Engineering Weekly Report 10/29/2026 - 11/5/2026

https://docs.mbari.org/internal/projects/Engineering/Weeklies/2026/

Executive Council Notes

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Individual Activities

- Michael Anderson
- Kevin Barnard
    - Out of Office
        - Oct 22, 2026 – Oct 23, 2026 : Meta Open Source AI for Science Summit
        - Oct 26, 2026 – Oct 30, 2026 : Vacation
        - Dec 21, 2026 – Jan 1, 2027 : Vacation
- Francois Cazenave
- Laura Chrobak
- Danelle Cline
    - 901221 - Midwater Time Series
        - i2MAP benchmark eval for Kris's latest full YOLOv26 coverage model.
    - 901502 - Ocean Soundscape
        - Presented ongoing work on behalf of the Soundscape team at the SMM 2026 pre-conference Workshop: Evolving AI Applications in Modern Marine Mammal Science: From Computer Vision to Generic and Agentic AI, Puerto Rico. 60 participants online and 60 in person. Very engaged audience with many questions.
    - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
        - Team meeting and discussions with potential UCBerkeley collaborator
    - 902111 - Carbon Flux Ecology
        - Working through SINKER backlog - mostly issues related to hardening the backend to recover from outages
        - Supporting Microscopy model development and inference through Voxel51 pro platform for Lee Miller. Microscopy data and annotations added to Tator project. Created two models efficientnetb2 and resnet50 using modified stratified training Voxel51 pro plugin (thanks to Laura Chrobak for sharing).
        - Assisting Fernanda with data downloads and upgraded fiftyone-sync service on doris. She is working on the largest dataset annotated to date in Voxel51 which has ~2.6 million images. This was done on a community Voxel51 instance.
    - Overhead
        - Preparing materials for Google Gemini discussion
- Duane Edgington
    - 901502 - Ocean Soundscape
        - Zoom call with Earth Species Project folks regarding Orca detection, their work on animal sound identification (including BirdCODE) and general passive acoustic monitoring. They have a focus on determining vocalization onset/offset and broad species identification, with a thrust towards understanding behavior and variation.

        - Zoom call planned with SOFAR (sofarocean.com) who we met at IEEE Oceans conference. They are very interested in our work using Perch V2, and potentially applying it to their real time ocean monitoring work.
        - Continuing orca detection survey of the entire 11 year archive.
    - Out of Office
        - Nov 6. Medical.
- Kevin Gomes
- Andy Hamilton
- Kent Headley
    - 901101 - Seafloor Mapping
        - Working on several updates:
            - updates to geocon component to eliminate a couple of dependencies and make underlying implementations easily configurable a build time. The geocon component provides geocoordinate conversion routines, that may have different underlying implementations (e.g. libproj or gctp).
            - update to allow particle filter initialization randomization option available at run time (currently a compilation option). The option selects whether to seed the particle filter RNG using a variable source (time) or a constant (0). The latter case, which causes TRN particle filter to start with the same particle distribution, is useful for comparing TRN data processing runs.
            - port of libtrnav to Windows/MSVC. This is pending the other updates.
    - 902204 - Scalable Robotics
        - Working with Bastian to implement a couple of feature requests for the oculus sonar processing app:
            - writing bearing table data to image metadata
            - writing raw image data to PNG (or other) formats.

          Have implemented both, Bastian is testing.
    - Overhead
        - misc admin
- Rich Henthorn
    - Out of Office
        - Dec 21 to Dec 31 - Vacation
- Akshay Hinduja
    - 901809 - Deep Sea Bioinspiration
        - Conduct Triton deployment
        - Bug fixes on backseat modules
    - 902101 - LRAUV Technology Development
        - Conduct Galene deployment
        - Terrain following closed loop tests
        - Implement features in sen_imagenex to check out different modes
    - 902204 - Scalable Robotics
        - Look at implementing auto ranging feature for sen_norbit
    - Out of Office
        - Jan 18, 2027 - Feb 5, 2027 : Vacation

- Brett Hobson
- Irene Hu
    - 901805 - Coastal Biogeochemical Sensing Program
        - Alkalinity
            - Gathering and analyzing data from floating anode titrations

