



2012

UNIVERSITY OF PENNSYLVANIA
PRECISE OPEN HOUSE
Philadelphia, Pennsylvania
Friday, May 18th

2012

PRECISE OPEN HOUSE

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LOCATION

*University of Pennsylvania
Berger Auditorium
Skirkanich Hall
210 South 33rd Street
Philadelphia, PA 19104*

PARKING

- *Between 33rd, 34th & Spruce Streets*
- *East side of 34th Street (between Ludlow & Chestnut Streets)*

IMPORTANT PHONE NUMBERS

Cab Service: (215) 333 – 3333

Airport Shuttle: (215) 724 – 8888

CONTACT

*(Liz) Wai Ping Ng
Manager, PRECISE Center
(215) 898 – 8543
(267) 909 – 0706*

2012

WELCOME

Joe McCaffery

David Tucker

Julian M. Goldman

Stephen Buckley

Michael Cook

Sam Chernak

S. Ramesh

Robert G. Loewy

Paul McLaughlin

Harry Quon

John Wai-Chiu Wong

Denise Weaver

Kevin P. Brennan

Lynne Matthews

Richard Goelz

Rajah Chandrasekhar

Sean Henley

Albert J. Wavering

Khalil Ghorbal

Malay Ganai

Rajeev Shorey

John Zaleski

Gün Akkor

Mark Alan Hughes

Nicolas Duarte

Rick Dynarski

Vijay Shirsathe

Emmanuel Bisse

Xiping Song

Yan Lu

Ariton Xhafa

Thomas Dubois

Prashant Ramachandra

Thomas P. Fitzsimons

Catherine R. Smith

Matthew H. Tucker

E. Whitney Morton

Joseph Bordogna

Yi Chang

Agilent Technologies / Electro Rent Corp.

Chrysler LLC – PowerTrain Controls

CIMIT / Massachusetts General Hospital

City of Philadelphia – Office of Transportation & Utilities

Comcast

Comcast

General Motors

Georgia Tech

Honeywell Process Control

Johns Hopkins

Johns Hopkins

Johnson & Johnson

L-3 Communications

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Lutron Electronics Inc.

Lutron Electronics Inc.

National Institute of Standards and Technology

NEC Labs

NEC Labs

NIIT University, India

Nuvon

Patton Electronics Co.

PennDesign and DoE EEB HUB

PPG Industries, Inc.

Qualcomm, New Jersey office

Qualcomm, San Diego office

Siemens Corporate Research

Siemens Corporate Research

Siemens Corporate Research

Texas Instruments, Inc.

The Boeing Company

Toyota

University of Pennsylvania – Center of Technology Transfer

University of Pennsylvania – Corporate and Foundation Relations

University of Pennsylvania – Development and Alumni Relations

University of Pennsylvania – Federal Affairs

University of Pennsylvania – Former Dean & Former COO of NSF

US Food and Drug Administration

2012

PRECISE OPEN HOUSE
Friday, May 18th
AGENDA (Part I)

8:00 am – 9:00 am REGISTRATION & BREAKFAST

Session Chair : George Pappas

9:00 am – 9:15 am WELCOME & INTRODUCTORY REMARKS
OVERVIEW OF PRECISE : Building a Cyber-Physical Agenda

9:15 am – 10:15 am PRECISE'S RESEARCH HIGHLIGHT

- [10 mins] Insup Lee: *"High-Assurance Medical Device Systems"*
- [10 mins] Rahul Mangharam: *"Energy-Efficient Buildings and Automotive Architectures for 2020"*
- [10 mins] Rajeev Alur: *"Expeditions in Computer Augmented Program Engineering"*
- [10 mins] Linh Thi Xuan Phan: *"Multi-mode Systems"*
- [10 mins] George Pappas: *"Wireless Control Networks"*
- [10 mins] Mark Alan Hughes: *"Energy-Efficient Buildings - DoE EEB HUB and Beyond"*

