The 6th International Conference for Smart Health

Program

Wuhan, Hubei, China
July 1-3, 2018
The 6th International Conference for Smart Health

**Hosts**
School of Information Management, Wuhan University
Center for Studies of Information Resources, Wuhan University

**Organizer**
Center for E-Commerce Research and Development, Wuhan University

**Co-organizers**
School of Medicine and Health Management of Tongji Medical College, Huazhong University of Science and Technology
Global Health Institute, Wuhan University
Editorial Office of *Data and Information Management*

**Sponsor**
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Yiming Zhao, Wuhan University
Lina Zhou, University of Maryland, Baltimore County
Bin Zhu, Oregon State University
Hongyi Zhu, University of Arizona
Hou Zhu, Sun Yat-sen University
Zhiya Zuo, University of Iowa
Keynote Speakers

Douglas R. Vogel
Douglas R. Vogel is Professor of Information Systems (IS) and Association for Information Systems (AIS) Fellow as well as AIS Past President and, currently, the Director of the eHealth Research Institute as a State Specially Recruited Expert in the School of Management at the Harbin Institute of Technology in China. He has been ranked 10th in a worldwide list of top researchers in MIS.

Title: From Big Data to Big Impact

Ahmed Abbasi
Ahmed Abbasi is Associate Dean and Murray Research Chaired Professor of Information Technology in the McIntire School of Commerce at the University of Virginia. He is Director of the Center for Business Analytics, co-director for the MS in Business Analytics, and coordinator for McIntire’s executives-on-grounds program. He has published over 70 peer-reviewed articles, including top-tier journals such as MISQ, JMIS, IEEE TKDE.

Title: Deep Learning for Health Empowerment: Psychometric and Behavior Modeling

Long Lu
Long Lu is Professor at the School of Information Management in Wuhan University, and supported by The Thousands Talents Program for Young Professionals of China. Professor Lu’s research areas are biomedical informatics and big-data analysis and application. He has published more than 50 high-quality scientific papers which have been cited more than 2000 times in total.

Title: Machine Learning Analysis of Brain MRI Images for Improving Children's Health

Chunxiao Xing
Chunxiao Xing is Professor and Associate Dean of Research Institute of Information Technology (RIIT), Tsinghua University, and the Director of Web and Software Technology R&D Center. He is also the Director of Big Data Research Center for Smart Cities at Tsinghua University. He has published more than 180 papers, and obtained 23 software copyrights, 40 patents of invention, and a technological achievement of the Ministry of Education of China.

Title: A Study of Deep Learning Based Internet Health Data Analysis Technology
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<th><strong>Summary</strong></th>
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<td><strong>July 2, Monday</strong></td>
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<td><strong>July 3, Tuesday</strong></td>
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## Paper Session Arrangements

### Session 1A: Chronic Disease Management

**Venue:** Zhao Hua Zhai (朝华斋, 2nd Floor)
**Chair:** Xitong Guo (Harbin Institute of Technology)

- **Invited Talk:** Wei Zhang (University of Massachusetts Boston)
  
  *Information Systems and Institutional Entrepreneurship: How IT Carries Institutional Changes in Chronic Disease Management*
  
  Wei Zhang (University of Massachusetts Boston), Kui Du (University of Massachusetts Boston), Liang Li (University of International Business and Economics)

- **Visualizing Knowledge Evolution of Chronic Disease Research Driven by Health Data and Emerging Technologies**
  
  Gongrang Zhang (Hefei University of Technology), Kang Li (Hefei University of Technology), Xiaoyu Wang (The 1st Affiliated Hospital, Anhui University of Traditional Chinese Medicine), Dongxiao Gu (Hefei University of Technology), Changyong Liang (Hefei University of Technology)

- **The Design of Personalized Artificial Intelligence Diagnosis and the Treatment of Health Management Systems Simulating the Role of General Practitioners**
  
  Shuqing Chen (Harbin Institute of Technology), Xitong Guo (Harbin Institute of Technology), Xiaofeng Ju (Harbin Institute of Technology)

- **The Development of a Smart Personalized Evidence Based Medicine Diabetes Risk Factor Calculator**
  
