

Engineering Weekly Report 11/21/2024 - 11/28/2024

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

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - Out of Office
 - Monday and Wednesday mornings before 9am: physical therapy until Dec 15, 2024
 - Maldives Nov 15, 2024 – Nov 29, 2024
 - Vacation Dec 16, 2024 – Dec 27, 2024
- Francois Cazenave
 - Out of Office
 - One vacation day
- Danelle Cline
 - 902111 - Carbon Flux Ecology
 - Improvements to ViTS training code and generate latest training data with augmentations for Fernanda to train
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - BioTrack tracker development adding in multiple key points to improve tracking of siphonophores
 - Processed dive 4432 to explore biodiversity.
 - Discussion with the team about next steps: supervised, semi-supervised, etc. pipeline
 - 901502 - Ocean Soundscape
 - Discussion on Whisper model ML exploration and next steps with the team. Did you know that a humpback song transcript starts with Thank You, Thank You?
 - Meeting with NOAA contractor to discuss PBP pull request for a workflow agent
 - Sadly, the new hydrophone is silent due to power issues on the MARS replacement node. The livestream was up for about a day. IS is preparing a new recording computer as planned.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Processing and cleaning missions with improved ViTS model. Surprisingly, the model worked in a zero-shot manner, predicting an unseen jelly.
 - Added in some needed FastAPI endpoints for bulk data deletion
 - Overhead
 - Setting up new laptop FEIFEI
- Duane Edgington
 - 500055 - VARS, M3/RS, DSG
 - Team meeting last week. Discussed metrics and animal track benchmark (tracking animals is different from tracking people...)
 - 901103 - Biodiversity & Biooptics
 - Discussions with Danelle C.
 - 901502 - Ocean Soundscape

- Continued exploration Whisper model and google kaggle multispecies whale model
 - Presented Whisper overview to John R., Danelle C.
- 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Team meeting
 - Budget update to Tom O.
- 902111 - Carbon Flux Ecology
 - Discussion with Fernanda S. and Danelle C.
- Out of Office
 - Dec 8 - Dec 17, 2024. [Neurips](#) Conference. Vancouver, BC.
- Jon Erickson
- Kevin Gomes
 - Out of Office
 - Nov 18-22: Vacation/Remote Work
- Andy Hamilton
- Kent Headley
 - 902405 - Precision Control Technologies
 - updating gnu build files to better support homebrew builds on MacOS and simplify Makefiles
 - documented dorado sim with MB-System TRN in the loop (and got the sim running)
 - Overhead
 - end of year budget, planning
 - starting office cleanout
 - misc admin
- Rich Henthorn
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Prep for next week's deployment
 - Integrating new detection script
 - General operation tests in the test tank
 - 902401 - Geo-Sense
 - Reviewing Sintela user-guide for training class next Monday
 - Out of Office
 - Dec 6 - Rachel Carson
 - Dec 20 - Dec 31: Vacation/Holidays
- Akshay Hinduja
 - 702108 - Deployable AI
 - Test issues with Connect Tech JCB005 board. Conclusion is to RMA board and trye another one. Inconsistent connection issues made it impossible to run 3+ cameras at full res and full fps
 - 902204 - Scalable Robotics
 - Finished snippet and water column data streaming in alpha driver
 - Sync with Mauro for s7k translation
 - 902101 - LRAUV Technology Development
 - Going through relevant repositories, particularly TethysDataViz to plan simulator replay approach
- Brett Hobson
- Irene Hu
 - Out of Office
 - 11/25-11/29: vacation
 - Dec 6: Carson day
- Scott Jensen
 - Out of Office
 - November 26-27

- Brent Jones
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 11/25-12/2 (PST)
 - 12/5-6 (MST)
- Denis Klimov
- Eric Martin
 - Out of Office
 - Maldives Expedition 11/15-11/28, and will be highly out of communication.
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Charger boards are at Indtec for assembly
 - Backplane layout review, Duane sent out for fabrication and has parts kits on order. Very appreciative of Duane Thompson and will dearly miss work with him when he retires.
 - Backplane assembly may be delayed due to budget shortfall. Helping work option for alternate budget source.
 - Varsha finished build of 2 packs with backplane updated to LPC11e37. Verified my chip support library is compatible with 11e37.
 - 901009 - CANON
 - Supporting DeepEdna servers. IS has flagged a failing UPS and is moving the servers to Building G. DeepEdna1 has been moved and DeepEdna2 will be moved once one of the science users is done 'BLASTing'
 - 901217 - Chemical Sensors
 - Contractor
 - Cold testing in ESP environmental chamber
 - Serial protocol
 - Transition to Tiva 1290
 - 902004 - Planktivore
 - Provided a fully assembled camera controller to Brent Jones and progress is being made on software changes for i2c mux and adding the fourth serial port.
 - Out of Office
 - One to two weeks in the later part of December
- Mike McCann
 - 901009 - CANON
 - Added *ad hoc* fixes for consolidated ESP Sample messages in stoqs_denmark2024
 - Removed bogus bad makai depths and reloaded stoqs_lrauv_jun2024
 - 902101 - LRAUV Technology Development
 - Created publicly accessible stoqs_greatlakes2024 database at Brian Kieft's request
 - 902403 - Expedition DB Modern
 - Wrote up an Issue regarding how to proceed on authorization/permissions
 - Looking into using HTMX and django-template-partials for responsive Precruise entry pages
 - Overhead
 - Spent some time examining Ventana ROVCTD calibration data flow into EXPD
 - Out of Office
 - 23 December 2024 - 3 January 2025: Vacation
- Rob McEwen

