

Engineering Weekly Report 1/14/2021 - 1/21/2021

Executive Council Notes

-

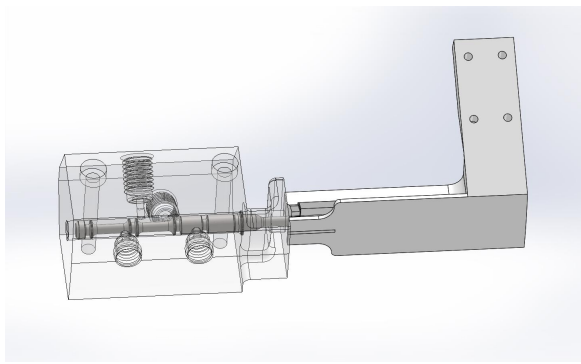
Individual Activities

- Francois Cazenave
 - 902106 - Niobicon-Based AUV Docking Development
 - I am designing components for the docking system (load dump, capture device)
 - Out of Office
 - I have been working part time from home
- Mark Chaffey
 - 902001.99 - 4K ROV Camera Development
 - Optical adapter machine parts and glass are done and passed inspection. Final assembly in Massachusetts is dependent on when the technician can get in the shop.
 - Camera Titanium housing machining is complete and it is being prepared for pressure testing.
 - Optical dome anti-reflection coating test is complete (with coupons) and a dome is being prepped for coating. The large dome size makes this a complex operation.
 - All mechanical design and drawings for parts for the camera are done and in the shop (yea!). A few parts are being bidded out. Tool path programming and material ordering is on-going during the quarantine.
 - Assembly drawings showing all parts placement are complete for the camera.
 - On the electrical side, the camera PCB layout is complete and the board is out to fabrication.
 - Next: complete lapbox and topside interface designs.
- Danelle Cline
- Duane Edgington
 - 901618 - Pelagic-Benthic Coupling
 - Working on Laser Measure tasks
 - Meeting with Paul McGill Jan 14 to review status and tasks
 - Overhead
 - Engineering biweekly telecon
 - Group meetings
 - AWS presentation on new 1u and 2u small Outpost products (for local AWS presence on premise)
- Jon Erickson
 - 800139 - EyeRIS
 - Paul is deciding if he wants to pull the EyeRis pressure case from the shop queue, since they are still closed. This means farming it out to SIO, GoProto, or some other shop and paying for it.
 - 902010 - Mesopelagic LRAUV
 - Working on the Buoyancy for the vehicle. Trading length for displacement and wall thickness, then VB system volume and drop weight mass.
 - Overhead
 - Met on site with Knute, Frank, and Ian. Settled on a mod to fix the docking head. Frank has the solids and is cutting metal.

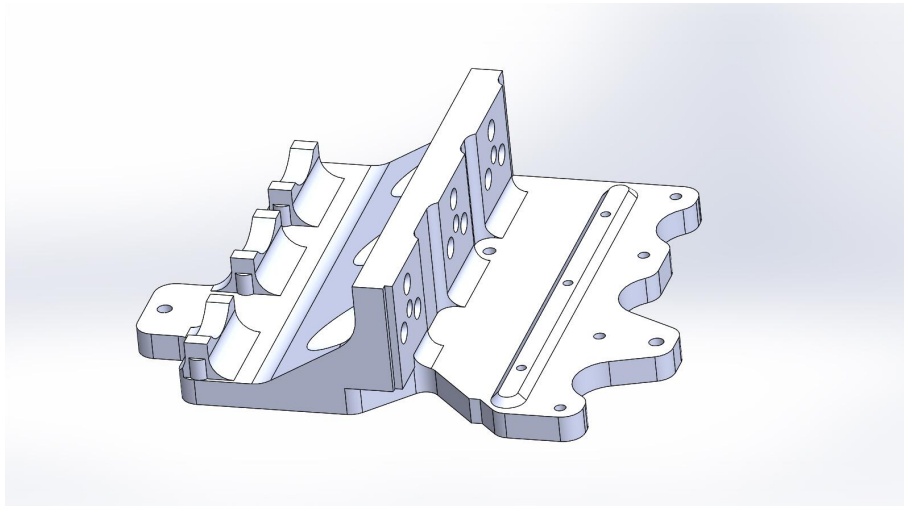
- Kevin Gomes
 - 300057 - Mooring Maintenance
 - Some small amount of troubleshooting as the 50m CTD has stopped reporting
 - Some SSDS maintenance to help get some old plots working that had stopped updating.
 - 901009 - CANON
 - Starting to work on ubuntu build of the ODSS on the test machine to see if we can make the leap to ubuntu now.
 - Trying to figure out if I can move away from the map downloading script that is the only thing running on old normandy and just point to the source WMS layers for remote sensing so we don't have to migrate script.
 - 901602 - Data TAG
 - Starting discussions about next steps to engage LLNL, Dona Crawford and John Zicker
 - 901915 - Improving MBARI Data Impact
 - Follow on work to SamplesDB discussion (more meetings needed)
 - Defining first data sets for catalog work
 - Overhead
 - Working on several things related to transitioning Rich's work and replacement progress
 - Performance reviews
 - PE Hiring committee overhead
 - Final report for the Navy for the work related to the aircraft engine research (report is due at end of January)
 - Weekly sync meeting with Todd R.
 - Supervisor's meeting
 - Engineering meeting
 - Responded to question about ERDDAP hosting at MBARI for GO-BGC project
 - Out of Office
 - May 12-24: Vacation
 - June 21-25: Vacation
- Andy Hamilton
- Kent Headley
 - 901803 - Carbon Wave Glider Development
 - Status meeting w/ PMEL
 - I2C and RH sensor drivers: picking up
 - Overhead
 - Review prep and meetings
 - Out of Office
 - 1/19/20 - medical (family)
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Refactoring libtrnav modules
 - 800139 - EyeRIS
 - Project kickoff meeting
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - ROS research
 - Current profile scheduler
 - Meeting with Hamilton and Sandia folks
 - 901618 - Pelagic-Benthic Coupling
 -
 - Overhead

