

Engineering Weekly Report 6/4/2020 - 6/11/2020

Executive Council Notes

-

Individual Activities

- Francois Cazenave
 - 901405 - PowerBuoy Development
 - Assembled oil lines on PTO
 - Ordered new check valves
 - Helping with electronics assembly
 - 901704.99 - 8 Camera Obs Lander
 - Working on documentation.
 - 902000 - Multi-Spectral StealthCam
 - Reviewed state of projects with Chad
 - Out of Office
 - Taking Friday off
- Mark Chaffey
- Danelle Cline
 - 901502 - Passive Acoustic Sensing
 - Fixed an issue with wav cache read collision in decimation job
 - Created postgres development database for MARS wav file metadata using prisma/graphql. Really liking the schema evolution and tools in the software stack.
 - Added coherence image enhancement to Blue whale classifier and regenerating data for training.
 - Reviving topic model code in preparation for student project efforts.
 - Student discussions
 - 901603 - Video TAG: Vis Ocean Chng
 - Abstract reviews
 - 902005 - VARS Annotation Assistance
 - Discussion with UCSC Creative coding lab about possible collaboration on user interface and machine learning efforts
 - Student discussions
- Duane Edgington
 - 901602 - Data TAG: Addrss Eng Chng
 - Read all 2021 abstracts. Feedback to project manager on relevant data TAG opportunities.
 - 901603 - Video TAG: Vis Ocean Chng
 - NOAA AIASI monthly conference call Monday, June 8, 2020. Presentation on their exploration of AWS Sagemaker (using Sagemaker Groundtruth to do manual bounding box annotations of benthic images)
 - Read all 2021 abstracts. Feedback to project manager on relevant Video TAG opportunities.
 - Continue work exploring Few Shot learning algorithms.
 - 902004 - Planktivore
 - Attended all 2021 abstract presentations June 10, including Planktivore.
 - 902005 - VARS Annotation Assistance

- Project kickoff with summer intern Peyton Lee. We will be planning 3x/week virtual meetups while he gets going.
 - Project status meeting June 11.
 - Out of Office
 - Vacation Friday.
 - June 14-19. CVPR. Virtual conference. Workshops, tutorials and presentations.
 - Working through AWS Security training course.
 - NOAA AIASI monthly conference call Monday, June 8, 2020 12:30 PM - 1:30 PM.
- Jon Erickson
 - 800139 - EyeRIS
 - EyeRis on LRAUV - trying to fix the weights of the parts.
 - 901217 - Chemical Sensor Program
 - Parts are being farmed out to Prunella machine to take some of the load off the shop.
- Kevin Gomes
 - 901205 - ESP SURF Center
 - With Pat and Joe's help, moved the ESP web portal to shiny new CentOS 8 server that is dedicated to ESP web portal stuff and has a much better URL: <https://esp-portal.mbari.org/web/>
 - Will be spending a little bit of time each day to port data from the old system to the new re-running the imports so log parsing catches any missed data from previous bugs.
 - Fixing some bugs found during data migration
 - 901602 - Data TAG: Addrss Eng Chng
 - Abstract reviews
 - 901915 - Improving MBARI Data Impa
 - Starting up work again on catalog and requirements writeup
 - Overhead
 - Working with IS and Atlassian, was able to finally transfer the license from auth.mbari.org to oceana.mbari.org so I am not running our Crowd instance on a temporary license and we can now shutdown auth.mbari.org ... yay!
- Andy Hamilton
- Kent Headley
- Rich Henthorn
 - 600034 - Control Tech - Rock
 - Looking into mission-replay connecting to trn-server issue
 - 901405 - PowerBuoy Development
 - Meeting with Open Robotics and Software/Controls team about FOA proposal
 - ROS tutorials
 - 901618 - Pelagic-Benthic Coupling
 - Collecting electronics and equipment for hand-off and return to MBARI
 - Proposal discussions
 - SES updates
 - 901800 - LRAUV Payload & Support
 - Working with McEwen on LRAUV TRN modules (LR-TRN)
 - Mapping LRAUV data to TRN inputs
 - Requirements/Design/Notes/Task document in Team Drive
 - 901904.99 - Coral Camera System
 - Meeting to discuss progress and plans for camera integration
 - 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
 - Prep CANON sampler for Daphne deployment. Help stand watch for LRAUV Brizo. Recover and disassemble two SIO spray gliders
 - 901502 - Passive Acoustic Sensing
 - Meetings
 - 901805 - Coastal Biogeochemical Sensing
 - Prepping sn29 for deployment
 - Overhead
 - Meetings
 - Interfacing with intern so she can begin her project
 - Continuing ed
- Chad Kechy
- Brian Kieft
 - 708158 - DHS Y6
 - Supported docking test deployment in Buzzards Bay.
 - Debugging failure on dynamic docking module.
 - Added some new feature requests in JIRA
 - Vehicle recovered Thursday.
 - 901800 - LRAUV Payload & Support
 - Prepared Brizo for first sea trial test, ESP test, and acommms test
 - Deployed Brizo yesterday and daphne today for joint testing. Some minor issues so far but generally a good first sea trial.
- Denis Klimov
- Eric Martin
 - 901101 - Ocean Imaging
 - Submitted servo coil drive board to e-tech for build
 - Strobes are in for refit
 - Intern meetings this week
 - 901206 - Coastal Profiling Float
 - Deck tests complete, no issues, filling with oil soon.
 - 901405 - PowerBuoy Development
 - Prep for radar deck and potential Paragon tests
 - Helping with tophat rewiring
 - 901911 - ROVVR
 - Had a final presentation from the UCSC students last week, they did some nice work to build some data UI tools
 - Overhead
 - Abstract presentation for telepresence
 - TAG review of abstracts
 - Out of Office
 - I am not at MBARI Mon, Tues, and Friday
 - Half day this upcoming friday for a doctor's appointment.
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Resolved a PO issue for payment to Indtec for work done in April
 - 901805 - Coastal Biogeochemical Sensing

