

Engineering Weekly Report 4/24 - 4/29

Executive Council Notes

-

Individual Activities

- Francois Cazenave
 - Out of Office
 - Special leave
- Mark Chaffey
- Danelle Cline
- Duane Edgington
 - 901603 - Video TAG: Vis Ocean Chng
 - Video conference call with Franz J. Kurfess (CalPoly), Lubomir P. Stanchev (CalPoly), Danelle regarding NSF *Convergence Accelerator: AI-Driven Innovation via Data and Model Sharing* call for proposals. That team is moving ahead with a Agriculture / Marine Fisheries proposal, with Danelle and Duane as advisors.
 - Returning to exploration of One-Shot learning
 - 902005 - VARS Annotation Assistance
 - Tasks on VAA-32 registering videos. Returning to docs and code examples.
 - Overhead
 - Weekly engineering meeting April 28.
 - Kevin group meeting May 1.
 - Out of Office
 - Internet outage at home April 27-28. Now OK...
- Jon Erickson
 - 901800 - LRAUV Payload & Support
 - Through Brett, I'm intermittently helping with the WHOI DHS vehicle.
 - 901809 - Deep Sea Bioinspiration
 - Working on yet another version of the remote laser head. Also need a means of holding and assembling the optics head part of that. I'm two days into this, but 1/3 of my time is taken up in time lag and freezes in the remote desktop connection. I'm billing that to Dept. overhead.
 - 902010 - Mesopelagic LRAUV
 - I've got multiple concepts, but we need to generate a set of functional requirements.
- Kevin Gomes
 - 901009 - CANON
 - Data catalog
 - 901915 - Improving MBARI Data Impa
 - Data catalog
 - Overhead
 - Lot of time in AWS stuff, working with IS and Danelle to look at ways to connect MBARI AD to Auth0/AWS
 - 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
 - Addressing TRN replay-to-server interface bug
 - 901405 - PowerBuoy Development
 - Reviewed proposal ideas
 - 901618 - Pelagic-Benthic Coupling
 - Planning controller development effort with team members
 - 901800 - LRAUV Payload & Support
 - Discussing LCM interfacing with team members
 - 901904.99 - Coral Camera System
 - Assembled camera controller development toolchain
 - Minor improvements to reduce code size
 - Overhead
 - RDE meeting
 - MBARI reopening input
 - Training
- Brett Hobson
- Scott Jensen
 - 901205 - ESP SURF Center
 - Mostly a meeting
 - 901405 - PowerBuoy Development
 - Investigate Battery options
 - Overhead
 - Orcad PCB training
- Brent Jones
- Chad Keczy
- Brian Kieft
 - 708158 - DHS Y6
 - Reviewing budget
 - Reviewing proposed MB sonar and INS integration
 - Met with team to discuss progress and plans for deployment
 - Assisted with standalone binaries for host side simulation of under ice missions at WHOI
 - Fixed a minor bug associated with tracking acoustic targets in sim
 - 901009 - CANON
 - Reviewed rough deployment plan for June
 - 901800 - LRAUV Payload & Support
 - Automated B&T value acceptance and tested in sim
- Denis Klimov
 - 118000 - Safety Office - LSO activity
 - Looking into shorter version of the laser safety document for DeepPIV ship operation
 - 901809 - Deep Sea Bioinspiration
 - Reviewing right angle remote laser housing design and assembly procedure
 - Overhead
 - BEDS Bridge Board is ready to be ordered.
- Eric Martin
 - 901101 - Ocean Imaging
 - Strobe upgrades meeting

