

# Solar Sailors

## Meeting Minutes from 09/21/2020

Members in attendance:

Adriana Oliveira (Team Member)

Steve Szablya (Sponsor)

Brady Jerome (Team Member)

Lukas Vermeulen (Team Member)

Nickolas Borek (Team Member)

- Meeting started at 5:29 PM
- Start with a recap of the 09/16/2020 meeting
- Discussed a few new options that have come up
  - Excluding a microcontroller in place for a script design and circuit design
    - Decided that we will most likely need to use a microcontroller to be able to transfer the data to kw4h
  - Lukas discussed Op Amp usage for a V-I converter
    - Voltage amplifier that utilizes the sensor output voltage, then gets passed into the V-I converter
    - Current becomes directly proportional to the output voltage.
    - However, the V-I converter is dependent on a thermopile
  - Nick discussed the potential of using a thermistor instead of a thermopile, as they are more accurate and can cost a little bit cheaper.
    - We would utilize a hot and cold thermistor to get two different outputs from them and compare the two voltages
    - It does have a 10 year lifespan for some of them, so it would not meet our lifespan requirement
  - Adrianna discussed sensors of different wavelengths
    - Discussed how the sensor needs to work between a certain wavelength
    - Gave our sensor a lower wavelength so that they are a little cheaper and still does its job.
- All members will have a task of looking into different components to compare them
  - Get five different products for each member's component and include the component's requirements
  - Nick- thermistors
  - Lukas- thermopiles
  - Brady- photodiodes
  - Adriana- phototransistors
- Discussed the type of microcontroller we will need to use
  - Can be basic, but needs to last for about 20 years

- Discussed talking to Dr. Frenzel or someone else for help on determining the microcontroller
- Discussed the Projects Requirement Document
  - Assigned project tasks
    - Brady- Part 1
    - Lukas- Part 2
    - Nick- Part 3
    - Adriana- Part 4
- Questions for the sponsors
  - Q: Can we exclude the microcontroller and build a script?  
A: No. We need a way to interpret the data and allow for anyone to receive it.
  - Q: Can we solder?  
A: Not really. Soldering lowers the accessibility of the product. Our product should be repeatable by high school students
- Meeting ended at 6:18 PM