2017 International Conference on Healthcare Science and Engineering

June 1-3, 2017, Zhengzhou, China

Sponsored By

Dining Guide

用餐时间 Dates for Breakfast/Lunch/Dinner	Dining Location
Breakfast June 2-3	Zhengzhou Guanghua Hotel 郑州光华大酒店
Lunch June 2-3	Songyang Hotel, Zhengzhou Univ. 郑州大学嵩阳酒店
Dinner June 1-3	Zhengzhou Guanghua Hotel 郑州光华大酒店

Transportation Manual

报到地点：郑州光华大酒店

Registration Site：Zhengzhou Guanghua Hotel

会 场：郑州大学新校区

Conference Venue：New Campus of Zhengzhou University

住 宿：郑州光华大酒店

Hotel：Zhengzhou Guanghua Hotel
Phone: (86) 0371-67995710

Please **print this NOTE** and show it to the taxi driver if you take a taxi in Zhengzhou. The taxi driver will take you to the destination:

- Please take me to Zhengzhou Guanghua Hotel at 88 Ruida Road, Zhengzhou, China.

  （Chinese: 请送我到郑州市高新区瑞达路 68 号郑州光华大酒店）

- Please take me to the Zhengzhou Xinzheng International Airport.

  （Chinese: 请送我到郑州新郑国际机场）

国内的参会者，可以参考以下交通信息，也可以使用高德等导航软件获取帮助。

终点 / 起点	郑州光华大酒店	郑州大学新校区
郑州新郑国际机场	地铁城郊线（新郑机场出口→东风路 C 口）→B2 路（东风路花园路→合欢街站）	地铁城郊线（新郑机场出口→紫荆山）→地铁 1 号线（紫荆山→郑州大学 C 口）
	打车预计需要 103 元	打车预计需要 112 元
郑州火车站	76 路（火车站→瑞达路南流村）	地铁 1 号线(二七广场 F 口→郑州大学站 C 口）
	打车预计需要 29 元	打车预计需要 34 元
郑州高铁站	地铁 1 号线（郑州东站→秦岭路 C 口）→31 路（汽车客运西站→郑州美术馆站）	地铁 1 号线（郑州东站→郑州大学站 C 口）
	打车预计需要 48 元	打车预计需要 57 元
郑州汽车站	B12 路（火车站→科学大道瑞达路站）	地铁 1 号线（二七广场站→郑州大学站 C 口）
	打车预计需要 29 元	打车预计需要 33 元

终点 / 起点	郑州新郑国际机场	郑州火车站	郑州高铁站	郑州汽车站
郑州光华大酒店	B2 路（合欢街站→东风路花园路）→地铁城郊线（东风口 C 口→新郑机场出口）	B12 路（合欢街站→火车站）	31 路（郑州美术馆站→汽车客运西站）地铁 1 号线(秦岭路 D1 口→郑州东站）	B12 路（合欢街站→火车站）
	打车预计需要 103 元	打车预计需要 29 元	打车预计需要 48 元	打车预计需要 29 元
郑州大学新校区	地铁 1 号线（郑州大学 C 口→紫荆山）→地铁城郊线(紫荆山→新郑机场出口）	地铁 1 号线（郑州大学 C 口→二七广场 F 口）	地铁 1 号线(郑州大学 C 口→郑州东站）	地铁 1 号线（郑州大学 C 口→二七广场 F 口）
	打车预计需要 112 元	打车预计需要 34 元	打车预计需要 57 元	打车预计需要 33 元

Emergency Contact

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Healthcare 2017 Program Schedule

Thursday, June 1		
2:00-7:00pm	**Registration**	Zhengzhou Guanghua Hotel 郑州光华大酒店
6:00-8:00pm	**Dinner**	

