

Engineering Weekly Report 4/16 - 4/23

Executive Council Notes

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Individual Activities

- Francois Cazenave
 - Out of Office
 - Special leave
- Mark Chaffey
- Danelle Cline
 - 901502 - Passive Acoustic Sensing
 - Found and fixed an issue in decimation for edge case with multiple small discontiguous files
 - Reprocessing 2020 data with UTC aligned day in preparation for AWS Data Sharing and pre/post COVID soundscape analysis.
 - 901809 - Deep Sea Bioinspiration
 - Need to get details from the project on model training needs
 - 902005 - VARS Annotation Assistance
 - Working on the beginnings of AWS web portal. Climbing learning curve of Vue, GraphQL and cloud deployment.
 - Dockerizing tracking code.
 - Overhead
 - Correspondence with Cal Poly about NSF Convergence Accelerators - AI-Driven Innovation opportunity.
- Duane Edgington
 - 901603 - Video TAG: Vis Ocean Chng
 - Returning to exploration of One-Shot learning
 - Update to project manager on time allocation etc for 2020
 - 902004 - Planktivore
 - Update to project manager on time allocation etc for 2020
 - 902005 - VARS Annotation Assistance
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 - Nvidia webinar on Virtual GPU technology and offerings April 22
 - Slack call with Danelle; status update and plan for this week's work
 - Project manager has called a group meeting Thursday April 23.
 - Overhead
 - Engineering weekly zoom status meeting
 - Email to Doug Au regarding PUCK use in community
 - Out of Office
 - Friday April 17 "touch base" zoom meeting
- Jon Erickson
 - 701145 - Penguin Hotspots
 - 901800 - LRAUV Payload & Support
 - Putting six parts in the shop queue to mount the Airmar altimeter in the LRAUV Sipper nose.
 - 902010 - Mesopelagic LRAUV

- Spending a lot of time on design options to justify sending the pressure hull design to Amalga Composites.
 - Overhead
 - Finished the MARS DACR print check. Talking to Craig D. today to review the prints.
- Kevin Gomes
 - 901009 - CANON
 - Data catalog work, digging into connections to ERDDAP and GeoServer
 - 901915 - Improving MBARI Data Impa
 - More design work on integration layer and data models
 - Reviewing LOTS of documentation on the various data models for RDF, Schema.org, OGC, etc., etc.
 - Taking course on CI/CD and Jenkins
 - Overhead
 - Reworking weekly report scripting to fix bug and change functionality
 - Taking course on Machine Learning for Managers
 - Helping folks with AWS tasks
 - Various overhead meetings
 - Out of Office
 - May 6-7: Vacation
- Andy Hamilton
- Kent Headley
 - Out of Office
 - errands for at-risk family/neighbors
- Rich Henthorn
 - 600034 - Control Tech - Rock
 - Regression tests: updated git apps vs. legacy CVS apps
 - Meeting with TRN team to discuss new development practices
 - Addressed bug in map loading code
 - 901618 - Pelagic-Benthic Coupling
 - Visited MBARI to grab camera controller hardware
 - Camera controller setup
 - 901904.99 - Coral Camera System
 - Camera controller setup
 - Overhead
 - Training
- Brett Hobson
- Scott Jensen
 - 901805 - Coastal Biogeochemical Sensing
 - Found a very low power solutions for the hibernate feature on NpHOx
 - Started the layout of NpHOx
 - Overhead
 - Started Orcad PCB Editor training
- Brent Jones
 - 901502 - Passive Acoustic Sensing
 - Continuing to go through monthly data looking for sperm clicks in an effort to build a ML training set
 - Begin LTSA monthly processing for MAR20 and APR20. Want to see how background noise has changed since the covid lockdown
 - Overhead
 - Engineering mtg. Continuing education on ML

