1ˢᵗ ECE GRADUATE STUDENT SYMPOSIUM SCHEDULE

Faculty of Engineering, National University of Singapore
12 – 13 May 2011
http://www.ece.nus.edu.sg/gsc/

	Day 1 (May 12, 2011, Thursday)					
		E3-06-02 (Track 1)	E3-06-04 (Track 2)	E3-06-05 (Track 3)	E3-06-06 (Track 4)	E3-06-13 (Track 5)
08:15 AM – 09:15 AM	LT 6 (Main Venue) Registration					
09:15 AM – 09:25 AM	Opening Speech – Prof Chua Kee Chaing, Head, ECE Department					
09.25 AM – 10.00 AM	Key note speech by Dr Lim Khiang Wee, Executive director, A-STAR Graduate Academy					
10:00 AM – 10:15 AM	Tea break					
10:15 AM – 12:15 PM		Control, Intelligent Systems & Robotics	Microelectronic Technologies & Devices	Integrated Circuits & Embedded Systems	Signal Processing & New Media	Communications & Networks
12:15 PM – 01:00 PM	Lunch break					
01:00 PM – 02:45 PM		Control, Intelligent Systems & Robotics	Microelectronic Technologies & Devices	Power & Energy Systems	Signal Processing & New Media	Communications & Networks
02:45 PM – 03.00 PM	Tea break					
03:00 PM – 05:00 PM		Control, Intelligent Systems & Robotics	Microelectronic Technologies & Devices	Power & Energy Systems	Signal Processing & New Media	Communications & Networks

		E3-06-02 (Track 1)	E3-06-04 (Track 2)	E3-06-05 (Track 3)	E3-06-06 (Track 4)	E3-06-13 (Track 5)
Day 2 (May 13, 2011, Friday)						
08:30 AM – 09:00 AM	LT 6 (Main Venue) Registration					
09:00 AM – 11:00 AM		Control, Intelligent Systems & Robotics	Microelectronic Technologies & Devices	Power & Energy Systems	Microwave & RF	
11:00 AM – 11.15 AM	Tea break					
11:15 AM – 12:45 PM		Control, Intelligent Systems & Robotics	Microelectronic Technologies & Devices	Power & Energy Systems	Microwave & RF	
12:45 PM - 01:00 PM	Closing Speech by A/Prof Thong T L,John, Dy Head, ECE Department					
01:00 PM – 02:00 PM	Lunch & Networking					

Keynote Speaker - **Dr Lim Khiang Wee ,** Executive Director, A*STAR Graduate Academy, AGENCY FOR SCIENCE, TECHNOLOGY & RESEARCH

Khiang-Wee LIM is the Executive Director of the A*STAR Graduate Academy (A*GA). A*GA oversees A*STAR's talent development through scholarships, fellowships, collaborative and Outreach Programs. He is concurrently the Executive Director of IPI-Singapore. The mission of IPI-Singapore is to catalyse IP intermediation activities that support and enhance the innovation capacity of local enterprises to develop and optimise their businesses, products and services.

Dr Lim graduated in Electrical Engineering from the University of Malaya and completed a DPhil in Engineering Science at Oxford University. Prior to A*STAR, he held academic appointments at the National University of Singapore and the University of New South Wales in Sydney.

At A*STAR, he has held a variety of leadership roles at the Singapore Institute of Manufacturing Technology, Institute for Materials Research and Engineering as well as Science and Engineering Research Council. He is currently a member of the Engineering Accreditation Board of Singapore and a member of the Board of Trustees of the Singapore Institute of Technology.