Friday, June 2		
8:45-9:00am	**Welcome and Opening Session** The 2nd Lecture Hall, Administration Building, Zhengzhou Univ. 郑州大学行政楼第二报告厅	**Chair:** **Zongmin Wang**
9:00-9:45am	**Healthcare Engineering: Past, Current, and Future** **Prof. Ming Chyu**	**Chair:** **Chase Wu**
9:45-10:15am	**Retina Diagnosis with AI** **Prof. Jian Wu**	
10:15-10:40am	**Break and Photography**	
10:40-11:25am	**Application of Computational Techniques in Medical Imaging** **Prof. Defeng Wang**	
11:25-12:05pm	**Dependable AI for Healthcare** **Prof. Yiqiang Chen**	
12:05-1:20pm	**Lunch** Songyang Hotel, Zhengzhou Univ. 郑州大学嵩阳酒店	
1:30-4:50pm	**Session 1** The 2nd Lecture Hall, Administration Building, Zhengzhou Univ. 郑州大学行政楼第二报告厅	**Session chair:** **Liang Chen**
	Session 2 Room 143, Administration Building, Zhengzhou Univ. 郑州大学行政楼 143 房间	**Session chair:** **Yibo Guo**
6:00-8:00pm	**Dinner** Zhengzhou Guanghua Hotel 郑州光华大酒店	

Session 1: Paper Presentation		
1:30-4:50pm	**Title**	**Authors**
1:30-1:50pm	A Coupled Mesh-Meshless Approach to the Simulation of Soft Tissue Cutting	Cheng Qiangqiang, Liu Peter X., Xu Shaoping and Zou Yanni
1:50-2:10pm	MyHeifer" Mobile Autism Spectrum Disorder(ASD) Application: Informing Care Decisions and Aiding Children with ASD in Understanding Emotions	Arshia Khan, Kun Li and Janna Madden
2:10-2:30pm	Multi-Label Symptom Analysis and Modeling of TCM Diagonosis of Hypertension	Heng Weng, Aihua Ou, Guozheng Li, Runzhi Li, Bei Yang, Andrew Maxwell, Hao Chen and Chaoyang Zhang
2:30-2:50pm	Leveraging Multi-Actions to Improve Medical Personalized Ranking for Collaborative Filtering	Shan Gao, Guibing Guo, Runzhi Li and Zongmin Wang
2:50-3:10pm	Rehabilitation Action Recognition Method Based on Hierarchical Framework via Kinect Skeleton Data	Benyue Su, Huang Wu and Min Sheng
3:10-3:30pm	**Break**	
3:30-3:50pm	Automated Epileptic Seizure Detection based on Support Vector Machine with Features of FLUC, RMS and PE of Intracranial EEG	Lingling Yang, Guoqiang Gong, Wendi Ren and Yao Lu
3:50-4:10pm	Development and Field Trial of Electronic Medical Record with Picture Processing Capabilities	Shin-Yann Tsai, Chih-Cheng Wu, Ching-Nung Yang and Yung-Chien Chou
4:10-4:30pm	Genuine and Secure ID-based Public Auditing for the Outsourced Data in Healthcare Cloud	Jianhong Zhang
4:30-4:50pm	Research on Drug Statistics Oriented Big Data Fuzzy Evaluation for Human Public Health	Zhenfei Wang, Jinlei Chen, Liying Zhang, Ling Ma and Zhiyun Zheng

