

Engineering Weekly Report 4/18/2024 - 4/25/2024

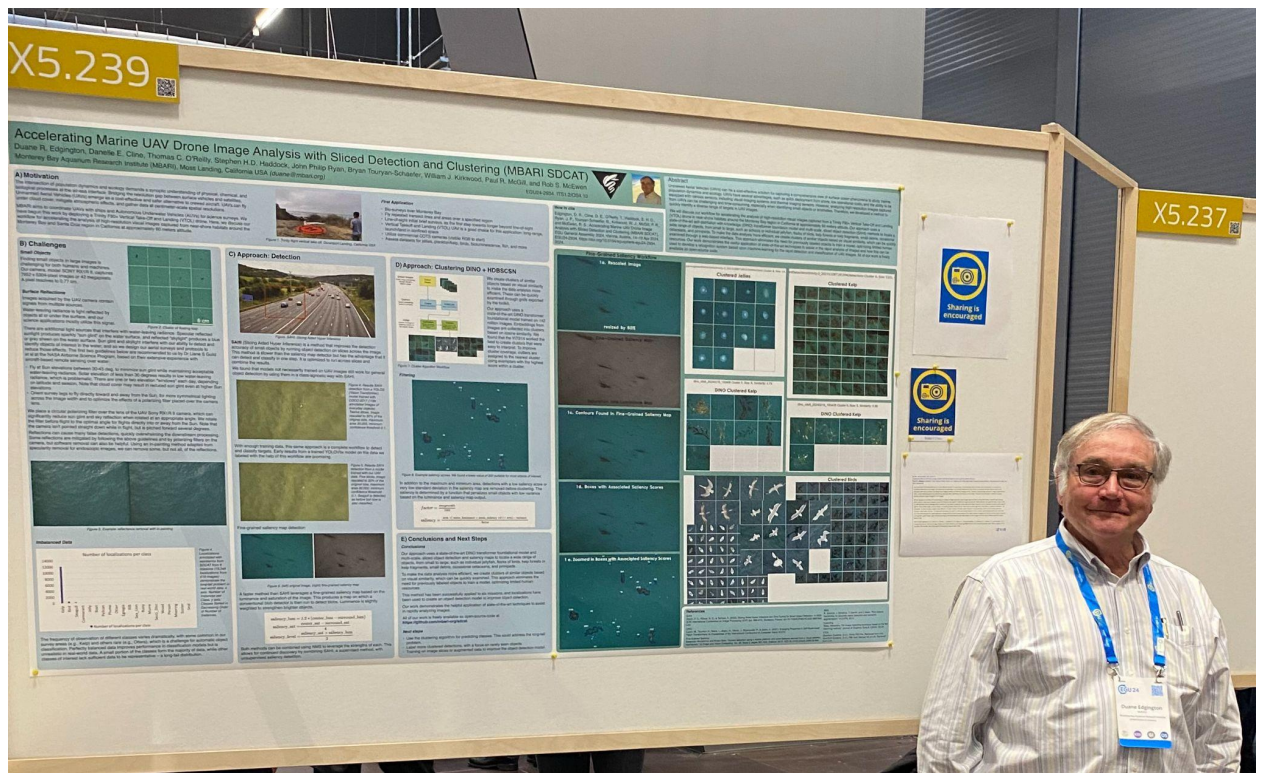
<https://docs.mbari.org/internal/projects/Engineering/Weeklies/2024/>

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Rewrote dfg-tool
 - 701165 - OVAI Phase II
 - Implemented training and expedition mode play context generation in cms-client
 - Generated first set of play contexts for FathomVerse v1 launch
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Preparing buoy for deployment
 - 902106 - Niobicon-Based AUV Docking Development
 - Assembling Pontus
 - Preparing mooring
 - 902204 - Scalable Robotics
 - Reviewed camera housing design
- Danelle Cline
 - Out of Office
 - Medical leave March 18-April 22
- Duane Edgington
 - 901502 - Ocean Soundscape
 - Team meeting April 24.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Project presented as poster at [EGU 2024](#) meeting. "Accelerating Marine UAV Drone Image Analysis with Sliced Detection and Clustering (MBARI SDCAT)" by *Duane R. Edgington*, Danelle E. Cline, Thomas O'Reilly, Steven H.D. Haddock, John Phillip Ryan, Bryan Touryan-Schaefer, William J. Kirkwood, Paul R. McGill, and Rob S. McEwen, session ITS1.2/OS4.10, abstract EGU24-2934, poster presentation.
<https://doi.org/10.5194/egusphere-egu24-2934>



