

Engineering Weekly Report 7/16/2026 - 7/23/2026

<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
 - Working remotely May 11, 2026 – May 14, 2026
 - MIW May 18, 2026 – May 22, 2026
 - CVPR Jun 1, 2026 – Jun 5, 2026
- Francois Cazenave
- Laura Chrobak
 - Out of Office
 - CVPR Jun 1, 2026 – Jun 5, 2026
- Danelle Cline
 - Out of Office
 - September 21-24 Oceans Conference, Monterey
 - October 18th, SMM 2026 pre-conference Workshop: Evolving AI Applications in Modern Marine Mammal Science: From Computer Vision to Generic and Agentic AI, Puerto Rico
 - Vacation July 27th-31th
- Duane Edgington
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations and Outreach
 - Sarah Williams is making great progress, now working in Colab and on DGX Spark-0626 training models and validating performance. Pushing on a July 31 deadline for paper to be presented at ECCV workshop (as a poster).
 - Tim is working on paper for presentation at IEEE Oceans Conference 2026.
 - Working on debugging problems with RFDETR inference pipeline involving SAHI and ONNX model. Lots of moving parts to get pytorch -> ONNX -> SAHI all working together properly.
 - 901502 - Ocean Soundscape
 - Great progress on Perch2.0 model & perch-hoplite agile modeling. Current model has detected orcas high confidence, now verified in custom Gradio annotation tool, on 5 different days in 2 different months. Cross correlated with sightings reported by whale watching cruises in the bay (Californian CA140s “Emma’s” Bigg’s pod preying on gray whale pups). Next step is to work on humpback/gray whale verification/annotation, then train a next generation model. Current model orca F1 score ~0.95 at threshold ≥ 1.16 (logit)
 - Out of Office
 - September 8-13 ECCV conference. Present UAVS Yolo26/RFDETR model performance. Have reservations.
 - September 21-24 IEEE Oceans Conference, Monterey. Present Perch-hoplite poster.

- October 19-24 Pytorch Conference, San Jose. Present Perch2.0 port to pytorch poster. Registered.
- Kevin Gomes
 - Out of Office
 - Jun 29 - Jul 1 : Vacation
 - Aug 25-27: Monterey Data Conference
 - Sep 21-24: Oceans conference
- Andy Hamilton
- Kent Headley
 - Out of Office
 - Sep 21-24: Oceans conference
- Rich Henthorn
 - 300062 - DMO Support - Doc Ricketts
 - Working the LASS system on the Packard this week
 - Acquiring lots of survey data
 - Out of Office
 - July 16 to 25 - Caress LASS cruise
 - August 10 to 13 - Vacation
 - August 31 to Sept 3 - Vacation
 - Sept 14 to 18 - Durkin Cruise
- Akshay Hinduja
 - 901809 - Deep Sea Bioinspiration
 - Triton deployment support
 - LRAUV pilot training
 - 902101 - LRAUV Technology Development
 - Dev for lrauv-terrain-awareness, tie up with mission structures and setting terrainavoidance as an insert
 - Closed out sim testing of lrauv-terrain-awareness on yoyo missions
 - ToDo: More testing in other scenarios, default Portuguese ledge is very flat.
 - 902204 - Scalable Robotics
 - SBN improvement efforts:
 1. Terrain correlation branch completed and tested. No consistent improvement seen, likely a no-go
 2. Continue improvement on degeneracy branch. Improve smoothness, and GNC factor pruning in backend. Improve odometry factor setup
 - PR review for sen-norbit split comms
- Brett Hobson
- Irene Hu
 - 901101 - Seafloor Mapping
 - A few minor tasks like getting the solid model of the board. Meeting with Sharon next week.
 - 901217 - Chemical Sensors
 - Ordered parts for LED excitation system for Wastewater ISUS.
 - 901805 - Coastal Biogeochemical Sensing Program
 - Alkalinity
 1. Chip that exhibited excellent behavior suddenly went bad and looked open circuit. After various tests and taking it apart (done by Luke), it seems the anode to pad connection has been broken.
 - Nanofet

1. Started incorporating the tester circuit into nanofet rD
- 902305 - Event Detection Using the Sedimentation Event Sensor
 - Reviewed draft of paper with KBB
 - Overhead
 - Rec com meeting; planning bike to work
 - Out of Office
 - Took July 16-17 off
 - Scott Jensen
 - Out of Office
 - June 26-July 7 (vacation)
 - July 15 - 21 (vacation)
 - Brent Jones
 - 901112 - Monterey Bay Time Series
 - Added RTCC to SIPPER pic32 design
 - Added 500psi surface mount pressure sensor to pic32 SIPPER
 - Pic32 PCB board additions (see above)
 - 901805 - Coastal Biogeochemical Sensing Program
 - Reviewing design for test fixture cap
 - Chad Key
 - 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
 - Thom Maughan
 - 300078 - DMO Support - AUV
 - EE Techs finished Hyperion power supply board assembly, adding parts not available at LCSC.
 - Hyperion power supply board testing. Found a minor problem related to BackupBatteryFlag detection circuit.
 - 300083 - DMO Support - LRAUV
 - BPC2 battery packs have been installed in Galene and Galene is getting buttoned up and ready for tank test. Batteries will be fully drained then recharged and if all goes well Galene will be deployed thereafter.
 - 901217 - Chemical Sensors
 - Ordered upduino, Lattice UltraPlus ICE40UP5K FPGA dev board, for MMSv2 digital board pda and a2d logic implementation.
 - 901805 - Coastal Biogeochemical Sensing Program
 - Working with Jim Davis on 'batFS', ultra low power and small footprint file system for nanoFET.
 - Reviewed Jess's bug list for MoSoS v5.2.
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Planktivore V1 is being readied for deployment on upcoming Barry Lab cruise on the Packard.

