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# Spring 2018, It Takes a Village: UNH GEBCO Alums Revolutionize Ocean Mapping

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UNH Global

## It Takes a Village: UNH GEBCO Alums Revolutionize Ocean Mapping

Friday, April 13, 2018

After six long months and many 18 hour days, Rochelle Wigley, Project Director for the Nippon Foundation/GEBCO training program at the University of New Hampshire's Center for Coastal and Ocean Mapping, talks about her time in Norway working with the GEBCO-NF Alumni team (<https://www.gebco-nf.com/>). The team recently completed their Round 1 Technology Readiness Tests for the \$7 million Shell Ocean Discovery XPRIZE, revolutionizing the way we map and understand the ocean floor.

The team set out to build both an unmanned surface vehicle (USV) and an autonomous underwater vehicle (AUV) entirely from scratch. Their USV is the first ever with the ability to deploy and retrieve AUV equipment at sea, which is what makes it so special. The USV is controlled from shore, deploying the AUV to swim within 40 meters of the ocean floor and scan detailed images of what it finds there. Both the accuracy of the devices and detail of the images is remarkable. Where once you might only have been able to see the breadth of a shipwreck underwater, the team can now discern minute details, like a broken masthead.



Part of the GEBCO-NF Alumni Team gathered in Horten, together with both Kongsberg Maritime and Dr. Jyotika Virmani, Senior Director in Prize Operations at Shell Ocean Discovery XPRIZE. Photo cred: Kongsberg (<https://stories.kongsberg.com/content/autonomous-ocean-exploration-0>)

The team consisted of 40 people from 13 different countries around the world, 10 of whom are UNH alums of the GEBCO program. Each member of the team brought something unique to the table, with backgrounds ranging from geology to engineering.

“We all had little bits of the puzzle and without all of us, none of it would have happened,” Roxy says. It was clear from her tone that she was very proud of her team. They were able to challenge each other to approach problems in new ways. Roxy continues, “We all think about things differently and it’s amazing because just culturally things are done differently. They would ask a question that we would never think of asking. We could ask questions that made those with the knowledge think about it. I think everybody really enjoyed it because it challenged all of us on one, or two, or a hundred levels.”

Jaya Roperez, of the Philippines, had been working as a hydrographer and data processor prior to joining the team. Jaya worked closely with the boat builders during this project and later joined the data team, as she said she loved finding ways to make things work. This opportunity was a special one for her. She says, “I would have missed so much in my life and career if I did not join the team. It is such a once in my lifetime opportunity. This project proved that people, regardless of the individual differences, can come together and do great things as long as they are sharing the same purpose.” And when you spend as much time together as this group did, it’s important to have some common ground, especially when it comes to food.

Norway was new to many of these scholars and coming from so many different backgrounds, Roxy shared that it was often hard to agree on what to eat for dinner. Norway was the chosen destination for this project because of the reputation of Kongsberg Maritime, which is known to have some of the best ocean mapping technology in the world. Roxy spoke candidly about her time in Norway, working very closely with her team. There were 13 people living under one roof and despite their many differences, Roxy shared, “It was actually really, really nice because almost none of the team knew each other beforehand, and so just watching the friendships grow has been really good. They were a fun bunch. We laughed and laughed and laughed.” Spending so much time living and working together, the team quickly became more like family, eventually including the newborn baby of one of the team members.

The closeness of the team was never more evident than in their fond tribute to a former GEBCO alum. Maxlimer Vallee Anziani (<https://www.unh.edu/global/memorial-unh-remembers-maxlimer-coromoto-vallee-anziani>), of Venezuela, passed away tragically a year ago. The team made the



USV Maxlimer

unanimous decision to christen their USV “Maxlimer.” They celebrated her life together and doused the hull of the vessel in champagne in honor of her memory.

The GEBCO program has not only fostered strong friendships, but it has cultivated strong minds, as well. When asked how Roxy’s time as an alum of the GEBCO training program at UNH prepared her for this project, she said it was

absolutely pivotal. She says, “We wouldn’t have been able to do it without the training we’d had at CCOM, absolutely, categorically, and I think it prepared us to work hard. But, it also gave us the knowledge and the confidence to tackle it. I think that was the most important thing, it just gave us the confidence to think we could do it. We had enough knowledge to deal with [the project] properly, and that was remarkable. That was one of the most amazing things.”

Karolina Chorzewska, of Poland, agreed adding that “the common experience gained during the Nippon Foundation and GEBCO training program [allowed the team] to immediately cooperate, understand each other, and work together for a common goal.” For Karolina, this was the most impressive thing. She says, “You meet a person for the first time in your life, and after a minute you both talk together like experienced co-workers, because you share the same attitude about the hydrographic and scientific work.”

Sattiabaruth Seeboruth, of Mauritius, says, “This competition enabled me to work with GEBCO alumni and travel to countries where I never thought one day I will go there.” The strength of the GEBCO program and the dedication of the alums propelled this team to the final round for the XPRIZE. It is clear from their enthusiasm and acclaim that all were touched by this experience, as they eagerly await the next steps.

The GEBCO-NF Alumni team is sure to expand and take on new challenges as they enter Phase 2 of the project, which is scheduled for the end of this year. They will bring their vessel to the open ocean for sea trials in waters up to 4,000 meters in depth, pushing their knowledge and hard work to new limits.

**WRITTEN BY**

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