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CCAN Webinar

5th November, 2015

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“The problems of the world cannot possibly be solved by skeptics or cynics whose horizons are limited by the obvious realities. **We need people who can dream of things that never were.**”

--John F. Kennedy



WHAT WE DO:

- Drive Innovation
 - Design and manage high-profile, global competitions that tackle the Grand Challenges of our time
- Prizes target
 - Grand Challenges
 - Market Failures
- Engage innovators world-wide
- Partner with top global brands
- *Make the impossible possible*



ORTEIG PRIZE

- Nine teams spent over \$400K to win the prize
- Kick-started Aviation Industry

IN 1996 XPRIZE OPENED UP A NEW ERA...

ANSARI X PRIZE

- \$10M prize purse
- 3 person crew
- 100 km altitude
- 2 flights within 2 weeks

The XPRIZE transformed how people thought about space travel. It wasn't just for governments anymore.

NOVEMBER 29, 2004

BEHIND THE CIA SHAKE-UP

TIME

THE MOST AMAZING inventions OF 2004

BURT RUTAN'S ROCKET IS A REAL BLAST! FIND OUT ABOUT IT AND 36 OTHER BRAINSTORMS

Plus:
■ Hot Tech Gifts
■ Web Shopping Guide
■ Best Video Games

www.time.com AOL Keyword: TIME

Daily News

dailynews.com

TUESDAY, OCTOBER 5, 2004

SpaceShipOne rockets in NEW ERA

FLIGHT WORTH \$10 MILLION

Sky's no limit on private initiative

By Bill Huie and Thomas J. Sweeney

SpaceShipOne's first flight was a landmark event, marking the beginning of a new era in space exploration. The privately funded rocket, built by Burt Rutan and Peter Diamandis, is set to launch on October 15, 2004, from the Mojave Desert in California. The flight is expected to last about 15 minutes and reach an altitude of 100,000 feet. The rocket is a two-stage vehicle, with the first stage being a glider that is launched from a carrier aircraft and the second stage being a rocket engine that is fired to propel the vehicle into space. The flight is being funded by a group of private investors, including the XPRIZE foundation, which is offering a \$10 million prize to the first privately funded rocket to reach space.

Private space age dawns

By Bill Huie

The private space age is dawning, and it is being led by a group of visionaries who are determined to make space exploration a reality. The XPRIZE foundation is one of the most prominent of these groups, and it is offering a \$10 million prize to the first privately funded rocket to reach space. The prize is being funded by a group of private investors, including the XPRIZE foundation, which is offering a \$10 million prize to the first privately funded rocket to reach space. The prize is being funded by a group of private investors, including the XPRIZE foundation, which is offering a \$10 million prize to the first privately funded rocket to reach space.

Opposites come to VP showdown

By Bill Huie

The debate between the two candidates is a clash of ideologies. The incumbent is a conservative who believes in a small government and a strong military. The challenger is a liberal who believes in a larger government and a more active role in social issues. The election is expected to be a close one, and it is likely to be decided in the electoral college.

Dozens die in three Iraqi car bombings

By Bill Huie

Three car bombings in Iraq have killed dozens of people and wounded many more. The bombings took place in the cities of Baghdad, Tikrit, and Fallujah. The explosions were powerful and caused significant damage to property and infrastructure. The bombings are believed to be the work of Iraqi insurgents who are fighting against the U.S. military.

Students' ties make them feel like winners

By Bill Huie

A group of students who participated in the XPRIZE competition have won the prize. The students, who were from various universities, designed and built a rocket that successfully reached space. The students feel like winners because they have achieved a major milestone in space exploration. The XPRIZE foundation is offering a \$10 million prize to the first privately funded rocket to reach space.

LIFE

THE NEXT GIANT LEAP

A Wild Ride On SpaceShipOne

Gretchen Wilson Kick-Starts Country • Have We Found the Perfect Town?

WEEKEND BY OCTOBER 22, 2004



History Was Made

PRIZE PORTFOLIO HIGHLIGHTS

**AWARDED
\$30 Million**

ANSARI XPRIZE

**PROGRESSIVE
AUTOMOTIVE XPRIZE**

**NORTHROP GRUMMAN
LUNAR LANDER XCHALLENGE**

**WENDY SCHMIDT
OIL CLEANUP XCHALLENGE**

**NOKIA
SENSING XCHALLENGE**

**WENDY SCHMIDT
OCEAN HEALTH XPRIZE**

**ACTIVE
\$90 Million**

**Google
LUNAR XPRIZE**

**QUALCOMM
TRICORDER XPRIZE**

**GLOBAL
LEARNING XPRIZE**

**BARBARA BUSH FOUNDATION
ADULT LITERACY XPRIZE**
PRESENTED BY
DOLLAR GENERAL

**nrg | cosia
CARBON XPRIZE**

WENDY SCHMIDT OCEAN HEALTH

XPRIZE

ACCURACY PURSE: For very accurate sensors that will give scientists the ability to measure ocean acidification throughout the world's oceans

AFFORDABILITY PURSE: For affordable and easy-to-use sensors that will provide the tools necessary to track and respond to ocean acidification



GOALS OF THE WENDY SCHMIDT OCEAN HEALTH XPRIZE

The winning teams will produce the most accurate and affordable pH sensors under a variety of trials that mimic the challenging conditions of diverse ocean environments

INTENDED BREAKTHROUGHS:

- **Inspire innovations in ocean sensing technology.**
- **Catalyze ocean acidification research.**
- **Catalyze the ocean services industry.**
- **Inspire the public to engage.**

September 2013

March 2014

September 2014

December 2014

February 2015

March 2015

May 2015

July 2015



LAUNCH

PHASE I:

WENDY SCHMIDT
OCEAN HEALTH XPRIZE
FORUM

PHASE II:

LAB TRIALS

PHASE III:

COASTAL TRIALS

PHASE IV:

OCEAN TRIALS

AWARD

Wendy Schmidt Ocean Health XPRIZE Criteria

	Accuracy Prize	Affordability Prize
Depth	3000m	20m (nominal)
Accuracy	≤ 0.02 pH (35%)	≤ 0.04 pH (20%)
Precision	≤ 0.01 pH (30%)	± 0.02 pH (12.5%)
Stability	≤ 0.0067 pH/month (20%)	0.013 pH/month (17.5%)
Cost	$\leq \$15,000$ (5%)	$\leq \$1,000$ (25%)
Ease of Use	- (10%)	- (25%)

Teams and their Entries

- 77 Intent to Compete, 24 Registered, 16 Tested
- 8 countries
- Backgrounds: Engineers, Oceanographers, Food Industry, Agriculture

- Colometric = 4
- ISFET = 6
- Optode = 2
- Electrochemical = 5
- Glass Electrode = 1
- Hybrid electrochemical/colometric = 1

