

Engineering Weekly Report 11/19/2020 - 11/26/2020

Executive Council Notes

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Individual Activities

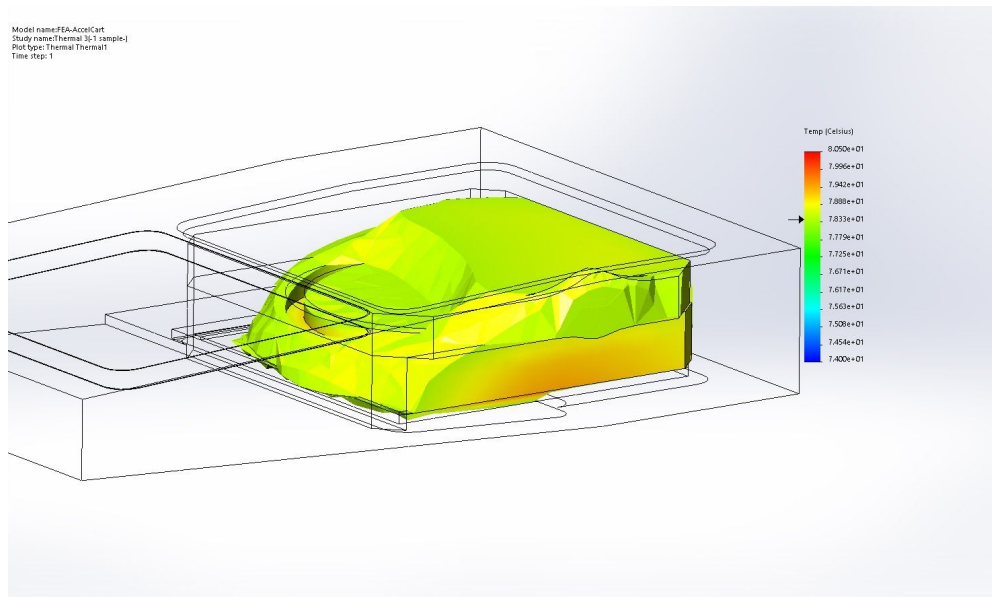
- Francois Cazenave
 - 901405 - PowerBuoy Development
 - I have completed the design of the line capture device prototype for the LRAUV. I've ordered all components from the machine shop
 - I complete the design of the 'LRAUV launcher' and have ordered fabrication
 - 902000 - Multi-Spectral StealthCam
 - I assembled the camera housing, including electronic components
 - 902001.99 - 4K ROV Camera Development
 - I reviewed the slides from Mark and attended the design review
- Mark Chaffey
 - 902001.99 - 4K ROV Camera Development
 - Held design review with MBARI and DeepSea engineers + scientist.
 - Addressing two key items that came out of review 1. Confirming axial compliance matches worst case hydrostatic, thermal and manufacturing tolerance dimensional changes. 2. Re-examining thermal calculations and possible mitigation strategies based on comments (correct) that the thermal margin for 25 Deg. C water was very small.
 - Additional factor that is being addressed relates to assembly procedure and if there is enough clearance for tools.
 - Camera side PCB is currently in Jose's hands for layout. Here again dimensions are tight and PCB and mechanical design are tightly integrated.
- Danelle Cline
- Duane Edgington
 - 901603 - Video TAG: Vis Ocean Chng
 - Finished reviews for ICRAM 2021
 - Overhead
 - Engineering virtual meeting, Nov 24
 - 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
- Kevin Gomes
 - 901009 - CANON
 - Working on migration of ODSS server from CentOS 6 to CentOS 8
 - Overhead
 - Working on Group Lead overhead issues
 - Out of Office
 - Nov 23-25: Vacation
- Andy Hamilton