SESSION 1, 12TH MAY, 2011 10:15 AM – 12:00 PM

Track1: Control, Intelligent Systems & Robotics E3-06-02
Track Chairs: Nguyen Hoang Tuan Minh, Mohammadreza Keshtkaran

1	Omid Geramifard	A Physically segmented Hidden Markov Model Approach For Continuous Tool Condition Monitoring : Diagnostics & Prognostics
2	Yang Geng	An In-Situ Real-Time Across Wafer CD Uniformity Control through the PEB Thermal Effect with the Aid of Ellipsometry
3	Sun Yajuan	Bisimilarity Enforcing Supervisory Control for Nondeterministic Discrete Event Systems
4	Ngo Yit Sung	Equipment design and control of advanced thermal processing system in lithography
5	Sepehr Jalali	Dictionary of Features in a Biologically Inspired Approach to Image Classification
6	Chen Xuetao	Tracking Control of Surface Vessels via Adaptive Type-2 Fuzzy Logic Control

Track2: Microelectronic Technologies & Devices E3-06-04
Track Chairs: Mridul Sakhuja, Deng Jun

1	Taiebeh Tahmasebi	Chemically ordered L10 FePt phase for Magnetic Random Access Memory Applications
2	Wang Rui	Large-Diameter Graphene Nanotubes Synthesized Using Ni Nanowire Templates
3	Teo Kian Jin Jason	Backside Laser Reflectance Modulation of Microscale Metal Lines
4	Meenakshi Annamalai	Characterization of nanomechanical graphene drum structures
5	Liu Xinke	Gallium Nitride Power Devices for Automotive Applications
6	Wu Baolei	Transport Study of Lateral Superconductor and Ferromagnet Junctions

Track3: Integrated Circuits & Embedded Systems E3-06-05
Track Chairs: Chen Xiaolei, Syed Rizwan

1	Tao Yong Hong	A 1-V, 81-dB, 780-KS/s, Sigma-Delta Modulator in 0.13-µm Digital CMOS Technology
2	Chen Xiaolei	Circuit design for FPGAs with time-division multiplexed (TDM) interconnects
3	Do Thi Thu Trang	Performance-Cost Analysis for H.264 Forward/Inverse Integer Transform
4	Syed Rizwan	SVARC - A Scalable and Flexible Architecture For Reconfigurable Computing

Track4: Signal Processing & New Media E3-06-06
Track Chairs: Deepu John Chacko, Li Yong Fu

1	Syed omer gilani	Fixation Durations During Scene Transitions
2	Tay Wei Liang	Overcoming Training Set Limitations in Medical Datasets: An Empirical Study of Classification Methods
3	Bong Jit Hon	Neuronal Correlates of Perceptual Salience in the Primary Visual Cortex
4	R. A. Nimesha Ranasinghe	Poetry Mix-Up: Sharing experiences through digitally extended poetry generation
5	Sangit Sasidhar	A Real Time Control Algorithm for a Myoelectric Glove for the Rehabilitation of Wrist and Elbow of stroke Patients

Track5: Communications & Networks E3-06-13
Track Chairs: Xia Fan, Borhan Jalaeian

1	Png Khiam Boon	Soft QRD-M Decoding for Coded IFDMA Systems
2	Hamed ahmadi	Subcarrier-and-Bit Allocation in Multiclass Multiuser Single-cell OFDMA Systems Using an Ant Colony Optimization based Evolutionary Algorithm
3	Yuan Haifeng	Log-Likelihood Ratios for LDPC Codes with Pilot-Symbol-Assisted BPSK Transmission over Flat Rayleigh Fading Channels
4	Torporiulian	Research for a LDPC code decoder optimized for SαS communication channels.
5	Mohammad Fazle Rabbi	Timing Jitter Tracking for OFDMA System in High Doppler Spread

SESSION 2, 12TH MAY 2011 01:00 PM – 02:45 PM

Track1: Control, Intelligent Systems & Robotics E3-06-02
Track Chairs: Nguyen Hoang Tuan Minh, Ahmed Mahmood

1	Ehsan Keikha	Multi-frequency Technique for Frequency Response Computation with Application to Servo System with Friction
2	Ng Buck Sin	Dynamic Oscillation using Under-Actuation for Biped Locomotion
3	Abhra Roy Chowdhury	Controller Synthesis for the Under-load tap-changing transformer problem – A Timed Discrete Event Supervision Approach
4	Liu Xiaomeng	Structural Controllability of Switched Linear Systems
5	Shim Vui Ann	Enhancing the Scalability of Estimation of Distribution Algorithm for Multi-Objective Optimization

Track2: Microelectronic Technologies & Devices E3-06-04
Track Chairs: Lou Liang, Wong E Lane

