

Engineering Weekly Report 2/11/2021 - 2/18/2021

Executive Council Notes

- 902101 LRAUV Development - Hobson
 - Loaded two LRAUVs on the first boat trip out since the shutdown to support MBTS (Chavez), Low-altitude flight (Rock) and patch tracking (Zhang)

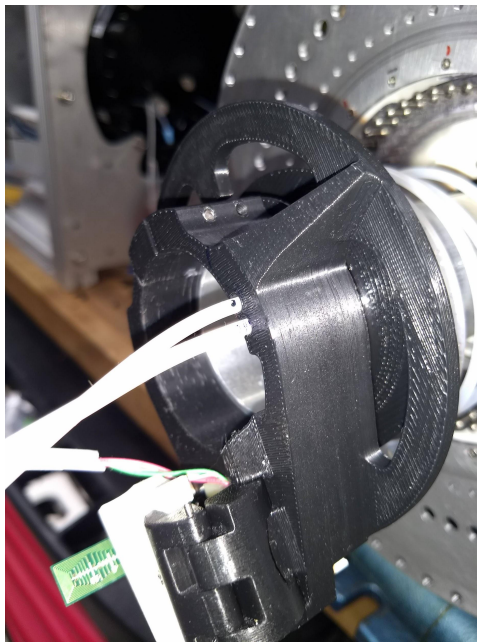
Individual Activities

- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Helping with PTO test
 - 902106 - Niobicon-Based AUV Docking Development
 - Working on dock design
 - Preparing longevity test for dock
 - Out of Office
 - I have been working part time from home
- Mark Chaffey
- Danelle Cline
- Duane Edgington
 - 902005 - VARS Annotation Assistance
 - Meeting with CSUMB capstone project team Feb 17
 - Overhead
 - Continuing training in AWS Container infrastructure, including ECS and AWS Secrets Manager
 - Out of Office
 - Medical Appt Friday Feb 19
- Jon Erickson
- Kevin Gomes
 - 300057 - Mooring Maintenance
 - Refactoring some documentation in the MkDocs format
 - 901009 - CANON
 - Transitioning the grabUDPShipPositions.py scripts that are running on Western Flyer and Rachel Carson to me (from Rich) and updating documentation.
 - Short troubleshooting for ODSS on the Western Flyer after IS patches.
 - 901502 - Passive Acoustic Sensing
 - Touched base with John to talk about enabling CloudFront on the AWS hosted visual browsing application to see if it improves spectrogram loading performance.
 - Overhead
 - Transitioning work with Rich
 - Met with Doug Conlin to get an account set up on Rich's surface so I could work on it.
 - Negotiated 50% cost savings on DockerHub
 - Worked with ClickUp to get non-profit pricing and testing it out per the recommendation of others who have worked with it.
 - Still working on framegrab extraction for Jenny and AMNH. Need to change the watermark and figure out why the overlay is dropping the metadata from the image.
 - Scheduled most of the check in meetings with my group.

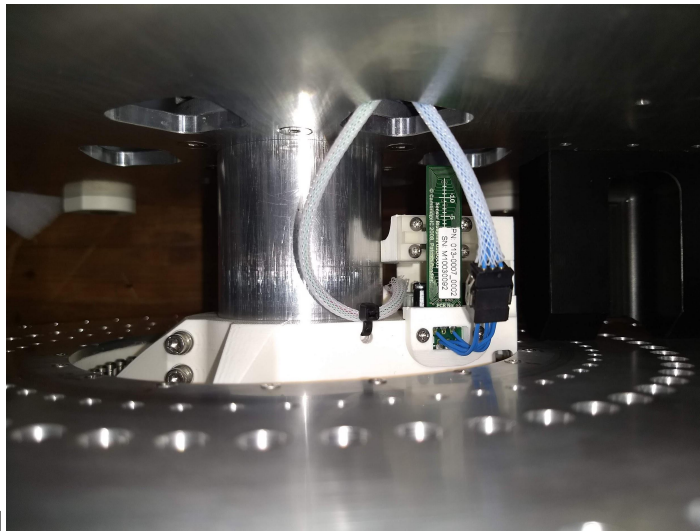
- Closing up performance reviews
 - Trying to coordinate follow up meeting with WHOI IT/App development for sharing knowledge
 - Working with Todd R to evaluate LastPass as a possible group password management tool.
 - PE Interview
- Out of Office
 - May 12-24: Vacation
 - June 21-25: Vacation
- Andy Hamilton
- Kent Headley
 - 901803 - Carbon Wave Glider Development
 - Refactoring log utils to support multiple log formats with minimal code duplication.
 - Adding support for binary observation record log
 - Adding support for (B85-encoded) download queues
 - Overhead
 - Review wrap up
 - Out of Office
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- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - TRN and OA tests on LRAUV
 - 800139 - EyeRIS
 - Weekly meeting
 - Created EyeRIS LRAUV Interface (ELI) for command and control of EyeRIS on LRAUV
 - ELI will run on a Jetson TX2 backseat-computer specific to EyeRIS
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - ROS 2 research
 - Designs for ROS versions of existing software
 - Experimental implementation
 - 901618 - Pelagic-Benthic Coupling
 - Weekly meeting
 - 902101 - LRAUV Technology Development and Fleet Operations
 - TRN and OA tests on LRAUV
 - Overhead
 - Engineering meeting
 - Out of Office
 - Upcoming vacation days Mon Feb 22, Wed 24, Fri 26
 - Upcoming vacation days Mar 22 - Apr 2, most days
- Brett Hobson
- Scott Jensen
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Supplied the remaining data to Microchip, now waiting for a response
 - Tested Cell voltage limiter for new battery pack
 - 901805 - Coastal Biogeochemical Sensing
 - Keep apprised of the current build progress
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Getting set to build the electronics for the power transfer coupling tester
- Brent Jones
 - 901009 - CANON
 - Working out SIM card issues with new Wire Walker. Planning deployment mooring for C1
 - 901112 - Monterey Bay Time Series

