SCIENCE & RESEARCH

University Robotic Research

Cornell University AUV Team

Cornell University Autonomous Underwater Vehicle (CUAUV) Team is one of the most successful college robotics team in the nation. In addition to the normal rigors of the Cornell undergraduate engineering program, members of the CUAUV team design and build AUVs from the ground up. Since 2003, CUAUV has dominated AUVSI's Annual Robosub Competition in both the in-water competition as well as the Design and Implementation judging. Cornell currently holds 5 first place titles (2003, 2009, 2010, 2012, and 2013) and has placed first in technical design every year since 2003.

The CUAUV team attributes their continued success to the years of hard work and research, the dedication of every member, and of course, having access to the best robotics technology available. To ensure their system has the most efficient, powerful, and reliable propulsion possible, the Cornell team uses the same horizontal thrusters found on VideoRay ROVs.

One of CUAUV's platinum level sponsors, VideoRay has provided thrusters for the team's vehicles since 2009. CUAUV's most recent competition AUV, Ragnarök, used two VideoRay thrusters for horizontal surge propulsion. VideoRay's custom designed thrusters maximize horizontal propulsion, to speeds up to 4.1 knots on the Pro 4 ROV. The 100mm brushless thrusters, which boast the industry's highest thrust-to-weight ratios (over 2:1), can withstand rigorous and continuous use in a variety of underwater environments. This ruggedness and reliability are crucial factors for the CUAUV team, since their vehicles often undergo months of daily use while preparing for competition. Between April and December 2013, Ragnarök's in-water testing totaled more than 288 hours - or 12 full days.

VideoRay is committed to furthering robotics research, especially for academic institutions like Cornell. CUAUV was one of the first universities to acquire VideoRay thrusters independently of the ROV for research, and their massive success led VideoRay to make our thrusters more widely available. Today, high schools and colleges around the world use VideoRay technology on their own home-built vehicles, and VideoRay sponsors several student robotics competitions and research programs to ensure the brightest future for robotics technology.