1	Tong Yi	Preamorphization Implant of Germanium and Carbon for Enhancing Thermal Stability of Nickel Silicide with Aluminum and Sulfur Co-implant
2	Pi Can	Investigation of bipolar resistive switching and the time-dependent SET process in silver sulfide/silver thin films and nanowire array structures
3	Zeng Dinggui	Thermomigration-induced magnetic degradation of current perpendicular to the plane GMR spin-valve read sensors operating at high current density
4	Minhong Jeun	AC magnetically induced heating characteristics and bio-compatibility of $Mn_xZn_{1-x}Fe_2O_4$ superparamagnetic nanoparticles for a hyperthermia agent application
5	Mohsen Rahmani	Pronounced Fano Resonances in Planar Symmetric Oligomers

Track3: Power & Energy Systems E3-06-05
Track Chairs: Syed Rizwan, Li Yong Fu

1	Hoang Duc Hinh	Optimization Methods for Energy Efficient Clustering Protocols in Wireless Sensor Networks
2	Parikshit Yadav	An Improved Harmony Search algorithm for optimal scheduling of the diesel generators in oil rig platforms
3	Souvik Dasgupta	Single-phase inverter control techniques for interfacing renewable energy sources with micro-grid -- Part II: Series connected inverter topology to mitigate voltage related problems along with active power flow control
4	S K Abeygunawardane	A New Probabilistic Maintenance Model in Maintenance Optimization
5	Wang Huanhuan	Improved Comprehensive Thermal Model for Power

Track4: Signal Processing & New Media E3-06-06
Track Chairs: Deepu John Chacko, Ruchir Srivastava

1	Yasamin Mokri	Modulation of gamma band local field potentials by visual saliency in the macaque primary visual cortex
2	Loke Yuan Ren	Image Inpainting with a Learned Guidance Vector Field
3	Cheng Bin	Learning with L1-Graph for Image Analysis
4	Rajesh C Panicker	An Asynchronous P300 BCI With SSVEP-Based Control State Detection
5	Nguyen Phu Binh	An Efficient Compression Scheme for 4-D Medical Images Using Hierarchical Vector Quantization and Motion Compensation

Track5: Communications & Networks E3-06-13
Track Chairs: Borhan Jalaeian, Xia Fan

1	Ganesh Neelakanta Iyer	On Handling Large-Scale Polynomial Multiplications in Compute Cloud Environments using Divisible Load Paradigm
2	Ng Hai Heng	A Bidirectional-Concurrent MAC Protocol with Packet Bursting for Underwater Acoustic Networks
3	Hu Menglan	Dynamic Scheduling of Hybrid Real-Time Tasks on Clusters
4	Wang Peijie	Feedback Power Control for the Rayleigh Channel with Packet-Error-Outage Performance Measure

SESSION 3, 12TH MAY 2011 03:00 PM – 05:00 PM

Track1: Control, Intelligent Systems & Robotics E3-06-02
Track Chairs: Syed Rizwan, Nguyen Hoang Tuan Minh

1	Li Xiaoyang	Stability Analysis of Systems with Stochastic Parametric Uncertainties
2	Zhang Zhengchen	Mutual-Reinforcement Document Summarization Using Embedded Graph Based Sentence Clustering
3	He Hongsheng	Geometrically Local Embedding in Manifolds for Dimension Reduction
4	Yohanes Daud	Pendulum-Balanced Autonomous Unicycle: Conceptual Design and Dynamics Model
5	Alireza Partovi	Modeling and Control of a Small-Scale Hybrid Aircraft
6	Zheng Song	Learning Universal Multi-view Age Estimator by Video Contexts

Track2: Microelectronic Technologies & Devices E3-06-04
Track Chairs: Deng Jun, Mridul Sakhuja

1	Lou Liang	Sensorized guidewires with MEMS tri-axial force sensor for minimally invasive surgical applications
2	Lu Hui	Investigation of zinc-blende CrTe and CrTe/MnTe exchange biased layers toward half-metallicity
3	Lam Kai Tak	Computational Study of Bilayer Graphene Nanoribbon Nanoelectromechanical Devices
4	Wang Ziqian	Thermal Transport in Suspended and Supported Few-Layer Graphene
5	Yang Hongxin	Growth-dominant SuperLattice-like Phase Change Medium and its application in lateral PCRAM
6	Niu Tianfang	A Low Phase Noise 10MHz Micromechanical Lamé-mode Bulk Oscillator Operating in Nonlinear Region

