

Engineering Weekly Report 11/12/2020 - 11/19/2020

Executive Council Notes

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Individual Activities

- Francois Cazenave
 - Out of Office
 - I have been working at home for the last two weeks due to sick child
- Mark Chaffey
- Danelle Cline
- Duane Edgington
 - 901603 - Video TAG: Vis Ocean Chng
 - Reviewing papers ICRAM 2021
 - 901618 - Pelagic-Benthic Coupling
 - Running matlab Computer Vision Toolbox camera calibration code, writing some matlab, and running Dan's LaserMeasure code on images collected by Paul McGill on recent P-B C dive. So far so good. Attempting to increase the number of "good" images for calibration app by enhancing the images.
 - 902005 - VARS Annotation Assistance
 - Spinning up on Amplify and Vue on AWS.
 - Out of Office
 - AWS re:invent virtual conference Nov 30 - Dec 18
 - Neurips 2020 virtual conference Dec 6 - 12
 - Vacation Fri Nov 23 - 25
- Jon Erickson
 - 800139 - EyeRIs
 - The Light Array is done. Waiting on cable splicing.
 - Finishing the Case prints for the LRAUV version Camera.
 - 901217 - Chemical Sensor Program
 - ISUS-APEX: The Carbon fiber tube and Mandrel are in fab at Amalga.
 - ISUS-APEX: Zeiss spectrometer assembly parts are in the shop.
 - Working on pressure test parts for Equitech probe assemblies.
 - 901800 - LRAUV Payload & Support
 - Version 2 ESP-LRAUV control fins.
 - New Bent Axis port adapters for SubConn Connectors (more wires).
- Kevin Gomes
 - 901009 - CANON
 - Still trying to get the CentOS migrations complete.
 - Overhead
 - Group lead type overhead
 - Working on webhook to automate mkdocs generation on docs.mbari.org
 - AWS support
 - Out of Office
 - Nov 23-25: Vacation

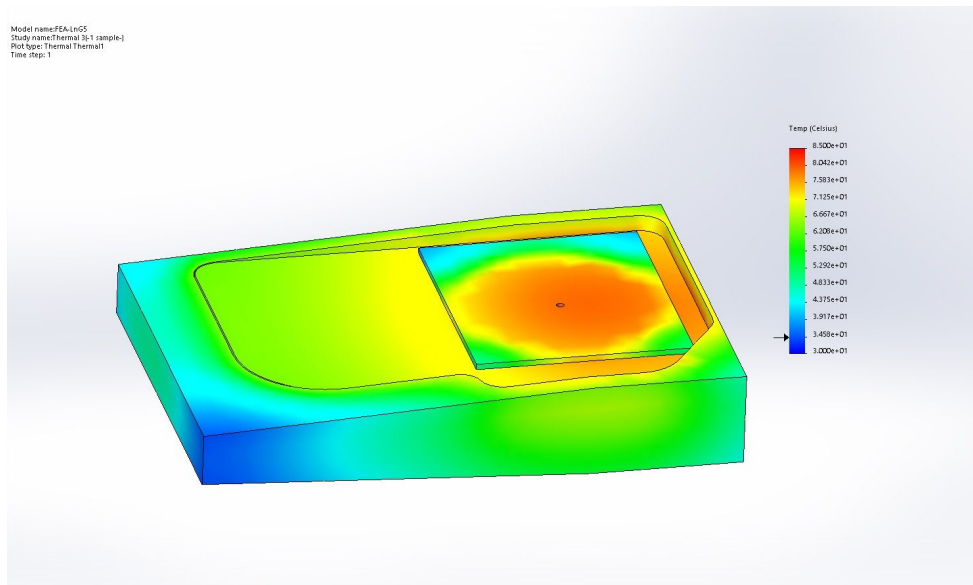
- Andy Hamilton
 - Out of Office
 - On vacation until October 26
- Kent Headley
 - 901803 - Carbon Wave Glider Development
 - Developing C client library
 - Adding/updating M2M (machine-machine) features
 - Status meeting
 - Released development snapshot and updated hardware
 - Overhead
 - Misc admin
 - Reading on software licensing
 - Out of Office
 - Nov 30, Dec 16 : personal
- Rich Henthorn
 - 800139 - EyeRIS
 - Researched central controller boards
 - Discussed software development roadmap with Paul Roberts
 - 901405 - PowerBuoy Development
 - Tested and updated packet rate commands
 - 901800 - LRAUV Payload & Support
 - Discussed obstacle avoidance testing and development plans with Rob McEwen
 - Adding DeltaT LCM channel
- Brett Hobson
- Scott Jensen
 - 901805 - Coastal Biogeochemical Sensing
 - Big order to start standard stock of MCAP and MFET is underway
 - Overhead
 - Got the LRAUV thruster motor spinning using the driver IC being evaluated.
 - Out of Office
 - Current schedule is Monday-Wednesday
 - Quarantine due to travel until November 30. Working at home.
- Brent Jones
 - 901112 - Change in MB & CA Current
 - Continuing to refine CPF netcdf file production for loading data into stoqs.
 - Flew and recovered two LRAUV's in support of monthly MBTS run. Collected CANON sampler samples on MBTS run.
 - 901805 - Coastal Biogeochemical Sensing
 - Begin tear down of Spray 34 hydraulic system. Performed hydraulic pump efficiency testing
 - Overhead
 - Meetings
 - Mentoring Cal Poly students
- Chad Kacey
 - Out of Office
 - Will be gone week of Turkey day.
- Brian Kieft
 - 300083 - DMO Support - LRAUV
 - On call for MBTS deployment
 - 708158 - DHS Y7
 - Debugging water current estimator

