TECHCONNECT

A BIANNUAL PUBLICATION FOR WHOI TECH MENTORS & CHAMPIONS

SUMMER 2016 EDITION

Did you know Hydroid was a WHOI startup? Amy Kukulya releases a REMUS 100 autonomous underwater vehicle (AUV) into the water over the shelfbreak north of Cape Hatteras. (Photo: Chris Linder, WHOI)

Fast Track to Success

We'd like to first and foremost thank you for showing interest in accelerating WHOI technologies. As you know, the goal of the Tech Mentors and Champions Program is to allow WHOI ventures to grow and succeed by providing high quality mentorship and product development expertise through experienced entrepreneurs and business professionals. Since launching the program this year, interest has been overwhelming. As the program grows and increased partnership opportunities arise, this newsletter will serve to keep Mentors and Champions abreast of current and future opportunities, as well as upcoming events, past events, and news on tech in development.

Just a Reminder….

If you have not already done so, please send us your resumé or CV. Mentor and Champion quality is critical. We look for Mentors and Champions with strong entrepreneurial experience who support the mission and vision of Woods Hole Oceanographic Institution. Understanding your background and interests will help us to better match specific industry experience with WHOI technologies.

You can either submit your resumé via our **online registration page** or send to **anangle@whoi.edu.**

Thank you again for your continued interest and support. We look forward to partnering with many of you as the program continues to develop.

Swimming With Sharks

Each fall, WHOI's Office for Technology Transfer (OTT) provides gap-funding through the Translational Research Fund. These awards are meant to provide support for projects too advanced to receive further basic research funding but still too immature for licensing. Applicants are required to make a 10 minute business presentation showing both the commercial potential of their technology as well as the development milestones they plan to reach with the funding.

This years Shark Tank is quickly approaching - set to take place in mid-September. Starting next year, OTT will be looking for Mentors interested in helping applicants prepare and/or review their pitch presentations as well as help them to determine potential market size and revenues.

If interested in mentoring applicants prior to the 2017 Shark Tank, please email **anangle@whoi.edu** for consideration. Please note that only Mentors who have submitted a resumé will be considered. To learn about awardees, be sure to check the WHOI TechTransfer **News & Events** page and follow us on social media:

WHOITechTransfer

INNOVATIONNOW
HIGHLIGHTING EMERGING TECHNOLOGIES

Promising Advances in Wind Energy

WHOI Engineers are developing an exciting new technology to monitor and control terrestrial turbine use in wind energy production. The monitor could contribute to better placed wind farms, effective measurement, and efficient operation of existing farms. The Multimodal Environmental Impact Monitor or "MIME" is an all-in-one monitor that measures noise, flicker, and vibration generated by wind turbines to facilitate new wind farm installations and validate compliance.

Environmental impact assessments for wind turbines are presently hampered by lack of available weather tolerant instrumentation and adequate sensors. Thus, appropriate long-term time series assessments are not made and environmental and human health impact is not accurately determined.

"Current models for blade shadow flicker, don't take into account certain surrounding reflectors or structures, only topography and sun placement, and their estimates may not accurately represent duration" says WHOI Senior Engineer & MIME Inventor Paul Fucile. Fucile also notes that measurement of turbine infrasound generation has become an area of interest in recent years - particularly because of its potential health effects on those living in close proximity - and is something that MIME measures with great accuracy.

Of course site & impact assessments are not MIME's only use. Perhaps the most exciting aspect of MIME is it's control capability for which Fucile and WHOI were granted U.S. patent protection. MIME will have the capacity to use this real-time data from it's range of unique sensors to control operation of the turbine in order to maximize energy production - a significant utility for wind farm operations.

MIME is designed for permanent installation at turbine sites for persistent observation or can be placed on a tripod for short-term studies of multiple sites. It's designed for ease of use. "The goal is to provide something that is affordable and user-friendly." Says Fucile, "concerned property owners would be able to buy and operate these just as easily as developers and government agencies."

Accurately determining impact, allows for responsible building and also allows developers to establish an accurate pre-installation baseline. Fucile claims that "when sited appropriately, these energy sources are capable of operating with no detrimental effects to the environment."

FIND MORE INFORMATION ABOUT MIME AS WELL AS OTHER WHOI TECHNOLOGIES ON THE WHOI TECH TRANSFER WEBSITE UNDER **"LICENSING OPPORTUNITIES"**

Jetyak: A New Ocean Robot

JetYak undergoing field tests between Devil's Foot Island and Penzance Point, and out into the currents of Woods Hole Channel. (Photo: Ken Kostel, WHOI)

At WHOI, a new startup company is being formed around a technology that can collect critical oceanographic and glaciological data without putting humans at risk.

