

Engineering Weekly Report 4/27/2023 - 5/4/2023

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Started reimplementing vars-kb-server in Scala 3, standalone from vars-kb core
 - 902204 - Scalable Robotics
 - Performed MiniROV deployments on Fulmar
 - Ran analysis/validation of MiniROV data
 - Preparing for LASS deployments on the Carson
 - Out of Office
 - Fulmar 2023-04-25, 2023-04-28
 - Rachel Carson 2023-05-10,11,12
- Francois Cazenave
- Danelle Cline
 - Overhead
 - Summer intern overhead
- Duane Edgington
 - 901009 - CANON
 - Team meeting May 4
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Continued work with Danelle on active learning tools for midwater images and concepts
 - 901502 - Passive Acoustic Sensing
 - Team meeting April 26
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Continued work with Danelle on active learning tools for UAV images and concepts
 - Team meeting May 3
 - Collaborator meeting planned May 8
- Jon Erickson
 - 901217 - Chemical Sensor Program
 - Version 8 of ISUS spectrometer housing, new spectrometer board. New digital board.
 - 901805 - Coastal Biogeochemical Sensing Program
 - Started on final prints for 1000m pH
 - 902004 - Planktivore
 - Finishing parts for second unit. Completed design for Pressure sensor adaptor.
- Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - Working on logr code for new single LCM type
 - More work on lcm-bridge code
 - 300059 - DMO Divisional Support - David Packard
 - Meetings to discuss networking, data flow and cyber security

- 300070 - DMO Divisional Support - Ventana
 - Researching 4D nav to figure out how we will plumb in tracking DB positions and if we can integrate ODSS/ERDDAP WMS maps
- Overhead
 - Check in meeting with AWS
 - Group meeting to talk about proposals (EXPD)
 - Edited engineering drawing pages to add new person
- Out of Office
 - Aug 28-Sep 12: Vacation
- Andy Hamilton
- Kent Headley
 - 300057 - Mooring Maintenance
 - found root cause of metsys issues. There were two factors causing it not to sample: first, the new wind sensor takes longer to produce a sample, breaking some brittle logic in the sampler firmware. Second, the new wind sensor has a longer power up delay, causing sampling errors. I modified the sampler firmware, and am working with Jared
 - 901101 - Seafloor Mapping
 - helped with various build issues for Rob's mapper oscillation analysis/sim
 - 902204 - Scalable Robotics
 - Worked with Bastian to debug an issue with the Oculus sonar driver, which was skipping/repeating frames. It turned out to be an issue with indexing a ring buffer. Now testing a fix.
 - Overhead
 - Interview SE candidate
- Rich Henthorn
 - 901405 - PowerBuoy Development
 - Testing buoy-sim with logging
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Preparation for MARS deployment
 - Overhead
 - Rec-Com items
 - Proposal season kickoff
 - Out of Office
 - May 8: SES deployment on MARS node
 - June 1 - 9: Vacation
 - June 29 - July 10: Vacation
 - July 24 - 27: Vacation
 - July 31 - Aug 4: WFH
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Cut out channel for Rinko in flowcell spacer using jigsaw / file
 - Started untangling mcap circuit
 - 901904 - Deep-Sea Coral Community Observatory
 - Read lots of camera manuals; mapped out a workflow for camera-cpu-LED ring
 - Simple Python program to synchronously stream camera frames w/ varying exposure
 - Started on LEDring code to interact with camera/cpu
 - Overhead
 - Python tutorial
 - Out of Office

- 4/28/23: cycling trip
 - 5/8/23: SES deployment at MARS
- Scott Jensen
 - 706008 - READI-net
 - Testing of Flow Gauge
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 - 771131 - Great Lakes PCM/HAB
 - Parts location for powering ESP components in SeaTrac
 - 901205 - ESP SURF Center
 - Redeployment of ESP at Clifton Forebay
 - Out of Office
 - Vacation May 11-15
 - Vacation June 30-July 5
 - Vacation July 24-28
- Brent Jones
 - 708143 - ECOHAB
 - Finishing up with SIO and MBARI Wire Walkers for the ECOHAB project
 - 901112 - Monterey Bay Time Series
 - Flying LRAUV Daphne in support of MBTS
 - Diagnosing inductive comms errors with Wire Walker
 - Designing Wire Walker Paragon Launch and Recovery system
- Chad Kechy
 - 901101 - Seafloor Mapping
 - Prepping for Carson cruise next week
 - Finalizing the revB board stack (with James McC)
 - 901206 - Coastal Profiling Float
 - Finished the testing of the new primary lithium batteries
 - Submitted test report of battery testing to Gene M.
 - Submitted a MT work request for a battery cage (mount) for the proto-CPF
 - Paragon Battery Upgrades
 - Got an official quote from Victron
 - Waiting on BSC for final approval
 - Overhead
 - Hiring committee for E-Tech position (Dinner with candidate Wed evening)
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 708143 - CA Current HABS
 - Wrapped up 2023 EcoHAB last week with Pontus/Galene recovery
 - 901009 - CANON
 - Found a bug with the DAT component that will affect the planned CANON mission. Wrote a test mission to debug.
 - 901513 - Targeted Sampling by AUVs
 - See above
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Met with Steve Rock to discuss next steps in TRN
 - 902102 - Multi-LRAUV Simulation Environment
 - Got the sim back up and running on the lab machine. Met with Martin Ludvigsen of NTNU to discuss a sim presentation
 - Out of Office

