

Thom Maughan

Week 51

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - BPC1 battery diagnosis on Ahi. Pack discharge is 56ah, not 160ah expected. Two banks not reporting after overnight discharge.
 - Got trained on Denis' battery measurement labview and setup another discharge.
 - Using BPC2 to diagnose sticks not behaving on BPC1.
 - Working on BPC2 firmware, pack health message.
- 901009 - CANON
 - Looking into script for network mount
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Working on pHFET-SOS v5 beta, addressing review comments and new features.
 - Parts for two more QA boxes. Procedure for Ik and Ib offset measurement
- 902004 - Planktivore
 - Year end budget
 - Pcb fab and assembly
- Overhead
- Out of Office
 - Vacation in Nov. TBD, Colorado (cancelled)
 - Vacation in Dec, couple days around Xmas
 - Jan 9 - 12 CES
 - Feb 9 - 14 Vacation Colorado
 - Feb 18 - 23 OSM24

Week 50

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Diagnosing Ahi's battery packs on rev1 BPC1 backplane. Captured bank switching mid-i2c transactions. Two bad banks have been resurrected after removing and re-inserting sticks and in one case, using the stick charger.
 - BPC2 health message implementation.
 - Parts delivered to Indtec
 - Met with Erik to go over the task list and plan for the next month
 - Stuffed Serial Monster Killer base board (20 serial ports) and getting it prep'd for Tad
- 901009 - CANON
 - Added Steve Haddock and Shannon Johnson to the deepednaZ
 - Deepedna1 is now setup with permission same as Deepedna2
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Working on beta release
- 902004 - Planktivore
 - Board design updates, fab and assembly packages
 - Year end budgets
 - Coming up to speed on plankton identification and recommendations by committees.

- Overhead
 - Staff council
- Out of Office
 - Vacation in Nov. TBD, Colorado (cancelled)
 - Vacation in Dec, couple days around Xmas
 - Jan 9 - 12 CES
 - Feb 9 - 14 Vacation Colorado
 - Feb 18 - 23 OSM24

Week 49

- 300078 - DMO Divisional Support - AUV
 - Parts kit and BOM for EE Techs. Serial Monster board has been stuffed by James. Will be working with Tad while Erik is out.
- 300083 - DMO Divisional Support - LRAUV
 - Working thru the list of hardware bringup
 - Assembled parts kit, write PO for a 2nd build of 2 backplanes and 2 charger boards at Indtec
 - Ran out of code space and found out a few things about library linking with gcc (thanks Erik). Supply chain is improving, lpc11e37 is available that boosts code space from 32k to 128k, whew.
 - Review packet health message with Quinn, we'll be changing to a 'Pack health' message from a 'stick average'
- 901009 - CANON
 - Moving forward with deepedna1 setup to match deepedna2
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Working on addressing review comments and working to release a beta of v5.0 pHFET-SOS by next week.
 - Updating QA procedure.
- 902004 - Planktivore
 - Updating board designs to unify firmware / pin muxing between Planktivore v1 and v2. Planktivore v1 will have the faster strobes which will enable 1m/s (up from 0.25 m/s)
 - Fab packages, boms, etc.
- Overhead
- Out of Office
 - Vacation in Nov. TBD, Colorado (cancelled)
 - Vacation in Dec, couple days around Xmas
 - Jan 9 - 12 CES
 - Feb 9 - 14 Vacation Colorado
 - Feb 18 - 23 OSM24

Week 48

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Ahi battery analysis. Drained aft pack as an experiment to reset the SMBus controller in the batteries to fix the i2c address bus hang. ~45A-hr of expected 150A-hr capacity. Next step is to remove the two packs and diagnose at the cell level.
 - Working plans to get Ahi's battery capacity for next year Planktivore and also working plans to get new battery backplane installed for testing. We're not going to use BPC2 on Ahi as a test vehicle.
 - Delivered Parts and PCBs to Indtec to build two more backplane/charger sets.
- 901009 - CANON
 - Not much activity. Planning to setup deepedna1 to the same configuration as deepedna2.

- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Working on commandline mods to address review comments.
 - Updating QA procedure for 100 board checkout
 - Interview for Liz F.
 - Helping Irene debug NanoFET hardware.
 - Support for Miguel at Scripps
- 902004 - Planktivore
 - Rebuilt Planktivore v1 and with help from Aaron S. got it tested and delivered to the Durkin lab for two days of 100m deployments.
 - Working on hardware updates.
 - Budgets and labor.
- Overhead
- Out of Office
 - Vacation in Nov. TBD, Colorado (cancelled)
 - Vacation in Dec, couple days around Xmas
 - Jan 9 - 12 CES
 - Feb 9 - 14 Vacation Colorado
 - Feb 18 - 23 OSM24

