

MSDII P18082 Meeting Minutes

Date: January 17, 2018

Time: 2:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Beliski	MECE - Design Lead	Present
Dillon Flood	BME - Risk Management, Procurement, Meeting Minutes	3:30 PM arrival, prior class
Jon Girard	MECE - Electrical Lead	Absent, sick
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	Present
Shena Marshall	BME - Biomedical Lead, Communication Director	3:30 PM arrival, prior class

Announcements

1. MSD advisors provided overview of plans for MSDII, current phase, and plans for future.
2. All teams are required to write a paper about their project, it is worthwhile to enter paper into a contest
 - a. project recognition
 - b. cash prizes
 - c. Awards
3. Waterjet can bottleneck in regards to wait time, if waterjet is needed please plan ahead to avoid project delays

Committee Reports

1. Shena will not be in attendance March 21st to 25th, will be available for Monday and Tuesday
2. Shena will not be in attendance February 16th to 18th

Old Business

New Business

Discussion

MSDII P18082 Meeting Minutes

Date: January 22, 2018

Time: 2:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Beliski	MECE - Design Lead	X
Dillon Flood	BME - Risk Management, Procurement, Meeting Minutes	X
Jon Girard	MECE - Electrical Lead	X
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X
Shena Marshall	BME - Biomedical Lead, Communication Director	3:00 PM arrival, getting group food

Announcements

- 1.

Committee Reports

1. Jon presented updated electrical schematic and an initial model of the modified well-plate.
2. Luc presented the drawings for the system model.
3. Emily presented the finalized version of the MSD II schedule (which was also finalized by Zona).
4. Shena will finish the test plans tonight.
5. Dillon has a list of items that we still need, currently have, and are on their way, however it requires further revision and

Old Business/Rollover

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New Business

- Luc and Dillon will move forward with machining the bioreactor.
 - Current schedule for machining is speculated to take approximately a week and a half starting on January 29th.
- Meeting with Zona is scheduled for January 29th.
- Jon wants to fabricate a piece to assist him in fabricating the electrodes.
 - He would like it done today by Luc since he is in the most familiar with machining, however Dillon will tag along in order to familiarize himself with the machine shop and the machines themselves.
- Dillon was asked to investigate buying an Arduino at the Construct.
- Jon will fabricate the modified well-plate and plans on completing it by Wednesday should all of his items come together.

Discussion

- It is extremely important to get in contact with Emily should issues with the schedule arise.
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MSDII P18082 Meeting Minutes

Date: January 29, 2018

Time: 2:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Belikis	MECE - Design Lead	X
Dillon Flood	BME - Risk Mgmt., Procurement, Minutes	X
Jon Girard	MECE - Electrical Lead	X
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X
Shena Marshall	BME - Biomedical Lead, Comm. Director	X

Announcements

- Presentation with Zona.

Committee Reports

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Old Business/Rollover

- Presentation with Zona.

New Business

- Check if the Construct can purchase shields from Amazon.
- Post updated BoM to Edge.
- Shena will get more media (because “procurement”).
- Remove items from BoM: Arduino, shields, wires, USB cable.

Discussion

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MSDII P18082 Meeting Minutes

Date: February 28, 2018

Time: 2:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Belikis	MECE - Design Lead	X
Dillon Flood	BME - Risk Mgmt., Procurement, Minutes	X
Jon Girard	MECE - Electrical Lead	X
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X
Shena Marshall	BME - Biomedical Lead, Comm. Director	X

Announcements

- Peer evaluations are available for viewing.

Committee Reports

- Most biological items are in, but waiting on bovine serum.

Old Business/Rollover

- Presentation with Zona.
 - No new items since the review went well.

New Business

- Emily and Shena will spend the remaining time until Spring Break working on the conference paper (Northeast Bioengineering Conference).
- Luc, Jon, and Dillon are to have the system completely assembled by the end of the week and are to perform a durability test and provide results by the end of this week (Saturday, March 4th).
- Shena will perform a biocompatibility/sterility and pH test next week (preferably the beginning of the week).

- Discuss peer evaluations.
- Sylgard 184 will be ordered through Krayden so that we can avoid the backorder with Ellsworth.

