

Engineering Weekly Report 6/13/2024 - 6/20/2024

<https://docs.mbari.org/internal/projects/Engineering/Weeklies/2024/>

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
- Francois Cazenave
 - Out of Office
 - 1 day off
- Danelle Cline
 - Out of Office
 - Vacation June 5-20
- Duane Edgington
 - Out of Office
 - June 10 - 21, 2024. Vacation UTC-8
 - Sept 17 - 20, 2024. PyTorch Conference, San Francisco
 - Oct 21 - Nov 8, 2024. Vacation UTC+1
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation - MDUC
 - Deployed more loggers in simulator
 - 300070 - DMO Support - Ventana
 - Picking up DiveLog app again.
 - 300079 - DMO Support - RV Rachel Carson
 - Working with Doug Conlin to see if I can use grpc tools to pull data from the Starlink dish. This would allow me to get the GPS location from the antenna/router that I could use to track the Packard on the voyage home, but there might be other Satellite data that we want to use (like knowing when the IP address changes when the satellites switch to another ground station).
 - Overhead
 - Working on next steps for AI/ML collaboration.
 - Out of Office
 - Jun 21
- Andy Hamilton
- Kent Headley
 - 300057 - Mooring Maintenance
 - Troubleshooting downloads with Jared, Karen, and Makenna
 - 901101 - Seafloor Mapping
 - Dave and Cole arriving for Axial cruise this week
 - Sentry team mob 6/19
 - On call for Sentry TRN support

- Working on wrapping navigation coordinate transform library to support libproj and/or gctp (current)
- 902204 - Scalable Robotics
 - Reviewing oculus sonar driver code
- Overhead
 - Prep for Akshay arrival
- Out of Office
 - Jun 20 (a.m. only, ETA ~10:30)
- Rich Henthorn
 - 300078 - DMO Support - AUV
 - Better power management options for i2MAP
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Testing and prep for deployment on June 20
 - 902306 - SINKER
 - Check out EPOS interface code for ucontrollers
 - Overhead
 - Rec-Com stuff
 - Out of Office
 - June 20: SES deployment from Carson near MARS
 - July 3 - 11: Vacation and WFH
 - July 9: SINKER test from Carson
 - Aug 26 - Sep 11: Vacation
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Solidworks model of Nanofet2 layout previously discussed with Yui - does not work
 - Discussions of circuit ideas w/ Thom
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Made color target and ran tests with benchtop system (Spectralon vs Teflon, and color targets)
 - Set up electronics for puck pressure test, ran test w/ Aaron
 - Testing of jbox board - various circuit issues
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Helping with prep for June 20 deployment
 - Out of Office
 - June 20: at sea w/ SES
- Scott Jensen
 - Out of Office
 - June 17-21 vacation
 - July 18-23 vacation
 - July 24-29 vacation
- Brent Jones
 - 901009 - CANON
 - Brought CPF out of storage and beginning check out for next deployment
 - 901112 - Monterey Bay Time Series
 - New sipper assembled and awaiting test tank testing once Daphne gets back
 - 901805 - Coastal Biogeochemical Sensing Program
 - Meeting with Kaya to go over WW deployment from Packard in 2025
 - 902004 - Planktivore
 - Now sending housing pressure, temp, and humidity back onshore
 - Alerts issued if humidity is too high

- Chad Key
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 05/27-06/21 (GMT+1)
 - 07/08-07/12 (HST)
 - 07/16-07/22 (EDT)
- Denis Klimov
 - 901112 - Monterey Bay Time Series
 - So far, IFCB on Power Buoy is working; occasionally checking technical parameters (humidity etc) and Patrick at UCSC is monitoring imaging quality
 - 902401 - Geo-Sense
 - Contacting Ametek for fiber optic penetrators, 28 weeks lead time does not sound too promising.
 - Overhead
 - Finalizing laser warning section of the sign for the Test Tank
- Eric Martin
 - Out of Office
 - Vacation Friday June 7th
- Thom Maughan
 - 901009 - CANON
 - Visit to NASA Ames with Kobun. Met with two groups one of which was working on automated unattended DNA sequencing. NASA has a unit that has a fully functioning microfluidic frontend on an Oxford Nanopore minion. Wow! Thanks Kira Reinecker for hosting.
 - 901805 - Coastal Biogeochemical Sensing Program
 - (SOCCOM/GOBGC)
 - Mooring ISUS nitrate sensor ran successfully over the weekend. We are hampered by lack of schematics and docs, and Jessica working with Josh figured out the connection error. Calibration is in progress. Mooring turn ship day is 27 Jun. Dark currents are out of spec. Suggesting a change of the spectrometer module and electronics board pair.
 - Working thru wiring issues on MSC2 baseboard to MpHOX revB - getting close to running the nitrate driver and test.
 - 902004 - Planktivore
 - Proposal season
 - Meeting with Piscivore team and Oclea and Rhonda software - vendors of lower power Ambarella based hardware.
 - Out of Office
 - June 13 NASA Ames, eDNA
 - June 20 - 26. Texas
 - July 4 - taking the week off.
 - Aug two to three weeks vacation Colorado.
- Mike McCann
 - 200109 - Core Mooring Data - MDUC
 - Started on 2025 proposal text
 - 901101 - Seafloor Mapping
 - Contributed 2025 proposal text
 - Discussed how to model and collect information about platforms that produce data
 - 902101 - LRAUV Technology Development
 - Fixed parsing for ESP sample information for delayed mode data in [stogs_denmark2024](#)