PHASE 2: LAB TRIALS

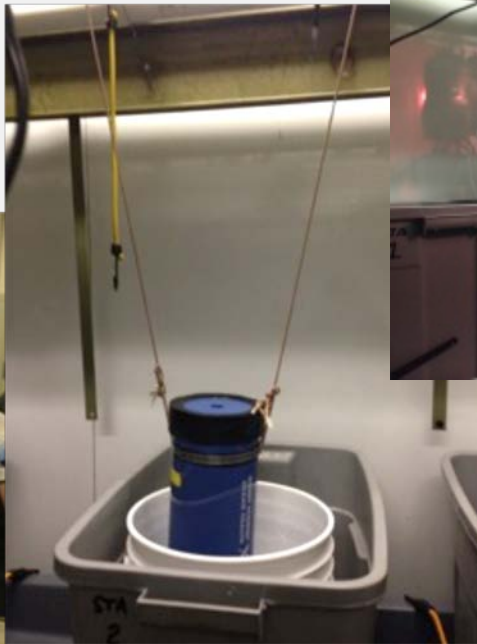
MONTEREY BAY AQUARIUM RESEARCH INSTITUTE (MBARI) MOSS LANDING, CA





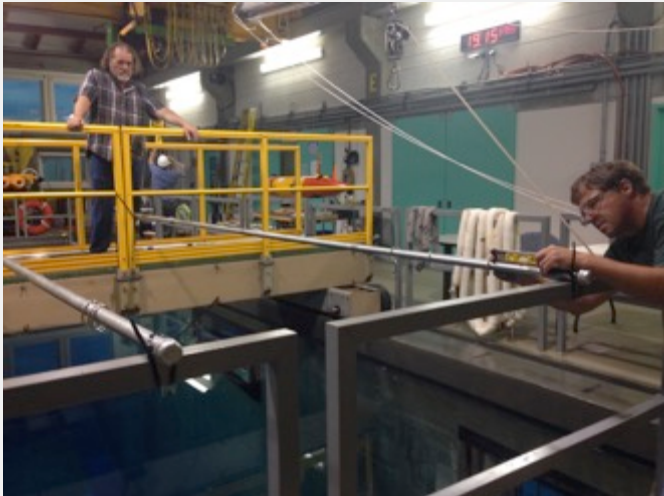
PHASE 2A

- 16 Teams unpacked and set up 19 Entries
- Entries seen for first time – size, weight, buoyancy
- Time: soak and acclimatization
- Validation Team learned how to operate Entries
- Accuracy Test in cold room (12C, 53F) – 7 days, up to 18 hours/day



PHASE 2B

- 15 Teams, 18 Entries
- Electrical Interference and Ozone Test
- Entries - size, weight, buoyancy, deployment
- MBARI and Validation Team set up tank for hanging Entries
- Validation Team deployed and recovered Entries
- Precision and Stability Test – intended to be 77 days, was 52 days





PHASE 3: COASTAL TRIALS

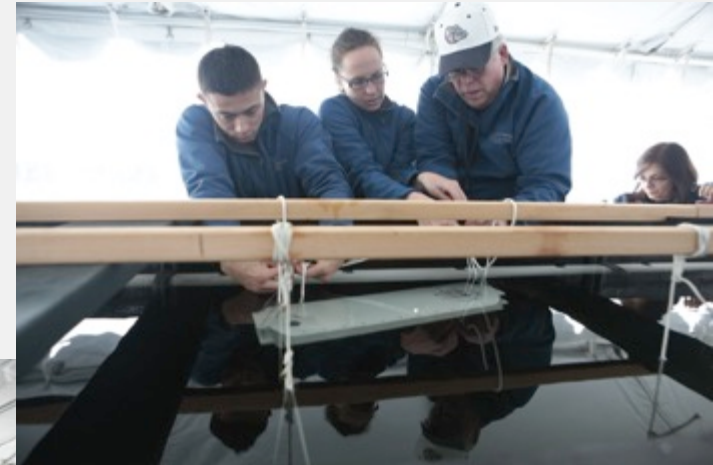
SEATTLE AQUARIUM

SEATTLE, WA



PHASE 3

- 14 Teams, 17 Entries
- Bespoke Test Tank designed by Seattle Aquarium & Validation Team
- Validation Team set up tank for hanging Entries
- Validation Team deployed and recovered Entries
- One month Precision and Stability Test
- Cost, Ease of Use also judged