Track3: Power & Energy Systems E3-06-05
Track Chairs: Souvik Dasgupta, Mohammadreza Keshtkaran

1	Tran Duong	Energy Management and Dynamic Control in Composite Energy Storage System for micro-grid applications
2	Yu Xiaoxiao	Modeling and Control of High Power Inverters for Renewable Applications
3	Mojtaba Ranjbar	Magnetostatic interaction effects in switching field distribution of conventional and staggered bit patterned media
4	Pan Li	Nondestructive Evaluation of Extended Scatterers using Phaseless Data Subspace-based Optimization Method in the Framework of the Method of Moments
5	Ji Wei	Photovoltaic Properties in Ferroelectric BiFeO3 Thin Films

Track4: Signal Processing & New Media E3-06-06
Track Chairs: Ganesh Neelakanta Iyer, Chen Xiaolei

1	Jiang Nianjuan	Symmetric Architecture Modeling with a Single Image
2	Li Chao	Pseudo Ground Truth Based Nonrigid Registration of Myocardial Perfusion MRI
3	Wei Dong	Myocardial Segmentation of Late Gadolinium Enhanced MR Images by Propagation of Contours from Cine MR Images
4	Ruchir Srivastava	Rotation Invariant Facial Expression Recognition in Image Sequences
5	Subash Kuselan	Ambient Noise Imaging through Joint Source Localization

Track5: Communications & Networks E3-06-13
Track Chairs: Xia Dan, Borhan Jalaeian

1	Zhang Hongyu	Optimized Phase Error Tolerance of 16-Star Quadrature Amplitude Modulation in Coherent Optical Communication Systems
2	Zaineb A. Taqi Al-Qazwini	10-Gb/s Directly-Modulated Lasers Driven by 3.5-GHz-Bandwidth Duobinary Signals
3	Shoukang Zheng	Bayesian Spectrum Sensing for BPSK Modulated Primary Signals over AWGN Channels
4	Borhan Jalaeian	Location Aware CR-MAC: A multi-channel cross layered PHY-MAC Protocol for Congitive radio ad hoc networks

SESSION 4, 13TH MAY 2011 09:00 AM – 11:00 AM

Track1: Control, Intelligent Systems & Robotics E3-06-02
Track Chairs: Syed Rizwan, Nguyen Hoang Tuan Minh

1	Pramod Kumar Pisharady	Fuzzy-Rough discriminative feature selection and classification algorithm for multiple feature datasets
2	Qin Qin	Chinese stock price and volatility predictions with multiple technical indicators
3	Yong See Wei	Gait Generation for modular configurable robot using Genetic Algorithm
4	Nie Maowen	An improved algorithm for Fuzzy Weighted Average and Linguistic Weighted Average
5	Amit Kumar	A Framework for Dynamically Reconfigurable Parallel Local-Search Heuristics
6	Gu Wenfei	Facial Expression Recognition using Radial Encoding of Local Gabor Features and Classifier Synthesis

Track2: Microelectronic Technologies & Devices E3-06-04
Track Chairs: Mridul Sakhuja, Ganesh Neelakanta Iyer

1	Ajeesh Mavolil Sahadevan	Substrate bias effect on AlOx based magnetic tunnel junctions
2	Mahdi Jamali	Effect of nonadiabatic spin transfer torque on domain wall resonance frequency and mass
3	Nikita Gaur	Tailoring magnetic properties of perpendicular recording media by ion implantation
4	Chen Zaichun	Terahertz Metamaterials: Design, Fabrication, and Characterization
5	Tang Min	Laser Ablation of Metal Substrates for Super-hydrophobic Effect

Track3: Power & Energy Systems E3-06-05
Track Chairs: Mohammadreza Keshtkaran, Souvik Dasgupta