Discussion

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MSDII P18082 Meeting Minutes

Date: March 5, 2018

Time: 3:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Belikis	MECE - Design Lead	X
Dillon Flood	BME - Risk Mgmt., Procurement, Minutes	X
Jon Girard	MECE - Electrical Lead	X
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X
Shena Marshall	BME - Biomedical Lead, Comm. Director	X

Announcements

- On Friday (3/2/18), Jon performed machining on the holes for the brass rods
 - They are now slots.
- On Friday (3/2/18), Jon soldered the plug wiring to two springs which now sit on the brass rods.
- On Friday (3/2/18), Emily submitted an abstract for the Northeast Bioengineering Conference.
- The BOM has not been properly updated by the MSD office, but all recent orders have been delivered to the team.

Committee Reports

- Jon found more springs in an electronics lab.

Old Business/Rollover

- Still waiting on Krayden shipment of Sylgard 184.
- Durability test was not performed due to inability to complete soldering of wiring to electrodes.
- Biocompatibility/sterility test and pH test will not be completed this week because required software was not downloaded to test computer.

New Business

- We need to find the research/technical paper guidelines so that we can start outlining our paper.
- Jon, and Luc, will be machining our current system in order to achieve a lighter weight.
 - The baseplate and Arduino walls will be “hollowed out” in some of their portions.
 - Work will be completed by Friday (3/9/18).
 - When we return from Spring Break, there will be no more optimization of our current system.
- The system design requires “clean up” and several other adjustments.
 - Acetal delrin for more components, removing the brass rods, structuring the system to rely on less screws.
 - These changes will begin after Spring Break with Jon and Luc leading the charge.

Discussion

- In order to avoid screws, we may be able to use dovetails and skeleton cuts to hold the Arduino walls and the well plate.
- In the future, handles may be required if we are unable to significantly reduce the weight.
- We are definitely “86-ing” the brass rods in favor of springs as our electrode connections.

MSDII P18082 Meeting Minutes

Date: March 7, 2018

Time: 2:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Belikis	MECE - Design Lead	X
Dillon Flood	BME - Risk Mgmt., Procurement, Minutes	X
Jon Girard	MECE - Electrical Lead	X (3:30 PM)
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X (3:00 PM)
Shena Marshall	BME - Biomedical Lead, Comm. Director	

****All members with times next to their names had given prior notice that they would be late.****

Announcements

- Nothing to report.

Committee Reports

- Emily
 - We have been invited to present a poster at the Northeast Bioengineering Conference.
 - Conference will be held on March 28th at Drexel University.
 - Can we produce a poster in the time before the conference (with results)?
- Luc
 - Has removed aluminum from the system in order to reduce weight.
 - Material was removed from the bottom of the baseplate and the inside(?) of the Arduino walls.
- Dillon
 - Spoke with Michelle Horan in order to update BOM.
 - MSD office did not have pricing for the VWR order (all items were delivered).
 - Have found examples of technical papers by looking at past teams' archives on EDGE.

Old Business/Rollover

- Still waiting on Krayden shipment of Sylgard 184.
- Durability test was not performed due to inability to complete soldering of wiring to electrodes.
- Biocompatibility/sterility test and pH test will not be completed this week because required software was not downloaded to test computer.
 - Tests will begin the beginning of the week we return from break (3/19/18).
- We need to find the research/technical paper guidelines so that we can start outlining our paper.
- The system design requires “clean up” and several other adjustments.
 - Acetal delrin for more components, removing the brass rods, structuring the system to rely on less screws.
 - These changes will begin after Spring Break with Jon and Luc leading the charge.

New Business

- Will we go to the Northeast Bioengineering Conference?
 - It is March 28th at Drexel University (runs until March 30th).
 - We will need to make a poster.
- System-operation presentation with Dr. Bailey has been pushed back from its original time during the week following Spring Break (3/19/18).

Discussion

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MSDII P18082 Meeting Minutes

Date: March 19, 2018

Time: 2:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Belikis	MECE - Design Lead	X
Dillon Flood	BME - Risk Mgmt., Procurement, Minutes	X
Jon Girard	MECE - Electrical Lead	X
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X
Shena Marshall	BME - Biomedical Lead, Comm. Director	X

Announcements

- We are back from Spring Break.
- NEBEC trip may be far too difficult to bring together given the time left.
 - Instead, Emily has found RIT awards that are worth our while.

Committee Reports

- Emily
 - Not keen on the NEBEC work.
- Luc
 - Thinks the NEBEC trip is not a bad idea, but may be difficult.
- Dillon
 - Sylgard 184 has arrived and is in our equipment drawer.
 - Still waiting on Michelle to inform MSD office so that BOM may be properly updated.
 - Does not think the NEBEC trip will work out as well as we might hope.
- Shena
 - Will be away from 3/21 to 3/23 (for the weekend as well?).
 - As for the NEBEC trip,...
- Jon
 - Definitely not a fan of the NEBEC fan.

