

Engineering Weekly Report 6/11/2020 - 6/18/2020

Executive Council Notes

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Individual Activities

- Francois Cazenave
 - 901405 - PowerBuoy Development
 - Continued assembling the PTO, changed valves, refilled oil.
 - Work on wiring with Jose
 - 901704.99 - 8 Camera Obs Lander
 - Reviewed all drawings, and solidworks models. Made updates and changes where necessary.
 - Compiled all relevant ME documentation in a folder.
 - Out of Office
 - Taking Friday off
- Mark Chaffey
- Danelle Cline
- Duane Edgington
 - 901603 - Video TAG: Vis Ocean Chng
 - Attending Virtual CVPR 2020. Sunday June 14 - Friday June 19.
 - [1470 accepted papers, double blind peer reviewed](#)
 - ~7,000 virtual attendees. About 45 sessions over 3 days, 4 in parallel for 2 hours. Prerecorded 5 min (oral) or 1 min (posters) video presentations plus slides, paper, supplemental material. Speakers available for chat or zoom questions, answers, interactions during session period. Evening BOF zoom sessions. Even a daily [newspaper](#) ...
 - About 29 tutorials and about 64 workshops in parallel over 3 days. Zoom plus prerecorded.
 - Several workshops and many papers on zero-shot/one-shot/few-shot learning, continual learning, image/video enhancement, other relevant areas
 - 902005 - VARS Annotation Assistance
 - Meeting with Intern Peyton Lee Monday June 15. He is making great progress.
 - Overhead
 - Group meeting June 15. Engineering meeting June 16.
 - Out of Office
 - Vacation Monday June 22.
 - June 14-19. CVPR. Virtual conference. Workshops, tutorials and presentations.
- Jon Erickson
- Kevin Gomes
 - 901009 - CANON
 - Overhauling the ODSS build and deployment to move to Docker/Podman to make things easier
 - Took the opportunity to clean out old dead code and make things more efficient
 - 901205 - ESP SURF Center
 - Still migrating data from old portal to new
 - 901915 - Improving MBARI Data Impa
 - Structuring the ODSS to align better with the catalog work for this project
 - Overhead

- Abstract and budgets
 - Starting to think about proposals (I have two)
 - More AWS help for Nate Truelove and Francisco
- Out of Office
 - Jun 25-26: Vacation
 - Jul 2-3: Vacation
 - Jul 29-31: Vacation
- Andy Hamilton
- Kent Headley
 - 901803 - Carbon Wave Glider Development
 - Completed boot loader last week
 - Setting up remote access
 - Working on new feature for accessing selected sections from text files
 - Working on cwg client functions
 - Overhead
 - Misc admin, meetings, input re reorg
- Rich Henthorn
 - Out of Office
 - June 29 - July 6, vacation
 - July 27 - July 31, vacation
- Brett Hobson
- Scott Jensen
 - Out of Office
 - Current schedule is Sunday-Tuesday
- Brent Jones
 - 901112 - Change in MB & CA Current
 - Reassembled CANON sampler with new top cap. Tested and installed on Daphne. Flew Daphne over the weekend and into the week. Coordinated sampling with the Carson on Tues morning
 - 901800 - LRAUV Payload & Support
 - Assembled electronics
 - 901805 - Coastal Biogeochemical Sensing
 - Prepping Spray 34 for ballasting. Dealt with a wiring issue on the new pH install
 - Overhead
 - Meetings
 - Intern
- Chad Keczy
- Brian Kieft
 - 901009 - CANON
 - Supported MBTS deployment this week
 - 901800 - LRAUV Payload & Support
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 - 902009 - AUV UI
 - Met with team to view latest status. Things are progressing nicely and we will involve our corporate partner (<https://www.slicedbreaddesign.com/our-work>) soon.
 - Planned a status to include in this year's proposal
- Denis Klimov
- Eric Martin
 - 901101 - Ocean Imaging