Session 2: Paper Presentation		
1:30-4:50pm	**Title**	**Authors**
1:30-1:50pm	A depth evidence score fusion algorithm for Chinese Medical Intelligence Question Answering System	Xiabing Zhou, Binglin Wu and Qinglei Zhou
1:50-2:10pm	Ensemble of Rotation Trees for Imbalanced Medical Datasets	Huaping Guo, Haiyan Liu, Chang-An Wu, Wei Liu and Wei She
2:10-2:30pm	Modeling Medical Services with Mobile Health Applications	Zhenfei Wang, Liying Zhang, Ling Ma, Chongjian Wang and Bing Liu
2:30-2:50pm	Electrocardiogram Classification Using Deep LSTM Neural Networks in the Case of Small Sample Size	Zhen Li, Pengsong Duan, Bo Zhang and Yangjie Cao
2:50-3:10pm	QRS Detection Based on Improved Adaptive Threshold	Xuanyu Lu, Maolin Pan and Yang Yu
3:10-3:30pm	**Break**	
3:30-3:50pm	The Preliminary Study of Multi-label Classification Assistant Diagnosis Based on Chinese Obstetric Electronic Medical Records	Kunli Zhang, Hongchao Ma and Yueshu Zhao
3:50-4:10pm	Linear Temporal Logic with past model checking based on DNA computing	Ying-Jie Han, Qing-Lei Zhou, Lin-Feng Jiao, Kai Nie, Wei-Jun Zhu and Chun-Yan Zhang
4:10-4:30pm	Remote health care system based on moving robot for the elderly at home	Bing Zhou, Kaige Wu, Pei Lv, Jing Wang, Gang Chen, Siying Liu and Bo Ji
4:30-4:50pm	Survey on Serious Games Applied to the Rehabilitation for Elderly Adults	Hugo Barbosa, António Castro and Eurico Carrapatoso

Saturday, June 3		
9:00-11:00am	**Keynote Lectures** The 2nd Lecture Hall, Administration Building, Zhengzhou Univ. 郑州大学行政楼第二报告厅	**Chair:** **Lei Shi**
9:00-9:45am	**Intelligent remote eHealth monitoring** **Prof. Jaime Lloret Mauri**	
9:45-10:30	**Enabling Big-data Analytics Workflows for Healthcare** **Prof. Chase Wu**	
10:30-10:50	**Break**	
10:50-11:20am	**'Internet +' Healthcare in Zhengzhou University** **Dr. Wei Liu**	
12:00-1:30pm	**Lunch** Zhengzhou University Songyang Hotel 郑州大学嵩阳酒店	
1:30-3:50pm	**Session 3** The 2nd Lecture Hall, Administration Building, Zhengzhou Univ. 郑州大学行政楼第二报告厅	**Session chair:** **Pei Lv**
3:50-5:00pm	**Tour**	
6:00-8:00pm	**Dinner** Zhengzhou Guanghua Hotel 郑州光华大酒店	

Session 3: Papers Presentation		
1:30-3:50pm	**Title**	**Authors**
1:30-1:50pm	Effects of Chronic Exposure to Percussion Instruments on Musicians and an Assisted Earmuff Proposal	Lorena Parra, Marta Torres, Jaime Lloret and Agust ń Campos
1:50-2:10pm	Research on the Relationship between Internet Addiction among High School Students and Family Environment	Shaozhen Cheng, Ming Yang and Ying Shi
2:10-2:30pm	An Ensemble Multi-label Classification for Disease Risk Prediction	Runzhi Li, Wei Liu, Yusong Lin, Hongling Zhao, and Chaoyang Zhang
2:30-2:50pm	Semi-Automatic Segmentation of Glioma on Mobile Devices	Ya-Ping Wu, Yu-Song Lin, Wei-Guo Wu, Cong Yang, Yan Bai and Mei-yun Wang
2:50-3:10pm	The Research Progress of Smartphone Spplications in Diabetes' health Management	Tianyue Zhang
3:10-3:30pm	Effect of continuous rehabilitation nursing on physical function of stroke patients based on WeChat	Huixia Zhang
3:30-3:50pm	The Application Progress of Mobile Health in the Caregiver of Chronic Disease	Chunge Ding

Keynote Lectures

Keynote 1:
Healthcare Engineering: Past, Current, and Future

Speaker:
Prof. Ming Chyu
Founding Editor-in-Chief, Journal of Healthcare Engineering
Founding President, Healthcare Engineering Alliance Society (HEALS)