Old Business/Rollover

- Waiting on narrow range pH strips (they should be in soon).
 - They were ordered last week.
- (03/07/18) Durability test was not performed due to inability to complete soldering of wiring to electrodes.
- (03/07/18) Biocompatibility/sterility test and pH test will not be completed this week because required software was not downloaded to test computer.
 - Tests will begin the beginning of the week we return from break (3/19/18).
- (03/07/18) We need to find the research/technical paper guidelines so that we can start outlining our paper.
- (03/07/18) The system design requires “clean up” and several other adjustments.
 - Acetal delrin for more components, removing the brass rods, structuring the system to rely on less screws.
 - These changes will begin after Spring Break with Jon and Luc leading the charge.
- (03/07/18) System-operation presentation with Dr. Bailey has been pushed back from its original time during the week following Spring Break (3/19/18).

New Business

- Starting the biocompatibility testing...

Discussion

- How do we redesign the system structure so that acetal delrin can be used for the entire structure?

MSDII P18082 Meeting Minutes

Date: March 21, 2018

Time: 2:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Belikis	MECE - Design Lead	Working on designs?
Dillon Flood	BME - Risk Mgmt., Procurement, Minutes	X (3:30 PM)
Jon Girard	MECE - Electrical Lead	X
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X
Shena Marshall	BME - Biomedical Lead, Comm. Director	Excused for NESBE

Announcements

- Shena is at the NESBE conference for the rest of the week.
 - She will be returning late Sunday evening.
- We are not going to NEBEC.
- We are applying for an RIT innovation award.

Committee Reports

- Emily
 -
- Luc
 -
- Dillon
 - pH strips have been shipped.
 - Will check with Michelle to see if they
- Shena
 - Plated the cells earlier today.
- Jon
 -

Old Business/Rollover

- Waiting on narrow range pH strips (they should be in soon).
 - They were ordered last week.
- Durability test was not performed due to inability to complete soldering of wiring to electrodes.
- Biocompatibility/sterility test and pH test will not be completed this week because required software was not downloaded to test computer.
 - Tests will begin the beginning of the week we return from break (3/19/18).
- We still need to find the research/technical paper guidelines so that we can start outlining our paper.
 - We need to find the proper format.
 - Minimum of 8 pages.
- The system design requires “clean up” and several other adjustments.
 - Acetal delrin for more components, removing the brass rods, structuring the system to rely on less screws.
 - These changes will begin after Spring Break with Jon and Luc leading the charge.
- System-operation presentation with Dr. Bailey has been pushed back from its original time during the week following Spring Break (3/19/18).

New Business

- Complete the durability test at some point this week.
 - It is not a highly technical test.
- Biocompatibility tests are in their preliminary stages.
 - Cells have been plated, but we must wait until they have reached a confluency of 80-100%.
 - Tests are likely to begin on Friday (3/23/2018).
- We are applying for a RIT innovation award.
 - Deadline for applications is 4/13/2018.
 - Winners are announced some time during the second week of May.
- When do we plan on performing a customer demonstration?
 - We require some time to work on the test plans and determine troubleshooting items.
 - Next Friday (3/30/2018) would be the earliest we present.

Discussion

- Jon showed Dillon how to run the LabView system.

MSDII P18082 Meeting Minutes

Date: March 26, 2018

Time: 2:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Belikis	MECE - Design Lead	X
Dillon Flood	BME - Risk Mgmt., Procurement, Minutes	X
Jon Girard	MECE - Electrical Lead	X
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X
Shena Marshall	BME - Biomedical Lead, Comm. Director	X

Announcements

- Hope to have next review on April 2nd (Monday of next week).

Committee Reports

- Emily
 - We have the technical paper rubric.
- Luc
 - Nothing to report (but does not have any revisions).
- Dillon
 - Nothing to report.
- Shena
 -
- Jon
 - Plans for software update that will alert user to when voltage is 0 or connection is faulty.

Old Business/Rollover

- Durability test was not performed due to inability to complete soldering of wiring to electrodes.