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- Out of Office
 - April 12 - 21, 2024. EGU UTC+2
 - June 10 - 21, 2024. Vacation UTC-8
 - Sept 17 - 20, 2024. PyTorch Conference, San Francisco Airport
 - Oct 21 - Nov 8, 2024. Vacation UTC+1
- Jon Erickson
- Kevin Gomes
 - 300070 - DMO Support - Ventana
 - Picking up DiveLog web app work again.
 - 706008 - READI-Net
 - Created new documentation site and starting to plow through the code to try and understand it all.
 - A couple meetings to help transfer knowledge/docs from what was Big Bad Wolf Software to us.
 - 901009 - CANON
 - Added the WCOFS layer generation to the odss-utils code
 - Overhead
 - Board related stuff
 - Supervisor related meetings
- Andy Hamilton
- Kent Headley
 - 902204 - Scalable Robotics
 - Query to Blueprint Subsea re Oculus sonar SDK
 - 902405 - Precision Control Technologies
 - Developing TRN documentation outline
 - Overhead
 - Hiring: application review, discussion meeting
 - Laptop failures - thanks to Daniel and Doug for a speedy recovery
 - Misc admin
 - Out of Office
 - Thu 4/25 after 3 pm

- Rich Henthorn
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Integrating image analysis into mission control
 - Reinstalling controller chassis in SES housing
 - 902401 - Geo-Sense
 - Team is down-selecting cable purchase options
 - 902405 - Precision Control Technologies
 - Analyzing multi-vehicle TRN sim with DAT info transmission
 - Overhead
 - Rec-Com
 - Out of Office
 - May 8 - 10: WFH
 - May 28 - June 5: Vacation
 - July 3 - 11: Vacation and WFH
 - Aug 26 - Sep 11: Vacation
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Troubleshooting on “bad” MBARI digital board: based on logic analyzer, data coming from analog board is correct, scrambled somewhere on digital board. Code seems to be correct. Second board tested by Ben/Mari and works fine
 - Worked with Jose to coordinate assembly of new MBARI digital boards
 - Reviewed Chad’s updates to the MUXer board
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Fixes and edits to board schematics following layout
 - Continue implementing code
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Started fixing up SES with Paul and Rich; video documenting process
 - Out of Office
 - May 3-15: Taiwan
- Scott Jensen
 - 706005 - eDNA Grass Carp Sandusky
 - Preparing instruments and equipment for upcoming deployment
 - 706008 - READI-Net
 - Working to get Cloud and Web application moved to MBARI control
 - 708178 - Marine E Development NAV
 - One possible use of the FOC engine.
 - Continuing to define specifications
 - Looking into bridge drive options for the propeller.
 - Overhead
 - Working with a evaluation board for a Trinamic FCO engine may be usable by a few projects
 - Finally able to spin the motor now that all the correct power is applied and communication channels are functioning.
 - Out of Office
 - June 17-21 vacation
 - July 18-23 vacation
 - July 24-29 vacation
- Brent Jones
- Chad Key
 - Out of Office

- Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 05/27-06/21 (GMT+1)
 - 07/08-07/12 (HST)
 - 07/16-07/22 (EDT)
- Denis Klimov
 - 901112 - Monterey Bay Time Series
 - Running pre-deployment tests on IFCB; placed the order for spare parts
 - 901809 - Deep Sea Bioinspiration
 - Looked at the water leak issue on Minions project (with Fernanda Lecaros Saavedra)
 - 902401 - Geo-Sense
 - Summarizing the data on density and other parameters for the optical cable for DAS instrument; preparing for the cable selection design review
 - Overhead
 - Looking at the laser safety issue for the laser used by a Falconry contractor working on-site
- Eric Martin
 - Overhead
 - SEE-EAD Hiring Committee
 - Interviewing on zoom, meeting today to discuss next round.
 - Out of Office
 - Vacation 4/4-4/9
- Thom Maughan
 - 300083 - DMO Support - LRAUV
 - Battery tests on Ahi with capacity below 20%. Ran tests on temperature rise with 8amp unattended charging (0.8 C rise on external hull). Internal, batteries at 24C. Reviewed the proposed change from 4A to 8A unattended charging with Brett and Erik and others.
 - Preparing cart for mobile BPC2 development with Cole and Varsha.
 - 901009 - CANON
 - Met with Kobun to discuss 2024 plans on eDNA. Followed up with Francisco, then later with Chris Scholin. Work on proposed hours reduction to accommodate float program
 - 901805 - Coastal Biogeochemical Sensing Program
 - Met with Ken regarding plans for Mooring and Dorado ISUS. Plan is to work on these sensors after porting for new processor is complete. Jared's request for mooring is ISUS ready to go by June 12.
 - Resumed porting after hitting milestone with Irene on MBARI produced ISUS MMS digital and analog boards. Mari reported a successful calibration of a sensor on Tuesday. Wahoo.
 - Porting is moving forward using MpHOX revB and MSC2 base board. Pin mux for smaller pinout part given to Irene and working to verify the proposed MSC3 processor module and baseboard hardware design by end of week.
 - Working thru organizing the boards and supplies in the boxes removed from Lukes office. This has been hampered by having a frauded credit card - now resolved.
 - PSoC contractor meeting scheduled. Have proposed an alternate solution using an ARM processor to implement timing sequence generated by MMS Digital.
 - Reviewed status and plans with Ken. Yui returned from vacation early and we met to discuss schedule and priorities. Worked on proposed hours adjustment. A PCO request will happen in the next week or so. Gave Kent a heads up.
 - 902004 - Planktivore
 - Wrapped up Synchro Offshore Windfarm pilot study. Great job by Jason Adelaars organizing and handling the watchstanding for Ahi.

- Ahi ran great. We had more drag with Piscivore and Planktivore on the same vehicle, current consumption was up around 3.3amps at commanded speed. A couple days running C1 to M1, then it was off to M2 and back to C1 for recovery on power off friday. Brian Kieft was on call all week and was a great coach for new watch standers. In addition he worked with Carlos et al to have the Dash hosted at WHOI. Recovery went well.
 - Met with Monique regarding plans for Plankton Proxies mission. Daphne with Piscivore goes on on Wed this week, Ahi + Planktivore V2 goes out on Monday. Chris Wahl, DMO ASO group is preparing Ahi for deployment. We'll have back to back with Durkin Lab deploying May 6.
 - Working with Sebastian on watchstanding and deployment plans
 - Paul Roberts is back and we discussed improvements in imaging he learned.
- Overhead
 - Working on proposed hours adjustment
 - Staff Council
- Out of Office
 - July two to three weeks vacation Colorado. Working on intern plan.
- Mike McCann
 - Out of Office
 - 22 April: Vacation
 - 24 June - 19 July: Vacation
- Rob McEwen
- Paul McGill
 - 701147.99 - MARS IV Node Upgrade
 - Working on annual NSF report submission—almost finished
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Ordered new 2.4 GHz telemetry antenna
 - 902304 - Piscivore Cam
 - Troubleshooting timing problem on v1.3.0 of camera controller code
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Removed MARS interface hardware from SES
 - Working on converting SES battery sphere to autonomous operation
 - 902306 - SINKER
 - Continuing to investigate getting a 1 Gbit MARS cable with less than a year's lead time
 - 902401 - Geo-Sense
 - Got replacement connector to correct mis-shipment by SubConn
 - Overhead
 - Analyzing problem with VHF beacons causing interference on marine channel 16
- Enoch Nicholson
 - Overhead
 - IEEE Oceans 2024
 - Out of Office
 - April 5-10 Vacation (Available via Slack & Email)
 - April 14-18 IEEE Oceans (Available via Slack & Email)
 - April 19-23 Vacation (Unavailable)
 - September 19-24 Vacation (Available via Slack & Email)
- Tom O'Reilly
- Mike Risi
 - 200105 - Core Navigation - MDUC
 - Completed Ricketts overlay process
 - Working with Kevin G. on some Ubuntu 22 migration issues
 - 300062 - DMO Support - Doc Ricketts

