

# International Conference on **Electronics & Control**

Day 1: March 19, 2014

EC-SS1: High Performance Application in Mechatronics			
Chair: Panus Nattharith, Naresuan University			
Room: Venda 1, 15:20 – 17:40			
Time	Paper ID	Title	Authors
15:20-15:40	EC-INV0084	An Improvement of Multilateral Control Performance of A Teleoperated Robot Using Kalman-Filter-Based State Observer	Chowarit Mitsantisuk <sup>1</sup> and Kiyoshi Ohishi <sup>2</sup> , <sup>1</sup> Kasetsart University, Thailand, <sup>2</sup> Nagaoka University of Technology, Japan
15:40-16:00	0009	An indoor mobile robot development: A low-cost platform for robotics research	Mehmet Serdar Güzel <sup>1</sup> and Panus Nattharith <sup>2</sup> , <sup>1</sup> Ankara University, Turkey, <sup>2</sup> Naresuan University, Thailand
16:00-16:20	0044	Adaptive Control Performance of a Mobile Robot Using Hybrid of SLAM and Fuzzy Logic control in Indoor Environment	Anantachai Suwannakom, Naresuan University, Thailand
16:20-16:40	0098	Robot System for Rehabilitation of Wrist Using Bilateral Control Base on Disturbance Observer	Saran Jarudamrongsak <sup>1</sup> , Chowarit Mitsantisuk <sup>1</sup> , Pished Bunnun <sup>2</sup> and Yasuharu Koike <sup>3</sup> , <sup>1</sup> Kasetsart university, Thailand, <sup>2</sup> Nectec, Nstda, Thailand, <sup>3</sup> Tokyo Institute of Technology, Japan
16:40-17:00	0122	Flash Flood Warning System using SCADA system: Laboratory Level	Khosak Achawakorn, Sripatum University, Thailand
17:00-17:20	0004	A New Technique for Distance Estimation using SIFT for mobile robots	Mehmet Serdar Güzel <sup>1</sup> and Panus Nattharith <sup>2</sup> , <sup>1</sup> Ankara University, Turkey, <sup>2</sup> Naresuan University, Thailand
17:20-17:40	0046	Controller Design for 2-d Discrete Linear Networked Systems	Guido Izuta, Yonezawa Women's College, Japan

**Day 2: March 20, 2014**

<b>EC-SS2: New Technique in Robust and Adaptive Control</b>			
<b>Chair: Piyapong Olanthichachat, Pibulsongkram University, Thailand</b>			
<b>Room: Cattleya 3, 8:20 – 10:40</b>			
<b>Time</b>	<b>Paper ID</b>	<b>Title</b>	<b>Authors</b>
8:20-8:40	0105	Dominant pole-placement and extra conjugate-pole assignment with the PID controller	Wirote Sangtungtong <sup>1</sup> , Soontaree Seangsri <sup>1</sup> and Sarawut Sujitjorn <sup>2</sup> , <sup>1</sup> Suranaree University of Technology, Thailand, <sup>2</sup> Synchrotron light research institute (Public organization), Thailand
8:40-9:00	EC-INV005	A Demonstration of Simplified-General- Perturbations-Based Orbit Determination on Thaichote Satellite	Manop Aorpimai, Mahanakorn University of Technology, Thailand
9:00-9:20	0144	Design of 4-Way Crossover Network by using Bernstein Polynomial	Kriangsak Hlurprasert, Paitoon Raklua, Norakamon Wongsin and Virote Pirajanchai, Rajamangala University of Technology Thanyaburi, Thailand
9:20-9:40	0125	Implementation of AU Blancing Ball Bot (AUB <sup>3</sup> )	Narong Aphiratsakun, Assumption University, Thailand
9:40-10:00	0164	Square-root Optimal Hankel Norm Approximation Technique for Order Reduction of Non-Minimal Systems	Deepak Kumar <sup>1</sup> and S. K. Nagar <sup>2</sup> , <sup>1</sup> M. N. National Institute of Technology Allahabad, India, <sup>2</sup> Indian Institute of Technology Varanasi, India
10:00-10:20	0166	Square-root Frequency Weighted balanced model reduction via singular perturbation approximation	Deepak Kumar <sup>1</sup> and S. K. Nagar <sup>2</sup> , <sup>1</sup> M. N. National Institute of Technology Allahabad, India, <sup>2</sup> Indian Institute of Technology Varanasi, India
10:20-10:40	EC-INV009	SWU-OFDB: A Database for Occluded Face Detection Research	Theekapun Charoenpong, Srinakharinwirot University, Thailand

**EC1: Industrial Electronics and Automation****Chair: Chaiwat Nuthong, King Mongkut's Institute of Technology Ladkrabang, Thailand****Room: Venda 1, 13:30 – 15:30**