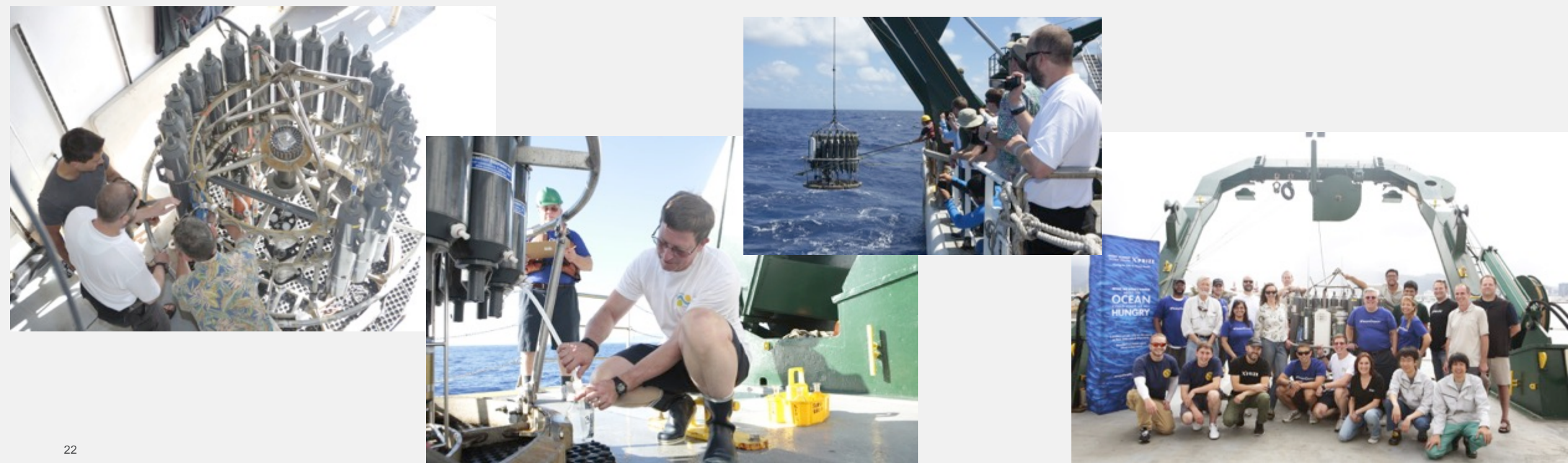
PHASE 4: DEEP-SEA TRIALS

R/V KILO MOANA
HONOLULU, HI



PHASE 4

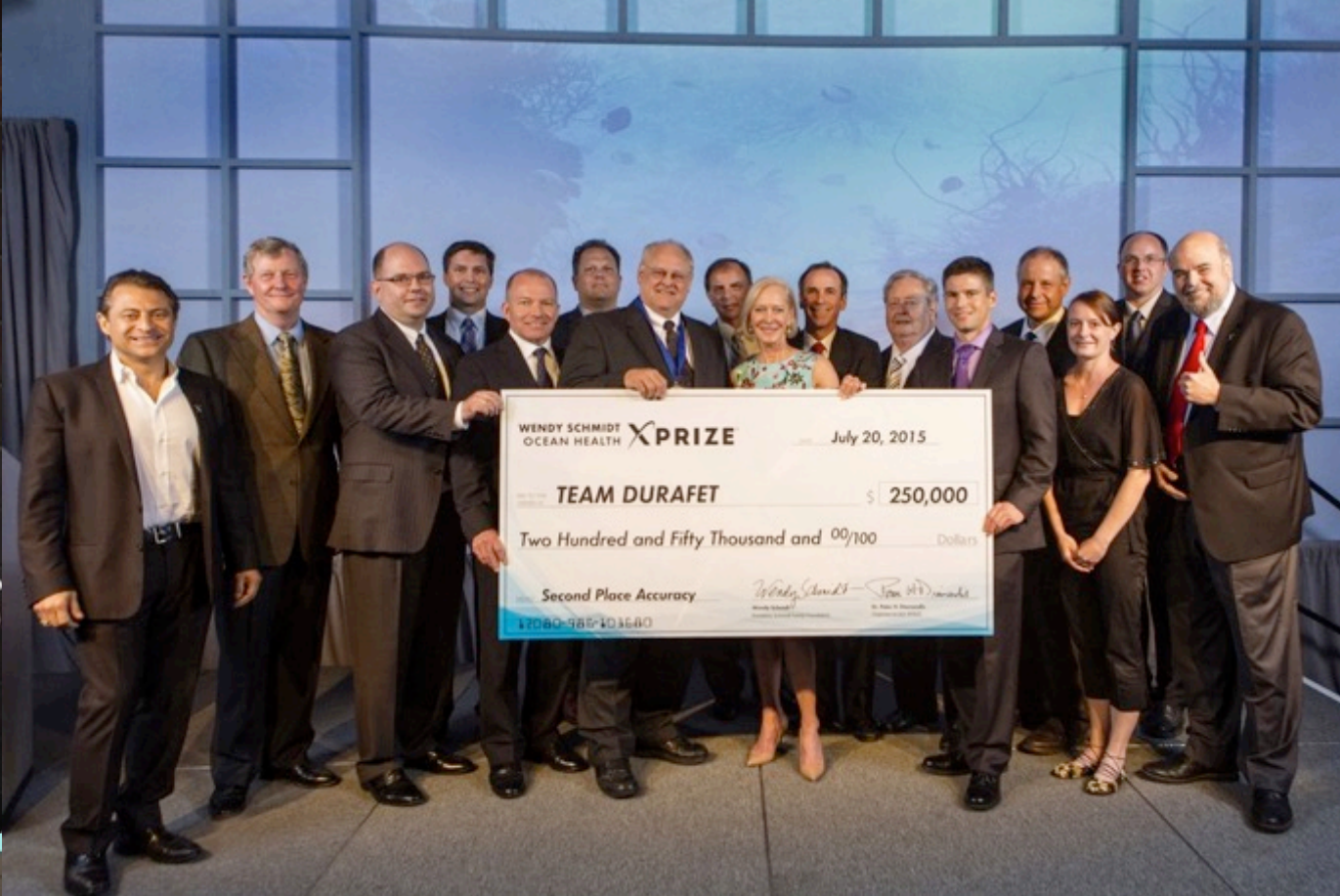
- 5 Teams, 5 Entries
- Mounting on rosette design & build by UH Marine Center & Validation Team
- Teams mounted and checked Entries on rosette
- Production cast and test cast to 50m
- Nine judged casts, incrementally from 250m to 3000m
- Accuracy, Precision, Ease of Use judged

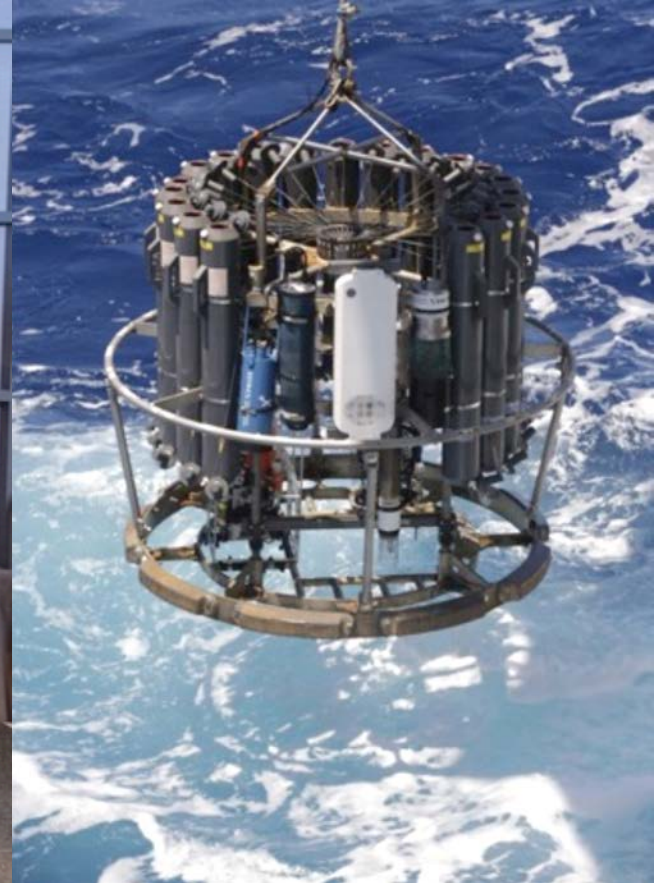


AND THE WINNERS ARE...



