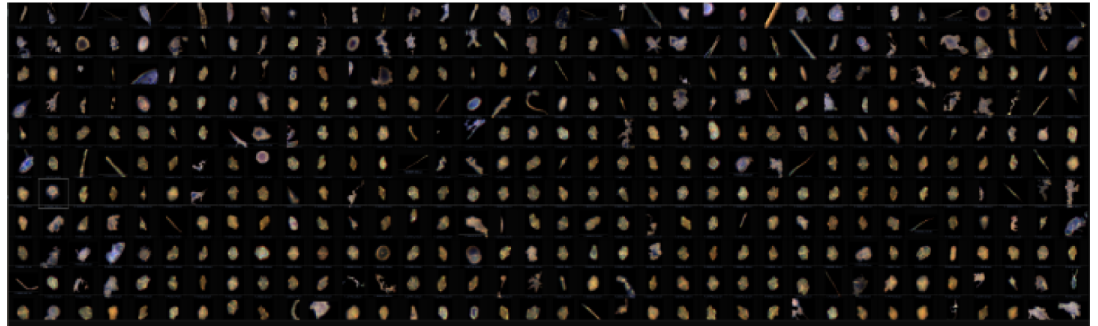
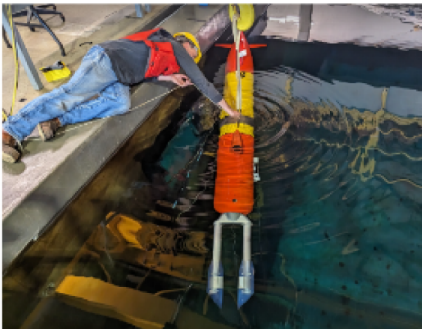


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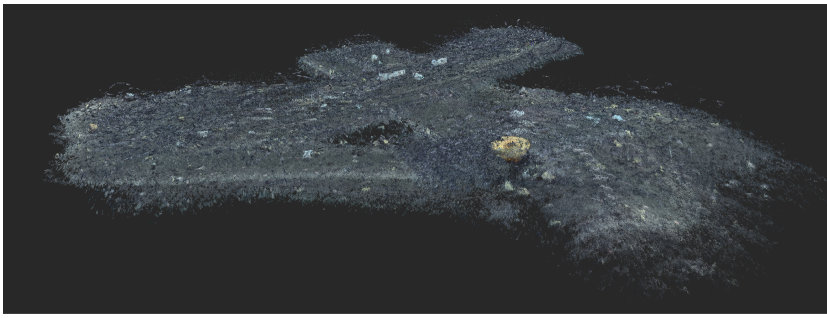
<https://docs.mbari.org/internal/projects/Engineering/Weeklies/2023/>

Executive Council Notes

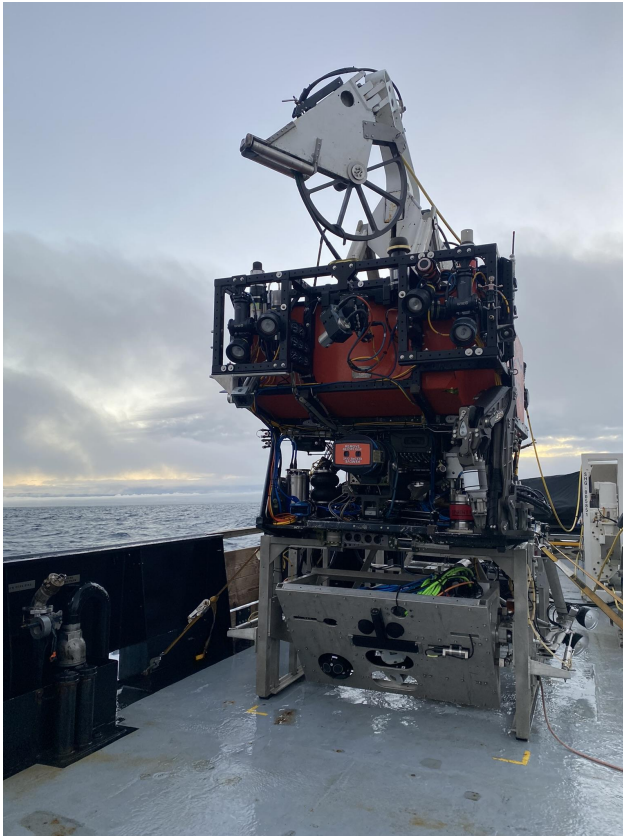
- 902004 Planktivore Milestone (5 Oct 2023): First deployment of Planktivore V2 on LRAUV Ahi. The team worked through some integration problems and then we had a clean 12 hour mission running C1 to M1 resulting in 1+ Million plankton images. Many thanks to Hobson, Shemet and Kieft for the Ahi rebuild and integration support. Big thanks to Schnittger and Wahl for the seemingly endless ballast and trim for our unique payload. [Roberts, Maughan, Jones, Schnittger, Klimov, Erickson]