- 901800 - LRAUV Payload & Support
 - Working on USBL high speed implementation
- 902009 - AUV UI
 - Held brainstorming workshop. Design review to follow next week followed by end of year summary.
- Overhead
 - Took second covid test and am cleared to return.
- Out of Office
 - Work from home until PCR/Antigen tests return.
 - 11/23-11/27 (Thanksgiving w/ boys)
- Denis Klimov
- Eric Martin
 - 901101 - Ocean Imaging
 - Ordering cables and hydraulic equipment, as well as focal spares.
 - 901206 - Coastal Profiling Float
 - Calibration tools ready
 - 901911 - ROVVR
 - Modifying mwt-lcm-types for rovr additions
 - SCOPE meetings
 - Spares purchasing
 - DQ1942 - Buoy Power Generation
 - Looking at radar data parsing outside of Matlab
 - 901200 - Telepresence
 - Onboarding for Barry Group
 - Bringing Teresa Cardoza up to speed on the system after her leave.
 - Many thanks to Karen for finishing the precruise mods!
 - Out of Office
 - Tuesdays
 - Nov 1-7 Vacation upcoming
- Thom Maughan
 - Out of Office
 - Working remote with regular access as needed at MBARI Tues,Wed,Thurs
- Mike McCann
 - 500055 - Video Annotation DM
 - Getting lots of help from Pat on finding the right version of ImageMagick that works on expanse
 - 901009 - CANON
 - Continuing to iterate with Katie on assigning proper names to the LRAUV ESP Samples
 - 901800 - LRAUV Payload & Support
 - Reloaded Lake Erie STOQS databases with Chl count data for NOAA collaborators
- Rob McEwen
 - 708167 - Wave Energy Converter
 - Assisting with Matlab scripts for the hydraulic controller.
 - Waiting to see if I can do more on the radar-wave-arrival-estimation problem.
 - 901800 - LRAUV Payload & Support
 - Will resume testing LR-OA code with Dorado simulation.
 - Discussing docking with LR team.
 - Out of Office
 - WFH on Thursday and Friday.
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling

- Processing Laser Measure camera calibration images from last Station M cruise. Doing calculations to feed distortion-corrected images into Dan Davis's MATLAB code.
- 901700 - 2017 Acoustical Ocean Eco
 - Drawing schematics for Simrad sonar noise-shielding enclosure.
- 901803 - Carbon Wave Glider Development
 - Ordering lots of parts for Wave Glider instrument build. Team met on Zoom to discuss strategy for rest of this year.
- 901904.99 - Coral Camera System
 - Helping Alana with strobe testing. Working on deepsea connect wireless data system for Macro Camera.
- Overhead
 - Had phone call with entrepreneur who contacted Alana about using seafloor rovers to mine mineral nodules. Also had phone call with MetOcean about our problems with their beacons and possible solutions.
- 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
 - 901009 - CANON
 - Integrating the Porto "Neptus" map-based mission planning application with our prototype "MXM" middleware, which integrates planning and scheduling for diverse robot vehicles. Using Neptus as a real-world example helps Rueda and I to refine the MXM interface so that other third-party tools can be integrated with MBARI's robotic fleet.
 - 901618 - Pelagic-Benthic Coupling
 - Working with McGill to analyze results from Hotspot "loop-and-cross" geolocation runs at Station M, and to refine algorithm further based on this experience.
 - 901809 - Deep Sea Bioinspiration
 - Met with Dana Yoerger, Hobson, Kieft, and Raanan to discuss options for MesoBot acoustic comms. Afterward discussed how to move forward with WHOI in a way to bring MesoBot back to Monterey Bay.
 - Overhead
 - Met with Mark Reichardt of Open Geospatial Consortium and collaborators at Polytechnic University of Catalunya to discuss how to publicize real-world use of OGC PUCK (developed at MBARI) and other OGC standards used by our collaborators. We also discussed new OGC efforts to standardize data formats and "best practices" for aerial drones.
 - Out of Office
 - Was on vacation last week
- Craig Okuda
 - 901007 - Benthic Biology & Ecology
 - Update docs
 - 901803 - Carbon Wave Glider Development
 - Purchasing
 - Update docs
 - Out of Office
 - Vacation days
 - Out sick
- Doug Pargett
 - 901205 - ESP SURF Center
 - Added a holster for the bleach bottle to the front of the KOA-FLowerPot housing.



