

THE ITB'S GOLDEN ANNIVERSARY  
**International Conference on  
Rural Information and Communication  
Technology (r-ICT)**

Institut Teknologi Bandung  
Bandung, 17-18 June 2009

# CONFERENCE PROGRAM



## Wednesday, 17 June 2009

<b>08:00-08:30</b>	<b>Registration of Participants</b>	
08:30-09:00 (west hall)	Opening Ceremony	Ministry of Communication and Information, Republic of Indonesia <i>Prof. Dr. Ir. Mohammad Nuh, DEA*</i>
09:00-09:30 (west hall)	Keynote Speech 1	New Signal Processing for Smart Environment <i>Andriyan B. Suksmo, Ph.D. (ITB)</i>
09:30-10:00 (west hall)	Keynote Speech 2	Community Based Internet Deployment: Deployment and Roles of Universities and Research Institutions <i>Dr. Onno W. Purbo</i>
<b>10:00-10:30</b>	<b>Coffee Break</b>	
10:30-11:00 (west hall)	Keynote Speech 3	Secure ICT for Rural Needs and Its Research Implications <i>Ir. Budi Rahardjo, M.Sc., Ph.D. (ITB)</i>
11:00-11:30 (west hall)	Keynote Speech 4	Policy and Strategy: ICT Development in Indonesia and Its Implication on Research Needs <i>Prof. Dr. Suhono Supangkat (ITB)</i>
11:30-12:00 (west hall)	Keynote Speech 5	Indonesia's Internet History and Its Future Development Prospect <i>Joshua David Barker (Univ. of Toronto, Canada)</i>
<b>12:00-13:00</b>	<b>Lunch Break</b>	
13:00-15:00 (Technical rooms)	Technical Session 1	
<b>15:00-15:30</b>	<b>Coffee Break</b>	
15:30-17:30 (Technical rooms)	Technical Session 2	
<b>17:30-19:00</b>	<b>Preparation to Dinner</b>	

## Thursday, 18 June 2009

<b>08:00-08:30</b>	<b>Registration of Participants</b>	
08:30-10:30 (Technical rooms)	Technical Session 3	
<b>10:30-11:00</b>	<b>Coffee Break</b>	
11:00-11:45 (east hall)	Keynote Speech 4	Intelligent Computation in Multi-Robotic System <i>Prof. Andrzej Maslowski (Warsaw University of Technology, Institute of Mathematical Machines)</i>
11:45-12:30 (east hall)	Keynote Speech 5	ICT Creative Industry Based on Cultures of Society and Its Research Needs <i>Ir. Betti Alisjahbana (IBM)</i>
<b>12:30-13:30</b>	<b>Lunch Break</b>	
13:30-15:30 (west hall)	MRA Forum	
<b>15:30-16:00</b>	<b>Coffee Break</b>	
16:00-17:00 (west hall)	MRA Forum	
<b>17:00-17:30</b>	<b>Closing</b>	
<b>17:30-19:00</b>	<b>Preparation to Dinner</b>	

# Technical Session 1

Wednesday 17 June 2009, 13.00-15.00

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## TECHNICAL SESSION 1A – APPLICATIONS (1)

Venue : East Hall – Room 1  
Moderator : Huda Ibrahim

### **The Antecedents and Outcomes of E-Learning Effectiveness in the Manufacturing Industry**

*Noornina Dahlan, Loh Boon Hiang, Jaslin Md Dahlan*

### **Evaluation of e-Commerce Web Site Stickiness and its Impact on Firm Performance: Web Hosting Industry**

*Jaslin Md Dahlan, Yu Shew Ling, Noornina Dahlan*

### **Rural Communities' Information Needs and 'Portal Desa' Template**

*Huda Ibrahim, Nor Iadah Yusop, Zahurin Mat Aji, Zulkhairi Md Dahalin, Osman Ghazali, Shafiz Affendi Mohd Yusof, Mohd Nizam Saad, Mohamad Amir Abu Seman, Azman Yasin, Mohd Khairudin Kasiran, Rafidah Abd Razak*

