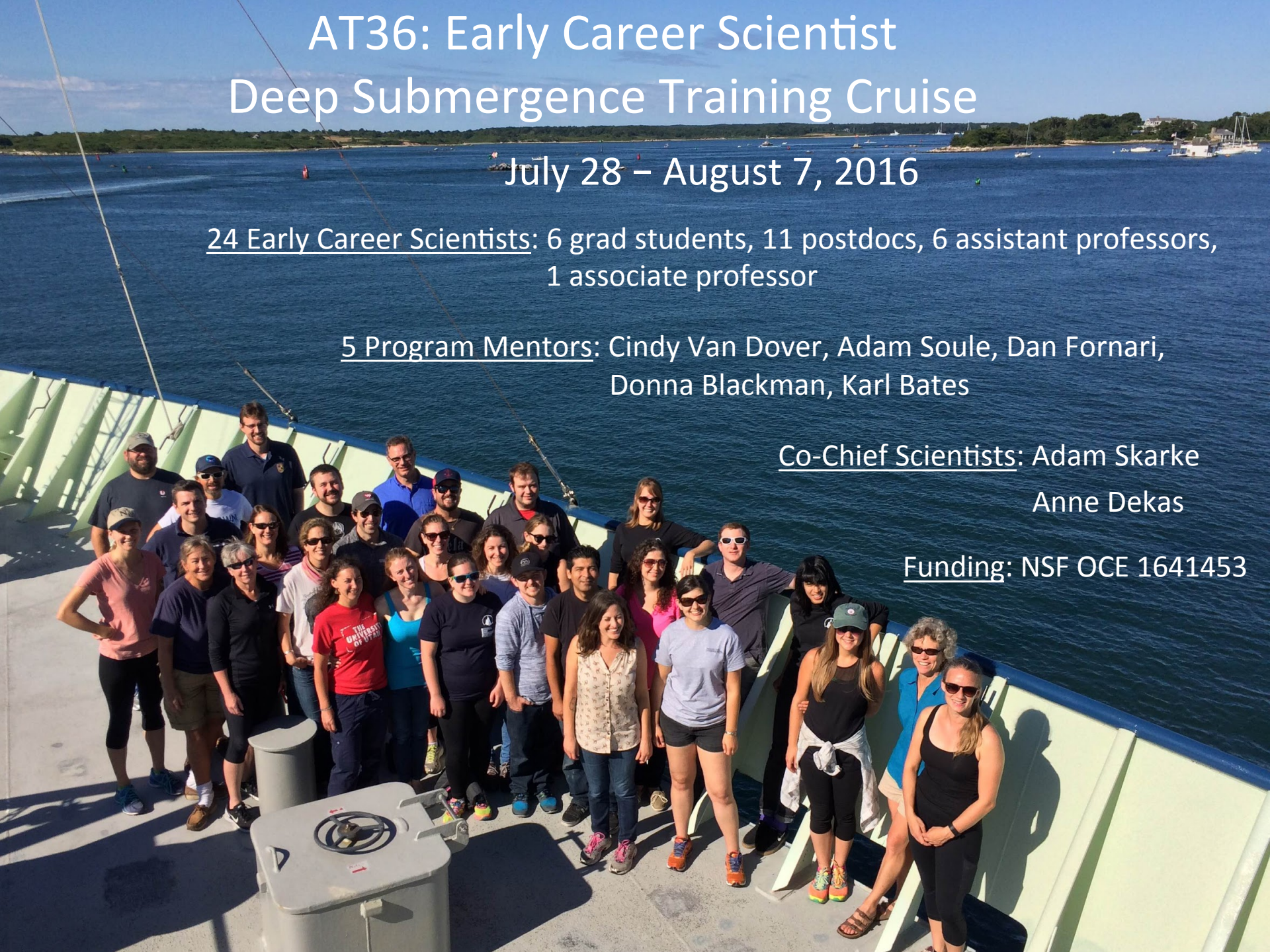
AT36: Early Career Scientist Deep Submergence Training Cruise