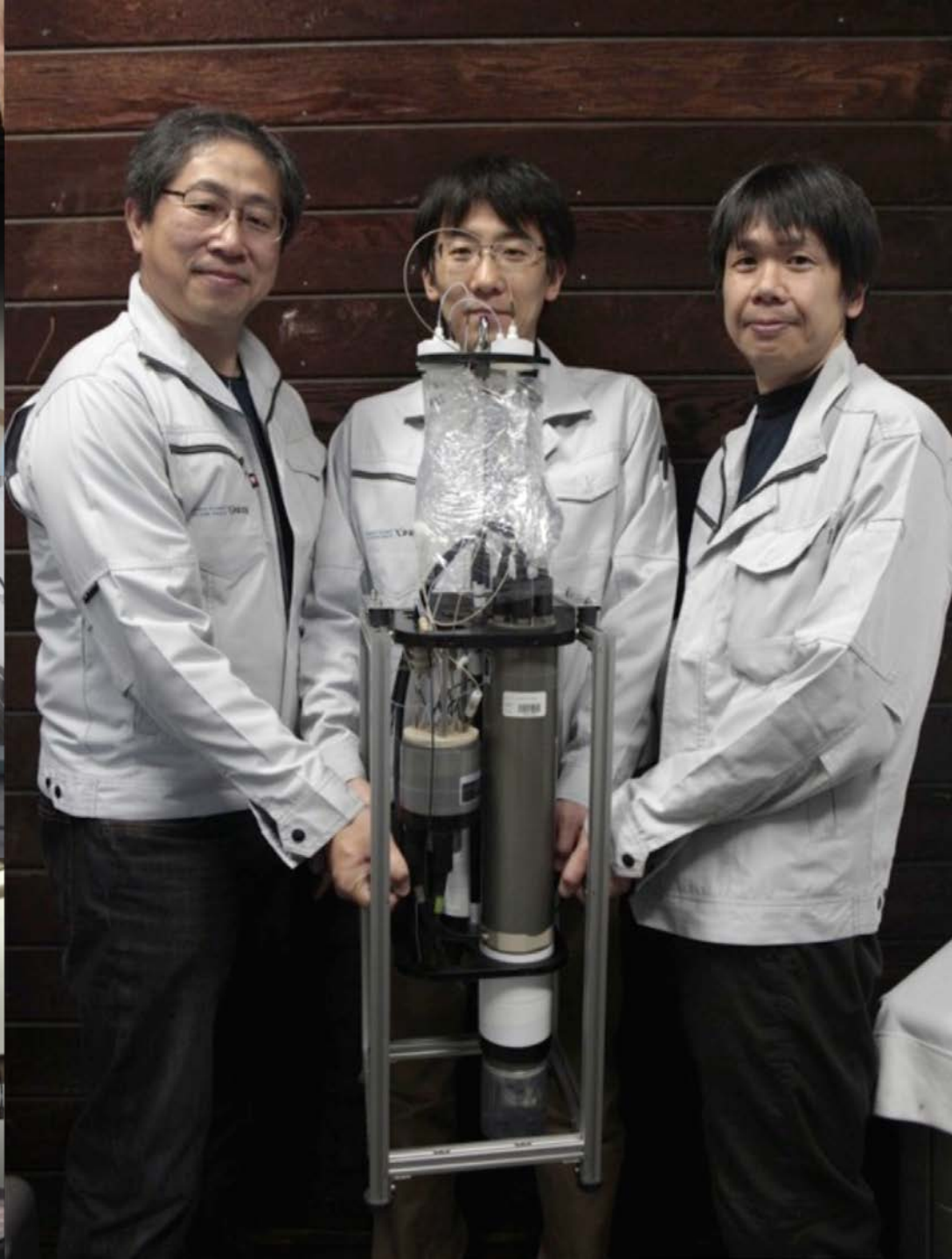






OTHER INNOVATIONS

The background features a dark blue gradient with several wavy, light blue lines that resemble particle trails or data paths. These lines are composed of many small, faint dots or segments, creating a sense of motion and complexity. The lines flow from the bottom left towards the top right, with some crossing and overlapping.

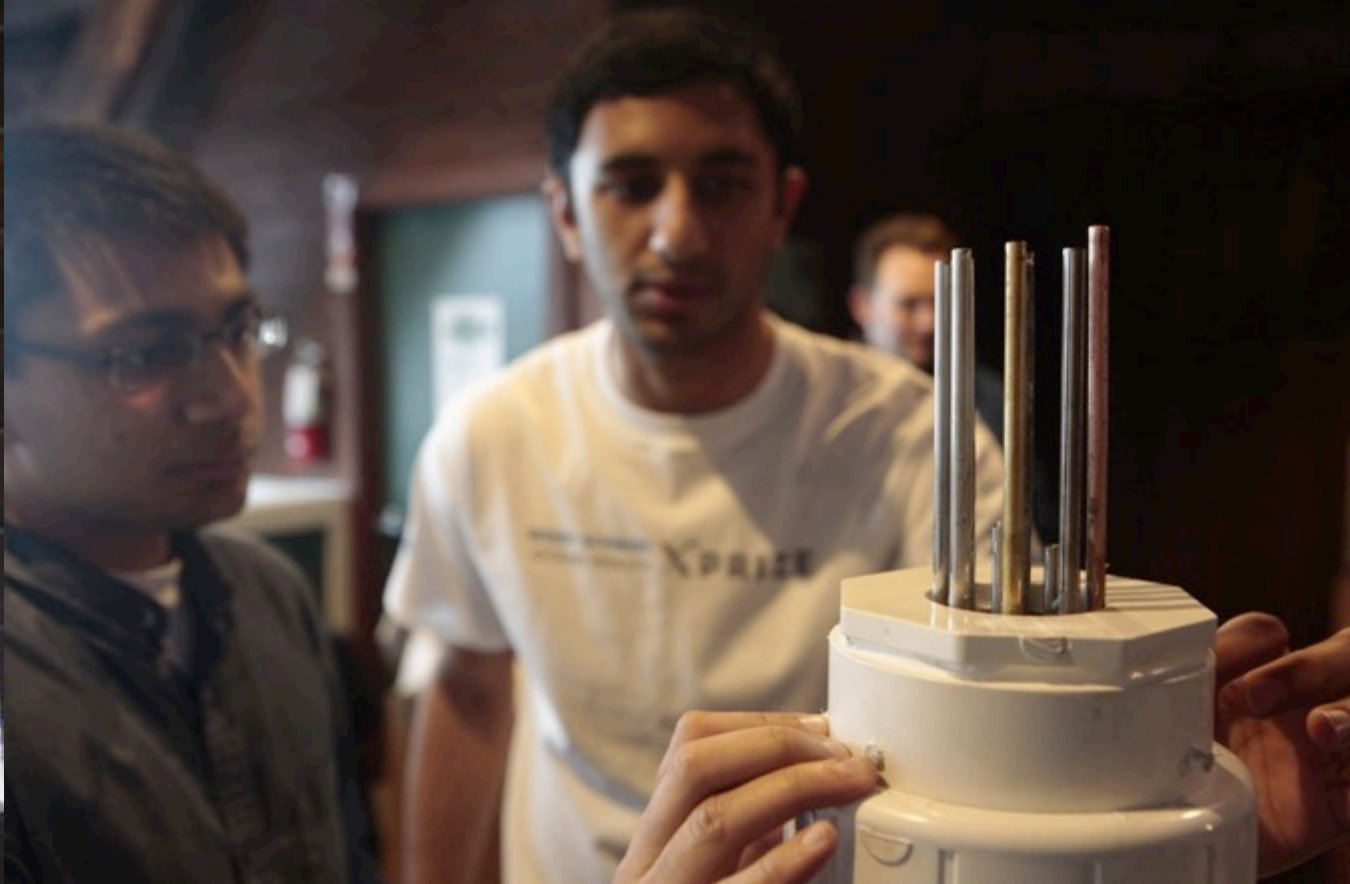
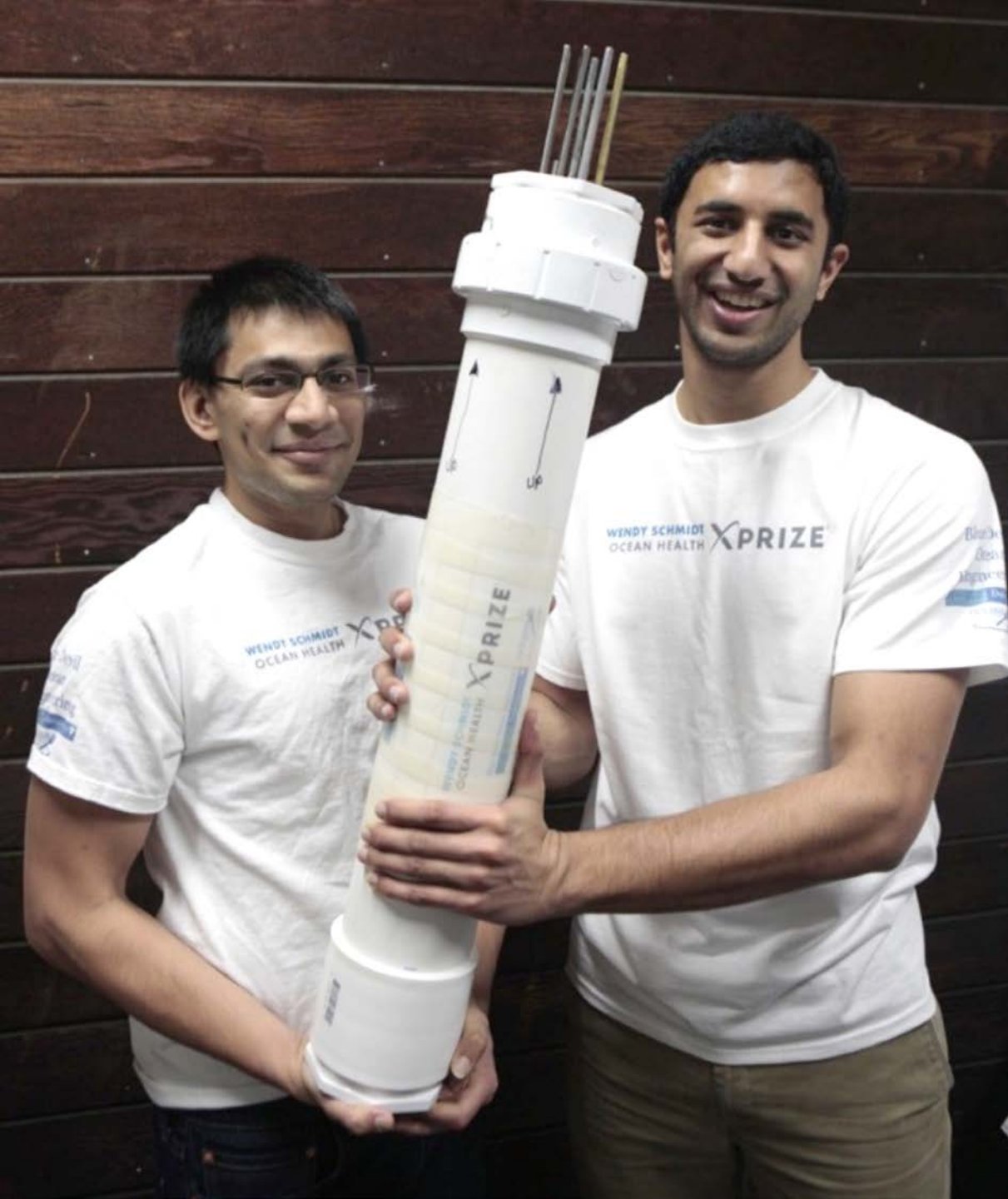