- Deployed and flew two LRAUV's. As of this writing Daphne should have onboard SIPPER samples that need processing
 - 901805 - Coastal Biogeochemical Sensing
 - Flying Spray 29
 - Prepping Spray 34
- Chad Keczy
- Brian Kieft
 - 300083 - DMO Support LRAUV
 - Supporting MBTS run
 - 708168 - DHS Y7
 - Supporting engineering deployment in Buzzard's Bay
 - Debugged camera issue on Polaris
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Fixing issue in altitude envelope
 - Debugged issue with dash 4 and keepstation
 - Wrote slow speed test missions for engineering deployment
 - Supporting 7 day engineering deployment that ends today
 - Overhead
 - Finished first aid/cpr/bbp
- Denis Klimov
 - 800139 - EyeRIS
 - 3D printed several parts laser power meter attachment for IRIS strobe, working on cross brace for temperature probe.
 - 901903 - Bio Raman
 - Panel Locks for a sample chamber are complete, O-rings fit quite nicely
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Working on 2 LED light sources to test differential detection scheme
- Eric Martin
 - 708167 - WEC Dynamics and Control
 - Moving sbc into the lab
 - 901101 - Seafloor Mapping
 - Lots of calls last week for Falkor
 - Digging into the old heat flow probe
 - 901206 - Coastal Profiling Float
 - Tank testing has resumed, squashing bugs in data output.
 - 901911 - ROVVR
 - SCOPE Meeting
 - Initial Plan for EyeRIS and ROVVR camera integration on mini
 - 902100 - Telepresence on MBARI Research Vessels
 - Waiting for the results of the user study.
 - Out of Office
 - Tuesdays until school is back in session.
- Thom Maughan
 - 902000 - Multi-Spectral StealthCam
 - Debugging cable/atmel studio/jtag connection for burning bootloader.
 - 901713 - Nearshore FOCE
 - Attended meeting.
 - Working on firmware for Conductivity and O2 instrument
 - Overhead

- Attended Teri Lampoudi seminar
 - Forwarded Principal Eng. job description to a candidate. Forwarded to NTNU as well.
- Out of Office
 - Out sick 4 Feb, back working remote Feb 16. Covid tests negative.
 - Vacation plans TBD, after getting projects underway.
- Mike McCann
 - 901009 - CANON
 - Redeploying STOQS servers as needed with module updates
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Working on [demonstration notebook](#) for extracting STOQS data in columnar format
 - Trying to work through memory exhaustion issues inside Docker containers
 - Overhead
 - Engineering meeting
 - Out of Office
 - Vacation day: 1 Feb 2021 for CSUMB teaching
- Rob McEwen
 - Out of Office
 - Probably Friday 29 Jan, and the following Monday through Wednesday.
- Paul McGill
 - Out of Office
 - Will take vacation Feb 16th thru 19th.
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - 901007 - Benthic Biology and Ecology
 - Work on drawings for BRS updates
 - Overhead
 - Prepare doc on MBARI wireless infrastructure
- Doug Pargett
 - 708146 - NOPP Saildrone
 - Assembled a new bleach bottle holder for the FlowerPot Housing
 - Helped prepare Koa for deployment
 - 881135 - 3G ESP Cartridge Redesign
 - Got the Stumpy instrument to Function for testing the new cartridges.
 - 901205 - ESP SURF Center
 - Repaired the Koa ESP instrument after a part broke and misaligned deep inside it.



