

Ocean Gazing: Episode 24

The little sub that could

<begin music>

Ari: I'm Ari Daniel Shapiro. This is Ocean Gazing, the podcast where we cruise around the sea and talk about what's there. I've got a radio piece I produced that I wanna share with you. It was aired on the program Here and Now hosted by Robin Young a couple weeks back.

<fade up music and sustain until it ends>

Robin Young: In April, we told you about the launch off the New Jersey coast of an underwater glider attempting to become the first remote-controlled to cross the Atlantic. Well, the voyage of the 6-foot, 120-pound robot from Rutgers University called RU27 has come to an end. Ari Daniel Shapiro from IEEE Spectrum radio has the story.

Ari: The Rutgers University's Coastal Ocean Observation Lab, or COOL Room was bustling last Thursday at midnight. Over thirty students and scientists pored anxiously over the dozens of monitors coating the walls and tabletops. Maps of the Atlantic Ocean and west coast of Spain filled 6 of the screens. Everyone was waiting to hear the code words that would mark a successful recovery of the underwater glider called RU27: "the bear is in the igloo." <pause> Ethan Handel is a technician at Rutgers.

Handel: Most of us didn't ever think it was gonna happen. You know, the thing doesn't have a propeller, it can't really fight strong currents. There's so much out there going against it.

Ari: Without a propeller, the glider had to traverse the Atlantic by zigzagging up and down in the upper part of the ocean, moving between the waypoints assigned by the co-pilots.

Kaminsky: It's not over yet.

Ari: Undergrad David Kaminsky – one of the glider's co-pilots – was nervous. Without a successful recovery, months of work could literally sink to the bottom. That actually happened last year when the same trans-Atlantic mission came to an abrupt halt after a different glider sank off the coast of the Azores.

Kaminsky: This is probably one of the most dangerous parts of the mission. Something can always still go wrong until the glider is actually on board of the main vessel out there.

Ari: Six time zones and a little more than 3000 miles away, the vessel *Investigador* waited 180 miles off the west coast of Spain trying to make that happen. Onboard scientists from Rutgers, the University of Las Palmas on the Canary Islands, and the Spanish Port System scanned the water for the glider as the ship slowly converged on its last reported position. Josh Kohut, one of the scientists aboard, called up the COOL Room using a satellite phone to give his colleagues back in New Jersey a play by play of the recovery operation. The seas had been calm for most of the night. But at sunrise, the wind kicked up and every wave began to look like the glider. Until...

Kohut: We have a sighting. <applause> Right there, right there! There's a lot of very happy people onboard this ship right now.

Ari: But back in New Jersey, everyone still looked so worried. They'd found the glider, but it wasn't aboard the recovery ship yet. I looked around the room, watching friends and colleagues hanging out in the middle of the night eating chocolate doughnuts and bananas. Hanging on every word that came out of the speakerphone. Kinda like a science slumber party. Staying up late for a glider whose adventures had already caused many a sleepless night.

Handel: Oh, man, we're so close.

Ari: Meanwhile, back off the coast of Spain, a team of scientists maneuvered a small boat called a zodiac up to the glider, gingerly lifted it aboard, and made their way back to the mother ship.

Kohut: The zodiac is on the edge of the ship.

Ari: And soon, the zodiac and the glider were safe aboard.

Kohut: I think we can say the bear is in the igloo! <shouting and applause>

Ari: Glider co-pilots Shannon Harrison and David Kaminsky said it felt like they'd just won the World Series.

Harrison: I've never been this awake at 4 o'clock in the morning before in my life.

Kaminsky: Ecstatic is probably the best word to use.

Ari: As Kaminsky explains, RU27's voyage across the Atlantic wasn't just a joyride. It's one of a handful of gliders being used all over the world, each one crammed with sensors that measure all sorts of things like chemicals and sediment particles. Even ocean water temperature and salinity that can help us understand something about our changing climate.

Kaminsky: It's to be able to learn how the Earth works, how the climate works, and how the climate is controlled essentially by the ocean. And that's what we're doing: this glider is out there to try to sample the ocean like no glider ever has before.

Ari: And this little glider had made history. RU27 is the first remote controlled object ever to cross an ocean underwater, a cause for celebration here in New Jersey and off the coast of Spain where the glider was wet again. But this time, it was because it had been drenched in champagne.

Young: Ari Daniel Shapiro, a producer for IEEE Spectrum, the magazine for technology insiders. We're gonna take a quick break, be back in 30 seconds with your letters Here and Now.

<fade up "Sleigh Ride">

Ari: Remember our last sonic stumper? In addition to being seasonally appropriate, I kinda felt that getting that glider back in Spain was a bit like getting a present just in time for the holidays. I know, a little far fetched. But I couldn't resist. Here's our next sonic stumper.

<cross-fade to sonic stumper>

Ari: Tell us your guess by visiting our website: [oceangazing](http://oceangazing.com), all one word, dot org. And become a fan of Ocean Gazing on Facebook!

Ocean Gazing is a product of the Centers for Ocean Sciences Education Excellence, and we get support from the National Science Foundation.

Thanks to Chris Ballman, Sharon Basco, Janice McDonnell, Jim Yoder and Sage Lichtenwalner. Our intro music's by Evan Sanders.

Whether this is your first Ocean Gazing, or you've glided with us through every episode, thank you so much for tuning in.

<fade up sonic stumper and sustain until the end>