

Engineering Weekly Report 2/13 - 2/19

Executive Council Notes

-

Individual Activities

- Francois Cazenave
 - 901405 - PowerBuoy Development
 - I am assembling the PTO
 - I tested the compensator and found a leak. I ordered replacement component.
 - I am working with Eric on the wiring
 - 902000 - Multi-Spectral StealthCam
 - I completed the design of the light housing and ordered the parts from the machine shop.
 - Overhead
 - I am preparing some experiment with niobium for AUV recharge
- Mark Chaffey
- Danelle Cline
- Duane Edgington
 - 902005 - VARS Annotation Assistance
 - Working on implementing MLFlow workflow on SageMaker with Conda3 kernel jupyter notebook
 - Tasked with loading FathomNet frames into VARS
- Jon Erickson
- Kevin Gomes
 - 901205 - ESP SURF Center
 - Deployed portal code updates to work with data from Gulf Of Mexico ESP deployment
 - Fixed bug from said changes :(.
 - Overhead
 - Working on slide changes and practice for ER
 - Out of Office
 - Feb 18-20: Out sick
 - May 6-7: Vacation
- Andy Hamilton
- Kent Headley
 - 600034 - Control Tech - Rock
 - Distributed code/doc package for TRN (terrain relative nav) plot generation
 - Made updates to TRN configuration tool (simpler, cleaner preset selection)
 - 901803 - Carbon Wave Glider Development
 - Working on possible refactor of sampling and logging scheme to improve resource footprint and simplify post-processing
 - Overhead
 - Misc admin
- Rich Henthorn
 - 901405 - PowerBuoy Development
 - Installed software on the new buoy control computer
 - Implementing new micro controller commands

- Implementing changes to CANBUS packet structure
- Out of Office
 - Mon Mar 9 - Thu Mar 12: Vacation, VPN access, PST
- Brett Hobson
- Scott Jensen
- Brent Jones
 - 901112 - Change in MB & CA Current
 - lab mtg
 - 901502 - Passive Acoustic Sensing
 - team mtg.
- Chad Key
 - 901704.99 - 8 Camera Obs Lander
 - Working on the technical sections of the documentation with Elena
 - 901713 - Nearshore FOCE
 - Wiring up the test bed in the lab. Working with Yui/Scott/Jose on the implementation of the MpHOx boards.
 - 902000 - Multi-Spectral StealthCam
 - Finished a plot check on the driver pcb - moving onto fab now.
 - Overhead
 - Helped Bridget get up and running with Labview. She's duplicating my RBR vi's from scratch for practice.
 - Out of Office
 - Was out sick last week and a half. The grim reaper let me go this time.
- Brian Kieft
 - 708158 - DHS Y6



- LRAUV B team was on location at WHOI and also in Maine running under ice tests of the WHOIDHS vehicle recently named *Polaris*. This was the first time an LRAUV was run under the ice and, while there's more work to be done, initial results were very positive.
- 901513 - Targeted Sampling by AUVs
 - Pulled minor data for Yanwu's paper
- 901800 - LRAUV Payload & Support
 - Setting up test bed on Brizo for Tom's LCM tests
- 902009 - AUV UI
 - Working on final details of the SOW and ICA with Sliced Bread.
 - Responding to Kevin on simulator issues
- Out of Office
 - Feb 1-13 WHOI/Maine under ice, EST
 - Mar 2 - 10, Vacation, GMT -7
 - Mar 16-25 Michigan (NMU) under ice, EDT
 - July 18-31 Arctic, ADT

- Denis Klimov
- Eric Martin
 - 901101 - Ocean Imaging
 - At sea this week. Testing new strobe arrangement.
 - 901405 - PowerBuoy Development
 - Wiring spec for buoy controller
 - 901911 - ROVVR
 - Getting the camera back for integration.
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Small progress on the hardware design
 - 901009 - CANON
 - Ordered MinION sequencer on the 13th - order has not shipped. Probing Oxford to try and unstuck it.
 - HiPP::eDNA. Installed MinION software on x86+GPU laptop. Working to borrow a MinION.
 - Researching best package options for ARM build of BLAST tools, ideally with GPU support.
 - 901805 - Coastal Biogeochemical Sensing
 - Bias battery voltage read routine has been added and tested.
 - Began implementing configurable status message protocol
 - 902000 - Multi-Spectral StealthCam
 - Hardware is getting close to going out for fab. Will prep a board bringup app and work with Bridget as the hardware is likely coming in while I'm on vacation.
 - 902004 - Planktivore
 - Working with Bridget on software framework. She has a TX2 configured and tested with the towbody GC2450. Next step is adding the FLIR Blackfly support,
 - 901713 - Nearshore FOCE
 - Working on Aanderaa sensor provided by Joseph, Working with techs on wiring. Comp=2.
 - Out of Office
 - Mar 12 - Mar 30 Vacation (St. Helena with Georgia Aquarium)
- Mike McCann
 - 200109 - Core Mooring Data
 - Needed to regenerate the hourlyM1.nc file because the file from the last microcat deployment had some issues – Fred quickly repaired it and now John is able to use it
 - 901009 - CANON
 - Added a step time for the 3D animated curtain generation – things are starting to look better
 - Discovered that the newest release of X3DOM no longer supports the SRC mesh representation of terrain data I've been using – I'll need to transition to glTF bundles
 - Unable to build my Docker images due to a "404 Not Found [IP: 91.189.88.31 80]" error
- Rob McEwen
 - Out of Office
 - 13 Feb - 19 Feb.
- Paul McGill
 - Out of Office
 - Will be at Ocean Sciences 16Feb to 21Feb.
- Ed Mellinger
- Tom O'Reilly
 - 901800 - LRAUV Payload & Support
 - Running tests of Irauv-application with LcmSlateWriter; verifying message passing, assessing cpu loading
 - 901902 - Aerial Drones for Sci&MO