### **PORDES: A Vertical Search Engine for Rural Society**

*Dwi H. Widyantoro, Ayu Purwarianti, Masayu L. Khodra, Yudi Wibisono*

## TECHNICAL SESSION 1B – E-LEARNING (1)

Venue : East Hall – Room 2  
Moderator : Dr. Iyas Munawar & Joko Siswanto

### **Onlineboard Learning Support System**

*Rosye Arosdiani Apip, Ana Hadiana*

### **Competencies Based Knowledge Management Model with Learning Style Approach for Empowering Rural Society**

*Joko Siswanto, Dicky Prima Satya*

### **A Conceptual Model of Indonesian Virtual Herbarium (IVH)**

*Fazat Nur Azizah, Adi Mulyanto, Inggriani Liem*

### **Pinteraktif – Learning 2.0 Platform**

*Ferry Chrisnandika, Deasy A. Putri Pane*

## TECHNICAL SESSION 1C – POLICY STUDY ON RURAL COMMUNICATION (1)

Venue : East Hall – Room 3  
Moderator : Eddy Satriya, MA & Ary Syahriar

### **Current LAPAN Program on Satellite Technology and Application Development**

*Abdul Rahman, Mohammad Mukhayadi*

### **Indonesian ICT Infrastructure for Poverty Alleviation**

*Ary Syahriar, Rizky Qinthara Syahriar*

### **Acting as a State: Open Source Development in Indonesia**

*Yuti Ariani*

### **e-Health Implementation for Rural Areas in Indonesia -Review on Data and Technology Readiness**

*Wikan Dinar Sunindyo, Soleh Udin Al Ayubi, Saiful Akbar, Fazat Nur Azizah, Putri Saptawati, Hira Laksmiwati Zoro*

## TECHNICAL SESSION 1D – SIGNAL & IMAGE PROCESSING (1)

Venue : Campus Center – Meeting Room  
Moderator : Dr. Oerip S. Santoso & Deddy Kurniadi

### **Compressive Sampling with Known Spectral Density**

*Andriyan Bayu Suksmono*

### **Adaptive Regularized Newton Algorithm for Image Reconstruction in Electrical Impedance Tomography**

*Deddy Kurniadi*

### **Precisely Iris Location Based on Point Hough Transform**

*Xiang Wan, Hyun J. Park, Eui Y. Cha*

## **A New Curvature Based Detection of Cerebral Aneurysm from 3D Medical Images**

*Hasballah Zakaria, Tati L. R. Mengko, Oerip S. Santoso*

## **TECHNICAL SESSION 1E – INFRASTRUCTURE FOR RURAL NGN (1)**

Venue : Campus Center – Seminar Room

Moderator : Arief Hamdani & A. Kurniawan

### **Random Search Codes and Implementation Model for Optical-CDMA-Based Local Area Networks**

*Nasaruddin, Tetsuo Tsujioka*

### **Propagation Model Verification using Elementary Environment Specific Method for Analyzing 802.16e System Coverage in Bandung City**

*Andito Dwi Pratomo, Legijono, Denny Sukarman, Hadi Hariyanto*

### **Implementation of Array Antenna for Footprint Adjustment on SFCW GPR Application**

*A. Kurniawan, A.A. Pramudita, A.E. Saputra, and Iskandar*

### **A Comparative Study of Interpolation Methods on Channel Estimation for Downlink OFDMA IEEE 802.16e Standard**

*Savitri Galih, Riafeni Karlina, Fifin Nugroho, Ade Irawan, Trio Adiono, Adit Kurniawan*

## **TECHNICAL SESSION 1F – INFORMATION & SYSTEM SECURITY**

Venue : Achmad Bakrie Building – Multimedia Room

Moderator : R.F. Olanrewaju & Budi Sulisty

### **Image Quality Assessment of Fast Fourier Transform Domain Watermarked Images**

*R.F. Olanrewaju, A.A. Aburas, O.O. Khalifah, A. Abdulla*

### **Software Cryptography Issues**

*Budi Rahardjo, Marisa W. Paryasto*

### **Randomness Analysis of Block Cipher Using Chaos Game Method**

*Budi Sulisty, Budi Rahardjo, Dimitri Mahayana, Carmadi Machbub*

### **Derivation of an Existing Symmetric Watermarking Technique into Its Asymmetric Version, Case Study: Wang Algorithm**

*Rinaldi Munir, Bambang Riyanto T., Sarwono Sutikno, Wiseto P. Agung*

## **TECHNICAL SESSION 1G – E-HEALTH (1)**

Venue : Achmad Bakrie Building – Biomedical Engineering Room

Moderator : Dr. Adi Indrayanto & Ratnasari Nur R.