Week 47

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
 - User support for deepedna2 server
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - About half done with commandline implementation and sleep management.
 - Held a 'users review' with Yui, Jackie, Joseph and Irene to get feedback on usage, names, etc. Great feedback.
 - Working towards a beta release first week in Dec.
- 902004 - Planktivore
- Overhead
- Out of Office
 - Vacation in Nov. TBD, Colorado
 - Vacation in Dec, couple days around Xmas
 - Jan 9 - 12 CES
 - Feb 9 - 14 Vacation Colorado
 - Feb 18 - 23 OSM24

Week 46

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - Vacation in Nov. TBD, Colorado

- Vacation in Dec, couple days around Xmas
- Jan 9 - 12 CES
- Feb 18 - 23 OSM24

Week 45

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Debugging surge stopper electronics
- 901009 - CANON
 - Testing and revising mount instructions on deepedna2
 - Trying various benchmarks
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Re-write of power management state machine. Testing
 - Forked code and in v5 implementing new serial protocol for machine to machine. In progress implementing command line functions for config and control of sampling.
 - Prelim QA testing of MFETs, found hardware problem. Updating v4.2.x with changes to QA test routine in prep for run of 100 boards.
 - NanoFET spi NAND flash driver
- 902004 - Planktivore
 - 2nd Planktivore deployment Oct 24-27. Water was quite clear based on observation and EcoPUCK. Looks like we recorded 1+ million rois.
 - Improved watch standing and understanding LRAUV commands.
 - Attended plankton image / data management meeting hosted by Henry Ruhl. It is apparent we have a resource gap in 2024 for providing automated plankton identification. We are working to align with other efforts. Taxonomist(s) who can identify plankton is a critical role.
- Overhead
- Out of Office
 - Vacation in Nov. TBD, Colorado
 - Vacation in Dec, couple days around Xmas
 - Jan 9 - 12 CES
 - Feb 18 - 23 OSM24

Week 44

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - Vacation in Nov. TBD, Colorado
 - Jan 9 - 12 CES
 - Feb 18 - 23 OSM24

Week 43

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Worked on overvoltage / surge input hardware

- Tweaked smbus routines and serial protocol
- I2c peripheral drivers
- 901009 - CANON
 - Deepedna2 has been resetup with wonderful support by Peter Walker.
 - Software installs are complete, working on readme and testing
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - In progress on serial protocol for m2m
 - pHFET-SOS Users Guide, delivered to Scripps
 - Bug fixing
- 902004 - Planktivore
 - LRAUV Ahi + Planktivore prep and deployment on Tuesday afternoon.
 - Watch standing, discussions. Water is very clear.
- Overhead
- Out of Office
 - Vacation in Nov. TBD, Colorado
 - Jan 9 - 12 CES
 - Feb 18 - 23 OSM24

Week 42

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Worked with Erik on Overvoltage, overcurrent testing of the charger board.
 - Changed resistors and 5v converter input voltage, retested
 - Worked on firmware
- 901009 - CANON
 - Working on deepedna2 as an experimental setup mirroring DeepRip.
 - Install NVidia support, python, etc.
 - Worked with Peter on user account setup and approach for mounting network resources
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Testing and bug fixing the ymodem upload of PT coeff. Joseph found a but at 9600, fixed and released
 - In progress on m2m protocol for lab automation
- 902004 - Planktivore
 - Scrubbed plans for deployment this week. Will try again next week.
- Overhead
- Out of Office
 - Vacation Sep 27 - Oct 2 Ohio.
 - Oct 11 Jury/sick
 - Vacation Oct 12 - 18 Cancelled
 - Jan 9 - 12 CES
 - Feb 18 - 23 OSM24

Week 41

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
 - Discussions with bioinformatics suers
 - Setup deepedna2 as base ubuntu 22 with sudo privs for users, many thanks to Peter for the support.
- 901713 - Nearshore FOCE

- 901805 - Coastal Biogeochemical Sensing Program
 - Final touches on ymodem import of pressure-temperature coefficients.
 - Working on m2m protocol for lab automation.
- 902004 - Planktivore
 - Milestone: deployment of Planktivore on LRAUV Ahi. Ironed out a few wrinkles and then had a clean 12 hour mission with 1+ Million plankton images!!! Many thanks to the LRAUV team for the support and guidance,
- Overhead
- Out of Office
 - Vacation Sep 27 - Oct 2 Ohio.
 - Oct 11 Jury/sick
 - Vacation Oct 12 - 18 Nevada Eclipse (maybe not)
 - Jan 9 - 12 CES
 - Feb 18 - 23 OSM24

