

Engineering Weekly Report 5/18/2023 - 5/25/2023

Executive Council Notes

-

Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Working on vars-kb-server rewrite
 - Scoped integration of clearvision/imagehash capabilities into vars-gridview
 - 902002 - FathomNet
 - Working on finishing up community feature support in fathomnet-rest-api
 - 902204 - Scalable Robotics
 - Calibrated MiniROV stereo cameras after remounting to match data from Fulmar cruises
 - Support and fixes for RTAB-Map SLAM ahead of DOEST demo
 - DQ2209 - Ocean AI 2
 - Collected unlabeled image dataset for QSCP from Kakani's dives
 - Ran OVAI programmers working group discussions
 - Scoped and planned efforts for FathomVerse MVP/QSCP experiments
- Francois Cazenave
 - Out of Office
 - Took ½ day off to take care of sick child
- Danelle Cline
- Duane Edgington
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Continued work with Danelle on clustering and active learning tools for midwater images and concepts
 - Arranged office space for incoming intern Tarun Sharma June 5 to Aug 11.
 - Setting up Vision Transformer for Small-Size Datasets for training against midwater images. Successfully trained against CIFAR-100 as a test run.
 - Setting up AWS sagemaker studio for 901103 work.
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - Working on LCM Bridge again
 - Working on logr using new single LCM type
 - 300070 - DMO Divisional Support - Ventana
 - Helping out with figuring out how to register/view WMS layers on 4D Nav
 - 901009 - CANON
 - Supporting experiment
 - Overhead
 - Interviewing candidates for SE Embedded
 - Out of Office
 - Aug 28-Sep 12: Vacation

- Andy Hamilton
- Kent Headley
 - 300057 - Mooring Maintenance
 - Monitoring 2023M1 output from gps, gpsclock and metsys driver updates. All looking good.
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Helping Rob with code merge
 - 902204 - Scalable Robotics
 - Working with Bastian to review some cruise data and a potential issue (image resolution differences between logged and captured images)
 - Overhead
 - Hiring: completed first set of interviews, now working on deliberation
 - Attended abstract presentations
 - Misc admin
- Rich Henthorn
 - 901405 - PowerBuoy Development
 - Wrapping up the simulation logger (for now)
 - Timestamps look good
 - Last unit conversions to match real logger
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - SES data pull from the weekend - functioning well
 - Working on automated data pulls and processing
 - TODO: Check-out Kent's xFOCE www system to provide web access to latest data
 - Overhead
 - Rec-Com
 - Out of Office
 - June 1 - 9: Vacation
 - June 29 - July 10: Vacation
 - July 24 - 27: Vacation
 - July 31 - Aug 4: WFH
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Nanofet issue with bias battery powering circuit during sleep: discussed w/ Scott to ID/understand issue, testing fix involving HIB pin (may have new issues: current draw too low, Durafet voltages are off)
 - Troubleshooting nanofet2 after accidentally shorting battery power to some components
 - Continuing assembly of eddy covariance instrument, and fixing small problems with machined parts
 - Weekly meetings
 - 901904 - Deep-Sea Coral Community Observatory
 - Set up LED ring to flash LED/camera pin on commands
 - Set up camera to trigger on pulse, and tested w/ pulse gen
 - Python script to communicate w/ LED ring, and coordinate, read, and display matching camera image
 - Met w/ Paul to discuss next steps
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Biweekly meeting
 - Overhead
 - Planned/led Bike to Work on 5/18/23
 - Substitute interview for prototype machinist

- Out of Office
 - May 25-26 reunions
- Scott Jensen
 - 706008 - READI-net
 - A lot of investigation into the applicability of the Sutron Satlink3 product
 - 771131 - Great Lakes PCM/HAB
 - Some effort in completing drawings for the installation of ESP into SeaTrac
 - 901405 - PowerBuoy Development
 - Started assembling the next revision of the BMS prototype
 - Out of Office
 - Vacation May 11-15
 - Vacation June 30-July 5
 - Vacation July 24-28
- Brent Jones
- Chad Key
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 300082 - DMO Divisional Support - Wave Glider
 - Recovered Waveglider Hansen in Carmel Bay
 - 901009 - CANON
 - Recovered Makai today.
 - Still helping out with CANON. May be extended
 - 706007 Great Lakes
 - Getting travel and shipping sorted out
 - Overhead
 - Interviews
 - Out of Office
 - 05/15 (PDT)
 - 06/09-14 (PDT)
 - 06/19 - 06/29 (EDT)
 - 07/03 - 07/07 (TBD)
 - 07/17 - 07/28 tentative (TBD)
 - 08/03 - 08/07 (EDT)
 - 08/16/ - 08/19 (EDT) alternate
 - 09/26 - 10/04 (EDT)
- Denis Klimov
 - 901112 - Monterey Bay Time Series
 - We had to do emergency recovery of IFCB using a trip with Paragon to Power Buoy location due to rising humidity. Suspecting internal needle clogging similar to what other groups along the Western seaboard are experiencing, especially close to shore due to silt contamination. First time emergency recovery was an experience; overall it came OK and we certainly learned of some improvements for the next time. Opening the instrument, there was about 5 mL of the water inside; so not a significant leak, luckily, and no much damage.
 - We are consulting with McLANE and other users on possible solutions and have parts on order. A new model of the needle introduced by McLANE recently, slightly larger and polished inside, is of particular interest.
 - Overhead

