

Engineering Weekly Report 4/14/2022 - 4/21/2022

Executive Council Notes

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Individual Activities

- Kevin Barnard
 - 500055 - VARS, M3/RS, DSG
 - Fixed/augmented Annosaurus Swagger schema document
 - 701139 - ML Tracking
 - Parsed July 2021 ML-Tracking LCM log data to JSON; will load into Postgres DB
 - 902002 - FathomNet
 - Patched timecode issue in vars-gridview
 - Completed box-diff for localization difference analysis/ML to VARS DB merge
 - 902005 - VARS Annotation Assistance
 - BoxJelly/Cthulhu integration now working; still needs polishing before release
- Francois Cazenave
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Helped deployed the wave energy buoy
 - Monitoring buoy, analysing data
 - 902106 - Niobicon-Based AUV Docking Development
 - Working on improved capture device
 - Preparing recovery of buoy
 - Managing project
 - Out of Office
 - One day of vacation
- Danelle Cline
- Duane Edgington
 - 902005 - VARS Annotation Assistance
 - Continued runs of AWS sagemaker processing jobs to nail down parameters, ENV variables, instance types, performance, cost. Reproduce Lonny colab results in AWS.
 - Overhead
 - Group meeting
 - Docker training
- Jon Erickson
 - Still working with and advising Quest Institute. Mostly about their MARS experiment.
- Ben Erwin
 - Out of Office
 - Vacation 2/12-2/20
- Kevin Gomes
 - 300057 - Mooring Maintenance
 - Troubleshooting and repairing errors after microwave outage
 - Updated SSDS to reflect CTD swap on 4/15
 - 300070 - DMO Support - Ventana

- Some assistance to get GreenSeas access to Paduk to install the GSS software so I can try to rebuild Rich's logging app and deploy on bubinga
 - Troubleshooting errors that showed up in DiveLog app when microwave was down (and on VSat)
 - Looking into request for search on dive log app
- 901009 - CANON
 - Troubleshooting various data streams after network hiccup from microwave outage
- 902012 - Telepresence on MBARI Research Vessels
 - Deployed application to production and had my group help me troubleshoot various issues that I could not replicate in development.
- Out of Office
 - Mar 21-25: Vacation
- Andy Hamilton
- Kent Headley
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Ran pre-cruise data plumbing checks with Mike Risi and DJ Osborn
 - Wrote initial implementation of beam transformation
 - Testing and debugging ROV TRN application code
 - 901101 - Seafloor Mapping
 - Telecon with Stefano Suman and Justin Fujii re Sentry TRN integration
 - 902204 - Scalable Marine Robotics Foundations
 - Met w/ Gian Carlo re project activities
 - Will scope some work related to writing driver for imaging sonar and evaluating ZCM communications middleware
 - Overhead
 - SRSC meeting
 - DEI committee meeting
 - Joined EE hiring committee
 - Misc admin
 - Finding home for OASIS5 hardware
 - Out of Office
 - May 2 : Precision Control/Seafloor mapping Ventana TRN test cruise
- Rich Henthorn
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Integrating Delta T measurements into TRN Replay
 - 708167 - WEC Dynamics and Control
 - Successful 1st deployment of 2022 Monday
 - Minor modifications
 - Crossbow AHRS calibration
 - 901101 - Seafloor Mapping
 - Delta T integration
 - 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Weekly meeting
 - 902101 - LRAUV Technology Development and Fleet Operations
 - TRN CoNavigation
 - Overhead
 - Proposal meetings
 - Out of Office
 - April 25 - out of the area, WFH
 - July 4 - 18, vacation & WFH, email & phone OK

