# Auburn USDA CS Liaison Meeting Agenda

**Date:** 20 February 2025

**Zoom Info:**

* <https://hmc-edu.zoom.us/j/91402147478?pwd=bau13Kp335ceA9YCc3AApWyI5eH6rD.1>
* Meeting ID: 914 0214 7478
* Passcode: CLINIC2025

**Meeting Goals**

* Obtain approval for project blurb
* Demonstrate progress towards goals

**Agenda**

* Project Blurb
* GUI Updates
  + Settings [Devanshi]
  + Comments [Lillian]
  + Probe Selection [Mehrezat]
* ML Updates
  + Base Model Data Package [Zach]
  + Transformer Model [Zach]
  + Data Augmentation + Post Processing [Milo]

**Assigned Notetaker:** Zach (Mehrezat Backup)

**Minutes**

* Site Visit Logistical Questions / Issues
  + Prof. Hope is planning to come (so 6 of us total)
  + Dr. Backus will be sending us info about ARS Parlier to get an idea of what they do there
  + Dr. Backus will also give us some travel info. Lots of cool stuff to see!
  + Reminder that our work is going to get handed off to 2 Mudd summer interns
* Project Blurb
  + We have approval, will send it off
* GUI Updates
  + Devanshi demonstrated changing the colors of labels and the line, along with adding and deleting labels
  + Mehrezat talked about adding the probe splitter to the GUI. The core functionality is working, just working on the appearance.
  + Dr. Backus asked about the positioning of the probe boundaries
    - We plan on improving the current algorithm, we also plan for the user to adjust boundaries, they won’t be perfect but that’s why we show them to the user
  + Lillian worked on adding comment markers to the data window
  + Dr. Backus asked if we can adjust the density of grid lines
    - It should be easy for us to adjust grid line density, will do before next week
  + Mehrezat mentioned the crosshair baseline
* ML Updates
  + Zach will share data package with these minutes
  + Zach is going to implement a transformer hopefully for next week
    - After this ML work is going to be focused on pre/post processing of data
  + Milo implemented some data augmentations
    - We’re making “new” data from the data we have
  + Augmentations
    - Repeat the current state, but pull the appearance from a random file
    - Time warp the data (stretching vs squeezing)
    - Amplitude warp the data
    - Add noise to the data
    - Stitch together state appearances from different files
    - Mix-up: “blend” together waveforms from different files
    - Frequency-domain noise
  + Is it reasonable to simulate different RI levels?
    - Dr. Backus thinks it would be a cool idea. J for example is much easier to see at certain RI levels
    - It might be difficult to simulate this though because there isn’t data to pull from
    - Dr. Backus mentioned that under different RI levels, certain aspects of the behaviors within a waveform get emphasized more than others.
    - We will probably put this on the backburner for now
* Dr. Backus advised that this project will be wrapped up by September based on the current grant-giving regime.
  + “Make hay while the sun is shining”
* We can expect a bunch of travel info from Prof. Backus soon

**Slides**

|  |  |
| --- | --- |
|  |  |

|  |  |
| --- | --- |
|  |  |