

Engineering Weekly Report 2/17/2022 - 2/24/2022

Executive Council Notes

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Individual Activities

- Kevin Barnard
 - 701139 - ML Tracking
 - Uploaded stereo camera framegrabs for Mini ROV dives 127-129, 149-155
 - Wrote [vars-kb-model-resolve](#) to facilitate specification of ML model classes from sub-trees of VARS KB concepts/parts
 - Out of Office
 - Vacation 2/22/2022
- Francois Cazenave
- Danelle Cline
- Duane Edgington
 - 901618 - Pelagic-Benthic Coupling
 - Working session with Paul M. and Dan Davis at MBARI on laser measure status and plans. Goal is to write a paper this year.
 - 902004 - Planktivore
 - Working session with Paul R. and Eric O. on planktivore shore-side software, installed on DeepRip. The software is shared with EyeRIS LRAUV project. Next steps are to get updates checked-in, front end debugged, and then rebuild and document (developer doc and user doc). Long-term, look to build as docker containers...
 - 902005 - VARS Annotation Assistance
 - Reviewing AWS VPC for work on pipelines.
- Jon Erickson
- Ben Erwin
 - Out of Office
 - Vacation 2/12-2/20
- Kevin Gomes
 - Out of Office
 - Mar 21-25: Vacation
- Andy Hamilton
- Kent Headley
 - 901101 - Seafloor Mapping
 - Preparing for cruise Mar 1-3
 - Installed and tested MB-System/TRN on reasons
 - Overhead
 - Review wrap up
 - Met w/ Craig and Paul re Carbon Waveglider transfer to PMEL; we are pulling together a set of items for potential transfer.
 - Out of Office
 - Mar 1-3 : ocean imaging TRN test cruise
- Rich Henthorn

- 600034 - Precision Control Technologies for ROVs and AUVs
 - Prep for Carson TRN cruise
- 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Reviewing ROS code on main buoy controller
 - Checking out issue with RS232 hat on RPi4 controller
 - Comms seem to reset requiring processes to reopen serial ports
- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Weekly meeting
- Out of Office
 - March 1 - 3 (next week), TRN cruise on Carson
 - March 14 - 25, vacation & WFH
 - Sep 21 - 30, Sta.M Cruise
- Brett Hobson
- Scott Jensen
 - 901205 - SURF Center
 - Struggling with some design decisions and their trade-offs.
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Prepared revision and had PCB sent for fabrication
 - Coordinating build of spares
 - 901805 - Coastal Biogeochemical Sensing Program
 - Debugging of a few problem boards.
- Brent Jones
- Chad Keczy
- Brian Kieft
 - 708168 - DHS/LRAUV Under-Ice
 - Helped troubleshoot Stella mass/buoyancy system
 - Worked on testing of onboard environmental simulation for oil spill demo in March
 - 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Merged decoder fix for BEDs
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Found issue with Thruster HE interface. Working on a workaround
 - Fixed water speed navigation issue
 - 902106 - Niobicon-Based AUV Docking Development
 - Worked on the Tethys docking deployment.
 - Out of Office
 - 3/14-18 (AZ - MST)
- Denis Klimov
- Diana LaScala-Gruenewald
- Eric Martin
 - 708167 - WEC Dynamics and Control
 - Radar arrived and mounted on the roof of building B for testing and software development.
 - 901101 - Seafloor Mapping
 - Continuing the multi beam hunt met with Teledyne's Paul Devine
 - 901206 - Coastal Profiling Float Transition to Science Applications
 - CPF001 back the MEs for oil fill
 - Training last week for new operators
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - New modem installed
 - Old modem may be repairable, SMA connector loose.
 - 901911 - ROVVR