### **Text Classification Using Support Vector Machine for Webmining Based Spatio Temporal Analysis of the Spread of Tropical Diseases**

*Fatimah Wulandini, Anto Satriyo Nugroho*

### **GQM Paradigm at Measure of System Application Reporting Online of Number Patients for Endemy Disease in Town Semarang Bases on GIS**

*Ajie Prasetyo, Eko Handoyo*

### **Design and Preliminary Result on Content-Based Image Retrieval (CBIR) System for Osteoporosis X-Ray Image Database**

*Ratnasari Nur. R, Lukito Edi. N, Thomas Sri W., Adhi Susanto, Nurokhim*

### **Teleassessment System for Geriatric Patient**

*Kusrini, Sri Hartati, Agus Harjoko, Retantyo Wardoyo*

# Technical Session 2

Wednesday 17 June 2009, 15.30-17.30

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## TECHNICAL SESSION 2A – APPLICATIONS (2)

Venue : East Hall – Room 1

Moderator : Ir. Azis Nugroho & Mohd Helmy Abd Wahab

### Data Authentication Protocol Modeling on Multilayer Data-hiding for Multilayer Protocol

*Christian Gustav*

### Flood Alert Notification System (FANoS)

*Herdawatie Abdul Kadir, Mohd Helmy Abd Wahab, Mohamad Farhan Mohamad Mohsin, Hairulazwan bin Hashim, Ahmad Nurfaqih bin Ahmad Tajuddin*

### Design and Implementation of a Software and Trainer to Simplify AT89S52 Microcontroller Programming

*Enjang A.Juanda, Yoyo Somantri, Dendy Mardiansyah*

### SMS-Based Electrical Energy Meter: A Hardware Design

*Mohd Helmy Abd Wahab, Herdawatie Abdul Kadir, Azhar Ismail, Ayob Johari, Mohamad Farhan Mohamad Mohsin*

## TECHNICAL SESSION 2B – E-LEARNING (2)

Venue : East Hall – Room 2

Moderator : Dr. Dwi H. Widyantoro & Iriany

### How Interactive Multimedia (IMM) Affect Students' Cognition in Learning Biology at The Middle and Higher Education Level?

*Fransisca Sudargo Tapilouw, Enjang Akhmad Juanda*

### Interactive Multimedia Learning Model to Improve Concept Comprehension of Special Relativity on Senior High School Students

*Ketang Wiyono, Agus Setiawan*

### Inquiry Based interactive Multimedia in Rate of Reaction to Enhance High School Students' Creative Thinking Skills

*Iriany, Liliyasi*

### ICT Based Instruction of Chemical Equilibrium Phase: Improvement of Students' Critical Thinking and Generic Science Skills

*Ijang Rohman, Liliyasi*

## TECHNICAL SESSION 2C – POLICY STUDY ON RURAL COMMUNICATION (2)

Venue : East Hall – Room 3

Moderator : Zulkhairi M.D.

### The Influence of Community Characteristics towards Telecentres Success

*Nor Iadah Yusop, Shafiz Affendi Mohd Yusof, Zahurin Mat Aji, Huda Hj. Ibrahim, Mohd. Khairudin Kasiran, Zulkhairi Md. Dahalin, Nor Farzana Abdul Ghani, Rafidah Abd. Razak, Syahida Hassan*

### Strategy for Telecentres' Sustainance

*Zulkhairi, M.D., Rafidah, A.R., Huda I., Nor-Iadah, Y., Zahurin, M.A, Shafiz-Affendi M.Y., Mohd-Khairudin, K., Nor-Farzana, A.G*

### The People Factor in Supporting Sustainability of Telecentres: A Malaysian Perspective

*Nor Farzana Abd Ghani, Nor Iadah Yusop, Zahurin Mat Aji, Mohd. Khairudin Kasiran, Zulkhairi Md. Dahalin, Huda Hj. Ibrahim, Shafiz Affendi Mohd Yusof, Syahida Hassan, Rafidah Abd. Razak*

## TECHNICAL SESSION 2D – SIGNAL & IMAGE PROCESSING (2)

Venue : Campus Center – Meeting Room

Moderator : Dr. Hendrawan & Y.B. Gunawan Sugiarta

### Face Tracking System with Haar Method and Pre-Study Face Recognition with Histogram Comparison

*Endah Sudarmilah, Adhi Susanto*

### Dual Tree Complex Wavelet Transform for Identification of Face Image

*Gunawan Sugiarta, Y.B., Riyanto, B., Hendrawan, Suhardi*

## **An Application of Handwriting Recognition System for Recognizing Student's ID and Score on the Examination Paper Using WebCam**

