



2014 NSF Fifth Annual Cyber-Physical Systems Principal Investigators' Meeting Program Agenda

Wednesday, November 5, 2014	
6:00 p.m. - 9:00 p.m.	Early Registration
Thursday, November 6, 2014	
7:30 a.m. - 5:00 p.m.	Registration
8:00 a.m. - 5:00 p.m.	CPS VO Help Desk
7:30 a.m. - 8:40 a.m.	Continental Breakfast
8:40 a.m. - 9:00 a.m.	NSF Welcome and Opening - <i>Suzanne Iacono / Grace Wang for Pramod Khargonekar / Keith Marzullo</i>
9:00 a.m. - 10:10 a.m.	Session 1: Keynotes - <i>Session Chair: Gurdip Singh (NSF)</i>
9:00 a.m. - 9:35 a.m.	Internet of Safe Things - <i>Feng Zhao (Microsoft)</i>
9:35 a.m. - 10:10 a.m.	Responsive Cities - <i>Kent Larson (MIT Media Lab)</i>
10:10 a.m. - 10:55 a.m.	Internet of (Agricultural) Things as a Path Forward to Addressing the 9 Billion Food and Nutrition Problems - <i>Sonny Ramaswamy (NIFA)</i>
10:55 a.m. - 11:15 a.m.	Break
11:15 a.m. - 12:10 p.m.	Session 2: 2013 - 2014 CPS Program Activities / Workshop Panel - <i>Session Chair: Radhakishan Baheti (NSF)</i>
11:15 a.m. - 11:30 a.m.	2013 CPS Energy Workshop - <i>Anuradha Annaswamy (MIT)</i>
11:30 a.m. - 11:45 a.m.	2014 CPS Transportation Workshop - <i>Eric Feron (GA Tech)</i>
11:45 a.m. - 12:00 p.m.	2014 CPS Medical Workshop - <i>Scott Smolka (SUNY Stony Brook)</i>
12:00 p.m. - 12:10 p.m.	Wrap-Up and Plans
12:10 p.m. - 2:15 p.m.	Session 3: Working Lunch / 2013 - 2014 CPS Program Activities / Frontier Panel - <i>Session Chair: David Corman (NSF)</i>
12:10 p.m. - 12:30 p.m.	Lunch Pick-Up
12:30 p.m. - 1:00 p.m.	CPS Frontiers: Collaborative Research: Foundations of Resilient Cyber-Physical Systems (FORCES) - <i>Claire Tomlin (UC Berkeley)</i>
1:00 p.m. - 1:30 p.m.	CPS Frontiers: Collaborative Research: Correct-by-Design Control Software Synthesis for Highly Dynamic Systems - <i>Jessy Grizzle (University of Michigan)</i>
1:30 p.m. - 2:00 p.m.	CPS Frontiers: Collaborative Research: ROSELINE: Enabling Robust, Secure, and Efficient Knowledge of Time Across the System Stack - <i>Mani Srivastava (UCLA)</i>
2:00 p.m. - 2:15 p.m.	Wrap-Up and Q/A
2:15 p.m. - 3:35 p.m.	Session 4: PI Reports and Academic Panel - <i>Session Chair: Phil Regalia (NSF)</i>
2:15 p.m. - 2:35 p.m.	Foundations of Secure Cyber-Physical Systems - <i>Suhas Diggavi (UCLA)</i>
2:35 p.m. - 2:55 p.m.	High-Level Perception and Control for Autonomous Reconfigurable Modular Robots - <i>Mark Campbell (Cornell)</i>
2:55 p.m. - 3:15 p.m.	Addressing Design and Human Factors Challenges in Cyber-Transportation Systems - <i>Chunming Qiao (SUNY Buffalo)</i>
3:15 p.m. - 3:35 p.m.	Design and Development of a Cybernetic Exoskeleton for Hand-Wrist Rehabilitation Through the Integration of Human Passive Properties - <i>Ashish Deshpande (UTexas- Austin)</i>
3:35 p.m. - 3:55 p.m.	A Cyber-Physical Infrastructure for the "Smart City" - <i>Christos Cassandras (Boston)</i>
3:55 p.m. - 4:10 p.m.	Break
4:10 p.m. - 5:45 p.m.	Session 5: CPS Education & Diversity - <i>Session Chair: Sylvia Spengler (NSF)</i>
4:10 p.m. - 4:25 p.m.	NAS CPS Education Study Update - <i>Jack Stankovic (UVA)</i>
4:25 p.m. - 5:10 p.m.	Experience in Diversity in CPS Education Panel
	<i>Tamara Bonaci (U Wash)</i>
	<i>Alejandro Sanchez (U Puerto Rico)</i>
	<i>Andrea Goldsmith (Stanford)</i>
	<i>Jonathan Sprinkle (Arizona)</i>

