

## **ECE Seminar Announcement**

### **Practical Identification of Timed Event Systems**

**Mr. Donald Jarvis**

**December 3, 2009 at 3:00-4:00pm**  
**Research I Room 163**

#### **Abstract:**

My research involves the identification of timed discrete event systems, whose behavior may depend not only on the order of the input events, but also on their timing (embedded digital controllers are an example of such a system type). In this context, identification effectively means a method to construct a software simulation of a given system, based on observed input-output traces of that system.

Because the model is event-based, traditional system identification theory does not apply. I am exploring an abstract realization approach to the problem, in which I intend to adapt an algorithm that has been used in the past to identify regular languages and their recognizer automata.

Unlike many identification or learning techniques, this algorithm does not work from a given set of input-output exemplars, but rather formulates input sequences itself for which it requests the corresponding output. New requests are based on the responses accumulated so far. This interesting feature of the algorithm is also the key to its efficiency.

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Bio: Donald E. Jarvis is a doctoral candidate in the electrical and computer engineering department at George Mason University. He received the B.S.Engr. (computer science/engineering) and Ph.B. (bachelor of philosophy) in 1994 and M.S.Engr. (electrical engineering) in 1999 from the Catholic University of America, Washington, D.C. His current research interests involve the application of formal models and systems theory to simulation, identification, and control problems arising in Naval electronic warfare.