

Engineering Weekly Report 9/16/2021 - 9/23/2021

Executive Council Notes

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Individual Activities

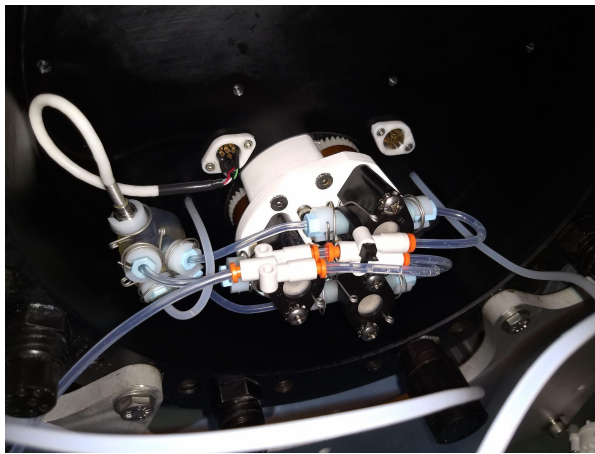
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Monitoring deployed buoy
 - Did an inspection dive on buoy
 - 901700 - Acoustical Ocean Ecology
 - Designing frame
 - 902106 - Niobicon-Based AUV Docking Development
 - Designing buoy and sub components
- Mark Chaffey
- Danelle Cline
- Duane Edgington
 - Out of Office
 - Friday Sept 10. Vacation
 - Thursday Sept 9. Medical.
- Jon Erickson
 - 701145 - Penguin Hotspots
 - Sending out the EK80 gimbal parts to GoProto. They will all be the PA12 material.
 - 901217 - Chemical Sensor Program
 - Test adapter for APEX from Union Tech in Water Clear.
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - 901809 - Deep Sea Bioinspiration
 - Bits and pieces in the shop.
 - 902010 - Mesopelagic LRAUV
 - Finished a design for the 2kg drop weight.
- Ben Erwin
- Kevin Gomes
 - 901009 - CANON
 - Migrating last scripts from normandy to normandy8/odss-test so we can shut down normandy
 - Small fix for Dorado tracking data that was not making it's way into the ODSS. Need to come up with RabbitMQ monitor that will notify when queues backup.
 - Overhead
 - Working on phase 2 proposal for AWS Imagine Grant
 - Met with Todd and Joe regarding next steps for AWS account/organization structure and am scheduling follow up discussions with AWS experts on connecting our Active Directory to AWS SSO
 - Attended part of the diversity training that George scheduled
 - More work on SE Hiring process

- Configured GreenSea servers to match previous account configuration and so they would match accounts in the rest of the control room. Sent documented steps to GreenSea for review. This is in preparation for onboard testing of new servers on 10/1.
 - Met with consultants regarding the export/ITAR restrictions and license for software
 - Met with company Fivetran about their commercial ETL product for loading data sets to cloud data warehouses.
 - Met with Visceral (web refresh contractor) to discuss 'data catalog' and search concepts.
- Andy Hamilton
- Kent Headley
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Worked with Rob to debug an issue where it appeared that TRN was failing in some contexts related to digital elevation maps (DEM). Turns out to have been a subtle dual-factor problem: though TRN was working fine with DEM maps, the first component was that some auto-generated code inserted a DEM map name into a config file instead of the name of a binary octree (BO) map file. When BO maps were used, TRN would attempt to load the DEM maps as BO files. Since the file structure is different, this should have failed. The second component was inadequate validation to detect the incorrect file format, and by a stroke of (bad) luck, the data in the files produced invalid output instead of segfaulting. We need to add some checks and validation.
 - Worked with Rich to rearrange some directories and code in the libtrnav repo to separate app-specific code from core TRN library build
 - Checked in changes related to issue documented earlier re compilation defaults, and am revisiting a change set proposed last year that will address this; am discussing this with the team.
 - 901101 - Seafloor Mapping
 - Update trndev branch w/ libtrnav updates
 - Overhead
 - SEInfo interviews
 - Met with Erik, Tom, Rich, Rob to discuss potential dorado auv port to linux, and steps to get there.
 - Met w. Don Fischer, Leah Rothman and others re end-user input for MBARI export control program
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Debugging TRN issue
 - Problem solved
 - Input data for TRN-LRAUV validated, ready for use
 - 800139 - EyeRIS
 - Proceeding with EyeRIS LRAUV Interface (ELI) development
 - Working towards a deployment later this month
 - 901618 - Pelagic-Benthic Coupling
 - Telepresence shore support for Macro Camera deployment
 - 902101 - LRAUV Technology Development and Fleet Operations
 - TRN dev
 - Out of Office
 - Sept 24 - Oct 1, vacation
 - Oct 6 - Oct 15, Sta.M cruise
- Brett Hobson
- Scott Jensen
 - Out of Office