- 902403 - Expedition DB Modern
 - Configuring MBARI Single Sign On for the prototype new expd web front end
- Out of Office
 - 20 June - 19 July: Vacation
 - 22 - 25 July: ESIP Federation Summer meeting, Asheville, NC
 - 28 July - 1 August: SIGGRAPH, Denver, CO
- Rob McEwen
- Paul McGill
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Working with Alana and Aaron S on lens focussing
 - Trying to incorporate limit switches into stepper motor driver
 - 902304 - Piscivore Cam
 - Attended two meetings with potential vendors for next-gen cameras
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Preparing for Thu deployment
 - 902401 - Geo-Sense
 - Tested fit of Deepsea Connect components into proposed housing
 - Ordered more parts for Deepsea Connect build
 - 902402 - CSEM
 - Helping Aaron M with next year's proposal
- Enoch Nicholson
 - 706008 - READI-Net
 - FIDO Bring up
 - 901007 - Benthic Biology & Ecology
 - BRS test planning
 - 902306 - SINKER
 - Slider assembly and testing.
 - Out of Office
 - April 5-10 Vacation (Available via Slack & Email)
 - April 14-18 IEEE Oceans (Available via Slack & Email)
 - April 19-23 Vacation (Unavailable)
 - September 19-24 Vacation (Available via Slack & Email)
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - Offsite on Tuesday and Friday
 - January 16 - January 19, 2024
 - February 22, 2024
 - March 4 - March 8, 2024 - vacation
 - April 24, 2024 - vacation
 - May 20 - May 24, 2024 - vacation
 - June 17 - June 18, 2024 - vacation
- Paul Roberts
 - 901809 - Deep Sea Bioinspiration
 - Chiton 1500 m assembly
 - Scuba-EyeRIS CXP 2.0 testing
 - 902004 - Planktivore
 - RIMS annotation and model training
 - 902204 - Scalable Robotics
 - PoE can rebuild

- 902306 - SINKER
 - Preparing for tank testing
- Overhead
 - Intern project support
- Out of Office
 - June 21, 28
- Brent Roman
 - Out of Office
 - June 20 - June 31 (gunkholing in the Sacramento Delta)
 - July 1 - Aug 31 (Vacation in Japan)
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Group meeting. Presentation of planned internship project by Suzanne Stathatos.
 - 902101 - LRAUV Technology Development
 - Dash4 now [4.70.0](#) and TethysDash backend [4.70.8](#), both representing a significant release of the dash system. Thanks to Steve H., for the great feedback, as always.
 - 902204 - Scalable Robotics
 - Significant progress on Dial, and the embedding of the webassembly-based Rerun viewer. Advancing the [RWS](#) tool (to relay messages from LWS to a remote or own Rerun Viewer). Very exciting features on the roadmap.
 - Overhead
 - Resumed some exploration of SurrealDB. Glad to see the performance improvements.
 - Out of Office
 - June 10–13: vacation
 - June 20 morning: Drs. appt. (son)
 - July 2–3, 22–25: vacation
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Awaiting updates from Ed. Peltzer for the most recent ROV dives.
 - 300057 - Mooring Maintenance
 - This project has taken up quite a bit of my time this week. The upcoming M1 deployment is scheduled for June 27. Unfortunately there have been some issues with OASIS communicating with the radio. Downloads have been sparse and inconsistent. Jared and I asked Kent H. to step in to help with tracking down the issue. Various changes have been made and a mostly successful download happened within the last hour. The actual issue is still not clearly resolved but we are making progress.
 - 901101 - Seafloor Mapping
 - Attended a meeting today with both Jenny and Mike M. This will be our last meeting until August as both Jenny and Mike will be out of town for several weeks.
 - 902101 - LRAUV Technology Development
 - Had my weekly meeting with Jim Jeffers of Sumo Creations on Tuesday. His knowledge of the existing code is greatly appreciated and of huge help and importance.
 - Overhead
 - Attending some physical therapy sessions for my shoulder over the next month or so.
 - Continue to work in a few React 18 tutorials when possible.
 - Out of Office
 - Back in the office following a flu virus.
 - On-campus 3 days/week (**T**, **W**, **TH**).
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG

- [Working on oni](#)
- 902111 - Carbon Flux Ecology
 - [Registered image sets from Station M for annotation.](#)
- 902304 - Piscivore Cam
 - [Imported the most recent deployments.](#)
- 902404 - 5th Marine Imaging Workshop
 - Abstract submission is closed. The abstracts have been distributed to the science committee for review.
 - Updates to <https://miw2024.org/>
- Overhead
 - [Finished setting up Astrid's video lab at OSU.](#)
 - Help getting intern's oriented to MBARI's annotation tools
- Out of Office
 - Jun 10-14 - Setting up video lab at OSU
 - Jul 8-11 - Updating video lab at DARC
 - Jul 15-24 - Vacation
 - Aug 19-22 Vacation
 - Sep 5-9 - Vacation
 - Oct 7-10 - 5th Marine Imaging Workshop in Monterey
- Alana Sherman
 - 901023 - Continental Margins
 - We had our first planning meeting regarding the Arctic expedition next year.
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Ran a bunch of tests with the Canon R6 to determine whether we could use the remote software to focus the camera. This seemed to work but is sensitive to exact conditions- which are not well defined. So we are back to using the mechanical approach, which still requires integration and testing.
 - 902208 - Mini ROV Operations
 - Worked with Johann to troubleshoot some issues with bringing the HD video signal through the Rattler into the yellowbrik mux/demux back to the topside. Lots of swapping fibers and components. We are going to try with Todd's HD signal generator and see if that helps identify if there is a problem and where the problem is.
 - Met with Eric M to explore all the possibilities of adding GT's nav suite to the benthic sled for the arctic trip. I think there is a good plan forward.
 - 902401 - Geo-Sense
 - Towards solving the issue of FO connectors: I finally connected with Macartney thanks to Brett's help, but their penetrator is not PBOF, and we have had bad experience with their connector, so we were despairing. Then the Ventana pilots told us about a miracle cable assembly from ISE that would probably meet all our needs. Aaron and I have a meeting with Don Muth from ISE this afternoon. Fingers crossed.
 - 901205 - ESP/Readinet
 - Working on regulator for the diaphragm pump and current/voltage sensing
- George Stern
 - 902204 - Scalable Robotics
 - Updated the DVL so it could be controlled by mola controllers or Orin NX
 - Began scoping addition of CTD to mola
 - Began planning for additional mola lighting
 - 902304 - Piscivore Cam
 - Reviewed evaluation kits from multiple vendors for ambarella chipsets and tried to contact all of them; met with the only 2 that responded

- 902306 - SINKER
 - Checked out the motor interface board
 - Chassis harnessing design for the motor board/controller/motors
 - Began integrating the linear motor controller
- Justin Tucker
 - 300078 - DMO Support - AUV
 - INS housing - minor updates for internal cable clearances.
 - 901101 - Seafloor Mapping
 - LASS sled orientation plate and brackets being finalized
 - Stereo camera lens hood FOV and sensor placement established
 - Overhead
 - Ansys Mechanical and Fluids evaluation
 - HPC remote solve services installed on Ubuntu VM
 - Multi user and HPC licensing usage analysis - in progress
 - Pressure controlled nonlinear buckling template 2D shell model created
 - Out of Office
 - July 15th -18th Vacation
- Johann Voigtlander
 - 902208 - Mini ROV Operations
 - Connected the focal 907 console + remote PCBs. Confirmed functionality of serial ports, analog cameras and GBE PCB
 - Sent out PO for HD camera replacement
 - 902402 - CSEM
 - Prepped a few cables for potting repair
 - Developed data processing logic for the datalogger GUI in LabVIEW
 - Out of Office
 - April 16th - May 7th Germany CSEM
 - May 8th - May 12th Vacation