- 902204 - Scalable Robotics - The lab participated in a 3 day expedition to test real-time Simultaneous Localization and Mapping (SLAM) using the Low Altitude Survey System at Sponge Ridge from October 10th to 12th using the ROV Ventana. We deployed our SLAM framework using stereo images and sensor integration for navigation. We were able to demonstrate successful SLAM despite challenges such as poor navigation input one day and numerous fish that made the application of this technique very difficult. Data were collected using the Forward Looking Sonar (FLS) for our efforts to enable navigation and mapping. We also have a visiting researcher from KTH as part of our collaboration in these efforts. [Troni, Rodríguez, Barnard, Headley, Martin]
 - 3D map generated in real-time using SLAM methods at Sponge Ridge:



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- *ROV Ventana Carrying the Low Altitude Survey System:*



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Individual Activities

- Michael Anderson
- Kevin Barnard
 - Out of Office
 - LASS on Ventana/Rachel Carson cruise: Oct 10, 2023 – Oct 12, 2023
 - CSIRO: Oct 20, 2023 – Nov 5, 2023
 - MiniROV/Fulmar cruise: Nov 6, 2023 – Nov 7, 2023
- Francois Cazenave
 - 901221 - Midwater Time Series
 - Working on 2 nose cover designs
 - 901405 - PowerBuoy Development
 - Monitoring buoy
 - 902106 - Niobicon-Based AUV Docking Development
 - Designing new docking hardware
 - Out of Office
 - 2 sick days

- Danelle Cline
- Duane Edgington
 - 500055 - VARS, M3/RS, DSG
 - Continued work on VARS-ML-SE-tasks, focused on preparing VM DORIS as host for launching deepsea-ai commands (including ecsprocess)
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Team meeting
 - Overhead
 - Follow-up on generative AI workshop and Pytorch Conference.
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- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - Stood up new David Packard simulator NUC with Python processes to simulate ship data streams
 - Created new navproc installation on NUC for the new navproc, logr and new lcm-bridge processes that consume data from simulator, parse into LCM, log to logr files and forward as JSON to ZeroMQ.
 - IS created VM for Ubuntu that will serve as simulator API for data packets on the science network on the Packard.
 - Looking at Kafka/TimescaleDB combination as possible data store for high-frequency data from Packard and dashboard support using Grafana.
 - 300057 - Mooring Maintenance
 - Some support tasks while Karen is on jury duty.
 - 706008 - READI-net
 - Set up READINet controller RockPi to review code from contractor applications.
 - Out of Office
 - Nov 20-22: Vacation
- Andy Hamilton
- Kent Headley
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - See seafloor mapping
 - 901101 - Seafloor Mapping
 - Working with Steve and Dave on analyzing and validating terrain relative nav (TRN) results from the Sponge Ridge cruise last week
 - 902204 - Scalable Robotics
 - Preparing for tank test this week; will be collecting a data set for Bastian to compare the Trittech Genesis data logs with the libgemini lstream application (built on the Trittech SDK).
 - Set up a windows laptop with Genesis software
 - Set up libgemini on atuncita
 - Overhead
 - Reviewing SE-EAD applications, preparing screening questions
- Rich Henthorn
 - 300078 - DMO Divisional Support - AUV
 - Porting i2MAP post processing software to Windows for Midwater Ecology Lab
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - CoNav simulation prep
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - SES recovered Tuesday Oct. 24
 - Opportunity arose due to winch issues while Carson was at MARS

- The lab team zoomed-in with tele-presence and accomplished what we needed
- 902306 - SINKER
 - Camera controller development
- Overhead
 - Bike-to-Work Tuesday
 - Health benefit changes
- Out of Office
 - Nov 2: Scheduled sick day
 - Dec 18 - 28: Holidays
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - KAUST trip postponed to TBD date due to regional instability
 - Got mcap board into EDM (with James's help), made rev D-1-0 with updates for n-channel LioniX isfet
 - 901904 - Deep-Sea Coral Community Observatory
 - Imaged some feathers and leaves, refined image processing workflow
 - Overhead
 - Helping George with SINKER cables
 - Helped plan Bike to Work Oct 24
- Scott Jensen
 - Out of Office
 - Family leave
- Brent Jones
- Chad Key
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 10/23-10/31 vacation (PDT)
 - 11/06-11/09? Phoenix (MST)
 - 11/20-11/24 vacation (PDT)
- Denis Klimov
- Eric Martin
 - Out of Office
 - Vacation 10/16 & 10/17
- Thom Maughan
 - 300083 - DMO Divisional Support - LRAUV
 - Worked on overvoltage / surge input hardware
 - Tweaked smbus routines and serial protocol
 - I2c peripheral drivers
 - 901009 - CANON
 - Deepedna2 has been resetup with wonderful support by Peter Walker.
 - Software installs are complete, working on readme and testing
 - 901805 - Coastal Biogeochemical Sensing Program
 - In progress on serial protocol for m2m
 - pHFET-SOS Users Guide, delivered to Scripps
 - Bug fixing
 - 902004 - Planktivore

