Scott Jensen Sorted By Project

300078 - DMO Support - AUV

- A little searching for possible bridge solutions (Week 5)
- First pass design of Bridge has been entered. (Week 20)
- Utilizing previous design for isolated communications path (Week 20)
- Working on power supply and over voltage protection (Week 20)
- Putting some thought into how to protect the motor through electronics of the new drive in the case of excessive towing speed. (Week 23)
- Looking into options for bulk capacitors (Week 29)
- Time spent deciding upon DC-Link capacitance with regard to value, pressure tolerance and prototyping (Week 33)
- Determining pin usage (Week 35)
- Design of logic and isolated power supply (Week 35)
- Working on transformer for logic power of the drive (Week 36)
- Located core (Week 36)
- Evaluated a power supply IC along with a custom transformer (Week 39)

706005 - eDNA Grass Carp Sandusky

- Beginning to pull together required hardware for this deployment (Week 14)
- Preparing instruments and equipment for upcoming deployment (Week 17)
- Successfully completed install of two ESP instruments on the Maumee and Sandusky rivers (Week 20)
- Did a quick on site repair of the ESP Instrument located on the Maumee River in Toledo, Ohio. (Week 23)
- Instruments have been recovered (Week 29)

706008 - READI-Net

- Working to define NFC data and its format (Week 3)
- Modified copy 2 to include NFC transceiver (Week 3)
- Discussion with Minivalve to determine more suitable valves for pucks (Week 3)
- Great progress toward full sampling. (Week 5)
- Nearly complete subsystems, only missing NFC (Week 5)
- Discovered possible solution for reagent storage (Week 5)
- Lots of preparation for dock deployment (Week 6)
- Running into an issue with competing mechanical needs between puck manipulation and fluidics (Week 6)
- Developed protocols for sampling (Week 6)

- Fluidic issues while trying to managing protocol. While clearing puck the mechanics allow the puck seal to become unseated allowing a small spray of fluid out into a critical area. (Week 7)
- A software issue causes the console port to stop sending out data. This may be a problem with a data overrun in the lower USB code. (Week 7)
- Waiting for the new frits to arrive (Week 7)
- Closing in on a design for allowing the opto-interrupters to ignore ambient light conditions (Week 7)
- Preparations for dock deployment (Week 8)
- Dock deployment, rocky start but making progress and learning the short falls (Week 8)
- After a long two weeks the dock deployment is over. It was a learning experience and while it did not work perfectly a great todo list has been generated (Week 10)
- Finally settled upon a circuit topology for ambient light abatement through the opto-interrupters (Week 10)
- Implemented the software for the AC-coupled interrupters (Week 11)
- The ambient tolerant opto-interruptor driver values have been determined and completely assembled. Testing has shown complete function even in full sun light. It is however still possible to run the unmounted sensor in just the right angle to directly face the sun and cause the over-bright function to trip. There has to be a limit, but at least there is an indication now that it is too bright. (Week 14)
- Integration within the firmware environment found a conflict between two functions where one was disabling interrupts for a long period of time. A work around has been determined but an investigation into if the disabled is required would be useful. (Week 14)
- Instrument was prepared for some science sample testing. (Week 15)
- Working to get Cloud and Web application moved to MBARI control (Week 17)
- Started a calibration of the transfer function of the paddle wheel flow sensor. Luckily the volume per pulse is proportional to pace. With that and the ability to scale the pace epoch and volume unit, a simple counter with offset has been implemented. The actual volume can then be converted in the upper level Micropython at a slower rate. (Week 23)
- Tuned up puck counting sensor and adding into puck loading functions (Week 29)
- Preparing for PCB layout with design review (Week 29)
- Worked out puck loading algorithm with state implementation (Week 32)
- Working toward being able to run an actual “sample” (Week 32)
- Supporting design of electronics board (Week 32)
- Lots of work adjusting scripts to production guild prototype a (Week 33)
- Running in to an issue of filter seal during nitrogen purge (Week 33)
- Supporting build up of the pre-production units (Week 35)
- Checked out latest instrument build (Week 36)
- Updated clamp function with a calibrate mode (Week 36)
- Collecting state of development to help define statement of work for outside contractor (Week 39)
- PCB is in and assembled (Week 40)
- Check out processes is underway (Week 40)

