

Engineering Weekly Report 2/2/2023 - 2/9/2023

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Implementing Sharktopoda 2 remote protocol in Python
 - 901809 - Deep Sea Bioinspiration
 - Revised ML-Tracking paper
 - 902002 - FathomNet
 - Prep for upcoming workshop Feb 22 & 23
 - 902204 - Scalable Robotics
 - Performed Mola stereo calibration
 - Working on camera calibration library
- Francois Cazenave
 - 901405 - PowerBuoy Development
 - Met with tribology engineer regarding tether wear
 - 902106 - Niobicon-Based AUV Docking Development
 - Building buoy, anchor.
 - 902204 - Scalable Robotics
 - Met to talk about the ROV
- Danelle Cline
 - Out of Office
 - Few sick days
 - Tentative out of office vacation Jan 25, 26, 27
- Duane Edgington
 - 500055 - VARS, M3/RS, DSG
 - Some work/discussion on VAA deepsea-ai documentation. Ran test of documented processing flow on AWS ECS.
 - 901009 - CANON
 - Team meeting Feb 9
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Reading papers on active learning strategies.
 - 901502 - Passive Acoustic Sensing
 - Alexa Skill streaming of live stream is back up upon restoration of [shoutcast streaming](#)
 - Biweekly team meeting. Met with John Ryan to discuss AWS storage products and ideas for pypam processing of historical data on AWS.
 - 902004 - Planktivore
 - Weekly engineering meetings started Feb 8 2023. First team goal is ECOHAB deployment on LRAUV in April.
 - Stakeholder meeting planned for Feb 14.
 - Overhead

- Performance discussion. 2023 plans.
 - Peer Review of paper for Frontiers in Marine Science
- Jon Erickson
- Kevin Gomes
 - Out of Office
 - Feb 1-3: Vacation
- Andy Hamilton
- Kent Headley
 - 300057 - Mooring Maintenance
 - Working with Dave French on OASIS metsys using new model Vaisala wind sensor. The metsys uses a Campbell Scientific data logger to interrogate the wind sensor using SDI-12 serial protocol. Recent wind sensors haven't been working with OASIS, and Dave is checking configuration options to see if that may be the root cause.
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Met with Steve Rock, who had put together a great compilation of Terrain Relative Nav data from Portuguese ledge. It showed consistently good TRN performance and repeatability over 75 missions. There was some interesting structure, which (if I understand correctly) may be related to noise/biases associated with location (terrain?) or direction.
 - 902204 - Scalable Robotics
 - Implemented gemini sonar GLF log reader/image capture
 - Met with GT and Bastian re sonar LCM messages
 - Working on
 - Overhead
 - Hiring: Application review, screenings, interviews
 - Resource adjustments
 - Meetings
 - Annual Reviews
 - Covid communications
 - Out of Office
 - medical (3/10 a.m.)
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Met with Rock and LRAUV team about TRN and CoNav
 - Working on ingesting TRN data into front seat
 - Setup spare Jetson board for use by LRAUV folks
 - Data input to CoNav undergoing some change, will require some redesign
 - 901405 - PowerBuoy Development
 - Implementing Logger for the buoy_sim
 - Issues building the buoy_sim project
 - 901618 - Pelagic-Benthic Coupling
 - Rover MF modem remote burn code
 - Rover optode issue seems to be resolved - fuse resistance cause fatal voltage drop
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Setup spare stack for development
 - Overhead
 - New computer setup and issues (Ubuntu NVIDIA drivers)
 - Out of Office
 - Feb 13 - 16: Vacation (MWTh), WFH (Tu), PDT
 - Mar 13 - 16: Vacation (MWF), WFH (TuTh), PDT
- Brett Hobson

