

Rob McEwen

Week 53

- 600034 - Control Tech - Rock
- 708167 - Wave Energy Converter
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - WFH on Thursday and Friday.

Week 52

- 600034 - Control Tech - Rock
- 708167 - Wave Energy Converter
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - WFH on Thursday and Friday.

Week 51

- 600034 - Control Tech - Rock
- 708167 - Wave Energy Converter
 - Will investigate Hough transformation for wave arrival prediction.
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Assisting Rich H in LCM implementation in the OA app.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - WFH on Thursday and Friday.

Week 50

- 600034 - Control Tech - Rock
- 708167 - Wave Energy Converter
 - Will investigate Hough transformation for wave arrival prediction.
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Assisting Rich H in LCM implementation in the OA app.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO

- Overhead
- Out of Office
 - WFH on Thursday and Friday.

Week 49

- 600034 - Control Tech - Rock
- 708167 - Wave Energy Converter
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Adjusted Dorado simulation to better model a single Imagenex in the LR vehicle.
 - Ran the simulated data through the standalone OA code. It appears to work correctly.
 - Beginning to work on the LCM interface.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - WFH on Thursday and Friday.

Week 48

- 600034 - Control Tech - Rock
- 708167 - Wave Energy Converter
 - Assisting Andy with machine characterization.
- 901513 - Targeted Sampling by AUVs
 - Debugging stand-alone OA code now.
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - WFH on Thursday and Friday.

Week 47

- 600034 - Control Tech - Rock
- 708167 - Wave Energy Converter
 - Assisting with Matlab scripts for the hydraulic controller.
 - Waiting to see if I can do more on the radar-wave-arrival-estimation problem.
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Will resume testing LR-OA code with Dorado simulation.
 - Discussing docking with LR team.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - WFH on Thursday and Friday.

Week 46

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs

- 901800 - LRAUV Payload & Support
 - Finished porting Dorado OA code to LR standalone app. Now the debugging starts.
 - Ran a Dorado sim with a single Imagenex mounted at 45 degrees. We have a unit test that will play this data back through the stand-alone app to test it.
- 901101 - Ocean Imaging
 - Completed kinematic computation and plots for Andy's radar data.
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - WFH on Thursday and Friday.

Week 45

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Porting obstacle-avoidance code from Dorado to stand-alone app for LR backseat computer.
- 901101 - Ocean Imaging
 - Did some analysis for the 28 Sept Paragon radar test. Specifically, computed the translational velocity of the radar mount from a non-colocated Ahrs.
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - WFH on Thursday and Friday.

Week 44

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Continuing with port of OA code from Dorado to stand-alone application for LR "backseat" computer.
 - Working on an OA test program that reads in simulated Imagenex and Kearfott data from the Dorado simulator, and flows it through the new OA code.
- 901101 - Ocean Imaging
 - Vetting nav440 data from September's radar test on the Paragon.
 - Investigating converting Dave's boulder data from last week into an octree map. Will then verify Imagenex simulation using this map.
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - WFH on Thursday and Friday.
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Week 43

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
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Week 42

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Transferring obstacle avoidance code from Dorado to LR backseat.
 - Exploring the feasibility of linking Octree code into Matlab.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
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Week 41

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Refining power estimates from Portuguese Ledge run.
 - Beginning to transfer obstacle-avoidance code from Dorado. The objective is to retain the existing algorithm, and only change code where necessary to work with the LR architecture.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
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Week 40

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
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Week 39

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Did some power analysis on LRAUV data to determine the hotel and propulsion loads.
 - Beginning to transfer obstacle avoidance algorithms and code from Dorado.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
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Week 38

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Evaluating Irauv simulator code for possible inclusion of octree-based Dvl and Imagenex models.
 - Investigating how to port Dorado OA code to Irauv.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 37

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office - On leave through most of August.

Week 36

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office - On leave through most of August.

Week 35

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office - On leave through most of August.

Week 34

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office - On leave through most of August.

Week 33

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office - On leave through most of August.

Week 32

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office - On leave through most of August.

Week 31

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office - On leave through most of August.

Week 30

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 29

- 600034 - Control Tech - Rock
 - Proposal discussions
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Proposal discussions
 - Improving LR power analysis plots.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
 - Preparing for possible UAV build.
- Overhead
- Out of Office

Week 28

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 26

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Analyzing data to breakdown power usage between components. Hampered by each variable having its own time axis, which requires interpolation to do any computation involving more than one variable.
 - Will refine thruster drag estimates tomorrow when I have access to my office library.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 25

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Working on range estimates with proposed hovering thrusters.
 - Will start plotting data to quantify hotel load.
 - Also starting on the Trn interface.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 24

