



# Science of Integration for Cyber Physical Systems

## NSF LARGE Project

Vanderbilt University, University of Maryland, University of Notre Dame

in collaboration with

General Motors Corporation

## Kickoff Meeting Agenda

Institute for Software Integrated Systems

Vanderbilt University

1025 16<sup>th</sup> Avenue S.

Nashville, TN 37212

**November 29, 2010**

12:00 – 1:00 Informal lunch, discussions

1:00- 1:15 **Welcome**

1:15- 1:30 **NSF Opening**

Dr Helen Gill, NSF

1:30- 2:15 **Project Overview**

Prof Janos Sztipanovits, ISIS-Vanderbilt

### **Thrust 1: Theory of Compositionality for Heterogeneous Systems**

2:15- 2:45 **Extending Passivity to Guarantee Properties in CPS Design**

Prof Panos Antsaklis, UND

2:45- 3:15 Break

3:15- 3:45 **A Model-based Framework for Compositional Design of CPS**

Prof Xenofon Koutsoukos, ISIS-Vanderbilt

3:45- 4:45 **Lab Visit: Prototype Tool Chain for High Confidence Software**

Prof. Nicholas Kottenstette, Graham Hemingway and Joe Porter

7:00 **Dinner**

Amerigos



**November 30, 2010**

7:30- 8:15 Breakfast

8:15- 9:00 **Model-Based Systems Engineering (MBSE) for Networked CPS**  
Prof John Baras, UMD

**Thrust 2: Tools and Tool Architectures for System Integration**

9:00-9:30 **Integration and Verification of Models with Heterogeneous Semantics**  
Prof Gabor Karsai

9:30- 10:00 **Tool Chain Demo for Virtual System Integration**  
**ISIS Demo Lab**

10:00- 10:30 Break

**Thrust 3: Systems/Experimental Research**

10:30- 11:00 **Electrical Vehicle Platform**  
Dr. Shige Wang, GM

11:00- 11:30 **Fleet of Quadrotors Platform**  
Dr. Nicholas Kottenstette, ISIS-VU

11:30- 12:00 **Summary**  
Prof. Janos Sztipanovits

12:00- 1:00 Lunch

1:00- 2:00 **Government Caucus**

2:00- 2:30 **Feedback to the Project Team**

2:30- 3:00 **Discussions, Wrap-up**