The MATE ROV Competition network began in 2001 and currently consists of 42 regional events that take place:

- All levels of DIY Kits and free open source plans
- Workshops for teachers and students
- Curriculum and videos

Experiences best simulate the real world and will serve students – and their future employers – well in the workplace.

### HISTORY

2002
- Rime of the Ancient Buccaneer
- NASA Kennedy Space Center

2003
- Lost on the Titanic
- Massachusetts Institute of Technology

2004
- NOAA’s National Marine Sanctuary
- University of California Santa Barbara

2005
- From the Depths of the Oceans to the Far Teaches of Space
- NASA Johnson Space Center - NBL

2006
- Ocean Observing Systems
- NASA Johnson Space Center - NBL

2007
- Science & Technology Under the Ice
- Memorial University & the Institute for Ocean Technology

2008
- Uncovering the Mysteries of Mid-Ocean Ridges
- Scripps Institution of Oceanography

2009
- The Next Generation of Submarine Rescue Vehicles
- Massachusetts Maritime Academy

2010
- Science Erupts on Loihi, Hawai‘i’s Undersea Volcano
- University of Hawai‘i Hilo

2011
- ROVs & the Offshore Oil & Gas Industry
- NASA Johnson Space Center - NBL

2012
- The role of ROVs in Exploring WWII Shipwrecks
- Orlando YMCA Aquatic & Family Center

2013
- Launching a New Era of Ocean Science & Discovery
- King County Aquatic Center

2014
- Shipwrecks, Sinkholes, and Conservation
- Thunder Bay National Marine Sanctuary

2015
- ROVs in Extreme Environments
- Memorial University & the Institute for Ocean Technology

2016
- ROVs Encounters in Inner and Outer Space
- NASA Johnson Space Center - NBL

2017
- Port Cities of the Future
- Long Beach City College

2018
- Aircraft, Earthquakes and Energy
- King County Aquatic Center

2019
- ROV Operations in Rivers, Lakes, and Dams
- Kingsport Aquatic Center

2020
- Cancelled due to COVID-19 Pandemic
The MATE ROV Competition network began in 2001 and currently consists of 42 regional events that take place across the US and around the world.
Your contributions to MATE Inspiration for Innovation MATE II) to support the MATE ROV Competition help to build a future skilled STEM workforce and ensure that all students have access to this unique learning opportunity.

Sponsors provide:

- Financial and technical support. Funds cover student travel stipends and meals, while contributions of materials, equipment, mentoring time, and technical expertise support ROV building, promote skill development, and expose students to careers.
- Recognition. Award trophies, plaques, certificates of participation, event t-shirts and patches, gift certificates, and donations of equipment such as cameras, thrusters, and other hardware are ways to highlight both the winning teams and the sponsoring organizations.
- Networking opportunities. Funds cover the closing World Championship’s closing awards ceremony, an event that provides opportunities to build peer and professional networks.

Sponsors also profit by:

- Increasing visibility through the MATE ROV Competition web site and conference presentations.
- Displaying logos on the competition materials, including banners at the events.
- Posting and circulating job announcements.
- Using the competition’s Inspiration for Innovation Exhibit Hall to increase exposure and recruit students for technical programs or job openings.
- Gaining access to a larger pool of talented students (and potential future employees!).
QUOTES

STUDENTS

“MATE has transformed me from an introverted kid that had no idea what to do with his future, to an extroverted award-winning student in STEM, ready to tackle real world problems.”

“(MATE) lends opportunities for students to become their own bosses and develop a business mindset for future work that is conscious of our environment and technological needs of today.”

PARENTS

“The challenging and interesting content, combined with an enthusiastic [mentor] and impressive teammates has made this a top-notch experience for my daughter. She has grown in many areas outside of her typical studies.”

“This was an amazing experience for my son, both academically as well as socially. He grew as a person and learned how to better resolve issues with communication and collaboration.”

MENTORS/TEACHERS

“While [my students] might not realize in the moment, the program offers them a real world experience where they are able to develop both technical and essential skills. We already can’t wait to start our new build for the 2019/2020 season.”

“This program continues to have more impact every year - more students, more engagement, more visibility in the engineering community and the world. It is (rightly) focused on learning and developing skills, which puts it above many competitive events.”

WORKING PROFESSIONALS

“I believe the MATE competition is key to push teams to raise the bar. Competition from foreign countries can be intimidating but essential to expose local students to the real world business that will be facing.”

“As a former competitor, this competition directly impacted my position. Having the real world experience beyond the classroom was extremely valuable (even outside the marine technology industry).”

materovcompetition.org

For more information contact:

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