

**School of Computer Science
M.S. Thesis Defense**

**By
Dung Phan**

**Data Assimilation in the Ecosystem Carbon Pool
Model using the Forward Sensitivity Method**

ABSTRACT

The forward sensitivity method (FSM) is applied to assimilate observation data into the ecosystem carbon pool model. The goal is to find the corrections to the control vector (initial condition and parameters) of the model to reduce the errors between the model forecast and observed data. In this work, we solve the model equation for exact solution, analyze the sensitivity of the model output to the control vector and conduct FSM experiments. The results show encouraging improvements in the forecasting power of the model after the control vector is corrected.

Date: Wednesday, April 13, 2011

Time: 12:00 – 1:30 p.m.

Place: Devon Energy Hall (DEH) Room 245

**Committee members: Dr. S. Lakshmivarahan – Chair
Dr. John Antonio
Dr. Yiqi Luo**

Reading Copy available in Computer Science Graduate Assistant's office DEH 105

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