

IEEE Healthcom 2008 Final Program

Sunday July 6, 2008 (Venue: Grand Plaza Park Hotel)

- 6:30 PM Registration
6:30 – 8:30 PM Welcome Reception

Monday July 7, 2008 (Venue: Biopolis, Matrix Building)

- 8:00 AM Registration
9:20 – 9:30 AM Welcome Address (Exploration)
9:30 – 10:30 AM

Keynote 1: A Road to Disease Prevention through Telemedicine and eHealth (Exploration), *Prof. Luis Kun, Senior Research Professor of Homeland Security, National Defense University / IRMC, Fort Lesley McNair Washington, DC, USA*

10:30 – 11:00 AM Tea Break

11:00 AM – 12:40 PM

Paper Session 1: IT Infrastructure for Healthcare (Breakthrough)

- Comparative technical evaluation of various communication media used for telemedical video-conference, *Indra Pratap Singh, Repu Daman Chand, Saroj Mishra*
- Apply Biologically - Inspired Topology to Disaster Communications, *Isao Nakajima, Hiroshi Juzoji, Toshihiko Kitano, Yuichi Ishibashi*
- A Mobile Healthcare Questionnaire Service Framework using Composite Web Services, *Nam Joon, Park, Minkyu Lee, Dong-Soo Han, Chulho Cho, Jaegel Cho*
- Physio-Grid System for Advanced Identification of Heart Disease, *Chan-Hyun Youn, Chang-Hee Han, Youngjoo Han, Soon Sung Kwon, EunBo Shim*
- Dynamic Group Management as an Enhancement to Emergency Health Care Using Policies, *Jens Schmutzler, Christopher Foley, Stefan Michaelis, Sven van der Meer, Christian Wietfeld*

11:00 AM – 12:40 PM

Paper Session 2: Geriatrics and Eldercare (Discovery)

- IC tag monitoring system identifies an unusual pattern of toilet use by a patient with vascular dementia, *Miyae Yamakawa, Kiyoko Makimoto, Chieko Greiner, Mizue Suzuki, Shunji Sudo, Nobuyuki Ashida*
- Automatic detection of Activities of Daily Living from Detecting and Classifying Electrical Events on the Residential Power Line, *Marc Berenguer, M. Giordani, F. Giraud-By, Norbert Noury*

- Smart Wireless Continence Management System for Patients with Dementia, *Aung Aung Phyo Wai, Victor Foo Siang Fook, Maniyeri Jayachandran, Jit Biswas, Song Zheng, Chris Nugent, Maurice Mulvenna, Jer-En Lee, Philip Yap*
- Eating Activity Primitives Detection - a Step Towards ADL Recognition, *Andrei Tolstikov, Jit Biswas, Chen Khong Tham, Philip Yap*
- Approaches and Principles of Fall Detection for Elderly and Patient, *Xinguo Yu*

12:40 – 2:00 PM Lunch

2:00 – 3:40 PM

Paper Session 3: Telemedicine Applications (Breakthrough)

- Telemedicine Information Monitoring System, *Chih-Jen Hsu, Chiou Yii-Tay, Chang Cheng-Lij, Hwang JIng-Huei, Jone-Chiung*
- A Tele-Ophthalmology System Based on Secure Video-conferencing and White-Board, *Shengsheng Yu, Zhuo Wei, Robert H. Deng, Haixia Yao, Zhigang Zhao, Lek Heng Ngoh, Yongdong Wu*
- Nationwide Tele-Oncology network in India - A framework for implementation, *Sudhamony S Binu, P J Satheesh, G Issac Niwas, Swami doss, Sudalaimani C, Nandakumar K, Muralidharan V, Baljit Singh Bedi*
- Innovative Platform for Tele-Physiotherapy, *Victor Foo Siang Fook, Sum Zhuo Hao, Aung Aung Phyo Wai, Maniyeri Jayachandran, Jit Biswas, Siew Yee Lee, Philip Yap*
- Application of tele-Ultrasound in Emergency Medical Services, *Mei-Ju Su, Huei-Ming Ma, Chow-In Ko, Wen-Chu Chiang, Chih-Wei Yang, Sao-Jie Chen, Robert Chen, Heng-Shuen Chen*

