

Engineering Weekly Report 10/15/2020 - 10/22/2020

Executive Council Notes

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Individual Activities

- Francois Cazenave
 - 901405 - PowerBuoy Development
 - I tested the AUV dock prototype in the test tank, wrote a report and made improvements to the design. I ordered new components from the machine shop.
 - I am working on latching mechanisms for the AUV dock
 - 902000 - Multi-Spectral StealthCam
 - I finished the design of the electronics chassis and ordered parts.
- Mark Chaffey
- Danelle Cline
- Duane Edgington
 - 901009 - CANON
 - Sent Brent Jones notes and links to github documentation on STOQS to facilitate CPF data load into STOQS.
 - 901618 - Pelagic-Benthic Coupling
 - Running matlab computer vision toolbox camera calibration app on images of checkerboard taken on recent Pelagic-Benthic cruise to debug algorithm and evaluate performance
 - Preparing to calibrate 3 laser system on Doc Ricketts with Paul McGill Thurs-Mon Oct 22-26 for upcoming station M cruise. Pre-cruise Covid-19 test on dock Thurs Oct 22 9AM.
 - 902005 - VARS Annotation Assistance
 - Working on tfficientdet detector/classifier to run on AWS SageMaker Studio
 - Overhead
 - Group meeting Oct 19.
- Jon Erickson
- Kevin Gomes
 - 300057 - Mooring Maint
 - Small amount of troubleshooting for M1 CTD
 - 901502 - Passive Acoustic Sensing
 - Some AWS support for Cal Poly students
 - 901915 - Improving MBARI Data Impa
 - Trying to come up with generic way to store time series data from LRAUV, Dorado, etc. into a TimescaleDB that can be then connected to ERDDAP/THREDDS.
 - Data Catalog extraction from various legacy systems.
 - Overhead
 - Migration of ODSS servers because IS is retiring CentOS 6 and we have to move to CentOS 8 and spending all my time on this. Progress is VERY slow.
 - Working to transition some of Rich's work to me.
 - Teleconference with Threespot who is working to construct an RFP for future work to revamp our digital presence (social media, web site, etc.)
 - Slide preparation for Board Meeting (project updates)

- Andy Hamilton
 - Out of Office
 - On vacation until October 26
- Kent Headley
- Rich Henthorn
 - 901618 - Pelagic-Benthic Coupling
 - Preparation for Sta.W cruise
 - Mobilization
 - SES acoustic comms development
 - 901800 - LRAUV Payload & Support
 - Obstacle Avoidance
 - 901904.99 - Coral Camera System
 - Weekly Meeting
 - Out of Office
 - Oct 27 to Nov 5: WF cruise to Sta. M
- Brett Hobson
- Scott Jensen
 - 901205 - ESP SURF Center
 - Supporting upcoming WF and SailDrone deployments
 - 901805 - Coastal Biogeochemical Sensing
 - npHOx checkout is continuing. A poor choice in amplifier is causing some consternation and in search of an alternative.
 - Failure analysis on a few MFET's are not turning up common problems.
 - Out of Office
 - Current schedule is Monday-Wednesday
- Brent Jones
 - 901112 - Change in MB & CA Current
 - Flying two gliders in support of CANON
 - Deployed and recovered two sediment trap CPF's for CANON
 - Processing data for CANON CPF's
 - Diagnosing timing error in one of the CPF's
 - Recovered two LRAUV's and post processed CANON SAMPLER samples
 - 901805 - Coastal Biogeochemical Sensing
 - Flying sprays for pH comparison once CANON completed
- Chad Key
 - 901704.99 - 8 Camera Obs Lander
 - Waiting on index for documentation package from Elena. Edits are complete.
 - 901713 - Nearshore FOCE
 - Compiled gear for Chamber builds and typed up instructions for Jim M
 - Making some pre-spending purchases for 2021
 - Went to Hopkins Marine Station to assess dehumidifier installation and retrieved the second GF unit.
 - Went to Castroville warehouse to look for KFA cable and grabbed a few spare parts for BOSS.
 - Putting together an informational spec sheet/document of the KFA for users (internal & external)
 - 902000 - Multi-Spectral StealthCam
 - Helping Francois put together the camera housing
 - Overhead
 - Hydrophone Stabilization (Benoit-Bird): I've started the Capture for the PCB.
 - Changing Ocean (Sudek): Made a couple of schematics for the bench top system. Beginning to order parts (pre-spending for 2021)

