

# SiMCRT2011

**International Workshop on Simulation and Modeling related to  
Computational Science and Robotics Technology**

<http://simcrt2011.kojimalab.com/>

November 1-3, 2011

Takikawa Memorial Hall, Kobe University, Kobe, JAPAN



# PROGRAM

**Tuesday, November 1, 2011**

- 10:00 – 10:30 Registration
- 10:30 – 10:40 **Welcome Address, Chair: Fumio Kojima**  
Masatoshi NOUMI and Fumio KOJIMA, Kobe University
- 10:40 – 12:00 **Session TU1, Chair: Franz KAPPEL**
- TU1-1 (Invited) Neuro-PID control for electric vehicle control**  
Shigeru OMATSU, Osaka Institute of Technology
- TU1-2 (Invited) Saliency-based geographics annotation for robotic access to naturally complex scenes**  
Koji KAMEJIMA, Osaka Institute of Technology
- 12:00 – 13:20 Lunch
- 13:20 – 14:40 **Session TU2, Chair: Shigeru OMATSU**
- TU2-1 (Invited) Forward problem and inverse problem for fractional diffusion-wave equations**  
Masahiro YAMAMOTO, University of Tokyo
- TU2-2 (Plenary) Population models & data in applied ecology: Surrogate species**  
John E BANKS, University of Washington
- 14:40 – 15:00 Coffee break
- 15:00 – 16:20 **Session TU3, Chair: Masahiro YAMAMOTO**
- TU3-1 (Invited) Crack Identification by the Passive and Active Methods with the Use of Piezoelectric Film and Inverse Analysis**  
Shiro KUBO, Takahide SAKAGAMI and Seiji IOKA, Osaka University
- TU3-2 (Invited) Preconditioning approaches based on Calderon's formulae for periodic fast multipole methods for Helmholtz' equation and elastodynamics**  
Kazuki NIINO, Hiroshi ISAKARI and Naoshi NISHIMURA, Kyoto University
- 17:30-19:30 Banquet

Wednesday, November 2, 2011

- 9:20 – 10:20      **Session WE1, Chair: Naoyuki KUBOTA**
- WE1-1**            **Tele-operation of hand/arm robot imitating human hand/arm motion**  
Futoshi KOBAYASHI, George IKAI, Ko HASEGAWA,  
Hiroyuki NAKAMOTO, and Fumio KOJIMA, Kobe University
- WE1-2**            **Object manipulation based on tactile information of multi-fingered robot hand**  
Wataru FUKUI, Futoshi KOBAYASHI, Hiroyuki NAKAMOTO,  
and Fumio KOJIMA Kobe University
- WE1-3**            **Displacement and force measurement, slip detection by magnetic type tactile sensor**  
Hiroyuki NAKAMOTO and Satoru TAKENAWA, Kobe University
- 10:20 – 10:40      Coffee Break
- 10:40 – 12:00      **Session WE2, Chair: Kazufumi ITO**
- WE2-1 (Plenary)**    **A Structured population model for erythropoiesis**  
Doris H. FUERTINGER, Franz KAPPEL, Peter KOTANKO,  
Nathan W. LEVIN, and Stephan THIJSSSEN, University of Graz
- WE2-2 (Plenary)**    **A comparison of stochastic simulation algorithms in infection models**  
H. Thomas BANKS, North Carolina State University
- 12:00 – 13:20      Lunch
- 13:20 – 14:40      **Session WE3, Chair: Fumio KOJIMA**
- WE3-1 (Invited)**    **Development of self-reference thermography technique for remote inspection of fatigue cracks**  
Takahide SAKAGAMI, Yui IZUMI and Shiro KUBO, Kobe University
- WE3-2 (Invited)**    **Forward and inverse simulations of pipe wall thinning using pulsed eddy current signals**  
Shejuan XIE, Toshiyuki TAKAGI, Tetsuya UCHIMOTO, Zhenmao CHEN,  
and Li WANG, Tohoku University
- 14:40 – 15:00      Coffee Break
- 15:00 – 17:00      **Session WE4, Chair: H.T. BANKS**
- WE4-1 (Plenary)**    **Nonsmooth optimization and sparsity**  
Kazufumi ITO, North Carolina State University
- WE4-2 (Invited)**    **A new algebraic approach to stabilization for linear parabolic boundary control systems**  
Takao NAMBU, Kobe University
- WE4-3**            **Inverse methodologies for structural health monitoring using electromagnetic measurements**  
Fumio KOJIMA, Kobe University

**Thursday, November 3, 2011**

- 9:40 – 10:40      **Session TH1, Chair: Yusuke NOJIMA**
- TH1-1**            **Monitoring method for underground condition**  
Teruo USAMI and Fumio KOJIMA, Kyoto Gakuen University
- TH1-2**            **Exactly pipe wall thinning management with flow accelerated corrosion using electro-magnetic acoustic transducer**  
Daigo KOSAKA, Fumio KOJIMA and Hiroki TABATA, Kobe University
- TH1-3**            **Enhanced thermal conductivity over percolation threshold in polyimide blend films containing ZnO nano-pyramidal particles**  
Daisuke YORIFUJI, Tokyo Institute of Technology
- 10:40 – 11:00      Coffee Break
- 11:00 – 12:00      **Session TH2, Chair: Hiroyuki NAKAMOTO**
- TH2-1 (Invited)**    **An intelligent navigation system for multiple mobile robots**  
Naoyuki KUBOTA, Tokyo Metropolitan University
- TH2-2**            **Parallel distributed genetic rule selection of association rules**  
Yusuke NOJIMA, Shingo MIHARA, and Hisao ISHIBUCHI, Osaka Prefecture University
- 12:00 – 13:00      Lunch
- 13:00 – 15:00      **Session TH3, Chair: Futoshi KOBAYASHI**
- TH3-1 (Invited)**    **Deformation formulas and inverse problems for advection-diffusion equations**  
Shin-ichi NAKAGIRI, Kobe University
- TH3-2 (Invited)**    **On computational robotics**  
Zhiwei LUO, Kobe University and RIKEN
- Th3-3 (Plenary)**    **A new approach of using null space of Jacobian matrix in simulation of multibody dynamics**  
Dinh Van PHONG and Nguyen Hai NGUYEN, Hanoi University of Technology
- 15:00 – 15:10      **Closing Session**  
H.T. BANKS, North Carolina State University