- Scott Jensen
- Brent Jones
 - Out of Office
 - Sick with covid
- Chad Keczy
- Brian Kieft
 - 901009 - CANON
 - Met to discuss bringing back biolum proxies
 - 901513 - Targeted Sampling by AUVs
 - Assisted running passive acoustic monitoring tests offshore on Galene
 - Added simulated acommms xmit for multiple modems to DAT compoment
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Integrated new Waterlinked DVL on Galene
 - Ran sea trial on Galene to test DVL and new mission
 - Bringing up Ahi/Aku
 - Troubleshooting battery issues on Ahi/Makai
 - Assisting with testing of repaired actuators
 - New release underway for winter sea trials
 - 902102 - Multi-LRAUV Simulation Environment
 - Push to new repo at mbari successfully done. Now investigating how to automate.
 - Dealing with OSRF overruns from 2021
 - Overhead
 - Supporting Stella deployment at WHOI
 - Out of Office
 - 01/30-02/03 (MST)
- Denis Klimov
- Eric Martin
 - 901101 - Seafloor Mapping
 - Troubleshooting issues with the RP2040 on the trigger board
 - 901206 - Coastal Profiling Float
 - Prepped motherboard for handoff to Chad
 - Created new test tools in the factory console mode.
 - 901911 - ROVVR
 - Board Bullets
 - 902012 - Telepresence
 - Wrapped up WP2 with Leila Takayama, she's going to take a break for a while until the ship needs are more clear.
 - 902204 - Scalable Robotics
 - RRE Interview Coordination
 - Phone Calls with potential interns
 - Installed USB hub and loaned IMUs from advanced navigation for evaluation.
 - Designed internals for the TRI-AI-Camera
 - Overhead
 - ME Interview
 - SEE Invterviews and meeting
 - MiniROV Zoom and in person interviews
- Thom Maughan
 - 901805 - Coastal Biogeochemical Sensing Program
 - Starting m2m interface design

- 902004 - Planktivore
 - Several week catchup weekly (big push on electronics design and fab):
 - Camera Controller design complete, base board out for fab, delivery next week.
 - Power modules are also out for fab. Buck-boost bringup is complete
 - Strobe energy and Strobe variable voltage supply boards out for fab, delivery next week.
 - Preparing kits for Indec
 - Scheduled Tech resource for assembly of bringup board for each next week. Used the google calendar, thanks Jose for helping me get up and running.
- Out of Office
 - Take son to school day (2/8, 3/8, 4/5), work at home am, on campus 1-4
 - Working from home last week during quarantine
 - mid-Feb vacation
- Mike McCann
 - 500055 - VARS, M3/RS, DSG
 - Linda reports that edited "by_dive" files look good in the emdb web app - ready for loading
 - 901009 - CANON
 - At Jacoby Baker's request reloaded [stogs_canon_july2020](#) following fix to ESP parsing code
 - Met with Scripps student and John Ryan to discuss getting data from [stogs_canon_april2021](#)
 - Consulting with Chris Preston on getting data out of [stogs_os2018](#)
 - 901101 - Seafloor Mapping
 - Met with capstone students who are working on the [build for mbdrg2gltf](#) in MB-System
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Continuing to work on demonstration Notebook trying to make it agree with Monique's results
 - Testing Notebook computations in resample.py with a stogs_auv_compare database
 - Overhead
 - Annual review
 - Out of Office
 - Feb 13 Vacation
- Rob McEwen
 - 901405 - Wave Energy Buoy
 - Recomputed added masses and stability derivatives to refer to their attachment points, as required by the buoy simulation. These computations are preserved in Matlab code.
 - Updated the mkdoc/Latex document accordingly.
 - Pushed it and the Matlab code into the Git repository.
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling
 - Finally figured out why optodes aren't working on Rover. Parts on order.
 - Continuing analysis of Rover fluorescence data for ASLO conference.
 - 901700 - Acoustical Ocean Ecology
 - Built up a Simrad Sonar Faraday cage for Brett to see if can fit it in LRAUV.
 - 902304 - Piscivore Cam
 - Met with Jared about plans for this year, trying to set date for kickoff meeting once we know exactly who's on project this year.
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Found silicone oil to refill sediment trap motor.
 - Overhead
 - Helped George Stern get settled as Alana was wfh after COVID exposure.
- Tom O'Reilly
- Mike Risi
 - Out of Office

