

Engineering Weekly Report 11/4/2021 - 11/11/2021

Executive Council Notes

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Individual Activities

- Francois Cazenave
 - Out of Office
 - Took 1 day of vacation
- Mark Chaffey
- Danelle Cline
 - <http://github.com/mbari-org/emso-tsc2021-session3>
 - Out of Office
 - Vacation 11/23-11/26
- Duane Edgington
 - Out of Office
 - Nov. 3 - Dec 6. Vacation (foreign travel)
- Jon Erickson
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
- Ben Erwin
- Kevin Gomes
 - 200105 - Core Nav - MDUC
 - Deployed new version of Dataprobe to both ships (and updated after bug found)
 - 902100 - Telepresence on MBARI Research Vessels
 - Implemented a script that pulls all datamanager items, packages them up as compact JSON and publishes them to RabbitMQ every 2 minutes. Deployed on both ships to create data pathways for viewing the data in the telepresence web app.
 - Out of Office
 - 11/22-26 Vacation
 - 12/9 Vacation - Volunteer at Tech Fest day at Bay View Academy
- Andy Hamilton
- Kent Headley
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Terrain-Relative Co-Navigation application design and prototype
 - CoNav test apparatus
 - 800139 - EyeRIS
 - Project meeting
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Monitoring buoy activity
 - Attempted to restart the CANbus network interface
 - 901618 - Pelagic-Benthic Coupling
 - Benthic Rover motor controller investigation
 - Benthic Rover fluorometry image issue
 - SES image detritus issue

- 902101 - LRAUV Technology Development and Fleet Operations
 - CoNav app and test
- Out of Office
 - Nov 11 vacation, local, communication OK
 - Nov 12 WFH
 - Dec 17 - 30, Holidays and vacation
- Brett Hobson
- Scott Jensen
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Battery Management System conceptual development
 - 901805 - Coastal Biogeochemical Sensing
 - Preparing for nanoFET layout
 - 902106 - Niobicon-Based AUV Docking Development
 - Support during fabrication of dock electronics
 - Overhead
 - EE hire
- Brent Jones
 - Out of Office
 - 1 day vacation
- Chad Keczy
- Brian Kieft
 - 300083 - DMO Support LRAUV
 - Tethys, Triton, Galene, and Pontus are all offshore
 - 708168 - DHS Y8
 - Further DDM debugging and deployment support
 - Added current/voltage monitoring to DDM component
 - 800139 - EyeRIS
 - Deployed yesterday for camera system test
 - 901800.98 - Bioacoustic Payload
 - Deployed yesterday. Issue with antenna fouling. Deploying again this afternoon.
 - 902106 - Niobicon AUV dock dev
 - Deployed yesterday for docking tests. Troubleshooting issues with vertical control.
 - Out of Office
 - 11/22-25 (MST)
- Denis Klimov
 - 901023 - Continental Margins
 - Ordering and configuring a mobile workstation with XY stage for BEDS qualification testing
 - 902004 - Planktivore
 - Optical assembly for camera and objective characterization is completed. Report is started, so far camera FOV and resolution characterized. Next, depth of field characterization
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Magnetic characterization and degaussing report is completed
- Diana LaScala-Gruenewald
- Eric Martin
- Thom Maughan
 - 901805 - Coastal Biogeochemical Sensing
 - Verified ADS1284 functionality for components bought from Shenzhen via agent
 - Support for MFET/MPHOX firmware.
 - 902004 - Planktivore
 - Meetings with Larry and Paul to review task list on housing design