- Out of Office
 - On vacation until October 26
- Kent Headley
 - 901803 - Carbon Wave Glider Development
 - Using Python and Tkinter to prototype a file transfer GUI for the controller and learn more about Python,
 - Overhead
 - Misc admin, e.g. end of year purchasing, meetings, office/lab space discussion, review planning
 - Out of Office
 - Nov 30, Jan 19 : personal
- Rich Henthorn
 - 600034 - Control Tech - Rock
 - TRN
 - 901800 - LRAUV Payload & Support
 - Obstacle Avoidance work
 - TRN server prep
- Brett Hobson
- Scott Jensen
 - 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
 - Moving CPF data processing to Jupyter notebook
 - 901502 - Passive Acoustic Sensing
 - Processed hydrophone click data for May2020 - Present
 - 901805 - Coastal Biogeochemical Sensing
 - Continued Spray 34 hydraulic pump efficiency testing
 - Swapped out Spray 29 Optical + SBE63 Y cable
- Chad Keczy
 - Out of Office
 - Will be gone week of Turkey day.
- Brian Kieft
 - 901800 - LRAUV Payload & Support
 - Working on integration of USBL mode for Benthos DAT component. Initial lab testing was favorable.
 - 902009 - AUV UI
 - Attended design workshop Tuesday and initial concept review yesterday. Wrapping up that meeting today and will schedule the final concept review for early December.
 - Out of Office
 - 11/23-11/27 (Thanksgiving w/ boys)
- Denis Klimov
 - 118000 - Safety Office - LSO activity
 - Compiling a report on a procedure for cleaning and disinfecting optics, electronics, and PPE
 - 300083 - DMO Support - LRAUV
 - Upgrading another PAR sensor to amplified configuration
 - 800139 - EyeRIS
 - Completed debugging issue of failed thermal limiter on a potted LED strobe
 - 901809 - Deep Sea Bioinspiration
 - Documenting calibrating jig

- Eric Martin
 - 901101 - Ocean Imaging
 - Cable and parts manifest,
 - building quotes and drawings updates
 - 901206 - Coastal Profiling Float
 - Calibration software tuned and working for ISUS and DuraFET
 - 901911 - ROVVR
 - SCOPE Meeting
 - Expanded LCM types for MiniROV to have more contextual data.
 - DQ1942 - Buoy Power Generation
 - Biweekly Meeting
 - Looking at radar data for real-time processing.
 - 901200 - Telepresence
 - Training for Barry group, and remaining trip prep
 - Overhead
 - Archived WF Jira, installed test server.
- Thom Maughan
 - 901009 - CANON
 - Attended meetings with Johns Hopkins APL.
 - Demo unit of Xavier NX based desktop sequencing, aligning and organism identification system delivered last week to the guest lab for Nate to run a bake off with ONT MinIT. System power measurements peak at 30W.
 - Sending input to final 2020 report
 - Setting up development system with protective case and battery circuit. The near term need for next year is backup battery to withstand brief power glitches / outages while on ship.
 - 901805 - Coastal Biogeochemical Sensing
 - Working thru setting up a new laptop with code composer studio. Evaluating a move from CCS7 to CCS10. Worked thru a few hiccups.
 - Working on MpHOx and NpHOx and feature list.
 - 902004 - Planktivore
 - Year end ordering
 - Optical bench design for Fluum and desk
 - Examining the plan for upgrading the storage on DeepDark escalated to a proposed 'better path' of building a new GPU workstation with support for latest Cuda version and large amount of CPU cores for eDNA and Image workflow processing. Reviewed with the DeepDark users, Henry Ruhl and Francisco. Requested \$9k of discretionary funds from Chris Scholin. AMD 3990x with 64 cpu cores, 256 GB RAM, 2x RTX 8000 with a total of 96GB GPU RAM + fast 4TB SSD and RAID drive setup for 32TB storage.
 - 901713 - Nearshore FOCE
 - Borrowed a cable for configuring the conductivity sensor (thanks Chrissie).
 - Out of Office
 - Two days (Nov 19,20) vacation to help document and deploy a smart camera system at the Cal Poly Pier. Working from home on quarantine due to travel until Dec. 3. Have all the equipment I need for Planktivore and Coast BioGeoChem.
 - Working remote with regular access as needed at MBARI Tues,Wed,Thurs
- Mike McCann
 - 500055 - Video Annotation DM
 - Writing Python script to replace what is broken in GraphicsMagick for vfcbdivide
 - 901111 - AUV Infrastructure Supprt

