

Engineering Weekly Report 6/22/2023 - 6/29/2023

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Implemented support for video frame localizations (i.e., without a framegrab) in m3-download for next training run
 - Continued integration of Sharktopoda 2 and VARS GridView
 - 902002 - FathomNet
 - Finished FathomNet v1.0 features; released updated site
 - 902204 - Scalable Robotics
 - Scoped range-based SLAM (with multibeam sonar) in collaboration with GIM Robotics
 - DQ2209 - Ocean AI 2
 - CVPR conference; presentation, workshop
 - Prepared program-wide product update
 - Out of Office
 - CVPR (Vancouver) June 17-25
 - Vacation June 30-July 9
- Francois Cazenave
 - Out of Office
 - 1 sick due to sick child
- Danelle Cline
 - Out of Office
 - Generative AI Immersion Days, June 13-15, San Francisco
- Duane Edgington
 - 500055 - VARS, M3/RS, DSG
 - Team meeting, proposal process.
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Work continues. Proposal process.
 - 901502 - Passive Acoustic Sensing
 - Team meeting, proposal process.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Team meeting, proposal process.
 - Overhead
 - Some proposal-process work outside current projects.
- Jon Erickson
- Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - Starting the refactor of the logr code based on single LCM type
 - Moved to spdlog for logging on new logger (highly recommend)
 - 300057 - Mooring Maintenance

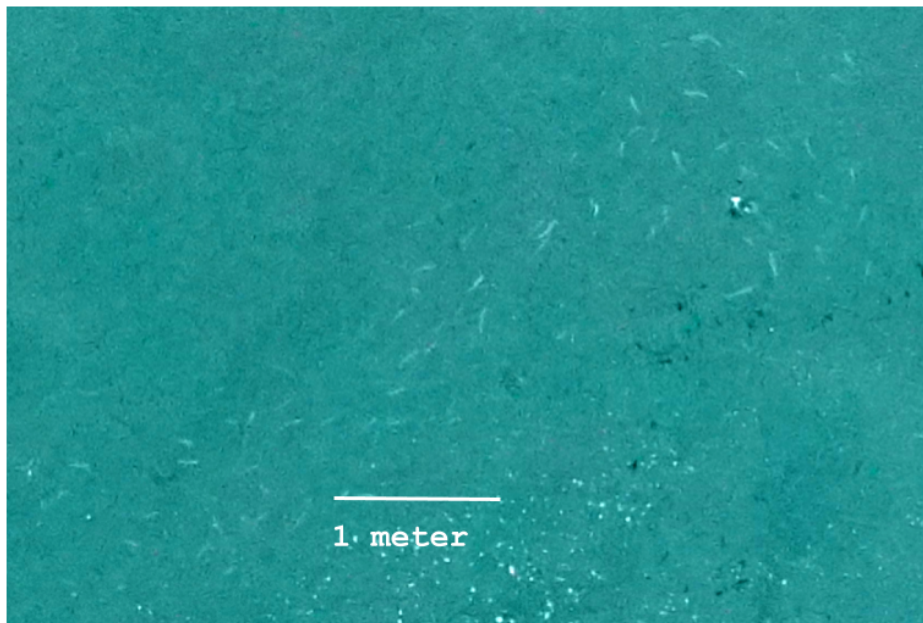
- Performed M1 turn
 - Some clean up from mooring turn
- 300059 - DMO Divisional Support - David Packard
 - Spent a large chunk of time going through signal maps from the shipyard and generating questions for them.
 - Meeting to discuss latest documentation updates from the yard.
- 901009 - CANON
 - Some clean up and restarting post server patching
- Overhead
 - Having quarterly check in meetings with my group (7)
 - Group budget work
 - Proposal preparation
 - Accepted invite to Monterey Data Conference to give invited intro talk.
- Out of Office
 - Aug 28-Sep 12: Vacation
- Andy Hamilton
- Kent Headley
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Helping Rob to get mbtrnpp simulation running again
 - 901101 - Seafloor Mapping
 - Located and fixed issue that generated segfaults at sea last week. A frame limit was using a value that was too small, leading to partial frame reads. Subsequent reads from the frame buffer were incorrectly interpreted, resulting in invalid memory access.
 - Prepped for alternate test day this Thu to complete last week's objectives
 - 902204 - Scalable Robotics
 - Working with Sebastian to develop a tool for using multibeam sonar for SLAM. Adopted an MB1 translation tool to generate LCM output; later, we'll recast MB1 data to another format (TBD)
 - Helped a little to look at Gemini sonar settings
 - Overhead
 - Proposals
 - Hiring
 - Budget
 - Out of Office
 - 6/29 Rachel Carson
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Scope work for remainder of 2023
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Prep Linux server *pulse* for data transfer and processing
 - Port prototype processing scripts to Linux server and test
 - Currently running SES science mission for month of July with data handled by *pulse*
 - Overhead
 - Proposals
 - Illness
 - Out of Office
 - June 28 - Illness/WFH: available on all
 - June 29 - July 7: Vacation/WFH: available on all, PDT timezone
 - July 24 - 27: Vacation: available on email, Slack, EDT timezone
 - July 31 - Aug 4: WFH: available on all, PDT timezone
- Brett Hobson

- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Working w/ Jon and Jose to design/integrate battery clips for nanofet board. Battery will hover above circuit to save space
 - Mods to circuitry to accommodate “internal” reference as default
 - 901904 - Deep-Sea Coral Community Observatory
 - Camera crashes traced to USB cable - Paul has now rewired and housed system
 - Refinements to code for resizing image, saving, etc
 - After discussing w/ Paul, writing second version of Python code using multithreading with producer/consumer architecture
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Planning meeting
 - Overhead
 - Made some pies after work
 - Out of Office
 - June 19-23: Vacation
- Scott Jensen
 - 706008 - READI-net
 - Copy 1 updated
 - Working on turntable code. Found noise issue and fixed. Will need to be implemented in PCB
 - Clamp works with force sensor
 - 771131 - Great Lakes PCM/HAB
 - Cooler is capable of maintaining front chamber temperature with a simulated SPR module loaded.
 - 901205 - ESP SURF Center
 - General support of lab and upcoming deployments
 - 901405 - PowerBuoy Development
 - Discussions about battery situation and funding
 - 902106 - Niobicon-Based AUV Docking Development
 - Fact finding around communications across dock. Need to try measuring using S21.
 - Overhead
 - Discussions about 2024 projects and budgets
 - Out of Office
 - Vacation June 30-July 7
 - Vacation July 24-28
- Brent Jones
 - 901009 - CANON
 - Demobed Wire Walker. Replacing cable between cervello and hammerhead junction
 - 901502 - Passive Acoustic Sensing
 - Meetings
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Reviewing performance in field for BioAcoustics LCM traffic
 - Overhead
 - Redesigned M1 cell batt pack. Printing brackets. Testing wiring
 - Proposals
- Chad Keczy
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - 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
 - Out of Office
 - 6/12/2023-6/15/2023
 - 7/3/2023-7/6/2023
 - 7/11/2023-7/14/2023
- Eric Martin
 - 300079 - DMO Divisional Support - Rachel Carson
 - Some discussions with Erik regarding 2022 plans
 - Call with SOI's Jason Williams regarding SOI interest in licensing Dorado designs
 - 901101 - Seafloor Mapping
 - Proposal 23 Work
 - Coordinating the 3D at depth critical review
 - 901206 - Coastal Profiling Float
 - Made minor bugfixes and running another trial.
 - 901911 - ROVVR
 - Intern Support
 - Preparing for VR camera on Ventana for July 13th Haddock dives.
 - 902204 - Scalable Robotics
 - 2024 Proposal writing.
 - Maldives scoping meeting
 - Camera housing review
 - Paragon budget review
 - Overhead
 - Precision Nav meeting
 - Out of Office
 - on vacation 6/8-6/15
- Thom Maughan
 - 300083 - DMO Divisional Support - LRAUV
 - Lrauv batman board bringup. Scanning i2c and working thru i2c mux. Minor assembly problems found and fixed.
 - Meetings with Erik on the electronics design and software
 - 901009 - CANON
 - Docker experiments and reading.
 - 902004 - Planktivore
 - Recovered mooring June 15 after 3 days. Stella spot tracker went off line (low batteries).
 - Data copy is large. Found an issue with the array of 16TB drives where copy fails. Investigating.
 - 27 million ROI's in the dataset!
 - Overhead
 - Planktivore 2024 proposal
 - Out of Office

