1112-92-289 **Carsten Wiuf*** (wiuf@math.ku.dk), Department of Mathematical Sciences, Universitetsparken 5, Copenhagen, 2100, and **Elisenda Feliu**, Department of Mathematical Sciences, Universitetsparken 5, Copenhagen, 2100. *Model Simplification in Reaction Network Theory.*

Dynamical systems of biochemical reactions might be described by systems of ordinary differential equations (ODEs). The ODEs typically contain many variables (concentrations of chemical species) and many unknown parameters. It is therefore custom to simplify or reduce the system in various (often ad hoc) ways.

In this talk, we will discuss model simplification from different perspectives. In particular the focus will be on graphical approaches in relation to reduction of a original reaction network to a smaller network. We will discuss how such approaches might be applied to

1. gain information about the original network from the reduced, such as information about multistationarity and persistence,

2. obtain simplified models of the original network

The procedures might be applied iteratively to reduce the original network in some cases to very simple networks, such as monomolecular networks.

The discussion will be placed in a historical context showing relationship to both the standard QSSA and graphical procedures developed in the 50ies and 60ies. (Received August 06, 2015)