

Engineering Weekly Report 10/14/2021 - 10/21/2021

Executive Council Notes

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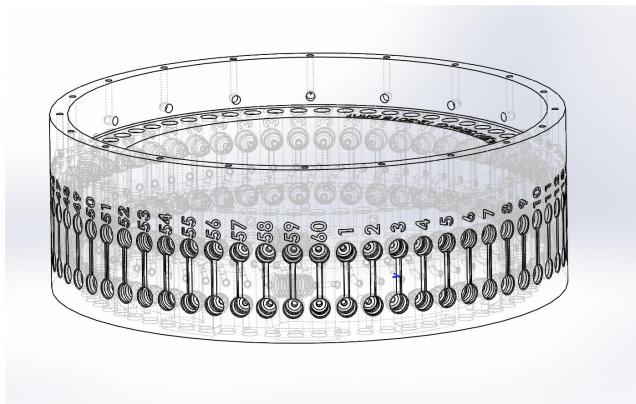
Individual Activities

- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Monitoring buoy and analyzing data
 - 901700 - Acoustical Ocean Ecology
 - Helped with assembly of frame
 - 902106 - Niobicon-Based AUV Docking Development
 - Assembling buoy tower and bridle
 - Assembling electronics
 - Finalizing design
 - Planning deployment
 - Overhead
 - Interview 3 candidates for ME tech position
 - Out of Office
 - Took 1 day of vacation
- Mark Chaffey
- Danelle Cline
- Duane Edgington
 - 901603 - Video TAG: Visualizing Ocean Change
 - Working through CoLaboratory and TensorFlow 2 implementations
 - Checked RAID status on DevBox. All up and running, though one disk weak with multiple bad sectors. Replacement drives ordered.
 - 901618 - Pelagic-Benthic Coupling
 - Excellent progress by Dan Davis. Teleconference to go over recent calibration work Oct 19. Plan on-site powwow to review calibration procedure, using LaserMeasure, and path forward.
 - 902005 - VARS Annotation Assistance
 - Working session on documentation (and documentation tools and format)
 - Overhead
 - Group meeting Oct 20.
 - Out of Office
 - Friday Oct 15. Personal day (had AT&T Fiber 1000 internet installed!)
 - Friday Oct 22. Vacation (get pneumonia vaccine)
 - Nov. 3 - Dec 6. Vacation (foreign travel)
- Jon Erickson
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
- Ben Erwin
- Kevin Gomes
 - 901915 - Improving MBARI Data Impact
 - Looking into ERDDAP as mechanism to wrap access to timeseries DBs
 - Overhead

- Trying to wrap up SE Hiring Process
 - Spent almost all my time updating Dataprobe to support 4K camera deployment
- Andy Hamilton
- Kent Headley
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Worked on a long-standing issue with dorado syslog. A log is generated by sending the stderr output stream to a file is corrupted because multiple processes write asynchronously to that stream, resulting in interleaved output. A new log was added that enables concurrent output.
 - Code is pending some additional test (by Rob) and review
 - Overhead
 - Reviewing job descriptions
 - Attended ROS Birds of a Feather zoom meeting, co-hosted by Ben Raanan, Brian Bingham (NPS) and Mabel Zhang (Open Robotics). Good meeting, with updates from lots of people using ROS for maritime applications and research. Format was introductions (all 35+ attendees), a series of quick (5-10 min) informal talks about projects, and discussion. The informal format was great for connecting with the community and lowering barriers for participation.
 - Misc admin
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Test analysis for TRN on LRAUV
 - Corrected minor issues using logplayer
 - Progressing towards real-time position updates
 - Merging updates with master
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - WEC ROS2 software development
 - 901618 - Pelagic-Benthic Coupling
 - Sta.M cruise equipment and data unloading
 - Lab meeting discussing plans for Sta.M instrumentation
 - 902101 - LRAUV Technology Development and Fleet Operations
 - TRN on LRAUV
 - Overhead
 - ROS Community Seminar
 - Out of Office
 - Dec 17 - 30, Holidays and vacation
- Brett Hobson
- Scott Jensen
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Preparing for back system build
 - 901805 - Coastal Biogeochemical Sensing
 - Working on revision B of nanoFET. Final is waiting for testing and proof of concept with ISFET adapter
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Preparations for next build of HE Thruster
 - 902106 - Niobicon-Based AUV Docking Development
 - Supporting fabrication effort
 - Overhead
 - Hiring committees
- Brent Jones
 - 901009 - CANON
 - Prepping CPF for deployment early Nov. Test tank ballasting and diagnosing a Seabird issue

