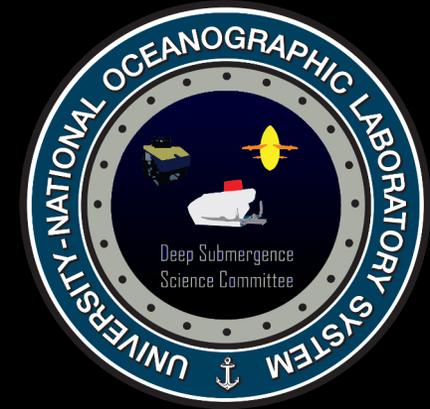


# DeSSC report

## Fall Annual 2021 UNOLS Council Meeting



- DeSSC membership
- NDSF vehicle updates
- Covid Impacts
- News from other national deep submergence vehicles
- Other activities



# DeSSC Membership

Roxanne Beinart (*URI*), **Friend of Alvin**

David Caress (*MBARI*)

Brian Glazer (*Univ. Hawaii*)

Leila Hamdan (*Univ S Miss*)

Jeff Marlow (*Boston U*)

Anna-Louise Reysenbach, Chair (*Portland State U*)

Andrew Thurber (*OSU*), **Friend of Jason**

Dorsey Wanless (*Boise State U*), **Vice Chair DeSSC**

Scott White (*Univ, SC*), **Friend of Sentry**

Amy Baco-Taylor (*UNOLS committee rep*)

**Anna Michel** (*ex-officio, WHOI*)

Peter Girguis, (*ex-officio, Harvard*)

Rob Munier (*ex-officio, WHOI*)

Tim Shank (*ex-officio, WHOI*)

Adam Soule (*ex-officio, WHOI*)

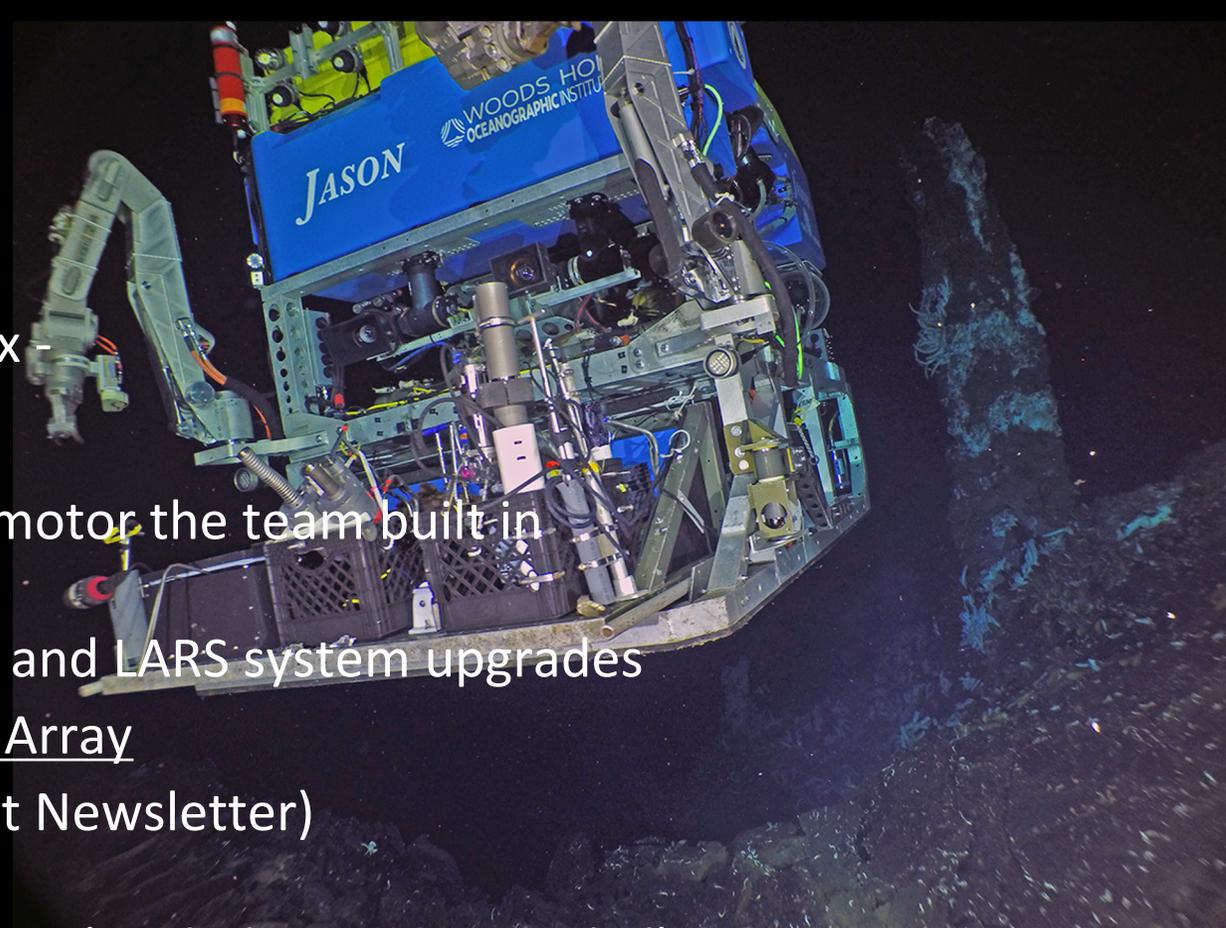
UNOLS Alvin update: covered by Adam Soule