- Picked up two MpHOx boards. Worked Sat. and Sun on board bringup.
 - DAG board on hold, working on board bringup of MpHOx (Sat/Sun)
- 902000 - Multi-Spectral StealthCam
 - Picked up Stealthcam boards. Ordered connectors, delivered to MBARI. Requested access to MBARI Thurs for pickup.
- 902004 - Planktivore
 - Worked on abstract presentation and CENCOOS build plan.
 - Met with Paul to discuss lighting and camera options for potential CENCOOS build.
 - Working to find ME contractor for housing design.
 - Sent a note to Jon Erickson asking if he could use his 1 week to review housing contractor work products (no response yet).
 - Putting together a work plan for a build plan and estimate for CENCOOS with follow-up with MTeam.
- Overhead
 - Abstract presentation for Underwater Solar Power system
 - Abstract presentation for Next Generation Vehicle Initiative
 - Abstract presentation for Planktivore
 - Phone call with Dr. Tom Krupenkin to discuss reverse electrowetting on dielectric energy harvesting. Removed from work plan for Underwater Solar Power system
- Out of Office
 - Two week road trip planned. Was trying for mid-June, now delayed. Depending on pandemic rules.
- Mike McCann
 - 901009 - CANON
 - Fixed Docker mount issue with /dev/shm: lesson learned, don't mount over it
 - 901111 - AUV Infrastructure Supprt
 - Added platform name to Activity name to improve UI mouse over experience
 - Simplifying the LRAUV data processing cron jobs with --current_month option
 - Working with Hans on parsing data from a new Iridium beacon
 - 901800 - LRAUV Payload & Support
 - Re-loading <https://tethysviz.shore.mbari.org/> databases following fixed loading problems
 - Checking up on automated data loads into the [jun_2020 database](#)
- Rob McEwen
 - 600034 - Control Tech - Rock
 - Continuing to work with Prof. Rock to verify Trn heading estimate.
 - 901513 - Targeted Sampling by AUVs
 - Refining drag estimate for proposed hovering thrusters on LR vehicle.
 - 901800 - LRAUV Payload & Support
 - Will start working with Rich H on LCM interface to LR-Trn computer.
 - Overhead
 - Investigating Cigna/Medicare decision necessary at age 65.
- Paul McGill
 - 300070 - DMO Support- Ventana
 - Installed protection components on Ventana's Vicor boards to stop frequent damage to their PC control pins.
 - 901618 - Pelagic-Benthic Coupling
 - Working on SES refurbishment and testing of MARS interface.
 - Tested the attempted repair of Larval Pump's Elmo motor drive that failed at 6500 psi, but it's truly dead. Now designing a 1 atm housing for our last remaining Elmo.