- Eval prep and meeting
- Out of Office
 - Vacation day Jan 14
 - Upcoming vacation days Jan Mon 25, Wed 27, Fri 29.
 - Upcoming vacation days Feb Mon 8, Wed 10, Fri 12, Mon 22, Wed 24, Fri 26
- Brett Hobson
 - 708168 - DHS Y7
 - Supporting vehicle builds at WHOI
 - Participating in sponsor and group meetings;
 - 901800.98 - Bioacoustic Payload
 - working on the wiring mods to support the BA computer inside LRAUV
 - 902106 - Niobicon-Based AUV Docking Development
 - Designing a new docking support mooring
- Scott Jensen
 - 901205 - ESP SURF Center
 - Meetings and working with the Rosal Group to get another set of the HostGate boards ordered.
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Investigating why there is a flat spot in the ADC
 - 901805 - Coastal Biogeochemical Sensing
 - Researching opamp possibilities that are low power, high input impedance but wide enough common-mode for the new bias circuit configuration.
 - 902106 - Niobicon-Based AUV Docking Development
 - Detailing the electrical aspects of the power transfer monitoring system
 - Overhead
 - Engineering meeting and evaluations.
- Brent Jones
- Chad Keczy
- Brian Kieft
- Denis Klimov
 - 300083 - DMO Support LRAUV
 - Design review of new battery pack controller
 - 800139 - EyeRIS
 - Review of optical power meter attachment for EyeRIS LED strobe
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Testing one more amplified PAR sensor
 - Overhead
 - Preparing materials for performance review
- Eric Martin
 - 901101 - Seafloor Mapping
 - Bi-weekly collaborator meeting with Giancarlo Troni.
 - Discussion of new task to refurbish the old heat flow sensor.
 - Ongoing discussions with Chad Keczy about the TCU.
 - Meeting and advisement on a potential post-doc application.
 - 901206 - Coastal Profiling Float
 - Reviewing SOW for external code contract quote solicitation.
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Advising Brett Hobson on our current cellular modem implementation of 4G LTE on the buoy for a similar project he is tackling.
 - 901700 - Acoustical Ocean Ecology

- Importing Deimos data, sadly this ek60 data does not ingest into echopype, a package that reads in simrad data. I am investigating what is broken in the library.
- 901911 - ROVVR
 - Finished ucontroller survey, purchased evaluation modules.
- 902100 - Telepresence on MBARI Research Vessels
 - Held kickoff meeting, moving forward we are focused on the user survey.
 - Compiled a list of past participants for the survey.
 - Investigating Slack export data from telepresence channels as a data product.
- Overhead
 - Review material prep
- Thom Maughan
 - 300070 - DMO Support Ventana
 - Installed Xojo
 - Cloned Rich's modbus apps
 - Coming up to speed
 - 901805 - Coastal Biogeochemical Sensing
 - Priority is on nanoFET board bringup, in progress, main focus.
 - Toolchain qualification and update to CCS v10 is complete, a few bumps, but not bad.
 - nsFOCE
 - Board checkout of 13 MpHOx
 - 902004 - Planktivore
 - Working with Jose (remote) on DeepRip build. Sorting power supply prob.
 - Overhead
 - Engineering Meeting
 - Review prep
- Mike McCann
 - 500055 - Video Annotation DM
 - Latest security patches on expanse broke fonts for vfcbydive – submitted help ticket to fix
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Tackling [Issue 837](#) as we now need better ways to extract data from STOQS databases
 - Writing Jupyter Notebooks to test various queries to make dataframes from STOQS
 - Overhead
 - Reviewing Rich's responsibilities and replacement along with the group
 - Out of Office
 - Vacation days: 21-25 Jan 2021 to prep for CSUMB teaching
- Rob McEwen
- Paul McGill
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - 901007 - Benthic Biology and Ecology
 - Test valve actuator
 - Update valve designs
- Doug Pargett
 - 881135 - 3G ESP Cartridge Redesign
 - Revising Toroid Valve for Alpha 2.2 cartridges