- LRAUV Ahi + Planktivore prep and deployment on Tuesday afternoon.
 - Watch standing, discussions. Water is very clear.
- Out of Office
 - Vacation in Nov. TBD, Colorado
 - Jan 9 - 12 CES
 - Feb 18 - 23 OSM24
- Mike McCann
 - 300078 - DMO Divisional Support - AUV
 - Continuing to work on matplotlib quick look plotting in auv-python software
 - Deployed updated STOQS UI that has new scrolling Measured Parameters list
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Discovered malformed query that impacts performance of plotting data from stoqs_all_dorado
- Rob McEwen
- Paul McGill
 - 701147 - MARS O&M IV
 - Supported deployment of MARS mini-node on Tue until the dive was aborted
 - 901700 - Acoustical Ocean Ecology
 - Tweaking details on AOS PIC24 upgrade
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Participated in recovery of SES on Tue via telepresence
 - Overhead
 - Participated in international Zoom meeting to plan for Charlie P's 2024 SeismoSands project
 - Did some research into leveling mechanism for OBX-90 seismometer
 - Out of Office
 - Took a sick day on Wed
- Enoch Nicholson
 - 902306 - SINKER
 - Completed deployment frame for December cruise & submitted work orders.
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 - 901205 - ESP SURF Center
 - Cartridge heater calibration fixture testing.
 - Overhead
 - ME candidate interview
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - Out of office on Fridays
 - May 30 - June 6
 - August 21
 - September 5 - September 7
 - March 4 - March 8, 2024
- Paul Roberts
 - 901904.99 - Corral Camera System
 - Design review preparation for multispectral ROV camera
 - 902004 - Planktivore
 - Second field deployment on LRAUV Ahi
 - 902204 - Scalable Robotics
 - HSI camera testing and mounting in mapping sled
 - Out of Office
 - 10/19-10/21

- Brent Roman
- Carlos Rueda
 - 901502 - Passive Acoustic Sensing
 - Completed notebooks for demonstration at today's (2023-10-25) Soundcoop workshop in Boulder (John R. is presenting, and I'm supporting him remotely). Several obstacles to get to this point due to various unexpected issues (dependency conflicts, incompatible packages in the JupyterLab space, etc.). However, John reports all went pretty well, with "a big impression on people who have been striving for these capabilities for a long time."
 - 902101 - LRAUV Technology Development and Fleet Operations
 - TethysL is now [3.5.2](#).
 - Provided feedback to Yanwu re his PAM mission (based on diagnostics provided by TethysL).
 - TethysDash backend is now [4.54.4](#).
 - WHOI has upgraded to the latest dash frontend and backend versions.
 - 902204 - Scalable Robotics
 - Dial webapp: Working on keeping a recent history of platform positions so they can be displayed upon a reload of the page. Some significant refactoring is involved, which is needed in general toward other future enhancements, especially in terms of performance.
 - Out of Office
 - Nov 15: (virtual) Generative AI (AI Barcelona)
 - Nov 20–22: vacation
- Karen Salamy
 - Out of Office
 - On-campus 3 days/week (**T, W, TH**).
 - **JURY DUTY (until first week of Dec)**.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Upgraded [Charybdis](#) from [helidon](#) 3 to [4](#)
 - Updated [Raziel](#) to accommodate changes to charybdis
 - More testing comparing framecapture/seek time using ffmpeg vs sharktopoda. Getting identical results is a critical feature for machine learning training.
 - 902304 - Piscivore Cam
 - Updated the code that migrates and renames videos from piscivore's staging area to the permanent archive on titan:/m3. It will now intentionally fail on a video if it can't extract a timestamp from the video's metadata.
 - 902308 - M3/VARS for the Masses
 - Working on expanding database specific integration tests for [vampire-squid](#) and [annosaurus](#)
 - Overhead
 - Set up the web site for the 2024 Marine Imaging Workshop at <http://miw2024.org>, will turn on SSL later today. Thanks to Bill Kirkwood for putting together the web pages.
 - Out of Office
 - Oct 30 - ??? - Jury duty
- Alana Sherman
 - Out of Office
 - Vacation day Monday 10/9
- George Stern