ECTI-CON 2008

Proceedings of the 2008 5th International Conference on Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology

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Maritime Park & Spa Resort, Krabi, Thailand

Organized by

Electrical Engineering/Electronics, Computer, Telecommunications and Information Technology (ECTI) Association
# Technical Program Contents

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### Computer and Information Technology

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Supannee Tanathong, Kurt T. Rudahl and Sally E. Goldin

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Wireless Intelligent Incontinence Management System using Smart Diapers

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Computerized Design for Implant Position Guide from Any Commercial Implant Planning Software
Apipon Visetvisakul, Teeraporn Kusalanukhun, Chanjira Sinhanayothin and Wichit Tharanon

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PACS (Picture Archiving Communication System) for Dentistry
Nakintorn Patanachai, Bunyarat Uyyanonvara, Chanjira Sinhanayothin, Wichit Tharanon, Palakon Sompol and Kriakomol Muandet

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Orthodontics Treatment Simulation by Teeth Segmentation and Setup
Chanjira Sinhanayothin and Wichit Tharanont

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Apipon Visetvisakul, Teeraporn Kusalanukhun, Chanjira Sinhanayothin and Wichit Tharanon

16-May-08
FPM1-1: Wireless Computer Networks and Voice Applications

13:30-13:50
Time-Optimal User Communication and Source Reachability Algorithms in a Two-Dimensional Grid Wireless Mobility Model
Pattama Longani and Sanpawat Kantabutra

13:50-14:10
A POMDP Framework for Data Acquisition in Wireless Sensor Networks
Sunisa Chobsri and Wipawee Usaha

14:10-14:30
Index Distribution Technique for Efficient Search on Unstructured Peer-to-Peer Networks
Sumeth Lerthirunwong, Naoya Maruyama and Satoshi Matsuoka

14:30-14:50
Thai Voice Application Gateway
Dararat Kaitrungrit, Matthew N. Dailey and Chai Wutiwiwatchai

15-May-08
TAM1-2: Special Session on Modern Information Security

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A Simplified Graph-based Methodology for Analyzing Firewall Rules
Yongyuth Permpoontanalarp and Sarawut Pipattanasakul

11:00-11:20
Experimental Studies on Pornographic Web Filtering Techniques
Chantana Chantrapornchai, C. Pomsombat, T. Charuenrutatsion and K. Suttirut

11:20-11:40
Naïve Bayes based Language-Specific Web Crawling
Ekkasit Srissukha, Supakpong Jinarat, Choochart Haruechayasak and Arnon Rungsawng

11:40-12:00
Optimizing RSA Encryption for ARM Microprocessor
Picha Tyoviriyakul and Surin Kittitornkun

15-May-08
TPM1-2: Natural Language Processing

14:20-14:40
Thai Q-Cor: Integrating Word Approximation and Soundex for Thai Query Correction
Niran Angkawattanawit, Choochart Haruechayasak and Sanparith Marukatat
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<td>A Fault Tolerant Approach in Cluster Computing System</td>
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<td>Meteorological Simulation Portal on the Thaigrid System</td>
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<td>The Grid Desktop for Signal Processing Research</td>
<td>Narong Prugsupachart and Tiranee Achalakul</td>
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<td>Improving Query Expansion Using Link Analysis</td>
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<td>Mobile Agent for Distributed Information Retrieval System</td>
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Web Services with Poultry Traceability System
Sutthishinhong Laokok and Urachada Ketprom

13:50-14:10
The Conceptual Framework for the Development of Thailand Economic Animal Traceability System
Suvimol Mukviboonchais, Piya Kovintawesawat and Dhech Thammasiri

14:10-14:30
Ontology Development for Pharmaceutical Tablet Production Expert System
Noppadol Chalortham, Phuriwat Leesawat, Marut Buranarach and Thephchai Supnithi

14:30-14:50
A Multimedia-Based and Time-Sensitive Interactive Web Survey for Road User Opinion on Traffic Condition
Pitipoom Posawang, Satidchoke Phosaard, Wasan Pattara-atikom and Weerapong Polnigongt

