

Engineering Weekly Report 2/15/2024 - 2/22/2024

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

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
- Francois Cazenave
 - 902106 - Niobicon-Based AUV Docking Development
 - Designing brackets for AUV Pontus
 - Troubleshooting failed mooring cable, clean up and disassembly
 - 902204 - Scalable Robotics
 - Provided parts and drawings for ROV Subastian
- Danelle Cline
 - Out of Office
 - OSM Conference, Feb 19-23, New Orleans, MS
 - Vacation Feb 26
 - Leave Feb 28-29 care for son following surgery
- Duane Edgington
 - 500055 - VARS, M3/RS, DSG
 - Continuing work on training mbari401k model. The ginormous split files (train/val/test) overflow storage space on VM DORIS, and test mbari networking. Split file created and pushed to AWS (IS was not happy with the bandwidth consumed) 2/20. 1 epoch successfully trained. Training continues 2/21...
 - 901103 - Biodiversity & Biooptics
 - 2023 intern Tarun Sharma completed a draft manuscript for submission to a CVPR workshop. Sent to Nancy J-S, B. Robison, Rob S., Andy H. for sign-off for submission. Submission deadline March 1.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Final work with Danelle on i-poster for OSM meeting.
 - Team meeting 2/20.
 - Out of Office
 - Feb 29, 2024. Personal
 - March 28 - April 12, 2024. Vacation UTC+3
 - April 12 - 21, 2024. EGU UTC+2
 - June 10 - 21, 2024. Vacation UTC-8
 - Oct 21 - Nov 8, 2024. Vacation UTC+1
- Jon Erickson
- Kevin Gomes
 - Out of Office
 - March 12-21: Vacation
 - March 25-29: Data Council Conference: Austin, TX

- Andy Hamilton
- Kent Headley
 - 902204 - Scalable Robotics
 - Studying code for real-time M3 sonar data integration via MB-System for SLAM
 - Overhead
 - Misc admin
 - Out of Office
 - Out sick 2/16,19
- Rich Henthorn
 - 300078 - DMO Support - AUV
 - Researching Multi/Sequential mission support
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Conducted timing tests with Python image processing scripts on target hardware
 - Results indicate a reasonable amount of time to process an image during normal mission execution - conversion of scripts to C++ probably not necessary
 - Got acquainted with new trigger-trap controller from McLane
 - 902405 - Precision Control Technologies
 - Integrating vehicle TRN data into vehicle CoNav processing
 - Out of Office
 - Mar 18 - 21: Vacation and WFH
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Working with Jose on layout for mpHox revB
 - Evaluation of status of MSC boards
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Testing and troubleshooting of pucks. Got transistor pinout wrong (fixed), half the LEDs are not turning on
 - Out of Office
 - May 3-15: Taiwan
- Scott Jensen
 - 706008 - READI-Net
 - Preparations for dock deployment
 - Dock deployment, rocky start but making progress and learning the short falls
 - 901205 - ESP SURF Center
 - Lab support
 - Out of Office
 - April 5-9 vacation
 - June 17-21 vacation
 - July 18-23 vacation
 - July 24-29 vacation
- Brent Jones
- Chad Kacey
 - Out of Office
 - Jan. 22- Potential Jury Duty
 - Out of office on Fridays
- Brian Kieft
 - 902101 - LRAUV Technology Development
 - Signed SOW for 4 mo support work via Sumo Creations. Will track EV against issues for next 4 months to determine next steps.

- Debugging docking runs with Rob
- DQ2322 - Denmark Windfarm
 - Responded to team with a few more questions. Continued work on logistics
- Overhead
 - Supported WHOI deployment off the shelf/cape when some issues came up with batteries
 - Another ping on Ivan/Matteo collaborator agreement. Still waiting for M team.
 - Standing by on legal from TNC to respond about collaboration agreement.
 - Wrote up software implementation section for WHIO license agreement.
- Out of Office
 - 04/04-04/10 (CST)
 - 04/15-04/19 (GMT+8)
 - 06/03-06/18 (GMT+1)
- Denis Klimov
- Eric Martin
- Thom Maughan
 - 300070 - DMO Support - Ventana
 - Valve pack controller boards are in assembly. Source code has not been located however the hex file exists. Need to find a PIC programmer and utility.
 - 300083 - DMO Support - LRAUV
 - Brett has requested a schedule. Working to update task list.
 - 901805 - Coastal Biogeochemical Sensing Program
 - MpHOx RevB hardware design inputs to Irene.
 - Instrument driver for MpHOX RevB
 - Working with Irene on MSC2 hardware review, software task list
 - 902004 - Planktivore
 - Ahi+Planktivore v2 performed well on the sea trial, we'll know better after plankton image processing how we did. LRAUV team was also working on a new 'tail' mission that will be useful for Plankton Proxies.
 - Poster for OSM24
 - Overhead
 - OSM2024 talks, posters and vendor discussions. Planktivore interest aplenty. Attending Argo and SOCCOM talks.
 - Out of Office
 - Feb 15 - 16 Vacation
 - Feb 18 - 23 OSM24
 - Apr 5 - 10 Eclipse
- Mike McCann
 - 902403 - Expedition DB Modern
 - Replaced drf-gis with PostGIS GeoJSON build reducing [emdb](#)'s load time from 200 to 0.1 sec
 - Out of Office
 - Feb 21-22 Vacation
- Rob McEwen
 - 902101 - LRAUV Docking
 - Tested DAT range and bearing error in the Simulator
 - Tested DAT delay similarly.
 - So far I haven't qualitatively matched sim data to real data.
- Paul McGill
 - 300070 - DMO Support - Ventana
 - Working with DJ and Duane T. on a power monitoring system for Ventana. They are having brownouts during dives and need to see where the power is going.

