

Engineering Weekly Report 2/24/2022 - 3/3/2022

Executive Council Notes

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Individual Activities

- Kevin Barnard
 - 701139 - ML Tracking
 - Loaded ~23k new localizations from ML-Tracking footage into VARS
 - Pulled down new 48k image set for midwater object detector training
 - Finished up dfg-tool for digital video framegrabbing
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Found leak in top hat and fixed
 - Working on new bridle
 - 901704 - Benthic Observing System Maintenance
 - Sealing camera housing
 - 902106 - Niobicon-Based AUV Docking Development
 - Design improve capture device
 - WHOI collaboration details
- Danelle Cline
- Duane Edgington
 - 901603 - Video TAG
 - Reading intern application packages for potential VideoTAG/VAA project internship. Due Mar 2.
 - 902004 - Planktivore
 - Team meeting Feb 28.
 - Preparing for further work on RIMS shoreside software with Paul R. and Eric O.
 - 902005 - VARS Annotation Assistance
 - Explored CDK and Lambda for project work
 - Team meeting March 1
 - AWS ProServe meeting March 2.
 - Working session planned for March 3 afternoon. Preparing for that working session.
 - Overhead
 - Chris Scholin presentation Feb 28.
 - Group meeting March 2.
- Jon Erickson
 - 300079 - DMO Support - Rachel Carson
 - J-Box review.
 - 701145 - Penguin Hotspots
 - Finishing the Gimbal Assembly.
 - 901217 - Chemical Sensor Program
 - ISUS Stem pressure tester parts in the shop queue.
 - 902010 - Mesopelagic LRAUV
 - Pressure hull parts. End Domes, Rings, Motor Tube, all in Fab.
- 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
 - Testing TRN this week Tu-Th w/ Dave, Rich, Rob, Erik & Ops
 - The main objective is to install TRN on both mapper vehicles w/ newly unified code bases, and validate TRN performance on both vehicles. There are a few new minor features, but we want to ensure that TRN and MB-System multibeam filtering are working correctly. DMO is also launching the I2Map vehicle concurrently w/ the mapping ops.
 - 901112 - Changes in MB and CA current (HIPP/eDNA)
 - Started diagramming software stack for better insight into packaging options. The objective is to simplify the process of making and distributing the eDNA suitcase software payload.
 - Overhead
 - Misc admin
 - Out of Office
 - Mar 1-3 : ocean imaging TRN test cruise
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Dorado TRN prep and testing on Carson
 - More cleaning and polishing seems likely before June mapping deployment
 - 708167 - WEC Dynamics and Control
 - Installed USB-RS232 adapter on the new controller
 - 901101 - Seafloor Mapping
 - Modified Dorado TRN interfaces to address some issues
 - Enabling MB-system TRN component to insert navigation offsets to Dorado nav
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Moved past RS232 comms issue, at least temporarily, using USB adapter
 - Overhead
 - Engineering meeting
 - Out of Office
 - March 1 - 3 (this week), TRN cruise on Carson
 - March 14 - 25, vacation & WFH
 - Sep 21 - 30, Sta.M Cruise
- Brett Hobson
- Scott Jensen
 - 901205 - SURF Center
 - Sampler design, theory of operation
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Spare fabrication
 - DQ2113 - Tidal Turbine
 - Encoder identification
- Brent Jones
 - 901112 - The Monterey Bay Time Series
 - Deployed CPF with two sediment traps (first time). Completed 3 day mission and then recovered. Everything worked successfully
 - 901805 - Coastal Biogeochemical Sensing Program

- Completed rebuild of Spray hydraulics. Completed integration of modem into Spray. Assembled for initial ballast
 - 902004 - Planktivore
 - Meetings
- Chad Keczy
- Brian Kieft
 - 300082 - DMO Support - Wave Glider
 - Piloting this weekend
 - 300083 - DMO Support - LRAUV
 - Assisted with daphne MBTS deployment
 - 708168 - DHS/LRAUV Under-Ice
 - Testing internal environmental simulator following Mike's fix on Tethys which is currently deployed offshore
 - Prepped tethys for deployment and launched yesterday for docking, oil spill sim, and polygon testing
 - Buoyancy issue was resolved on Stella today. Mechanical problem.
 - Checked RDI upward looking DVL for nav integration
 - 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - Debugging an issue with sending acomms data to multiple modems
 - 902009 - AUV User Experience Design
 - Implementation architecture decision to be made
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Fixed issue with navigation when including water speed from RDI DVL
 - Fixed Thruster HE fault interface issue with addition of polling for masked faults
 - 902106 - Niobicon-Based AUV Docking Development
 - Fixed dockingServo mode change issue that was ignoring initial commanded value
 - Out of Office
 - 3/14-18 (AZ - MST)
- Denis Klimov
 - 902004 - Planktivore
 - Core of the lab test setup (Aquavore) is ready, next - doing some improvements and setting up the experiment.
 - Overhead
 - Prepping deployment of IFCB on Power Buoy is starting to ramp up. We are identifying what the differences are from previous deployment, and what improvements to be implemented, and a schedule.
- Diana LaScala-Gruenewald
- Eric Martin
 - Out of Office
 - Vacation Feb 21-25
 - STCW training April 11-15
- Thom Maughan
 - 901009 - CANON
 - Meeting with Francisco, Nate, Kent
 - 901805 - Coastal Biogeochemical Sensing Program
 - Pump sequencer for Barry lab octopus garden
 - Bug fixes, new features
 - 902004 - Planktivore
 - LED Strobe assembly in progress. We'll have lighting and cameras ready for test when the strobe is finished.