- Out of Office
 - Took sick days T/W this week (non-COVID related!)
- Brian Kieft
 - 300083 - DMO Support - LRAUV
 - See CANON
 - 708158 - DHS Y7
 - Finally wrapped the mystery of the bootloader binaries. Issue was the compiler version. Got phytec to update their FTP site as well since they reproduced the issue too.
 - Added ADC count output writer to IR docking sensor
 - 901009 - CANON
 - Wrapped up CANON with recovery and negatives on Friday. This fall campaign went really well from an engineering perspective.
 - 901800 - LRAUV Payload & Support
 - Working on reverse thrust (again). Seemed to be going well but hit a snag with dead spots that pop up every so often. Working with the vendor as well to solve and set up a test rig for diagnostics.
 - Overhead
 - Working on sorting out some data from our Lake Erie projects with GLERL.
 - Out of Office
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- Denis Klimov
 - 118000 - Safety Office - LSO activity
 - Documenting feedback on running LIDAR in Test Tank
 - 800139 - EyeRIS
 - Setting up the test of the thermal limiter on the LED cluster.
 - 901809 - Deep Sea Bioinspiration
 - Revising handbook for operating DeepPIV on a deck of the ship
 - 901903 - Bio Raman
 - Sample chamber is assembled; working on a panel lock
- Eric Martin
 - 901101 - Ocean Imaging
 - Last week's expedition was very successful, we collected surveys on all full days of areas including Sur Ridge, the 2850 CCE Clam Bed Site using the low altitude sled. This cruise was the first use of telepresence for remote engineering as well, as we leveraged help with new camera control drivers from our collaborators Giancarlo Troni and Jose Eyzaguirre in Santiago, Chile.
 - 901206 - Coastal Profiling Float
 - Troubleshooting a repetitive SD card corruption issue.
 - 901911 - ROVVR
 - Preparing for tank calibration and testing with the Olin team.
 - DQ1942 - Buoy Power Generation
 - Extracted AHRS data for our collaborator who will be applying the transformations to the radar data.
 - 901200 - Telepresence
 - We are on a break until the Carson returns from shipyard.
 - We are in the second round of edits for the policy document.
 - Supported the Caress cruise last week.
 - Out of Office
 - Tuesdays

- Nov 1-7 Vacation upcoming
- Thom Maughan
 - 901009 - CANON
 - Attended meeting with Johns Hopkins, top level and dry side.
 - Reverse engineering the MinIT software, MinKNOW gui is running on XavierNX but having trouble connecting to the MinION (dna sequencer) due to permission issues on USB and some missing pieces. Working on startup of backplane daemons and got a helpful pointer from Erik T on systemd.
 - Working to identify all the helper apps in order to script a commandline / headless version of the GUI.
 - 901805 - Coastal Biogeochemical Sensing
 - npHOx board is in assembly and expecting to get one for preliminary board bringup. Planning to work 2 days next week on the project.
 - 902004 - Planktivore
 - Ordered 2 of the 4 FLIR Blackfly S imx264 cameras. Also ordered USB3.1 hubs and fast SSD.
 - Located the flow meter for integration with Fluum.
 - Board bullets, board slides, project update on Slack.
 - Overhead
 - Gabe Santos (Cal Poly collaborator) has the Pier Peer rPi camera with tensorflow running and streaming live on youtube. His next step is sleepy pi, then packaging, then deploy at Cal Poly Pier.
 - Out of Office
 - Working remote with regular access as needed at MBARI Tues,Wed,Thurs
- Mike McCann
 - Out of Office
 - Vacation: 19-23 October 2020
- Rob McEwen
- Paul McGill
 - 300070 - DMO Support- Ventana
 - Helping DJ with Ventana ground-fault system
 - 901618 - Pelagic-Benthic Coupling
 - Loading ship for Flyer cruise next week. Working with Duane E. to analyze camera calibration images from last Ventana dive. Made some changes to our calibration target.
 - 901700 - 2017 Acoustical Ocean Eco
 - Still ordering EMI shield materials for WBT Mini sonar.
 - 901803 - Carbon Wave Glider Development
 - Talked with Chris Meinig, Director of Engineering at NOAA/PMEL to assure his that MBARI is still committed to building the DIC instrument even with Andrea leaving.
 - 901904.99 - Coral Camera System
 - Helping Alana with strobe charge circuit for Macro Camera.
- Ed Mellinger
 - Out of Office
 - Scheduled in-office days Tuesday, Friday
- Tom O'Reilly
 - Out of Office
 - Was on vacation last week
- Craig Okuda
 - 901007 - Benthic Biology & Ecology