Week 40

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
 - Working thru permissions and setup of the deepedna servers. Request was for backup and security patches however additional constraints and permission limitations are encountered.
 - Next step is to setup deepedna2 in the same fashion as DeepRip.
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Working on m2m serial
 - NanoFET user's guide for handoff to Scripps
 - NanoFET software testing
- 902004 - Planktivore
 - Planktivore on LRAUV Ahi deployment on Tuesday 3 Oct 2023 after a push by Chris W and Aaron S. Observed ground fault diagnosis which turned out to be a flooded compass. Planktivore was clean on ground faults. LRAUV team efforts greatly appreciated.
 - Gathered lessons learned.
 - LRAUV operator training.
 - Debugging hdd issues on DeepRip
- Overhead
- Out of Office
 - Vacation Sep 27 - Oct 2 Ohio.
 - Vacation Oct 12 - 18 Nevada Eclipse
 - Jan 9 - 12 CES
 - Feb 18 - 23 OSM24

Week 39

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office

- Vacation Sep 27 - Oct 2 Ohio.
- Vacation Oct 12 - 18 Nevada Eclipse
- Jan 9 - 12 CES
- Feb 18 - 23 OSM24

Week 38

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
 - Working with IS on deepednaZ server setup. Re-partitioning is complete and IS tickets have been filed for the backup and account setups.
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Calibration coefficient import via Ymodem coding is complete.
 - Adding defaults and edit capability for the Cal coefficients
 - Testing on new nanoFET and MFET
- 902004 - Planktivore
 - Prep for LRAUV deployment. Fault found with the battery charging module. The small component size on the board, footprint, and soldering / hand assembly are suspects in the case.
 - Battery charger removed from test deployment. Housing has been sealed and Planktivore tested and wheeled into LRAUV lab
 - LRAUV Ahi checkout is complete and housing assembly is next step. Once the LRAUV housing is in place we will attach Planktivore.
 - Air weight and estimate on water weight indicate we need far more foam than originally designed. Working with Aaron. Hoping to get into the test tank this week.
- Overhead
- Out of Office
 - Vacation Sep 27 - Oct 2 Ohio.
 - Vacation Oct 12 - 18 Nevada Eclipse
 - Jan 9 - 12 CES
 - Feb 18 - 23 OSM24

Week 37

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Meeting with Erik, discussions on test plan
 - Implementing additional smbus routines
- 901009 - CANON
 - Meeting with Neil to go over backup and options. After working thru various scenarios, decided best course of action.
 - One on one discussions with oceanomics server users.
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Implementing ymodem import of calibration coefficients.
- 902004 - Planktivore
 - Finalizing battery backup testing, troubleshooting a problem with one of the strobes. Found ROHS soldering problem on one board and a board that failed.
- Overhead
 - Abstract for Ocean Sciences
- Out of Office

- Vacation Sep 27 - Oct 2 Ohio.
- Vacation Oct 12 - 18 Nevada Eclipse
- Jan 9 - 12 CES
- Feb 18 - 23 OSM24

Week 36

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Working on port expander driver and charge termination
 - Tested charger response to low batteries.
- 901009 - CANON
 - Meeting with ocean omics team to go over near term plans for server setup and to understand their concerns.
 - Working with IS on backups, permissions, security patches for the deepednas
 - MBON Master software install 'forensics'
 - Discussions
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Pressure calibration coefficient manual entry is complete and ready for review. The user can copy from excel and paste into Teraterm. Working on file import.
- 902004 - Planktivore
 - Working on abstract for ocean sciences in Feb.
 - Bench test has been running for days. Plan is for housing to be closed this week and Planktivore V2 to be relocated to LRAUV lab.
 - Reviewing the deep brs battery design and battery safety checklist.
- Overhead
- Out of Office
 - Vacation Sep 27 - Oct 2 Ohio.
 - Vacation Oct 12 - 18 Nevada Eclipse

Week 35

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Working on charge termination and other battery charging smbus features
 - Drafted a serial protocol doc and delivered to Quinn
- 901009 - CANON
 - Drafted a document with the software installed on MBON-edna.
 - Met with Katy, Kobun, Sebastian and Jacoby to gather requirements for setting up the two high performance edna processing servers. Discussed docker and git. Plan is to start simple on edna1 and use edna2 for prototyping and experimental software.
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Testing pHFET-SOS for nanoFET
 - Working on adding calibration coefficients for pressure and K2. User manual entry and file import.
 - M2m protocol
 - Investigating Spray ground fault. Sent a proposal with options to Yui for an experimental sniffer technique.
- 902004 - Planktivore
 - Disassembled Planktivore V2.

