Undergrad Projects and MACC

- The McMaster Advanced Control Consortium (MACC) is one of the leading academy-industrial collaborative structures in North America
- Currently includes industrial members ranging from petrochemicals to industrial gas producers to vendors
- A successful history of undergraduate students involved in collaborative projects over the past several years
- Current openings for summer research with faculty members in PSE (including Drs. Swartz, Mhaskar, Adams and Yu)- Apply for USRA to complement

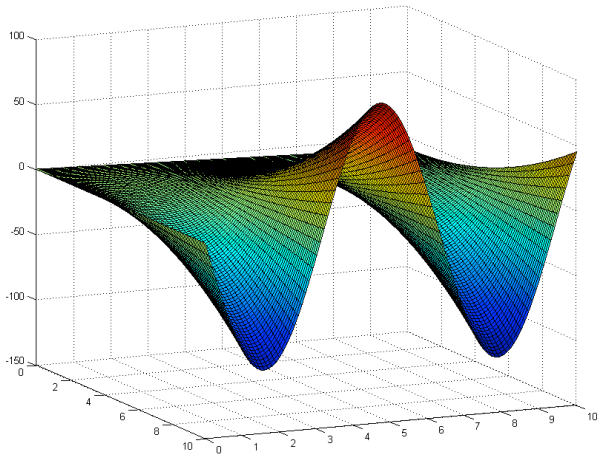
Openings in Dr. Mhaskar's group

- Openings in strongly theoretical (designing Control Lyapunov Functions) to more applied projects (with JCI and Praxair).
- Requires very strong expertise in chemical engineering fundamentals and use of mathematics, evaluated through a rigorous 30-45 minutes interview (contact mhaskar@mcmaster.ca to set up an appointment)
- Encouraged to contact past (James Scott- scottja3@mcmaster.ca) and returning (Brian McDonald macbdog@gmail.com) summer students

Undergrad Projects in Adams Lab

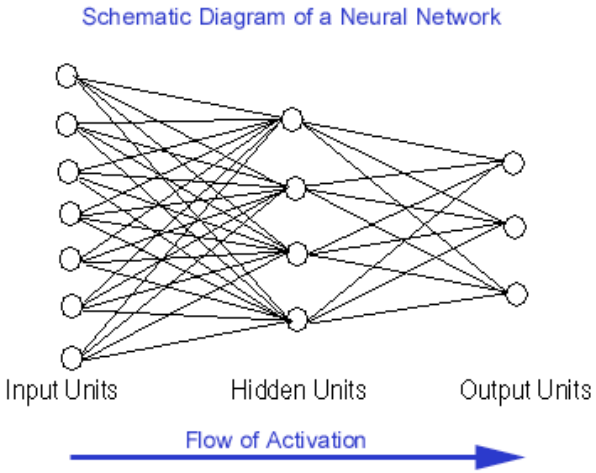
Particle Swarm Optimization

- Explore and develop new optimization algorithms for chemical process simulations
- Work with C++ programming
- Use Aspen Dynamics and other process simulators



Artificial Neural Networks

- Black box models for chemical process systems
- Invent better algorithms for creating artificial neural network models of chemical process systems



"Blackout" Educational Game

- C++ programmers to continue work of past students
- For Youth Outreach project sponsored by Ontario. (Grades 6-12)