- Our intern, Jose, has been doing fantastic work to improve the speed and reliability of stereo calibration procedures. I am working on getting components for a tank calibration.
 - This means we need a new optical target, as the old one has warped.
 - 901405 - PowerBuoy Development
 - Backed up TS7970.
 - 901911 - ROVVR
 - Working on a stereostich/unity bridge
 - Our Olin College collaboration has been funded by the Dassault Foundation, we'll have a class of students working on ROV visualizations in the fall semester.
 - DQ1942 - Buoy Power Generation
 - Prepped for tests this week, backed up image of TS7970 for spare buildup.
 - Once tests complete, we can pursue tests on the Paragon.
 - 901200 - Telepresence
 - Abstract presentation went well, and we have been encouraged to start operations right away.
 - Sent a survey out to PIs to collect interest and needs.
 - David Lees seminar led to some interest in xgds for use at MBARI in 2021.
 - Out of Office
 - I am not at MBARI Mon, Tues, and Friday
 - Half day this upcoming friday for a doctor's appointment.
- Thom Maughan
 - 901805 - Coastal Biogeochemical Sensing
 - Big push on board bringup for the MpHOx boards for go / no go on building 38 more boards.
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 - 902004 - Planktivore
 - Meeting with Annette Stahl, Aya Saad, Kanna Rajan of NTNU to review plankton imaging results from LAUV. Very helpful to see their results and to understand the challenges with tuning the optics and lighting. Very grateful to have Paul's experience and expertise.
 - Overhead
 - David Lees NASA Telepresence seminar
 - Out of Office
 - Two week road trip planned. Plan is July 1 to July 21, road trip plus some time in Colorado to help out.
- Mike McCann
 - 901111 - AUV Infrastructure Supprt
 - Still trying to figure out binary format for SBDs from new Warrior Iridium beacons
 - Improved UI operation for 3D rendering of points, lines, and polygons in STOQS
 - 901800 - LRAUV Payload & Support
 - Reloading all tethysviz databases with consistent Activity naming – now including platform names
 - Helping Reiko retrieve Sampling information (Sippers and ESP) for loading into BOG
 - Confirm automatic flow into https://tethysviz.shore.mbari.org/stoqs_lrauv_jun2020
 - 901910 - Plankton Taxonomic GrpAUV
 - As part of auv-python project doing a careful analysis of interpolation schemes
 - 901221 - Midwater Time Series
 - Picking up work on auv-python project
 - Overhead
 - Internal calendar Zimbra merge fixes to deal with changes during the shutdown
- Rob McEwen
 - 901800 - LRAUV Payload & Support
 - Working on range estimates with proposed hovering thrusters.

- Will start plotting data to quantify hotel load.
 - Also starting on the Trn interface.
- Paul McGill
 - 300070 - DMO Support- Ventana
 - Showed pilots my work on ground fault scanning board that demonstrates that current setup on ROV gives incorrect readings. Did more lab testing to show that scanning could also be much faster.
 - Found a COTS regen shunt regulator for ROV's pump motor controller that should eliminate failures caused by motor regen events.
 - 901618 - Pelagic-Benthic Coupling
 - Continuing with BLISS larval pump 1 atm motor controller design. Ordered all connectors.
 - Got connectors installed on SES MARS interface so I can continue testing it.
 - Tested battery on SES modem and thought it was good but it isn't. More testing needed.
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - 901803 - Carbon Wave Glider Development
 - SV3 payload box integration
- Doug Pargett
 - 901205 - ESP SURF Center
 - We found a ground fault in MV1 during the test deployment. Scott Jensen found it to be associated with the pump pressure sensor. I inspected and found the oil to be fouled. (At some point in time there was a water leak into the oil.) The penetrator contacts detected this as a ground fault. As it's open, we decided to make the jump and replace the pressure sensor to a 20bar one at this time. It's just waiting for the electrical surgeon to do the transplant.
 - I'm getting direct port adapters from the shop so we can test the next version of the Function cartridge, but these do not have toroid valves.
 - I've started a major redesign of the 3G ESP toroid valve array to accommodate the new cartridge port spacing and angled ports. Since just elongating the current TV valve would interfere with the electronics boards on the cartridge, the TV valve hard stops, throws, and all the flow paths need to be redesigned as well.
- Ben Raanan
- Mike Risi
 - Out of Office
 - February 19-22: Ocean Imaging Cruise
 - March 9-12: Vacation
 - May 26-29: Vacation
 - June 29 - July 1: Vacation
 - September 18-29: Ocean Imaging Cruise
 - September 30 - October 2: Vacation
- Brent Roman
 - 901205 - ESP SURF Center
 - Porting the Linux kernel for our ESP controller boards from 2.6.33 to 3.14 to get access to WireGuard VPN (<https://www.wireguard.com/>)
 - Quite the adventure. New kernel compiles but does not boot. JTAG debug time!
 - Picked up new heater board calibration oven from Scott.
 - Connector soldered backwards. Returning part to Jose Rosal for repair.
 - Worked a couple late nights supporting ESP deployment off Denmark's coast

