

# EE/CprE/SE/CYBE 491 WEEKLY REPORT 08

4/4/2022 - 4/10/2022

Group: 07

Project: Wireless Energy Harvesting

Client: Dr. Jiming Song

Team: Benjamin Brown, Christopher Marting, Greg Schmitt, Jacob Walczak, Sam Runkel, Tanner Garity

## Weekly Summary:

- Had our team meeting where we discussed everyone's jobs for the week such as refining our yagi-uda design, and create better testing procedures

## Weekly Accomplishments:

**Benjamin Brown** - Determined better testing parameters such as angles, load values, and testing locations

**Christopher Marting** - Talked with Dr. Song along with Jacob to confirm Yagi-uda design ideas about diameter of wires for the elements of the Yagi. Designed housing for Yagi antenna.

**Sam Runkel** - Had our team meeting at the beginning of the week to talk about final ideas for the yagi-uda design before we order materials. I also personally worked on a 3D model of the housing for the yagi antenna. The holds for the components need to be pretty exact to hold the elements properly so I've been messing around with that to find a good fit.

**Jacob Walczak** - Talked with Dr. Song with Chris to confirm Yagi-uda design ideas about the diameter of the different wires we will be using.

**Tanner Garity**- Further researched radar signals and antennas in order to refine system model simulations. Explored the theory behind Yagi-Uda calculations. Continued to research Yagi-Uda design specifications and simulation techniques. Refined part parameters in cadence virtuoso in order to tweak simulation results.

**Greg Schmitt** - Discussed potential testing locations for energy conversion on campus during team meeting. Considerations such as room dimensions/sizes, wall material and thicknesses and distance from routers were all mentioned. Some candidates included: Student Innovation Center - useful for testing how glass affects signal strength, Troxel Auditorium - large open space, and the Coover senior design lab would be a good control reading.

## Plans for upcoming week:

1. Order some materials so we can start building our own Yagi antenna.
2. Do more testing with the test board to try and improve our initial test results.

Individual contributions:

Name	Individual Contributions	Hours this week	Hours cumulative
Benjamin Brown	<ul style="list-style-type: none"><li>● Determined better testing parameters: load values, locations, and angles-0.5hr</li><li>● Team meeting - 1hr</li></ul>	1.5	25.5
Jacob Walczak	<ul style="list-style-type: none"><li>● Talking with Dr. Song about wire diameters - 0.5 hrs</li><li>● Team Meeting - 1 hr</li></ul>	1.5	25.5
Greg Schmitt	<ul style="list-style-type: none"><li>● Team meeting - 1 hr</li><li>● Researched buildings on campus to be used for testing - 0.5 hr</li></ul>	1.5	21.5
Christopher Marting	<ul style="list-style-type: none"><li>● Quick chat with Dr. Song - 30 min</li><li>● Designed Yagi housing blueprint for 3D printing - 1 hr</li><li>● Team meeting - 1 hr</li></ul>	2.5	30
Sam Runkel	<ul style="list-style-type: none"><li>● Team meeting - 1hr</li><li>● Began 3D modeling the housing for yagi-uda antenna - 2hrs</li></ul>	3	27.5
Tanner Garity	<ul style="list-style-type: none"><li>● Explored Yagi-Uda calculations and design/simulations strategies - 1.5 hrs</li><li>● Finished the mid steps of simulation. - 1 hrs</li></ul>	2	25