■ Broken



■ Fixed

- Overhead
 - Engineering meeting
- Out of Office
 - Holiday
- Ben Raanan
 - 300083 - DMO Support LRAUV
 - MBTS run
 - 708168 - DHS Y7
 - Line capture testing at WHOI
 - 901809 - Deep Sea Bioinspiration
 - Profiling KCF tracker performance on Jetson Xavier-NX
 - 902009 - AUV UI
 - Met with Leila and team
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Daphne and Pontus deployed to sea
 - Updated LRAUV app signal handler
 - Tested AHRS M2 changes on all supported mounting orientations and at sea
 - Some minor updates to LRAUV battery controller driver in prep for new design
 - 902102 - Multi-LRAUV Simulation Environment
 - Support for Ignition LRAUV vehicle model and integration

- Overhead
 - Interviewed in CalPoly podcast
- Mike Risi
 - 200105 - Core Nav - MDUC
 - Testing startup and control scripts on deployment machine
 - 901809 - Deep Sea Bioinspiration
 - Modified control code, retested depth loop in test tank
 - Out of Office
 - April 26-30: Ocean Imaging Cruise
 - September 3-14: Ocean Imaging Cruise
 - Vacation on alternate Fridays
- Brent Roman
 - 706005 - eDNA Grass Carp Sandusky
 - Virtual kick off meeting
 - 901205 - ESP SURF Center
 - Implemented deferred motor configuration changes. It works and avoids the errors I'd intended, but the system is now producing ominous warning messages that need to be investigated.
 - 901913 - Demonstrating high-speed communication with a submerged AUV
 - Working through details of equipment loan agreement
- Carlos Rueda
 - 708168 - DHS Y7
 - Assistance during Polaris operations.
 - 901009 - CANON
 - Looking into ODSS Planning tab UI issues (reported by Chris W.). Entered [issue](#) to determine mechanism to facilitate development/testing of the UI against ODSS backend.
 - 901101 - Seafloor Mapping
 - Resynced mbari-org/MB-System fork to trigger [docker image build](#) at Docker Hub. All good. Coordinating with Dave toward enabling similar setup for his primary repository.
 - 901502 - Passive Acoustic Sensing
 - Advancing POMA paper.
 - Toward adding a continuous HMM method, including cepstral coefficient calculation from LPC vectors, and looking into using [pomegranate](#) for the Gaussian mixture modeling (GMM).
 - 902005 - VARS Annotation Assistance
 - Meetings.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Looking into dash4 issues ([#80](#), [#83](#)) related with mission "inserts" (eg. keepstation_3km).
 - Overhead
 - Engineering meeting.
 - ESIP COR [maintenance](#).
- Karen Salamy
 - Overhead
 - Began scripting new code to try and replace the MBSYSTEM component of the MiniROV Nav computation.
 - Spoke with Rich S. yesterday at length regarding maintaining the miniROV downloads, data locations, script locations, etc and how to troubleshoot when issues arise.
 - Out of Office
 - Heading to the snow for a few days starting tomorrow. I plan to work from where we are staying as much as possible. Feb. 18-21.
- Brian Schlining
 - 500055 - Video Annotation DM

- Begun work on [modifying the code that registers videos ripped from our tapes](#) by Iron Mountain (IMES) into M3. Iron Mountain is now providing us with detailed logs of timecode vs. elapse time for each tape. This will inform us of exactly when a timecode reset happens and hopefully allows us to correctly align those videos with their correct times.
 - We've received our first batch of videos from IMES. (About 2000 of them, about 22TB). Brian is running a program to rename the files to our internal standard and move them to their correct location on titan:/M3. Due to the file sizes, it may take up to 10 days to move all the files to the correct locations. Brian is working with Neil Connor on ways to speed this up.
- 902002 - Fathomnet Detect and Classify
 - FathomNet release has been pushed out from Mar 1 to Mar 8. We're waiting on an external contractor to finish a tool for bulk verifying image localizations.
- Overhead
 - Migrating issue and project tracking to [ClickUp](#). Brian has run migrations of issues from JIRA into ClickUp.
 - Reviewed CSUMB capstone students project proposal.
- Out of Office
 - Trying to take at least part of today off. Not succeeding yet.
- Rich Schramm
 - 300057 - Mooring Maintenance
 - Troubleshoot OA2 loss of comms
 - Overhead
 - Continue knowledge transfer and documentation (minirov data management)
 - Knowledge xfer to Karen Salamy for minirov data management. Kudos to Karen for stepping up!
- Alana Sherman
 - 800139 - EyeRIS
 - Attended weekly meeting
 - 901618 - Pelagic-Benthic Coupling
 - Assembled parts for camera housing
 - Began modifying schematic for inclusion of cap charger
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Continuing to refine camera schematics, they are done now.
 - Overhead
 - Brown bag meeting on mentoring, plus planning and follow up meetings
 - First interview for PE position
 - Conversation with Li-ion battery consultant for safety trainings and pack reviews, working on RFQ