New Business

- The cells in our full-test run are not doing well.
 - All cells in the electrode wells are dead.
 - The well running at 2 V has yellow media while the well running at 1 V has “normal” colored media.
- We have a rubric for the technical paper so we need to break up the work.
 - Abstract -- Emily
 - Background -- Shena and Dillon
 - Process -- split among three groups
 - BME -- Shena and Dillon
 - EE -- Jon and Emily
 - MECE -- Jon and Luc
 - Result/Discussion -- Shena and Dillon
 - Conclusions/Recommendations -- Luc and Emily
 - References/Acknowledgements -- Emily and Jon
 - **Every Monday we show are work/progress.**
 - **75% of the paper is due April 11th!**
 - **75% of the paper will be uploaded to the Drive by 2:30 PM on Monday April 9th!**
 - **Paper is officially due April 18!**
 - **Poster must be done by April 18 and submitted same day!**
 - **Everything must be updated/completed by April 24!**
 -

Discussion

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MSDII P18082 Meeting Minutes

Date: March 28, 2018

Time: 2:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Belikis	MECE - Design Lead	X
Dillon Flood	BME - Risk Mgmt., Procurement, Minutes	X (3:30PM)
Jon Girard	MECE - Electrical Lead	X
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X
Shena Marshall	BME - Biomedical Lead, Comm. Director	X (3:30 PM)

Announcements

- Met with Zona to discuss the changes to the system (physical) design.\
- **Review is on Monday 4/02 @ 5 PM.**

Committee Reports

- Emily
 - .
- Luc
 - .
- Dillon
 - Reseeding cells today so that we can begin running a second full-system test on Friday.
- Shena
 - Reseeding cells today so that we can begin running a second full-system test on Friday.
- Jon
 - Updating the LabView program today.

Old Business/Rollover

- The cells in our full-test run are not doing well.
 - All cells in the electrode wells are dead.

- Paper is officially due April 18!
- Poster must be done by April 18 and submitted same day!
- Everything must be updated/completed by April 24!

New Business

- Work on your parts of the technical paper.

Discussion

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MSDII P18082 Meeting Minutes

Date: April 11, 2018

Time: 3:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Belikis	MECE - Design Lead	X
Dillon Flood	BME - Risk Mgmt., Procurement, Minutes	X
Jon Girard	MECE - Electrical Lead	X
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X
Shena Marshall	BME - Biomedical Lead, Comm. Director	X

Announcements

- (Within the Group) We are submitting a draft of our technical report today.

Committee Reports

- Emily
 - .
- Luc
 - .
- Dillon
 - .
- Shena
 - .
- Jon
 - .

Old Business/Rollover

- Every Monday we show our work/progress.
- 75% of the paper is due April 11th!
- 75% of the paper will be uploaded to the Drive by 2:30 PM on Monday April 9th!
- Paper is officially due April 18!

- **Poster must be done by April 18 and submitted same day!**
- **Everything must be updated/completed by April 24!**

New Business

- **Draft technical papers are due at 5PM on Monday, April 16th.**
 - **Due in the myCourses dropbox.**
- **Final poster layouts are due at 12PM on Thursday, April 19th.**
 - **Results must be 20" (w) x 30" (h) PDF file.**

Discussion

- Check the final checklist for MSD for final dates.

MSDII P18082 Meeting Minutes

Date: April 16, 2018

Time: 2:30 PM

Location: Senior Design Floor

Representative Attendance

Name	Committee Member	Attendance
Luc Belikis	MECE - Design Lead	X
Dillon Flood	BME - Risk Mgmt., Procurement, Minutes	X
Jon Girard	MECE - Electrical Lead	X
Emily Kimber	BME - Team Manager, Facilitator, Edge Expert	X
Shena Marshall	BME - Biomedical Lead, Comm. Director	X

Announcements

- The rough draft of the technical report is due today at 5:30PM.
 - We have already produced this report, but we should review it.

Committee Reports

- Emily
 - Will be in Michigan this Wednesday through Saturday (4/18 -- 4/21).
- Luc
 - .
- Dillon
 - .
- Shena
 - .
- Jon
 - .

Old Business/Rollover

- Everything must be updated/completed by April 24th!

New Business

- **Final poster layouts are due at 12PM on Thursday, April 19th.**
 - **Results must be 20" (w) x 30" (h) PDF file.**
- Luc will finish the drawings/schematics on Tuesday morning (4/17) and will submit the pieces to the machine shop ASAP so that we have a second prototype before Imagine RIT.
- Work on poster.

Discussion

- Check the final checklist for MSD for final dates.