

Engineering Weekly Report 4/13/2023 - 4/20/2023

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - 901809 - Deep Sea Bioinspiration
 - Resubmitted DeepSTARia paper to Science Robotics
 - 902204 - Scalable Robotics
 - Fixing issues with stereo extrinsic calibration on new MiniROV and Mola stereo cameras
 - Provided calibration datasets to Technion Israel Institute of Technology
 - Scoped rework of RTAB-Map (+ ROS2 wrapper) to support arbitrary constraint specification to GTSAM factor graph backend
 - DQ2209 - Ocean AI 2
 - Rewrote codebase for QSCP using PostGraphile
- Francois Cazenave
 - 901405 - PowerBuoy Development
 - Assembly buoy
- Danelle Cline
 - 500055 - VARS, M3/RS, DSG.
 - Revised database track view for faster query times with help from Neil's query analyzer tool; next steps are to test this on the dev(postgres) then prod(sqlserver) databases
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Refinement to midwater clustering and setup database and workflow for active learning. Seeing some very interpretable clusters.
 - 901502 - Passive Acoustic Sensing
 - Generating wav metadata for entire 7 year archive in preparation for running the pypam netCDF generation
 - Livestream server was hung on Windows updates
 - Student discussion and some inquiry on pypam/oceansoundscape pip modules
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Setup database and web app to start editing the detections; expect to have data loaded by next week for the team to start revising.
 - Developed anti-reflectance removal and improved object detection algorithm. Tested this on a recent mission deployment where we deployed a disc test to simulate a jelly target (Bill, Brian, deployed a Secchi disk in 0.5 meters water). Looks like we can detect the target with this method. This is very challenging as the target is very small. Boat was removed with the [Lama cleaner](#) (thanks to Duane E. for the tip).