2:00 – 3:40 PM

Paper Session 4: Knowledge Management and Ontology in Healthcare (Discovery)

- Design and Implementation of a Knowledge-based Application in Specimen Collection, *Danny C.C. Poo, Sunil K. Sethi, Anil K. Ratty*
- An Ontology-based Framework for Managing Semantic Interoperability Issues in e-Health, *Pronab Ganguly, Subhagata Chattopadhyay, Nandan Paramesh, Pradeep Ray*
- Management of Mobile Social Network Services for Families with Developmental Delay Children, *Li-Der Chou, Nien-Hwa Lai, Yen-Wen Chen, Yao-Jen Chang, Lien-Fu Huang, Wen-Ling Chiang, Hung-Yi Chiu, Jyun-Yan Yang*
- Assessment of User Satisfaction with an Internet-based Integrated Patient Education System for Diabetes Management, *YuTing Yeh, Shwu-Jiuan Wu, Chien-Tsai Liu, Ting-I Lee*
- A Framework for Personalized Healthcare Service Recommendation, *Choon-oh Lee, Minkyu Lee, Dong-Soo Han, Suntae Jung, Jaegel Cho*

3:40 – 4:00 PM Tea Break

4:00 – 6:10 PM

Discussion Panel: e-Health in Developing Countries, Part I (Breakthrough)

- Assessment of eHealth for Health Care Delivery, *Dr Yunkap Kwankam*
- Telemedicine Technology in Cancer Care - Developing Country Perspective, *Prof. Saroj K. Mishra*

- Framework for Information Technology Infrastructure for Health for Developing Countries – Indian Effort, *Baljit Singh Bedi*
- Telemedicine to integrate primary and scarce secondary services in developing regions, *Prof. Ronald Merrel*
- Design and Implementation of a Training Program for Introducing Information and Communications Technology to Rural Health Workers in a Developing Country, *Dr. Alvin B. Marcelo*

4:00 – 5:00 PM

Paper Session 5: Security and Privacy in Healthcare (Discovery)

- A Web-Based Wireless Mobile System Design and Implementation of Security and Privacy Framework for u-Healthcare, *Weider D. Yu, Roopa Gummadikayala, Sriram Mudumbi*
- Secure WBAN Using Rule-Based IDS With Biometrics And MAC Authentication, *Kuppa Mohanram Sharmilee, Rajeswari Mukesh, A. Damodaram, V. Subbiah Bharathi,*
- Privacy-Preserving Electronic Health Record Linkage Using Pseudonym Identifiers, *Bandar Alhaqbani, Colin Fidge*

5:00 – 6:10 PM

Short Paper Session I (Discovery)

- Highly-Interactive and User-Friendly Web Application for People with Diabetes, *Francois Andry, Larry Freeman, John Gillson, John Kienitz, Michelle Lee, Goutham Naval, Daren Nicholson*
- Training Program for e-Health in Tokai University, *Yuichi Ishibashi, Hiroshi Juzoji, Toshihiko Kitano, Susumu Chida, Yasuhiko Kawasumi, Isao Nakajima*
- Ride Comfort Analysis based on Tilting Train Simulator for e-Health Train, *Youngbum Lee, Kwangsoo Shin, Yongsoo Song, Sungho Han, Myoung-Ho Lee*
- Development of the support system to help team care for home care, *Sagawa Setsuko, Ashida Nobuyuki, Nasu Yasuhiro, Suto Shunji, Tsuji Masatsugu*
- Security and Privacy for WiMoHS (Wireless Mobile Healthcare System), *Weider Yu, Vijayalakshmi Jothiram*
- A Case Report on an e-Learning for Health Initiative in the Philippines, *Joselito Montalban, Alvin Marcelo*
- Comparison and Optimization of Methods for Intra-Disc Vascular Architecture Extraction, *J. Liu, D.W.K. Wong, K. T. Ching, K. L. Chan, J.H. Lim, N. M. Tan, H. Li, T. Y. Wong*

Tuesday July 8, 2008 (Venue: Biopolis, Matrix Building & ACM)