- Monitoring wire walker deployment
- 901800.98 - Bioacoustic Payload
 - Looking at raw data from last deployment.
- 902004 - Planktivore
 - Spec'ing batts and cables for Spray integration
- Out of Office
 - 1 day vacation
- Chad Keczy
- Brian Kieft
 - Out of Office
 - 9/20-9/22 (phoenix)
 - 9/29-10/1 (phoenix tbd)
 - 10/4-10/5 (phoenix)
 - March/April TBD LRAUV ops
- Denis Klimov
- Diana LaScala-Gruenewald
- Eric Martin
 - Out of Office
 - October 11-15th
- Thom Maughan
 - 901805 - Coastal Biogeochemical Sensing
 - Meeting with Scott and Yui.
 - Chip shortage is pushing nanoFET to 2023 based on electronics lead times. Gave Scott the nanoFET. Delivered 'bad boards' to be used for parts salvaging. Found and ordered processors.
 - 901713 - Nearshore FOCE
 - Helped Chad troubleshoot pH readings. Identified Durafet wiring as one of the causes.
 - Showed MpHOX software usage, configuration settings
 - 902004 - Planktivore
 - Project status meeting for Steve H, Francisco, Henry and Paul
 - Meetings with Denis. Parts for optical bench setup have been delivered and a few additional for secure mounting have been ordered. Tasks and schedules and risks discussed.
 - Temporary lab space request for fluum setup and flow testing
 - CamControl and Strobe parts ordering, painful to have inventory disappear from a digikey shopping card and see lead times of 76+ weeks! Sourcing thru multiple distributors, most parts have been ordered with only a few substitutions needed. Working on substitutions
 - Thanks to Brent and Cindy for assist with Spray battery order. Brent also supplied info on Spray to Planktivore connector and cabling.
 - Working on schematic / layout.
 - Draft of standalone battery pack requirements for Jon.
 - Overhead
 - Attended seminar
 - Out of Office
 - Working from home once a month on Wednesday (child/school)
 - Taking son to 8:30am wisdom tooth extraction on Wed. 27 Oct, should be in by lunch.
 - Nov. 10,11,12 Vacation in Dallas, TX
- Mike McCann
- Rob McEwen
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Completed porting Umesh's code to C/C++. It communicates with Matlab through .csv files.

- The C version closely matches the Matlab version.
 - Placed all the relevant files in
ProjectLibrary/707976_EPBuoyPrototypeAndTesting/RadarPrediction
- 902101 - LRAUV Technology Development and Fleet Operations
 - Looking into pitch oscillation problem on Triton.
- Out of Office
 - Nov22-24
 - Dec 22-31
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling
 - Dealing with instruments brought back after our truncated Western Flyer cruise.
 - 901700 - Acoustical Ocean Ecology
 - Did Test-Tank-side testing of MARS Echosounder and was stymied by networking issues.
 - 901803 - Carbon Wave Glider Development
 - Reviewed budget so that accounting can allocate remaining project funds to discretionary account.
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Working with Alana to troubleshoot failure of Coral Macro Cam during last deployment. We can't figure out what stopped data collection after 6 hours.
 - Overhead
 - Did calculations to determine if a UAV flying from Monterey Bay Academy is within the MBNMS regulatory zone. It isn't, but we'll inform the Sanctuary regardless.
 - Out of Office
 - Took vacation day on Friday
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - 901007 - Benthic Biology and Ecology
 - Redesign BRS manifold
 - Assemble new BRS battery
 - Out of Office
 - Vacation days
 - Overhead
 - Lab clean out
 - Office clean out
- Doug Pargett
 - 881135 - 3G ESP Cartridge Redesign
 - Started redesign of toroid array... about 10% done so far. Lots of other parts in the G3 system will need to be redesigned as well.