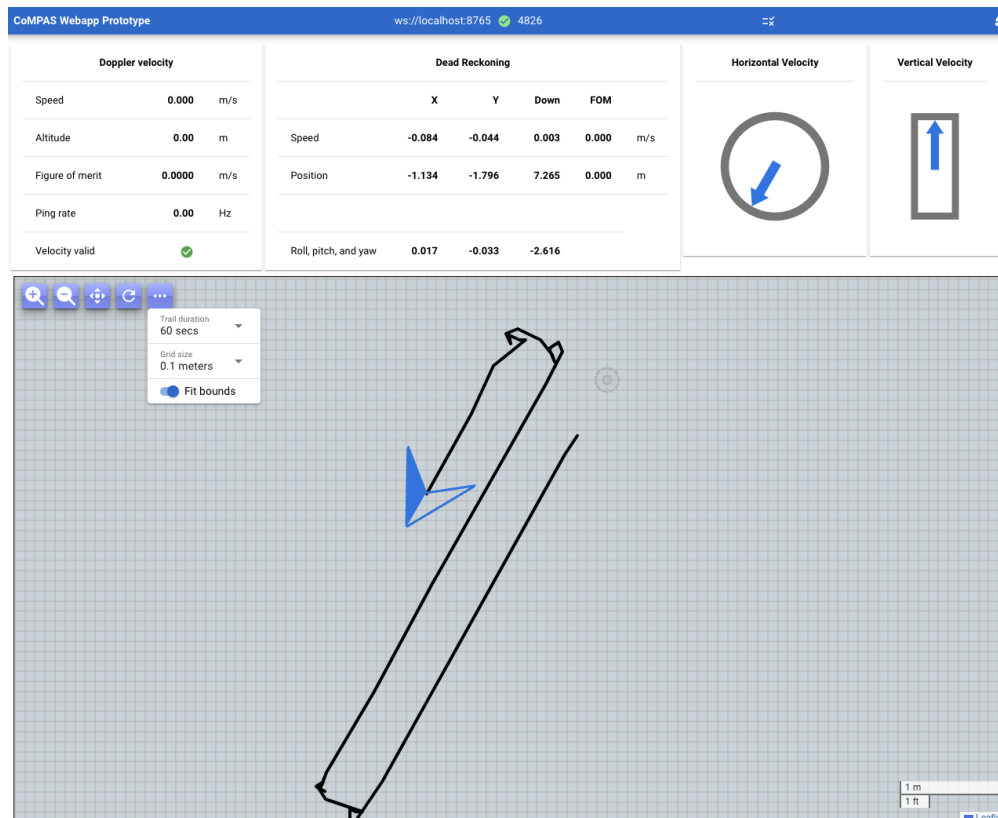


- - 902204 - Scalable Robotics
 - Attended Sebastian Thesis
- Duane Edgington
 - 901009 - CANON
 - Team meeting April 20
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Continued work with Danelle on Active Learning tool and framework
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Quick research on AI infill tools to mask (erase) overly salient objects
 - Overhead
 - Quarterly check-in meeting
 - Reviewed AWS Cost Explorer with Lonny so he can explore 500055 charges.
 - Teleconference with upcoming intern Tarun Sharma
- Jon Erickson
 - 901217 - Chemical Sensor Program
 - Ordered another tube from amalga for the ISUS-APEX project.
 - 901805 - Coastal Biogeochemical Sensing Program
 - Still working on the end caps for nanoFET
 - 902004 - Planktivore
 - Is at sea... now we're modifying (feature creep).
 - 902010 - Mesopelagic LRAUV
 - Aaron glued up the Ti rings. Working on the maintenance mount so we can add the chassis parts which are in the shop queue.
- Kevin Gomes
 - 200105 - Core Navigation Data - MDUC
 - Looking at extending Kevin B's work to bridge the gap between LCM and more than just WebSockets
 - Overhead
 - Coordinating with AWS for Heidi to speak at a conference
 - Working on Strategic Roadmap (Implementation plan)
 - Non-project meetings
 - Out of Office
 - Mar 30, 31: Vacation
 - Aug 28-Sep 12: Vacation
- Andy Hamilton
- Kent Headley
 - 300057 - Mooring Maintenance
 - Working w/ James and Jared on OASIS metsys wind sensor issues.
 - 902204 - Scalable Robotics
 - Updated Blueprint Subsea SDK (imaging sonar) demo to build under Linux and wrote quick emulator for sonar network connections needed to exercise GUI features.

- Reviewed a couple existing drivers for oculus sonar; one written in GT's lab, another from APL, written by Aaron Marburg, Laura Lindzey and Tanner Poling - small world.
 - Overhead
 - SE-EAD interviews - kudos to Cindy for handling logistics, and to a great interview panel for participating.
 - Misc admin
 - Out of Office
 - vacation (4/28 - 5/1)
- Rich Henthorn
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - SES MARS Wet-node Simulator Test Tank preparation and operation
 - Results look good
 - Out of Office
 - May 8: SES deployment on MARS node
 - June 1 - 9: Vacation
 - June 29 - July 10: Vacation
 - July 24 - Aug 3: Vacation, WFH
- Brett Hobson
- Irene Hu
 - 901805 - Coastal Biogeochemical Sensing Program
 - Helped with analyzing/interpreting data from latest nanofet test
 - 901904 - Deep-Sea Coral Community Observatory
 - Implemented all-LED light source + handed to Francisco
 - Measured I-V of LEDs, ordered resistors to modify input V to current source
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Troubleshooting SES (eg issues with power circuitry) and reassembled
 - Test tank test with MARS wet node simulator
 - Overhead
 - LASS design review
 - Out of Office
 - 4/28/23
- Scott Jensen
- Brent Jones
- Chad Keczy
- Brian Kieft
 - 708143 - CA Current HABS
 - Lots happening for EcoHAB. 5 LRAUVs and lots of DA showing up.
 - Overhead
 - Interviews
 - Out of Office
 - 4/27-28
 - 5/1
- Denis Klimov
- Eric Martin
 - Out of Office
 - Impacted by minimum week for kids, working ½ days M-W, will work this Friday.w
- Thom Maughan
 - Out of Office
 - End of April camping