<b>Time</b>	<b>Paper ID</b>	<b>Title</b>	<b>Authors</b>
13:30-13:50	EC-INVX002	A High Sensitive Laser –EMAT Imaging System for Biomedical Applications	Siridech Boonsang <sup>1</sup> and R.J. Dewhurst <sup>2</sup> , <sup>1</sup> King Mongkut's Institute of Technology Ladkrabang, Thailand, <sup>2</sup> University of Manchester Institute of Science and Technology, UK
13:50-14:10	0019	Electronic Structure Calculation of GaSb/GaAs Quantum Dot	Suwit Kiravittaya <sup>1</sup> , Maeteer Kunrugsa <sup>2</sup> , Supachok Thainoi <sup>2</sup> , Somchai Ratanathamphan <sup>2</sup> and Somsak Panyakeow <sup>2</sup> , <sup>1</sup> Naresuan University, Thailand, <sup>2</sup> Chulalongkorn University, Thailand
14:10-14:30	0057	Development of Power Line Communication Circuit for Solar Farm Monitoring	Wongsakorn Limsiri, Pairote Sirinamaratana and Ekachai Leelarasmee, Chulalongkorn University, Thailand
14:30-14:50	NX002	Operation of a Doubly-Fed Induction Generator Part 1: Smooth Start up Procedure	Phongsathorn Chusun and Warachart Suwanngam, King Mongkut's Institute of Technology Ladkrabang, Thailand
14:50-15:10	NX003	Operation of a Doubly-Fed Induction Generator Part 2: Active and Reactive Power Control	Pruksapan Manawakul and Warachart Suwanngam, King Mongkut's Institute of Technology Ladkrabang, Thailand
15:10-15:30	EC-INVX005	RS Components DesignSpark Mechanical - Free 3D Design Software for All	Suthee Wetchapruangkitak, Country Manager - Thailand, RS component, Thailand

**EC2: Embedded System and Mechatronics****Chair: Siridech Boonsang, King Mongkut's Institute of Technology Ladkrabang, Thailand****Room: Venda 1, 15:50 – 17:50**

<b>Time</b>	<b>Paper ID</b>	<b>Title</b>	<b>Authors</b>
15:50-16:10	0034	Dynamic Compensation and Control of a Bicycle Robot	Anan Suebsomran, King Mongkut's University of Technology North Bangkok, Thailand
16:10-16:30	0102	Harmonic Reduction in PWM AC/DC Converters using Genetic Algorithms	Monthol Fak-aim <sup>1</sup> , Piyapong Olanthichachat <sup>1</sup> , Pairoj Piyarungsan <sup>2</sup> and Sunya Phomprasit <sup>3</sup> , <sup>1</sup> Pibulsongkram Rajabhat University, Thailand, <sup>2</sup> Rajamangala University of Technology Lanna, Thailand, <sup>3</sup> Kamphaengphet Rajabhat University, Thailand
16:30-16:50	EC-INVX001	Survey of Social Robots in Thailand	Thavida Maneewarn, King Mongkut's University of Technology Thonburi, Thailand
16:50-17:10	0022	Multi-Feature Extraction for Optical Character Recognition in Thai Language	Natchanon Sukkhadamrongrak and Anakkapon Saenthon, King Mongkut's Institute of Technology Ladkrabang, Thailand
17:10-17:30	0014	Vision-Based Lane Departure Warning Systems: An Application on iOS Platform	Chitisan Subtechtitmanee and Chaiwat Nuthong, King Mongkut's Institute of Technology Ladkrabang, Thailand
17:30-17:50	EC-INV003	Image Fusion Using Wavelet Transform for Slider Orientation Measurement	Chaiwat Nuthong, King Mongkut's Institute of Technology Ladkrabang, Thailand

[Day 3: March 21, 2014](#)

<b>EC-SS3: Digital Signal Processing Techniques for Industrial Application</b>			
<b>Chair: Anakkapon Saenthon, King Mongkut's Institute of Technology Ladkrabang, Thailand</b>			
<b>Room: Venda 1, 8:40 – 10:40</b>			
<b>Time</b>	<b>Paper ID</b>	<b>Title</b>	<b>Authors</b>
8:40-9:00	0043	On the Fly Vision System for Air Bearing Surface Cardboard	Thanee Samsicharoenlap and Somyot Kaitwanidvilai, King Mongkut's Institute of Technology Ladkrabang, Thailand
9:00-9:20	0023	Performance Evaluation of Neural Network System for English and Thai Character Recognition	Natchanon Sukkhadamrongrak and Anakkapon Saenthon, King Mongkut's Institute of Technology Ladkrabang, Thailand
9:20-9:40	0094	Machine Vision System for Counting the Number of Corrugated Cardboard	Chatchi Suppitaksakul and Meena Rattanakorn, Rajamangala University of Technology Thanyaburi, Thailand
9:40-10:00	0078	A Trajectory Learner for Sonar based LEGO NXT Differential Drive Robot	Shyba S <sup>1</sup> and Tauseef Gulrez Tauseef Gulrez <sup>2</sup> , <sup>1</sup> Thangal Kunju Musaliar College of Engineering, India, <sup>2</sup> Macquarie University, Australia
10:00-10:20	0024	Robust Edge Detection Design for HSA Missing Gasket Inspection using Particle Swarm Optimization	Thunyatip Vipasetharat and Somyot Kaitwanidvilai, King Mongkut's Institute of Technology Ladkrabang, Thailand
10:20-10:40	EC-INVX003	Real-Time Road Lane Detection with Commodity Hardware	Somchok Sakjiraphong <sup>1</sup> , Andre Pinho <sup>1</sup> , Matthew N. Dailey <sup>1</sup> and Mongkol Ekpanyapong <sup>1</sup> , <sup>2</sup> Adriano Tavares, <sup>1</sup> Asian Institute of Technology, Thailand, <sup>2</sup> University of Minho, Portugal