- Sep 21 - 30, Sta.M Cruise (final scheduled cruise of the Western Flyer)
- Brett Hobson
- Scott Jensen
 - 901205 - SURF Center
 - Submitted next print round
 - Beginning build of third terrestrial housing
 - 901405 - Wave-Energy Conversion for Oceanographic Applications
 - Support of deployment
 - Building up spare hardware
 - 902106 - Niobicon-Based AUV Docking Development
 - Troubleshooting of Docking buoy
 - DQ2113 - Tidal Turbine
 - Preparing hardware for testing at APL
 - Overhead
 - Hiring committees
- Brent Jones
- Chad Kech
- Brian Kieft
 - 300082 - DMO Support - Wave Glider
 - Recovered WG Tiny after nearly a month at sea.
 - 708168 - DHS/LRAUV Under-Ice
 - Supporting current Polaris deployment testing oil mapping
 - Added PD6 and water column capability for Stella LRAUV
 - Added ZDA on/off/ignore capability for Stella NAL9602
 - 708143 - Eco HAB
 - See LRAUV development
 - Van secured
 - Crane/Pier access secured
 - Boat support secured
 - Schedule nearly fixed
 - 800139 - EyeRIS (Remote Imaging System)
 - Recovered Galene following 4th engineering deployment last week.
 - 901009 - CANON
 - Prepped Stella 113 for lagrangian drift sediment sample comparison with CPF
 - Deployed CPF with the team yesterday
 - 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - Assisted with Tethys deployment testing mapPatch mission last week.
 - Debugged issue with acoustic retry first noted in 2021 EcoHAB. Fix is in current release and will be tested this coming week.
 - 902101 - LRAUV Technology Development and Fleet Operations
 - Added joystick control on Makai in prep for EcoHAB
 - Troubleshooting network issues on Brizo
 - Prepped EZ servo to send in for noise assessment
 - Roughed in coulomb counter interface in CBIT to interface to Tanner's user space application interface to the hardware. Testing continues on Melia.
 - 902106 - Niobicon-Based AUV Docking Development
 - Serviced topside dock equipment yesterday
 - Added short final lockout to line capture behavior.
 - Queried Benthos on the short final azimuth noise issue when elevation angle steepens.
 - Out of Office

- 04/15 (PDT)
 - 05/15 - 06/04 (EcoHAB PDT)
 - 07/02 - 07/09 (HST - vacation)
 - 07/13 - 07/22 (AKDT)
 - 08/01 - 09/03 (EDT)
 - 09/12 - 09/28 (GMT+2 - vacation)
- Denis Klimov
- Diana LaScala-Gruenewald
- Eric Martin
 - Out of Office
 - STCW training April 11-15 (This week)
- Thom Maughan
 - Out of Office
 - TBD trip to Montana.
 - May 27 - 31 Camping
 - Jul 6 - 13 Camping
- Mike McCann
 - 901111 - AUV Infrastructure Support
 - Fixed a numpy exception in LRAUV netCDF generation code for recent tethys data
 - Overhead
 - Fixed file start and end times in Expd's CleanRovNavLoad table
 - Monitoring end-to-end processing of edited ROV Nav data through draco, Expd, & emdb
 - Using (and enhancing) the emdb web site to find and remove outliers from edited nav files
- Rob McEwen
 - 600034 - Precision Control Technologies for ROVs and AUVs
 - Preparing to add Trn to the ROV simulator.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Motors and ESC's now responding.
 - Painting Believer 3 this week.
 - Setting up telemetry.
 - Out of Office
 - Vacation April 29 and May 11-13.
- Paul McGill
 - 300070 - DMO Support - Ventana
 - Helping DJ troubleshoot another ground-fault problem
 - 300079 - DMO Support - Rachel Carson
 - Spent many hours troubleshooting microwave system with Paul C., Ariana, and Alana, and had partial success but it needs more tweaking.
 - 901618 - Pelagic-Benthic Coupling and the Carbon Cycle
 - Calculated new Rover position for Wave Glider geolocation attempts next week.
 - 901700 - Acoustical Ocean Ecology
 - Observed deployment of MARS Echosounder and am working with Knute and Chad W. to figure out what is causing a ground fault in the system.
 - 901902 - Unoccupied Aerial Vehicles for Science, Operations, and Outreach
 - Found design issue with UAV's external barometer board and had Jose make some mods to correct the problem.
 - Out of Office
 - Will be on vacation April 21st thru May 12th.
- Tom O'Reilly
- Craig Okuda