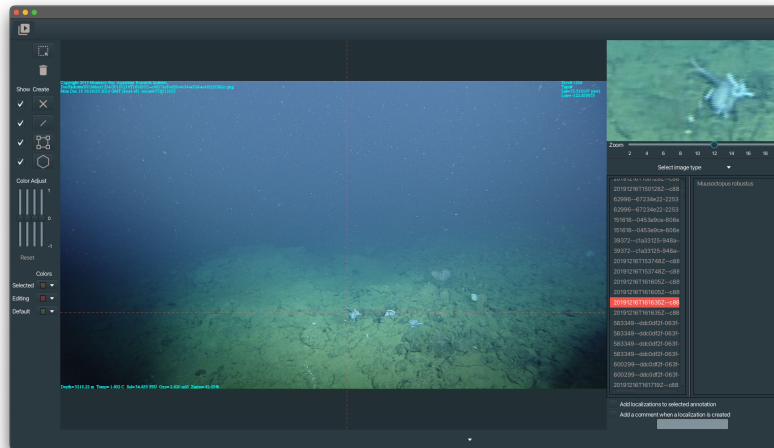
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- Denis Klimov
 - 901112 - Monterey Bay Time Series
 - We had finally deployed IFCB on Power Buoy! Due to deployment delays, we had to keep the instrument in the lab in closed configuration which means we had to set a local network test environment in order to monitor and control the IFCB. Deployment went well but then we lost power overnight due to calm conditions which created what looks like bubbles in the sheaf circuit. This issue is taking some effort to overcome using remote controls but looks like performance is getting better so with any luck we could get the instrument back to 100% performance without recovering.
 - Overhead
 - The laser safety procedure for the CoMPAS Laser Line Imager was implemented (with Giancarlo Troni and Paul Roberts) and subsequently the instrument was deployed on R/V Fulmar which turned out to be a success.
- Eric Martin
 - 901101 - Seafloor Mapping
 - Preparing for cruise next week.
 - 901206 - Coastal Profiling Float
 - Running tests in tank, identifying next set of bugs.
 - 901405 - PowerBuoy Development
 - Minor support on checking items out before deployment.
 - 901911 - ROVVR
 - Working on a plan for our intern.
 - 902012 - Telepresence
 - Performing a test next monday
 - 902204 - Scalable Robotics
 - Great success on the Fulmar, we got survey 2 out of 3 days, losing 1 to weather.
 - Demob'd the sled this monday.
 - Overhead
 - SOVA meeting, went extremely well.
 - SEESC interview
 - Out of Office
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- Thom Maughan
 - 300083 - DMO Divisional Support - LRAUV
 - MCUxpress + MCU-Link now working after a bit of the ole uninstall, reinstall, reboot.
 - Purchased a known good lpc11c24 board to verify all is well with the dev+debug setup. Still no joy downloading code to the battery board. In progress going thru the lpc11e13 datasheet against the schematic and layout.
 - 901009 - CANON
 - Scoping install of software stack on edna1 and edna2. Prototyping sans docker on edna1.
 - 902004 - Planktivore
 - Working with Aaron on Mooring for Planktivore deployment near power buoy.
 - Proposal abstract, talking to potential stakeholders for 2024 Planktivore
 - Out of Office
 - Apr 27-30 Camping Pismo
 - Vacation June 26 - July 12
- Mike McCann
- Rob McEwen