- Working with Denis on new lab location for optics testing. Setup laptop with software for machine vision cameras, handed off to Denis.
 - Project management, expense, budget
 - Strobe controller electronics design
- Out of Office
 - Working from home once a month on Wednesday (child/school) (Nov 3, Dec 1)
 - Nov. 10,11,12 Vacation in Dallas, TX
- Mike McCann
 - 901101 - Seafloor Mapping
 - Reloading with longer list of excluded directories that Jenny provided
 - 901910 - Plankton Taxonomic Groups from AUVs
 - Working on resampling variables to be on the same time grid
 - Overhead
 - Attended MLonMB workshop at UCSC
- Rob McEwen
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Reviewing Cooperative Navigation algorithm
 - 901101 - Seafloor Mapping
 - Helping Erik T. with simulation.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Flew the airplane at the Monterey Bay Academy airstrip. First flight was ~30 minutes and was successful. We did a catapult (ballista) launch, then did automatic self-tuning PID maneuvers. I then landed it manually. We even got aerial photographs of test patterns. Second flight again was a catapult launch. The plane then flew a lawnmower pattern completely autonomously. Then we tested the “stability” mode (for pilot flying) which did not go well.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Evaluating effects of large fins on Tethys. Are they causing it to stall?
 - Out of Office
 - Nov22-24
 - Dec 22-31
- Paul McGill
 - 701145 - Penguin Hotspots
 - Working on system schematics for REMUS sonar payload.
 - 901618 - Pelagic-Benthic Coupling
 - Continue to troubleshoot Rover and SES faults
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Reconfiguring Coral Macro Camera to put laser drivers inside camera housing
 - Met with Doc Ricketts pilots to interface Deep Sea Connect hardware with ROV
 - Overhead
 - Working on signal processing paper with Yanwu and John Ryan
 - Interviewed EE candidate Ian Miller
 - Out of Office
 - Took Fri off as shore leave
 - Out for routine medical test on Tue
- Ed Mellinger
- Tom O'Reilly
- Craig Okuda
 - 901007 - Benthic Biology and Ecology
 - Prep BRS for December deployment
 - Out of Office

- Vacation days
- Overhead
 - Cupola clean up
 - Update wireless system docs
- Doug Pargett
 - 881135 - 3G ESP Cartridge Redesign
 - Meetings with Function for the new Archive only cartridge.
 - Redesigning the G3 ESP spindle assembly for the Function cartridges.
 - 901205 - ESP SURF Center
 - Creating G3 ESP models for animation studios
 - Out of Office
 - Sick Leave
- Ben Raanan
 - Out of Office
 - June 8-22
- Mike Risi
 - Out of Office
 - April 26-30: Ocean Imaging Cruise
 - May 3-7: Vacation
 - June 4-11: Vacation
 - June 28-July 2: Vacation
 - August 30-September 14: Ocean Imaging Cruise
 - September 14-17: Vacation
 - Vacation on alternate Fridays
- Brent Roman
 - 901205 - ESP SURF Center
 - Finally worked through all the networking issues at Ducette's NOAA lab to update ESPchris there
 - Investigating a nasty race condition I caused by trying to configure ESP dwarves lazily
 1. Multiple threads can end up initiating interleaved configuration sequences
 - 901913 - Demonstrating high-speed communication with a submerged AUV
 - Pair of modems have arrived
 - Having cabling made by EE techs
 - Hope to do some in tank tests late this week
- Carlos Rueda
 - Out of Office
 - Oct 27–29: <https://scale.bythebay.io>
 - Nov 1–4: <http://www.scalacon.org/>
 - Nov 11, 12, 22–24; Dec 9, 10, 21–23: vacation
- Karen Salamy
 - Out of Office
 - Vacation: November 12-19, 2021.
- Brian Schlining
 - 500055 - Video Annotation DM
 - Working on adding an advanced query to the new deepseaguide.
 - Prototyping an integrated annotation/map/video view for new deepseaguide.
<http://m3.shore.mbari.org/deepseaguide> => Click on query and enter a search term to preview.
 - Out of Office
 - Nov 10 - Attending Machine Learning on Monterey Bay (UCSC)
- Rich Schramm

- Alana Sherman
 - 901618 - Pelagic-Benthic Coupling
 - Testing various components of Rover that had intermittent comms issues.
 - 901904 - Deep-Sea Coral-Sponge Community Observatory
 - Discovered issue with new Snappy boards not working. Requires a quick fix- hopefully. Learning more about the datalogger and trying to integrate parts into the Coral Camera housing with James help.
 - Testing out new cable for remote shutter.
 - Overhead
 - Hiring!! We are interviewing for one EE position this week and next. Lots of scheduling and preparation.
 - Hired, worked on the Mark Chaffey replacement position.
 - Out of Office
 - Out early Monday for a dr appt