

Engineering Weekly Report 1/18/2024 - 1/25/2024

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

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Addressed issues with VARS GridView
 - Querying and downloading images dialogs → main window progress bar
 - Trashme files opening with “open video” button
 - 701165 - OVAI Phase II
 - Began design of FathomNet → CMS data sync process
 - Spun up on Postgres + SQLAlchemy to support CMS development
 - 702108 - Deployable AI
 - Kickoff meeting Jan 23, 2024
 - Started working on MiniROV simulation; scoping body physics and thruster parameterization
 - 901809 - Deep Sea Bioinspiration
 - Worked on responses to reviewers for DeepSTARia paper
 - 902002 - FathomNet
 - Kickoff meeting Jan 18, 2024
 - Fixed minor issues with fathomnet-py docs and CI/CD GitHub actions
 - 902204 - Scalable Robotics
 - Planned individual tasks and timeline for 2024
- Francois Cazenave
 - 901221 - Midwater Time Series
 - Light bar assembly
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - PTO maintenance, tether assembly, new tether
 - 902106 - Niobicon-Based AUV Docking Development
 - Project management
 - 902204 - Scalable Robotics
 - Hardware for Subastian
 - Out of Office
 - Took Friday off
- Danelle Cline
- Duane Edgington
 - 500055 - VARS, M3/RS, DSG
 - Working session to debug an issue with inference job workflow from DORIS. Resolved (update to gcloud package required). Testing 1/24/2024
 - 901103 - Biodiversity & Biooptics
 - Processing a second video with my model of Dec 22 tuned for Ctenophora

- 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Working on building a classification model.
- 902111 - Carbon Flux Ecology
 - Follow-up on project kickoff 1/18
- 902403 - Expedition DB Modern
 - Team meeting 1/23
- Out of Office
 - April 12 - 21, 2024 EGU
 - Oct 21 - Nov 8, 2024. Vacation
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation - MDUC
 - Meetings
 - 901009 - CANON
 - Exploring the WCOFS models per the request of they Synchro program. They are hoping to add the layers to the ODSS. Registered them in THREDDS and working on integration into ODSS.
 - 902403 - Expedition DB Modern
 - User story meeting
 - Overhead
 - Using existing code, made another extraction script to pull events from Zimbra holidays calendar into our internal MBARI calendar per request from ITD.
 - Performance reviews
 - Out of Office
 - March 12-21: Vacation
 - March 25-29: Data Council Conference: Austin, TX
- Andy Hamilton
- Kent Headley
 - 902204 - Scalable Robotics
 - Troubleshooting issue with gemini sonar: range/gain initialization ignored
 - Fixed bug: invalid control references in widget mode cause segfault
 - Overhead
 - Review meetings
 - Resource request
 - Hiring: application review, planning
 - Misc admin
- Rich Henthorn
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Port SES image processing software and scripts from server to V3 target
 - Investigate V3 serial kernel requirements
 - 902306 - SINKER
 - Kickoff Meeting
 - SINKER controller board checkout
 - Ship day Feb 6
 - 902405 - Precision Control Technologies
 - TRN - LRAUV LCM comm software
 - Overhead
 - Rec-Comm bagel break
 - Out of Office
 - Jan 22: WFH
 - Feb 6: Rachel Carson

- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Making n-channel isfet boards: small changes to Lioncap and sent off for fab; created NC-Nanofet and made changes. Explored diode idea
 - Discussions w/ Yui re: next gen Nanofet and next steps
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Finished fixing jbox board, back to controller board
 - Making model of controller board mockup to help with internal chassis design
 - Overhead
 - Helped spot for UAV project
 - Out of Office
 - May 3-15: Taiwan
- Scott Jensen
- Brent Jones
 - 901009 - CANON
 - Overwatching SIPPER deployment on Daphne
 - 901112 - Monterey Bay Time Series
 - Hacking CAN bus on new EPOS4 controller. Trying to fit stripped down C code into a PIC24
 - 901805 - Coastal Biogeochemical Sensing Program
 - Looking at how to adapt Acusond+batt canister to Spray
- Chad Keczy
 - Out of Office
 - Jan. 22- Potential Jury Duty
 - Out of office on Fridays
- Brian Kieft
 - 300083 - DMO Support - LRAUV
 - Supported MBTS deployment
 - 901513 - Targeted Sampling by AUVs
 - Investigated a couple issues with PAM mission with Yanwu
 - Supported weekend testing of PAM missions
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Supported coordinated flight LRAUV run off Terrace Pt.
 - 902101 - LRAUV Technology Development
 - Met with dash5 team to discuss progress and next steps.
 - Fixed up data scripts for 2024 data
 - Investigating vertical mode flipping in various near bottom missions
 - Worked with Scott to test HE Thruster
 - Investigated delay in heading command for docking. Appears to be sensor clock drift.
 - 902106 - Niobicon-Based AUV Docking Development
 - Met with team to prepare for recovery and science deployment
 - Overhead
 - Collaboration agreement for nature conservancy
 - SOVA workshop
 - Out of Office
 - 02/12-02/16 (MST)
 - 04/04-04/10 (CST)
 - 04/15-04/19 (GMT+8)
 - 06/03-06/18 (GMT+1)
- Denis Klimov

- Eric Martin
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Defined and implemented a battery pack health message. Health will be the default message with Quinn's new battery software component. Battery details message will be requested infrequently.
 - Board checkout of two new backplanes / chargers.
 - 901805 - Coastal Biogeochemical Sensing Program
 - Attended obs kickoff
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Prelim planning, Steve is indicating Fall deployment.
 - 902004 - Planktivore
 - Board checkout for strobes, energy, and ltc4162 boards.
 - Kickoff prep
 - Overhead
 - Covid exposure at staff council meeting. Tested negative
 - Review
 - Board bullets
 - Out of Office
 - Feb 8 - 12 Vacation Colorado
 - Feb 18 - 23 OSM24
 - Apr 5 - 10 Eclipse
- Mike McCann
 - 901009 - CANON
 - Testing new version of x3dom that supports Draco compression of .glb terrain data
 - 901101 - Seafloor Mapping
 - Submitted project idea (add Draco compression to MB-System's mbd2gltf) for capstone team
 - 902403 - Expedition DB Modern
 - Submitted project idea (EXPD REST/GraphQL) for CSUMB CS capstone team(s)
 - Getting familiar with GitHub project management tools, created repo & Issue for user stories
 - Overhead
 - Implemented HTMX partial form update for DataValidationCode entry in emdb
 - Added DataValidationCodes to emdb.shore.mbari.org from Linda's spreadsheet
- Rob McEwen
- Paul McGill
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Locating camera tripod parts so they can be reassembled and deployed
 - 902101 - LRAUV Technology Development
 - Sent design files off to have PIC24 AOS sensor PCBs fabbed
 - 902304 - Piscivore Cam
 - Getting parts together for building two more cameras
 - 902306 - SINKER
 - Found a cable we can use for connection to MARS
 - Found a cable we can use for testing of wiper on Ventana dive
 - 902401 - Geo-Sense
 - Trying to figure out new connectors will fit into existing holes in Ti sphere
 - Setting up travel for visit to Sintela in England
- Enoch Nicholson
 - 706008 - READI-Net
 - 2024 Sampler Design

- 901007 - Benthic Biology & Ecology
 - Moved BRS to Building B Lab
- 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Started System Diagram
- 902306 - SINKER
 - Completed and submitted Battery housing drawings to the shop.
 - Started Housing A & B builds for pressure testing with glass ports
- Tom O'Reilly
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach



- Teams conducted coordinated surveys with our Trinity UAV and LRAUV last week off Terrace Point, UC Santa Cruz. Objective is to determine whether UAV and LRAUV can detect or measure any near-surface chemical/biological/physical features in common, using UAV's color and multispectral camera payloads and LRAUV's Piscivore and other sensors. These tests help us assess the UAV's potential role as "scout" for phenomena that can be examined in detail by surface/underwater vehicles.
- Mike Risi
 - 200105 - Core Navigation - MDUC
 - Working on generic UDP input/output processes
 - Finalizing process list for Doc Ricketts integration this Spring
 - 902204 - Scalable Robotics
 - Preparing for February 9th cruise
 - Modifying Sprint INS LCM driver for serial interface
 - Out of Office
 - Out of office on Fridays
 - January 16 - January 19, 2024
 - March 4 - March 8, 2024
- Paul Roberts
 - 702108 - Deployable AI
 - Kickoff meeting, planning for miniROV simulator
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Mechanical modeling for ROV camera

- Review of electrical design
- 902001 - Ventana 4k Camera
 - Assembly and testing of camera
- 902204 - Scalable Robotics
 - Wrapping up power upgrades for SOI integration
- 902306 - SINKER
 - Kickoff meeting and project management
- Out of Office
 - Jan 9-Jan12 at CES
 - Feb 19- Feb 24 Ocean Science Meeting
- Brent Roman
 - 706008 - READI-Net
 - Recieved SIM cards for evaluating NB-IOT cell service
 - 708165 - NOAA-MERHAB-UW
 - Contributing to ESP deployment manual
 - 901205 - ESP SURF Center
 - Helping Nadia calibrate rebuilt ESPkoa
 - Replaced CPU on ESPbruce with current hardware revision
 - Moved ESPshore to server room to avoid service cut during recabling Bld A
 - 901913 - Wet Wifi
 - Verified that OceanComms modems revised end caps can be mounted in LRAUV and Waveglider
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Enabled access to Google Cloud Storage resources in PBP, as well as processing of sound files in 'flac' format. Successful testing.
 - Assisting our European collaborator with processing of SUD files.
 - 902101 - LRAUV Technology Development
 - Toward directly loading .tl missions: Added code/makefile target for TethysL-XML diffing for verification for the C++ tethysl parser. Keeping the team posted and still awaiting feedback, including review and merge of this [PR](#).
 - Reviewed [PR](#) by Quinn S. (thanks!) where >30 missions are migrated to TethysL.
 - Continuing efforts/explorations toward modernizing the TethysDash backend.
 - 902204 - Scalable Robotics
 - Meeting to delineate tasks for Dial, thanks Sebastián.
 - Overhead
 - Various usual things: COI; Employee handbook/signatures; Perf review.
 - Watched seminar "Billionth of a billionth to billions of billions" - fascinating.
 - Out of Office
 - ~~Jan 22~~ Feb 8: Dentist appt.
- Karen Salamy
 - 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
 - Getting close to wrapping up [major updates to backend services](#)
 - 701165 - OVAI Phase II
 - Meeting on importing regions of interest from FathomNet into CMS
 - 902304 - Piscivore Cam

- Import of latest missions videos into our asset management system
- 902403 - Expedition DB Modern
 - User stories meeting
- 902404 - 5th Marine Imaging Workshop
 - Meeting on fee structure
- Alana Sherman
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Met to discuss plans this year for 3 time-lapse systems and a couple upgrades
 - 902401 - Geo-Sense
 - Working on POs
 - Trying to figure out how to put connectors in existing sphere
 - Overhead
 - Almost all this week was spent doing reviews for EE group.
 - Out of Office
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- George Stern
 - 902204 - Scalable Robotics
 - Focused P3 cameras
 - 902304 - Piscivore Cam
 - Updated electronics fabrication planning
 - 902306 - SINKER
 - Updated block diagrams for the battery housing
 - 706008 - (READI-net)
 - Tested first 5 antennas from new PCBWay lot
- Johann Voigtlander
 - 902208 - Mini ROV Operations
 - Removed tool sled
 - Working on joystick upgrade
 - Overhead
 - OrCAD Training
 - LabVIEW Training