

# Project Descriptions

**Multiagent Robotic Systems (Fall 2022)**

# Purpose

- Go beyond the class topics.
- Extend/complement the [learning process](#).
- Showcase/apply some of the skills/tools learned so far to other problems and scenarios.
- Learn and enjoy new things ....

# Mode

- A group of **two students**.
- A lot of **flexibility** this time. You can do **several** things ...
- Examples:
  - Present an interesting *paper/result* (related to class)
  - Showcase an *elaborate simulation environment* for some of the problems discussed in the class. Combine two controllers. Define a complicated task and solution ....
  - Implement controllers on the *Robotarium*.
  - Discuss some *practical aspects* of the controller implementation
  - Present an *extension/new problem* with some preliminary solution ideas.
  - Apply some of the *tools learned to a different problem*.
  - .....

## Final Product

- A **15 - 20 minutes** in-class presentation.
- In a very special case (discussed a priori with me) a write-up/paper could be accepted.
- Presentation Details .....
- The purpose of presentations is not to tick mark a formality.
- The goal is to take it as an opportunity *for the presenter and audience to learn* some more and share interesting ideas and have *good feedback*.
- (I am keeping it low-stress to maximize learning opportunities)

# Grading

- A (15 – 20) minutes in-class presentation
- Total points are 15.
  - 10 points will be graded by your peers (anonymously)
  - 5 points by the instructor (based on the presentation you will send)

Quality of your presentation (in terms of the content and how much of a good learning activity is it for all of us.)
- Send me slides after your presentation *summarizing* your topic/result/ideas/simulations and feedback from peers.
- At most 5 slides....

## Next

- Finalize your *group members* and *topic* (at least roughly) and put it on the **Google spreadsheet** I have created below
- Please do this ASAP (*by the end of the week*).

<https://docs.google.com/spreadsheets/d/1qp9xfyfoOf1sXtgn1x62KocaNoPmQDnORlzPCcHFRT8/edit?usp=sharing>

**Some interesting papers ...**

(See the Project folder at the elearning website ...)

# Roadmap for the rest of the semester

April 5:  
April 7  
April 11



Network  
controllability

April 13  
April 19  
April 21  
April 26



- Resilient consensus,
- consensus over random networks,
- network optimization, etc.

April 29  
May 1  
May 5



- Presentations
- Final exam review and course wrap-up