<https://ndsf.whoie.edu/category/alvin-6500/>



# ROV Jason

- **Prior to May.. 3 cruises completed**
  - Kelley-Miksis-Olds -Fornari/Arellano/Mullineaux -
- **Some highlights:**
  - Upgrades- include the prototype new thruster motor the team built in house last year
  - Also spent time this year on basic maintenance and LARS system upgrades
  - Ocean Observatories Initiative Regional Cabled Array
  - ROV *Hercules* and *Argus* recovery (see NDSF Oct Newsletter)  
<https://nautiluslive.org/cruise/na129b>
  - Headed to Guaymas for a Sentry-Jason expedition (Michel, Girguis, Wankel)
- **Moving forward to 2022**
  - 200+ dives scheduled
  - Adding new employees and contractors to ops team to facilitate challenging schedule ahead



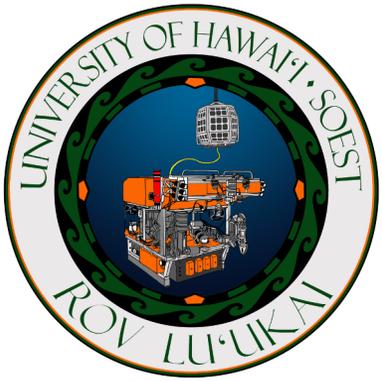
# AUV Sentry

- Sentry was in Woods Hole for the summer
  - Upgrades and basic maintenance
  - Integration of sensors
- Sept 18, San Diego-Joe Resing expedition on SEPR
  - 10 Sentry dives, 3 weeks
  - 151 h of Survey
  - 175h in the water
  - 385 km of total trackline
  - 2,672 m max depth
  - 81k photos collected
  - 7.2 Tbytes total raw and processed data
  - 80 CTD casts



Headed to Guaymas with Jason, Methane sensors

COVID...



