

Engineering Weekly Report 12/3/2020 - 12/10/2020

Executive Council Notes

- 901800 - Since this may be the last week of marine operations for the year we're rushing to achieve milestone testing. On Tuesday we demonstrated the ability of an LRAUV to determine its position while submerged using Stanford's Terrain-Relative Navigation (TRN).

Individual Activities

- Francois Cazenave
 - 901405 - PowerBuoy Development
 - I have been assembling the docking capture device.
 - Out of Office
 - I took thursday and Friday off due to my children's school being closed.
- Mark Chaffey
- Danelle Cline
- Duane Edgington
 - Out of Office
 - AWS re:invent virtual conference Nov 30 - Dec 18
 - Neurips 2020 virtual conference Dec 6 - 12
 - Vacation Fri Nov 20, Nov 23 - 25
- Jon Erickson
 - 800139 - EyeRIs
 - Finished the prints for the EyeRis Camera Case for LRAUV.
 - 901217 - Chemical Sensor Program
 - ISUS-APEX: waiting on spectrometer parts from the shop & circuit boards. The carbon fiber tubes are still 8 wks out.
 - 901809 - Deep Sea Bioinspiration
 - Finished motor specs for new particle injector.
 - Part prints next week.
 - 902010 - Mesopelagic LRAUV
 - Working on a pressure case design. Will start scaling dome and shell parts to match.
 - Overhead
 - Learning MATLAB to develop a solution for the Mesopelagic LRAUAV.
- Kevin Gomes
 - Out of Office
 - Nov 23-25: Vacation
- Andy Hamilton
 - Out of Office
 - On vacation until October 26
- Kent Headley
 - 901803 - Carbon Wave Glider Development
 - Minor doc and firmware updates related to machine/machine and GUI
 - Looking at system resource requirements for proposed RH sensor
 - Refactored Python GUI to use model/view/controller pattern

- Checking GUI windows compatibility
- Overhead
 - Meeting re Charlie Paull external proposal activity scoping meeting
 - Implementing Python GUI as learning project
 - Computer maintenance
 - Review prep
- Out of Office
 - Nov 30, Jan 19 : personal
 - Dec 28-31 : vacation (tentative)
- Rich Henthorn
 - 901800 - LRAUV Payload & Support
 - Obstacle Avoidance application
 - TRN mission support
- Brett Hobson
- Scott Jensen
 - 901205 - ESP SURF Center
 - Slow testing of the terrestrial housing is continuing. The connectors seem to seal but now onto all the little imperfection in an oil drum:)
 - Most of the pressure sensors have been paired with a calibrated amplifier.
 - 901405 - PowerBuoy Development
 - Deployment power unit is mounted on the lab MG setup. System characterization is taking place for modeling purposes.
 - 901805 - Coastal Biogeochemical Sensing
 - MFET/MCAP has been sent out for fabrication and assembly.
 - Out of Office
 - Current schedule is Monday-Wednesday
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- Brent Jones
 - 901112 - Change in MB & CA Current
 - Flying and recovered LRAUV daphne in support of monthly MBTS
 - Still futzing around with formatting CPF data for ODSS ingestion
 - 901800.98 - Bioacoustic Payload
 - Looking at moving payload cpu to inside LRAUV.
 - 901805 - Coastal Biogeochemical Sensing
 - Deployed, flew, recovered Spray 29 in support of Magdalena's vertical current estimator. Very intense flying close to the shelf that required some barnstorming maneuvers.
 - Diagnosis pH sensor error during above deployment
 - Overhead
 - Meetings
- Chad Keycy
 - 901713 - Nearshore FOCE
 - Working with Jim M on various housing builds
 - 902000 - Multi-Spectral StealthCam
 - Camera housing is ready for internal wiring
 - Overhead
 - Changing Ocean: Writing LV code using Wago testbed & ordering parts for next year
 - Bio-Acoustics Lab: Designing Hyd Stab board
 - Out of Office
 - Vacay 12/21-1/1
- Brian Kieft

