

Fall 2021

Welcome back to the National Deep Submergence Facility newsletter! All three vehicles are in action this fall, with sea trials for *Alvin* in Bermuda, *Sentry* hunting new hydrothermal vents along the southern East Pacific Rise, and *Jason* preparing to join *Sentry* to test new methane sensors at the Guaymas Basin hydrothermal vent field. Keep reading for interviews with our team and a virtual event featuring the new Chief Scientist for Deep Submergence.

Alvin 6500 sea trials



Alvin's sea trials are underway and the first phase took place before R/V *Atlantis* left the dock in Woods Hole. Last week, a 3-person team entered the sphere, closed the hatch, and stayed inside for over 12 hours; followed by another team (above) who "rode" inside for more than 5 hours on emergency breathing apparatus. This week, *Alvin* is headed to Bermuda to dive to its new maximum depth of 6,500 meters. [Read our blog for regular updates.](#)

Around the facility



Summer with *Sentry*

Meet NDSF Intern Renee Gruner-Mitchell



NDSF user spotlight

Shawn Arenello on using *Alvin*, *Jason*, and *Sentry* to study cold seep larvae



Jason to the rescue

ROV *Jason* helps recover ROV *Hercules* and *Argus*

Updates

Meet the new Chief Scientist for Deep Submergence

Dr. Anna Michel, an associate scientist in the Department of Applied Ocean Physics and Engineering at Woods Hole Oceanographic Institution, was appointed the Chief Scientist for Deep Submergence (CSDS) at the National Deep Submergence Facility (NDSF). This role places Michel at the forefront of deep submergence for the academic research community, working as a liaison to connect scientists with the Woods Hole Oceanographic Institution teams that operate the NDSF underwater vehicles. Michel is the first woman to serve in this role and began this post on July 1. [Read the announcement.](#)

A future launch port for NDSF vehicles

The Complex for Waterfront Access To Exploration and Research (CWATER) will be a marine research facility built on the footprint of the existing Iselin dock that is designed to accommodate projected sea level rise in Woods Hole Village and provide upgraded working space and waterfront public areas. The new building will include a 2,400 square foot High Bay for *Alvin* work and enhanced testing facilities for *Jason*, *Sentry*, and WHOI's other autonomous vehicle platforms. [Take a look.](#)

Internships to work on *Alvin*, *Jason*, and *Sentry*

The National Deep Submergence Facility hosts interns to work with autonomous underwater vehicle *Sentry*, remotely operated vehicle *Jason*, and Human Occupied Vehicle *Alvin* through the [MATE program](#). They also consider individual applicants and are in the process of establishing long-term partnerships with universities that will create opportunities for populations that are underrepresented in engineering and operations of deep ocean technology.

Anna Michel on Ocean Encounters



October 27, 7:30pm ET

Hear from four women engineers who explore extreme places in the ocean and outer space. Featuring Anna Michel, Chief Scientist for Deep Submergence at NDSF, in conversation with NASA Astronaut and former *Alvin* engineer Loral O' Hara, WHOI Senior Engineer Gwyneth Packard, WHOI Research Engineer Kaitlyn Tradd, hosted by Carol Anne Clayson, WHOI climate scientist and Associate Director of Research Strategy. [Register here.](#)

In the news

CAPE COD TIMES

The *Atlantis* (and *Alvin*) depart Woods Hole

SEEKER

Inside the deep sea sub exploring earth's final frontier

PBS

Alvin: pioneer of the deep

ON&T

Exploring the undiscovered country: the deep ocean



This is a really exciting time to be a roboticist who also cares about the environment—and to be a scientist who has access to new tools for research. Maybe I'm a little overly optimistic, but I believe we're at a pivotal moment for exploration.

—Victoria Preston

Victoria Preston is a MIT-WHOI Joint Program Student working in Anna Michel's lab at Woods Hole Oceanographic Institution and Nicholas Roy's Robust Robotics Group at the Massachusetts Institute of Technology. Working closely with NDSF engineers, she has developed algorithms to help remotely operated and autonomous underwater robots observe the movement of hydrothermal plumes underwater. She will be testing this new technology with *Sentry* during a cruise to the Guaymas Basin this fall. [Read more at MIT News.](#)

Where are our vehicles now?



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