- Doug Pargett
 - 901205 - SURF Center
 - Calls and zoom meetings to support what I can remotely.
 - FEA of 10m housing redesign
 - Out of Office
 - Back in home quarantine
- Ben Raanan
 - Out of Office
 - 02/23-24
 - 04/4-7
 - 04/13-23
- Mike Risi
 - Out of Office
 - May 5 - vacation
 - May 9-10 - vacation
 - June 2-8 - OI cruise
- Paul Roberts
 - Out of Office
 - 4/2 - 4/9 (spring break san diego)
- Brent Roman
- Carlos Rueda
 - 901502 - Soundscape Research and Education
 - Some input to the “mysticete symphony” paper under preparation.
 - 901513 - Targeted Sampling by Autonomous Underwater Vehicles
 - Adding wave glider front detection implementation for the SMC2, initially only with data access.
 - Tom has set up the SMC2 with a proper name and stable IP address.
 - 902005 - VARS Annotation Assistance
 - Group meeting.
 - Looking into reproducing the Cthulhu box display issue to hopefully start diagnosing it.
 - 902009 - AUV User Experience Design
 - Looking into updating the TethysDash API documentation, which unfortunately, is not generated automatically yet (this is part of future modernization).
 - 902101 - LRAUV Technology Development and Fleet Operations
 - (not reported past week) Very productive internal TethysL status update ([April 11](#)).
 - All end-to-end tests (from the DashUi to real vehicles) have gone well. Thanks Brian for using and promoting use of TethysL.
 - Re-enabled the TethysL CLI binary releases at GitHub.

- Successfully tried the [Remote SSH connection using VS Code](#). Thanks Ben for the great finding and suggestion, super handy not only for our TethysL efforts but in general.

```

1  #!!! TethysL file automatically generated from Maintenance/calibrate_sparton_compass.xml.
2
3  mission 'SpartonCompassCal' {
4      ***
5      This mission voyos in a spiral while calibrating the Sparton AHRS-H2
6      Micro AHRS/IMU with AdaptCal.
7      ***
8
9      # Mission-wide settings
10
11  arguments {--
12
13  }
14
15  # Missions should almost always start with a timeout
16
17  timeout duration=MissionTimeout
18
19  insert Insert/Science.xml {
20      ***
21      Most missions will run the science sensors. If you don't place this
22      aggregate above NeedComms, science instruments get turned off on the
23      last upcast and while floating on the surface.
24      ***
25  }
26
27  # Most missions should use the NeedComms aggregate.
28
29  insert id="NeedComms" Insert/NeedComms.xml
30
31  assign in sequence NeedComms:DiveInterval = NeedCommsTime
32  # Missions should almost always start with standard safety envelopes; most missions should not expose the para

```

- Overhead
 - DEI Committee and IE meetings.
- Out of Office
 - May 16-20: vacation
- Karen Salamy
 - 300057 - Mooring Maintenance
 - Issue with Mt. Toro kept data downloads to SSDS from occurring over the weekend. Spent part of Monday working with Jared F. to check on the downloads and verify all was well following fixes to Mt. Toro.
 - 901101 - Seafloor Mapping
 - Shifting my attention to a good Leaflet Sidebar for the SMDB Dash. I am currently working to create and extend a new leaflet-proSidebar for use with the Dash. I am hoping to have a good working option this week.
 - Out of Office
 - Spent last week on vacation (daughter's Spring Break).
- Brian Schlining
 - 500055 - VARS, M3/RS, DSG
 - Continuing port from Apache Derby to [Postgresql](#) for non-mbari use. Running tests using DARC's data setup imported into Postgres. Postgres handles UUIDs differently than other databases, so working through that in annosaurus and vampire-squid apps.
 - Created [apps to copy](#) M3/VARS databases to another database.
 - Testing framecapture on the Rachel Carson after reports of issues. tl;dr: Everything is working fine, someone was running an old version of VARS that's not compatible with the new framecapture setup.
 - On-going imports of Iron Mountain tape-to-video files.
 - Reviewed shortcomings of Cthulhu video player with the video lab.
 - Investigation into service failures. Looks like they were due to network issues related to work on Mt. Toro.
- Alana Sherman
 - Overhead
 - Microwave: went on my first trip to Mt.Toro to try to help with a microwave outage and learn about the system.
 - Worked on strategic roadmap outline and other documents

- Starting up job search for new EE hire. Assembled other advertisements for similar positions for the team to look at