- Vacation June 26 - July 12 Vacation / Elder care
 - Vacation Sep 24 - Oct 2 Vacation / Wife care
- Mike McCann
 - Out of Office
 - 26-30 June: Vacation
 - 7-11 August: SIGGRAPH in LA
 - 9-11 October: Web3D 2023 Conference
- Rob McEwen
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Resuming work on integrating mbtrnpp into the simulator. Much debugging.
- Paul McGill
 - Out of Office
 - Took sick day on Tue to take wife to medical appointment.
- Enoch Nicholson
 - 706008 - READI-net
 - Prototype design for new drive, cylinder and clamp.
 - 902306 - SINKER
 - Presented and discussed mechanical progress at our biweekly meeting.
- Tom O'Reilly
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Helped finalize research permit allowing us to launch and land UAV from Santa Cruz County Parks property
 - Helping to plan over-ocean flights from Seymour Center UCSC
 - Conducted over-ocean aerial survey out of Davenport Landing, adjacent to upwelling center. Acquired imagery of jellies, cetaceans, fish schools and more.





- Mike Risi
 - Out of Office
 - Out of office on Fridays
 - May 30 - June 6
- Paul Roberts
 - Out of Office
 - June 26 - July 4
- Brent Roman
 - 708165 - MERHAB19:ESP
 - Took part in conference call discussing project plans for upcoming 3 years
 - 708175.50 - SURF task
 - Wrote script to extract water sampling events as a .CSV file
 - Working with intern (Samarth) to help him create graphs from these raw data
 - 771131 - Great Lakes PCM/HAB
 - Reaying comms: a router and a macbook for Ussler
 - 901205 - ESP SURF Center
 - Working with Nadia to debug problems with Sampler Pump stalling
 - Working with Scott to ensure new cooling system for ASV does not destabilize puck heating
 - 901913 - Wet Wifi
 - Built cheapo “deck box” for testing OceanComms modems
 - Got them communicating reliably in the test tank by turning output down and limiting speed to 166kbs
 - Out of Office
 - May 26 - June 6
- Carlos Rueda
 - Out of Office
 - July 5–7, 15: vacation
 - August 9–28: vacation
- Karen Salamy
 - 200103 - Core CTD Data - MDUC
 - Processed last several Ventana dives into EXPD
 - 300057 - Mooring Maintenance
 - Was on-call Friday for the M1 turn. Was not needed in the end. :-)

- 901101 - Seafloor Mapping
 - Read through SMDDB proposal for 2024. Will meet with Mike M. on new UI updates for team.
- 902101 - LRAUV Technology Development and Fleet Operations
 - Working with Jim Jeffers to add Dash5 map improvements including elevation (depth), split pane, and scale/measurement.
- Overhead
 - Met with Kevin for quarterly update.
 - Met with Mike M. on ideas and requirements for the EXPD modification proposal.
- Out of Office
 - On-campus 3 days/week (**M, T, Th**).
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Iron Mountain video imports
 - [Investigating](#) bounding box mis-alignments on ML generated proposals.
 - 901618 - Pelagic-Benthic Coupling
 - [Released Mondrian v1.1.0](#) (VARS Image annotation app)
 - 902304 - Piscivore Cam
 - The team fixed issues with time stamps on videos. Brian [ran a dry-run import](#) on the test video set.
 - Wrote quick proof-of-concept to quickly apply ML analysis for piscivore videos. ([auto-analyze.sc](#))
 - 902308 - M3/VARS for the Masses
 - Working on [adding API docs](#) to vampire-squid
 - DQ2209 - Ocean AI 2
 - Working on community features for FathomNet. See <https://fathomnet.org/testing> for the development site.
 - Investigation into supporting Chinese, Arabic, etc names in the FathomNet database. <https://github.com/fathomnet/fathomnet-rest-api/issues/18>
 - Overhead
 - Tour for an ROV summer camp group.
 - Out of Office
 - Jul 3 - 7 - Tentatively out of office
 - Jul 28 - Aug 6 - Vacation
- Alana Sherman
 - 901904 - Deep-Sea Coral Community Observatory
 - Tank tested Coral Macro: checked focal plane distance, aligned lasers, tested deep sea connect
 - Packed for cruise
 - Deployed system at Sur Ridge on June 27
 - Started next mission, deployment was rushed due to bad conditions but system is working and looks like well positioned
 - 902208 - MiniROV Support
 - Working on proposal numbers for Charlie
 - 902312 - Seafloor Processes
 - Had very productive call with company producing DAS interrogators. Seems like there is a viable pathway to a system more conducive to autonomous deployments
 - Working on proposals
 - Overhead
 - Working on proposals for multiple projects
 - Last week was zoom interviews for MiniROV Pilot/Engineer position
 - Out of Office
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- George Stern