-
- 901205 - ESP SURF Center
 - Meetings
 - Coordinating with shop for fab of parts, checking with outside shops.
 - Design mod for bulkhead valves to use different flex coupling to assist assembly.
 - Final changes to bulkhead valve mounts prior to 3d print.



-
- Out of Office
 - MLK Holiday

- Ben Raanan

- 708168 - DHS Y7
 - Data analysis of new Proportional Navigation guidance software for line capture homing
- 901809 - Deep Sea Bioinspiration
 - LRAUV software architecture overview
 - Set up meeting with potential external collaborator
- 902101 - LRAUV Technology Development and Fleet Operations
 - Updates and tests for LCM version upgrade
 - Updates to LCM publishers for LRAUV universal data variables
 - General software and code repository upkeep
- 902102 - Multi-LRAUV Simulation Environment
 - Project kickoff and planning

- Mike Risi

- 901809 - Deep Sea Bioinspiration
 - Working on search mode extensions to tracking control system
- Overhead
 - Finished review materials and submitted
- Out of Office
 - April 26-30: Ocean Imaging Cruise
 - September 3-14: Ocean Imaging Cruise

- Brent Roman
 - 708165 - NOAA-MERHAB
 - Exchanged to email with APL expressing concern with Falmat's proposal to avoid work hardening related failures by strengthening and stiffening cable.
 - 901205 - ESP SURF Center
 - Worked with Preston to understand 3G lysis processing and how we might improve it.
 - Proposed using an electro- or electropermanent magnet to avoid losing control of Lysis syringe plunger. Still in the "hair-brained" idea stage, however :-)
- Carlos Rueda
 - 901009 - CANON
 - MXM: helping Tom put together a presentation about CANON/MXM for OGC.
 - 901502 - Passive Acoustic Sensing
 - Trying to determine how to reorganize code moving forward so it's easier to use by others
 - Meeting
 - 902009 - AUV UI
 - Met with UCSC (Jasmine Otto, Leila T., & Ben T.) regarding Jasmine's JDash prototype. Some ideas about integrating it into Dash4, to be discussed later with LRAUV UX group.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Assessing effort to advance TethysL, now including the prospect of directly executing TethysL on the LRAUV (that is, not having to have any intermediate XML translation). Created a [branch](#) with initial preparations to facilitate this assessment. Putting together a [document with notes and possible strategy](#), already being discussed with Mike Godin. All of this, along with a [TethysL Use Cases](#) document, as preparations to determine next steps with the group, hopefully soon.
 - Submitted [PR](#) toward continuing to make all XML missions conformant to the schemas.
 - Overhead
 - "Rich system" discussions
 - Engineering mtg
- Karen Salamy
 - Overhead
 - Filled out the MBARI Conflict of Interest Disclosure and Employee Cert
 - Attended Picture a Scientist Online Webex Panel
 - Attended Monday's Engineering meeting
 - Met with Kevin Gomes regarding the 2021 to discuss replacement responsibilities after Rich's retirement, this year's budget and assigned projects, etc.
 - Out of Office
 - Out sick today.
- Brian Schlining
 - 500055 - Video Annotation DM
 - The latest round of server patches surfaced a bug in docker across multiple machines. Brian has been working on fixes for various servers.
 - 902002 - Fathomnet Detect and Classify
 - Weekly meeting. Planning to release FathomNet publicly on March 1st.
 - 902005 - VARS Annotation Assistance
 - Working with output from ML.
 - [Created an app](#) that fetches Danelle's graphql and sends the data to [Cthulhu](#) to visualize it.
 - Created a demo app using a static ML file to visualize in Cthulhu. This will allow the work to be handed off to students. Submitted a capstone project to CSUMB for students to work on Cthulhu
 - Working on a data transformation to load a subset of ML data from graphql into VARS

- Overhead
 - IE group meetings to review Rich's project before he retires
- Rich Schramm
- Alana Sherman
 - Out of Office
 - Vacation last week.