- Paul McGill
 - 701147.99 - MARS IV Node Upgrade
 - Reading Meinberg PTP clock manual so I can update the firmware—it's very confusing
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Worked with new ME techs to get SES battery sphere sealed
 - Did final checks and put SES in tank for testing over holiday
 - 902401 - Geo-Sense
 - Got Seacon penetrators molded to SubConn connectors
 - Installed penetrators into Benthos battery spheres
 - Overhead
 - Helped marine electrician to troubleshoot numerous wiring problems on R Carson
- Enoch Nicholson
 - 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 4-5 Vacation
 - September 19-24 Vacation (Unavailable)
- 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
 - September 3 - September 9, 2024 - vacation
 - November 6- November 7, 2024 - vacation
 - November 26 - November 27, 2024 - vacation
 - December 30 - January 3, 2025 - vacation
- Paul Roberts
 - Out of Office
 - Nov 25-29 Vacation
 - Jan 6-10 Vacation
- Brent Roman
 - 708165 - NOAA-MERHAB-UW
 - Customized dumplog with script for NW Fisheries to analyze their recent ESP logs
 - 901913 - Wet Wifi
 - Finally finished the cable between the Ventana and H150 modem
 - Hoping to test long-range H150 on Mars dives
 - Working with DJ Osborne on reducing or eliminating subsea multicast traffic
 - As this overwhelms the limited modem bandwidth
- Carlos Rueda
 - 901009 - CANON
 - Updating MXM dependencies, in particular Quarkus.
 - 901502 - Ocean Soundscape
 - Group mtg with Micheal R. (NOAA) to discuss his recent PBP branch/PR and next steps.

- 901513 - Targeted Sampling by AUVs
 - Discussion with Yanwu toward incorporating patch tracking into the python framework we have used for front tracking. Reviewing/updating the code in preparation for that.
- 902101 - LRAUV Technology Development
 - TethysL now [4.3.1](#), a maintenance release with a significant internal change as I have “merged” the documentation repo (now removed) into the main tethysl repository itself. This, in part, in preparation for open-sourcing the project.
- Overhead
 - [QCon](#)
 - Some additional tech exploration ([surrealdb](#))
- Out of Office
 - Nov 11: vacation
 - Nov 18–20: QCon
 - Dec 9–12, 23–24, 30–31: vacation
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Set O2 QC flags for recent Ventana Dives per Rob Sherlock emails.
 - 300057 - Mooring Maintenance
 - Checked in on data downloads and various mooring behaviors and failed connections.
 - Overhead
 - Transferred precruise responsibilities from Lisa to Matt for the holiday week.
 - Spent time looking at the offices in the new building as a potential move.
 - Out of Office
 - On-campus 3 days/week (**T, W, TH**).
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Updated the new VARS Query based on video lab feedback.
 - <http://m3.shore.mbari.org/query>
 - <https://github.com/mbari-org/vars-query-vue>
 - Setting up gehenna for integration testing of VARS Apps against secured endpoints (SSL).
 - Integration testing of new VARS KB web interface.
 - [Testing different computers for transcoding speed](#). Mac Studio w/ M2 Ultra for the win
 - Overhead
 - Maven Central has revamped the process of submitting artifacts. [Updated a number of Java dependencies used across projects so they can continue to be published.](#)
 - Out of Office
 - Oct 7-11 - 5th Marine Imaging Workshop in Monterey
 - Oct 14-15 - Out sick
- Alana Sherman
 - Out of Office
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- George Stern
 - 902304 - Piscivore Cam
 - Rhonda Software meetings, contract review - finally signed and PO issued
 - 902306 - SINKER
 - Updated the battery can electrical architecture; reworked the main board so it can be built short to create 2 different boards which will now fit in the MBARI oven or could be built externally. Revised charging so it could be done with more simple software outside the can.
 - 300078 - Dorado AUV Thruster
 - Began reading datasheets/finding parts and updating architecture

- 706008 - (READI-net)
 - Verified resonant frequency on all 300 puck boards and began identifying a faster test methodology which could be used for the next build.
- Justin Tucker
- Johann Voigtlander
 - 902208 - Mini ROV Operations
 - Configured a new time server for mobile rack
 - 902402 - CSEM
 - Getting everything ready for MOB
 - Out of Office
 - April 16th - May 7th Germany CSEM
 - May 8th - May 12th Vacation