- Processed Dorado mission 2020.323.01
 - Added PAR sensor data to the routine legacy data processing to ODV files for Margeurite
 - Updated Dorado AUV routine data processing email to contain:
 - A remark about relevant details about the mission
 - A link to a 3D visualization of the survey from stoqs_all_dorado
- Rob McEwen
 - 708167 - Wave Energy Converter
 - Assisting Andy with machine characterization.
 - 901513 - Targeted Sampling by AUVs
 - Debugging stand-alone OA code now.
 - Out of Office
 - WFH on Thursday and Friday.
- Paul McGill
 - 300070 - DMO Support- Ventana
 - Helping DJ with Ventana ground-fault issues
 - 901618 - Pelagic-Benthic Coupling
 - Working on math to do Laser Measure calibration underwater instead of in moonpool.
 - 901700 - 2017 Acoustical Ocean Eco
 - Designing Faraday cage for Simrad sonar. Did Zoom call with Jose to get my OrCAD set up correctly for this.
 - 901803 - Carbon Wave Glider Development
 - Ordering parts for DIC analyzer
 - 901904.99 - Coral Camera System
 - Working on Deep-Sea Connect wireless data system for macro camera
 - Helping Alana with Raspberry Pi software configuration
- 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
 - Refining design of our "MXM" middleware that enables coordination of multiple kinds of autonomous vehicles and platforms. Integrating University of Porto's "Neptus" graphical planning software with MXM as a test case, revealing ways we can improve the MXM design.
 - 901902 - Aerial Drones for Sci&MO
 - Met with Steve Reichardt of the Open Geospatial Consortium and Don Sullivan of NASA's airborne science program regarding UAV standards and best practices (for operations and data processing). There are a few working groups that are focused on defining and developing these now, including the OGC's "UxS" domain working group and the Small UAS data interest group. The latter group in particular is working to establish best data processing practices and metadata standards for UAS imagery
 - 902009 - AUV UI
 - Attended workshop hosted by UCSC collaborator Leila Takayama to brainstorm about new user interface for LRAUV.
 - Overhead
 - Invited by Dr Christoph Waldmann, chair of the IEEE Oceanic Engineering Society, to join their standards and best practices committee
 - Out of Office
 - Was on vacation last week
- Craig Okuda

- 901803 - Carbon Wave Glider Development
 - Purchasing
- Out of Office
 - Vacation days
- Doug Pargett
 - 901205 - ESP SURF Center
 - Additional thermal FEA of the current cartridges to compare the new concept to.



- - Cleaned and organized about half of my ESP workspace and tools.
- Overhead
 - Training
- 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
 - Found and fixed a bug in 3G syringe pressure servo (for Chris Preston)
 - Looking into a suspected problem with EEPROM data management on 3G Lysis Cartridges
- Carlos Rueda
 - 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

- In prep for upcoming 4K video, ran tests with HEVC and VP9 mezzanine video files for dives Doc Ricketts 1313 and Ventana 4313
- 902002 - Fathomnet Detect and Classify
 - Continuing development of <http://fathomnet.org>. See <https://bitbucket.org/mbari/fathomnet>
 - Added support for inter-app messaging using <https://nats.io/>
 - Started work on app that listens for new image registration(via nats) and validates the images (e.g. verifies the URL is correct, extracts dimensions and checksum).
<https://bitbucket.org/mbari/fathomnet-validator>
- Out of Office
 - 12/21-1/1 Vacation
- Rich Schramm
 - Out of Office
 - 11/10-27 Vacation
- Alana Sherman
 - 300080 - DMO Support-Mini ROV
 - Ordering parts for spare GFI box.
 - 901904.99 - Coral Camera System
 - Built up a DiSCO camera bench set up to practice with Steve L how to retrieve images via the ODI connection to the ROV. This was a good fire drill for remembering how the system worked and figuring out what documentation was missing. Thanks to Paul and Rich who helped me get a Raspberry pi set up to mimic what we have at sea.
 - Ordered strobes and returned loaner strobe to DSP&L
 - Overhead
 - Attended review for new 4K camera
 - Out of Office
 - Vacation day 11/24