- ChargR testing. Hand assembled board failed. Paul built another set. Ran several charge / discharge cycles. Mounted ChargR, battery bracket and battery.
- Added ethernet switch
- Testing with a plan to button up housing on Thursday. Working towards a mid-Sep deployment.
- Overhead
- Out of Office
 - Vacation Sep 27 - Oct 2 Ohio
 - Vacation Oct 12 - 18 Nevada Eclipse

Week 34

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Updating test plan for scenarios. Read the battery safety checklist.
 - Working on charge termination via smbus
- 901009 - CANON
 - Prep for bio-informatics meeting. Meeting delayed to the 30th (covid)
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Helped with Spray corrosion diagnostics and MFET uSD card diagnostic. Recommended updating firmware from 3.3.1 to 4.1.6 and disabling uSD card for Spray since persistor logs the data. If uSD is needed, used industrial 1GB or 2GB cards
- 902004 - Planktivore
 - Working towards mid-Sept deployment. Plankti-shell was delivered and fit test surfaced minor issues. Brett had Stan do a fast turnaround fix.
 - Aaron replaced 3d printed (fragile) brackets with metal. Aaron also prep'd and pressure tested the deep brs housing. I'm in progress on battery safety checklist on Craig O's battery module.
 - Battery ChargR board testing. One works, the other worked for a short time then failed. More testing on the one that works.
 - Opened Planktivore V2 housing for adding ChargR, Li-on battery pack and fixing a wire.
- Overhead
 - DMO Support Ventana. Wrote Xoj Modbus app for exercising the FO Micro card. Fast turnaround was possible with help - thanks Kevin G, Kent H and Mike R for the assist. Delivered on Tues.
- Out of Office
 - Vacation Sep 27 - Oct 2 Ohio
 - Vacation Oct 12 - 18 Nevada Eclipse

Week 33

- 300078 - DMO Divisional Support - AUV
 - Discussed the scope of the planned work with Erik.
- 300083 - DMO Divisional Support - LRAUV
 - LRAUV BatMan charger testing. Erik's design is working great so far. Using the old and throw away batteries from the LRAUV lab. Basic charge monitoring is in place. Working to understand and implement the more advanced features on the boards.
- 901009 - CANON
 - Meeting with bio-informatics squad has been delayed due to Covid.
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Wirewalker bug investigation. No need for a point release, the fix will be rolled up in the end of August release.
 - Loaded code on the new nanoFET, ran some quick tests.

- 902004 - Planktivore
 - Both Planktivore V1 and V2 passed the pressure test in Port Hueneme.
 - LED board hardware design updated and ready to send out for fab.
 - Planktivore+Ahi GoToSea weekly meeting setup - goal is mid-Sep deployment
 - Received the 'Plankti-Shell' from Elkhorn, looks good. Will test fit when paint is fully cured.
 - Met with Jim Barry regarding next years Coral deployment. The request is early in the year so am working to eval the state of the Deep BRS battery.
- Overhead
 - DMO Support Ventana. Support DJ getting Ventana Ground Fault Xojo app up and running. Found a number of problems on my Wago stack. Working on another Xojo App to control the FOmicro modbus board.
- Out of Office
 - Vacation Sep 27 - Oct 2 Ohio
 - Vacation Oct 12 - 18 Nevada Eclipse

Week 32

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Updated the backplane processor to add 8KB additional flash - nice to have some code space again.
 - Draft serial protocol reviewed with Quinn and implemented. Will broaden the review and iterate.
 - Backplane hardware bringup and drivers are work in progress. Basic functions are working.
 - Runtime battery status messages implemented
 - In progress on charger daughter board. Working with Erik to understand features. Starting charge test on 28 batteries.
- 901009 - CANON
 - Prep for oceanomics server setup discussion with bio-informatics workers. Meeting delayed a week.
- 901713 - Nearshore FOCE
 - Support for potential use of MpHOX in cold room aquaria.
- 901805 - Coastal Biogeochemical Sensing Program
 - Irene's updated NanoFET is built and we are getting ready for software handoff to Scripps for Spray2 development.
- 902004 - Planktivore
 - Pressure test of Planktivore V1 and V2 on 9 Aug.
 - Working thru supplier issues with payload clam shell nose cone. Stan is sending pictures and has handed it off to the painter.
 - Aiming for a mid-September planktivore deployment
- Overhead
 - Intern presentation feedback
 - Xojo for DJ's mux board
- Out of Office
 - Vacation Sep 27 - Oct 2 Ohio
 - Vacation Oct 12 - 18 Nevada Eclipse

Week 31

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Smbus functions implemented and tested for run time monitoring of the lrauv battery packs
 - Met with Quinn to discuss protocol for multidrop rs232. In progress on implementation but hitting the end of flash (again).
 - Processor swap to upgrade to a 32KB part.