July 28 – August 7, 2016



24 Early Career Scientists: 6 grad students, 11 postdocs, 6 assistant professors, 1 associate professor

5 Program Mentors: Cindy Van Dover, Adam Soule, Dan Fornari, Donna Blackman, Karl Bates

Co-Chief Scientists: Adam Skarke
Anne Dekas

Funding: NSF OCE 1641453

AT-36 Cruise Summary

Destination: Six recently detected methane seeps on the northern US Atlantic Margin

Goal: Characterize geology, geochemistry and biology

Alvin Dives: 9

- 2 bounce days
- 2 dives with mid-water work

Sentry Dives: 5

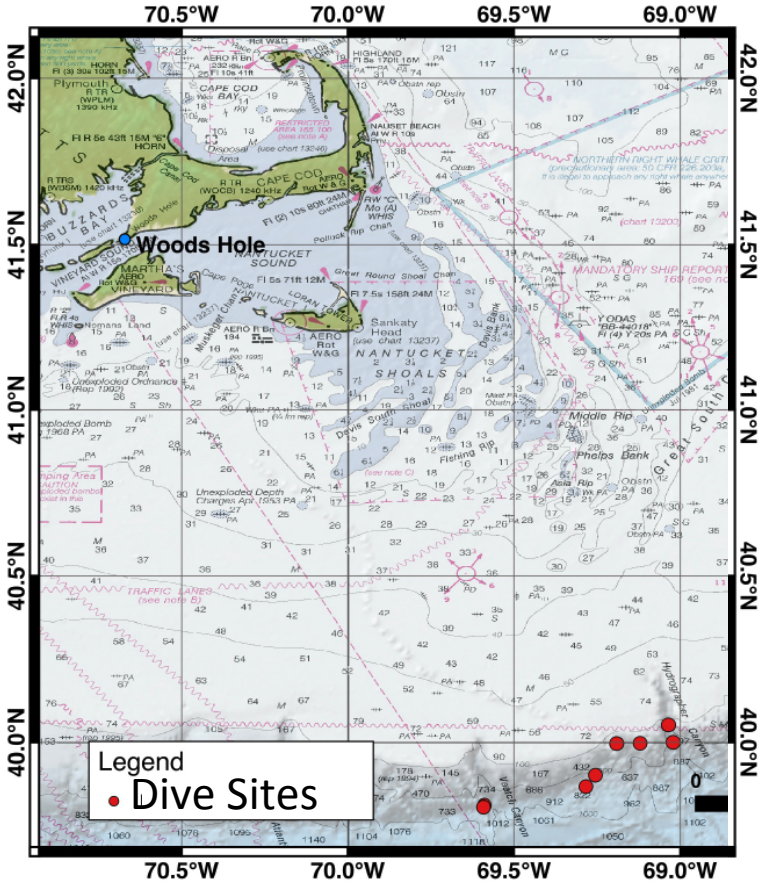
- Multibeam bathymetry, multibeam water column backscatter, side scan sonar (120 kHz, 410 kHz, 850 kHz), sub-bottom profiles, seafloor photos, oxidation reduction potential (ORP), optical backscatter (OBS), salinity, T, and DO

Ship-side Deployments

- Multicore (w/ MISO), gravity core, CTD, XBT

Telepresence

- Two program cohorts, each spent 5 days on ship, 5 days on shore (URI Inner Space Center)
- Extensive real-time communication between ship and shore



AT-36 Cruise Summary

Research Highlights:

- Extensive evidence of methane seepage observed (bubbles, bacterial mats, clams)
- Collection of 288 sediment core, rock, and animal samples
- >100 hours of video and >10,000 high resolution images collected (*Alvin*)
- 4.5 km^2 of the seafloor mapped at resolution of 1-2 m^2 (*Sentry*)
- All data are available for public access
- Manuscripts are accepted (EOS Meeting Report), submitted (PNAS Opinion Article), and *in prep* (Deep Sea Research II, Environmental Microbiology, etc.)

Training Highlights:

- Hands-on training in planning and executing oceanographic research
- >20 ship and shore training sessions during the program
  - NDSF, NSF, UNOLS
  - Science communication
- Network of new collaborators and future NDSF users

Photo Credit: Laura Bagge