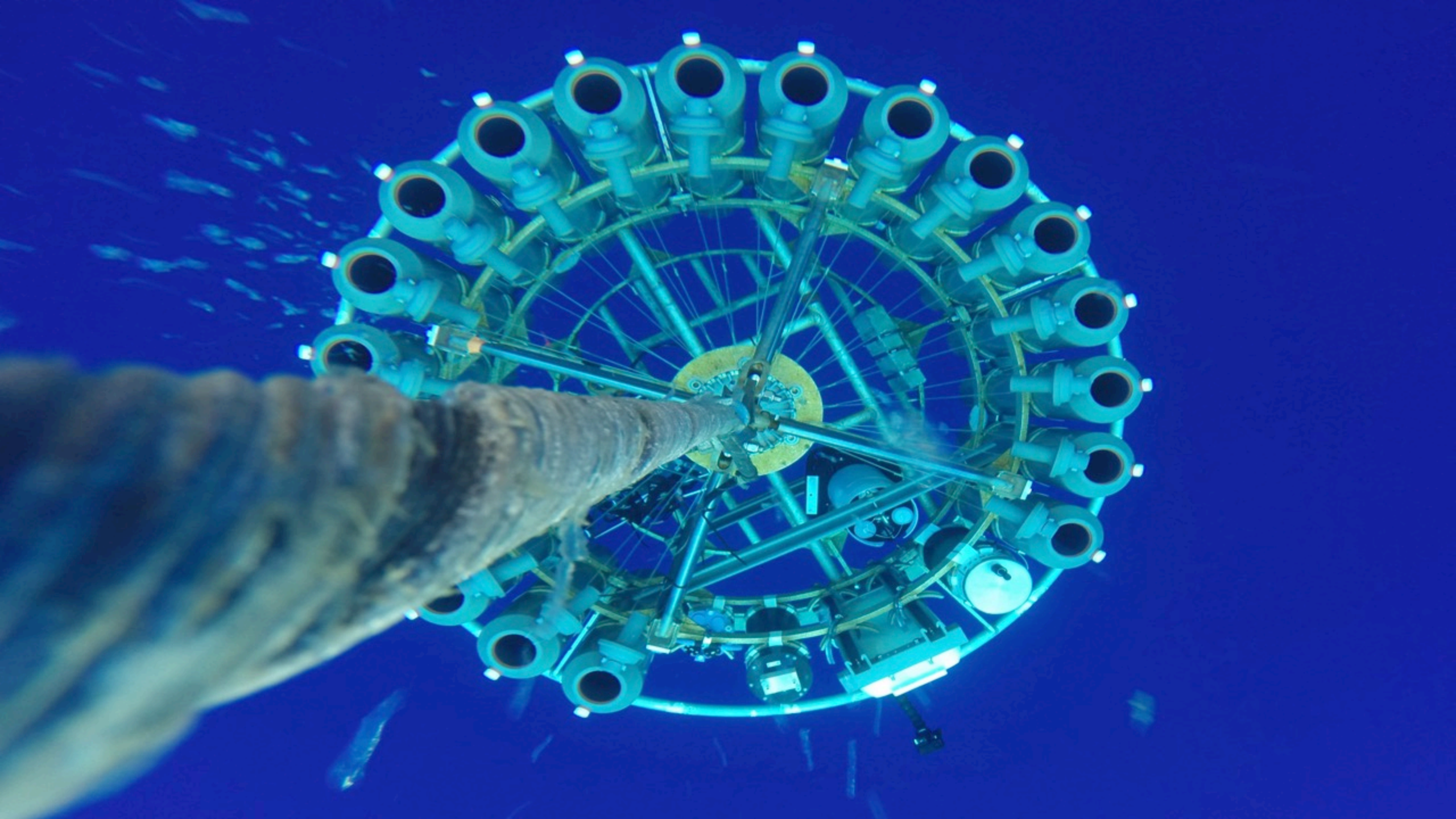




OCEAN TECHNOLOGY STEM
EDUCATION









Post Prize Activities

Matt Huelsenbeck

Matt.huelsenbeck@xprize.org

Post Prize Activities

- Concrete actions taken by Teams, XPRIZE and others during and after the Wendy Schmidt Ocean Health XPRIZE to improve our understanding of ocean acidification and grow the field of ocean services.
- Some goals for Post-Prize
 - Awareness and public relations.
 - New pH sensor users.
 - Collaboration with government agencies.
 - Identifying and growing new markets for ocean big data products.
 - Additional testing and deployment of sensors.

