

Engineering Weekly Report 7/9/2020 - 7/16/2020

Executive Council Notes

- Limited on-site staff and social distancing rules haven't slowed the operation of MBARI's LRAUVs. LRAUV Tethys and Daphne had development cruises last week, Daphne went out again earlier this week for the Monterey Bay Time Series and Makai and Brizo are headed out later this week to begin the summer CANON experiment. During the development cruises a large software code merge was tested, along with some TRN data for Steve Rock and Tethys recorded some video above the watchful eye (acoustic) of DEIMOS at MARS. Kelly picked some interesting vertical layers from the DEIMOS echosounder and Tethys was vectored to that layer to record video using red lights, followed by white lights in an attempt to compare animal avoidance from the different colored lights. In the shallow water during the day ambient light provided a wide area view of a school of anchovies that were also imaged by the seafloor mounted echo sounder.

Individual Activities

- Francois Cazenave
 - 901405 - PowerBuoy Development
 - Preparing PTO for deployment
 - Designing cable contact device
 - 902000 - Multi-Spectral StealthCam
 - Designing camera housing
 - Out of Office
 - Took Monday Off
- Mark Chaffey
- Danelle Cline
 - Out of Office
 - Off Fridays for summer duration
 - Vacation July 15-24th
- Duane Edgington
 - 901009 - CANON
 - Team meeting
 - 901602 - Data TAG: Addrss Eng Chng
 - Proposal review
 - 901603 - Video TAG: Vis Ocean Chng
 - Proposal work
 - Attending ICML virtual conference Sunday July 11 - Sat July 18.
 - Fabulous tutorial on Representation Learning with labels (i.e. learning features without labeling) from DeepMind. I have the [slide set](#); the 3 hour tutorial was recorded, but the recording is not yet released...
 - I am posting links to papers I think most interesting on the #machine-learning SLACK channel
 - The format of the main conference is a presentation for each paper, 15 minute pre-recorded lecture with slides and speaker view. All 1088 accepted papers are also available to attendees as pdf.
 - 901618 - Pelagic-Benthic Coupling
 - Brief email exchange with Paul McGill coordinating for upcoming cruise.

- 901915 - Improving MBARI Data Impa
 - Proposal review
- 902005 - VARS Annotation Assistance
 - Proposal review
 - On-going intern communications
- Out of Office
 - Friday June 26, July 10.
 - July 12-18. ICML. Virtual conference.
 - Aug 23 -28. ECCV. Virtual conference. Workshops, tutorials and presentations.
- Jon Erickson
- Kevin Gomes
 - 300057 - Mooring Maint
 - Reviewing SSDS related items and starting work
 - 901009 - CANON
 - Proposal writing
 - ODSS preparation, map creation, support for Summer CANON campaign
 - 901602 - Data TAG: Addrss Eng Chng
 - Proposal writing
 - 901915 - Improving MBARI Data Impa
 - Proposal writing
 - Overhead
 - Budgets and proposals
 - Out of Office
 - Jul 29-31: Vacation
- Andy Hamilton
- Kent Headley
 - 901101 - Ocean Imaging
 - Working on new features and integration package for TRN on Sentry
 - 901803 - Carbon Wave Glider Development
 - Team meeting re status and PMEL
 - Overhead
 - Proposal scoping, updating labor spreadsheet
 - Proposal and engineering meetings
- Rich Henthorn
 - 600034 - Control Tech - Rock
 - Replay-TRN server connection issue
 - Team meeting
 - 901405 - PowerBuoy Development
 - Addressed CANBus id configuration
 - Team meeting
 - 901618 - Pelagic-Benthic Coupling
 - SES acoustic modem work on campus
 - SES tank test prep
 - Team meeting
 - 901800 - LRAUV Payload & Support
 - TRN LCM comms
 - 901904.99 - Coral Camera System
 - Team meeting
 - Overhead
 - Proposal input

- Division meeting
 - Out of Office
 - July 27 - July 31, vacation
- Brett Hobson
- Scott Jensen
 - Out of Office
 - Current schedule is Sunday-Tuesday
- Brent Jones
 - Out of Office
 - Took a ½ day off friday
- Chad Keczy
- Brian Kieft
 - Out of Office
 - 7/20-24 tentative
- Denis Klimov
- Eric Martin
 - 901101 - Ocean Imaging
 - Tank prep
 - DQ1942 - Buoy Power Generation
 - Tests on the Paragon were successful, we'll be analyzing datasets next.
 - 901200 - Telepresence
 - Prepping for two cruises on the Carson next week, this will be the first use of new telepresence tools.
 - Out of Office
 - Vacation 7/13-7/15
 - I am at MBARI Mon, Tues, and Friday
 - Vacation days on thursday when available.
- Thom Maughan
 - Out of Office
 - Vacation Plan is June 30 to July 21, driving to Colorado to help out family. Plan is to work for 1 to 3 days per week remote from Colorado as it is unrealistic to get Proposal materials complete before departure. Several projects are easily transportable.
- Mike McCann
 - 200109 - Core Mooring Data
 - Submitted proposal for 2021
 - 901009 - CANON
 - Reloaded [stogs_canon_may2019](#) to capture more ESP samples and to provide a better report in the stogs load log regarding the disposition of each cartridge
 - Put into production decoding of Dorado's new Warrier format Iridium beacon for ODSS
 - Monitoring automated LRAUV data processing and flow into tethysviz databases
 - 901602 - Data TAG: Addrss Eng Chng
 - 2021 proposal review
 - 901915 - Improving MBARI Data Impa
 - 2021 proposal review
 - Overhead
 - ESIP Federation Summer Meeting
- Rob McEwen
 - 600034 - Control Tech - Rock
 - Proposal discussions
 - 901800 - LRAUV Payload & Support