- 600034 - Control Tech - Rock
 - Continuing to work with Prof. Rock to verify Trn heading estimate.
- 901513 - Targeted Sampling by AUVs
 - Refining drag estimate for proposed hovering thrusters on LR vehicle.
- 901800 - LRAUV Payload & Support
 - Will start working with Rich H on LCM interface to LR-Trn computer.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
 - Investigating Cigna/Medicare decision necessary at age 65.
- Out of Office

Week 23

- 600034 - Control Tech - Rock

- Working with Steve Rock to correlate Trn estimates of LR yaw bias with his fminsearch method. We're not there yet.
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Doing a quick drag estimate for lateral motion with proposed thrusters.
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 22

- 600034 - Control Tech - Rock
 - Now getting a reasonable result from replaying Trn on LR data. This is the 4-state version with 100k particles. I'm waiting now to see if Stanford comes up with a similar result. They're going to use a different method (fminsearch in Matlab) to check.
 - Also ran many simulations and replays of Portuguese Ledge Dorado missions with the 4-state Trn. The Dvl runs give reasonable results. However, they're not particularly convincing since the Kearfott is very accurate and doesn't have significant attitude errors during our mission. That is, the yaw bias always converges to zero, because it probably is zero.
 - Ran simulations of this mission where the (simulated) Kearfott has a constant non-zero yaw bias. The 4-state Trn, using Dvl, converged to this quite well. It also correctly identified (simulated) Northing and Easting offsets.
 - 4 and 6 DOF Trn sims and replays using the Reson also give mostly reasonable results. But I'm still unsure that the code is correct in this case. How and where to recoordinate the Reson beams from Dave's along-track/cross-track/down frame into each particle's frame is hard to conceptualize. Still going around (and around) with this.
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 21

- 600034 - Control Tech - Rock
 - Simulating Trn estimates with various combinations of attitude and location biases. The objective is to determine the best parameter set and filter order for estimating yaw bias on the LR vehicle. Questions under consideration are: use 4 or 6 states; how many particles; initial guess and process noise variances; and others.
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 20

- 600034 - Control Tech - Rock
 - Resurrected old Trn code so that estimates the three vehicle orientation angles.
 - Modified this code to work with Reson beams.

- Verification is underway. Working with Rock and his lab on this. It is statistical in nature, and there are several knobs to turn.
- The first objective is to estimate magnetic compass offset error in the LR data.
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 19

- 600034 - Control Tech - Rock
 - Resurrecting the three attitude estimates in Trn. I have run many simulations of different cases to determine if the old code still works. It looks like it does, but I'm still investigating. The eventual objective here is to use this first for LR replay, and then LR real-time. We're hoping mostly to capture the magnetic calibration compass error. But we may be able to estimate biases in the other two attitudes.
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Ocean Imaging
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 18

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Added initial Deltat model to OI-Sim.cpp
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 17

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Added initial Deltat model to OI-Sim.cpp
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office

Week 16

- 600034 - Control Tech - Rock
 - Looking at re-activating the psi_berg state in TRN
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901101 - Added initial Deltat model to OI-Sim.cpp
- 901902 - Aerial Drones for Sci&MO

- Learning how to extract data from tlog format
- Overhead
 - Learning GIT
 - Setting up home office
- Out of Office

Week 15

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - 27 Feb.

Week 14

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - 27 Feb.

Week 13

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - 27 Feb.

Week 12

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - 27 Feb.

Week 11

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901902 - Aerial Drones for Sci&MO
- Overhead

- Out of Office
 - 27 Feb.

Week 10

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - 27 Feb.

Week 9

- 600034 - Control Tech - Rock
 - Assisting with debugging Replay
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
 - Developing an OI Deltat simulation model for obstacle avoidance
- 901902 - Aerial Drones for Sci&MO
- Overhead
 - Developing a Deltat simulation model for Ocean Imaging
- Out of Office
 - 27 Feb.

Week 8

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - 13 Feb - 19 Feb.

Week 7

- 600034 - Control Tech - Rock
 - Analyzing object avoidance and Trn results from last dive.
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901902 - Aerial Drones for Sci&MO
- Overhead
 - Adding a deltaT model to the OI sim.
- Out of Office
 - 13 Feb - 19 Feb.

Week 6

- 600034 - Control Tech - Rock
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support

- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - 13 Feb - 19 Feb.

Week 5

- 600034 - Control Tech - Rock
 - Preparing for next week's sea trial.
 - Simulated deltaT failures and verified that new code correctly safes the vehicle.
 - Ran deck tests (final flight code on the vehicle, real hardware) where we killed one of the beamformers and verified that the flightcode aborts the mission.
 - Re-simulated all missions that we plan to run next week. We'll be testing the latest obstacle-avoidance algorithms that now include an Avoid Angle, as well as an Avoid Range.
- 901513 - Targeted Sampling by AUVs
- 901800 - LRAUV Payload & Support
- 901902 - Aerial Drones for Sci&MO
- Overhead
- Out of Office
 - 13 Feb - 19 Feb.