# ROV Lu'ukai

Bruce Howe and Blue Eisen

University of Hawaii at Manoa

- Summer upgrades
  - Installed new telemetry system
  - Installed universal power supply- hope to eliminate need for dedicated ROV generator
- 3 expeditions
  - Rocks off Oahu and Molokai (1000m)
  - Aloha Cabled Observatory maintenance (4700m)
  - 2 months on NW Hawaiian Islands and Emperor seamounts
  - <https://vimeo.com/574150083>

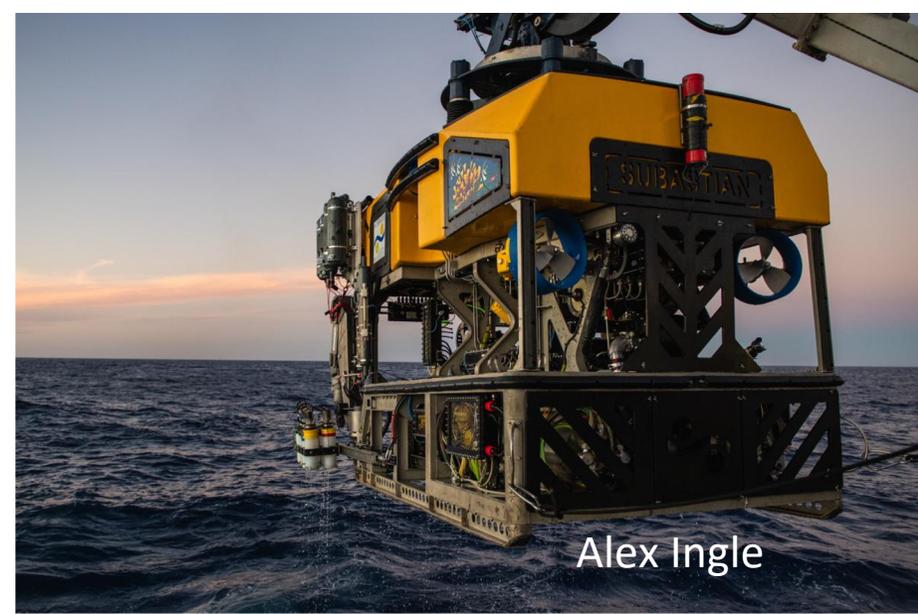
**Covid Challenges:** quarantines caused some difficulties, replacing crews, on ship isolation etc. and resulted in a delayed departure.



# ROV SuBastian

SOI (Thanks Errol Campbell)

- Completed 6 science-based expeditions in 2021 (see website)
  - Lots of firsts on these expeditions.



- New support ship! Falkor II- sea trials 3<sup>rd</sup> quarter of 2022
- Will require lots of modifications to integrate SuBastian on the new vessel
- COP 26 where SOI presented a new film from ROV SuBastian “Climate Under Pressure”- examines deep-sea exploration and climate, and features footage from a number of Falkor expeditions on the work SOI does to promote the conservation & preservation of the world’s (including Seabed Initiative 2030)

# ROV Hercules and E/V Nautilus

## OET (thanks Allison Fundis)

- “THANK YOU to NSF, UNOLS, UW, and WHOI for all of the support and assistance with our ROV recovery”
- successful technology demonstration expedition in collaboration with WHOI's NUI and Mesobot teams
- Currently mapping in Papahānaumokuākea Marine National Monument and will then 2 more ROV expeditions in area
- Busy 2022- to map and characterize the US EEZ (supported by the NOAA Ocean Exploration Cooperative Institute and NOAA Office of National Marine Sanctuaries)-
  - includes UNH (with UxS DriX), WHOI (with NUI and Mesobot), and USM (with AUVs Eagle Ray and Mola Mola). (<https://nautiluslive.org/expedition>)
- OET new position for Chief Scientist



# Other DeSSC activities:

- Alvin Science Verification Expedition
- Imagery user (new and old) skills workshop (s) – late January 2022
  - Based on NDSF curriculum and led by Evan Kovacs from Marine Imaging Technologies
  - to teach the basics and fundamentals of capturing high quality video and underwater stills. This will be largely based on video and stills
  - Products: Short “how to” materials and videos
- DeSSC Annual and New User meeting – Ocean Sciences (online)
- Discussion started about ideas for fostering DEI, perhaps having graduate student/postdoc ‘intern/membership’
- Ongoing- includes Sentry sidescan data processing
- Thanks!