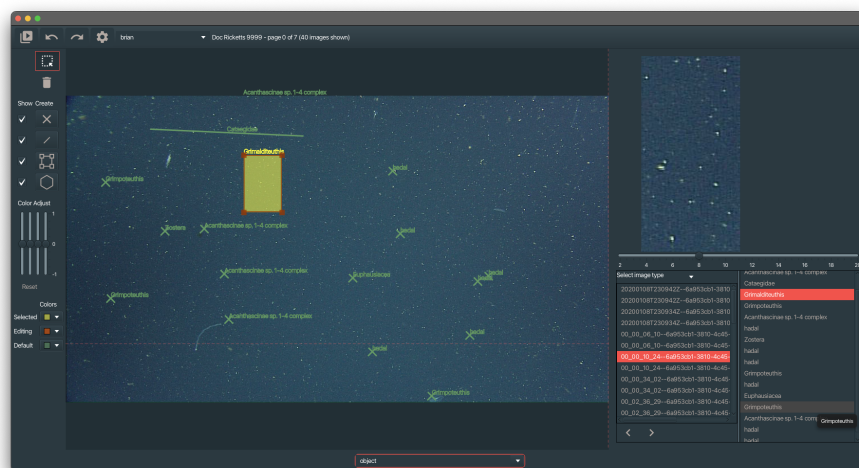
- We are looking at the installation option for a new reflow oven (with Jose Rosal) and lab B232 reconfiguration.
 - We did an additional review of a Paragon HPU battery system design; and figuring out what is the scope of responsibilities of EE Design Battery Safety Sub-committee
- Out of Office
 - 6/12/2023-6/15/2023
 - 7/3/2023-7/6/2023
 - 7/11/2023-7/14/2023
- Eric Martin
 - Out of Office
 -
- Thom Maughan
 - 300083 - DMO Divisional Support - LRAUV
 - Board bringup and software dev for lrauv battery management board.
 - Parts kit for small dev board
 - 901009 - CANON
 - Researching use of docker and zfs on bioinformatics servers
 - 901805 - Coastal Biogeochemical Sensing Program
 - Assist on MFET logging problem
 - 902004 - Planktivore
 - Mooring prep
 - Project budget and planning
 - Abstract prep and presentation for 2024
 - Overhead
 - Reflow oven test.
 - Out of Office
 - Vacation June 26 - July 12
- Mike McCann
 - 901009 - CANON
 - Upgraded to stoqs-mapserver 7.4.2 for Postgres 15 authentication support
 - Continuing to test Postgres 15 on kraken2 – so far so good
 - Making sure automated i2map data processing is executing for ongoing CANON campaign
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Wrote code to convert UTM positions for 2003-2004 Dorado data processing in auv-python
 - Testing reloading stoqs_all_dorado on kraken2
 - Overhead
 - Gave project abstract presentation on proposed EXPD modernization project
 - Attended CSUMB CS capstone festival last Friday and had kickoff meetings with new teams
 - Out of Office
 - 7-11 August: SIGGRAPH in LA
- Rob McEwen
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Working through FLS moving-map code.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Debugging water current simulation in the LR simulator.
- Paul McGill
 - 701147 - MARS O&M IV
 - Troubleshooting ground-fault issues on two instruments
 - Worked with Kevin G to get access to MARS data in SSDS
 - 901618 - Pelagic-Benthic Coupling