- Starting on the charging board bringup and firmware.
- 901009 - CANON
 - Per Kobun, working on deep-edna1 setup following mbon-edna. Looking into VMWare and Docker options
 - Meeting with bio-informatics users next wed/thurs to get requirements.
 - Peter in IS helped get the software install history off mbon-edna
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Verified nanoFET build, getting ready for Irenes updated version and collab with Scripps.
- 902004 - Planktivore
 - Opened housing and removed Xavier and optics benches, Aaron prep'd planktivore V1 and V2 for pressure test planned Aug 8.
 - Working with Brett on clamshell nose cone for Ahi. Schedule from Elkhorn has been slipping and have worked with Stan on next delivery date. Aiming for Planktivore v2 on Ahi in mid-Sep.
 - Open house prep. Many thanks to Paul for the excellent posters and for Lael, Jonah Gomes, Paul and Denis for staffing the booth and tear down.
- Overhead
- Out of Office
 - Vacation Sep 24 - Oct 2 Ohio
 - Vacation Oct 12 - 16 Nevada Eclipse

Week 30

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - LRAUV BatMan firmware development.
 - Making progress on I2c and smbus for battery status.
 - Ran out of code space on the 24KB lpc1113. Scrunched some functions but no joy. Tried compiler for size optimization but lost single step debug and code is not working. Found a pin compatible part with 32KB.
 - Reading thru NMEA style WHOI protocol for multi-drop rs232. Drafted a more compact, energy efficient and less labor (for me) machine-to-machine proposal based on previous rs485 experience.
 -
- 901009 - CANON
 - Investigating use of VMWare for consistency with MBON server and to address concerns about introducing too many new technologies to the user base of the eDNA servers. Docker would come in a subsequent phase.
 - Met with Peter in IS to get info from ticket system on MBON server.
 - Attended Zack Golds talk and had a follow up discussion.
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Starting rework on serial interface to improve machine to machine interface for labview.
 - Getting ready for new nanoFET and collaboration with Scripps.
- 902004 - Planktivore
 - Aaron has assembled the 2nd housing for pressure test on Aug. 8.
 - Reviewed Jon's pressure transducer 'add on'. Submit for fab should be in the next day or so with 6 week shop turnaround.
 - Paul has started processing on Durkin Lab deployment data. Planktivore V1 will be disassembled, tight tolerance face plates installed, filled with golf balls for pressure test along with Planktivore V2.
- Overhead
 - Crane training 7/25
- Out of Office

- Vacation Sep 24 - Oct 2 Ohio
- Vacation Oct 12 - 16 Nevada Eclipse

Week 29

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - LRAUV BatMan controller firmware. In progress on implementing smbus functions. Board bringup on baseboard is done and charging daughter boards will be tested after smbus functions for charge monitoring are working.
- 901009 - CANON
 - Met with Kobun on the eDNA server software and plans. First implementation will mirror the MBON server.
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Met with Yui on near term plans. BEAMS firmware worked well on the recent Maui deployment.
- 902004 - Planktivore
 - Project management, budget, one on one meetings to discuss plans.
 - LRAUV nose shell is delayed. Elkhorn is indicating 'next week'.
 - Met with Brett regarding Ahi.
 - Prep'd Planktivore V1 for Durkin lab deployment on 7/19. Next step is data processing.
 - Pressure test for Planktivore V1 and V2 schedule is in place for Aug 8,9.
 - Prep for 'Club Plankton' booth at open house.
- Overhead
 - Proposal was finished and submitted. Many thanks to Paul Roberts.
- Out of Office
 - Vacation June 26 - July 12 Vacation / Elder care
 - Vacation Sep 24 - Oct 2 Vacation

Week 28

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - Vacation June 26 - July 12 Vacation / Elder care
 - Vacation Sep 24 - Oct 2 Vacation / Wife care

Week 27

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - Vacation June 26 - July 12 Vacation / Elder care

- Vacation Sep 24 - Oct 2 Vacation / Wife care

Week 26

- 300078 - DMO Divisional Support - AUV
- 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.
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 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

Week 25

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - Vacation June 26 - July 12

Week 24

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - Vacation June 26 - July 12

Week 23

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Created chip support library for lpc11exx. This solved the hard fault when accessing some peripherals.

- Backplane board bringup is done. Thanks to Brett H for the fast response on a dev battery cage. Making progress on battery status code.
- Erik provided an overview of planned battery manager operation, very helpful
- 901009 - CANON
 - eDNA lunchbox battery debug for doest, not needed but we have a task on the list to provide a proper charging circuit with safety review sometime this year. Plan to leverage Planktivore design.
 - eDNA server requirements gathering
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Troubleshooting Labview serial comm to MFET bug after a run of several days.
 - Discussions on nanoFET software/hardware with Irene. Release 4.1.7 which addresses a mux bug.
- 902004 - Planktivore
 - Prep, test and deploy Planktivore v2 on temporary mooring. Aaron did a great job on the design and fabrication of the mooring - well done!
 - Mooring recovery planned for Friday
- Overhead
 - Cleanup. Moved the towbody to the Waveglider shed, microscope is stored in office.
- Out of Office
 - Vacation June 26 - July 12

Week 22

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - Vacation June 26 - July 12