- Setting up navproc machines for Building D. deployment
- 300070 - DMO Support - Ventana
 - Applied updates for navproc machines during maintenance period
 - Worked with Kevin G. to cutover to 4D Nav, Wifrog is officially retired on the Rachel Carson
- 901101 - Seafloor Mapping
 - Continuing GUI changes for rev-c trigger boards
 - First cut of trigger board firmware for rev-c is complete, waiting for hardware
- Out of Office
 - Offsite on Tuesday and Friday
 - January 16 - January 19, 2024
 - February 22, 2024
 - March 4 - March 8, 2024 - vacation
 - April 24, 2024 - vacation
 - May 20 - May 24, 2024 - vacation
- Paul Roberts
 - Out of Office
 - April 14 through April 20
- Brent Roman
 - Out of Office
 - June 20 - June 31 (gunkholing in the Sacramento Delta)
 - July 1 - Aug 31 (Vacation in Japan)
- Carlos Rueda
 - 901502 - Ocean Soundscape
 - Meeting with various NOAA groups who are interested in applying PBP on their audio.
 - 902101 - LRAUV Technology Development
 - WHOI Dash worked great for Brizo operations and recovery during the outage past Friday. Many thanks to the WHOI team for helping with some required adjustments.
 - TethysDash backend now 4.70.1 with very significant internal updates as part of modernization efforts: now on Java17 (from java8); using Jakarta (emailing, servlet, websockets); now on Tomcat 10.1 (from 8.5); and, even more significantly, now using DataNucleus 6.0 (from 4.0). Also, now using Ubuntu as base image (from Centos), and also using the latest `unserialize` executable from lrauv-application. All testing has been satisfactory so far, with no regressions but the upcoming vehicle deployments will provide a more definitive verification. This step takes us closer to migrating to Quarkus (where some of the mentioned components above will actually be replaced with more modern alternatives).
 - TethysL now 3.9.87.
 - 902204 - Scalable Robotics
 - Exploring/evaluating [Rerun](#) for visualization.
 - Overhead
 - IE group mtg.
 - Out of Office
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- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Sent an email to Ed P. regarding any O2 flag updates. It has been 7 months (55 dives) since his last group of updates for me. He is planning to retire in August, however, he currently has no replacement for performing this O2 flag work.
 - 300057 - Mooring Maintenance

- The new M1 deployment is scheduled for June, 2024. I have created a new test and deployment directory for Jared to use once instruments are online. He does not have the instruments planned out yet for the deployment but hopefully will soon.
- 902101 - LRAUV Technology Development
 - Large focus on Dash5 development. Had my weekly meeting with Jim Jeffers - which has been very helpful. We are trying to knock out as many map-related Github issue requests as possible for the team.
- 902403 - Expedition DB Modern
 - Working this week on various test scenarios for Science functionality requests for the upgraded EXPD and what would need to be provided on the back end to make these requests happen.
- Out of Office
 - Working from home today (W) for family reasons but back in the office tomorrow.
 - On-campus 3 days/week (**T, W, TH**).
- Brian Schlining
 - Out of Office
 - Apr 11-12 - Vacation
 - May 16-20 - Vacation
 - Jun 10-14 - Setting up video lab at OSU
 - Jul 15-24 - Vacation
 - Sep 5-9 - Vacation
 - Oct 7-10 - 5th Marine Imaging Workshop in Monterey
- Alana Sherman
 - Out of Office
 - School field trip on Tuesday
- George Stern
 - 902204 - Scalable Robotics
 - Swapped Orin modules configured new SSD with jetpack 6
 - Mola dual IMU fixturing completed
 - Started fixturing for Mola Orin NX/Nano
 - 902304 - Piscivore Cam
 - Final potted LED board tests and lure scatter testing with new light
 - Found better spec'ed lipo which will hopefully be more tolerant of overcharge
 - Test preparation for future pcam camera sensor shoot out
 - Pcam random delayed start troubleshooting
- Johann Voigtlander
 - Out of Office
 - April 16th - May 13th Germany CSEM