The technology named Jetyak is a new autonomous surface vehicle (ASV) designed for oceanographic research in shallow or dangerous waters, such as near frequently calving glacial ice. The Jetyak ASV is able to map and measure water that's too shallow or turbulent for underwater vehicles and can be used for repetitive surveys performed more precisely by autonomous systems. Additionally, it's speed and stability allow it to operate easily in strong wind or currents.

The invention comes from WHOI engineers Hanumant Singh and Peter Traykovski. The core of the Jetyak is an OEM, gas-powered kayak. Its rugged design features a roto-molded polyethylene hull and an air-cooled 7 horsepower, four stroke engine. It is propelled and steered by water drive, excluding propellers and dangerous parts, making it ideal for surface studies without risk to marine wildlife.

The stock boat is about 11 feet in length and weighs 165 pounds. It's capable of running for 8-10 hours on 3 gallons of gas at survey speeds of 2 to 6 knots. In addition to glacial studies, its shallow draft makes it ideal for surveying marshes and lagoons.

Check out Oceanus Magazine's video **"The Jetyak"**

Keep up with Startup News via WHOI Tech Transfer **News & Events**

Learn more about other WHOI Startups by checking out:
WHOI Startups & Affiliated Companies

Photo: Fiamma Straneo, WHOI

Startup Weekend: Blue

Powered by Google for Entrepreneurs

WHOI Hosts Event for Blue Economy Entrepreneurs

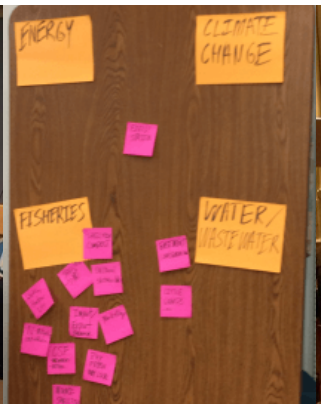
Local entrepreneurs teamed up earlier this year for Startup Weekend Blue, which took place Friday April 1st through Sunday April 3rd at WHOI's Clark Laboratory. The goal for this event was to bring thinkers and doers together to conceptualize, validate and start new companies targeting the largest opportunities presented by the Blue Economy.

The event was sponsored by WHOI, The Cape Cod Chamber of Commerce and Coastal Community Capital. Startup Weekend is a global organization hosting 54-hour weekend events, during which groups of entrepreneurs pitch ideas for new startup companies, form teams around those ideas, and work to develop a working prototype, demo, or presentation by Sunday evening.

About twenty-five entrepreneurs and ten coaches participated in the event with about fifty attendees. Four judges including Coach and Entrepreneur Dolores Hirschmann, Director for Technology Transfer at WHOI David Knaack, Director of Water Innovation at Massachusetts Clean Energy Center Michael Murphy, and CEO & Founder at Geek Girl Corporation Leslie Fishlock, chose the top three business models from several presentations. In first place was AquaXi, a residential water testing and data collection venture. Second place was taken by Blue Network an online job connection venture. Blue Network also had the largest team at Startup Weekend Blue and was led by a high school student from Martha's Vineyard. Finally, finishing in third was AquaGen, the South Yarmouth based algae wastewater treatment company. The winners left with interest from local investors and a plan for next steps.

We hope the event will stimulate community discussion and help to advance the blue economy initiative in Massachusetts. For more information on the event and the Startup Weekend organization please visit: **https://startupweekend.org**

WHOI Tech Transfer is already working on plans for a new concept for Startup Weekend 2017 centered around WHOI technologies. We look forward to getting interested entrepreneurs and mentors involved. Keep an eye out of details in our next newsletter.

Photos courtesy of Startup Weekend Blue

ANNOUNCEMENTS

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Business Concept Review

WHOI Tech Transfer is looking for volunteer Mentors or Champions to sit on the Business Concept Review Panel. The review panel meets as needed to evaluate potential WHOI Startups and is specifically seeking volunteers with experience in manufacturing & pharmaceuticals.

If interested, please email **anangle@whoi.edu** and provide a resume if we do not already have one on file.

Call for Presentations

Do you have expertise in giving the perfect pitch presentation? What about designing a solid business plan? WHOI Tech Transfer is looking for volunteer Mentors with interest in presenting relevant topics to WHOI scientists and engineers.

If interested, please email **anangle@whoi.edu** with the subject you would like to present on and a brief description of your background. If you have a sample presentation similar to what you would like to speak about, please send that as well.

Presentation spaces will be limited and topics will be selected based on areas of interest and value to WHOI inventors.

Pictured left to right, WHOI Scientist Ben Van Mooy describes AutoBOD Wastewater Treatment technology to Representative Bill Keating and Massachusetts Governor Charlie Baker, WHOI Engineers Jim Partan and Keenan Ball discuss their Ropeless Lobster Fishing technology with visitors to WHOI's June technology showcase. More information on these technologies can be found on the website. (Photos: Allison Nangle, WHOI)

Woods Hole Oceanographic Institution