

# 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

Xiaoxia Yin  
 Kendall Ho  
 Daniel Zeng  
 Uwe Aickelin  
 Rui Zhou  
 Hua Wang

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# 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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# **Supporting Frontline Health Workers through the Use of a Mobile Collaboration Tool**

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# Canonical document for medical data exchange

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# Heart Rate Variability Biofeedback Treatment for Post-Stroke Depression Patients: A Pilot Study

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# **A New Approach for Face Detection based on Photoplethysmographic Imaging**

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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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# TeenChat: A Chatterbot System for Sensing and Releasing Adolescents Stress

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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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# Identification of Schizophrenia-Associated Gene polymorphisms using Hybrid Filtering Feature Selection with Structural Information

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# **Mobile Clinical Scale Collection System for In-hospital Stroke Patient Assessments Using Html5 Technology**

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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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# **Trend Prediction of Biomedical Technology by Semantic Analysis**

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# **SMS for Life in Burundi and Zimbabwe: A Comparative Evaluation**

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

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