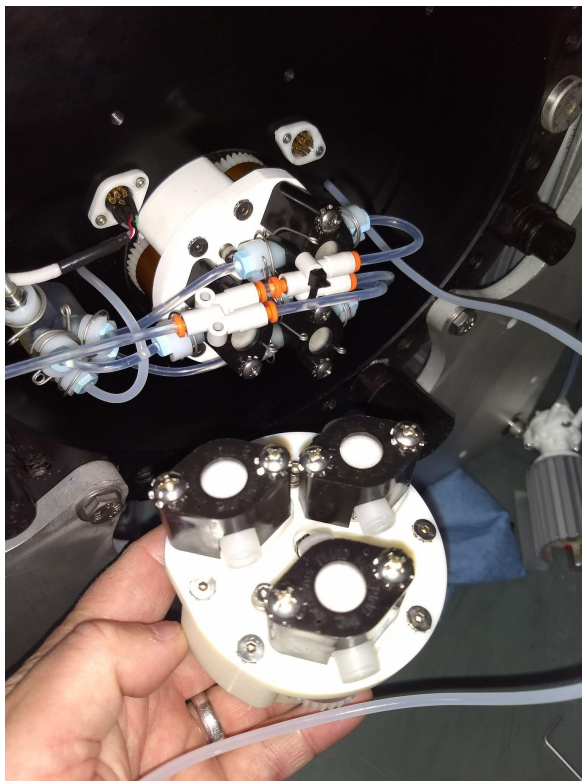
- September 13-17 vacation
- Brent Jones
 - 901009 - CANON
 - Recovered WW with bricked RBR CTD
 - Fixed RBR CTD and re deployed WW near Power Buoy
 - Data processing of WW
 - 901800.98 - Bioacoustic Payload
 - Helped diagnose inrush brownout when pinging. Ordered soft start resistor
 - 901805 - Coastal Biogeochemical Sensing
 - Recovered Spray glider 34 and diagnosed non functioning SBE pump
 - Replaced pump and re deployed glider 34
 - Flying glider 34 in support of Yui's experiments
- Chad Keczy
- Brian Kieft
 - Out of Office
 - Sep 7-8 (vacation)
 - October 25-31 (PLOCAN glider school tentative GMT+1)
 - April TBD LRAUV ops
- Denis Klimov
- Diana LaScala-Gruenewald
 - 901915 - Improving MBARI Data Impact
 - Got reasonably comfortable adding data tables to test ERDDAP server
 - Got a test postgres db running in a docker container and linked to test ERDDAP via docker compose
 - Am currently troubleshooting the process of adding a db table to ERDDAP
 - Overhead
 - Weekly meeting(s)
 - SE candidate interviews
 - Bystander intervention training (special timecode)
- Eric Martin
 - 901101 - Seafloor Mapping
 - Cleaned up the lab, helped Dave & Jenny pack for the Falkor
 - Biweekly meeting with Giancarlo Troni
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 - 901206 - Coastal Profiling Float
 - Server side code development
 - Review of Magdalena's experiment implementation
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Reviewing radar control
 - 901911 - ROVVR
 - Presenting this week at Oceans2021 virtually.
 - 902100 - Telepresence on MBARI Research Vessels
 - Brian S and I tested running the annotation slackbot on shoreside server.
 - Support last week for Quest dives.
 - Overhead
 - ITAR meeting this thursday.
 - Out of Office
 - October 11-15th
- Thom Maughan
 - 901009 - CANON

