

Engineering Academy of Japan
U.S. National Academy of Engineering
Japan Science and Technology Agency

2011 Japan-America Frontiers of Engineering Symposium

June 6-8, 2011

Nakanoshima Center Building, RIHGA Royal NCB
Osaka, Japan

Program

Co-chairs: Ichiro Kanaya, Osaka University, and Katharine Frase, IBM

Sunday, June 5

7:30-9:30 p.m. Registration/welcome reception
(See walking map on website for directions) *Room Yodo (2F),
RIHGA Royal NCB*

Monday, June 6

From 6:30 a.m. Breakfast at the hotel. *Cobeille or Mizube*
Cobeille (1F) – from 6:30 a.m., Western, set menu
Mizube (7F Annex) – from 7:00 a.m., Japanese and Western, buffet

9:00 Welcome– *Room Hana (3F)*
RIHGA Royal NCB
Hiroshi Komiyama, Engineering Academy of Japan
Charles Vest, U.S. National Academy of Engineering
Akira Takamatsu, Japan Science and Technology Agency

Opening Remarks – Ichiro Kanaya, Committee co-chair (Japan.)
Katharine Frase, Committee co-chair (U.S.)

9:30 **MASSIVE DATA MANAGEMENT**
Session co-chairs: Takeshi Oishi, University of Tokyo, and Cyrus Shahabi, University
of Southern California

Tools for Large-Scale Spatial Simulation Design and Analysis
Johannes Gehrke, Cornell University

Digital Silk Road: Reviving Silk Road Using Massive Geospatial Data
Asanobu Kitamoto, National Institute of Informatics

11:00 Break

11:30 *Temporal Causal Models for Massive Time-series Data Mining: Climate
Change Attribution and other Applications*
Yan Liu, University of Southern California

*Network Display System for Large Cultural Heritage Objects via Cloud
Computing Environments*
Y asuhide Okamoto, University of Tokyo

1:00 p.m.	Lunch	<i>Room Yodo (2F)</i>
2:00	Poster Session I (#1's stand by posters)	<i>Room Tsuki (3F)</i>
2:45	Poster Session II (#2's stand by posters)	
3:30	Break	
4:00	SMART GRID Session co-chairs: Masahiro Ishiyama, Toshiba Corporation, and Ning Lu, Pacific Northwest National Laboratory <i>Integration of Smart Grid Enabling Technologies within Power Distribution Systems</i> Karen Miu Miller, Drexel University <i>Smart Home Energy Management Systems</i> Natarajan Venkatakrishnan, General Electric	
5:30	Break/Reception	
6:00	Dinner	<i>Room Yodo (2F)</i>
7:00	Dinner Speech: <i>The NdFeB Magnet – From Birth to 100.000 Ton/Year Giant</i> Dr. Masato Sagawa, President, Intermetallics Co., Ltd.	

Tuesday, June 7

From 6:30 a.m. Breakfast at the hotel

9:00 SMART GRID (cont.)

Smart House Testbed for both Physical and Cyber Entities
Y asuo Tan, Japan Advanced Institute of Science and Technology

Smart Grid Cybersecurity
Mai Kiuchi, Central Research Institute of Electric Power Industry

10:30 Break

11:00	BIO-INSPIRED MATERIALS Session co-chairs: Alfred Crosby, University of Massachusetts, Amherst, and Naoe Hosoda, National Institute for Materials Science <i>Overview of “Bottom-Up” Design of Bio-inspired Materials in the Context of Soft Materials</i> Darrin Pochan, University of Delaware <i>Principles and Results Related to Biomimetic Crystal Design</i> Yuya Oaki, Keio University	
12:30 noon	Lunch	Room Matsu (2F)
1:30 p.m.	<i>Material Design and Fabrication of Structural Color using a Biomimetic Approach: Mystery of Morpho Butterfly’s Blue</i> Akira Saito, Osaka University <i>Design Energy Efficient, Biomimetic Materials by Harnessing Mechanical Instabilities on Patterned Soft Surfaces</i> Shu Yang, University of Pennsylvania	
3:00	Break	
3:30	Tour TBD	
6:00	Dinner	

Wednesday, June 8

From 6:30 a.m. Breakfast at the hotel.

8:30	ROBOTICS Session co-chairs: Bryan Adams, One Plus Four Ventures, and Tomomichi Sugihara, Osaka University <i>Human-like Assembly Robots in Factories</i> Shingo Ando, Yaskawa Electric Corp. <i>The Transition of Robot Technologies from University Research to the Commercial Realm</i> Matthew Williamson, Heartland Robotics	
10:00	Break	

10:30 *Man-Machine Synergy Effector: Anthropomorphic Robotic Tools Based on Hybrid Approaches*

Katsuya Kanaoka, Man-Machine Synergy Effectors, Inc.

Research and Challenges in Commercializing Robots

Eduardo Torres-Jara, Worcester Polytechnic Institute

12:00 noon Lunch

Room Matsu (2F)