- 701147.99 - MARS IV Node Upgrade
 - Working with UW on various issues that have come up in testing of the boards for the new node.
 - Working on a new cable design to be the MARS standard for science instruments that need GigE Ethernet.
- 902101 - LRAUV Technology Development
 - Tested new BMA456 sensor board—it works! Now needs pressure test.
 - Finished code to store AOS offsets in EEPROM to survive power cycles. Cleaned up code in general and am almost ready to archive.
- 902304 - Piscivore Cam
 - Getting new PCam 2.0 I/O boards built. Tested first article and gave the go-ahead to build two more.
- 902306 - SINKER
 - Searching for MARS cable that supports GigE Ethernet. Working on new cable design with MARS crew, but that will delay us a few months.
- 902401 - Geo-Sense
 - Searched in Castroville for both glass and Ti spheres.
- Enoch Nicholson
 - 706008 - READI-Net
 - Dock deployment
 - Sampler Encoder / Drive Design - Finalizing for prototype order.
 - 901007 - Benthic Biology & Ecology
 - Hydraulic pump testing
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Tail build
 - 902306 - SINKER
 - Finished frame conceptual layout
- 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
 - May 20 - May 24, 2024
- Paul Roberts
 - Out of Office
 - Jan 9-Jan12 at CES
 - Feb 19- Feb 24 Ocean Science Meeting
- Brent Roman
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Adjustments to PBP
 - Now explicitly adding PyPAM in requirements.txt. Various sources and documents updated accordingly.
 - Several dependencies updated
 - New PBP parameter to facilitate setting of metadata attributes from the command line
 - 902101 - LRAUV Technology Development
 - TethysL is now 3.8.4.
 - Yanwu has converted a few of his missions from XML to TethysL. Many thanks to him!

- LRAUV: Observations and exchanges related with the nightly build (which has been broken for several weeks). Hopefully the team still sees a value there.
 - Mike Godin to look into updating the regression test script to incorporate `.t1` as well.
- 902204 - Scalable Robotics
 - Dial: Adjustments in image stream options. Some updates to the [documentation](#). In coordination with Kevin B. (see this [spec](#)), preparing to consume binary payload as a more efficient mechanism to display the image streams.
 - Started looking into the general Tator API documentation and entered [this](#) related with the integration of Sightwire to expose images and metadata in Dial.
- Overhead
 - Cleaned up and pushed a [repo](#) with an exploration of [sqlx](#) and other Rust crates for implementing a REST service on top of a Postgres database.
- Out of Office
 - Feb 22: Dr. appt.
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Waiting on Ed P. to update dive QC info
 - 300057 - Mooring Maintenance
 - Weekly checks on data downloads and maintenance.
 - 902101 - LRAUV Technology Development
 - Checked in on contract for Sliced Bread so Jim J. can begin helping me with Dash5 updates.
 - Overhead
 - React 18+ online course. Extremely good course but it is 67 hours long!!!!
 - Updating the EXPD links on Typhoon to the M3_ANNOTATIONS, M3_VIDEO_ASSETS and VARS_KB from perseus to venus for Brian and Mike M.
 - Out of Office
 - **Feb. 29 - Mar 10** - Trip to east coast for personal family reasons
 - On-campus 3 days/week (**T, W, TH**).
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Released renovated services. [Following up on remaining tasks](#). API docs are now at
 - Annosaurus - <http://portal.shore.mbari.org:8100/docs/>
 - Vampire-squid - <http://portal.shore.mbari.org:8200/docs/>
 - 902002 - FathomNet
 - Met with NOAA to discuss their side of the [data archiving pipeline](#) that's been stalled for a while.
 - 902404 - 5th Marine Imaging Workshop
 - Updated <https://miw2024.org>
 - Working with Jennifer Durden, we've started organizing the science committee.
- Alana Sherman
- George Stern
 - 902204 - Scalable Robotics
 - Final P3 dataset gathered on the Paragon
 - Lidar to Camera Calibration dataset gathered
 - Completed As Built documentation
 - 902304 - Piscivore Cam
 - PC2 build support and specs
 - 902306 - SINKER
 - battery module schematics, block diagram updates and battery checklist
- Johann Voigtlander
 - 902208 - Mini ROV Operations

- Continued installing MiniROV control electronics in 20' container racks
 - Debugged clump connection issue with Alana & again later with Dale
 - Main, Co-pilot, Clump, Overlay, Sonar, and video multiview all working
- Updated documentation
- Overhead
 - Helped out with an AUV recovery mission on the Paragon