- Chamber valve prototype
- 901803 - Carbon Wave Glider Development
 - Update cycle diagrams
 - Post process manifold
- Out of Office
 - Vacation days
 - Out sick
- Doug Pargett
 - 901205 - ESP SURF Center
 - We recanned the Koa instrument a few extra times as we inspected and fixed stuff.
 - I built up some over-instrument shelving and surge chamber to get Koa set-up for a possible deployment on the WF next week.
 - I've ordered several parts for the shop that are needed for MV2, MV3 and FrankenTower.
 - DQ1904 - NOPP Saildrone
 - I took the Koa instrument up to Saildrone to test the comms and power. Eventually it got sorted out, sort of. Saildrone's schedule is very optimistic, but they are motivated. They also would like to do the initial on-water tests without the ESP on board.
 - Out of Office
 - A couple days of leave.
- 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 7 - September 11: Vacation
 - October 12-17: Ocean Imaging Cruise
 - October 19-23: Vacation
- Brent Roman
 - 901205 - ESP SURF Center
 - Fall CANON exposed minor bugs in toroid leak detection/retry logic
 - Not decrementing spare cartridge count on toroid leaks
 - Help prepare ESPkoa for deployment on the Ken Smith Flyer cruise to M1
 - 901913 - Wet Wifi
 - Productive call with OceanComm and Brett Hobson on modem integration with the LRAUV
 - DQ1865 - Bryde Whale
 - Determined that Gulf of Mexico comms failed due to corrosion in can cause by bleach leak
 - There may have also been an underwater cable failure
 - Remotely updated WHOI's ESPdon to latest and greatest
 - DQ1904 - NOPP Saildrone
 - Mad scramble to backport SSH tunnel support to older ESP software
 - Out of Office
 - At MBARI Tuesdays and Thursdays after 1PM
- Carlos Rueda
 - 901502 - Passive Acoustic Sensing
 - Preparing for a next round of classification exercises and also for the ASA poster.
 - 901800 - LRAUV Payload & Support
 - TethysDash: Some more experimentation toward a proper websocket server.
 - Overhead

- CentOS6 EOL: [Migration of TethysDash production server](#) pretty much completed and under testing. LRAUV team asked to perform verifications.
- Out of Office
 - Oct 15-16: vacation
- Karen Salamy
 - Out of Office
 - Will be working on MBARI campus ONLY on Tuesdays until further notice.
- Brian Schlining
 - 902002 - Fathomnet Detect and Classify
 - External Fathomnet Server is now running at <https://fathomnet.org>. It's configured with SSL, and set up to proxy the fathomnet microservice. A prototype web UI for testing is deployed, but that is NOT the official UI we're working on.
 - Fathomnet API docs at <http://fathomnet.org:8080/swagger-ui>, <http://fathomnet.org:8080/rapidoc>, <http://fathomnet.org:8080/redoc>
 - <https://nats.io/> is running as a message system for fathomnet.
 - Working with [make and model](#) on [UI design](#)
 - [Developing application to sync image localizations from VARS to Fathomnet](#).
 - [Adding API endpoints to support UI use cases](#).
 - Overhead
 - Brian was out on vacation last week
- Rich Schramm
- Alana Sherman
 - Out of Office
 - Back in the office this week :)