Communication

15-May-08
TAM1-3: Special Session on Antenna Technology

10:40-11:00
Monopole Antennas with Modified Minkowski Fractal Geometry
Somchay Saleekaw, Chatree Mahatthanajatuphat, Prayoot Akkaraekthalin, and Monai Krairiksh

11:00-11:20
A simple switched beam antenna system for a beacon node localization in wireless sensor networks
Denchai Worasawate, Teerasit Kasetkasem, Vuttichai Kesornpatumanun, Anukool Noymai, Phuwaphat Klongproung, and Atitaya Ampungart

11:20-11:40
Dielectric-Property Determination from Measurement of Magnitude of Reflection and Coupling Coefficients of Coupled Antennas
Jhirat Meamchu, Thunyawat Limpiti, Danai Torrungruen, Prayoot Akkaraekthalin, and Monai Krairiksh

11:40-12:00
A Reconfigurable Aperture Planar Array Antenna Based on Seperated Feeding Network

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TPM1-3: Special Session on Microwave Technology

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Phenomena of Electrical Memory Effects on the Device Level and Their Relations
Suramate Chalermwisutkul

14:40-15:00
An Alternative Approach in Deriving Associated Circle Equations for Microwave Transistor Amplifiers
Rardchawadee Silapunt and Danai Torrungruen

15:00-15:20
Miniaturized Lumped-Distributed Narrowband Ring Filter Design
Rattaya Suwanbunyaporn, Amornthep Jirathiticharoen, Ravee Phromloungsri, and Mitichai Chongcheawchamnan

15:20-15:40
Short-Distance and Near-Ground Signal Measurements in a Car Park of Wireless Sensor Network System at 433 MHz
Kittisak Phaebua, Chuwong Phongcharoenpich, Danai Torrungruen, and Jatuporn Chinrungruen

15:40-16:00
A Microstrip Folded Resonator Sensor for Measurement of Dielectric Constant
Somporn Seewattanapon, Thanakit Wattakekamthorn, Tanee Somwong, and Prayoot Akkaraekthalin

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TPM2-3: RF, Propagation and Devices

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Comparison between foF2 observations and IRI-2001 model predictions at Thailand equatorial latitude station
Noraset Wichaipanich, Thikumporn Boonchuk, Nipa Leelaruji, Narong Hemmakorn, and Pornchai Supmithi

16:40-17:00
A 2.5 Gb/s Electro-Absorption Modulator Integrated Laser Optical Transmitter in Long-Haul Dense Wavelength Division Multiplexing Transmission
Palatorn Srichan, Pattarakamon Rangsee, and Duang-rudee Worasucheep

17:00-17:20
Measurement of BCITL Parameters
Suthasinee Lamultree, Danai Torruengrueng, and Chuwong Phongcharoenpanich

17:20-17:40
A Body-Shadowing Model for Indoor UWB Communication Environments
Warapon Seesai, Monchai Chamchoy, and Sathaporn Promwong

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FAM1-3: Microwave Techniques

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Performance Evaluation of User Terminal Array Antenna (Invited Lecture)
Jun-ichi Takada

08:50-09:10
Broadband Bandpass Filters Using Slotted Stepped Impedance Resonators for Improving Upper Stopband Performances
Mongkol Meeloong, Sarawuth Chaimool, and Prayoot Akkanakthihalin

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Wideband Dual Mode Microstrip Bandpass Filters Using a New Perturbation with Notch Rectangular Slots
Surin Ahonom and Prayoot Akkanakthihalin

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Characteristics of a Microstrip Semi-Circular Patch Resonator Filter
Kittisak Phaeuba and Chuwong Phongcharoenpanich

09:50-10:10
Microwave Filter Education Supported by Wave Iterative Simulation Program
Sommart Kamklieng and Somsak Akatimagool

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Bandwidth Analysis of Dual-band Asymmetric Y-shaped Split-loaded MSA
Usa Kongmuang

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On the Use of Switched-Beam Antennas for a Beacon Node Localization in Wireless Sensor Networks
Teerasit Kasetskaem, Vuttichai Kesompatumanun, and Denchai Werasowate

