

Engineering Weekly Report 4/7/2022 - 4/14/2022

Executive Council Notes

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Individual Activities

- Kevin Barnard
 - 701139 - ML Tracking
 - Started loading 2019/2020 deployment logs into analysis DB
 - 902002 - FathomNet
 - Continued development of FathomNet Twitter bot
 - Wrote [box-diff](#) for image set comparison
 - Started writing loader for corrected ML proposals in ML database → VARS
 - Prepared initial data for FathomNet game prototype
 - 902005 - VARS Annotation Assistance
 - Continued investigating slow video playback on MacOS
- Francois Cazenave
 - Out of Office
 - One day off to take care of sick child
- Danelle Cline
- Duane Edgington
 - 901618 - Pelagic-Benthic Coupling
 - Continued communications with Dan and Paul on project work. Plan to apply Zhang calibration against frame grabs captured from June 21 2021 reference dive for comparison with results from uncorrected frame grabs. Preparing for Laser Measure code update from Dan.
 - 902004 - Planktivore
 - Project meeting
 - 902005 - VARS Annotation Assistance
 - Completed deepsortyolotracking model sweep.
 - Preparing for summer intern.
 - Overhead
 - Project update, group meeting
 - Out of Office
 - Called for jury duty April 18- ???
- Jon Erickson
 - 701145 - Penguin Hotspots
 - I'm a month behind and probably won't make the May sea trial with U. Mayland. Had a talk with Chad, not sure how he will de-scope. Just can't get all the parts in in time.
 - 800139 - EyeRIS (Remote Imaging System)
 - 1500m EyeRis case parts are in the shop queue.
 - 901217 - Chemical Sensor Program
 - Still trying to solve the equitech sensor test leakage.
 - 902010 - Mesopelagic LRAUV
 - Shop has the material for the tube end rings, and motor tube.
 - Still working with and advising Quest Institute. Mostly about their MARS experiment.

- Ben Erwin
 - Out of Office
 - Vacation 2/12-2/20
- Kevin Gomes
 - 901915 - Improving the Impact of MBARI's Data
 - Attended meeting with Visceral to discuss design options and relayed information architecture to project team to kick off project.
 - 902012 - Telepresence on MBARI Research Vessels
 - Working with IS on proxy pass/SSL configuration on telepresence server
 - Deployed skeleton to test proxy pass configuration
 - Authentication through Slack working
 - Overhead
 - Playing with 'Storybook' (<https://storybook.js.org/>) in the telepresence app to see if it's option for UI design moving forward.
 - Met with University of Washington folks to talk about design ideas for data management for MARS replacement node. We agreed on approach that combines data storage in InfluxDB with Grafana front end and a ZeroMQ publisher that can provide data streaming capabilities.
 - Out of Office
 - Mar 21-25: Vacation
- Andy Hamilton
- Kent Headley
 - Out of Office
 - Out sick this week
 - Mar 1-3 : ocean imaging TRN test cruise
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - TRN Replay for DeltaT
 - 708167 - WEC Dynamics and Control
 - Tested different controller boot failure scenarios
 - Made a couple changes to address unhandled failures
 - 901101 - Seafloor Mapping
 - QNX-Linux porting
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Tested real-time clock on controller
 - 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Weekly meeting
 - Proposal items
 - DQ2032 - DOE Wave-Energy Control
 - Placed the shore check-in cron job on collada
 - Overhead
 - Engineering Meeting
 - Drove vanpool to MBA Deep Sea Preview
 - Out of Office
 - April 25 - out of the area, WFH
 - July 4 - 18, vacation & WFH, email & phone OK
 - Sep 21 - 30, Sta.M Cruise (final scheduled cruise of the Western Flyer)
- Brett Hobson
- Scott Jensen
- Brent Jones
- Chad Kecy

- Brian Kieft
 - 706007 - USGS Great Lakes Prey Fish Assessment
 - Roughed in the calendar. Flights coming next.
 - 708168 - DHS/LRAUV Under-Ice
 - Supporting a Polaris deployment and prepping Stella for initial B&T and first sea trial.
 - Added yo-yo and multi lap functionality into the grid survey mission.
 - 708143 - Eco HAB
 - Prep for SB is underway. Lining up boats and meeting with collaborators
 - Working with Tanner on fuel gauge integration for primary batteries.
 - 800139 - EyeRIS (Remote Imaging System)
 - Supported Galene deployment this week testing image transfer, front tracking, etc
 - 901009 - CANON
 - Supporting MBTS run for Daphne this week. Will initiate sampling tomorrow.
 - Prepped daphne for deployment
 - 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - Working with Yanwu on his new patch mapping mission.
 - Supporting Tethys deployment this week to test the oil patch and figure out how to visualize the data properly.
 - 902009 - AUV User Experience Design
 - Got an update on progress from our developers. Will connect our team more closely now.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Got up to speed on TethysL and tried writing a new mission. Attempting to install on my host.
 - 902106 - Niobicon-Based AUV Docking Development
 - Supported Tethys deployment for further docking tests and some dock troubleshooting.
 - Investigating DAT configuration with Benthos.
 - Out of Office
 - 04/15 (PDT)
 - 05/15 - 06/04 (EcoHAB PDT)
 - 07/02 - 07/09 (HST - vacation)
 - 07/13 - 07/22 (AKDT)
 - 08/01 - 09/03 (EDT)
 - 09/12 - 09/28 (GMT+2 - vacation)
- Denis Klimov
 - 902004 - Planktivore
 - We had to do couple of adjustments on the strobe assembly design, due to issues of tolerances stack. Latest testing indicated they fit satisfactory now, but better fit would require drastic redesign/ reprint of 2 parts. This temporary modification of parts on the mill would have to do for upcoming deployment
 - Overhead
 - We are ramping up for IFCB deployment. This year configuration includes improved biofouling protection, Zinc anode, and replaced intake tube from copper to PTFE due to corrosion issues during 2021 deployment.
- Diana LaScala-Gruenewald
- Eric Martin
 - 901101 - Seafloor Mapping
 - Prepping for camera tests
 - Monthly check in with 3d at depth, setting a date for a concept review in June.
 - 901206 - Coastal Profiling Float Transition to Science Applications
 - CPF001 prep for pump motor calibration.
 - 901405 - Wave-Energy Conversion for Oceanographic Applications