- Nate ran Katy's Qiime2 workflow successfully on DeepRip. The bioinformatics code did not utilize the high core count, but did basque in the luxury of 256GB RAM.
 - 901805 - Coastal Biogeochemical Sensing
 - Git integration with CCS is working and Irene is functional with CCS and the v3 codestream on the Mac. Next is to figure out how to fork the v4 code stream.
 - Re-wrote uart / optode / ctd drivers to enable Irene's driver development for vector velocimeter driver.
 - 902004 - Planktivore
 - Met with Paul and Larry to review planktivore housing design. Larry is planning fabrication starting next week. Requested 3D printed version of the imaging housings for use with Fluum integration.
 - Met with Jon E. to discuss Spray mounting bracket task.
 - Project planning and development setup.
 - Overhead
 - Cleaning and organizing.
 - Bystander intervention training / Hollabeck.
 - Out of Office
 - Nov. 10,11,12 Vacation in Dallas, TX
- Mike McCann
 - 901101 - Seafloor Mapping
 - Continuing to buff out data load by parsing Notes and sonar file start and end times
 - Added mb-system container for running mbinfo commands (thanks Carlos for the image!)
 - Looking at using AWS S3 for serving thumbnail images from media storage
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Reloaded stoqs_all_dorado database with Monique reprocessed proxy files
 - Overhead
 - Made the stoqs_cce2015 database available on stoqs.mbari.org per Roberto's request
 - Attending the very good 2021 CF Workshop over Zoom
 - Interviews
- Rob McEwen
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Worked with Kent to solve a problem where Trn wasn't loading .grd maps.
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Working on converting Umesh's code to C. I changed my approach due to serious difficulty with the Matlab API. I am converting the code to stand-alone C that communicates with Matlab by reading and writing simple .csv files.
 - Overhead
 - Future of Dorado Software Meeting
 - Out of Office
 - Nov22-24
- Paul McGill
 - Out of Office
 - Took vacation day Fri
- Ed Mellinger
- Tom O'Reilly
 - 901101 - Seafloor Mapping
 - Continuing to refine bathymetry visualization prototype
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Working with team to plan workshop, where Bryan and Ben will bring rest of team and collaborators up to date on Believer UAV construction and configuration

- Craig Okuda
 - 901007 - Benthic Biology and Ecology
 - Fab and assemble BRS parts
 - Out of Office
 - Vacation days
 - Overhead
 - Office clean up
 - Lab clean up
- Doug Pargett
 - 881135 - 3G ESP Cartridge Redesign
 - Testing new cartridges at pressure
 - Testing of PV actuation forces
 - Designing new toroid valves for bench instruments.
 - 901205 - ESP SURF Center
 - Installing a new pump assembly in Honu



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- Rebuilding a G3 pump assembly.



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- Overhead

- Hollaback training
- Ben Raanan
 - Out of Office
 - June 8-22
- Mike Risi
 - 901101 - Seafloor Mapping
 - Participated in last leg of PACNW expedition
 - 902001.99 - 4K ROV Camera Development
 - Working on navproc interface for Ventana in preparation for Monday's deployment
 - 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
 - 708165 - NOAA-MERHAB
 - Deployment should complete this week
 - 901205 - ESP SURF Center
 - Found and fixed a configuration bug in ESPmv3
 - Working on getting all the ESPs moved over to Wireguard
 1. Because IS has a new insurer that doesn't like PPtP
 2. Must complete by end of month (It will be tight)
 - 901913 - Demonstrating high-speed communication with a submerged AUV
 - Modems reportedly assigned EAR export regs -- no more ITAR headaches!
- Carlos Rueda
 - 708168 - DHS Y7
 - WHOI completed a very successful LRAUV deployment.
 - 901502 - Passive Acoustic Sensing
 - Resampling audio files (from 16kHz to 10kHz) and applying NOAA/Google detection model on two years of humpback whale recordings. Super productive discussions, thanks John!
 - Code maintained at <https://github.com/mbari-org/humpback-whale-song-detection>
 - Overhead
 - SE interviews; IE meetings.
 - Out of Office
 - Oct 1, 4: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Performed weekly checks on deployed instruments I am responsible for.
 - 704109 - NavDORISS
 - Worked most of the week on this issue. Yesterday, with the help of the original Engineer on the DORISS2 project (Eric Martin) we were able to finally determine the issue with the Andor driver not installing onto the NavDORISS bottom-side system. The issue was determined to be a mistake transferring a late change in the USB wiring diagram that did not get populated to the document used to ACTUALLY wire the cable. Only Eric knew of this potential issue given his history with the DORISS2 project from which the NavDORISS is built upon. It was an issue that

only he could remember. He and Bill will update all documentation prior to handing the NavDORISS to the Navy.

- 901101 - Seafloor Mapping
 - Will begin testing Mike's project builds again starting tomorrow now that the NavDORISS CCD camera driver issue has been resolved.
- 902100 - Telepresence on MBARI Research Vessels
 - Changed the telepresence linkserv notification email link for Eric Martin. The old email link was not working for some reason.
- Overhead
 - Attended two interviews for the group (Kevin and Graham).
- Out of Office
 - Took Monday off for vacation.
- Brian Schlining
 - Out of Office
 - Aug 30 - Sep 10 - Vacation
- Rich Schramm
- Alana Sherman
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Tank testing of macro coral camera started off very good until I tried to do a mock deployment then the wheels came off. After a lot of disassembly the culprit was a bad cable that is pinched due to the constraints of the housing and camera. We shifted the camera and then were lucky enough not to have to do much to get the focal plane where we wanted it. Also realized an issue with how the camera assigns the USB function which makes validating tank testing much harder because you essentially cant see the memory cards and also use the remote shutter function. This system will deploy next week but leaning towards getting the Canon version to try out.