            - Some tests to try to identify weird goop on floating anode that grows after titration
    - 901904 - Deep-Sea Coral-Sponge Community Observatory
        - Checksum feature for SWIR added and tested, along with link health indicator in GUI
        - Working on motor checksum / OEM communications
    - Out of Office
        - Nov 23-27
- Scott Jensen
    - Out of Office
        - October 29-30
- Brent Jones
    - 901112 - Monterey Bay Time Series
        - Prepping wire walker for deployment
        - Integrating NDBC wave sensor on M1
    - 902004 - Planktivore
        - Initial design work on UV antifouling system named (temporarily?) uBlaster
- Chad Kecy
    - Out of Office
        - Out of office on Fridays
- Brian Kieft
    - Out of Office
        - 07/17-07/22 (GMT -4)
        - 07/26-08/07 (GMT +9)
        - 08/26-08/28 (GMT -4)
        - 08/29-09/02 (GMT -5)

- Denis Klimov
- Eric Martin
    - Out of Office
        - Sick 8/24-8/26
- Thom Maughan
    - 300078 - DMO Support - AUV
        - Hyperion Environmental board, design is complete, layout is complete. Working on fabricating at PCB Unlimited.
        - Produced BME280 module board at JLCPCB, tariff cost was high.
    - 300083 - DMO Support - LRAUV
        - Two more BPC2 packs have been partially assembled by Evan. Working with Varsha to finalize assembly and test.
    - 901217 - Chemical Sensors
        - Mini-ISUS on Dorado for El Nino. Presented slides and the proposed approach at the chemical sensors meeting last week. Feedback during and after the meeting along with prototyping and discussions with Erik regarding Dorado driver have revised the approach. Meeting with Mike McCann next week on shore-side processing and plots.
        - MMSv2 analog board design
        - Leaning back towards STMicro processor and GPIO for generating timing for high speed ADC and sampling photodiode array.
        - Debugging “FRAM fails proble bug”, found the problem on the MSC3 baseboard and not the suspected I2C active terminator. Looking to XRAY the PCB.
    - 901805 - Coastal Biogeochemical Sensing Program
        - MoSoS v5.2 FRAM/Nand TinyFS code review with Jim Davis. Also reviewed about 30% of the commands moved into the command table. Working on testplan.

    - 902004 - Planktivore
        - Weekly engineering meeting
        - Inventory of organizing parts for ‘spares build’. We’re short on telecentric lenses. Planning to request engineering dept or discretionary funds (~$10K).
    - Out of Office
        - Wed 28 Oct 2026
        - Thur 12 Nov 2026
        - Wed 2 - 4 Dec 2026
- Mike McCann
    - Out of Office
        - Half time schedule: Generally away Mondays, Fridays, and alternate Thursdays
        - 24-30 October: Remote/Comp time
- Enoch Nicholson
    - 901205 - ESP SURF Center
        - Contacting vendors for alternate vacuum pumps
        - Testing alternate adhesives for FSR
    - 902609 - TIDE OMICS
        - Rapid Fluidics meeting
    - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
        - Sanctuary permit submission
        - Aquarium cruise support
    - Out of Office
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- Tom O’Reilly
- Mike Risi
    - Out of Office
        - Offsite on Tuesday and Friday
        - January 2, 2026 - vacation
        - January 19, 2026 - January 30, 2026 - vacation
        - March 4-5, 2026 - vacation
        - March 16, 2026 - vacation
        - March 30, 2026 - vacation
        - May 18, 2026 - vacation
        - June 22, 2026 - vacation
        - June 29, 2026 - July 1, 2026 - vacation
        - August 17, 2026 - vacation
        - September 8, 2026 - September 10, 2026 - vacation
        - October 12, 2026 as vacation
        - November 2, 2026 as vacation
        - November 30, 2026 - December 4, 2026 - vacation
- Paul Roberts
    - 901221 - Midwater Time Series
        - 4k recorder testing
    - 901513 - Targeted Sampling by AUVs
        - Project update / triton 62 deployment
    - 901809 - Deep Sea Bioinspiration
        - Project update / triton 62 deployment
    - 901904 - Deep-Sea Coral-Sponge Community Observatory
        - Software development for SWIR camera support
    - 902004 - Planktivore

        - UVC design
    - 902204 - Scalable Robotics
        - MiniStrobes fabrication planning
    - Out of Office
        - Nov 19-Nov 27, Dublin, Ireland, vacation

