BI-WEEKLY STATUS REPORT

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| Subject: Visual Light Communication |  |
| Period Ending: 10/17/2018 |  |

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| ACTIVITIES COMPLETED THIS WEEK |
| **Completed Deliverables:**   * Discovered VLC flicker with AC lightbulb * Compared with DC light, AC light can still be perceived by the human eye even after lowering the symbol period of the Arduino transmitter to 1000 micro seconds while DC light cannot be perceived (This phenomenon occurs based on the definition of AC light constantly modulating in sinousoidal waves) * Developed transmitter code that appears to be working for long symbol periods * Met with Dr. Valvano and discussed the potential benefits of switching to DC light and how to best encode the light source * Discovered potential issue with current photodiode strength and placement soldered in reverse bias |

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| ACTIVITIES TO BE STARTED NEXT WEEK |
| * Order several new photodiodes for testing (based on conversation with Valvano, an issue on the receiver end could be based on light not properly focusing itself towards the center of the photodiode) * ICR side photodiode * Black PIN photodiode |

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| LONG TERM PROJECTS |
| * Construct hardware for VLC (dc based) * Write software for VLC receiver and transmitter |

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| ISSUES FOR IMMEDIATE ATTENTION |
| * Purchase of new photodiodes |