10:15 am – 10:25 am **Break**

Session Chair : Rahul Mangharam

10:25 am – 11:55 am INDUSTRY PERSPECTIVE

- [10 mins] Thomas Dubois: *"The Boeing Company: Embedded Systems for Military Aircraft"*
- [10 mins] Stephen Buckley: *"Building a Traffic Operations Center for the City of Philadelphia"*
- [10 mins] Michael Cook: *"Selected Comcast Innovations & Areas of Interest"*
- [10 mins] Lynne Matthews: *"L-3 Communications Collaborative Research: Ensuring the Trust, Safety and Security of Mobile Monitoring Devices"*
- [10 mins] Rajah Chandrasekhar: *"Lutron Electronics – Embedded Systems for Lighting Control"*
- [10 mins] Malay Ganai: *"NEC Labs - Software Model Checking of Floating-point Programs"*
- [10 mins] John Zaleski: *"Nuvon's Use of Data to Facilitate Disease Modeling and Prospective Patient Assessment in ICUs"*
- [10 mins] Yan Lu: *"Siemens Corporate Research - Integrated Building Energy Management using Smart Energy Box"*
- [10 mins] Prashant Ramachandra: *"Toyota: An Automotive-CPS Perspective"*

12 noon – 2:00 pm **Lunch**
MEET OUR STUDENTS -- POSTER SESSIONS

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PRECISE OPEN HOUSE

Friday, May 18th

AGENDA (Part II)

Session Chair : Rahul Mangharam

2:00 pm – 2:30 pm	PRECISE'S COLLABORATIONS
[10 mins]	Julian Goldman: <i>"The Strength of Collaboration: The PRECISE Center and the CIMIT/MGH MD PnP Program"</i>
[10 mins]	Yi Zhang: <i>"FDA: Academic/Government Research Collaboration to benefit the Public Health"</i>
[10 mins]	Paul McLaughlin: <i>"Collaborative Research on Wireless Industrial Networks: Honeywell and Penn"</i>

Session Chair : Chris Murphy

2:30 pm – 3:30 pm	CPS WORKFORCE TRAINING : THE PRECISE WAY ! DEMOS
3:30 pm – 3:45 pm	INDUSTRY FEEDBACK
3:45 pm – 4:00 pm	CLOSING REMARKS
4:00 pm – 5:00 pm	RECEPTION

2012 POSTERS

Alex Roederer	A Generic Architecture for Building Better Clinical Decision Support Systems
Sela Mador-Haim	An Axiomatic Memory Model for Power Multiprocessors
Anaheed Ayoub	Assurance Cases for Medical Devices
Yash Vardhan Pant	AutoPlug: Automotive ECU Architecture for Remote Controller Verification
Sanjian Chen	Closed-loop Medical Cyber-Physical Systems: Networked Physiological Control System
Zhihao Jiang	Closed-loop Testing and Verification of Implantable Medical Devices
Linh Thi Xuan Phan + Jaewoo Lee	Compositional Scheduling of Real-Time Embedded Systems
Miroslav Pajic	From Verification to Implementation: A Model Translation Tool and a Pacemaker Case Study
Madhur Behl + Truong Nghiem	Green Scheduling: Peak-Power Minimization for Energy-Efficient Buildings
Shaohui (Vincent) Wang	Life Data Recorder and Three-Valued Runtime Checking Semantics
Andrew King	Medical Device Interoperability Infrastructure & Ecosystem
Abhishek Udupa	Protocol Design from Concolic Snippets
Paul Gurniak	Quadrotors for Rapid Search & Rescue
BaekGyu Kim	Safety-Assured Development of the GPCA Infusion Pump Software
Salar Moarref	Scheduling for Multi-Mode Systems
Willy Bernal	SolarSkin: a Fine-Grained Approach to Building Systems Scheduling
Andrew West	Spatio-Temporal Analysis of Wikipedia Metadata and the STiki Anti-Vandalism Tool
Mukund Raghothaman	Theory of Regular Functions for Quantitative Analysis
Miroslav Pajic + Harsh Jain	Wireless Control Networks: Current State of the Art and Future Research