1	Thillainathan Logenthiran	Multi-Agent System for Implementing Smart Grid Concepts in an Integrated Microgrid
2	Zhao Xinjie	Simultaneous Perturbation Based Iterative Learning Algorithm And Parameter Calibration For Freeway Traffic Flow Model
3	Li Yanlin	A parallel power processing scheme with active power decoupling for solar powered AC module inverter
4	Lim Shu Fan	A Simple Digital DCM Control Scheme for Boost PFC Operating in Both CCM and DCM
5	Peng Xiong	Stochastic Unit Commitment Using Multi-Cut Decomposition Algorithm with Partial Aggregation

Track4: Microwave & RF E3-06-06
Track Chairs: Liu Huizhe, Jerrin Pathrose Vareed

1	Niow Choon Hock	Simulation of noise correlation in antenna arrays using Method of Moments
2	Azadeh Taslimi	A Loop Resonator Tunable Filter Using Phase Shifters
3	Liang Dandan	Study on the Decoupling of Stacked Phased Array Coils for Magnetic Resonance Imaging
4	Duan Zhu	Rectangular Coils Optimization for Wireless Power Transmission in Biomedical Devices
5	Ye Xiuzhu	Reconstructing perfectly electric conductors by subspace-based optimization method with continuous variables
6	Rangarajan Jegadeesan	Inductive Power links for biomedical implants

SESSION 5, 13TH MAY 2011 11:15 AM – 12:45 AM

Track1: Control, Intelligent Systems & Robotics E3-06-02
Track Chairs: Ahmed Mahmood, Nguyen Hoang Tuan Minh

1	Qiang Chen	Contextualizing Object Detection and Classification
2	Dong Xiangxu	Development of a Comprehensive Software System for Implementing Cooperative Control of Multiple Unmanned Aerial Vehicles
3	Zheng Xiaolian	Modeling and Forecasting of Financial Markets under a System Adaptation Framework
4	Deng Xin	Explore the Chemotaxis Behaviors of C. elegans Simulated by Dynamic Neural Networks: from single to integrated behaviours
5	Hong Choo Yang	A novel jumping gait generation using optimized model parameters for a bipedal robot

Track2: Microelectronic Technologies & Devices E3-06-04
Track Chairs: Wong E Lane, Lou Liang

1	Viswanathan Vignesh	Direct-Write Lithography of sub-10nm Features on Metalorganic Resists using a Helium Ion Microscope
2	Liu Zhiqiang	Ambiguity in the magnitude and direction of the derived interface dipole in lanthanum aluminate heterostructures: implications and proposed solutions
3	Shin Young Jun	Surface energy engineering of grapheme
4	Phung Thanh Hoa	Metal-Insulator-Metal Capacitors with PVD Er_2O_3 on ALD SIO_2 Achieving Excellent Performance
5	AI Zhongkai	Direct Patterning of Sub-10 nm Optical Apertures with a Helium Ion Microscope

Track3: Power & Energy Systems E3-06-05
Track Chairs: Souvik Dasgupta, Niu Tianfang

1	Shu Zhen	Latin Hypercube Sampling Techniques for Power Systems Reliability Analysis With Renewable Energy Sources
2	Vishal Sharma	Novel method of Recurrent Neural Network Learning using Nonlinear Dynamics
3	Shubham Dutta Gupta	Industrial-scale plasma silicon nitride: An excellent surface passivation and antireflection coating for silicon solar cells
4	Yu Yinquan	Diagnosis of Crack of Rotor Blades with Genetic method
5	Chen Wee Yuan	Application of Artificial Intelligence Techniques to the study of Machine Fault Signatures and Automatic Machine Condition Monitoring and Fault Diagnosis

Track4: Microwave & RF E3-06-06
Track Chairs: Jerrin Pathrose Vareed , Liu Huizhe

1	Ding Pingping	Fast Solution of Green's Functions in Multilayered Anisotropic Medium
2	Meysam Sabahialshoara	Designin a symmetrical Six-Port Junction
3	Bi Xiaojun	60GHz Unilateralized CMOS Differential Amplifier
4	Ang Teng Wah	Analysis of Microwave Polarizer using Modal and GSM Techniques
5	Liu Huizhe	Resonance relation for coated spheres with radial anisotropy