9:00 – 10:00 AM

Keynote 2: e-Health from the hands of patients (Exploration), *Prof. Yu-Chuan (Jack) Li, President, Asia Pacific Assoc for Med Info, National Yang-Ming University, Taipei, Taiwan*

10:00 – 10:30 AM **Tea Break**

10:30 AM – 12:30 PM

Paper Session 6: e-Health (Breakthrough)

- Assistive Care Loop with Electronic Maternity Records, *Doan Hoang, E. Lawrence, N.F. Ahmad, V. Balasubramanian, C. Homer, M. Foureur, N. Leap*
- A Framework for Assessing ICT Preparedness for e-Health Implementation, *Subhagata Chattopadhyay, Junhua Li, Lesley Land, Pradeep Ray*
- Information and Communications Technology Needs Assessment of Philippine Rural Health Physicians, *Joselito M. Montalban, Alvin B. Marcelo*
- An Approach for E-health System Assessment & Specification, *Junhua Li, Lesley Pek Wee Land, Subhagata Chattopadhyay, Pradeep Ray*
- An Empirical Analysis of Reduction of Medical Expenditures by eHealth System: Further Results, *Yuji Akematsu, Masatsugu Tsuji, Fumio Taoka*
- Challenging interoperability and bandwidth issues in national e-Health strategies by a bottom-up approach: Establishing a performant IT infrastructure network in a Middle East State, *Thomas Grechenig, Barbara Tappeiner, Anna Wujciow*

10:30 AM – 12:30 PM

Paper Session 7: Sensors and Bio Signal Processing (Discovery)

- A Novel Wearable ECG Monitoring System Based on Active-Cable and Intelligent Electrodes, *Geng Yang, Jian Chen, Ying Cao, Hannu Tenhunen, Li-Rong Zheng*
- Non-Intrusive Respiratory Monitoring System using Fiber Bragg Grating Sensor, *Victor Foo Siang Fook, Kng Poh Leong, Emily Hao Jianzhong, Maniyeri Jayachandran, Aung Aung Phyoo Wai, Jit Biswas, Weisi Lin, Philip Yap*
- Bayesian Classification for Bed Posture Detection Based on Kurtosis and Skewness Estimation, *Chi-Chun Hsia, Yu-Wei Hung, Yu-Hsien Chiu, Chia-Hao Kang*
- Real-time QRS Detection Method, *Huabin Zheng, Jiankang Wu*
- Detection of Activities for Daily Life Surveillance: Eating and Drinking, *Sen Zhang, Marcelo, Ang, Jr, Wendong Xiao, Chen Khong Tham*
- Gaussian Particle Filter for Tracking Hip Angle in Gait Cycles, *Zhiqiang Zhang, Jiankang Wu, Zhipei Huang*

12:30 – 1:30 PM **Lunch**

1:30 – 2:00 PM

Poster Session (Q&A)

- Studying on Satellite Blocking Rate Depending on Road Width, *Toshihiko Kitano, Hiroshi Juzoji, Isao Nakajima*
- Klauder wavelet based QRS signal variability analysis in Electrocardiograms, *Issac Niwas Swami doss, Sudhamony S, Nandakumar K*
- Patent Issues on the Cooperation between Medical Science and Technology, *Yasumitsu Tomioka, Hiroshi Juzoji, Isao Nakajima*
- Large Margin Mixture of AR models for Abnormal ECG pattern detection/diagnosis, *Venkataramana Kini*
- The Ubiquitous Health Smart Home - An attempt to correlate the human activity with the direct assessment of the health status, *Norbert Noury, Pierre Rumeau, J. Belmin, F. Piette*

