**Multi-channel Brain Tissue Stimulator**

**Week** – November 17 – November 23

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**Team Members:** Ashley Phillips – Team Leader  
Nina Lewis – Communications  
Steve Noel – BWIG  
Steven Skroch – BSAC

**Problem Statement**
Our objective is to develop a multi-channel brain stimulator. This device must generate stimulation current of 1 mA on 16 separate channels, filter out external electrical noise, and allow each channel to be independently gated on and off as well as adjust the current amplitude on each channel. Such devices are available but exist as a hardware/software packages and are expensive. These packages include many elements that are not necessary for our client’s research.

**Accomplishments**
- Bought more optical isolators for testing
- Continued testing of the switch circuit at 20 V
- Rebuilt switch circuit on breadboard to be able to more easily troubleshoot
- Met with advisor
- Nina and Steven met with Prof. Ma for help with the FET

**Difficulties**
- Determining how the optical isolator works, testing it without sending too much current through
- Testing the transistor, Prof. Ma gave some advice as to how to go about this

**This Week’s Goals**
- Continue to test isolator and FET in order to test switch circuit with 20 V or higher

**Activities/Accomplishments**

<table>
<thead>
<tr>
<th>Group Member</th>
<th>Weekly Accomplishments</th>
<th>Time (hrs)</th>
<th>Total Time (hrs)</th>
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<tbody>
<tr>
<td>Ashley Phillips</td>
<td>Class time, progress report, circuit building and testing</td>
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<tr>
<td>Nina Lewis</td>
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<td>Steve Noel</td>
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<td>Steven Skroch</td>
<td>Class time, meeting with Prof. Ma, circuit building and testing</td>
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