- Lost comms a week ago. Visited with ship, but could not reestablish a link to ESP.
We need a way to reset the mooring controller from the float!
 - DQ1865 - Bryde Whale
 - Prepped laptop for Scott Jensen to use during recovery
- Carlos Rueda
 - 901009 - CANON
 - MXM: doing adjustments due to some regressions; Upgrading packages.
 - 901101 - Ocean Imaging
 - Some [edits](#) for clarification in the docker user instructions. (Thanks Giancarlo for the feedback.)
 - 901502 - Passive Acoustic Sensing
 - Meetings
 - 901602 - Data TAG: Addrss Eng Chng
 - Abstracts review.
 - 901800 - LRAUV Payload & Support
 - Starting [new handling of documents](#) (one of the pending modernization aspects wrt the traditional TethysDash UI) including API support from backend. Along with this, considering possible database schema changes.
 - 902009 - AUV UI
 - Group meeting (general update from the students).
 - Overhead
 - IE mtg
 - Out of Office
 - Jun 19: vacation
- Karen Salamy
 - Out of Office
 - Took some more vacation this week M & T for child care support during the school summer break. We are trying to determine when/if our local summer camps will resume or not this month.
 - Will tentatively need to continue working from home through the first month or so back to work depending on when after school resumes or if we are able to get daily child care/teacher.....
- Brian Schlining
 - 500055 - Video Annotation DM
 - Continuing to add and improve features to M3/VARS needed to support ML workflows and the upcoming Iron Mountain videos from tapes.
 - I released the following updates this week. The user apps can be downloaded from <http://m3.shore.mbari.org/apps/>
 - [Cthulhu 0.0.2](#)
 - vars-annotation [0.5.0](#) and [0.5.1](#)
 - [Annosaurus 0.7.0](#)
 - [Vampire-squid 0.3.0](#)
 - In preparation for the Iron Mountain tape to video project, re-working the [automated video registration](#) with the following changes:
 - Improved video start time resolution from seconds to milliseconds
 - [Consolidating REST Client](#) code so that [I have reliable and well-tested libraries](#) for use with M3 applications.
 - Providing advice to CSIRO on Dockerizing their VARS application builds.
 - Out of Office
 - Jun 30 - Jul 3 [Vacation](#)
- Rich Schramm
 - Overhead

- Finished up documentation on dataprobe, everything checked in on Bitbucket
 - Continue work on pilots DiveLog documentation
- Out of Office
 - Jun 29 - 3-Jul Vacation
 - ~~Jul 30 - 3-Aug Vacation - cancel~~
 - Aug-10 -21 Vacation
- Alana Sherman
 - 300080 - DMO Support-Mini ROV
 - Ordering components for new belly pack
 - 901809 - Deep Sea Bioinspiration
 - Tested DPIV4 with both old and new software versions, I have a couple bugs to fix on both
 - 901904.99 - Coral Camera System
 - Collected components for camera comparison testing
 - Calculated energy budget and battery pack size for macro camera
 - Overhead
 - Abstract presentations and lots of meetings....