- 901205 - ESP SURF Center
 - Meetings
- Overhead
 - Seminar
- Out of Office
 - Leave
- Ben Raanan
 - Out of Office
 - June 8-22
- Mike Risi
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Fixing some issues with the common ROV control code.
 - Added remote monitoring for classes that use the status logging interface.
 - 902001.99 - 4K ROV Camera Development
 - Helped resolve a few punchlist items for the lapbox microcontroller.
 - Finished up navproc software required for camera integration on Western Flyer.
 - Out of Office
 - April 26-30: Ocean Imaging Cruise
 - May 3-7: Vacation
 - June 4-11: Vacation
 - June 28-July 2: Vacation
 - August 30-September 14: Ocean Imaging Cruise
 - September 14-17: Vacation
 - Vacation on alternate Fridays
- Brent Roman
 - 901205 - ESP SURF Center
 - Updating ESP laptop for Doucette's lab to utilize the Wireguard ESP VPN
 - Fixed a bug in handling old-style Flow meter still used at GLERL
 - Working with Nina and Chris on tweaks to motor control for 3G cartridges
- Carlos Rueda
 - 901502 - Passive Acoustic Sensing
 - With John, we met with NOAA and MLML folks very interested in our use of the Google Humpback whale song detection model.
 - 901513 - Targeted Sampling by AUVs
 - Chris reports good progress setting up network connection to the SMC 2.0 payload.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - [Planning for removal of the legacy TethysDash UI](#) early next year. Good user reaction in terms of adjustments needed in Dash4 to proceed. Already addressing some of the observations as part of lots of code cleanup I've been doing these days.
 - Overhead
 - IE meeting
 - Great MBARI webinar: Harnessing the power of the ocean to address climate change.
 - New machine set up at digitalocean.com for the impending migration of mmisw.org.
 - Catching up with some Scala3 materials and planning some migrations as time permits.
 - Out of Office
 - Oct 1, 4, 15: vacation
 - Oct 27-29: <https://scale.bythebay.io>
 - Nov 11, 12, 22-24; Dec 9, 10, 21-23: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance

- On Friday, the M1 mooring was not downloading data to SSDS. I spent some time diagnosing that its data downloads were being affected by cascading problems with the OA1 downloads. I removed OA1 from the hourly download process and all other mooring data streams downloaded appropriately. Francisco and Jules are looking into the issue with OA1.
- Late last night the M1 GPS stopped downloading data to SSDS (only instrument to fail). I have an email out to Jared to check to see if there are any major failures on the GPS from his end.
- 704109 - NavDORISS
 - This week I was informed by Eric M. and Jose R. that the Falcon board was not gaining sufficient power to run the laser in the lab. I have been asked to build up a spare Falcon board this week in the event this is a board-related failure specific to the existing computer.
- 901101 - Seafloor Mapping
 - Spent some time working on an image for the Seafloor Mapping Data Base (SMDB) for Jenny and Mike. There will be doubtless changes and discussion until the final is decided upon but this is the winning option so far. The background is of a high resolution bathymetric scan supplied by Jenny P.



- ZOOM Meeting with Jenny and Mike this AM to go over Mike's progress on the SMDB, his instructions for installing and running the DB code and what's next for me to do on the project while he moves on to other tasks.
- 902100 - Telepresence on MBARI Research Vessels
 - Eric M. has reported issues with precruises that include telepresence not being forwarded to the MBARI telepresence email list. I asked IS to look into the issue from their side to first determine if there were any errors with the listserv. Pat Allen has ruled that out so I will begin a deep dive into the Precruise web form code to see if there is a bug in the code somewhere. This problem has been intermittent which makes finding the issue a little more difficult.
- Overhead
 - Received a quote from Matlab that our 2-year maintenance invoice is due. I will get this processed during the first week of November (which is my usual time to process these charges).
- Out of Office
 - Vacation: November 12-19, 2021.
- Brian Schlining
 - 500055 - Video Annotation DM
 - Working on the latest LTO shipment from Iron Mountain.
 - Overhead
 - Continuing work on an the titan LTO vs Spinning disk management app.
<https://bitbucket.org/mbari/lto-recall-app>
- Rich Schramm
- Alana Sherman
 - 901618 - Pelagic-Benthic Coupling
 - Unpacking from cruise, organizing lab and assessing each system and the work left to be done.
 - 901904 - Deep-Sea Coral-Sponge Community Observatory

- Continued testing on macro to try to recreate the failure during the last deployment. All my tests have not resulted in any duplication of the failure. The system is not in the cold room running over night. Not sure what to try next.
- Ordering more batteries for both systems as the lead time is now 6 months!
- Overhead
 - EE hire #1: met with Scott and Chad and reviewed all resumes, came up with a short list to do short Zoom interviews with starting later this week.