

# 901913 - Wet Wifi

## Week 50

1. Brent Roman
  - a. Lots of work learning the intricacies of gstreamer
  - b. Managed to get RTSP's AVPF profile working so client can request retransmission of lost packets
  - c. Forked the standard gst-launch-1.0 utility to allow specification of critical, but hidden, properties
  - d. Testing very low-power LTE Cat 1.bis USB dongle based on SIMCOM 7672G
    - i. <https://www.aliexpress.us/item/3256805723538488.html>
    - ii. Works with Verizon sims!
    - iii. Costs all of \$20!
    - iv. Draws average of .15W
    - v. No GPS 😞

## Week 49

1. Brian Kieft
  - a. Helped out with tank testing late last week.

## Week 48

1. Brent Roman
  - a. Got Gstreamer's RTSP RTCP working only to discover that their gst-launch tool does not allow access to all the parameters needed to configure it.
  - b. Created a revised "gst-rtsp-client" from gst-launch that includes the necessary config magic
    - i. Hardcoded for now, plan to shape it into something more versatile soon.

## Week 47

1. Brent Roman
  - a. Put Galene and waveglider into the tank again.
    - i. Chris Wahl improved mounts for H150 modem under the sub body
    - ii. Stable networking in tank, however video only works a few seconds without breakup
  - b. Learned much more than I ever wanted to about video streaming protocol
    - i. Finally got GStreamer's RTSP with RTCP error feedback working!
      1. (At least in a network simulating 10% dropped packets)
    - ii. Need to get Galene back into the tank to verify this!

## Week 44

1. Brent Roman
  - a. More reliable video streaming between Waveglider and Galene in test tank
    - i. Switching H.265 encoder from omc to nvidia proprietary module helps a lot.
    - ii. H150 moved to hang below the Waveglider's sub section

## Week 41

1. Brent Roman
  - a. Implemented systemd services for recording the Optim camera on Galene
    - i. And simultaneously streaming (lower resolution) video

## Week 40

1. Brent Roman
  - a. Added RSTP server to LRAUV galene's backseat cpu and camera
  - b. Stitched together a series of router forwarding rules to make this video stream available on MBARI network via WetWifi when galene is deployed.

## Week 39

1. Brent Roman
  - a. Successfully connected to LRAUV galene @30m depth from Paragon
  - b. Reconfigured router so it would work without an upstream internet connection
  - c. Added forwarding rules to access backseat computer more conveniently
  - d. Built cable to bypass modems for (dry) lab tests

## Week 33

1. Brent Roman
  - a. With Bret Hobson, designed experiment to test wetWiFi link to LRAUV loitering under Paragon

## Week 30

1. Brent Roman
  - a. Demonstrated sustained, reliable ssh sessions to galene in the test tank

## Week 29

1. Brent Roman
  - a. Preparing to use modem deck box with LRAUV in test tank

## Week 28

1. Brent Roman
  - a. Submitted Phase I proposal for 2024

## Week 26

1. Brent Roman
  - a. Built cheapo "deck box" for testing OceanComms modems
  - b. Got them communicating reliably in the test tank by turning output down and limiting speed to 166kbs

## Week 17

1. Brent Roman
  - a. Dealt with ITAR issue again
  - b. OceanCom is already offering an improved "gen 2" modem.

## Week 12

1. Brent Roman
  - a. Preparing tiny WiFi router to operate in modem test box on the MBARI dock

## Week 2

1. Brent Roman

- a. Received OceanComms H150 modems back after faulty SDcard replaced

## Week 1

1. Brent Roman
  - a. Modems shipped back to MBARI