Week 21

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Board bringup and software dev for lrauv battery management board.
 - Parts kit for small dev board
- 901009 - CANON
 - Researching use of docker and zfs on bioinformatics servers
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Assist on MFET logging problem
- 902004 - Planktivore
 - Mooring prep
 - Project budget and planning
 - Abstract prep and presentation for 2024
- Overhead
 - Reflow oven test.
- Out of Office
 - Vacation June 26 - July 12

Week 20

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Battery backplane controller firmware, aka, batman. Working on i2c driver coming up to speed on MCUxpresso.
- 901009 - CANON
 - Coming up to speed on docker. Got an example docker file from Brian S.
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Attended meeting on nanoFET size reduction, gave several suggestions.
- 902004 - Planktivore
 - Prep Planktivore V1 for use by Durkin lab off Paragon in the coming weeks. Held training for Crissy at the test tank.
 - Opportunistic training deployment of Planktivore v1 on Tuesday May 16. CPF recovery, fishing for anchovy, 10 minute dip of Planktivore v1 + Noot.
- Overhead
 - Planktivore Abstract for proposal. Board Bullets
 - Orcad and EDM installed with a much appreciated overview by Jose.
- Out of Office
 - Vacation June 26 - July 12

Week 19

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Working thru hardware issues affecting code download, found and fixed. LPCopen app dev for battery backplane is in progress
- 901009 - CANON
 - Attended CANON meeting.
 - Looking into docker for edna1 and edna2 servers
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Review nanoFet and provided size reduction recommendations.
 - Update to CCS v12 for development on new laptop. Git integration bug looks to be fixed.
- 902004 - Planktivore
 - Working with Araon on mooring deployment. Sent Mandy our Sanctuary permit details and have prepared notice to mariners message, thanks to Brian K for the template and to Jared for the guidelines.
 - Preparing Plantivore V1 for training Crissy Hufford in prep for use by Durkin lab on Paragon May 22,23
 - Requesting additional time for Denis to help with bench setup and strobe tuning
 - Board bullets
- Overhead
 - Working on Planktivore abstract. Discussions with stakeholders. Many thanks to Paul for work on the abstract text
- Out of Office
 - Vacation June 26 - July 12

Week 18

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - MCUxpress + MCU-Link now working after a bit of the ole uninstall, reinstall, reboot.

- Purchased a known good lpc11c24 board to verify all is well with the dev+debug setup. Still no joy downloading code to the battery board. In progress going thru the lpc11e13 datasheet against the schematic and layout.
- 901009 - CANON
 - Scoping install of software stack on edna1 and edna2. Prototyping sans docker on edna1.
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
 - Working with Aaron on Mooring for Planktivore deployment near power buoy.
 - Proposal abstract, talking to potential stakeholders for 2024 Planktivore
- Overhead
- Out of Office
 - Apr 27-30 Camping Pismo
 - Vacation June 26 - July 12

Week 17

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Installed MCUxpresso then switched to LPCxpresso per NXP support, then after meeting with Erik am back to MCUxpresso.
 - Meetings with Quinn on protocol
- 901009 - CANON
 - Meeting with Oxford Nanopore
 -
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
 - 38 minute deployment near Wirewalker on Thursday 20th, at 5m depth, Paragon drifting. 700K+ images
 - 39 minute deployment near Wirewalker on Tues 25th, 230k+images, yoyo 4 times at approx. 1m/sec to 70m for half, then steady at depth for the other half.
 - CANON meetings. Science use case is following the vertical migration from 250m. Galene/Chiton will be used as it covers the larger organism size range.
 - Working plans to get on an alternate LRAUV ahead of proposal season to demonstrate use of Planktivore on a science relevant scenario (long shot). This is adding work when resource is stretched thin.
 - Preparing Planktivore v1 to be used by Collen's group off Paragon on May 21,22.
- Overhead
 - Greg Voogd provided Crane checkout (missed previous trainings due to covid exposure)
- Out of Office
 - Apr 27-30 Camping Pismo
 - Vacation June 26 - July 12