- Paul McGill
 - 901618 - Pelagic-Benthic Coupling
 - Working on Rover fluorometer data for ASLO meeting.
 - 901700 - Acoustical Ocean Ecology
 - Wrote code for new sonar transducer attitude sensor but am having trouble getting I2C comms working.
 - 902304 - Piscivore Cam
 - Prepped and deployed camera for its second deployment, coming back on Thu.
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Prepping SES for Monday's deployment.
 - Overhead
 - Lots of paperwork to do for NSF to make me the MARS PI.
 - Attended proposal workshop.
- Enoch Nicholson
 - 706008 - READI-net
 - Completed initial design of press assembly and reviewed with Mark Tynes and Scott Jensen.
 - 771131 - Great Lakes PCM/HAB
 - Obtained parts for phase separator and discussed mounting plans with NOAA GLERL collaborators.
 - 902306 - SINKER
 - Completed design of test aquarium and discussed with the group. Produced drawing for quote.
 - Started sketching frame ideas.
 - Obtained pinout for wiper control cable.
 - Started basic housing design using hand calcs and DSP&L Under Pressure.
 - 901405 - PowerBuoy Development
 - Assisted with buoy rigging & deployment.
 - Overhead
 - Proposal workshop
 - Workbench setup
 - Western Flyer screening
 - New Employee HR Training
 - Assisted with LRAUV Recovery
- Tom O'Reilly
- Mike Risi
 - 200105 - Core Navigation Data - MDUC
 - The first cut of the navproc framework is done.
 - Development of the various data acquisition processes that use the framework has begun.
 - 300062 - DMO Divisional Support - Doc Ricketts
 - Working on navproc interface to Doc Ricketts with SMD. Everything appears to be working fine, just chasing down one small latency issue with the external control interface.
 - 300070 - DMO Divisional Support - Ventana
 - Added a process to navproc to send GPS data to the newly installed Octans gyro.
 - 901101 - Seafloor Mapping
 - Tested the sled with Eric and Chad in preparation for the May 10-12 LASS expedition.
 - Attended design review for the LASS trigger board 2.0 design. Working with Chad on some of the changes incorporated from the review.
 - 902204 - Scalable Robotics
 - Made some small changes to RovControl scripting during tank testing. A bug was discovered in the mission scripting during the April cruise series on the Fulmar that I'm looking into.

- Added a logging directory to the frame grabber program to make it more consistent with flir-mola.
 - Modified the Octans publisher on LASS to publish the senlcm::imu_t type.
- Out of Office
 - Out of office on Fridays
 - May 30 - June 6
- Paul Roberts
- Brent Roman
 - Out of Office
 - May 26 - June 6
- Carlos Rueda
 - 901009 - CANON
 - MXM development
 - 901502 - Passive Acoustic Sensing
 - PyPAM@NCEI meeting
 - 902101 - LRAUV Technology Development and Fleet Operations
 - TethysDash system:
 - Fixed bugs (some discovered while exercising WHOI instance), and implemented dash4 enhancements suggested by users.
 - New multi-image release/deployment scheme now in place for us (MBARI instance), and [documentation](#) being put together describing the new scheme for WHOI (thanks to Ryan G., for the feedback) and any other instances out there in the future.
 - ESPComponent: discussion with Quinn re issue noted during Brizo deployment.
 - 902204 - Scalable Robotics
 - The web GUI “worked great” during the deployment last week. It now has initial support for base images: user indicates URL, positioning, and opacity for each.
 - Started setting up the two components for the GUI, lcm-websocket-server and the webapp itself, on our new ‘compaslabdev’ VM.
 - Overhead
 - SE-EAD interviews
 - Out of Office
 - Possibly ~2 days working from home this or next week due to office layout upgrades
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Continue to monitor the CTD issues on M1.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Working on 3rd party applications to upgrade them to work with React 18+. Many of the 3rd party apps that Carlos used for dash4 have not been upgraded in 4+ years and require updates to get them to work with the new dash5.
 - Overhead
 - Participated in a few field trips for my daughter’s class over the last week. The summer is almost upon us and the school has been requesting more parental participation.
 - I have been reviewing the code for the precruise, files that need to be changed and edited in order to add the R/V David Packard to the ship list. I will focus on this in a week or so after I have tried to implement the LRAUV 3rd party edits to dash5.
 - Preparing for my office move. It may happen as early as next week.
 - Out of Office
 - Now in the office 3 days/week M, T, Th..
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG

- Iron Mountain video imports
- 901618 - Pelagic-Benthic Coupling
 - Work is progressing on the new image annotation application, [Mondrian](#).



- 902002 - FathomNet
 - Submitted an image collection to NOAA to test and develop a data archiving pipeline.
 - One of the podman containers had debug logging enabled which filled up the disk on eione.mbari.org (aka fathomnet.org). This has been fixed.
- Overhead
 - [DARC](#) had issues with one of their VARS docker containers. This has been fixed.
 - Published, [commons](#), a library of shared [Java/Scala](#) utilities to Maven Central
- Out of Office
 - Apr 12 - Apr 18 - Out of office
 - May 8 - 16 - Out of office
 - Jul 28 - Aug 6 - Vacation
- Alana Sherman
 - 902208 - MiniROV Support
 - Out on the Fulmar for Aquarium
 - Overhead
 - Getting things started for Aaron Micallef's proposals.
- George Stern