- 708158 - DHS Y7
 - Added a latch delay feature for docking deployment today
- 901800 - LRAUV Payload & Support
 - Testing on Pontus offshore and working on Tethys for a docking run
- Out of Office
 - Will not be in the office due to quarantine policy
- Denis Klimov
 - 118000 - Safety Office - LSO activity
 - We initial release of the procedure for disinfecting / cleaning optics, electronics, PPEs (laser safety goggles). This goes under the category of lab specific procedure.
 - 901800 - LRAUV Payload & Support
 - PAR sensor 8454 had some tiny leakage of the water to the inside which deteriorated the internals somewhat, requiring reconditioning.
 - 901809 - Deep Sea Bioinspiration
 - Making final touches to the procedure of using DeepPIV of ship's deck
- Eric Martin
 - 901206 - Coastal Profiling Float
 - Setup calibration for CPF003's DuraFET
 - Finished production checkout on CPF002
 - Reviewing Sysprog contracting options
 - 901911 - ROVVR
 - Setting up in the tank for testing of Olin student software.
 - Fixed mink10L to support Gigabit ethernet
 - DQ1942 - Buoy Power Generation
 - Biweekly meeting last friday
 - Helping Rob get started on data analysis
 - 901200 - Telepresence
 - Supported the Barry cruise last week on the Western Flyer
 - MBA cruise on Monday
 - Overhead
 - Attended bi-annual Scientific Ocean Vehicles Alliance (SOVA) meeting, a new committee involving vehicle operators from SOI, WHOI, UH, OET, and NOAA. Topics discussed included recent acceleration of Telepresence, COVID restrictions, interest in VR tools, and growth of the community itself.
- Thom Maughan
 - 901009 - CANON
 - Helping out with MBARI - Johns Hopkins APL report on embedded system for eDNA analysis
 - Handed off box and components for proto of portable eDNA sequencer with Xavier NX system for use on ship.
 - 901805 - Coastal Biogeochemical Sensing
 - UV-C flashlight (duty cycle, period) for bio-fouling mitigation on sensors. Verify effect on sensors
 - Getting set back up for development after project shuffling. I've got a desk space limit.
 - 902004 - Planktivore
 - DeepRip proposal (thanks to all), funding discussions, parts ordering, part re-ordering, etc. DeepRip: AMD 3990x 64 core cpu + 256 GB RAM + SSD + 2x RTX 8000 Quadro with 48GB RAM each.

- All parts should be received this week, and we can perhaps make special requests the following week. Met with Jose on the build. He raised some very good points on the cooling I want and the challenges with the selected case. We are ordering a better one and making a return.
- 901713 - Nearshore FOCE
 - Delivered an MpHOx and and MCAP (no serial number) to Jim Montgomery for housing fitment.
- Overhead
 - Met with Rich Schramm regarding XOJO. Hunting for box with Wago stack, must have left it at MBARI as the house has been turned upside down.
 - Organizing
- Out of Office
 - Vacation Dec 10 to 15 - Fence project with family labor.
 - Vacation Dec XX to YY TBD on dates. Likely a two week.
 - Quarantine from visiting Cal Poly Pier ends on Dec.3
 - Working remote with regular access as needed at MBARI Tues,Wed,Thurs
- Mike McCann
 - 901910 - Plankton Taxonomic GrpAUV
 - Implementing navigation adjustment in auv-python
 - Overhead
 - “Attenginding” OGC meeting this
- Rob McEwen
 - 708167 - Wave Energy Converter
 - Will investigate Hough transformation for wave arrival prediction.
 - 901800 - LRAUV Payload & Support
 - Assisting Rich H in LCM implementation in the OA app.
 - Out of Office
 - WFH on Thursday and Friday.
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling
 - Did more post-cruise clean up such as sending optodes off for cal and beacon inventory.
 - 901700 - 2017 Acoustical Ocean Eco
 - Created symbols for new parts and submitted to CIS database, waiting for Jose to create footprints. Looking for ways to shield xducer cables into shield.
 - 901803 - Carbon Wave Glider Development
 - Inventory of DIC analyzer parts as they’re received and coding of CC charges.
 - Set up Collaborator’s Agreement for Andrea so she’ll have access to MBARI network.
 - 901904.99 - Coral Camera System
 - Working on layout for Deep Sea Connect data system. Trying to find deep-rated power switch to control power to it.
 - Overhead
 - More OrCAD online training.
 - Finished fixed-asset inventory.
 - Renewed some software licenses.
- Ed Mellinger
 - Out of Office
 - Scheduled in-office days Tuesday, Friday
 - Minor family medical issues will affect my availability for the next 2-3 weeks.
- Tom O’Reilly
 - 300082 - DMO Support - Wave Glider
 - Configuring onboard software on “Hotspot 3” payload, in preparation for deployment in early 2021