- Patient-and-Family-Centered Intelligent Medical Social Work Information System, *Tsung Yu Chuang, Feipei Lai, Yung-Ching Weng, Hsieh sung huai*
- Design Considerations of Body Sensor Networks, *Buddhika De Silva, Anirudh Natarajan, Mehul Motani, Kee Chaing Chua*
- iPCA: An Integration Information System for Patient Controlled Analgesia, *Shu-Fen Yang, Tien-Hsiung Ku, Hung Shan Wu, Shih-Chang Huang, Rong-Hong Jan*
- Grid Workflow-Driven Healthcare Platform for Collaborative Heart Disease Simulator, *Jay Dong, Hyewon Song, Chan-Hyun Youn, EunBo Shim*
- Long Term Heart Rate Variability Rhythms of Overweight and Obese High School Students, *Desok Kim, Yunhwan Seo, Sookhyun Kim, Chan-Hyun Youn, Suntae Jung*
- A Discussion of Security requirements and issues in Healthcare information systems, *Rehab AlNemr, Christoph Meinel*

2:00 – 3:40 PM

Paper Session 8: Healthcare IT (Breakthrough)

- A method for supporting at-home fitness exercise guidance and at-home nursing care for the elders - Video-based simple measurement system, *Ryuichi Ayase, Terumasa Higashi, Satoru Takayama, Setsuko Sagawa, Nobuyuki Ashida*
- Patent Issues on Telemedicine in eHealth, *Yasumitsu Tomioka, Isao Nakajima, Hiroshi Juzoji, Toshihiko Kitano*
- Healthcare Kiosk - Next Generation Accessible Healthcare Solution, *Anubha Verma, Harsh Dhand, Abhijit Shaha*
- Ignorance, experimentation, redundancy or active management? Organizational approaches to Mobile Information and Communication Technology [MICT] integration with existing Hospital IT, *Henrique MG Martins, Matthew R. Jones*
- Mobile Target Tracking for Healthcare Applications: Trade-offs between Accuracy and Energy, *Mingding Han, Ghasem Naddafzadeh Shirazi, Peijie Wang, Chen Khong Tham*

2:00 – 3:40 PM

Paper Session 9: Communication Technology in Mobile Healthcare (Discovery)

- Power- and Delay-Aware Mobile Application-Data Flow Adaptation: the MobiHealth System Case Study, *Katarzyna Wac, Mortaza Bargh, Arjan Peddemors, Pravin Pawar, Bert-Jan van Beijnum, Richard Bults*
- A Study on Intra-body Communication for Personal Healthcare Monitoring System, *Abdullah Alshehab, Nao Kobayash, Ryosuke Kikuchi, Jordi Ruiz, Shigeru Shimamoto, Hiroshi Ishibashi*
- A Platform for Personalized Mobile u-Health Application Design and Development, *Minkyu Lee, Byeongwoo Kang, Dong-Soo Han, Suntae Jung, Chulho Cho*
- Performance of Multi User Detector based receivers for UWB Body Area Networks, *Puduru Reddy, Viswanath Ganapathy*

3:40 – 4:00 PM Tea Break

4:00 – 6:00 PM

Short Paper Session II (Breakthrough)

- Use of Clinical Bioinformatics in the development of the GORGS (Gastrointestinal Oncology Research Group of Singapore) initiative in an Asian context, *James Mah, Mei Ling Chong, Ju Chen, Xiao Hui Li, Pheng Pheng Khoo, Hui Ying Soh, Simon Yew Kuaung Ong, Oss A Soo, Sok Lian Cheong, Chung Yip Chan, Manuel Salto-Tellez, Richie Soong*
- A physical telerehabilitation system based on new generation web services, *Pedro A. de-Alarcon, Luis A. Curiel, Josep Maria Muniesa*
- Okinawa Declaration on Telemedicine (Asia Pacific Telemedicine Initiative), *Isao Nakajima, Leonid Androuchko, Yasumitsu Tomioka, Hiroshi Juzoji*
- Intelligent Fusion in Automated Glaucoma Detection, *Wing Kee Damon Wong, Jimmy Liu, Joo-Hwee Lim, Xiao Jia, Yin Fengshou, Huiqi Li, Wei Xiong, Tien Yin Wong*
- Solutions for the Sustainable eHealth Operation in Pacific Islands, *Hiroshi Juzoji, Isao Nakajima, Yuichi Ishibashi, Toshihiko Kitano*
- The Cardiac Songstress: Using Heart Fractals to Produce Heart Song for Long Term Cardiac Monitoring, *Thomas Chee Tat Ho, Xiang Cheng, Eng Thiam Lim*
- The Effects of Climate Change on the Demands of the Smart Clothing Functions in Hiking, *Ching Li*
- Geometric Poincare Plot Analysis for Cardiac Disease Estimation, *Chan-Hyun Youn, Kim Jinho, Desok Kim, Woo Ram Jung, Dong-Hyun Kim, Sung-Hwan Yoo*
- Prediction of Atrial Fibrillation Onsets by Multiple Formulas based on Long Term Variation of Heart Rate Variability, *Desok Kim, Yunhwan Seo, Chan-Hyun Youn*
- Users' Perception toward Smart Home Healthcare Technologies-a Survey in Singapore, *Wei Kiat Koh, Jamie Ng, Alvin Wong, Daniel Yap, Zelia Tay, Martin G. Helander*