- Chad Keczy
- Brian Kieft
 - 708158 - DHS Y6
 - Met to discuss last docking mission and go over vertical control
 - Assisted with plotting tools on whoidash
 - 901513 - Targeted Sampling by AUVs
 - Quick final read of Yanwu's paper
 - 901800 - LRAUV Payload & Support
 - Build environment work on tethyscode2
 - Overhead
 - Various engineering meetings and action item response
 - Pulled some images for the annual report
- Denis Klimov
 - 118000 - Safety Office - LSO activity
 - Working on short version of DeepPIV laser safety document for ship use
 - 901809 - Deep Sea Bioinspiration
 - Reviewing new right-angle remote laser head design (by Jon Erickson) against assembly and testing procedure
 - Overhead
 - While reviewing gerber files for BEDS Bridge Board, schematic mistake was found. Jose Rosal corrected schematic and generated fab package. The board is ready for quoting.
- Eric Martin
 - 901206 - Coastal Profiling Float
 - Testing the new server, adding more features.
 - 901911 - ROVVR
 - Got a workflow established for location based VARS query and data ingestion for historical data presentation in VR.
 - Supporting UCSC team as they start the image analysis tasks on available MiniROV stereo image data.
 - Overhead
 - Started PCB editor training on Orcad
 - Out of Office
 - Due to childcare needs I'm half time until schools reopen. I tentatively plan on being online from 12:30-5
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - DAg is at Indtec getting assembled, pickup planned on Friday.
 - Working on review materials.
 - Expense report
 - 901009 - CANON
 - Nate and I met with Raksha Doddabele to discuss remote internship. Nate did an amazing job of explaining CANON and the BOG lab - kicking myself for not recording it. Duke is finishing classes next week.
 - Working on GPU purchase options for Francisco's group.
 - Setup an Amazon AWS free tier account (no GPU) to get a wiff of the tools. Requested and received approval to pay for a GPU instance.
 - Setting up a HiPP account on AWS and working thru configuration options
 - 902004 - Planktivore
 - Budget forecast / re-base to accommodate impact due to covid19 pandemic. Provided input to Cindy.

- Working on design sketch of lens and lighting adapters / mounts for Fluum. In touch with Larry Bird
 - Overhead
 - Learning LTSpice.
 - Learning AWS Amazon
 - Provided email to Kent on open source projects
 - Out of Office
 - Colorado family situation is improving some.
 - Attending weekly zoom of MontereyBayMakers, managing Slack space, Glen tending the printer, as a group of over 50 we are on track to 3000 faceshields printed and delivered. Working to engage laid off MBA employees.
 - Working at home and not needing to drive to MBARI as MLML is feeding Rascal
- Mike McCann
 - 901111 - AUV Infrastructure Supprt
 - With Karen's help migrated auv_ctd CVS repo from moonjelly to an MBARI [bibucket git repo](#)
 - Working on calibrate.py in the AUV Support auv-python project for i2MAP data
 - Fiddled more with the quick look plot Jupyter Notebook in the auv-python project
 - Overhead
 - Figuring out what dongles I'll need for the new MacBook Pro when it arrives
 - Out of Office
 - Took a vacation day last week
- Rob McEwen
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling
 - Got SnappyTNG camera controller code to compile with latest XC8 compiler. Also fixed problems with Rover Wakey controller code and reflashed Rover's spare.
 - 901803 - Carbon Wave Glider Development
 - Submitted project Coronavirus update.
 - 901904.99 - Coral Camera System
 - Did field-of-view and depth-of-field calculations for Macro Camera design.
- Ed Mellinger
- Tom O'Reilly
 - 901101 - Ocean Imaging
 - Provided prototype MB-System grid-viewer app to prototype to Dave Caress - prototype is based on Qt/QML, a more modern and better supported graphics platform than used by current MB-System
 - Working with Dave Caress to modify MB-System install procedures, with support for Qt/QML.
 - 901902 - Aerial Drones for Sci&MO
 - Described "best practices" for timekeeping in sensors aboard UAV based on review of available techniques and analysis of Hollister test flights. Developing and evaluating tools for post-flight data analysis, evaluating metadata standards to enable efficient image retrieval from archives. Planning for project software review, date TBA.
- Craig Okuda
 - 901220 - Midwater Ecology
 - Redesign isfet interface
 - 901803 - Carbon Wave Glider Development
 - Refresh on previous work
 - Overhead
 - Configure PCB libraries etc