- Lots of cleanup lastweek and final testing, including detection and fix of a broken joint deep in the buoy.
 - Data volume assessments with Patrick for IFCB and buoy data over cell.
 - 902012 - Telepresence on MBARI Research Vessels
 - Meeting last thursday
 - Out of Office
 - STCW training April 11-15 (This week)
- Thom Maughan
 - 901009 - CANON
 - Got out eDNA sequencing and species id tackle box running, finished testing the battery backup circuit.
 - Meetings with Johns Hopkins team. Thanks to Kevin Gomes for help with Slack. Learned about the ESP efforts.
 - 901805 - Coastal Biogeochemical Sensing Program
 - Released v4.1.1 pHFET-SOS for MFET on Wirewalker, MFET+OCR504 on Spray, and MPHOX for Cal Poly Pier deployment. Lab testing in progress.
 - Worked with Jacki on test plan.
 - 902004 - Planktivore
 - Buoyancy test on Monday in the Test Tank followed by Buoyancy test of Planktivore on Spray.
 - Working thru measurements and fitment of optical chassis in titanium housing.
 - Met with Yui on Spray schedule, met with team on date for Spray deployment. We are aiming for at sea testing on Spray by May 10. Lots to do.
 - Out of Office
 - TBD trip to Montana.
 - May 27 - 31 Camping
 - Jul 6 - 13 Camping
- Mike McCann
 - Overhead
 - Set up weekly task on draco to reload any edited ROV nav file – testing it tonight
 - Buffing out emdb's load script to reload any dive's data and to automate reloading updated edited nav data from the Expedition Database
 - Met with Lonny to give him permission to execute Expedition Database load scripts on draco
- Rob McEwen
 - Out of Office
 - Vacation May 11-13.
- Paul McGill
 - 300079 - DMO Support - Rachel Carson
 - Troubleshooting error with RC's Sea Tel dish-pointing system.
 - 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Trying to figure out coordinate transformation math for Laser Measure.
 - 901700 - Acoustical Ocean Ecology
 - Did more noise testing of AUV sonar payload. Ordered new DC-DC converters for iBase computer to reduce interference.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Tested UAV barometer on bench, trying to figure out why it won't talk to Pixhawk4.
 - Helped team with 3 successful flights at Hollister airfield on Wed.
 - Out of Office
 - Out sick on Thu.
- Tom O'Reilly
- Craig Okuda

- Doug Pargett
 - 901205 - SURF Center
 - Making mods to 10m housing design
 - Disassembled MV3 instrument to modify existing 10m housing end cap
 - Inventoried more G3 ESP parts for coming build
 - Sent fab requests to shop for part machining.
 - Out of Office
 - Vacation
- Ben Raanan
 - Out of Office
 - 02/23-24
 - 04/4-7
 - 04/13-23
- Mike Risi
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Created rov-control interface to OI-Sim for testing
 - Completed rov-ventana-intfc for ROV TRN testing in May
 - 701147 - MARS O&M IV
 - Data archiving meetings
 - Misc meetings in preparation for PDR
 - 901101 - Seafloor Mapping
 - Worked on trn-dvl-logger for TRN Replay
 - Working on ROV TRN testing and configuration
 - Out of Office
 - May 5 - vacation
 - May 9-10 - vacation
 - June 2-8 - OI cruise
- Paul Roberts
 - Out of Office
 - 4/2 - 4/9 (spring break san diego)
- Brent Roman
- Carlos Rueda
 - Out of Office
 - Apr 4-5: sick
 - Apr 13-15; May 16-18: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Weekly maintenance and data checking.
 - 901101 - Seafloor Mapping
 - Spent most of this week working on various UI updates for the SMDB Dash.
 - Overhead
 - Looking forward to chatting with Jim Jeffers for the new LRAUV dash.
 - Out of Office
 - Spent last week on vacation (daughter's Spring Break).
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Updating the new deepseaguide development to use Vue3 and typescript. Temporary repo at <https://github.com/mbari-org/deepseaguide-exp>
 - Created arm64/amd64 crossbuilds of docker containers for all M3 services.

- Brian is getting a number of external requests from groups interested in VARS. He's fixing up [the m3-quickstart project](#) to help groups get started. The latest task is finishing the port from Apache Derby to Postgres.
- 902002 - FathomNet
 - Discussion with NOAA over statement of work for archiving backups of FathomNet and generating DOIs for versions of FathomNet. Also discussed workflows for having NOAA serve and archive external contributions of images into FathomNet.
- Overhead
 - Spent some time learning Vue 3's composition API and typescript.
- Alana Sherman