

Email Message

From: Sachdev, Kyle

Sent: Friday, September 9, 2016 10:54 AM

To: Klaesner, Joe; Yin, Frank; Silva, Jon; Mehta, Darshit; Ross, Alison; Birenbaum, Nathan

Subject: Team of Kyle Sachdev, Brian Dallesasse, and Taylor Hughes

Dear all,

On Friday September 2, we met with Dr. Bernard Miller to discuss working with him on designing a non-invasive device to measure different compounds in the body. First, measuring lipids then hopefully moving on to other compounds. Dr. Miller needed to discuss the possibility of working with students with his partner, so we are waiting to hear back from him regarding that. We have also emailed Dr. Damiano and plan to meet with him in the next few days to discuss a problem in the realm of cardiac surgery. Lastly, only one member of our group has been able to access SciNote, so hopefully by early next week we will all have access.

Sincerely,

Kyle Sachdev, Brian Dallesasse, Taylor Hughes

Project created on 06.09.2016 02:03.

Report for project Senior Design

Task created on 06.09.2016 02:04.

Meeting with Dr. Miller

No due date

We discussed Dr. Miller's metabolite project, which would involve monitoring levels of chemicals in the blood noninvasively using a combination of imaging modalities. All group members present.

Task tags: *No tags*

* Created by Kyle Sachdev on 06.09.2016 02:07.

- Device to non invasively measure compounds in the body, first lipids then more
- Want to replace blood draws, uncomfortable for patients and medical risks
- Class specific detection
- Use near infrared spectrophotometry
- need strong enough light source to penetrate tissue
- photoacoustic effect, shine light on an object and a sound is produced
- Use blood samples to form a standardized curve
- Shine light on finger and use three different types of detectors
 - Lead sulfide detector
 - photomultiplier
 - Piezo electrical crystal, transducer for ultrasound
- Use matlab for signal processing
- Look up techniques to measure compounds and other compounds to measure
- meeting with partner after labor day to discuss working with students
- mutual non disclosure agreement?

Comments for result

Kyle Sachdev on 06.09.2016 at 02:37: Taylor Hughes and Brian Dallesasse were present at the meeting too

Samples of task Meeting with Dr. Miller

No samples