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- Tested shims between cartridge for new Function Cartridge design.
- Adjusted thermal FEA models of the Function cartridges.



- - Overhead
 - Setting up new computers, software and moving more files around.
- Ben Raanan
- Mike Risi
 - 200105 - Core Nav - MDUC
 - Meeting with Rich on misc. development and repo clean-up questions
 - 600034 - Control Tech - Rock
 - Adding/testing commands to generic rovr-control system
 - 901911 - ROVVR
 - Updated MiniROV ZMQ interface doc
 - Modified ZMQ to LCM bridge to publish new LCM types
 - Created process to handle CLUMP topic
 - 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
 - TU Denmarks ESP deployment off Norway was successful. They are waiting to recover.
 - WHOI's ESP at Bowdoin College failed due to puck misalignment
 - Recovered by tweaking the alignment remotely. It's been working for the last 5 days.
 - Working with Chris Preston on optimizing 3G puck heating for lysis cartridges
 - Looks like we're going to need unique heat loss curves for each heater board :-(
 - 901913 - Wet Wifi
 - Made OceanComm aware of more Waveglider modem mounting options.
 - DQ1865 - Bryde Whale
 - Started disassembling ESPmoe for its retirement after corrosion damage
- Carlos Rueda
 - 901009 - CANON
 - MXM work and assistance to Tom regarding access from his Neptus adapter to the MXM service via HTTP and GraphQL queries.

- 901502 - Passive Acoustic Sensing
 - More experiments, ASA poster preparation, and advancing technical report.
- 901513 - Targeted Sampling by AUVs
 - Reviewing status of front tracking code regarding python3 vs python2 toward decision making moving forward, especially wrt execution on-board the wave glider, which has traditionally required python2 (but this version reached [EOL past Jan 1, 2020](#)).
- 902009 - AUV UI
 - Reviewing [brainstorming presentation](#); some email exchanges.
- Overhead
 - Moving the [webhook environment for documentation generation](#) I have had under my account to *docsadm* on docs.mbari.org as part of next steps toward a more general setup.
 - Attended Scale by the Bay, Thr-Fri past week.
 - CentOS6 EOL: All good for declaring a successful transition to tethysdash2. IS notified.
- Out of Office
 - Nov 25: vacation
 - Dec 9: ASA Conference (virtual)
- 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
 - Helping video lab explore options for serving video files to public
 - Imported annotations from recent Mini ROV dives into the shore database. Working with Lonny and Kakani to sort out the dive number mess from them.
 - 902002 - Fathomnet Detect and Classify
 - Continuing work on [FathomNet web interface](#).
 - [Investigated issues](#) with wrong time zones for videos/annotations for a few dives. [Created a quick reporting tool](#) to help investigate issues in the future
- Rich Schramm
 - Out of Office
 - 11/10-27 Vacation
- Alana Sherman
 - 300080 - DMO Support-Mini ROV
 - REfamiliarizing myself with the system. Helped rewire some of the van. Trying to learn the software and video systems.
 - 901904.99 - Coral Camera System
 - Finished testing of SeaStrobe (I hope) . The bug at startup was fixed by DSP&L, and after reflashing the firmware it was working well enough to do an overnight bench test. I also ran tests of system and component energy consumption, and Paul and I figured out how to get a guide number from Todd Walsh's light meter.
 - Ordered batteries
 - Reviewed mechanical designs with Aaron for camera and battery housings.