4:00 – 6:00 PM

Discussion Panel: e-Health in Developing Countries, Part II (Discovery)

- E-learning Technology in Healthcare - Indian case study, *Prof. Saroj K. Mishra*
- Comparative evaluation of ehealth in developing countries: A Case Study, *Prof. Pradeep Ray, Dr. Subhagata Chattopadhyay*
- Evaluation of an SMS-based Telemedicine Service in the Philippines, *Dr. Alvin B. Marcelo*
- Presentation on Asia Pacific u-Health Research Centre (APuHC) in Kolkata, India, *Subir Choudhury, Shankarlal Banerjee, Asim Bardhan*
- Some experiences with Telemedicine services in Eastern India, *Subhranil Som, Goutam Bhattacharyya*

7:30 – 10:30 PM Conference banquet, Asian Civilization Museum

Wednesday July 9, 2008 (Venue: Biopolis, Matrix Building)

(Breakthrough)

9:00 – 10:30 AM

Health IT Management Workshop

10:30 – 11:00 AM Tea Break

11:00 M – 12:30 PM

Health IT Management Workshop (continued)

12:30 – 1:30 PM Lunch

1:30 – 3:00 PM

Pandemics Workshop

3:00 – 3:30 PM Tea Break

3:30 – 5:00 PM

Pandemics Workshop (continued)

(Discovery)

9:00 – 10:30 AM

Rehab Workshop

10:30 – 11:00 AM Tea Break

11:00 M – 12:30 PM

Rehab Workshop (continued)

12:30 – 1:30 PM Lunch

1:30 – 3:00 PM

Geriatrics Workshop

3:00 – 3:30 PM Tea Break

3:30 – 5:00 PM

Geriatrics Workshop (continued)

(Exploration)

9:00 – 10:30 AM

HL7 Workshop

10:30 – 11:00 AM Tea Break

11:00 M – 12:30 PM

HL7 Workshop (continued)

12:30 – 1:30 PM Lunch

1:30 – 3:00 PM

HL7 Workshop (continued)

3:00 – 3:30 PM Tea Break

3:30 – 5:00 PM

HL7 Workshop (continued)

(Creation)

9:00 – 10:30 AM

UWB Sentient Computing for Healthcare Applications Workshop

10:30 – 11:00 AM Tea Break

11:00 M – 12:30 PM

UWB Sentient Computing for Healthcare Applications Workshop (continued)

12:30 – 1:30 PM Lunch

End!

