

PROJECT

If theory is not your cup of tea, this is your chance to excel.

1. Read papers in

- (a) ASME J. Dynamic Systems, Measurement, and Control
- (b) AIAA J. Guidance, Control, and Dynamics
- (c) IEEE Transactions on Control Systems Technology

or your other favorite journal or conference. You can also select a project topic from your thesis interest.

2. Select a problem with unmodeled dynamics or uncertain parameters. The uncertainty can be due to any of the following factors: inability to measure/identify some parameters or dynamics in the system, system varies with operating conditions, nonlinear system—linearization varies with the operating point, you intentionally neglect some dynamics (e.g., actuator dynamics or a delay) for the sake of simplification. Your model can be either linear or nonlinear (I encourage thinking beyond this course).
3. Come and talk to me when you feel you found a nice problem but before you invest any serious work into it.
4. Submit a 3(typed)–5(handwritten) proposal explaining the problem. Make sure to provide (a) the control objective and (b) a description of uncertainties.

Attach the paper that motivates your project.

Deadline: end of October.

5. Design a robust or adaptive controller. Simulate and compare with a classical design. Discuss the results—what was achieved with a robust/adaptive controller.

Submit the project report by **Monday, December 11** (this is a hard deadline).