*Aryuanto, Yusuf Ismail Nakhoda*

## **Adaptive Fingerprint Image Defect Detection and Classification Based on Fingerprint Image Quality Analysis**

*Rahmat Syam, Mochamad Hariadi*

## **TECHNICAL SESSION 2E - INFRASTRUCTURE FOR RURAL NGN (2)**

Venue : Campus Center – Seminar Room

Moderator : Dr. Wiseto Agung & Savitri Galih

### **High Mobility Data Pilot Based Channel Estimation for Downlink OFDMA System Based on IEEE 802.16e Standard**

*Savitri Galih, Riafeni Karlina, Fifin Nugroho, Ade Irawan, Trio Adiono, Adit Kurniawan*

### **Predictive Power Control of CDMA Systems in Rayleigh Fading Channels**

*A. Kurniawan, Iskandar, Sayid Machdar*

### **High Performance Time-and-Frequency Synchronization Design for DVB-T/H System**

*Nico Surantha, Sugihartono, Amy Hamidah Salman, Trio Adiono*

### **Performance of RoF in P2P Network Using PSK and DPSK Modulation Format**

*M. Othman, S.F. Mardan, H.A. Kadir, R. Talib, N.A. Cholan, M.F.L. Abdullah, N.H. Ismail, A. Bahari*

## **TECHNICAL SESSION 2F - SEARCH TECHNOLOGIES & DATA MINING (1)**

Venue : Achmad Bakrie Building – Multimedia Room

Moderator : Dr. Putri Saptawati & Nani Yasmin

### **Located Bloom Filter**

*Agung Sedyono, Ku Ruhana Ku-Mahamud*

### **Cross-Selling's Product Determination in the Context of Analytical CRM Based on Association Rules**

*Eko K. Budiardjo, Bayu Adhi Tama*

### **Optimized Sampling with Clustering Approach for Large Intrusion Detection Data**

*Nani Yasmin, Anto Satriyo Nugroho, Harya Widiputra*

### **Knowledge Extraction from the Semantic Web**

*Bernard Renaldy Suteja, Suryo Guritno, Retantyo Wardoyo, Ahmad Ashari*

## **TECHNICAL SESSION 2G - E-HEALTH (2)**

Venue : Achmad Bakrie Building – Biomedical Engineering Room

Moderator : Oky Dwi Nurhayati

### **Statistical Analysis in Digital Mammogram Images**

*Oky Dwi Nurhayati, Adhi Susanto, Thomas Sri Widodo*

### **Chest X-ray Image Registration Using Mutual Information Criterion for Supporting Lung Diseases Analysis**

*Lucas Bonifasio Nugraha Perdana Hardjosoekanta*

### **A Preliminary Evaluation of Vector Quantization Coding Performance on Color Retinal Image**

*Agung W. Setiawan, Andriyan B. Suksmono, Tati R. Mengko*

### **Design of an Automated Acid Fast Bacilli (AFB) Identification Module to Support Sputum Smear Microscopic Examination in Tuberculosis Preliminary Casefinding**

*A. Handayani, L.I. Octovia, A.B. Suksmono, T.L.R. Mengko*

# Technical Session 3

Thursday 18 June 2009, 08.30-10.00

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## TECHNICAL SESSION 3A – APPLICATIONS (3)

Venue : East Hall – Room 1

Moderator : Dr. Achmad I. Kistijantoro & Kusuma Ayu Laksitowening

### Zachman Framework Approach in Designing Corporate Information Factory

*Kusuma Ayu Laksitowening, Bambang Riyanto*

### Modularity Framework as a New Software Framework in Enhancing Modularity in Open Source Projects

*Andi Wahyu Rahardjo Emanuel, Khabib Mustofa*

### Exchange Rate Prediction between Indonesian Rupiah and U.S. Dollar Using Transductive Learning

*Tanto Winarko, Anto Satriyo Nugroho, Harya Damar Widiputra*

### Analysis of Gen Expression and Microarray Data on Pattern Recognition Techniques: Review

*Ermatita, Sri Hartati*

## TECHNICAL SESSION 3B – E-LEARNING (3)

Venue : East Hall – Room 2

Moderator : Yenni M. Djajalaksana & Yoanes Bandung

### Assessing Web 2.0 Applications for Indonesia Distance Learning in Rural Areas

*Yenni M. Djajalaksana, Tiur Gantini, Frederic Constantianus*

### e-Learning Ecosystem Model for Rural Area in Pekanbaru

*Dadang Syarif Sihabudin Sahid, Ab. Razak Bin Che Hussin*

### ICT-based Approaches for Improving the Quality of Primary Education in Rural Areas

*Armein Z.R. Langi, Dwi H. Widyantoro, Yoanes Bandung, G.A. Putri Saptawati, Liliyasi*