Abstract:
Engineering has been playing a crucial role and bringing about revolutionary advances in healthcare. Contributions have been made by engineers from almost all engineering disciplines, such as Biomedical, Chemical, Civil, Computer, Electrical, Environmental, Industrial, Information, Materials, Mechanical, Software, and Systems Engineering, as well as healthcare professionals such as physicians, dentists, nurses, pharmacists, allied health professionals, and health scientists who are engaged in supporting, improving, and/or advancing any aspect of healthcare through engineering approaches. As a keynote speech for the First International Conference on Healthcare Science and Engineering, the purpose of this presentation is to explore a rigorous definition of Healthcare Engineering as an academic discipline, an area of research, a field of specialty, and a profession, as well as an overview of its past history, current status, and future prospects and challenges.

Short Bio:

Dr. Ming Chyu is a Professor of Mechanical Engineering and an Adjunct Professor of Medicine at Texas Tech University, USA. He is a Fellow of American Society of Mechanical Engineers, and has received numerous awards for research, teaching, and service from government, professional societies, foundations, industry, and university. He has conducted research funded by National Institutes of Health, National Science Foundation, US Department of Energy, US Department of Agriculture, National laboratories, professional societies, state government, private foundations, and industry, and has published 180 technical publications in engineering and healthcare. Dr. Chyu has been dedicated to promoting collaboration between engineeri -ng and healthcare. He has led 40 co-authors worldwide to first define Healthcare Engi neering in a white paper (2015) and also on Wikipedia.org. He is the founder of the Healthcare Engineering Option graduate program at Texas Tech University, the Founding Editor-in-Chief of Journal of Healthcare Engineering,and the Founding President of the Healthcare Engineering Alliance Society (HEALS).

Keynote 2:
Intelligent remote eHealth monitoring

Speaker:
Prof. Jaime Lloret Mauri
Department of Communications, Polytechnic University of Valencia

Abstract:
Intelligent systems and communication technologies have made huge advances in remote eHealth monitoring and Ambient Assisted Living (AAL). There have appeared new intelligent communication architectures that use the information gathered from several types of communication networks (such as Wireless Sensor Network, Wireless Ad Hoc Networks, Wireless Mesh Networks) over any type of communication technologies (such as Device to Device, Machine to Machine, Sensor-Actuator) that allow smart remote eHealth monitoring. This speech will show some of these new systems and how intelligent algorithms can make human life more comfortable, improve the human quality of life and reduce the economic costs of the sanitary system. It will also discuss the requirements of the communication technology to collect measures from the body sensors, wearable devices and smart phones, especially from chronic patients. Big Data, including data from different hospitals and the data received from the patient, with an intelligent system may warn the parents, teachers, caregivers and doctors and when the system detects something anomalous and generate alarms. It will also describe some existing secure systems for exchanging health information, data, and services between all network devices. The goal of existing architecture proposals for remote ehealth monitoring is to provide scalability, efficiency, higher service availability and flexibility while detecting if there is an emergency or not.

Short Bio:

Prof. Jaime Lloret received his M.Sc. in Physics in 1997, his M.Sc. in electronic Engineering in 2003 and his Ph.D. in telecommunication engineering (Dr. Ing.) in 2006. He is a Cisco Certified Network Professional Instructor. He worked as a network designer and administrator in several enterprises. He is currently Associate Professor in the Polytechnic University of Valencia. He is the Chair of the Integrated Management Coastal Research Institute (IGIC) and he is the head of the "Active and collaborative techniques and use of technologic resources in the education (EITACURTE)" Innovation Group. He is the director of the University Diploma "Redesy Comunicaciones de Ordenadores" and of the University Master "Digital Post Production". He has been Internet Technical Committee chair (IEEE Communications Society and Internet society) for the term 2013-2015. He has authored 22 book chapters and has more than 380 research papers published in national and international conferences, international journals (more than 140 with ISI Thomson JCR). He has been the co-editor of 40 conference proceedings and guest editor of several international books and journals. He is editor-in-chief of the "Ad Hoc and Sensor Wireless Networks" (with ISI Thomson Impact Factor), the international journal "Networks Protocols and Algorithms", and the International Journal of Multimedia Communications, IARIA Journals Board Chair (8 Journals) and he is (or has been) associate editor of 46 international journals (16 of them with ISI Thomson Impact Factor). He has been involved in more than 400 Program committees of international conferences, and more than 150 organization and steering committees. He leads many national and international projects. He is currently the chair of the Working Group of the Standard IEEE 1907.1. He has been general chair (or co-chair) of 38 International workshops and conferences. He is IEEE Senior and IARIA Fellow.

