

Preface

The International Conference Series on Health Information Science (HIS) provides a forum for disseminating and exchanging multidisciplinary research results in computer science/information technology and health science and services. It covers all aspects of health information sciences and systems that support health information management and health service delivery.

The Fourth International Conference on Health Information Science (HIS 2015) was held in Melbourne, Australia, during May 28 – 30, 2015. Founded in April 2012 as the International Conference on Health Information Science and their Applications, the conference continues to grow to include an ever broader scope of activities. The main goal of these events is to provide international scientific forums for exchange of new ideas in a number of fields that interact in-depth through discussions with their peers from around the world. The scope of the conference includes: (1) medical/health/biomedicine information resources, such as patient medical records, devices and equipments, software and tools to capture, store, retrieve, process, analyze, and optimize the use of information in the health domain, (2) data management, data mining, and knowledge discovery, all of which play a key role in decision making, management of public health, examination of standards, privacy and security issues, (3) computer visualization and artificial intelligence for computer-aided diagnosis, and (4) development of new architectures and applications for health information systems.

The conference has solicited and gathered technical research submissions related to all aspects of the conference scope. All the submitted papers in the proceeding were peer reviewed by at least three international experts drawn from the Program Committee. After the rigorous peer-review process, a total of 20 full papers and 5 short papers among 45 submissions were selected on the basis of originality, significance, and clarity and were accepted for publication in the proceeding. The authors were from 12 countries, including Australia, China, Finland, Germany, Malaysia, Morocco, Saudi Arabia, Sweden, Switzerland, Pakistan, the UK, and the USA. Some papers will be invited to submit the extended versions of their papers to a special issue of the Health Information Science and System Journal, published by BioMed Central (Springer) and the World Wide Web Journal.

The high quality of the program - guaranteed by the presence of an unparalleled number of internationally recognized top experts - can be assessed when reading the contents of the proceeding. The conference will therefore be a unique event, where attendees will be able to appreciate the latest results in their field of expertise, and to acquire additional knowledge in other fields. The program has been structured to favor interactions among attendees coming from many different horizons, scientifically, geographically, from academia and from industry.

We would like to sincerely thank our keynote and invited speakers:

- Professor Lei Wang, Deputy Director of the Institute of Biomedical and Health Engineering, Shenzhen Institutes of Advanced Technology, China;
- Associate Professor Jinyan Li, Faculty of Engineering and IT, University of Technology Sydney, Australia;
- Professor Rezaul Begg, College of Sport and Exercise Science, Victoria University, Australia;
- Professor Lizhu Zhou, Department of Computer Science and Technology, Tsinghua University, China;
- Professor Michael Steyn, UQ Centre for Clinical Research, University of Queensland, Australia

Our thanks also go to the host organization, Victoria University, Australia; the support of the following research funding Australian Research Council Linkage Project LP100200682 and National Natural Science Foundation of China (No. 61332013). Finally, we acknowledge all those who contributed to the success of HIS 2015 but whose names were listed here.

May 2015

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Kendall Ho
Daniel Zeng
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Rui Zhou
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Table of Contents

Reality mining in eHealth	1
<i>Peter Wlodarczak, Jeffrey Soar, and Mustafa Ally</i>	
Analysis and comparison of the IEEE 802.15.4 and 802.15.6 wireless standards based on MAC layer	7
<i>Renwei Huang, Zedong Nie, Changjiang Duan, Yuhang Liu, Liya Jia, and Lei Wang</i>	
Securing Electronic Medical Record and Electronic Health Record Systems through an Improved Access Control	18
<i>Pasupathy Vimalachandran, Hua Wang, and Yanchun Zhang</i>	
Supporting Frontline Health Workers through the Use of a Mobile Collaboration Tool	27
<i>Jane Li, Leila Alem, and Weidong Huang</i>	
Canonical document for medical data exchange	33
<i>Sanae Mazouz, Ouamah Mohammed Cherkaoui Malki, and El Habib Nfaoui</i>	
Identifying Candidate Risk Factors for Prescription Drug Side Effects using Causal Contrast Set Mining	43
<i>Jenna Reps, Zhaoyang Guo, Haoyue Zhu, and Uwe Aickelin</i>	
Analyzing Sleep Stages in Home Environment based on Ballistocardiography	54
<i>Hongbo Ni, Tingzhi Zhao, Xingshe Zhou, Zhu Wang, Lei Chen, and Jun Yang</i>	
Heart Rate Variability Biofeedback Treatment for Post-Stroke Depression Patients: A Pilot Study	67
<i>Xin Li, Tong Zhang, Luping Song, Guigang Zhang, and Chunxiao Xing</i>	
A New Approach for Face Detection based on Photoplethysmographic Imaging	78
<i>He Liu, Tao Chen, Qingna Zhang, and Lei Wang</i>	
Biometrics Applications in e-Health Security: A Preliminary Survey	90
<i>Ebenezer Okoh and Ali Ismail Awad</i>	
Developing a health information systems approach to a novel student health clinic: meeting the educational and clinical needs of an interprofessional health service	102