**EC3: OPTICs and VLSI****Chair: Warachart Suwan-ngam, King Mongkut's Institute of Technology Ladkrabang, Thailand****Room: Venda 1, 11:00 – 12:20**

<b>Time</b>	<b>Paper ID</b>	<b>Title</b>	<b>Authors</b>
11:00-11:20	EC-INVX004	Metamaterials, Transformation, Optics and Its Applications	Wanchai Pijitrojana and W. Amorntep, Thammasat University, Thailand
11:20-11:40	0109	Evaluations of Waved-Shift Registers for the Multiplexed Bus	Tomoaki Saro <sup>1</sup> , Phichet Moungnoul <sup>2</sup> , Sorawat Chivapreecha <sup>2</sup> and Kohji Higuchi <sup>3</sup> , <sup>1</sup> Hirosaki University, Japan, <sup>2</sup> King Mongkut's Institute of Technology Ladkrabang, Thailand, <sup>3</sup> The University of Electro-Communications, Japan
11:40-12:00	NX001	A Rate Adaptive of Error Control Coding in MAC Layer for UWB WBAN	Wannarit Khattiya and Somsak Choomchuay, King Mongkut's Institute of Technology Ladkrabang, Thailand
12:00-12:20	0036	High-Even Order Fully-Differential Biquadratic Continuous-Time Low-Pass Gm-C Filter	Chaiyan Chanapromma <sup>1</sup> , Amnaj Prajong <sup>2</sup> and Suriya Adirek <sup>2</sup> , Wanwisa Wattanasin <sup>3</sup> , <sup>1</sup> Uttaradit Rajabhat University, Thailand, <sup>2</sup> Nakhon Sawan Rajabhat University, Thailand, <sup>3</sup> Phetchaburi Rajabhat University, Thailand

<b>EC4: Electronic Circuits and Applications</b>			
<b>Chair: Anakkapon Saenthon, King Mongkut's Institute of Technology Ladkrabang, Thailand</b>			
<b>Room: Venda 2, 11:00 – 12:20</b>			
<b>Time</b>	<b>Paper ID</b>	<b>Title</b>	<b>Authors</b>
11:00-11:20	0065	0.75V Four-Quadrant Current Multiplier Using Floating Gate-MOS Transistors	Montree Kumngern, King Mongkut's Institute of Technology Ladkrabang, Thailand
11:20-11:40	0096	CFTA-Based Electroniccally Tunable Quadrature Sinusoidal Oscillator	Montree Kumngern, King Mongkut's Institute of Technology Ladkrabang, Thailand
11:40-12:00	0090	A Study of Energy Loss in LiFePO4 Battery-Balancing Schemes for Electric Vehicle Applications	Adisorn Amtip <sup>1</sup> , Chaiwat Nuthong <sup>1</sup> , Teera Phatrapornnant <sup>2</sup> and Amaras Kaewpunya <sup>2</sup> , <sup>1</sup> King Mongkut's Institute of Technology Ladkrabang, Thailand, <sup>2</sup> NECTEC, Thailand
12:00-12:20	0049	A Sinusoidal Oscillator Current-mode with Amplitude Controllability	Kritphon Phanrattanachai <sup>1</sup> and Koson Pitaksuttayaprot <sup>1</sup> , Winai Jaikla <sup>2</sup> , <sup>1</sup> Phetchabun rajabhat university, Thailand, <sup>2</sup> King Mongkut's Institute of Technology Ladkrabang, Thailand

**EC5: Control Technique in Mechatronics and Power Electronics****Chair: Piyapong Olanthichachat, Pibulsongkram University, Thailand****Room: Lotus, 11:00 – 12:20**

<b>Time</b>	<b>Paper ID</b>	<b>Title</b>	<b>Authors</b>
11:00-11:20	0103	Fixed-order Hinf Mixed-Sensitivity Control for Inverter Using Particle Swarm Optimization	Piyapong Olanthichachat and Kaitchai Banlupholsakul, Pibulsongkram Rajabhat University, Thailand
11:20-11:40	0133	Design of an Adaptive PD Controller with Dynamic Friction Compensation for Direct-Drive SCARA Robot	Sunphong Thanok, King Mongkut's University of Technology North Bangkok , Thailand
11:40-12:00	0113	An Online Hybrid Adaptive Force Controller using Particle Swarm Optimization and Impedance Control	Sarucha Yanyong and Somyot Kaitwanidvilai, King Mongkut's Institute of Technology Ladkrabang, Thailand
12:00-12:20	0124	Automatic Stand-Alone Liquid Mixer with Chaotic PWM Control using Diode-Based Rössler System	Somchart Hongklad and Wimol San-Um, Thai-Nichi Institute of Technology, Thailand