5:10 p.m. - 5:30 p.m.	CPS MOOCs - Magnus Ergstedt (GA Tech)
5:30 p.m. - 5:35 p.m.	Wrap-Up
5:35 p.m. - 7:05 p.m.	Session 6: Poster Session (Show and Tell) / Demonstration Session / (Refreshments Served)
Friday, November 7, 2014	
7:00 a.m. – 5:00 p.m.	Registration
8:00 a.m. – 5:00 p.m.	CPS VO Help Desk
7:00 a.m. - 8:00 a.m.	Continental Breakfast
8:00 a.m. - 8:10 a.m.	Opening Remarks - Keith Marzullo (NSF)
8:10 a.m. - 8:30 a.m.	Partnership for Innovation (PFI) - Gurdip Singh (NSF)
	Resilient Interdependent Infrastructure Processes and Systems (RIPS) - Elise Miller-Hooks (NSF)
8:30 a.m. - 10:15 a.m.	Session 7: Plenary Session Talks - Session Chair: Bruce Kramer (NSF)
8:30 a.m. - 9:00 a.m.	Industrial Internet Fabric - Paul Didier (CISCO)
9:00 a.m. - 9:45 a.m.	Academic Keynote – Vijay Kumar (UPenn)
9:45 a.m. - 10:15 a.m.	Academic Experience in Smart America - Dave Roberts (NCSU)
10:15 a.m. - 10:30 a.m.	Break
10:30 a.m. - 11:30 a.m.	Parallel Break Out Session: CPS Education (Mt. Vernon - 2nd Floor) - Session Chair: Jack Stankovic (UVA)
10:30 a.m. - 12:10 p.m.	Session 8: PI Reports - Session Chair: Anindya Banerjee (NSF)
10:30 a.m. - 10:50 a.m.	Design Science for CPS - Tony Givargis (UC-Irvine)
10:50 a.m. - 11:10 a.m.	Provably Safe Automotive Cyber-Physicals Systems with Humans-in-the-Loop - Edgar Lobaton (NCSU)
11:10 a.m. - 11:30 a.m.	Integrated Modeling, Analysis, and Synthesis of Miniature Medical Devices - Pietro Valdastrì (Vanderbilt)
11:30 a.m. - 11:50 a.m.	Statistical Model Checking of High-Dimensional Cyber-Controlled Systems - Geir E. Dullerud (UIUC)
11:50 a.m. - 12:10 p.m.	Cyber Enabled Manufacturing Systems (CeMs) for Small Lot Manufacture - Dan Moser (UTexas-Austin), Jayathi Murthy (UTexas-Austin)
12:10 p.m. - 2:00 p.m.	Session 9: Lunch / Poster Session (Show and Tell) / Demonstration Session
12:10 p.m. - 12:25 p.m.	Lunch Pick-Up
12:25 p.m. - 2:00 p.m.	Poster and Demonstration Sessions / Show and Tell
2:00 p.m. - 3:00 p.m.	Session 10: Global Smart Cities - Session Chair: Tho Nguyen (AAAS/NSF)
	<i>Nalini Venkatasubramanian (UC-Irvine)</i>
	<i>Sokwoo Rhee (NIST)</i>
	<i>Glenn Ricart (US Ignite)</i>
	<i>David Corman (NSF)</i>
	<i>Christos Cassandras (Boston)</i>
3:00 p.m. - 3:15 p.m.	Break
3:15 p.m. - 4:15 p.m.	Session 11: Government Panel on CPS - Session Chair: Anita Nikolich (NSF)
	<i>David Corman (NSF)</i>
	<i>David Kuehn (DOT)</i>
	<i>Yuri Gawdiak (NASA)</i>
	<i>Dan Massey (DHS)</i>
	<i>Dan Schmoldt (NIFA)</i>
4:15 p.m. - 4:20 p.m.	Closing - David Corman (NSF)
4:20 p.m.	2014 CPS PI Meeting Adjourned