- Proposal discussions
 - Improving LR power analysis plots.
- 901902 - Aerial Drones for Sci&MO
 - Preparing for possible UAV build.
- Paul McGill
 - 701145 - Penguin Hotspots
 - Working on electronics for Remus housing chassis.
 - 901618 - Pelagic-Benthic Coupling
 - Got the SES rewiring completed and housings closed in preparation for next week's tank testing.
 - Determined specs for new camera calibration target for Laser Measure.
 - 901700 - 2017 Acoustical Ocean Eco
 - Got sonar classification neural network running with all 4 GPUs on Deepdark, for a 60x speedup from CPU alone. Testing new network architectures.
 - 901803 - Carbon Wave Glider Development
 - Had meeting to plan next steps. Working on getting lab system going again.
 - 901904.99 - Coral Camera System
 - Checked drawings for new Macro Camera housing. There are issues that need to be addressed.
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - Out of Office
 - Vacation day
- Doug Pargett
 - 901205 - ESP SURF Center
 - FlowerPot housing: The test article with brass inserts didn't go well. (Threads don't match nor are they uniform.) Switching to another style, stainless steel insert.
 - Modifying the FlowerPot housing dome for the stainless inserts. (adding true threads to the model) for 3d printing.
- 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 30 - October 2: Vacation
 - October 12-17: Ocean Imaging Cruise
- Brent Roman
 - 901205 - ESP SURF Center
 - Set up test SPR test fixture for Bill Ussler using Linux laptop rather than an ESP motherboard
 - Doing so uncovered a race condition in the SPR serial driver (now fixed)
 - Prepped software for CANON
 - 901913 - Wet Wifi
 - Submitted proposal for the final year where we integrate modem onto LARAUV and Waveglider
 - DQ1904 - NOPP Saildrone
 - Decided to interface ESP via Ethernet rather than serial PPP on the large Surveyor drone.
 - Out of Office
 - At MBARI Tuesdays after 2PM

- Carlos Rueda
 - 901602 - Data TAG: Addrss Eng Chng
 - Proposal review.
 - 901800 - LRAUV Payload & Support
 - TethysDash backend now directly “pushes” LRAUV GPS fix positions to the tracking DB/ODSS. This replaces the external “microservice” (in place on pismo for a couple of years) as a way to make this functionality more robust and reliable.
 - TethysDash and Dash3’s overhauled document handling now has the ability to directly attach vehicles to documents: <https://docs.mbari.org/tethysdash/dash/changes/>.
 - Reimplementing the “Config” tab in Dash3 to replace the corresponding one in traditional TethysDash UI. After this, I plan to start addressing the “Mission” tab where work on MXM will be leveraged regarding editing of mission parameters.
 - Overhead
 - Feedback to various project proposals (phase 1).
 - CentOS6 EOL: Completed [migration of TethysDash stuff from tethyssim to tethystest](#). Now under testing. Tethyssim to be shut down by July 30. Updated the [SE Maintained Servers doc](#).
 - ESIP COR: helped troubleshoot unexpected issues with the amazon instance (solved by now and apparently due to lack of enough CPU power).
 - Out of Office
 - Jul 14-15, 22: ESIP Summer Mtg (virtual). With Lewis McGibbney (JPL) I’m presenting the ESIP Community Ontology Repository, besides attending other sessions.
- Karen Salamy
 - Out of Office
 - Will be working on MBARI campus ONLY on Tuesdays until further notice.
- Brian Schlining
 - Out of Office
 - ~~Jun 30 - Jul 1~~ [Vacation](#)



- Jul 13 - 17 Vacation
- Rich Schramm
 - 300057 - Mooring Maint
 - Annual M1 turn preparation
 - 901602 - Data TAG: Addrss Eng Chng
 - AWS Learning
 - Overhead
 - Proposal cycle input
 - Out of Office
 - Aug-10 -21 Vacation
- Alana Sherman
 - 901809 - Deep Sea Bioinspiration
 - Worked on proposal

- 901904.99 - Coral Camera System
 - Continued testing sony cameras in lab, hopefully got as far as necessary
- Overhead
 - Worked on proposal for TAUV