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WINTER 2017 EDITION



Scientists and ASV JetYak traveling side-by-side. Photo by Fiamma Straneo © Woods Hole Oceanographic Institution

UPDATE ON THE PROGRAM

In its first year, the Tech Mentors and Champions Program grew at a rapid pace - with over 30 interested Mentors and Champions coming onboard. With such great interest in the program, and not nearly enough technologies ready for Mentor or Champion help, 2016 was about setting

up the infrastructure to make the program successful.

In 2017, we will begin to judiciously introduce Mentors & Champions into projects. Opportunities for involvement will increase with time. Arising opportunities will be published in the bi-annual newsletter, via the website, and through announcements on social media. If you connected with our office

through a presentation and have not yet registered via our [website](#), please do so so that we have your resume on file for future opportunities. Only Mentors and Champions with resumes on file can be considered for opportunities.

Thank you again for your continued interest in the program. We look forward to working with all of you in the future.

MENTOR OPPORTUNITY

Each September OTT hosts a Shark Tank competition - also called the Translational Research Funding Program (TRFP). The objective of the TRFP is to provide funding for the production of commercial prototypes for gathering market-relevant data for commercially promising technologies.

Applicants are required to make a 10 minute pitch on their technology to a panel of experienced business professionals, and the winning team is awarded money to advance their technology. Awardees must meet their promised milestones in order to be eligible to apply again the following year.

Our experience in the last two years has indicated Shark Tank applicants could benefit from a better understanding of the value proposition and market opportunity associated with their technology. In order to improve the competitiveness of every pitch - OTT will be revising the application process for 2017. Under the



new procedure, Inventors will need to submit a preliminary checklist application form well in advance of the final deadline. The checklist will be used to match applicants with mentors and to help assess market potential. Applicants will be provided with a template for their pitch presentation, and Mentors are expected to assist with basic market research for their technology, and to polish the pitch.

OTT Mentors Rusty Warren and Stan Kovall are coordinating the Shark Tank 2017 process revision and in the coming months will be looking for Mentors interested in assisting with pitch presentations & market research.

Volunteers will need to be registered Mentors & Champions via our website and have provided an up-to-date resume. We will be making an announcement in the coming months with details on how to apply.

Interested Mentors will be required to attend a Mentor training session where we will go over the TRFP, as well as help Mentors to better understand WHOI's unique culture.

See subscriber sign-up information on the next page to sign-up for announcements.

Something to Consider...

WHOI is a not-for-profit research institution operating solely on funds from Federal grants and contracts, donations, and some corporate collaborations. WHOI has a teaching mission in addition to its basic research activities. At undergraduate level, this consists mainly of highly selective special summer programs involving a relatively small number of students. At the graduate level, WHOI participates in a Joint doctoral program in ocean studies with MIT.

Students in the graduate program often reside permanently in Boston, with some periodically coming to WHOI for extended stays. This means that WHOI has a relatively small number of in-residence students. For potential Champions and Mentors, this means that mentoring will most often involve WHOI engineers and/or principal investigators.

For more information on WHOI's educational programs, go to: <http://www.whoiedu/main/educate>



AutoBOD: Real-time BOD Technology for Wastewater Treatment Plants



Ben Van Mooy with PHORCYS after the unit was recovered. Photo by Suni Shah © Woods Hole Oceanographic Institution

WHOI Scientist Ben Van Mooy and WHOI engineers Paul Fucile and Glenn McDonald have been working to create an automated sensor that would significantly reduce the time and manpower needed to regulate bacterial decomposition of sewage in wastewater treatment plants.

The technology began - as most WHOI innovations do - in the ocean as a research instrument called PHORCYS. Created by Van Mooy's team to measure ocean Biological Oxygen Demand (BOD), the two-chamber device is intended for deployment from a ship. By taking samples of the water and using electrodes to measure oxygen in short incubations in dark chambers, it carries out in situ measurements, avoiding exposing the sampled organisms to temperature or pressure changes. A data logger transmits information to scientists in near-real time.

After developing this technology for ocean use, Van Mooy got the idea to apply the same technology to a larger market. Over 16,000 wastewater treatment plants exist in the US alone. For all of these facilities, energy costs associated with sludge aeration account for between 50 and 70% of facility operation costs. Wastewater treatment plants generally practice aeration with a set Dissolved Oxygen (DO) targets and control these levels without consideration of the actual moment to moment oxygen requirement of load present in a tank. Real-time feedback control of aeration levels based on Biological Oxygen Demand (BOD) are

expected to lead to up to 3-6% reduction in overall plant costs.

AutoBOD 1 is a carousel benchtop commercial prototype designed to replace the current EPA mandated 5-day BOD test. AutoBOD 1 is currently in proof of concept studies to validate the underlying technology and garner EPA and customer acceptance. AutoBOD 2 when fully developed will be an in-line, flow-through device.



AutoBOD 1 - Benchtop prototype. Photo by Allison Nangle

The issued patent for the technology claims broad coverage for in-line BOD measurement using any oxygen measurement technology, either for wastewater treatment or in the ocean. WHOI is looking at options to complete the development of AutoBOD 2, the in-line BOD device.

More information on PHORCYS can be found in [Oceanus](#)

More information on AutoBOD can be found on [our website](#)

UPCOMING OPPORTUNITIES

SHARK TANK 2017

Final Deadline for Applications: September 15, 2017
Call for interested Mentors to Follow

START- UP WEEKEND 2017

Boston, MA - Date and Location TBD

SUBSCRIBER SIGN-UP

Based on feedback from your 2016 Communications Survey - OTT has implemented a subscriber sign-up for our News & Events page. In addition to our newsletters, we regularly post updates on events involving the office and updates on new technologies.

If you would like to receive an email when new posts are published head to this link: techtransfer.who.edu/newsevents and register your email at the bottom right of the page.

You can unsubscribe at any time.

ARE YOU FOLLOWING WHOI ON SOCIAL MEDIA?