- Vacation June 26 - July 12
- Mike McCann
 - 200105 - Core Navigation Data - MDUC
 - Added Expedition Data comments to popup on EMDB's Dive detail view
 - Will be meeting on Monday to discuss final steps with ROV nav editing project
 - 300083 - DMO Divisional Support - LRAUV
 - Maintaining data flow into [stogs_lrauv_apr2023](#) and [stogs_ecohab_april2023](#)
 - Fine tuning crontab execution times as these databases now take 15+ hours to load
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Fixing an auv-python processing problem with bad ctd1 data affecting other instruments
 - Verifying daytime/nighttime processing for bioluminescence proxy variables
 - Adding ISUS processing to auv-python
 - Overhead
 - Met with capstone students about their project to build MB-System with mbgrd2gltf added
- Rob McEwen
- Paul McGill
 - 901618 - Pelagic-Benthic Coupling
 - Finished repairing SES after discovering weird power supply issues.
 - 902304 - Piscivore Cam
 - Ran a full-up test over the weekend to check hardware and software.
 - Prepared PCam for deployment and it went out on an LRAUV on Tue.
 - 902305 - Event Detection using the Sedimentation Event Sensor
 - Finished closing all SES housings.
 - Ran SES in Test Tank on MARS WNS all day Wed; it passed all tests.
 - Overhead
 - Went over Chad K's design for LASS controller and attended design review.
- Enoch Nicholson
 - 706008 - READI-net
 - Modeling DOEST prototype sampler
 - 902306 - SINKER
 - Disassembly of ZebraTech Hydro Wiper
 - Developing Mechanical Engineering task list
- Tom O'Reilly
- Mike Risi
 - Out of Office
 - Out of office on Fridays
- Paul Roberts
 - 901809 - Deep Sea Bioinspiration
 - Integration of deepstream models and nvtracker into DeepSTARia vehicle control
 - 901904.99 - Corral Camera System
 - Weekly meeting
 - 902001 - Ventata 4k camera
 - Assembly of new optical corrector
 - 902004 - Planktivore
 - Firmware updates to camera controller
 - Support for field deployments
 - 902204 - Scalable Robotics
 - 950 m laser housing
 - dome-port laser housing
 - 902306 - SINKER

- ME planning and organization
- Brent Roman
 - 708165 - MERHAB19:ESP
 - Helping Nick Admas refine NWFSC's ESP missions for this season.
 - 771131 - Great Lakes PCM/HAB
 - Installed OpenSSH on the Windows 10 machine in GLERL's SeaTrac autonomous boat.
 - A startup script holds open a tunnel to ESPshore allowing secure remote access
 - Of course, since its Windoze, everything is done graphically via VNC
 - Windoze has "PowerShell" now, which is vaguely POSIX-like.
 - Configured a Remmina client on Linux to provide one click remote screen access
 - 901205 - ESP SURF Center
 - Updated the last of GLERLS 3 ESP
 - Shipped GLERL a firmware programmer to update their ESP's "sleepy" I2C gateways
 - Updated the "sleepy" boards in our spares inventory (3 of 5 worked)
 - Discovered that I need to move bafflehead from 32-bit to 64-bit linux
 - DQ2210 - READI-net
 - Attended zoom call with Elecia White, who will likely be writing the firmware
- Carlos Rueda
 - 901009 - CANON
 - Resuming some work on MXM, starting with dependency upgrades and revision of CD.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - TethysDash system: New release/CD scheme in place, with the customized backend component for MBARI being the only pending one.
 - LRAUV UX: slack exchanges.
 - 902204 - Scalable Robotics
 - Sprint 6 "Webapp GUI MiniROV prototype" almost in place



- Out of Office
 - Possibly ~2 days working from home next week due to desk upgrades in the office
- Karen Salamy

- Out of Office
 - Now in the office 3 days/week M, T, Th..
- Brian Schlining
 - Out of Office
 - Apr 12 - Apr 18 - Out of office
 - May 8 - 16 - Out of office
 - Jul 28 - Aug 6 - Vacation
- Alana Sherman
 - 901618 - Pelagic-Benthic Coupling
 - Helped dig around for SES modem cable to make test cable
 - 902208 - MiniROV Support
 - Mobilized the Mini on the Fulmar
 - Had some issues with the RAID networking and the video extenders which are always problematic it seems
 - Ordered several spares
 - Weather is not cooperating so we have been waiting for wind to abet
 - Overhead
 - Back to the SR, and reading over sections. Implementation plan is complete.
- George Stern