

Department of Applied Mathematics, University of Waterloo

GRADUATE STUDENT SEMINAR

MONDAY, OCTOBER 17RD, 2011
16:30 – 17:30; MC 5136



Linear Conjugacy of Chemical Reaction Networks

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Under suitable assumptions the dynamics of chemical reaction networks is governed by a set of autonomous, polynomial ordinary differential equations where the quantities of concern are the specie concentrations. In general these systems are highly nonlinear and difficult to analyze; however, easily verifiable conditions are known under which many strong dynamical properties hold.

In this talk, I will focus on the relationship between the topological structure of a chemical reaction network and the dynamics of the network. In particular, I will introduce conditions on the reaction graph under which a reaction graph with "bad" structure can be transformed into one with "good" structure while preserving qualitative aspects of the dynamics. I will also give an algorithm capable of finding conjugate networks within a specific class of networks with known dynamics.



PIZZA, SOFT DRINKS, AND SNACKS PROVIDED
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Questions, Comments, and Interest can be directed to
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