

Engineering Weekly Report 11/7/2024 - 11/14/2024

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

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
 - Out of Office
 - Monday and Wednesday mornings before 9am: physical therapy until Dec 15, 2024
 - Maldives Nov 15, 2024 – Nov 29, 2024
 - Vacation Dec 16, 2024 – Dec 27, 2024
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Testing valve
 - PTO maintenance
 - 902106 - Niobicon-Based AUV Docking Development
 - Project management
 - Out of Office
 - One vacation day
- Danelle Cline
 - 902111 - Carbon Flux Ecology
 - In collaboration with Fernanda, sandbox development of contrastive plankton model for inspired by X-Sample Contrastive Loss Meta FAIR paper
 - 901103 - Biodiversity and Biooptics of Zooplankton
 - Finishing up BioTrack - a tracker suitable for tracking time-lapse or full-frame video based on points & text descriptions. Uses Meta Co-Tracker3 and BioClip models.
 - 901502 - Ocean Soundscape
 - Recording computer on order
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Annotating processed missions
 - Overhead
 - Set up new DELL 42.5" monitor with IS help. This consolidated three monitors into one for a more streamlined (and power-efficient) office.
 - New MAC laptop feifei is in progress with IS.
 - FathomNet correspondence about portal use which will likely need to bump to 2025
- Duane Edgington
 - Out of Office
 - Oct 21 - Nov 8, 2024. Vacation UTC+1
 - Dec 8 - Dec 17, 2024. [Neurips](#) Conference. Vancouver, BC.
- Jon Erickson
- Kevin Gomes
 - Out of Office