WENDY SCHMIDT OCEAN HEALTH XPRIZE®



f Shares / 45 Tweets / Stumble / @ Email

XPrize's \$2 million mission to protect the oceans



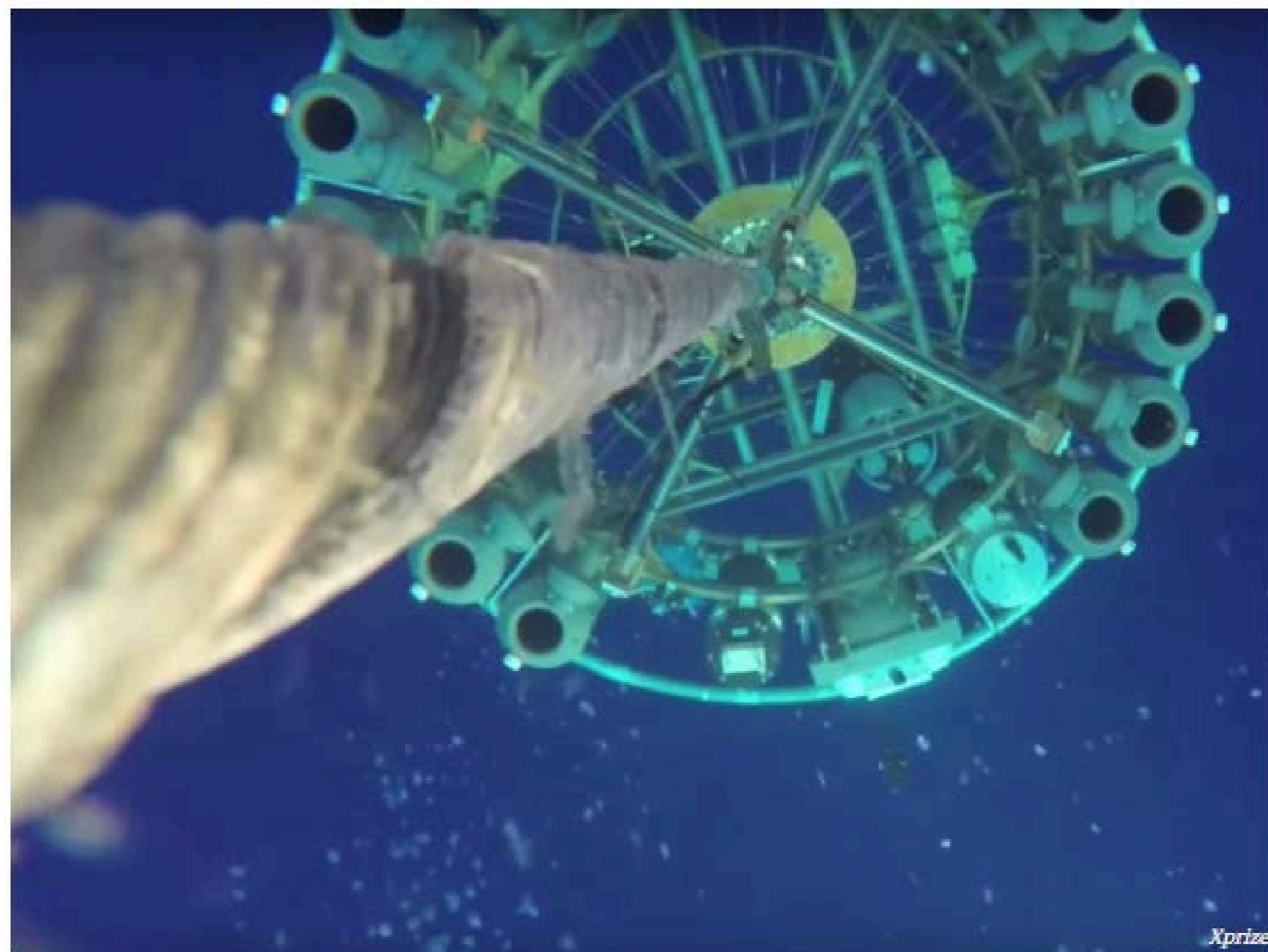
XPRIZE Winners Combat Ocean Acidification



TECH INSIDER



There's finally a good way to measure ocean health.



Popular Mechanics

The 2015 Popular Mechanics Breakthrough Awards

Indestructible drones, amazing robot hands, and more of the best ideas of the year.

The Monitors of the Sea

How two guys in Montana are changing the way we study oceans.



Awards Coverage: Media Metrics

3.5 Billion Total Impressions

170+ Total Articles

XPRIZE in Washington, D.C.

Launch of the Congressional Prize Caucus

Capitol Hill Ocean Week



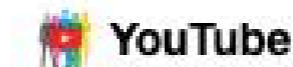
Oceans' 15



SXSW Eco 2015: This is Your Ocean on Acid



Our #SXSWeco panel "Your Oceans On Acid" is now beginning. Here is the video to kick it off! [youtube.com/watch?v=l6t90g...](https://www.youtube.com/watch?v=l6t90g...)



\$2M Wendy Schmidt Ocean Health XPRIZE

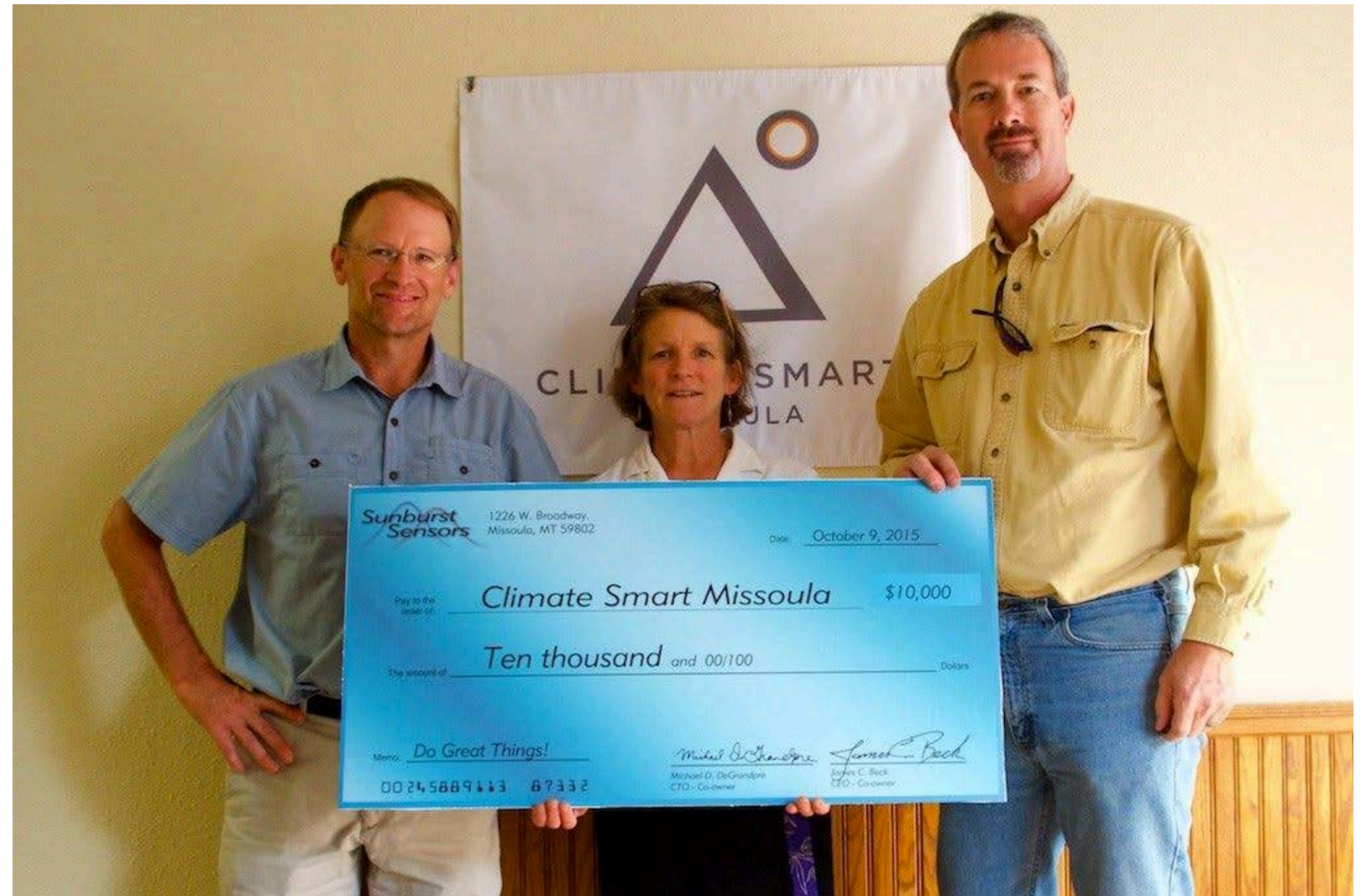
A \$2 million competition to help heal our oceans by improving our understanding of how CO2 emissions are affecting ocean acidification with breakthrough sens...

