

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 Roşu

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

Baolu 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

Ganesh 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

MVD 2016 Program: Saturday, Oct. 22, 2016

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, Hriday 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