- Release v1.0 of new controller. Integrates with streamdeck and provides reliable time sync
- 902012 - Telepresence on MBARI Research Vessels
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- Out of Office
 - Vacation Feb 21-25
 - STCW training April 11-15
- Thom Maughan
 - 901713 - Nearshore FOCE
 - James McClure is frontending the MpHOx board support quite nicely. roi.
 - 901805 - Coastal Biogeochemical Sensing Program
 - OCR-504 support is in place for MFET. Driver, config, and sampling are tested. Ready for Spray integration testing.
 - Pump sequencer framework in place for BEAMS v1, Barry Lab octopus respirometer exp, self calibrating MpHOx. In progress on state machine implementation.
 - Met with Chris Lovera regarding octopus respirometry. We rescheduled the firmware upgrade until Thursday as hardware is being scrounged. Deployment is next Wed.
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 - 902004 - Planktivore
 - Rock Lab is in use for rock cutting next week. Fluum moved into hallway and covered. Denis is looking into an alternative space.
 - Strobe boards with revised optical spacing are due in Friday, parts kit, assembly request in place.
 - Larry is making wonderful progress on the Titanium housings. Spray mounting bracket, compute chassis, fluum imaging section are in the todo list of this good worker as his impending retirement looms.
 - Denis has finished assembly of Aquavore imaging aquarium. Testing can commence when lab space is resolved.
 - Overhead
 - Contingency project: Serial Monster 10 pcb assembly of the processor section is complete.
 - Out of Office
 - Mar 21 to Mar 30 Driving to Montana, flying back.
- Mike McCann
 - 901101 - Seafloor Mapping
 - Replaced incorrect web mercator based track length with haversine calculation
 - Compared nav track length calculations – using the more precise mb8[8-9].inf metadata
 - Overhead
 - Fudging sampling rate and processing new BEDS bench test data into a [STOQS database](#)
- Rob McEwen
 - 708167 - WEC Dynamics and Control
 - Tested Nav440 Ahrs magnetic calibration procedure.
 - Reworked Matlab code to read Eric's new data format generated by the buoy.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Assisted Jose with monokoting Believer 3.
 - Hinged the ailerons and rudders/elevators.
 - Remounted the Pxxhawk.
 - Working with James (and others) to get the receiver cable made with the embedded MAX3232 inverter.
 - All the components save the pitot tube and parachute release are plugged in and ready to test. Will try the first power-up this afternoon.
- Paul McGill

- 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Had meeting with Dan Davis and Duane E. to go over Laser Measure analysis.
- 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Resolved some final details on the Believer UAV schematic.
- 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Dealt with last-minute laser and power supply issues with Coral Macro Cam in prep for next week's deployment. Calibrated camera focus and targeting lasers in Test Tank.
- Tom O'Reilly
- Craig Okuda
- Doug Pargett
 - Out of Office
 - Working from home for a while.
- Ben Raanan
 - 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - PR review
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Docking sea trials with new proportional navigation guidance code
 - Resolved config set issue
 - Resolved mission manger issue
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 - 902102 - Multi-LRAUV Simulation Environment
 - Integrated new acommms sim interface
 - Working on surface dynamics plug-ins
 - Devising Q1 test plan
 - Out of Office
 - 02/23-24
 - 04/4-7
 - 04/13-23
- Mike Risi
 - 300070 - DMO Support - Ventana
 - Replaced failed navproc machine with spare unit and updated backup machine
 - Getting failed navproc machine repaired
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Continuing moving rovs-control over to PCF
 - 901101 - Seafloor Mapping
 - Looking into DeltaT integration on Ventana for May ROV TRN
- Paul Roberts
- Brent Roman
 - 901205 - SURF Center
 - Completed new fluid volume tracking module for ESP 2G
 - Working with science types to verify estimate volumes are accurate
- Carlos Rueda
 - Out of Office
 - Feb 18: vacation
 - May 16-17: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - M1 data downloads were problematic last week. It was determined that the OA1 data downloads were "stepping on" M1 downloads. I shut down all OA1 data downloads as a result. This is most likely due to hardware issues (probably a dead battery) on OA1. I reached out to

Francisco, Chris and Jules regarding when the next OA1 maintenance will happen. Chris filled out a pre-cruise to fix the OA1 mooring for March 3, 2022. I will continue OA1 downloads once the maintenance has been completed.

- 901101 - Seafloor Mapping
 - Still addressing the project “issues” list checking into higher resolution maps for Jenny P.
- Overhead
 - Still working with Lonny in the VL to make sure that the miniROV dives on non-MBARI ships are all ingested properly into the EXPD.
 - Short week due to a holiday this Monday.
 - Had my laptop fixed by Apple and got my computer back on Tuesday.
- Out of Office
 - Vacation:
- Brian Schlining
 - Overhead
 - The migration of DARC’s video annotations from the old VARS to the new system has been completed.
 - Creating supporting code for DARC’s video annotation workflow.
 - Out of Office
 - Feb 14 - Feb 25 - Brian will be a visiting scientist at [DARC](#) to upgrade their video annotation system.
- Alana Sherman
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Prepping Macro camera system with Canon for deployment in March. We had some drama with our new lens, and discovering that it moves each time power is applied but mostly worked out now.
 - Overnight tank test and setting the focus went well. Next to test is DeepSea Connect. After that I need to update procedures document.
 - 902208 - MiniROV Operations
 - Trying to navigate the closing in of the shipping schedule for the Arctic and the delays of the Fulmar.
 - Met with Charlie et al to solidify the extra tools etc needed for the Arctic.
 - Worked with Dale going over updating the software on the van computers
 - Working on schematics for the extra serial instruments
 - Overhead
 - Last week participated in two more interviews for Seafloor Processes