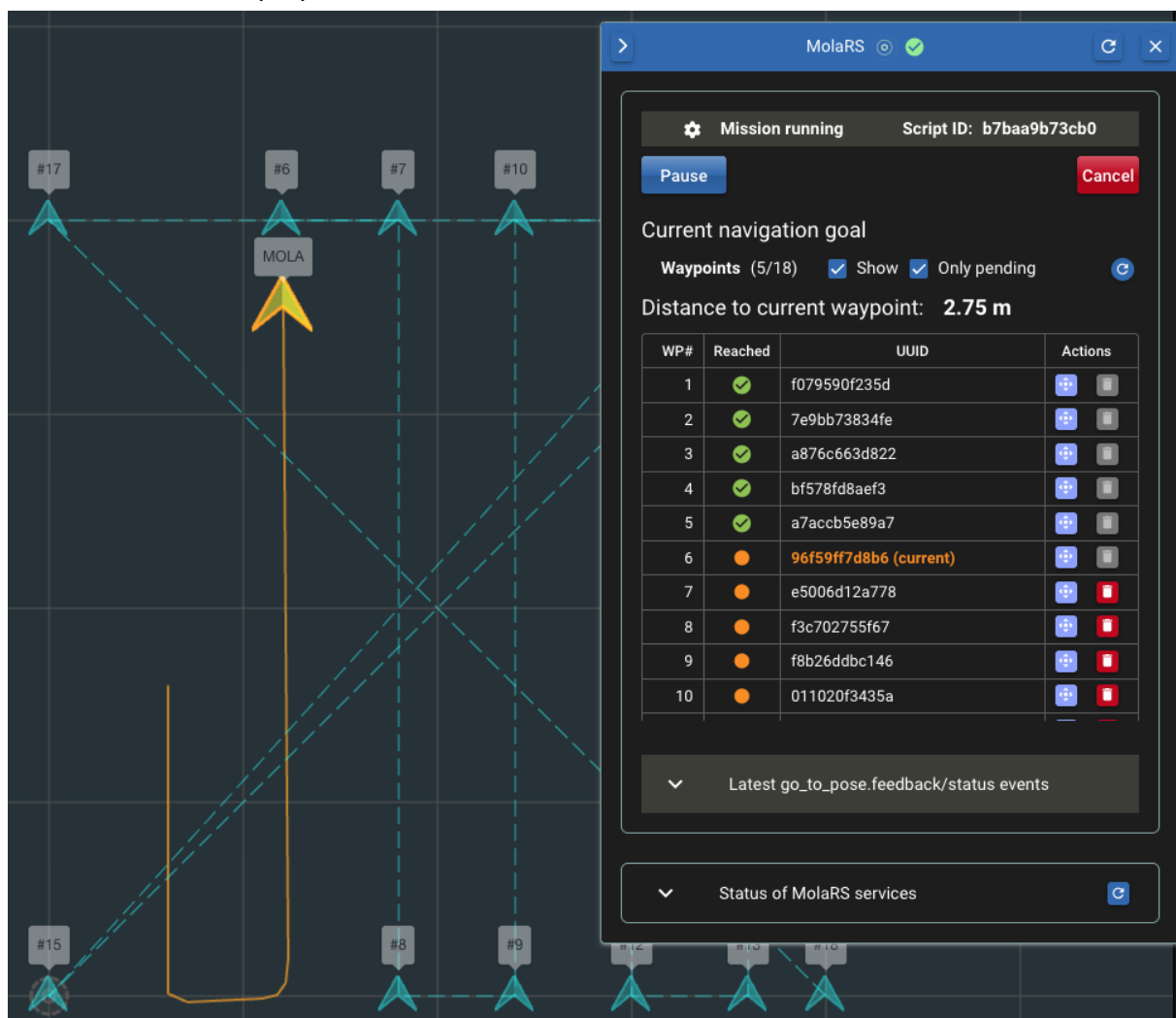
- Nov 18-22: Vacation/Remote Work
- Andy Hamilton
- Kent Headley
 - 901101 - Seafloor Mapping
 - Code and test build system updates for libtrnav and MB-System Sentry builds. These enable the use libproj for coordinate transform, fix build warnings, and add options to build TRN code for ROVs
 - 902204 - Scalable Robotics
 - Last week, Giancarlo and I tested the Oculus sonar driver with the M750 model on ROV Mola. It's expected to be used to collect SLAM evaluation data in the upcoming trip to the Maldives.
 - 902405 - Precision Control Technologies
 - Met with Steve Rock to get a better understanding of the Kalman Filters that form the basis of TRN
 - Overhead
 - SE Hiring plan
 - Meetings re space planning
 - Misc admin
- Rich Henthorn
 - 902305 - Event Detection Using the Sedimentation Event Sensor
 - Prep for SES deployment
 - Improvements and fixes for SES
 - Tank testing
 - 902401 - Geo-Sense
 - Sintela cable interrogator installed in MARS shed
 - 902405 - Precision Control Technologies
 - Examining TRN results from LRAUV
 - Out of Office
 - Dec 6 - Rachel Carson
 - Dec 20 - Dec 31: Vacation/Holidays
- Akshay Hinduja
 - 702108 - Deployable AI
 - Debug hardware limitations on AVT cameras not getting advertised fps.
 - MIPI cables do not have a rigid connections and prone to disconnections easily
 - 902204 - Scalable Robotics
 - Assist Eric and Johann to get blueboat ready for maldives trip
 - Look into s7k conversion. Not as straightforward, and may have limitations on norbit side
 - Coordindate with Norbit to expand API control for driver
 - Prepare C++ beta
 - 902101 - LRAUV Technology Development
 - Meet with Quinn to go through LRAUV workflow. More understanding gained on where to and which repos to look at for gazebo log playback project.
- Brett Hobson
- Irene Hu
 - 901217 - Chemical Sensors
 - Checked out and set up all MSC3 Tiva123 modules received from Indtec
 - Tiva129 modules received, configured code and uploaded; mostly works. Had to troubleshoot one board (broken oscillator)
 - MSC3 revC layout (Jose) almost finished
 - Helping set up and troubleshoot the first MSC3 QC box
 - 901805 - Coastal Biogeochemical Sensing Program

