Project Reporting

In addition to a written report, you will make a 20-30 minute presentation, first about the theoretical basis of the design method used, and then about results for the example with simulations, if appropriate. You will select the project topic during the week of April 16 - 20, so start reading NOW!

Project Topics

1. This NL observer passivation design makes use of the Circle Criterion. You will study its properties and may try to extend it.
2. The result that made Andy Teel famous can be applied to Ball-and-Beam or you can study further extensions of the method under "forwarding".
3. You heard Professor Astrom and may continue along with smooth controls, or you may try some discontinuous or hybrid method.
4. This case study has many versions, as referenced, and you will make your choice of the method.
5. Krstic and Li have summarized and extended the Inverse Optimal Theory and you have a choice of several topics here, including an example of satellite stabilization.
6. You can proceed with a simplified version of this problem - the paper is quite elaborate.
7. This project can be done by two students: one as in #7 and the other by dynamic reduction as in #7a.
8. There are several designs here, for two or even three students.
9. This topic lets you pursue a passivation design of your choice, while the posted paper is just a first step.
10. Here is a more applied version of a passivation design.

You are also encouraged to talk to me about some other topic not listed above, if it is more in line with your current interest.