- Out of office on Fridays
- Paul Roberts
 - 701164 - SnoCam+ Research
 - All hands meeting and project update
 - lighting design meeting
 - 901809 - Deep Sea Bioinspiration
 - EyeRIS octopus paper
 - Preparing for final report and end of Moore Foundation funding
 - 901904.99 - Corral Camera System
 - Bench testing multispectral illumination hardware
 - 902001 - Ventata 4k camera
 - Planning for assembly and testing of new optical corrector
 - 902004 - Planktivore
 - Engineering meeting
 - Review of camera controller
 - 902204 - Scalable Robotics
 - Bench testing Mola stereo cameras
 - Preliminary design of 1500 m PoE camera housing
 - 902306 - SINKER
 - Wiper concept model
 - Electrical system design
- Brent Roman
 - 708165 - MERHAB19:ESP
 - Working with Steph's lab to help diagnose trouble during recent ESP deployment off Navy pier
 - Likely bitten by serial driver bug
 - 901205 - ESP SURF Center
 - Found and fixed very long-standing bug in ESP's low-power ARM CPU board's XR16L788 octal serial port driver
 - Shared edge-triggered interrupts are a royal PITA!
 - Working with NOAA GLERL to verify this fix in the field before pushing new kernel to all ESPs
 - DQ2210 - READI-net
 - Participated in Zoom call with Bad Wolf consulting.
 - Out of Office
 - March 8-15 visiting my dad in Sarasota, FL
- Carlos Rueda
 - 901502 - Passive Acoustic Sensing
 - Pypam development. Group meeting.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - TethysL system is now [2.6.21](#). Also, the [TethysL VSCode Extension page](#) has been updated to reflect all the recent improvements. Quinn Shemet and I had a very productive first introductory session, including a quick overview of the xml-to-tl migration process.
 - Brief meeting with Karen re new dash ui implementation.
 - 902204 - Scalable Robotics
 - Short meeting with Giancarlo.
 - Overhead
 - HR Recruitment Specialist hiring committee (interviews/discussion)
 - Annual performance review
 - IE group mtg
 - Out of Office

- Couple of days working from home due to a cold and while determining covid situation; fortunately a PCR test was negative.
- Karen Salamy
 - Out of Office
 - Now in the office 3 days/week M, T, Th..
 - Feb 9-17: vacation/father's estate finalizations.
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Iron Mountain video imports. Rough estimate of work completed to date: 4,067 of 6,668 dives converted from tape to video.
 - Updated the `annotations\_legacy` view in the M3_ANNOTATIONS database so Steve Haddock can use [beholder](#) to grab ad hoc images of annotations.
 - Milestone: [Loaded the first series of dives](#) analyzed by machine learning into VARS. 16 dives (D1372 - D1389) were processed, producing 84,687 localized annotations. These annotations are all tagged with the group 'ROV:pending-verifications'. Addressed issues in the new tooling used for working with these annotations in VARS.
 - [Develop tools to preview data in Sharktopoda](#) for both the full ML output (which is very large) and the subset of data that would be imported into VARS.
 - The [TableView](#) control used in VARS is thoroughly broken. (Due to changes introduced by the JavaFX library developers over time). [Brian is starting a rewrite](#) of a table control to work around these issues. Related issues are: [here](#), [here](#), and [here](#).
 - [Rewrote the code that syncs dive information into VARS](#). The previous version was written before we started the video conversion process (Iron Mountain). The amount of new video files was overwhelming the app.
 - 902002 - FathomNet
 - [Working with NOAA on a data archiving workflow](#) to allow external labs to publish images to FathomNet. Also providing feedback to NOAA on organizing their own data before submitting it to FathomNet.
 - Met with Squiddle developers to address features needed for them to support FathomNet integration. [Added the first round of requested features](#).
 - Updated the FathomNet API with changes to support Squiddle. Updated the FathomNet web UI with [features added by CVisionAI developers](#).
 - Preparing for the upcoming FathomNet workshop.
 - Out of Office
 - Feb 27 - Mar 3 - Vacation (Backpacking Haleakala so no internet)
 - Jul 28 - Aug 6 - Vacation
- Alana Sherman
 - 902208 - MiniROV Support
 - Continued bringing up the topside control room electronics. We got all the video systems working.
 - Began interviews for Mini position
 - Met with all MBARI science users for 2023 to discuss cruise plans
 - Overhead
 - ME hire interview
 - ASOE hiring committee interview
 - Out of Office
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