2013 IEEE Conference on Cybernetics and Intelligent Systems

(CIS 2013)

Manila, Philippines
12 – 15 November 2013
Technical Program

Session | TuB2: (CIS) Robotic and Hybrid Systems
--- | ---
Date/Time | Tuesday, 12 November 2013 / 10:40 – 12:20 hrs
Session Chair | Oliver Weede
Session Co-chair | Miaolong Yuan

TuB2.1 10:40 – 11:00
A Hardware-Accelerated Reduced Dimensionality Multi-Prototype Learning and Recognition System with Complementary Classifiers
*Indra Bagus Wicaksono, Fengwei An and Hans Jürgen Mattausch*

TuB2.2 11:00 – 11:20
An Intuitive and Efficient Switching Particle Filter for Real-Time Vision-Based Localization
*Bo Tian, Chee-Meng Chew, Huajin Tang and Miaolong Yuan*

TuB2.3 11:20 – 11:40
Knowledge-Based Planning of Port Positions for Minimally Invasive Surgery
*O. Weede, J. Wünscher, H. Kenngott, B-P. Müller-Stich and H. Wörn*

TuB2.4 11:40 – 12:00
People Detection in Heavy Machines Applications
*M. Bui, V. Frémont, D. Boukerroui and P. Letort*

TuB2.5 12:00 – 12:20
Moving Objects Detection and Credal Boosting Based Recognition in Urban Environments
*Dingfu Zhou, Vincent Frémont and Benjamin Quost*

Session | TuC2: (CIS) Scheduling, Intelligent Manufacturing and Complex Systems
--- | ---
Date/Time | Tuesday, 12 November 2013 / 15:40 – 17:00 hrs
Session Chair | Prospero Naval
Session Co-chair | Bhuvaneswari Ramachandran

TuC2.1 15:40 – 16:00
Permutation Flow Shop Scheduling with Dynamic Job Order Arrival
*Humyun Rahman, Ruhul Sarker and Daryl Essam*

TuC2.2 16:00 – 16:20
Economic Scheduling in Smart Grid with Nondispatchable and Dispatchable Loads
*Bhuvaneswari Ramachandran and David A. Cartes*

TuC2.3 16:20 – 16:40
Stabilization of Decentralized Networked Complex Systems with Multiple-Packet Transmission
*Lubomír Bakule, Martin Papík and Branislav Rehák*

TuC2.4 16:40 – 17:00
Estimation of Ionic Contamination in Printed Circuit Boards from Shape and Color Features of Dendritic Patterns
*Helen S. Villanueva, Manolo G. Mena and Jr. Prospero C. Naval*
<table>
<thead>
<tr>
<th>Session</th>
<th>WeA2: (CIS) Dynamic System Modeling and Intelligent Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date/Time</td>
<td>Wednesday, 13 November 2013 / 08:30 – 10:10 hrs</td>
</tr>
<tr>
<td>Session Chair</td>
<td>Branislav Rehak</td>
</tr>
<tr>
<td>Session Co-chair</td>
<td>Nguyen Huu Cong</td>
</tr>
</tbody>
</table>

- **WeA2.1** 08:30 – 08:50
  **Observer Design for a Polynomial System with Time Delays via Sum-of-Squares**
  Branislav Rehák 54

- **WeA2.2** 08:50 – 09:10
  **Researching Model Order Reduction Based on Schur Analysis**
  Cong Nguyen Hsu, Du Huy Dao, Kien Ngoc Vu and Thanh Bui Trung 60

- **WeA2.3** 09:10 – 09:30
  **Adaptive Optimal Control for Linear Discrete Time-Varying Systems**
  Shuzhi Sam Ge, Chen Wang, Yanan Li, Tong Heng Lee and Marcelo H. Ang Jr 66

- **WeA2.4** 09:30 – 09:50
  **Issues in Balancing Control of Lateral-Pendulum Unicycle Robot by Separate Regulations of Its Longitudinal and Lateral Modes**
  Yohanes Daud, Abdullah Al Mamun and Jian-Xin Xu 72

- **WeA2.5** 09:50 – 10:10
  **Online Sequential ELM based Transfer Learning for Transportation Mode Recognition**
  Zhenyu Chen, Shuangquan Wang, Zhiqi Shen, Yiqiang Chen and Zhongtang Zhao 78

<table>
<thead>
<tr>
<th>Session</th>
<th>WeB2: (CIS) Human-Machine and Multi-Agent Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date/Time</td>
<td>Wednesday, 13 November 2013 / 10:40 – 12:20 hrs</td>
</tr>
<tr>
<td>Session Chair</td>
<td>John-John Cabibihan Cabibihan</td>
</tr>
<tr>
<td>Session Co-chair</td>
<td>Miaolong Yuan</td>
</tr>
</tbody>
</table>

- **WeB2.1** 10:40 – 11:00
  **Detecting Injection Attacks in Linear Time Invariant Systems**
  Peter Loh, Giedre Sabaliauskaite and Aditya Mathur 84

- **WeB2.2** 11:00 – 11:20
  **A Prototype of Digital Illuminance Sensor for The Distributed Control Lighting System**
  Mitsunori Miki, Yo Motoya, Kenta Yoshida, Yuya Hirano and Hiroto Aida 90

- **WeB2.3** 11:20 – 11:40
  **Tactile Sensing in an Object Passing Task**
  John-John Cabibihan, Kam Wai Wu and Amudharasi Ramalingam 96

- **WeB2.4** 11:40 – 12:00
  **Decentralized Formation Flocking for Multiple Non-Holonomic Agents**
  Yongnan Jia and Long Wang 100

- **WeB2.5** 12:00 – 12:20
  **A Multi-Agent Framework for Voltage Regulation Control in Distribution Systems**
  Sumith Madampath Sreechithra and Panida Jiruititijaroen 106
<table>
<thead>
<tr>
<th>Session</th>
<th>WeC3: (CIS) Computational Intelligence and Applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date/Time</td>
<td>Wednesday, 13 November 2013 / 15:40 – 17:20 hrs</td>
</tr>
<tr>
<td>Session Chair</td>
<td>Ryszard S. Choras</td>
</tr>
<tr>
<td>Session Co-chair</td>
<td>Miaolong Yuan</td>
</tr>
</tbody>
</table>

- **WeC3.1 15:40 – 16:00**
  - **Facial Feature Detection for Face Authentication**
    - Ryszard S. Choras 112

- **WeC3.2 16:00 – 16:20**
  - **Heuristic Modelling of Outdoor Path Loss for 9m, 3m and 1.5m Antenna at 677 MHz**
    - Jennifer C. Dela Cruz and Felicito S. Caluyo 117

- **WeC3.3 16:20 – 16:40**
  - **Evolutionary Optimization of Meta Data Metric for Method Recommendation**
    - Ondřej Kazík, Jakub šmíd and Roman Neruda 123

- **WeC3.4 16:40 – 17:00**
  - **Continuous Attractors and Population Decoding Multiple-Peaked Activity**
    - Jiali Yu, Miaolong Yuan and Huajin Tang 128

- **WeC3.5 17:00 – 17:20**
  - **A Hippocampus CA3 Spiking Neural Network Model for Storage and Retrieval of Sequential Memory**
    - Chin Hiong Tan, Huajin Tang, Kay Chen Tan and Miaolong Yuan 134