MVD 2016 Program: Friday, Oct. 21, 2016
Oak Room ISU Memorial Union

8:00am –  8:30am   WELCOME AND BREAKFAST

8:30am –  9:30am   Keynote Speaker: Aaron Tomb
   Top-to-bottom Verification of Cryptographic Algorithms

9:30am – 10:30am   Session 1
   Abstraction Based Reachability Analysis for Finite Branching Stochastic Hybrid Systems
      Zhang Wenji, Prabhakar Pavithra, Natarajan Balasubramaniam
   Simulation-Based Verification of Hybrid Systems involving Novel Dynamic Refinement
      Hao Ren, Ratnesh Kumar
   Bounded safety analysis of parameterized linear hybrid systems
      Ratan Lal

10:30am – 10:50am   COFFEE BREAK

10:50am – 12:10pm   Session 2
   An abstract concurrent memory model specification for block structured data
      David Bergvelt, Elsa Gunter, Liyi Li
   VeriF-OPT: A Verification Framework for Optimizations and Program Transformations
      Elsa Gunter, William Mansky, Liyi Li, Susannah Mansky, David Bergvelt
   Variable Reordering in Binary Decision Diagrams
      Chuan Jiang, Junaid Babar, Gianfranco Ciardo, Andrew S. Miner, Benjamin Smith
   Program Verification by Coinduction
      Brandon Moore, Lucas Peña, Grigore Roșu

12:10pm –  1:20pm   LUNCH

1:20pm –  2:20pm   Session 3
   An Implementation of Logic Programming Based on the Edinburgh Logical Framework
      Mary Southern, Gopalan Nadathur
   Relational Reasoning in SMT
      Baoluo Meng, Andrew Reynolds, Cesare Tinelli
   Reasoning About Specifications in Linear Logic
      Dan DaCosta, Gopalan Nadathur

2:20pm –  3:40pm   Session 4
   Constraint Refined Taint Analysis for Software Vulnerability Detection
      Ruoyu Zhang, Cesare Tinelli
   Mechanizing the Computationally Complete Symbolic Attacker in Coq
      Gergei Bana, Rohit Chadha, Ajay Kumar Eeralla
   Towards Synthesis from Assume-Guarantee Contracts involving Infinite Theories: A Preliminary Report
      Andreas Katis, Andrew Gacek, Michael W. Whalen
   Remote Attestation Protocol Synthesis and Verification
      Paul Kline

3:40pm –  4:00pm   COFFEE BREAK

4:00pm –  4:40pm   Session 5
   From Design Contracts to Component Requirements Verification
      Jing (Janet) Liu, John D. Backes, Darren Cofer, Andrew Gacek
   Contract-Based Verification of Complex Time-Dependent Behaviors in Avionic Systems
      Devesh Bhatt, Arunabh Chattopadhyay, Wenchao Li, David Oglesby, Sam Owre, Natarajan Shankar

4:40pm –  6:00pm   Session 6
   Collective Program Analysis
      Ganesha Upadhyaya, Hridesh Rajan
   Online Verification-Validation
      Jared Wright

   Formal K to Isabelle Translation Framework based on K Semantics
      Liyi Li, Elsa Gunter
   Dependently typed programming with lambda encodings in Cedille
      Ananda Guneratne, Chad Reynolds, Aaron Stump
2245 Coover Hall

8:00am – 8:30am BREAKFAST

8:30am – 9:30am Keynote Speaker: Sagar Chaki
Engineering High-Assurance Software for Distributed Adaptive Real-Time Systems

9:30am – 10:50am Session 7
Resequencing Decision Diagram Operations
Junaid Babar, Andrew S. Miner

A Semantics for Attestation Protocols using Session Types in Coq
Adam Petz

Extensions of SMTCOQ to Bit-Vectors and Arrays
Burak Ekici, Chantal Keller, Alain Mebsout, Cesare Tinelli

A Mechanized Formalization of a Concurrent Core Calculus with Modular Reasoning
Swarn Priya, Mehdi Bagherzadeh, Hridesh Rajan

10:50am – 11:00am COFFEE BREAK

11:00am – 12:20pm Session 8
Verification and Test Generation for Plan Executions in Autonomy Applications
Jason Biatek, Sanjai Rayadurgam

Practical Verification? Insights from a Formal Verification Study of the Linux Kernel
Suresh C. Kothari, Payas Awadhutkar, Ahmed Tamrawi

Formal Methods for Certification: Why and How?
Lucas Wagner

Verification of a Molecular Watchdog Timer
Samuel J. Ellis

12:20pm – 1:30pm LUNCH