<i>James Browne, Aileen Escall, Andi Jones, Maximilian de Courten, and Karen T. Hallam</i>	
A stable gene subset selection algorithm for cancers	108
<i>Juanying Xie and Hongchao Gao</i>	
Toward establishing a comprehensive public health service platform for chronic disease management and medication in China: A practice in building a smart hypertension medical system	120
<i>Yuncheng Hua, Jue Xie, Lei Liu, and Anjun Chen</i>	
TeenChat: A Chatterbot System for Sensing and Releasing Adolescents Stress	130
<i>Jing Huang, Qi Li, Yuanyuan Xue, Taoran Cheng, Shuangqing Xu, Jia Jia, and Ling Feng</i>	
Ethical Quality in eHealth: A Challenge with Many Facets	142
<i>Marjo Rissanen</i>	
Experiences in Developing and Testing an Ambient Assisted Living Course for Further Education	151
<i>Ilvio Bruder, Andreas Heuer, Thomas Karopka, Juliane Schudt, and Kerstin Kosche</i>	
Prognostic Reporting of p53 Expression by Image Analysis in Glioblastoma Patients: Detection and Classification	162
<i>Mohammad F. Ahmad Fauzi, Hamza N. Gokozan, Christopher R. Pierson, Jose J. Otero, and Metin N. Gurcan</i>	
Identification of Schizophrenia-Associated Gene polymorphisms using Hybrid Filtering Feature Selection with Structural Information	171
<i>Yingying Wang, Zichun Zeng, and Yunpeng Cai</i>	
Mobile Clinical Scale Collection System for In-hospital Stroke Patient Assessments Using Html5 Technology	182
<i>Furu Xiang, Wenxuan Guan, Xingxian Huang, Xiaomao Fan, Yunpeng Cai, and Haibo Yu</i>	
Comparative evaluation of two systems for integrating biometric data from self-quantification	193
<i>Bibin Punnoose and Kathleen Gray</i>	
Investigating Various Technologies Applied to Assist Seniors	199
<i>Pouria Khosravi, Amir Hossein Ghapanchi, and Michael Blumenstein</i>	

Characteristics of research on the application of three-dimensional immersive virtual worlds in health	211
<i>Reza Ghanbarzadeh, Amir Hossein Ghapanchi, and Michael Blumenstein</i>	
Trend Prediction of Biomedical Technology by Semantic Analysis	223
<i>Xiaomeng Sun, Kexu Zhang, Peng Nan, and Lei Liu</i>	
SMS for Life in Burundi and Zimbabwe: A Comparative Evaluation	230
<i>Gerardo Luis Dimaguila</i>	
Healthcare Data Validation and Conformance Testing Approach Using Rule-Based Reasoning	242
<i>Hira Jawaid, Khalid Latif, Hamid Mukhtar, Farooq Ahmad, and Syed Ali Raza</i>	
Author Index	249

Reality mining in eHealth

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Securing Electronic Medical Record and Electronic Health Record Systems through an Improved Access Control

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Canonical document for medical data exchange

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Identifying Candidate Risk Factors for Prescription Drug Side Effects using Causal Contrast Set Mining