- Finished first draft at non-iso Nano and caught some errors in other boards based on nanofet
 - Worked through circuit for alkalinity sensor from Scripps, generated list of questions
- 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Call w/ John from EVT re: lens control issues after firmware update for camera; new firmware received and tested, works wonderfully and allows readout signal to be used
- Overhead
 - Bike to work 11/6/24, 11/19/24
- Out of Office
 - 11/25-11/29: Thanksgiving holiday
- Scott Jensen
 - 706008 - READI-Net
 - Finally located a hidden intermittent bug in the firmware
 - Preparation for the eDNA comparison study
 - Participated in the eDNA comparison study
 - 901205 - ESP SURF Center
 - Support of upcoming lab move to building g
 - 902106 - Niobicon-Based AUV Docking Development
 - Finally have access to QCA6410 datasheet
 - Out of Office
 - October 7-9
- Brent Jones
 - 901112 - Monterey Bay Time Series
 - Installed new nanobeacon mount on CPF
 - Installed and tested Apollo-X11 beacon on CPF
 - Successfully collected samples on new SIPPER/LRAUV
 - Ordering and manufacturing parts to convert old SIPPER to new style
 - 901805 - Coastal Biogeochemical Sensing Program
 - Investigating ways to run SBE pump on Spray during a loiter
 - 902111 - Carbon Flux Ecology
 - Ballasted CPF for carrying Fernanda's multi-CAM
- Chad Key
 - Out of Office
 - Out of office on Fridays
- Brian Kieft
 - Out of Office
 - 10/23-29 (MST)
 - 11/06-12 (CST)
 - 11/15-12/2 (PST)
- Denis Klimov
 - 901112 - Monterey Bay Time Series
 - IFCB is sitting happily in the lab; I am running the instrument every few days and performing system checks in order to keep the instrument clean and in shape.
 - 902401 - Geo-Sense
 - Working on the low-voltage disconnect board
 - Overhead
 - Preliminary talks on the BBC filming in the Test Tank with the DeepPIV laser operation
- Eric Martin
 - Out of Office
 - Maldives Expedition 11/15-11/28, and will be highly out of communication.

- Thom Maughan
 - Out of Office
 - Oct 24 two weeks vacation Colorado.
- Mike McCann
 - 901009 - CANON
 - Processed Gulper mission 2024.317.01 after initial kerfuffle over naming conventions
 - 901101 - Seafloor Mapping
 - Discussions on the way forward for rendering/display issues
 - 901221 - Midwater Time Series
 - With edited nav data in the elon & elat columns the [midwater transect database](#) looks better
 - 902403 - Expedition DB Modern
 - Added [EMDB cronjob](#) to update Expd's RovctdBinData tables (elon & elat columns) with newly edited and loaded ROV nav data
 - Reviewed project milestones and labor budget with project team
 - Presented [growing list of Issues](#) and invited comments and discussion there
 - Overhead
 - Spent time trying to understand the ship to shore logr file transfer process
 - Out of Office
 - 14-19 November 2024: Vacation
- Rob McEwen
- Paul McGill
- Enoch Nicholson
 - 706008 - READI-Net
 - Aquarium experiment prep
 - Production version CAD design
 - 901007 - Benthic Biology & Ecology
 - Filtered seawater experiments
 - Chris found papers that indicate that the drift we are seeing could be from the sensor.
 - 902306 - SINKER
 - Frame concept design with frank
 - Material budget with paul
 - Concept design of Final deployment frame
 - 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 4-5 Vacation
 - September 19-24 Vacation (Unavailable)
- Tom O'Reilly
- Mike Risi
 - 200105 - Core Navigation - MDUC
 - Finalized all processes necessary for navproc 2.0 deployment on Rachel Carson, reviewing with Kevin G.
 - Bringing up navproc machines for deployment of navproc 2.0 on the Rachel Carson this Spring 2025.
 - Modified 4D Nav process for use on Rachel Carson and David Packard.
 - 901101 - Seafloor Mapping
 - Developed two different prototypes for trigger generation on LASS sled, planning review with LASS team.