- Assistance with the puck processing system (Week 40)
- Completed checkout of new fido control pcb. (Week 43)
- Working on integrating control pcb into instrument (Week 43)
- Clamp problems and finding a solution (Week 43)
- Puck counter troubles measuring top of stack (Week 43)
- Making progress on the FIDO PCB integration into the FIDO mechanism (Week 44)
- Fixed a few lingering issues (Week 44)
- Stuck still with one timing issue (Week 44)
- Finally located a hidden intermittent bug in the firmware (Week 46)
- Preparation for the eDNA comparison study (Week 46)
- Participated in the eDNA comparison study (Week 46)
- Switched over to new valves and clap configuration (Week 47)
- Working on FIDO2 (Week 47)
- Prepared and delivered instrument to 219 Design for manufacturing review (Week 49)

708178 - Marine E Development NAV

- One possible use of the FOC engine. (Week 17)
- Continuing to define specifications (Week 17)
- Looking into bridge drive options for the propeller. (Week 17)

901205 - ESP SURF Center

- Supporting lab operations and continuing instrument builds (Week 3)
- Evaluated NFC for possible use elsewhere in ESP program (Week 5)
- Meetings to determine field deployment calendar (Week 7)
- Lab support (Week 8)
- Preparations for upcoming field deployments (Week 10)
- New terrestrial housing is being assembled (Week 10)
- Locating and gather items for upcoming deployments (Week 11)
- Testing batteries (Week 11)
- Supporting lab functions and deployments (Week 14)
- Prepared the BGAN satellite terminal for deployment (Week 14)
- Preparations for McCloud communications install trip (Week 15)
- Two trips to Bollibokka on the Shasta Reservoir. The first was to finalize the install with a working satellite modem. The Second was to fix an internal leak that was discovered the day after the modem was installed. Both successful endeavors and the second may have saved the instrument. (Week 16)
- Control methodology complete for Seatrac two pump system (Week 20)
- Hardware assembled (Week 20)
- Support of lab's instrumentation and troubleshooting (Week 32)
- Supporting instrument preparations (Week 33)
- Maintenance run to the McCloud Deployment site (Week 35)
- Troubleshooting a faulty pressure sensor (Week 36)
- Supported lab functions (Week 39)

- Support of lab operations (Week 40)
- MCloud instrument and installation retrieved (Week 43)
- Supporting lab operations (Week 44)
- Support of upcoming lab move to building g (Week 46)
- Cleaned up from the Aquarium comparison study (Week 47)
- Preparations for Australia deployment (Week 49)

901405 - Wave-Energy Conversion for Oceanographic Applications

- Preparations for attending battery convention (Week 35)
- Investigating dock-PB-LRAUV integration (Week 35)
- Trip planning to battery show (Week 36)
- Many discussions about how the buoy may have failed (Week 39)
- Trying to figure out what went wrong (Week 40)
- Preparing for Battery Conference (Week 40)
- Why does the rangefinder over current ? (Week 44)

901805 - Coastal Biogeochemical Sensing Program

902101 - LRAUV Technology Development

902106 - Niobicon-Based AUV Docking Development

- Chasing down of a Qualcomm datasheet (Week 35)
- Trying to gain access to a datasheet for the IC used in Power Of Comms on the dock (Week 39)
- Still trying to gain access to the Qualcomm datasheet (Week 40)
- Still trying to get access to datasheet, got a response today (Week 44)
- Finally have access to QCA6410 datasheet (Week 46)
- Finally got access to Qualcomm datasheets for QCA6410. Reading and learning about the IC and how signal output power might be boosted. (Week 47)

Out of Office

- Due to covid exposures
- April 5-9 vacation
- June 17-21 vacation
- July 18-23 vacation
- July 24-29 vacation
- September 16-20
- October 7-9
- November 26-27

Overhead

- Due to computer failure, spent time building up intermediate laptop so work can continue (Week 3)
- Investigating a FOC PMSM drive IC that might work well for a few projects. (Week 16)
- Working with a evaluation board for a Trinamic FCO engine may be usable by a few projects (Week 17)
- Finally able to spin the motor now that all the correct power is applied and communication channels are functioning. (Week 17)
- David Packard failure discussions and consultation (Week 39)
- ESP lab move (Week 47)
- Assisting with Lab move (Week 49)