- Testing low-cost AIS-B receiver on Raspberry PI. AIS-B is the aerial equivalent of AIS; all crewed aircraft transmit AIS-B messages containing registration number, speed, heading, altitude, location, other parameters. UAVs such as ours will carry AIS-B receivers, along with collision-avoidance software, so that the UAV can autonomously detect and avoid aircraft in their vicinity.
 - Planning for next week's test flights of Believer-1 fixed-wing UAV at Hollister airfield. Will exercise mission planning tools, autonomous mission execution and camera triggering, data processing chain, vehicle performance
 - Developing MBARI UAV user guide, based on document from University of California. Document will include links to MBARI UAV policy, MBNMS permit, best practices, pre- and post-flight checklists, emergency response, etc.
- Craig Okuda
 - 901007 - Benthic Biology & Ecology
 - Flush valve redesign
 - 901220 - Midwater Ecology
 - ADCP mounting frame design
- Doug Pargett
- Ben Raanan
 - 708158 - DHS Y6
 - Back from WHOI/Maine under-ice deployment.
 - Implementing and testing fixes/updates for LRAUV's under-ice missions.
 - Support for WHOI/LRAUV team.
 - 901101 - Ocean Imaging
 - Met with Dave and Tom for kick off.
- Mike Risi
 - Out of Office
 - February 19-22: Ocean Imaging Cruise
 - March 9-12: Vacation
 - September 18-29: Ocean Imaging Cruise
 - September 30 - October 2: Vacation
- Brent Roman
 - 901205 - ESP SURF Center
 - Working with Preston on calibrating ESP3G cartridge heater boards.
 - Replaced sampling pump at Scott Creek with Dack.
 - New pump still exhibits occasional sampling failures. Probably do to gas in water.
 - Discussing how to eliminate air bubbles by reorienting pump head in stream.
 - DQ1865 - Bryde Whale
 - Took a last minute trip this weekend to the Bayou to deliver repair parts.
 - Swatted a couple coms bugs and lots of chiggers.
 - Iridium satcoms is (finally) working as intended.
 - R/V Pelican is deploying ESP as I write this.
- Carlos Rueda
 - 708158 - DHS Y6
 - Per email with Ryan re issues with Argos emails (which we recently also noticed and addressed), will prepare release with updated instructions (esp re configuration changes).
 - 901009 - CANON
 - MXM development, with additions to TethysDash as MXM provider. Although TethysDash has limited support for reporting mission status, this is a good opportunity to also revise that aspect for some future improvement in the TethysDash data model itself.
 - 901800 - LRAUV Payload & Support

- Reviewed TethysDash and LRAUV code regarding TCP communication wrt to emails via Iridium (when TCP is available, the comms are initiated by the vehicle). Added some related text to <https://docs.mbari.org/tethysdash/#lrauv-tethysdash-communication>.
 - Overhead
 - More preparations for TethysDash migration to Centos7 and Docker. [Document updated](#). (Thanks Pat for your input.)
 - Out of Office
 - Feb 21, Mar 11-12, Apr 9: vacation
- Karen Salamy
 - 704109 - NavDORISS
 - Received new SSD card for NavDORISS and am mounting to a PC104 plate for the new system. Installing software on Project's new Surface Laptop. Beginning setup and power to Falcon Board, Fanout Board and MBARI Aux board. The project team will hold a meeting next week.
 - Overhead
 - Updated a few bits of code on the MBARI PostCruise Web Form this week. I expect to be cleaning up little "bugs" here and there for a while until the system has been truly vetted with use. Tried updating new code into SVN on kahuna but ran into a few issues with new SmartSVN client not being able to establish a connection to the server. I plan to dig into the issue this afternoon.
- Brian Schlining
 - 902005 - VARS Annotation Assistance
 - Participated in a group meeting to discuss "What are we going to build?"
 - Create library/protocol for communicating information about bounding box localizations between two remote applications (e.g. cthulu and vars-annotation). See <https://mbari1.atlassian.net/browse/VAA-17> and [vcr4j 4.3.0.jre11](#).
 - Out of Office
 - Apr 3 - 13: Vacation
- Rich Schramm
 - 200103 - Core CTD Data -MDUC
 - Routine O2 QC flagging
 - 200105 - Core Nav - MDUC
 - Continue navproc work
 - Out of Office
 - Feb 20: Vacation
 - Mar 20: Vacation
 - Mar 23 - 27: XOJO Developers Conference
- Alana Sherman
 - 300080 - DMO Support-Mini ROV
 - finished OS talk which Brett kindly presented for me.
 - 901904.99 - Coral Camera System
 - putting pieces together for tank testing, did calculations for various file size, memory cards, and deployment length options.
 - Overhead
 - external review talk prep