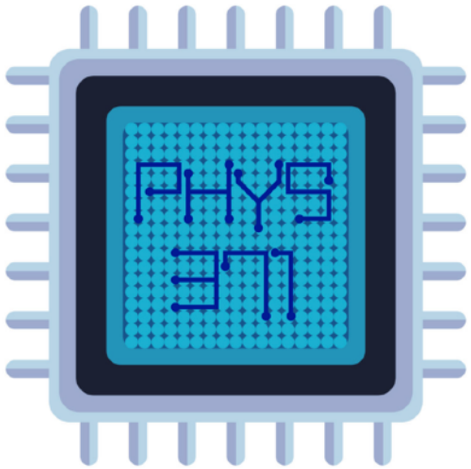


SHORT TALKS FOR WEEK 8

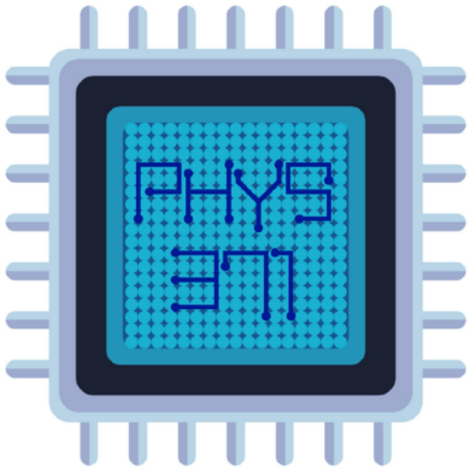
Dr. Riccardo Longo

02/10/2023

Week 5

Short group talks next week

- ~~ATMega2560~~ —> done by group 6 during Week 4
- TCA9548A I2C Multiplexer
- W12934-A MicroSD card breakout board
- ~~LSM90S1 9 DOF~~ —> done by group 2 during Week 4
- Mic Amp MAX 4466
- **Plantower PMS5003** —> up for Week 6
- Mini 2-wire Volt Meter
- ~~MCP4725 DAC~~ -> done by group 4 during Week 3
- ~~BME680~~ —> done by group 5 during Week 2
- Mono 2.5W Amp PAM8302A
- ~~Ultimate GPS~~ -> done by group 1 during Week 3
- MLX90614 3V
- ~~DS3231 Precision RTC~~ —> done by group 3 during Week 2
- **DPS310 Pressure** —> —> up for Week 6



TODAY'S HANDS ON SESSION

Dr. Riccardo Longo

02/10/2023

Week 4

Week 5 is approaching!

All the groups should now have 95%++ of the needed equipment

- Today, you should focus on advancing the project implementation as much as possible.
- Ideally, have a full setup that can be readout by the end of the class (if not yet achieved)

Just reading out data doesn't mean it's good data!

- Are all your sensors calibrated?
- Are you acquiring data and storing them in a robust format?
- Have you looked at the data? Do they make sense?

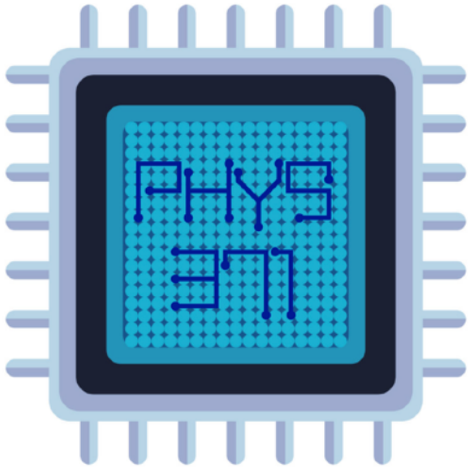
Is any infrastructure needed?

- No requests for 3D printing yet. If all come in a bunch, there will be a bit of queuing.
- We will stop by each group to discuss this aspect during the class

Ideally, we want to start designing the PCBs at the beginning of Week 6 at the latest.

Week 5 presentation

- 15 minutes time limit
  - Please **stay on time** - we have 8 talks!
- Strawman structure
  - Background of your project: why are you doing this? What are we going to learn?
  - Detail about the measurement: what are you going to measure?
  - Details about your board: what is the general layout? what sensors did you choose? Were there particular implications related to their interface? What's their sensitivity for the measurement you are going to do?
  - Details about data acquisition: where and how will you record your data? What is the typical data-size? Do you have a trigger? See also the **slides from last week**.
  - Data analysis & first look to the data: show us what you are getting out of your board! What's the data analysis strategy?
  - Plans: what are the next steps?



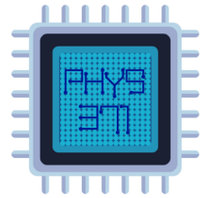
HOMEWORK

Dr. Riccardo Longo

02/10/2023

Week 4

Homework assignment



https://courses.physics.illinois.edu/phys371/sp2023/homeworks.asp

Remember to bring the group Box with you. A missing group Box at the weekly meeting will impact your grade.

Questions?

The Homework will have two problems:

Problem 1: prepare the presentation discussed before

Problem 2: address specific issues/items that we will identify today in the informal discussion with your group

Please note that your presentation will have to be submitted by Thursday at 5 PM, together with a short report on how you addressed the items we will identify for your group.