- 902405 - Precision Control Technologies
 - Cleaned up sonar simulator and added startup instructions for simulation.
 - Working on a simulation logger to generate matlab friendly output files.
- 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
 - June 17 - June 18, 2024 - vacation
 - September 3 - September 9, 2024 - vacation
 - November 6- November 7, 2024 - vacation
 - November 26 - November 27, 2024 - vacation
 - December 30 - January 3, 2025 - vacation
- Paul Roberts
 - 702108.99 - 6-eye camera-compute mod
 - Starting production of 1500 m housing
 - Ordering parts
 - 901513 - Targeted Sampling by AUVs
 - Paper support
 - 902001 - Ventana 4k Camera
 - Order spare parts
 - Final assembly
 - 902306 - SINKER
 - Review of frame design
 - Order parts
 - Out of Office
 - Nov 25-29 Vacation
 - Jan 6-10 Vacation
- Brent Roman
 - 708165 - NOAA-MERHAB-UW
 - Starting porting libjxl (jpeg successor) to ESP Linux
 - Switching ESP from using TIFF to PNG images (to ultimately compress using cjxl)
 - 901205 - ESP SURF Center
 - Working with Bill Ussler to test and flash firmware and FPGAs on a batch of new SPR boards
 - Helps support ESP ops at the sampler bake off at Aquarium
 - 901913 - Wet Wifi
 - Working with DJ to test long-range modems on Ventana during MARS cable inspection dives.
- Carlos Rueda
 - 902101 - LRAUV Technology Development
 - TethysL now [4.3.0](#).
 - 902204 - Scalable Robotics

- Dial now [1.4.9](#), with all major features implemented re MolaRS integration, at least for the most immediate needs in preparation for the Maldives.



- Out of Office
 - Nov 11: vacation
 - Nov 18–20: QCon
 - Dec 9–12, 23–24, 30–31: vacation
- Karen Salamy
 - Out of Office
 - US React Summit Conference: November 19-24, 2024, NYC.
 - Vacation: Friday, Oct 25, 2024 - Having another shoulder procedure and will be out the whole day.
 - On-campus 3 days/week (T, W, TH).
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Released an early-beta of the [on-line VARS Query](#) at <http://m3.shore.mbari.org/query/>. The new query provides easy access to the video for annotations.
 - Working with Paul Rogers to get a test deployment of the new on-line VARS Knowledgebase Editor running. See <https://github.com/mbari-org/kb/pull/1>
 - Overhead
 - Met w/ Lisa Krigsman to set up a NOAA computer as a VARS server and workstation.
 - Out of Office
 - Oct 7-11 - 5th Marine Imaging Workshop in Monterey
 - Oct 14-15 - Out sick

- Alana Sherman
 - Out of Office
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- George Stern
 - 902204 - Scalable Robotics
 - Oak500m chassis build support and integration
 - Added saddle to laser mount
 - Blue Boat INS/RPi troubleshooting
 - 902306 - SINKER
 - Updating battery interface board to facilitate ETech assembly
 - 706008 - (READI-net)
 - Tested random sample of Indtec puck antennas before they assembled to reduce lot risk
 - Puck assembly supplier meeting
- Justin Tucker
 - 901101 - Seafloor Mapping
 - Complied LASS clearances and CAD for Jason team
 - 902010 - Mesopelagic LRAUV
 - Revisions on DVL Housing
 - Continued work on nose assembly
- Johann Voigtlander
 - 902204 - Scalable Robotics
 - Reinstalled VN300 drivers and setup for BlueBoat
 - 902208 - Mini ROV Operations
 - Mobilized MiniROV onto Fulmar
 - 902402 - CSEM
 - Setting up the last few things before deployment
 - Out of Office
 - April 16th - May 7th Germany CSEM
 - May 8th - May 12th Vacation