- Finished analyzing Rover fluorescence data
 - Finished poster for ASLO
 - 902304 - Piscivore Cam
 - Attempted to run v2.1 camera on bench but had multiple problems
 - Configured and deployed v2.0 camera for its third LRAUV deployment on Tue
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Continuing to monitor SES data as it comes in from MARS
 - Overhead
 - Setting up a ground-fault monitor for Erich R to use
- Enoch Nicholson
 - 706008 - READI-net
 - Waiting on machined parts.
 - Began assembly of printed components.
 - 771131 - Great Lakes PCM/HAB
 - Tested 1/8" moon pool mount. Too flimsy, made out of 1/4" 5052.
 - Designed a fairing for the pump to reduce drag and deflect debris.
 - 902306 - SINKER
 - Refined module board layout.
 - Began concept chassis design.
 - Continued conceptual frame model.
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - Out of office on Fridays
 - May 30 - June 6
- Paul Roberts
 - 901809 - Deep Sea Bioinspiration
 - Supporting Chiton deployment for CANON
 - 901904.99 - Corral Camera System
 - Meeting with Irene and planning for assembly of multispec camera
 - 902001 - Ventata 4k camera
 - Wrap up of new optics testing and planning for laser integration
 - 902004 - Planktivore
 - Abstract presentation and processing data from paragon deployment
 - 902204 - Scalable Robotics
 - Planning for Oct deployments and MiniROV sled
 - 902306 - SINKER
 - Finalizing sediment camera optics
- Brent Roman
 - Out of Office
 - May 26 - June 6
- Carlos Rueda
 - 901502 - Passive Acoustic Sensing
 - Processing of Chumash Heritage NMS data. Refinement of [software](#). Looking into proper metadata capture in the generated hybrid millidecade spectra product.
 - 901513 - Targeted Sampling by AUVs
 - For the first time, successful running of the front detection and tracking software offshore on the wave glider (SV3029). However, as emailed to the team: "by moving the program to run onboard we certainly gain in terms of avoiding data/commanding latencies, but we also lose some nice "infrastructure" features that we enjoyed and were very useful when running on

shore. One key new element here (as hinted on slack) is probably having some sort of a more stateful program such that any parameter changes could be requested and acted on with minimal intervention (something a la TethysDash/LRAUV). Nothing trivial in principle, but I'll be thinking about how to incorporate some of that from the point of view of the tracking code."

- 902101 - LRAUV Technology Development and Fleet Operations

- TethysDash: code adjustments/fixes (both backend and dash4 frontend).
 - TethysL: revisiting the “operator associativity/precedence” aspect in the traditional XML schema and corresponding evaluation logic on the LRAUV, where this is done in very peculiar way, so we need to properly do translation to TethysL to preserve the intended semantics to the extent that is practical. Mike Godin has provided some input regarding the LRAUV logic, but I’m still unsure as to his actual availability moving forward.
- 902204 - Scalable Robotics
 - Discussing some possible next set of elements for the webapp.
- Overhead
 - SE-EAD interviews.
 - IE mtg, abstract discussion/feedback.
- Out of Office
 - June 5 : vacation (important family related business)
 - June 9, July 4–17 : vacation
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Processed weekly ROV CTD O2 data information into EXPD for Ed.
 - 300057 - Mooring Maintenance
 - Helping with upcoming Mooring Deployment.
 - 901101 - Seafloor Mapping
 - Meeting tomorrow with Jenny, Mike M., and Dave C., about the project for the year ahead.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Working to get various UI functionality working with the new dash5 ahead of DOEST
 - Overhead
 - Office Move this past week. My office location is now with Carlos in Bld. A258.
 - Out of Office
 - VACATION: May 30, June 19-23, 2023
 - Now in the office 3 days/week M, T, Th..
- Brian Schlining
 - 901618 - Pelagic-Benthic Coupling
 - Alpha version of the new image annotation application, [Mondrian](#), is ready for testing.



- 902002 - FathomNet
 - [New release](#) of the worms-server to address [issue #3](#)
- Overhead
 - Helping the Coastal Research Institute ([CORI](#) in Egypt) spin up M3/VARS.
 - Updated [DARC's](#) VARS stack. Addressed an issue that was filling up their disk space.
- Out of Office

- May 8 - 16 - Out of office
 - Jul 28 - Aug 6 - Vacation
- Alana Sherman
 - 902204 - Scalable Robotics
 - Met to discuss new sled requirements
 - 902208 - MiniROV Support
 - Worked on troubleshooting an issue with the autoheading- turned out to be a fiber issue
 - Found issue with logging and timestamps that needs to be resolved
 - Overhead
 - Attended abstract presentations
 - Last week gave lunch time seminar to 80 people at JPL on Robotics in Ocean Exploration
 - Worked on Battery Design committee charter
- George Stern