- Analyzed SES fluorometer data for Pulse 71 with our new standard fluorescence target and discovered that black Delrin fluoresces at 590 nm. Designing new protocol for establishing reference fluorescence during SES deployment.
 - 901904.99 - Coral Camera System
 - Looking at camera and lens specs for Coral Macro camera.
- Ed Mellinger
- Tom O'Reilly
 - 901101 - Ocean Imaging
 - Preparing for MB-System+ design review
 - 901800 - LRAUV Payload & Support
 - Working with team to refine LCM "back seat driver" software interface
 - Running tests of LCM onboard the vehicle in the tank, assessing cpu load incurred by publishing data with realistic sensor payload, data frequency
 - 901902 - Aerial Drones for Sci&MO
 - Preparing for data processing software design review
- Craig Okuda
 - 901803 - Carbon Wave Glider Development
 - Inlet gas manifold design and packaging.
 - Overhead
 - Misc
- Doug Pargett
 - 901205 - ESP SURF Center
 - I have been talking with an autonomous surface vehicle company to see if the FlowerPot ESP housing (currently in design) would fit their vehicle. A few simple changes now, and it will fit fine.
 - I've started designing new cartridge port fittings and toroid valve components that can be fit on the portable G3 ESPs to test the Alpha2 cartridge from function.
- Ben Raanan
- Mike Risi
 - 600034 - Control Tech - Rock
 - Working on generic ro-v-control application for ROVs
 - 901809 - Deep Sea Bioinspiration
 - Worked on stitched stereo image publisher using USB camera for testing
 - Added frame grab feature to stere_sub util to grab calibration images
 - 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
 - Calibrating 4 Lyse-n-Go cartridges for Chris Preston
 - Delivered
 - Lots of testing and debugging of the new cartridge NVRAM handling code
 - Installed on ESPhonu and ESPstumpy for science testing
 - Investigating use of Bench-top thermal control system for ESP cartridge thermal calibration
 - See <https://mechanical-devices.com/portfolio-posts/flextc-temperature-forcing-system/>

- Could our EE lab use one of these?
- 901913 - Wet Wifi
 - Scheduled call with OceanComm to discuss next moves
 - OceanComm will send me modem simulator with Python source code I can modify.
- DQ1865 - Bryde Whale
 - Packed up a laptop to give me remote access for the GoMex ESP recovery on the 26th
- Carlos Rueda
 - Out of Office
 - Jun 8-10: vacation
- Karen Salamy
 - 704109 - NavDORISS
 - Planning to come in to campus next Tuesday to work on PC104 stack software upgrades as well as get trained in laser lab protocols.
 - 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
 - Continue to work on Iron Mountain video ingest. The first test run showed we need better than second resolution for video start timestamps in order for tape annotations to align correctly with the video files. Modified the video registration to look at timestamp in filenames (up to millis resolution) then fall back to creation_date atom (second resolution) in files.
 - <https://bitbucket.org/mbari/tapemigration>
 - Ironing out a few issues with video registration so that we can get framerate and the video codecs registered correctly. I was using Tika which did not get that info. The new pipeline uses ffmpeg and falls back to Tika if needed. Modified filenames to include milliseconds in timestamps.
 - <https://bitbucket.org/mbari/m3-registrar>
 - As part of the video ingest work, I'm consolidating Java code used by various projects to make REST calls to M3 microservices. Also removing hacks and cleaning up the video asset manager REST API.
 - <https://github.com/mbari-media-management/vampire-squid>
 - <https://github.com/mbari-media-management/vars-annotation>
 - Merged recent Mini ROV annotations into the main database.
 - <https://mbari1.atlassian.net/browse/M3-127>
 - Adding codesigning to various applications for Macs as [Gatekeep](#) flags non-signed apps as corrupted.
 - Overhead
 - Fixed an issue with HURLS knowledgebase
 - Out of Office
 - Jun 30 - Jul 3 Vacation
- Rich Schramm
 - 300058 - DMO Support-WF
 - Continue to document and refactor new Dataprobe app, split between Flyer&Carson
 - 300062 - DMO Support-DR
 - Begin documentation of new Xojo pilots DiveLog application split between DocRicketts&Ventana

- Run some DiveLog queries for pilots
- Out of Office
 - Jul 30 - 3-Aug Vacation - Event cancelled due to Covid
 - Aug-10 -21 Vacation
- Alana Sherman