- Internship update meeting
 - Collaborator update with Giancarlo
- 901206 - Coastal Profiling Float
 - Server Effort
- 901405 - PowerBuoy Development
 - Reviewing DOE proposal RFP
- 901911 - ROVVR
 - UCSC student data sharing spin up
- Overhead
 - Orcad Training here and there.
- 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 hardware bringup is moving along. Worked around the missing 0.1 ohm resistor for now.
 - Working thru pin muxing. Was hoping to get board bringup done then move onto other projects
- 901009 - CANON
 - Setup of AWS Amazon high performance compute server. This server is for working with my intern. Getting gentle pressure from the project manager.
 - No progress at all on BLAST cross compile, none, nada, in order to work on AWS
- 901805 - Coastal Biogeochemical Sensing
 - In progress on pre-nanoFET software dev using a launchpad board and DAg
 - Re-structuring the source code for a processor variant.
- 902000 - Multi-Spectral StealthCam
 - Picked up hardware from MBARI so Bridget Benson can continue working in prep for board bringup. Have not heard status on hardware.
- 901713 - Nearshore FOCE
 - Picked up optode sensor from MBARI.
- Overhead
 - Comcast internet went down at my house - thanks to verizon for cell phone tethering.
 - Comcast at new office is installing Thursday.
- Out of Office

- Went to MBARI to pickup a few things. Grabbed my Tektronix scope and a misc connectors, usb-serial boards, etc. Also grabbed Bridget's MBARI laptop, her dev boards, and her Cal Poly surface. Rascal the cat was happy to see me, he is being fed, I fed him dry food.
 - Planning to take a day or two vacation to help lay off MBA staff get networked into montereybaymakers.org.
- Mike McCann
 - 901111 - AUV Infrastructure Supprt
 - Going all in on learning to use VS Code – using it on the auv-python project
 - 901221 - Midwater Time Series
 - Implementing the calibrate and align steps in the auv-python project
 - Exploring using xarray for all data read, processing, and write functions
 - Looking at using streamlit.io to build a dashboard for AUV data visualization
 - Overhead
 - Working with Jenny on a mapping database task in the Ocean Imaging project
 - Struggling with using 10-year old laptop, new laptop should arrive next week
 - Out of Office
 - Taking a vacation day this week to catch up on grading for CSUMB class
- Rob McEwen
- Paul McGill
 - 300070 - DMO Support- Ventana
 - Trying to set up an Arduino to exercise a Ground Fault Sensing board from Ventana in order to understand some problems with that system.
 - 901618 - Pelagic-Benthic Coupling
 - Reviewed depth-of-field testing images for Macro Camera and tried to compare them with my modeling, but more in-lab testing will be required.
 - 901700 - 2017 Acoustical Ocean Eco
 - Battled configuration problems with Deepdark not recognizing its GPUs, but finally got it going again.
 - Overhead
 - Training: Got online accounts and software set up for OrCAD training.
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - 901220 - Midwater Ecology
 - pH sensor interface redesign
 - Overhead
 - Misc overhead
 - Misc email follow up
 - Out of Office
 - Special leave
- Doug Pargett
- Ben Raanan
- Mike Risi
 - 200105 - Core Nav - MDUC
 - Started working on pan and tilt code
 - Meeting with Rich on remaining work, and plan for deployment
 - 300080 - DMO Support-Mini ROV
 - Working with Dale on ZMQ interface to MiniROV
 - Updating station keeping software to use pcon-lib