- 901009 - CANON
 - Attending Open Geospatial Consortium annual meeting, including sessions on OGC SensorThings middleware standard, and autonomous vehicle domain working group, which advances standards and best practices for AUVs and UAVs. Coauthored invited presentation "[Use of OGC standards in marine observation platforms](#)" which describes how the Polytecnic University of Catalunya is using OGC PUCK (developed at MBARI) and other OGC standards to integrate instruments and retrieve their data on various low-power/low-bandwidth sensor platforms.
- 901902 - Aerial Drones for Sci&MO
 - Attending American Geophysical Union Fall meeting, including presentations, posters and town halls addressing UAV design, best practices and standards for operations and data processing.
- Craig Okuda
 - Out of Office
 - Vacation days
- Doug Pargett
 - 901205 - ESP SURF Center
 - More thermal FEA on new cartridges to test a couple possible design changes. FEA results predict the changes probably won't help much.
 - ESP Meetings and remote work to support shimmed cartridge test.
 - Started a new Solidworks model of Tower to include the changes and high pressure test pump and dome. Designing new support to have better roll and tilt testing capability.
 - DQ1904 - NOPP Saildrone
 - A few phone calls and emails with Saildrone about screen materials and fluid connections.
 - Overhead
 - Successfully passed the phishing email test... again.
 - "Congratulations on identifying a suspect message and submitting it for evaluation!"
 - Spelling error? *identifying*
 - Out of Office
 - A few hours of Vacation
- Ben Raanan
- Mike Risi
 - 600034 - Control Tech - Rock
 - Porting xojo Pilot GUI to Qt
 - 662000 - Software Eng
 - Upgrading OS on office workstation
 - Sexual Harassment Prevention Training
 - 901101 - Ocean Imaging
 - Working on prototype user interface for, "The Rack"
 - 901911 - ROVVR
 - Helped out with setup of the ZMQ/LCM bridge for testing
 - 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
 - December 21 - December 24: Vacation

- Brent Roman
 - 901205 - ESP SURF Center
 - Helped Dack with en masse file name renaming on ESP share
 - DQ1865 - Bryde Whale
 - Worked with Dack to remove cabling from moribund ESPmoe to test Iridium link
 - DQ1904 - NOPP Saildrone
 - Delivered ESPkoa to Alameda for one day of testing
- Carlos Rueda
 - 901009 - CANON
 - MXM: reviewing OGC SensorThings.
 - 901502 - Passive Acoustic Sensing
 - ASA [Poster](#) presented today 12/9. Chat session with good comments/ideas, and a few requests for “links to the poster.”
 - 901800 - LRAUV Payload & Support
 - Dash is now [4.2.1](#). Already installed by WHOI as well. Incorporating some fixes and adjustments for a next version.
 - Captured “[proposal](#)” by operators in issue tracker and will wait until consensus before any further action.
 - TethysDash backend: making more progress on setting up a proper websocket server.
 - Overhead
 - IE mtg.
 - [ASA Conference](#)
 - Out of Office
 - Dec 8: [OGC member mtg](#) (tentative)
 - Dec 9: [ASA Conference](#)
- Karen Salamy
 - Out of Office
 - Out of Office this whole week due to a Family Medical Emergency. I may have to extend this through next week as well.
 - Will be working on MBARI campus ONLY on Tuesdays until further notice.
- Brian Schlining
 - 500055 - Video Annotation DM
 - Investigating issues that have been occurring with the automated registration. Bad things happen when file names have spaces (not web URL friendly) or duplicate videos are on M3 (registration tracks videos by checksum, duplicate videos put registrar in a loop where it keeps swapping video info between the two identical files)
 - 902002 - Fathomnet Detect and Classify
 - Continuing work on the fathomnet website and REST services. We’re getting close!
 - Out of Office
 - 12/21-1/1 Vacation
- Rich Schramm
 - 300057 - Mooring Maint
 - Something going on with OA downloads - will look at today
 - 300070 - DMO Support- Ventana
 - Reverse engineer and document the SubseaControlCan Wago stack addressing from GSS config files
 - Overhead
 - Attend a multitude of virtual meetings.
 - Continue review of all old software in various CVS, SVN and Git repositories
- Alana Sherman

- 300080 - DMO Support-Mini ROV
 - Brought up back up computers for the MiniROV. Loading all the LabView code and testing with spare Wago stack.
- 901618 - Pelagic-Benthic Coupling
 - Processed Rover SCOC for the previous year Oct 2019-Oct 2020.
- 901904.99 - Coral Camera System
 - Ordering cables and parts
- Overhead
 - Reading applications for new PE and Seafloor Processes jobs.
- Out of Office
 - Vacation day 11/24