- Energy board update is in progress.
- Out of Office
 - Mar 21 to Mar 30 Driving to Montana, flying back.
 - May 27 - 31 Camping
 - Jul 6 - 13 Camping
- Mike McCann
- Rob McEwen
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Participating in Dave's Axial test dives at Portuguese Ledge. The objective is to test mbtrnpp and Mbtrnupd8 and the new Resons, on both Mappers.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Obtained Frsky receiver.
 - Most electronic components are plugged into the Pxbhawk, but not mounted. These include the receiver, the telemetry radio with embedded Max3232,, the power distribution board, and the servos.
 - James is mounting the pitot tube and board.
 - Next is to power it up, test the receiver and telemetry, center the servos, and attach the linkages for the ailerons and rudder/elevators.
- Paul McGill
 - 701145 - Penguin Hotspots
 - Tested wiring for Remus sonar payload w/Chad and everything seems to be working. Will proceed with building second payload.
 - 901700 - Acoustical Ocean Ecology
 - Did some sonar testing on LRAUV w/Brett and Brian K. Having trouble finding source of 200 kHz noise.
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Worked w/Alana and Aaron S. to prepare Coral Macro Camera for deployment this week on Barry's Flyer cruise. It was working when the ship left.
 - Overhead
 - Put together and tested new backup SSD for MacBook Pro.
- Tom O'Reilly
- Craig Okuda
- Doug Pargett
 - 901205 - SURF Center
 - Redesigning the handoff mechanism for G3 ESP.
 - Overhead
 - Meetings
 - Out of Office
 - Working from home for a while longer.
- Ben Raanan
 - 708168 - DHS/LRAUV Under-Ice
 - Tethys deployed for docking testing (operations and data analysis)
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Fixed altitude following behavior (testing offshore)
 - Fixed configuration set bug
 - Fixed mission manager bug
 - Fixed minor bug in the acoustic tracking behavior
 - 902102 - Multi-LRAUV Simulation Environment
 - Wrapping up surface buoyancy gradient
 - Added science data interpolation unit tests

- Integrating new AHRS sensor model with LRAUV app
 - Starting work on adding digital elevation maps support
 - Started work on DVL plugin
- Out of Office
 - 02/23-24
 - 04/4-7
 - 04/13-23
- Mike Risi
- Paul Roberts
- Brent Roman
- Carlos Rueda
 - 901009 - CANON
 - Mainly some maintenance tasks, but looking, again, into resuming focused work here.
 - 901101 - Seafloor Mapping
 - Per IS' inquiry, checking with Dave about any need to still keep the VM that was used to test the initial dockerization of the MBSystem.
 - 901502 - Soundscape Research and Education
 - Group meeting. Watched some videos from a person in Australia that approached us recently.
 - 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - Good progress toward running tracking code on the vehicle. Still some TBDs are being discussed with the team. Putting together extension code with pieces provided by Tom.
 - 902005 - VARS Annotation Assistance
 - Met Danelle to discuss possible tasks in the context of the dashboard she has put together.
 - 902009 - AUV User Experience Design
 - Discussions about implementation
 - 902101 - LRAUV Technology Development and Fleet Operations
 - New version of the TethysL tooling with significant changes both internally and externally.
 - Submitted lrauv-application pull-request to speed up tethysl translation.
 - Overhead
 - ESIP COR meeting plus various slack exchanges with a number of ESIP folks regarding the SWEET ontologies and underlying server support.
 - Out of Office
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 - May 16-17: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Weekly maintenance and data checks
 - 901101 - Seafloor Mapping
 - Spent a lot of time looking into how to upgrade the current SMDB UI similar to the Dash UI developed by Carlos. Many of the aspects of the Dash UI followed closely to what the scientists would like to see.
 - Looking into Vue, Vue2-leaflet and Quasar as some possible directions to integrate into the SMDB Dash UI especially for Dash map leaflet controls and displays (dropdown requests between expeditions, etc) and map views.
 - Overhead
 - Chatted with Chris W regarding the OA1 Mooring Maintenance at Hopkins Mooring site. The maintenance cruise is now scheduled for tomorrow (3/3). If successful, I will then restart the OA1 downloads.
 - Looking into various dives that were blocked or not able to load into EXPD for Video Lab. Still investigating.

- Out of Office
 - Vacation:
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Pumped out a few [new releases of VARS Annotation](#) addressing various issues.
 - Working on additional issues: [#128](#), [#129](#)
 - Porting public quickstart database from [Apache Derby](#) to [Postgres](#).
 - 902002 - FathomNet
 - Preparing for upcoming workshop and project update.
 - 902005 - VARS Annotation Assistance
 - Investigating porting [deepsea-ai database](#) from Postgresql to SQL Server.
 - 902012 - Telepresence on MBARI Research Vessels
 - Pointed Eric Martin at VARS endpoint for finding annotations within geospatial bounds.
 - Overhead
 - Completed the set up of VARS at DARC.
 - Started building cross-platform docker containers for M3 services. Example build script at <https://gist.github.com/hohonuuli/f94942e280819095ef1eeae2460fe097>
- Alana Sherman
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Completed a rough mobilization of the Coral Macro camera which consumed most of my week. We had to reopen the camera housing, and the battery housing to work out all the issues.
 - Did extensive testing with the ROV using DeepSea Connect.
 - Updated Procedures document for Steve
 - 902208 - MiniROV Operations
 - Working on schematics for Benthic Serial Expansion can
 - Scrounging pieces and parts for can
 - Overhead
 - Working on microwave solutions
 - Put through paperwork for independent contractor agreement for Dale