- 600034 - Control Tech - Rock
 - Working on generic ro-v-control application for ROVs
 - Final review of mid-water tracking control with Steve Rock
- Overhead
 - Input for return to work and MBARI access priority
- 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
 - Got ESP Linux to function as a WiFi “hotspot”
 - 901913 - Wet Wifi
 - Responded to
 - DQ1870 - NOAA Merhab
 - Kickoff telecon with UW and APL
 - Out of Office
 - 2nd week of April (college prospecting) (6th - 10th) [postponed...]
- Carlos Rueda
 - 901101 - Ocean Imaging
 - MB-System dockerization is pretty advanced now, with good testing not only on MacOS but also on a Centos7 vm, including an exercise during a Slack session with Dave, where we ran a GUI program and verified read/write access to a Titan share. Updated the [user-oriented instructions](#) and improved the [launcher script](#) so it's easier to use. Looking forward to [some more testing by more users](#), hopefully including on an Ubuntu host as well.
Thanks Pat for assistance with VMs and Brian S. for the quick feedback.
(BTW, attention on the Windows 10 target has been postponed, in part because it's of lower priority and also because of difficulties that prevented us -including IS- from setting up Docker Desktop on a vm for that purpose. A proper Windows computer could be considered later.)
 - 901502 - Passive Acoustic Sensing
 - Meeting
 - Some catching up regarding improved compute performance, see overhead/personal bullet.
 - 901800 - LRAUV Payload & Support
 - Automated LRAUV docker image build at Docker Hub enabled for the lrauv-application repo directly. Will be exercised next time a git tag with the usual YYYY-MM-DD pattern is pushed.
 - Some exchange with Brett about TethysL work for 2021, including time allocation for Mike Godin so we can ensure correct translation and execution semantics.
 - 902009 - AUV UI
 - Replies to and some coordination to address minor requests from UCSC.
 - Overhead
 - Engineering zoom mtg.
 - (plus personal interest): Lots of learning regarding compute performance. By using [OpenMP](#) for multi-threading I immediately got a 4-5x speed-up in a program for linear predictive coding (on my macbook) with [minimal adjustments](#) to the C code (which was already highly performant but originally designed for a single core). Also exploring a bit <https://github.com/flame/blis> (which supports parallelism via either OpenMP or pthreads).
 - ESIP Semantic Technologies mtg.

- Assistance to a collaborator with some adjustments to the ORR semantic portal toward enabling [pyLODE](#) as one ontology viewer.
- Out of Office
 - A few hours spent on kids school related activities.
 - May 1: vacation
- Karen Salamy
 - Overhead
 - Special Leave - Working about half time with child care and home schooling. I will be available several hours a day (although those hours may vary depending on school assignments and needs).
 - Running some docker build tests.
 - Sorting through various on-line tutorials.
 - Out of Office
 - Will tentatively need to continue working from home through the first month or so back to work depending on when after school resumes or if we are able to get daily child care/teacher..... Strange days to be sure.
- Brian Schlining
 - 500055 - Video Annotation DM
 - Adding docs for spinning up m3-microservice on sql-server
 - Working on improving support for postgresql
 - Responding to many internal/external support requests:
 - University of Hawaii - Assist their team with using VARS remotely
 - CSIRO - Their team is looking at building their own deep-sea guide on their M3/VARS system.
 - CVISIONAI - Assist with building and running M3/VARS
 - Geomar - Requests for troubleshooting their VARS system
 - 902002 - Fathomnet Detect and Classify
 - Assisting Joost with migrating DeepPIV videos to M3
 - Ran tests on Kevin Barnards code that loads building boxes from RectLabel into VARS to verify that it's copacetic. <https://mbari1.atlassian.net/browse/VAA-30>
 - 902005 - VARS Annotation Assistance
 - Working on [data model](#) and [system design](#).
 - Overhead
 - Working through tutorials on [ZIO](#)
- Rich Schramm
 - 200105 - Core Nav - MDUC
 - Setup automatic coredata file transfers to shore and AIS ship tracking from new Ubuntu navproc
 - 300057 - Mooring Maint
 - Re-route MBA sharktag emails
 - Overhead
 - Planning w/M.Risi re future of work on LCM datamanager replacement work
 - Multiple zoom/slack meetings
 - Out of Office
 - Jul 30 - 3-Aug Vacation
 - Aug-10 -21 Vacation
- Alana Sherman
 - 901809 - Deep Sea Bioinspiration

- Continued work on GUI, working on logging of camera data. Debugged some issue with reading the iris values and with focus commands. Getting there but lots of time spent on administrative tasks.
- Overhead
 - Working on MBARI reopening issues, group lead zooms, etc.