Week 16

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore

- Overhead
- Out of Office
 - End of April camping
 - Vacation June 26 - July 12

Week 15

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Meetings with Quinn regarding LRAUV to battery backplane software. We have a plan
 - 2 battery backplane boards have been received. To aid software development for i2c mux and multidrop rs232 protocol a small dev board was designed and fabricated.
 - Battery charger boards have been picked up at Indtec
 - Installed MCUexpresso
- 901009 - CANON
 - Edna1 and edna2 servers are online and have accounts setup via IS. Working plans to gather user requirements for software setup. Had a brief discussion with Brian Schlinning about providing requirements review and feedback.
 - Organized edna lunch box and parts.
 - JHU has received funding, expecting activity to startup on LRAUV in-situ edna
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Code composer studio v12 eval on new laptop. No issues found, however git integration is not yet tested.
- 902004 - Planktivore
 - Weekly report has been missed for several weeks - here's the backlog.
 - Aaron ordered 600m of line for Paragon EcoHAB deployment.
 - Aaron is designing and fabricating bracket for Noot battery pack.
 - Jose and James have provided first class and timely support for electronics assembly. Hand building boards with subminiature parts designed for automated assembly is challenging! Jose has approval to purchase a reflow oven which will be great moving forward.
 - Denis has a reflow setup and was able to resolve our solder challenges in very timely fashion.
 - Camera controller is firing the strobes but we've not yet measured light/electrical output. The new v2.4 strobe energy board was delayed by the vendor and we are working thru how to use v2.3. Looks like best path is to modify the microscope endcap.
 - Denis and Thom attempted to assemble the microscope chassis into the housings, mechanical issues were found and we have a plan to address those on Mon/Tues modulo multi-tasking on other projects. The interference problems will require some minor rework of the optical chassis.
 - Brent / Paul successfully tested XavierNX software with the LRAUV and lcm.
 - Paul has a prelim algorithm for automated detection of pseudo-nitzchia
 - Paul is working on housing assembly and providing valuable assistance with mechanical, electrical, optics and software.
 - EcoHAB Paragon PN (pseudo-nit) sampling is our first deployment goal. 600m of line is inbound expected friday, Aaron has design and is fabricating bracketry and protective measures.
 - Optical chassis fit issues are on track to be resolved in the next day or so with lower profile screws and some of Denis's craftsmanship. Once we have the chassis installed, we'll be able to machine the microscope endcaps for the v2.3 energy boards. Pressure testing the machined endcaps is tbd, and dependent on Paragon access. Jon E is on vacation and we'll assess the risk next week.
 - Strobe pulse current measurement is not done yet but hopefully today as Thom is taking vacation Wed - Sun in Dallas...
 - Camera controller electronics is tested.

- Software for the camera controller has some work but mostly it's removal of the board bringup code.
- LRAUV Galene integration is being worked and the syntactic foam status will be updated after Jon is back.
- Final assembly is moving forward, with issues popping up and thankfully being readily addressed by a capable team. There is a rework needed on the Camera Controller to enable the Console rs232 port, but other than that, it's ready for integration.
- Jon is back from vacation and has the machined syntactic foam and is working the 3D printed 'foil' that goes on the end of the microscope tubes.
- EcoHAB Paragon PN sampling readiness this week is our goal.
- Aaron has received 600m of line and is working on the spool.
- Aaron has designed and is finishing up the Noot battery bracket. Note: we do not have a pressure transducer for depth measurement at this time.
- Brent and Paul have the XavierNX software setup and tested and Brent is replicating for use on Fluum and spare. XavierNX hardware is painfully expensive and difficult to find.
- Paul finished Camera Controller board testing and it was wired up to the bulkhead connectors and XavierNX and running all weekend (burnin).
- Denis, Paul and Jon worked thru mechanical fit issues and as of Monday these are all fixed thru the miracle of 3D printing and a touch of machining on the endcap.
- Working on integrating the strobe/camera integration with Camera Controller and XavierNX, Thom, Denis and Paul found an electrical issue (VarVo at 11.3v is hitting short circuit protection at startup), the fix is to increase the value of a current limiting resistor. These are on order and due to arrive on Wed.
- Jon is working on second rev of the 3D printed hydro foil.
- Fluum progress has been halted and final assembly will happen after we finish priority tasks. We will operate Plantivore v2 at 2usec pulse for first test off Paragon
- Planktivore is assembled (11 Apr 2023 at 7:12pm) and is running overnight 'soak' tests. 11 Apr test stopped, but likely due to loose cable and/or windows update.
- Wed 12 Apr 6:07pm test is running on Noot battery supply. Minor mechanical alignment issue, but images are looking good.
- First deployment will be off Paragon, hopefully by Apr 14 if all goes well.
- Overhead
 - Weekly ISFETology / techfest
- Out of Office
 - End of April camping
 - Vacation June 26 - July 12

Week 14

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - March 29 -31
 - End of April camping
 - Vacation June 28 - July 12

Week 13

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - March 29 -31
 - End of April camping
 - Vacation June 28 - July 12