  Lei Wang (Medical School of Nantong University), Defu He (Medical School of Nantong University), Xiaowei Ni (Medical School of Nantong University), Ruji Zou (Medical School of Nantong University), Xinlu Yuan (Affiliated Hospital of Nantong University), Yujuan Shang (Medical School of Nantong University), Xinping Hu (Medical School of Nantong University), Xingyun Geng (Medical School of Nantong University), Kui Jiang (Medical School of Nantong University), Jiancheng Dong (Medical School of Nantong University), Huiqun Wu (Medical School of Nantong University)

- **A Descriptive Tomographic Content Analysis Method in Chronic Disease Knowledge Network: An Application to Hypertension**
  
  Liqin Zhou (Wuhan University), Lu An (Wuhan University), Zhichao Ba (Wuhan University), Zhiyuan Li (Wuhan University)

### Session 1B: Health Informetrics

**Venue:** Shu Hui Zhai (树蕙斋, 2nd Floor)
**Chair:** Dan Ke (Wuhan University)

- **Invited Talk:** Qingpeng Zhang (City University of Hong Kong)
  
  *Temporal Prediction of In-hospital Falls Using Tensor Factorization*

- **Visualizing the Intellectual Structure of Electronic Health Research: A Bibliometric Analysis**
  
  Tongtong Li (Hefei University of Technology), Dongxiao Gu (Hefei University of Technology), Xiaoyu Wang (The 1st Affiliated Hospital, Anhui University of Traditional Chinese Medicine), Changyong Liang (Hefei University of Technology)

- **How Corporations Utilize Academic Social Networking Website?: A Case Study of Health & Biomedicine Corporations**
  
  Shengwei Yi (Wuhan University), Qian Liu (Wuhan University), Weiwei Yan (Wuhan University)
Meta-analysis of the Immunomodulatory Effect of Ganoderma Lucidum Spores Using an Automatic Pipeline
Rui Liu (Central China Normal University), Yumeng Zhang (Central China Normal University), Ziwen Chen (Central China Normal University), Liqiang Wang (Institute of Medicinal Plant Development), Shuaibing He (Institute of Medicinal Plant Development), Guifeng Hua (Central China Normal University), Chang Liu (Institute of Medicinal Plant Development)

Section Identification to Improve Information Extraction from Chinese Medical Literature
Sijia Zhou (City University of Hong Kong), Xin Li (City University of Hong Kong)

July 2, Monday 15:40 - 17:30
Session 2A: Medical Big Data
Venue: Zhao Hua Zhai (朝华斋, 2nd Floor) (Huazhong University of Science and Technology)
Chair: Zhaohua Deng

Invited Talk: Kang Zhao (University of Iowa)
Online and Off the Web——Analyzing User Behaviors and Health Outcome in Online Health Communities

Efficient Massive Medical Rules Parallel Processing Algorithms
Xin Li (Beijing Tsinghua Changgung Hospital), Guigang Zhang (Chinese Academy of Sciences), Chunxiao Xing (Tsinghua University)

Designing a Novel Framework for Precision Medicine Information Retrieval
Haichua Chen (University of North Texas), Juncheng Ding (University of North Texas), Jiangping Chen (University of North Texas), Gaohui Cao (Central China Normal University)

Evolution of Research on Smart Health: A Bibliometrics Analysis
Xiao Huang (Wuhan University), Ke Dong (Wuhan University), Jiang Wu (Wuhan University)

Intelligent Diagnosis and Treatment Research of Knee Osteoarthritis Based on Big Data
Xin Li (Beijing Tsinghua Changgung Hospital), Guigang Zhang (Chinese Academy of Sciences), Chunxiao Xing (Tsinghua University)

Session 2B: Smart Hospital
Venue: Shu Hui Zhai (树蕙斋, 2nd Floor) (Western Washington University)
Chair: Jiexun Li

Invited Talk: Bin Zhang (University of Arizona)
Readmission Prediction Using Trajectory-Based Deep Learning Approach
Jiaheng Xie (University of Arizona), Bin Zhang (University of Arizona), Daniel Zeng (University of Arizona)

Drug-Drug Interactions Prediction Based on Similarity Calculation and Pharmacokinetics Mechanism
Quan Lu (Wuhan University), Liangtao Zhang (Wuhan University), Jing Chen (Central China Normal University), Zeyuan Xu (University of California Henry Samueli)

Augmented Reality: New Technologies for Building Visualized Hospital Knowledge Management Systems
Wang Zhao (Wuhan University)

