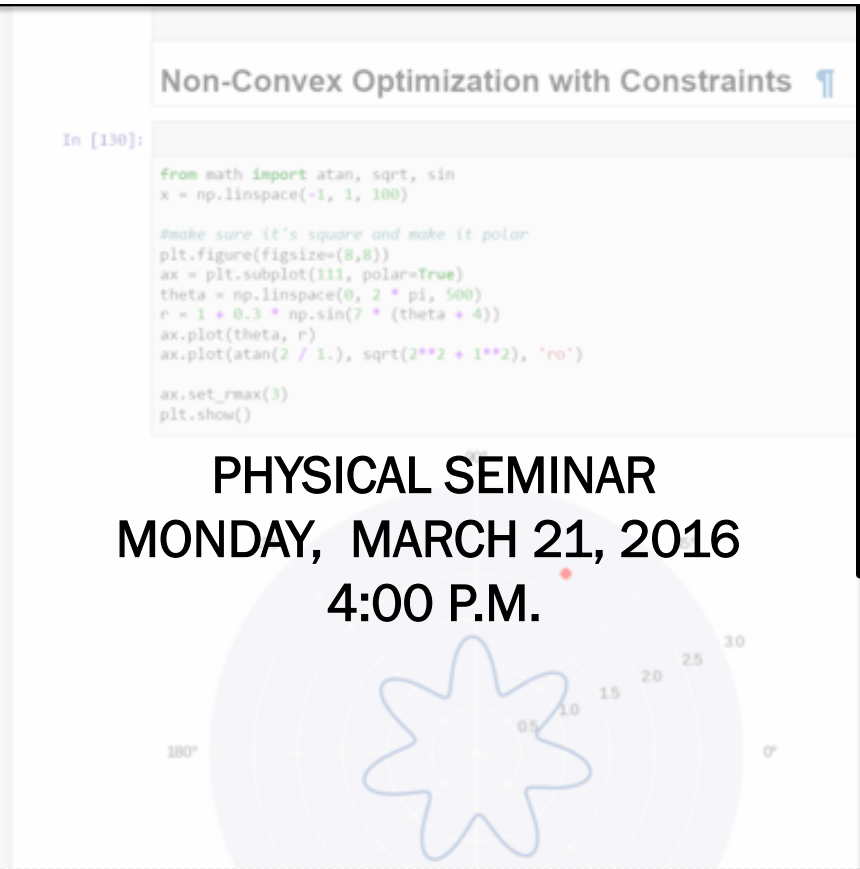

PHYSICAL SEMINAR
MONDAY, MARCH 21, 2016
4:00 P.M.

HUTCHISON HALL 473
DEPARTMENT OF CHEMISTRY
UNIVERSITY OF ROCHESTER

GUEST SPEAKER:
PROFESSOR
ANDREW WHITE
UNIVERSITY OF
ROCHESTER
DEPARTMENT OF
CHEMICAL
ENGINEERING

"Teaching Numerical Methods and Statistics with Web-based Interactive Computing"

Abstract: I will describe a new course developed in chemical engineering that teaches statistics and numerical methods with Jupyter Notebook. Jupyter Notebook is a web-app that allows students to create "living" documents that have formatted LaTeX equations, videos, computer code, plots, and text. These are called notebooks and are edited via a web browser, but can be exported as static websites, presentations, or PDFs. The textbook for the course, homeworks, and lectures are all given in this format, allowing students to instantly change examples and interact with the graphs. I teach the students Python, which gives the student skills in one of the easiest languages to learn. Python is also growing increasingly important and is the language of choice for most modern machine-learning programs and is a staple of data-science. For example, Google's recent AI advances have been made with a Python program called TensorFlow. In this talk I will describe the unique mixture of statistics and numerical methods, how I teach using Jupyter Notebook, examples of student projects, and information on learning outcomes of the course.

Host: Professor Lewis Rothberg, email: lrothber@ur.rochester.edu