Week 12

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Picked up backplane boards from Indtec, in my office
 - Dropped off Charger parts and PO on Thurs 9th.
 - Installed MCUXpresso IDE after working thru NXP website issues
 - Ordered jtag programmers
 - Designed a minimal RS232 multi-drop dev board.
- 901009 - CANON
 - Setup admin on deepEdna1 and deepEdna2 for server patching and install
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Reviewed nanoFET test data
- 902004 - Planktivore
 - Housing pressure test ~300m. Passed. Aaron and Jared went out at 3:30pm on Friday, above and beyond expectations. Much appreciated.
 - Camera controller board bringup. No design errors found, but worked through a number of pcb assembly challenges due to fine pitch surface mount parts.. Handbuilt vs automated assembly discussions with Jose / Paul / Denis. Jose has approval to purchase a reflow oven for future projects which should solve the problems.
 - Software updates for Camera Controller
 - Battery charger board assembly. Many thanks to Denis for the help with reflow and soldering.
 - Mar 22 was our goal to have all assembled and tested. Were running several days behind but no blocking issues. Assembly of electronics into chassis is starting.
 - Working on strobe assembly and wire harness.
 - The updated strobe energy board v2.4 modified to fit the housing has been in fab at the pcb house since Mar 6, it is expected next week. Testing and integration is moving forward with the previous version of the board.
 - Meeting with Brett H to go over EcoHAB which starts April 3rd. Paragon deployment of battery powered Planktivore v2 will be our first outing.
 - Weekly engineering meeting
- Overhead
 - DMO Support for Ventana.
 - ISFETology / techfest.
- Out of Office
 - March 29 -31
 - End of April camping

- Vacation June 28 - July 12

Week 11

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - Take son to school day (3/8, 4/5), work at home am, on campus 1-4
 - week vacation possibly in March.
 - Vacation June 28 - July 12

Week 10

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 -
- 902004 - Planktivore
 -
- Overhead
 - Weekly techfest, ISFET is being study in depth
- Out of Office
 - Take son to school day (3/8, 4/5), work at home am, on campus 1-4
 - week vacation possibly in March.
 - Vacation June 28 - July 12

Week 9

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Met with Erik to discuss battery control / monitor board, get schematics. Git access to the Dorado code.
 - Picked up LRAUV backplane from Indtec. Charger is due first week in March
- 901009 - CANON
 - Meeting with Kobun to plan out eDNA work
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Bug fix affecting nanoFET sampling has passed a multi-day lab test.
- 902004 - Planktivore
 - All pcb's in fab / assembly for strobe and camera control.
 - Bringup on Camera control started
- Overhead
 - Xojo app for Ventana FO controller. DJ is moving forward with can closure sooner that expected. Next window for test is in August. I will test on the loaner board in prep.
- Out of Office
 - Take son to school day (3/8, 4/5), work at home am, on campus 1-4

- week vacation possibly in March.

Week 8

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - Take son to school day (2/8, 3/8, 4/5), work at home am, on campus 1-4
 - week vacation possibly in March.

Week 7

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
 - Met with Erik, Brian, Brett and Quinn to discuss battery board. Dropped parts to Indtec. Reviewed WHOI software protocol design doc.
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Joseph found a noise issue on the nanoFET. We chased it down to an incorrect MUX setting in the nanoFET. Fixed and in test.
 - Weekly ISFETology meeting / techfest.
- 902004 - Planktivore
 - Kitting parts, cam ctrl is ready for assembly. The remaining boards should get here by next week.
 - Found a way to lower the ESR on the Strobe Energy board. Finished the design change and layout. Will work housing fitment with Jon before sending out for fab.
 - Planktivore kickoff meeting. Also, weekly Planktivore engineering meeting.
- Overhead
 - DMO requested help with a XOJO modbus GUI for FO Micro board. Put together a prelim and reviewed with DJ. Moving forward with making it an official app.
- Out of Office
 - Take son to school day (2/8, 3/8, 4/5), work at home am, on campus 1-4
 - week vacation possibly in March.

Week 6

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Starting m2m interface design
- 902004 - Planktivore
 - Several week catchup weekly (big push on electronics design and fab):
 - Camera Controller design complete, base board out for fab, delivery next week.
 - Power modules are also out for fab. Buck-boost bringup is complete
 - Strobe energy and Strobe variable voltage supply boards out for fab, delivery next week.
 - Preparing kits for Indec

- Scheduled Tech resource for assembly of bringup board for each next week. Used the google calendar, thanks Jose for helping me get up and running.
- Overhead
- Out of Office
 - Take son to school day (2/8, 3/8, 4/5), work at home am, on campus 1-4
 - Working from home last week during quarantine
 - mid-Feb vacation

Week 5

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - mid-Feb vacation

Week 4

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - mid-Feb vacation

Week 3

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead
- Out of Office
 - Jan 4 - 8 CES

Week 2

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
- 902004 - Planktivore
- Overhead

- Out of Office
 - Jan 4 - 8 CES

Week 1

- 300078 - DMO Divisional Support - AUV
- 300083 - DMO Divisional Support - LRAUV
- 901009 - CANON
- 901713 - Nearshore FOCE
- 901805 - Coastal Biogeochemical Sensing Program
 - Investigated noise on Durafet / MFET setup. Borrowed isolation transformer for water bath, recommended static mats.
- 902004 - Planktivore
 - Reviewed and weighed housings - the shop has done a great job.
 - Project management
 - Camera controller design and layout.
- Overhead
- Out of Office
 - Jan 4 - 8 CES