- 902004 - Planktivore
 - Worked with Paul R. on disassembly of Planktivore V1 to diagnose imaging problem that occurred after airline handling. Prism holder was glued to prevent rotation. Paul upgraded XavierNX to OrinNx. Worked with Denis on re-assembly.
- Out of Office
 - Vacation Sep 8,9,10
- Mike McCann
 - Out of Office
 - Half time schedule: Generally away Mondays, Fridays, and alternate Thursdays
 - 18-24 July: SIGGRAPH in LA
 - 21-24 September: Oceans Conference
- Enoch Nicholson
 - Out of Office
 - June 26 to July 6th
- Tom O'Reilly
- Mike Risi
 - 200105 - Core Navigation - MDUC
 - Working on navproc-process documentation
 - 300062 - DMO Support - Doc Ricketts
 - Debugging pan and tilt process problem with the digi terminal server
 - 300070 - DMO Support - Ventana
 - Continuing pan and tilt processes for lights
 - 901101 - Seafloor Mapping
 - Support of lass-control for current expedition
 - Worked with Chad on getting camera triggers to the time server
 - 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
- Paul Roberts
 - 901809 - Deep Sea Bioinspiration
 - Triton deployment preparation
 - Galene deployment preparation
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Smith camera support
 - 902004 - Planktivore
 - V1 optics realignment
 - V1 hardware upgrades
 - 902204 - Scalable Robotics
 - Mapping sled support
 - Out of Office
 - July 23 through Jul 27, 2026 , FITM, Glacier
- Brent Roman
 - 901205 - ESP SURF Center

- Updated a few 2G ESPs at WHOI
 - Implemented a firmware enhancement for 3G ESP that corrects for non-linear carousel position sensors
 1. Required for upcoming GLERL ASV deployment
 2. Built and tested in 2 days.
 3. Still needs lots more work to make it generic
 - Initial Implementation requires custom firmware for each effected ESP
 - 902204 - Scalable Robotics
 - Helped George Stern verify feasibility of running USB from the OAKd camera directly into the main Mola can.
 - Out of Office
 - Sept 8 - Oct 16 (vacation)
- Carlos Rueda
 - Out of Office
 - July 13-14: medical leave
 - Sept 8-11: vacation
 - Sept 21-24 (1-2 days) IEEE Oceans Conference.
 - Nov 11-12: vacation
 - Dec 9-10: vacation
- Karen Salamy
 - Out of Office
 - July 21-24, 2026 - Vacation
 - March 22-24, 2027 - Vacation
 - On-campus 3 days/week (**T, W, TH**). New OFFICE - G106.
- Brian Schlining
 - 902403 - Expedition DB Modern
 - Added [generic parsers for CSV and MBARI's dat format](#) to support data ingest in the REST API.
 - Working on [ingest and management of raw ship data](#) formats.
 - Overhead
 - Assist OSU with media registration in their VARS system.
 - Out of Office
 - Jul 13 - 17: Vacation
 - Jul 27 - Aug 6: Vacation
- Quinn Shemet
 - Out of Office
 - June 25: Remote
 - Jun 26 - Jul 5: Vacation
- Alana Sherman
 - Out of Office
 - On vacation 7/16-7/26
- George Stern
 - 300078 - DMO Support - AUV
 - DSPL finally scheduled the test, got test articles shipped
 - 902204 - Scalable Robotics
 - Setup and tested USB over ethernet pairs on mola with Brent, High Speed mode worked with 2 out of 3 hubs suggesting it is probably a feasible option for connecting the OAKD500m, reducing bandwidth bottlenecks and eliminating a few watts
 - Updated the schematic and routed a final version of the ESC breakout board for mola
 - Began a schematic for the final ESC control board

- ESC bridge controller testing with Michael
- 902304 - Piscivore Cam
 - Finalized LED board mechanical design, finished schematic and routed the board still need to finish silk and check footprints
 - Finished up last fixturing changes for the Gen4 camera, ordered mcmaster bom and printed everything
- Justin Tucker
 - Overhead
 - Finishing up Doc Ricketts Lift Point Analysis Report
 - Finishing up draft Stanford ME170 Sr. capstone project requirements documents
- Johann Voigtlander
- Emme Wiederhold