FINAL PROGRAM FOR IEEE HEALTHCOM 2008

Program-At-A-Glance

| Sunday, 6 July 2008 | | |
|------------------------|---|--|
| 18:30 | Registration | |
| 18:30 – 20:30 | Welcome Reception @ Grand Plaza Park Hotel | |
| Monday, 7 July 2008 | | |
| Time/Venue | Breakthrough | Discovery |
| 08:00 | Registration | |
| 09:20 – 09:30 | Welcome Address @ Exploration | |
| 09:30 – 10:30 | Keynote 1: A Road to Disease Prevention Through Telemedicine and e-Health @ Exploration <i>Prof. Luis Kun, Senior Research Professor of Homeland Security, National Defense University / IRMC, Fort Lesley McNair Washington, DC, USA</i> | |
| 10:30 – 11:00 | Morning Break | |
| 11:00 – 12:40 | Paper Session 1: IT Infrastructure for Healthcare Chairs: Prof. Weider Yu and Mr. Foo Siang Fook Victor | Paper Session 2: Geriatrics and Eldercare Chairs: Prof. Norbert Noury and Mr. Aung Aung Phyo Wai |
| 12:40 – 14:00 | Lunch Break | |
| 14:00 – 15:40 | Paper Session 3: Telemedicine Applications Chairs: Prof. Heng-Shuen Chen and Dr. Louis Shue | Paper Session 4 Knowledge Management and Ontology in Healthcare Chairs: Prof. Henrique Martins and Mr. Jayachandran Maniyeri |
| 15:40 – 16:00 | Evening Break | |
| 16:00 – 17:00 | Discussion Panel: e-Health in Developing Countries, Part I Chairs: Prof. Saroj K. Mishra and Prof. Ronald Merrell | Paper Session 5: Security and Privacy in Healthcare Chairs: Prof. Danny Poo and Dr. Yu Xinguo |
| 17:00 – 18:10 | | Short Paper Session I Chairs: Mr. Foo Siang Fook Victor and Dr. Jit Biswas |
| Tuesday, 8 July 2008 | | |
| Time/Venue | Breakthrough | Discovery |
| 09:00 – 10:00 | Keynote 2: e-Health from the Hands of Patients @ Exploration <i>Prof. Yu-Chuan (Jack) Li, President, Asia Pacific Assoc for Med Info, National Yang-Ming University, Taipei, Taiwan</i> | |
| 10:00 – 10:30 | Morning Break | |
| 10:30 – 12:30 | Paper Session 6: e-Health Chairs: Prof. Pradeep Ray and Mr. Lim Chai Seng | Paper Session 7: Sensors and Bio Signal Processing Chairs: Prof. Desok Kim and Dr. Emily Hao Jian Zhong |
| 12:30 – 13:30 | Lunch Break | |
| 13:30 – 14:00 | Poster Session (Q&A)@ Foyer Chairs: Mr. Jayachandran Maniyeri and Mr. Aung Aung Phyo Wai | |
| 14:00 – 15:40 | Paper Session 8: Healthcare IT Chairs: Dr. Subhagata Chattopadhyay and Dr. Paul Wang | Paper Session 9 Communication Technology in Mobile Healthcare Chairs: Prof. Isao Nakajima and Dr. Jit Biswas |
| 15:40 – 16:00 | Evening Break | |
| 16:00 – 18:00 | Short Paper Session II Chairs: Dr. Jit Biswas and Mr. Foo Siang Fook Victor | Discussion Panel: e-Health in Developing Countries, Part II Chairs: Prof. Ronald Merrell and Prof. Saroj K. Mishra |
| 19:30 – 22:30 | Conference Banquet @ Asian Civilization Museum | |
| Wednesday, 9 July 2008 | | |
| Time/Venue | Breakthrough | Discovery |
| 09:00 – 10:30 | Health IT Management Workshop | Rehab Workshop |
| Time/Venue | Exploration | Creation |
| 09:00 – 10:30 | HL7 Workshop | UWB Sentient Computing for Healthcare Applications Workshop |
| 10:30 – 11:00 | Morning Break | |
| Time/Venue | Breakthrough | Discovery |
| 11:00 – 12:30 | Health IT Management Workshop (Continued) | Rehab Workshop (Continued) |
| Time/Venue | Exploration | Creation |
| 11:00 – 12:30 | HL7 Workshop (Continued) | UWB Sentient Computing for Healthcare Applications Workshop (Continued) |
| 12:30 – 13:30 | Lunch Break | |
| Time/Venue | Breakthrough | Discovery |
| 13:30 – 15:00 | Pandemics Workshop | Geriatrics Workshop |
| Time/Venue | Exploration | |
| 13:30 – 15:00 | HL7 Workshop (Continued) | |
| 15:00 – 15:30 | Evening Break | |
| Time/Venue | Breakthrough | Discovery |
| 15:30 – 17:00 | Pandemics Workshop (Continued) | Geriatrics Workshop (Continued) |
| Time/Venue | Exploration | |
| 15:30 – 17:00 | HL7 Workshop (Continued) | |