Bone Fracture Visualization and Analysis Using Map Projection and Machine Learning Techniques
Yucheng Fu (Virginia Polytechnic Institute and State University (Virginia Tech)), Rong Liu (Virginia Polytechnic Institute and State University (Virginia Tech) and PuRen Hospital Affiliated with Wuhan University of Science and Technology), Yang Liu (Virginia Polytechnic Institute and State University (Virginia Tech)), Jiawei Lu (Dalian Medical University)

Automatic Liver Segmentation in CT Images Using Improvised Techniques
Prerna Kakkar (Netaji Subhas Institute of Technology), Sushama Nagpal (Netaji Subhas Institute of Technology), Nalin Nanda (Netaji Subhas Institute of Technology)
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<th>Session 3A: DIM Special Issue Session</th>
<th>Chair: Xiaojuan Zhang (Wuhan University)</th>
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<td>Venue: Zhao Hua Zhai (朝华斋, 2nd Floor)</td>
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<td>Invited Talk: Patrick Felka (Goethe University Frankfurt)</td>
<td>Using Social Media to Estimate the Audience Sizes of Public Events for Crisis Management and Emergency Care</td>
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<td>Patrick Felka (Goethe University Frankfurt), Artur Sterz (Technische Universität Darmstadt), Oliver Hinz (Goethe University Frankfurt), Bernd Freisleben (Technische Universität Darmstadt)</td>
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<td>Media Message Design via Health Communication Perspective: A Study of Cervical Cancer Prevention</td>
<td>Hua Ran (Wuhan University), Shupei Geng (Wuhan University), Di Xiao (Wuhan University)</td>
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<tr>
<td>Strategic Behavior in Mobile Behavioral Intervention Platforms: Evidence from a Field Quasi-Experiment on a Health Management App</td>
<td>Chunxiao Li (Arizona State University), Bin Gu (Arizona State University), Chenhui Guo (Michigan State University)</td>
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<td>Use of Sentiment Mining and Online NMF for Topic Modeling through the Analysis of Patients Online Unstructured Comments</td>
<td>Adnan Muhammad Shah (Harbin Institute of Technology), Xiangbin Yan (Harbin Institute of Technology), Shah Syed Jamal (Harbin Institute of Technology), Salim Khan (Harbin Institute of Technology)</td>
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<th>Session 3B: Online Health Community</th>
<th>Chair: Jiang Wu (Wuhan University)</th>
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<tr>
<td>Venue: Shu Hui Zhai (樹蕙斋, 2nd Floor)</td>
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<tr>
<td>Invited Talk: Bin Zhu (Oregon State University)</td>
<td>Helping Senior Citizens Live a Happy and Healthy Life by Engaging Them in Online Communities</td>
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<td>Exploring the Effects of Different Incentives on Doctors’ Contribution Behaviors in Online Health Communities</td>
<td>Fei Liu (Harbin Institute of Technology), Xitong Guo (Harbin Institute of Technology), Xiaofeng Ju (Harbin Institute of Technology), Xiaocui Han (Harbin Institute of Technology)</td>
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<tr>
<td>Why does Interactional Unfairness Matter for Patient–Doctor Relationship Quality in Online Health Consultation? The Contingencies of Professional Seniority and Disease Severity</td>
<td>Xiaofei Zhang (The Hong Kong Polytechnic University, Harbin Institute of Technology), Xitong Guo (Harbin Institute of Technology), Kee-hung Lai (The Hong Kong Polytechnic University), Yi Wu (Tianjin University)</td>
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<td>Exploring the Factors Influencing Patient Usage Behavior Based on Online Health Communities</td>
<td>Yinghui Zhao (Wuhan University), Shanshan Li (Wuhan University), Jiang Wu (Wuhan University)</td>
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<tr>
<td>Cross-Cultural Comparison of User Engagement in Online Health Communities</td>
<td>Xi Wang (Central University of Finance and Economics), Yushan Zhu (Central University of Finance and Economics)</td>
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July 3, Tuesday 10: 10 - 12: 00

Session 4A: Mobile Health
Venue: Zhao Hua Zhai (朝华斋, 2nd Floor)
Chair: Don Eliseo Lucero-Prisno III (Xi’an Jiaotong-Liverpool University)

☑ Invited Talk: Jiangping Chen (University of North Texas)
   Smart and Connected Health Projects: Characteristics and Research Challenges
   Haihua Chen (University of North Texas), Juncheng Ding (University of North Texas),
   Jiangping Chen (University of North Texas), Gaohui Cao (Central China Normal University)