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Simple Initialization Scheme for CMA Adaptive Antenna by Using Digital Beam Synthesis
Tanawut Tantisopharak, Akkarat Boonpoonga, Phaophak Sirisu, and Monai Krairiksh

11:30-11:50
Array of Quasi-Rhomboid Antenna for Ultra Wideband Applications
Sivilai Thanormsuay, Phairat Thosdee, and Chanchai Thongsopa

11:50-12:10
Microstrip-Fed Slot Antenna with Rectangular-Shaped Tuning Stub for WLAN Application
weerathep Kueathawee, chavalit Benjangkaprasert, Noppin Anantasrichai, and Toshio Wakabayashi

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FPM1-3: Antenna II

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Performance Improvement of Broad-Beam Quadratic Reflector Antenna
Vanvisa Thavivrot and Rangsan Wongsan
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<td>Wannaree Wongtrairat, Pornchai Supnithi, and Sawsad Tantaratan</td>
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<td>Wiroonsak Santipach</td>
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<td>Chaiporn Wongsathan</td>
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<td>Conjugate Gradient Method for Power Updates in CDMA Wireless Networks</td>
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<td>Vulnerability Analysis in Multicommodity Stochastic Networks by Game Theory</td>
<td>Piyanan Satayapiwat, Kalika Suksomboon, and Chaodit Aswakul</td>
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<td>Game-theoretic approach to prevent selfish path provisioning in interdomain networks</td>
<td>Pichanun Sukkhawatchan and Wipawee Usaha</td>
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Game-Theoretic Approach to Service Level Agreement for Resource Sharing
Chayakrit Charoenirawit
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FAM1-4: Protocol
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Effect of Packetization on VoIP Performance
Boonchai Ngamwongwattana
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Maximum-SNR-Based Adaptive Protocol with Subcarrier Selection for OFDM Cooperative Communications
Wanakorn Swasdio and Chaiyod Pirak
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FAM1-4-3
Revisiting the Impact of Encryption on Performance of IEEE 802.11 WLAN
Siwaruk Siwamogsathan, Kridakorn Hiranpruek, Chanin Luangyingkasut, and Songrit Srilasak
I-381

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Performance Comparison of Multicast-encouraging Explicit Rate Adjustment and Packet-pair Layered Multicast
Somnuk Puangpronpitag and Jaturapad Pratum
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PAPR Reduction in OFDM Systems Using SLM Cascade with APPR Methods
Kongsit Eupree, Sorawat Chivapreecha, kobchai Dejhan, and Chusit Pradabpet
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Real-Time Tracking Management System Using GPS, GPRS and Google Earth
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FAM2-4-3
Thai Encoding for Traffic Report System via SMS Message
Apirak Russameesawang and Phongsak Keeratiwintakorn
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Proposal of Improved PTS Method for OFDM Signal in the Multi-path Fading Channel
Pisit Boonsirimuang, Pompawit Boonsirimuang, and Tawil Paungma
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Low-Complexity Turbo Equalization Using E-BAD Detector Combine with LDPC Codes for High-Density Magnetic Recording
S. Moodleah, C. Benjangkraprasert, T. Udomsripaiboon, S. Sa-nd, and K. Janchitrapongvej
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FPM1-4: Coding and RFID
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FPM1-4-1
Design of Random Interleavers for the Variable Length of MPEG-4 Packets in Rician Fading Channels
Srijidtra Mahapakulchai and Itsaree Saparisapon
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Performance Study of Dynamic Framed Slotted ALOHA for RFID Systems
Saruanya Kaewsirisin, Pichaya Supanakoon, Sathaporn Promwong, Nikorn Sukutamantani, Urachada Ketpromand
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Effects of IEEE 802.15.1 Interference on A RFID Communication System at 2.45 GHz
Usman R-yohsae, Sathaporn Promwong, and Nikorn Sukutamantanti
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Optically Linearized Electrooptic Light Modulator using Coated Dielectric Thin Films

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Correction of Humidity Effect for Detection of Human Body Odor

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