### The Use of Interactive Multimedia to Enhance Students' Generic Science Skills

*Liliyasi*

## TECHNICAL SESSION 3C – POLICY STUDY ON RURAL COMMUNICATION (3)

Venue : East Hall – Room 3

Moderator : Shukri Abdullah & Surya Agustian

### A Case Study of E-Procurement System Implementation in the Procurement Branch of Logistic Department Royal Malaysia Police

*Shukri Abdullah, Mohd Nizam Saad*

### Development of a Logistics Brokering System for South Africa's Displaced Rural Residents

*Johan Maritz*

### Low-cost Highly-interoperable Multiplatform Campus Network: Experience of YARSI University

*Surya Agustian, Sandra Permana, Salman Teguh Pratista, Syarif Adam, Iswandi*

## TECHNICAL SESSION 3D – LANGUAGE PROCESSING

Venue : Campus Center – Meeting Room

Moderator : Dr. Trio Adiono & Dessy Puji Lestari

### Proper Noun Adaptation for Improving a Spoken Query-based Indonesian Information Retrieval System

*Dessi Puji Lestari, Sadaoki Furui*

### Text Document Split Pattern Browsing Based on Linguistic Knowledge of Writing Javanese Script using Natural Language Processing

*Emu Utami, Jazi Eko Istiyanto, Sri Hartati, Marsono, Ahmad Ashari*

### SIDoBI: Indonesian Language Document Summarization System

*Bowo Prasetyo, Teduh Uliniansyah, Oskar Riandi*

### Part-Of-Speech Tagger as a Language Tools Supporting Rural Need

*Syandra Sari, Herika Hayurani, Mirna Adriani, Stéphane Bressan*

## TECHNICAL SESSION 3E – SOSIOECONOMIC ASPECTS OF R-ICT

Venue : Campus Center – Seminar Room  
Moderator : Leo Aldianto, MBA, MSAE & Zuriani Ahmad Zukarnain

**On Techno entropy: Considering Socio-Cultural Dimension of the ICT Implementation in Rural Area**  
*Ruly Darmawan*

**Factors That Influence Ethical Behavior of Cyber Cafe User Based on the Theory of Planned Behavior**  
*Zuriani Ahmad Zukarnain, Huda Ibrahim, Zulkhairi Md Dahalin, Nor Iadah Yusop, Rafidah Abd Razak, Wan Rozaini Sheik Osman*

**Operability and Reliability Success Factors of Rural Telecommunication Sets**  
*Suhardi, Ayu Wulandari*

## TECHNICAL SESSION 3F – SEARCH TECHNOLOGIES & DATA MINING (2)

Venue : Achmad Bakrie Building – Multimedia Room  
Moderator : Hira Laksmiwati, M.Sc. & Abdurrahman

**Frequent Episode Rules Using Compressed Frequent Pattern Data Tree Structure**  
*Rana Loda Tama, Souza Nurafrianto W.P, Alva Erwin, Harya Damar Widiputra*

**Dynamic Average of Inter-reference Time as a Metric of Web Cache Replacement Policy**  
*Agung Sedyono*

**cAnt-WUM : Ant Colony Classification Algorithms Coping Continuous Attributes For Web Usage Mining**  
*Abdurrahman, Bambang Riyanto T., Rila Mandala, Rajesri Govindaraju*

## TECHNICAL SESSION 3G – E-GOVERNMENT

Venue : Achmad Bakrie Building – Biomedical Engineering Room  
Moderator : Dr. T.A. Sanny & Jazi Eko Istiyanto

**E-Government Implementation Strategy toward Information Technology (IT) Governance Environment**  
*Jazi Eko Istiyanto, Purwo Santoso, Aris Puji Widodo*

**Building Public Trust through Public Participation Using E-Governance**  
*Jazi Eko Istiyanto, Purwo Santoso, Vitri Tundjungsari*

**Overview E-Government User profile and Digital Divide in Developing Country**  
*Dinar Mutiara Kusumo Nugraheni*