- Out of Office
 - Special leave
- Doug Pargett
 - 901205 - ESP SURF Center
 - This last week (or was it the last two weeks?) I rebuilt the Stumpy bench ESP to operate the new cartridges being designed by Function. Brought it home, helped Brent get the remote network going, and has since been picked up by Function. Thanks to Greg and all for helping make this happen.
 - Function got the new cartridge parts today and can soon start testing them. Note, this is the alpha test article.
 - I have run some thermal simulations of the new Function cartridges (mostly for SW practice and a bit for predicting where we might have problems heating these.) So far, the features we thought might be problematic, will be problematic, but not as bad as we thought. I think they will be easily solved.
 - Overhead
 - I finished up running simulations of Gene's pressure chamber, hopefully he's happy with it.
- Ben Raanan
 - 708158 - DHS Y6
 - Data analysis and group meetings
 - 901800 - LRAUV Payload & Support
 - Continued work on LCM backseat interface
 - 901809 - Deep Sea Bioinspiration
 - Gathering materials for Mesobot backseat interface
 - TX2 setup with the folks at CVisionai
 - Overhead
 - Special leave
 - Coursera: Linear Algebra
- Mike Risi
 - 300080 - DMO Support-Mini ROV
 - Worked on ZMQ interface code
 - Bringing control system up to date with precision control framework
 - 600034 - Control Tech - Rock
 - Removed Linux specific code in update timer
 - Finished first cut of mid-water tracking control system, ready for tank test
 - 901809 - Deep Sea Bioinspiration
 - Added stitched stereo capability to mid-water tracking apps
 - Overhead
 - Misc. input for department budget projection and return to work planning.
 - Out of Office
 - February 19-22: Ocean Imaging Cruise
 - March 9-12: Vacation
 - September 18-29: Ocean Imaging Cruise
 - September 30 - October 2: Vacation
- Brent Roman
 - 901205 - ESP SURF Center
 - Wrote a 15 page "cheatsheet" to help new users of the ESP3G
 - Incorporated Linux "backports" into ESPlinux
 - Gives our 2.6.31 kernel access to networking drivers from 3.14.30
 - We finally have 5Ghz WiFi support
 - Working on added hostapd so ESP can act as WiFi access point

- 901913 - Wet Wifi
 - Contacted by Thomas Riedl (our collaborator) about next steps
 - Not sure myself how best to proceed...
- DQ1865 - Bryde Whale
 - Still no contact :-)
- Out of Office
 - 2nd week of April (college prospecting) (6th - 10th) [postponed...]
- Carlos Rueda
 - 901101 - Ocean Imaging
 - Advancing MB-system dockerization. Doing GUI testing on both linux and macos, and soon on windows 10 (thanks Pat for the VM). Putting together a general [doc](#) with links and some notes.
 - 901502 - Passive Acoustic Sensing
 - Speeding up some of the whale song unit analyses via [multi-threading](#).
 - 901800 - LRAUV Payload & Support
 - After deeming the pre-release testing satisfactory, went ahead and completed the [3.9.8](#) release of Dash3. Not much different in the external user interface, but this is a significant release due to [major changes in the underlying web framework, Quasar](#).
 - Built, tested and published [mbari/tethysdash:3.9.8](#) docker image. Already deployed at <http://tethysdash2.shore.mbari.org/> as part of preparations for tethysdash vm migration.
 - 902009 - AUV UI
 - Via slack, Leila introduced [Jasmine Otto](#) to me. Jasmine is “interested in prototyping different UIs for the LRAUV operations.”
 - Overhead
 - CentOS6 EOL: [okeanids vm migration](#) completed today 4/22. Many thanks to Joe and Pat for their assistance as well as to some LRAUV operators for their patience and feedback while finalizing some adjustments. (The old vm will be accessible at okeanids6 for some time.) Next up is the migration of the tethysdash vm (significantly more complex but [progressing](#)).
 - IE & Engineering meetings.
 - Provided some input to Earthcube’s office coordinator re description of the X-DOMES project (they are working on an updated website).
 - Out of Office
 - A few hours spent on kids school related activities.
 - May 1: vacation
- Karen Salamy
 - Overhead
 - Helped Mike M. migrate the auv_ctd CVS project to bitbucket
 - Worked on building ELKG data dashboards.
- Brian Schlining
- Rich Schramm
 - 200105 - Core Nav - MDUC
 - Porting Vorne display app to work with new LCM-based navproc. Taken it about as far as I can without workplace access.
 - 300058 - DMO Support-WF
 - Working on new XOJO dataprobe app developer documentation.
 - Out of Office
 - Jul 30 - 3-Aug Vacation
 - Aug-10 -21 Vacation
- Alana Sherman
 - 901809 - Deep Sea Bioinspiration

- Got Sony labview GUI working with LV 2018 then merged with the DeepPIV GUI. Now working through all the bugs left over.
 - Have to add features to gray-out buttons that are not active
 - Still need to do work on focus
- Hoping to merge the logging code this week as well
- 901904.99 - Coral Camera System
 - Starting to discuss the macro camera system requirements and learning about the challenges facing us.