- Brent Roman
    - 901205 - ESP SURF Center
        - Dealt with various 2G ESP support issues in Denmark, NW Fisheries and WHOI
    - 902101 - LRAUV Technology Development
        - Met with Brett, Erik and Brian to discuss incorporating Iridium Certus and Sat 2 Cell tech
    - 902304 - Piscivore Cam
        - Developed a set of scripts to ease management of camera during deployments
    - Out of Office
        - Sept 8 - Oct 16 (vacation)
- Carlos Rueda
    - Out of Office
        - Oct 26 - Nov 12: vacation (out of the country)
        - Dec 9-10: vacation
        - Dec 22-Jan 7: vacation
        - Jan 15-21: vacation (tentative)
- Karen Salamy
    - 300057 - Mooring Maintenance
        - Weekly maintenance and data download checks.
        - Had to clear a lock file issue last week for M1 downloads.
    - 902101 - LRAUV Technology Development
        - Bug Fixes
            - Correlate _vt missions via canonical script ID from getScript (#890)
            - Prevent prior-run commands from appearing as running in Schedule (#889)
            - Logs and Comms lists no longer flash a spinner on background polls (#887)
        - In-Progress - Rework
            - Send command or mission on launch and recover events (#853): significant rework
            - Schedule Unknown operator fix + Event ID (#825): operator matching, multi-SBD, build fix
        - Issues Filed
            - #892 — bug: Logs and Comms lists flash a spinner on every background poll
        - In Review (13 open PRs)
            - #890 — _vt mission correlation
            - #889 — Prevent prior-run commands as running
            - #887 — Logs/Comms spinner
            - #886 — Schedule repeat option
            - #883 — Refused cancel / Use for new command
            - #879 — LRAUVs section in map layers modal
            - #873 — Restore depth sparkline >8h
            - #872 — Restore Dash4 vehicle diagram parity
            - #870 — Center Map button for TrackDB
            - #853 — Send command/mission on launch/recover
            - #848 — Science charts reload on scroll
            - #825 — Schedule Unknown operator
            - #814 — Mission modal polish

    - 901805 - Coastal Biogeochemical Sensing Program
        - I plan to attend a team meeting tomorrow.
    - 902111 - Carbon Flux Ecology
        - Worked with Paul R. and Danelle C. to address some sinker-dash issues following the brief MARS power outage.
    - 902403 - Expedition DB Modern
        - ZOOM meeting with Brian S. and Kevin G. on pre-cruise updates for EXPD Mod.
    - Out of Office
        - Caught the flu and WFH where possible last week.
        - March 15-24, 2027 - Vacation
        - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
    - Out of Office
        - Nov 12 - Vacation
- Quinn Shemet
    - Out of Office
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- Alana Sherman
    - Out of Office
        - In the field 10/19-11/7
- George Stern
    - 300078 - DMO Support - AUV
        - Got Labview and Magtrol Mtest software installed, unsurprisingly, the 20 year old SW for windows 95/labview 3 does not run on windows 11 even in compatibility mode with the latest labview; hopefully the console will be sufficient for testing needs.
        - Began looking at test fixturing
    - 902204 - Scalable Robotics
        - Trying to get Mola 2 working; made a connector for the console because nothing online looked right, flashed firmware/removed the battery balance board and finally got things turned on, then discovered screws/air pump/chassis opener tools were missing and the manual doesn't mention the Orin Nanos (addresses, root account, removal instructions). Ordered/made parts and contacted Boxfish - now we wait…
    - 902304 - Piscivore Cam
        - Final assembly, focusing, integration and testing on the Gen4 camera on Makai in the test tank in prep for the monday deployment; everything went well and it has been deployed. Lights could have been brighter; will turn up the power or add more to the next deployment
    - Out of Office
        -
- Justin Tucker
    - 902004 - Planktivore
        - CFD model prep (full vehicle assembly)
        - CFD meshing improvements (polyhedral mesher)
    - 902208 - Mini ROV Operations
        - Thruster dyno zero friction flex pivot development
    - 902606 - Low Altitude Survey AUV
        - Simulation added mass matrix improvements
            - BEM solver (Capytaine workflow)
    - Overhead
        - Stanford student project team support

- Johann Voigtlander
- Emme Wiederhold
    - 902101 - LRAUV Technology Development
        - helped get hyperion test hardware linked to dash4 staging and set up for successful two-way communication (command & response)
        - development of log-viewer user interface
        - mocked up visual concepts for LRAUV ship collision avoidance
        - dash5 PR reviews
    - Out of Office
        - November 25th - December 8th