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Analyzing Sleep Stages in Home Environment based on Ballistocardiography

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Biometrics Applications in e-Health Security: A Preliminary Survey

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**Developing a health information systems
approach to a novel student health clinic:
meeting the educational and clinical needs of an
interprofessional health service**

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A stable gene subset selection algorithm for cancers

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Toward establishing a comprehensive public health service platform for chronic disease management and medication in China: A practice in building a smart hypertension medical system

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Ethical Quality in eHealth: A Challenge with Many Facets

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Experiences in Developing and Testing an Ambient Assisted Living Course for Further Education

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Prognostic Reporting of p53 Expression by Image Analysis in Glioblastoma Patients: Detection and Classification

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Comparative evaluation of two systems for integrating biometric data from self-quantification

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Investigating Various Technologies Applied to Assist Seniors

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Characteristics of research on the application of three-dimensional immersive virtual worlds in health

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Healthcare Data Validation and Conformance Testing Approach Using Rule-Based Reasoning

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Author Index

- Ahmad, Farooq, 242
Aickelin, Uwe, 43
Alem, Leila, 27
Ally, Mustafa, 1
Awad, Ali Ismail, 90
- Blumenstein, Michael, 199, 211
Browne, James, 102
Bruder, Ilvio, 151
- Cai, Yunpeng, 182
Cai, Yunpeng, 171
Chen, Lei, 54
Chen, Tao, 78
Chen, Anjun, 120
Cheng, Taoran, 130
- de Courten, Maximilian, 102
Dimaguila, Gerardo Luis, 230
Duan, Changjiang, 7
- Escall, Aileen, 102
- Fan, Xiaomao, 182
Fauzi, Mohammad F. Ahmad, 162
Feng, Ling, 130
- Gao, Hongchao, 108
Ghanbarzadeh, Reza, 211
Ghapanchi, Amir Hossein, 199, 211
Gokozan, Hamza N., 162
Gray, Kathleen, 193
Guan, Wenxuan, 182
Guo, Zhaoyang, 43
Gurcan, Metin N., 162
- Hallam, Karen T., 102
Heuer, Andreas, 151
Hua, Yuncheng, 120
Huang, Jing, 130
Huang, Renwei, 7
Huang, Weidong, 27
Huang, Xingxian, 182
- Jawaid, Hira, 242
Jia, Jia, 130
- Jia, Liya, 7
Jones, Andi, 102
- Karopka, Thomas, 151
Khosravi, Pouria, 199
Kosche, Kerstin, 151
- Latif, Khalid, 242
Li, Jane, 27
Li, Qi, 130
Li, Xin, 67
Liu, He, 78
Liu, Lei, 223
Liu, Yuhang, 7
Liu, Lei, 120
- Malki, Ouamah Mohammed Cherkaoui, 33
Mazouz, Sanae, 33
Mukhtar, Hamid, 242
- Nan, Peng, 223
Nfaoui, El Habib, 33
Ni, Hongbo, 54
Nie, Zedong, 7
- Okoh, Ebenezer, 90
Otero, Jose J., 162
- Pierson, Christopher R., 162
Punnoose, Bibin, 193
- Raza, Syed Ali, 242
Reps, Jenna, 43
Rissanen, Marjo, 142
- Schuldt, Juliane, 151
Soar, Jeffrey, 1
Song, Luping, 67
Sun, Xiaomeng, 223
- Vimalachandran, Pasupathy, 18
- Wang, Hua, 18
Wang, Lei, 7, 78
Wang, Yingying, 171
Wang, Zhu, 54
Wlodarczak, Peter, 1

Xiang, Furu, 182
Xie, Juanying, 108
Xie, Jue, 120
Xing, Chunxiao, 67
Xu, Shuangqing, 130
Xue, Yuanyuan, 130

Yang, Jun, 54
Yu, Haibo, 182

Zeng, Zichun, 171
Zhang, Guigang, 67
Zhang, Kexu, 223
Zhang, Qingna, 78
Zhang, Tong, 67
Zhang, Yanchun, 18
Zhao, Tingzhi, 54
Zhou, Xingshe, 54
Zhu, Haoyue, 43