Winning Teams

Team DURAFET donates \$250k to University of Washington for Argo Floats



Sunburst Sensors donates \$10k to Climate Smart Missoula



Deployments

Southern California



Hawaii



Northern Australia

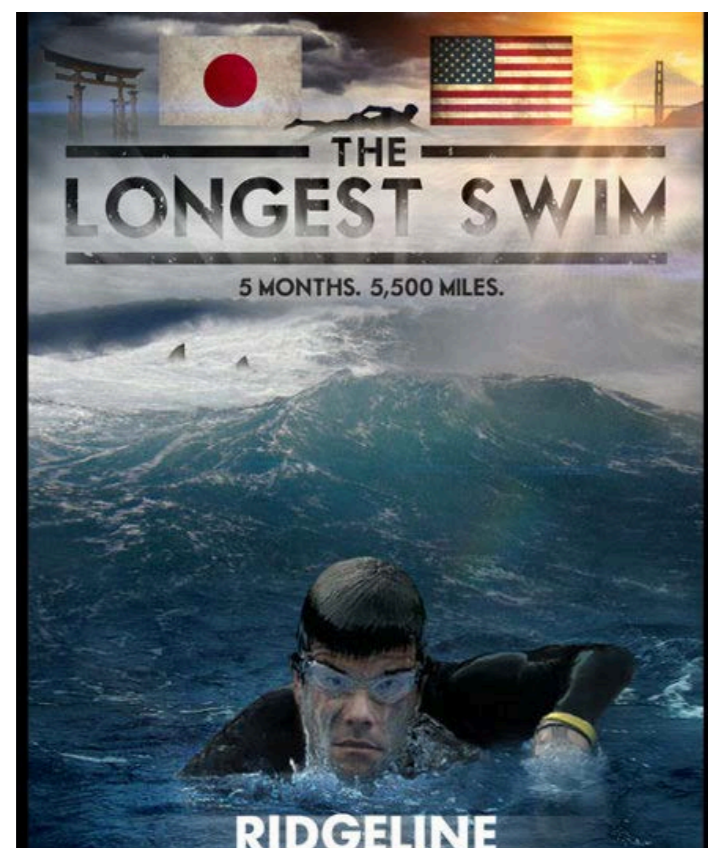


Australian Government

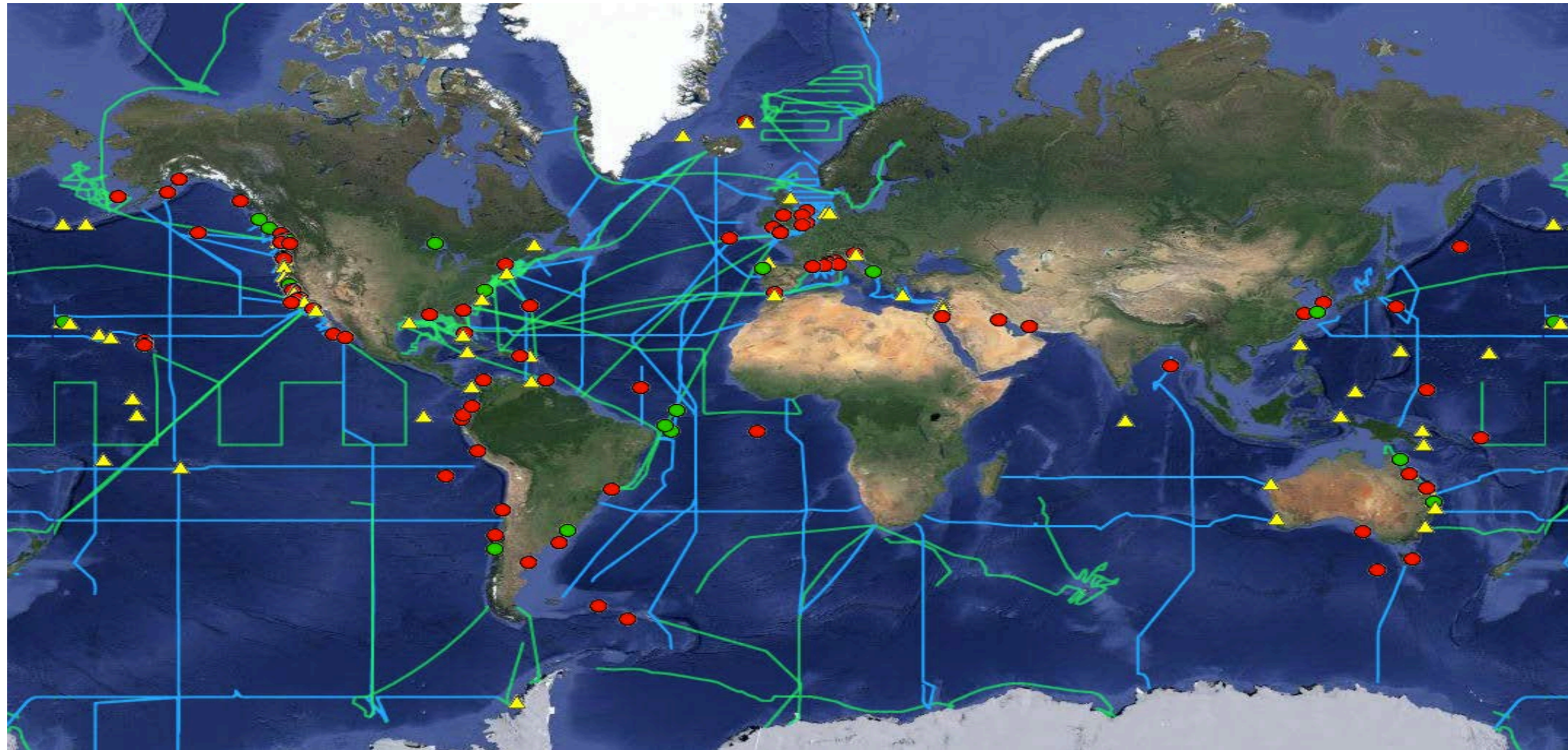


**AUSTRALIAN INSTITUTE
OF MARINE SCIENCE**

Tokyo to San Francisco



Filling Gaps



Global Ocean Acidification Observing Network

Side Competition for Ocean Big Data → Products

herox^x

The world's breakthrough platform

herox.com

[@iamherox](https://twitter.com/iamherox)


[topcoder]TM

Potential pH Users

- Government agencies
- Academic researchers
- Citizen scientists
- Shellfish farmers and fishers
- Tourism
- Non-profits
- You!
- Contact us if you want a pH sensor, or if you want to engage with team ocean at XPRIZE.

matt.huelsenbeck@xprize.org 310-741-4891

XPRIZE

Regulatory Monitoring Post-Prize Competition

A Partnership between XPRIZE and the
Southern California Coastal Water Research
Project Authority and it's Member Agencies

Regulatory Monitoring

The California Ocean Plan states that there shall not be degradation of marine communities or water quality due to waste discharges.