☑ Development of Text Messages for Mobile Health Education to Promote Diabetic Retinopathy Awareness and Eye Care Behavior among Indigenous Women
   Valerie Onyinyechi Umaefulam (University of Saskatchewan), Kalyani Premkumar
   (University of Saskatchewan)

☑ How Using of WeChat Impacts Individual Loneliness and Health?
   Meng Yin (Henan University of Animal Husbandry and Economy), Qi Li (Xi’an Jiaotong University),
   Xiaoyu Xu (Xi’an Jiaotong University)

☑ Why People are Willing to Provide Social Support in Online Health Communities: Evidence from Social Exchange Perspective
   Tongyao Zhao (Xidian University), Rong Du (Xidian University)

Session 4B: Healthcare Machine Learning
Venue: Shu Hui Zhai (树蕙斋, 2nd Floor)
Chair: Lu An (Wuhan University)

☑ Invited Talk: Alan Wang (Virginia Polytechnic Institute and State University (Virginia Tech))
   A Deep Learning Based Pipeline for Image Grading of Diabetic Retinopathy
   Yu Wang (Virginia Polytechnic Institute and State University (Virginia Tech)), Alan Wang
   (Virginia Polytechnic Institute and State University (Virginia Tech)), Patrick Fan (Virginia Polytechnic Institute and State University (Virginia Tech)), Jiexun Li (Western Washington University)

☑ Bayesian Network Discrimination Criteria Model Based on Unbalanced Information
   Man Xu (Nankai University), Dan Gan (Tianjin University), Jiang Shen (Tianjin University, Tianjin), Bang An (Tianjin University)

☑ LSTM Based Sentiment Analysis for Patient Experience Narratives in E-survey Tools
   Chenxi Xia (Tongji Medical College, Huazhong University of Science and Technology), Dong Zhao (Tongji Medical College, Huazhong University of Science and Technology), Jing Wang (Tongji Medical College, Huazhong University of Science and Technology), Jing Liu (Tongji Medical College, Huazhong University of Science and Technology), Jingdong Ma (Tongji Medical College, Huazhong University of Science and Technology)

☑ A Deep Learning-Based Method for Sleep Stage Classification Using Physiological Signal
   Guanjie Huang (Pennsylvania State University), Chao-Hsien Chu (Pennsylvania State University), Xiaodan Wu (Hebei University of Technology)

☑ What Affects Patients’ Online Decisions: An Empirical Study of Online Appointment Service Based on Text Mining
   Guanjun Liu (Wuhan University), Lusha Zhou (Wuhan University), Jiang Wu (Wuhan University)
Venue and Accommodation

Hongyi Hotel

Add: No.136 Donghu Road, Wuchang District, Wuhan, 430071, PRC
Tel: (+86)027-67819888

Transportation to Hongyi Hotel

- From Wuhan Tianhe International Airport to Hongyi Hotel
  Taxi: 40 Kilometers, 44min, about ¥94.
  Public transport: Take Metro Line 2 to Hongshan Square Station (exit B2), walk to Hongshan Road Bus Station, take bus No. 701/578/411 to Donghu Road Zhongnan Hospital Station and walk to Hongyi Hotel.

- From Wuhan Railway Station to Hongyi Hotel
  Taxi: 13 kilometers, 20min, about ¥26.
  Public transport: Take Metro Line 4 to Hongshan Square Station (exit B2), walk to Hongshan Road Bus Station, take bus No. 701/578/411 to Donghu Road Zhongnan Hospital Station and walk to Hongyi Hotel.

- From Hankou Railway Station to Hongyi Hotel
  Taxi: 17 kilometers, 30min, about ¥45.
  Public transport: Take Metro Line 2 to Hongshan Square Station (exit B2), walk to Hongshan Road Bus Station, take bus No. 701/578/411 to Donghu Road Zhongnan Hospital Station and walk to Hongyi Hotel.

- From Wuchang Railway Station to Hongyi Hotel
  Taxi: 6 kilometers, 17min, about ¥17.
  Public transport: Take Metro Line 4 to Hongshan Square Station (exit B2), walk to Hongshan Road Bus Station, take bus No. 701/578/411 to Donghu Road Zhongnan Hospital Station and walk to Hongyi Hotel.
## Contacts

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<thead>
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<th>Role</th>
<th>Name</th>
<th>Phone</th>
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</tbody>
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