

# NDSF DEIJ Update

Micki Barboni & Anna Michel

**NDSF** NATIONAL  
DEEP SUBMERGENCE  
FACILITY



## Focus on Inspiring, Developing, Recruiting, and Retaining a Diverse Pipeline

*Overarching approach:*

*Share widely that career paths in deep submergence and operations are open to all.*

- ❑ K-12 outreach
  - Live streams with groups like "Exploring by the Seat of Your Pants"
  
- ❑ Undergraduates at NDSF and WHOI Deep Submergence
  - Example success story: Summer 2021, female ocean engineering research student at DSL is returning in 2022 to sail with ROV Jason
  
- ❑ Diversity in vehicles groups (MATE interns, increased diversity in engineers/operators for 2022 cruises)
  - Previous success with Alvin!

Live Streams from Ships: Expanded bandwidth enables greater inclusion  
**Increases the capacity to reach classrooms, scientists, and engineers on shore**

- ❑ Fall 2021 – Live streams from RR2107 (ndsf.who.edu)
  - Exploring by the seat of your pants
    - Focus on technology-based careers
    - Reached general public and live links to classrooms in USA & Canada
    - Sentry & Jason team members
    - Live stream from seafloor
  - Live stream hosted on shore at WHOI
    - Focus on marine operations careers (video of interviews of shipboard careers)
- ❑ Capability to stream ROV Jason video and now AUV Sentry data live to shore → enabling greater inclusion



Amanda Sutherland from the Sentry Team discussing the operation of Sentry and how she became a Robotist with WHOI during the RR2107 cruise.



Melinda Bahruth, PhD student from the University of Delaware and Stefano Suman from the Sentry team work in real-time with co-PI Chris German during the 4CAST GOFAR project.

## Internships

- ❑ Internships
  - 4 MATE Internships between Jason and Sentry for summer of 2022
    - Interviews are almost complete
  - Partnering with Tuskegee University through OECI
    - Encouraging a diverse team of students to come to WHOI
  
- ❑ Establishing a relationship with the University of Southern Mississippi
  - Plan to provide internship opportunities to Ocean Engineering students in 2023

# Challenges

# Approaches to Success

- Housing at WHOI is a huge challenge, especially in the summer
- Housing "crisis" on Cape Cod currently

- Limits our ability to bring interns to WHOI
- Looking at alternative housing options
- Bringing interns to sea

- Mentor availability / Berthing availability

- Working with ship schedules to identify cruises that can include interns

- Mentorship training and inclusive practices

- Scheduling appropriate training for mentorship and inclusion
- Utilizing a cohort model when possible
- WHOI climate study is on-going

- COVID-19 Impacts

- Hopeful for 2022 to be smoother
- 2023 may be able to include more interns as hopefully restrictions decrease

## Pipeline activities

- ❑ DeSSC new user program – Day 2 Activities (May 2022)
- ❑ Presentations at conferences (e.g., SWE, SACNAS)
- ❑ Development of a collaborative marine technology workshop with local community colleges
  - NDSF, Ship Ops, SSSG, OOI
- ❑ Outreach events to K-12 utilizing small ROVs
  - e.g., Girls in Science Camp @ Penikese Island (summer 2022)
- ❑ Presentation to WHOI Ocean Science Journalism Fellowship program