Regarding pH:

“pH shall not be changed at any time more than 0.2 units from that which occurs naturally”

WATER QUALITY CONTROL PLAN OCEAN WATERS OF CALIFORNIA



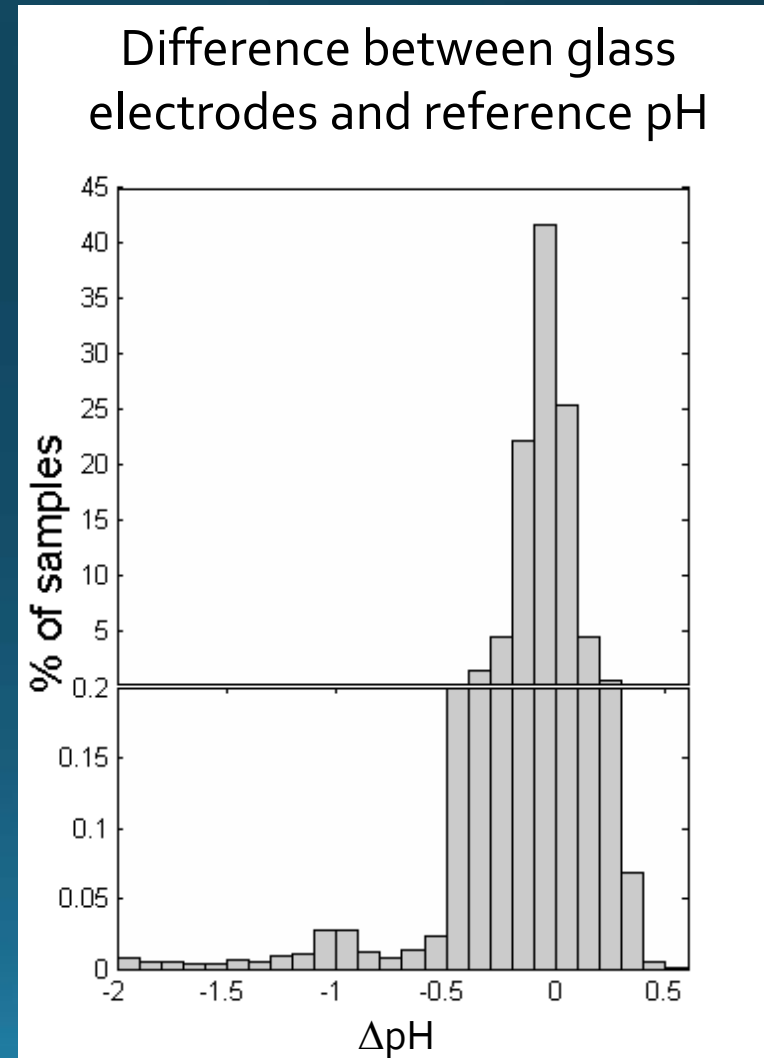
2012

STATE WATER RESOURCES CONTROL BOARD
CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY

The Problem: Best Available Technology Can Not Meet the Regulatory Standard

Glass Electrodes have been the only available technology for profiling pH in seawater

- Stated accuracy is ± 0.2 pH units
- Actual performance is really much less



The Opportunity: Test XPRIZE Sensor Technology For Regulatory Monitoring Application

- The Sanitation Districts of Los Angeles County, the City of Los Angeles, Orange County, and the City of San Diego are actively seeking better ways to monitor pH
- XPRIZE Sensors could potentially be used to capture nearshore profiles of pH that are more accurate than glass electrodes
- The post-prize is designed to put these new technologies directly into the hands of the potential users for evaluation



The competition:

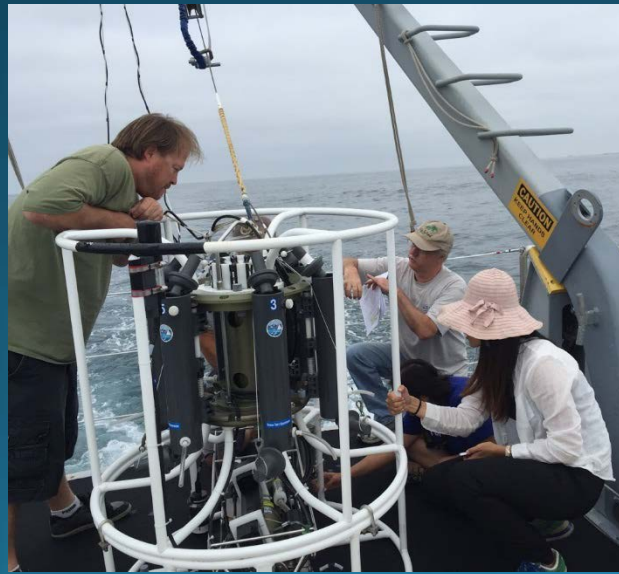
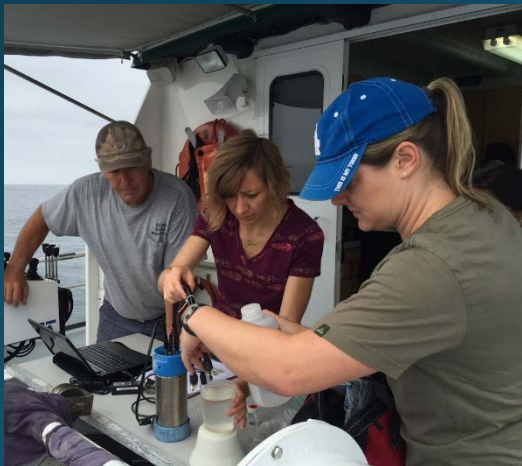
Develop an easy-to-use, rapidly profiling sensor for coastal regulatory monitoring

- Evaluate cutting edge technologies for coastal pH assessment
 - XPRIZE selected 4 instruments for testing based on performance during principle competition
 - Sanitation Districts will deploy the instruments during regulatory monitoring
 - XPRIZE sensors will be evaluated against SeaBird CTD and discrete, bottle pH values as reference
 - Sanitation Districts will provide feedback on the technologies (ease of use, accuracy, etc.) to determine the winning sensor



Competition is Underway!

- Sensor deployments began in August and will continue through February 2016
- Final assessment reports will be made for each competing sensor in Spring
- Announcement of the winning sensor(s) is expected in Summer 2016.



Questions about Post-Prize Competition?

If you have questions about the Regulatory Monitoring Post-Prize competition please feel free to contact me:

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Southern California Coastal Water Research Project Authority

karenm@sccwrp.org

714-755-3242