Keynote 3:
Application of Computational Techniques in Medical Imaging

Speaker:

Prof. Defeng Wang

Associate Professor, Director of Research Center for Medical Image Computing

Head of Division of Imaging Informatics

Dept of Imaging and Interventional Radiology

The Chinese University of Hong Kong

Abstract:

The past decade has witnessed considerable advancements in imaging techniques, developing from structural to functional, from static to dynamic, enabling both individual- and population-based analysis. The speaker will present a series of advanced computational techniques developed in Research Center for Medical Image Computing of The Chinese University of Hong Kong that enable accurate and efficient extraction of useful information from multi-modal medical images with clinical applications, e.g. the etiopathogenesis study of adolescent idiopathic scoliosis, neural image analysis for neural degenerative / post-stroke patients, quantitative analysis of orthopedic images, model construction from medical imaging data for 3D printing, and image-guided surgical planning and navigation, etc.

Short Bio:

Prof. Wang joined the Chinese University of Hong Kong as an academic staff since 2010. He has more than 10 years of medical image analysis, computational radiology, as well as statistical morphometry analysis. He is the founding director of Research Center for Medical Image Computing in Department of Imaging and Interventional Radiology, Faculty of Medicine of the Chinese University of Hong Kong. He has published over 130 papers in renowned journals, and has secured over 10 major competitive research grants. He has also served the editorial boards of 8 scientific journals.

Keynote 4:
Dependable AI for Healthcare

Speaker:
Prof. Yiqiang Chen
Professor, Director of the Research Center for Ubiquitous Computing Systems
Institute of Computing Technology (ICT)
Chinese Academy of Sciences

Abstract:
"Healthy China" rises to national strategy and leads the medical services transferring from after-disease treatment to preventive healthcare. The personalized healthcare needs to focus on the monitoring and analysis of individual lifestyle and behavior patterns. The real-time behavior data, which is automatically collected via wearable devices and IoT devices, enables all-round recording of individual lifestyle and behavior patterns and thus can be exploited for personalized health management. There are some key issues we need to solve before building up this kind of system. First of all, how we can acquire the real-time behavior data from wearable devices in an unobtrusive way. Second, how we can guarantee the dependable detection when the abnormal behavior occurs. Third, how to design the dependable quantitative ADL assessment system to effectively evaluate the elderly's motor and cognitive capability based on long-term daily behavior in the home environment. In this talk, I will discuss some solutions to solve the issues, including but not limited to, unobtrusive and dependable health data intelligent perception, heterogeneous health data structuring, standardization for the data format of wearable device, disease association pattern mining from dynamic and static health data.

Short Bio:

Dr. Yiqiang Chen is a professor and Director of the Research Center for Ubiquitous Computing Systems, Institute of Computing Technology (ICT), the Chinese Academy of Sciences. He received his PhD degree from ICT, Chinese Academy of Sciences in 2002. In 2004, he was a Post-Doctoral Research Fellow in the Department of Computer Science, Hong Kong University of Science and Technology (HKUST). He was the visiting professor in the Joint NTU-UBC Research Center of Excellence in Active Living for the Elderly (LiLy), Nanyang Technological University. His research focuses on intelligent human computer interaction and pervasive computing, especially on learning and understanding users' daily activity patterns in unobtrusive ways. He has published over 100 papers in reputable International Journals such as IEEE TKDE, IEEE TMC, IEEE TNN, IEEE TCSVT, Scientific Reports and Science (Advances in Computational Psychophysiology), as well as top tier International conferences such as IJCAI, AAAI, ACM MM, Ubicomp etc. He got Best Application paper award from PRICAI2005 and Best Paper Award from Gamenets2014. He received the National Science and Technology Award (2004) and Beijing Science and Technology Award (2015, 2016) and been selected as a top young scientist of Beijing in 2005.

Keynote 5:
Enabling Big-data Analytics Workflows for Healthcare

Speaker:

Prof. Chase Wu
Associate Professor, Department of Computer Science
Director of Center for Big Data
New Jersey Institute of Technology
Collaborative Research Staff, Computer Science and Mathematics Division of Oak Ridge National Laboratory

Abstract:

Healthcare industry is producing colossal amounts of data in various dimensions, including web and social media data (Facebook, Twitter, etc.), transaction data (claims, billing records, etc.), biometric data (retinal scans, medical images, etc.), and human-generated data (electronic medical records, physicians' notes, etc.). No matter which type of data is considered, an end-to-end computing solution that facilitates data transfer, processing, visualization, and analytics would be essential for medical scientific research, new drug discovery, epidemic disease prediction, business intelligence, or cost reduction. Such computing solutions are typically built upon data- and network-intensive workflows comprised of computing modules with complex dependencies. Starting with a brief survey of the healthcare status in the US, this talk discusses the challenges and opportunities brought by big data in the healthcare ecosystem, and presents an integrated and automated workflow solution to support big-data healthcare applications in high-performance networks.

Short Bio:

Dr. Wu is currently an Associate Professor in the Department of Computer Science and the Director of the Center for Big Data at New Jersey Institute of Technology (NJIT). He joined NJIT in fall 2015 from the University of Memphis, where he is an Associate Professor in the Department of Computer Science. His research interests include big data, high-performance networking, parallel and distributed computing, sensor networks, scientific visualization, and cyber security. His research in networking develops fast and reliable data transfer solutions to help users in a wide spectrum of scientific domains move big data over long distances for collaborative data analytics. His research in computing develops high-performance workflow solutions to manage the execution of and optimize the performance of large-scale scientific workflows in heterogeneous computing environments. Dr. Wu's work has been supported by various funding agencies, including the National Science Foundation, the U.S. Department of Energy, the U.S. Department of Homeland Security, and Oak Ridge National Laboratory, where he is a research staff and works on a number of high-performance networking projects and big-data computational science projects. He has published over 200 research articles in highly reputed conference proceedings, journals, and books, and won best paper awards at many conferences.

Keynote 6:
Retina Diagnosis with AI

Speaker:

Prof. Jian Wu
Professor, College of Computer Science of Zhejiang University
Vice director of Electronic Service Research Center of Zhejiang University

Short Bio:

Professor Wu received his bachelor and doctor degree from the College of Computer Science and Technology of Zhejiang University. He is the vice director of Electronic Service Research Center of Zhejiang University. He is also a committee of the China Computer Society Green Engineering, a Committee of China Computer Society Services Research, and a committee of China Computer Society Computer Application. He is one of the '151 talents' of Zhejiang Province as well as one of the members of the Ministry of Science and Technology Innovation team. He is one of the members of the Technical Program Committee of several International academic conference such as PAKDD2013 / 2014, ICESS2013 and ADMA2013, and peer reviewers of academic journals such as TKDE, KAIS, TSMC, TSC and JWSR. His Research focuses on Service Computing, Healthcare data mining and so on. Prof. Wu has published successively more than 90 papers in SCI / EI papers such as IEEE Intelligent Systems, IEEE TKDE, IEEE TSMC, KAIS. His papers obtained the most influential academic papers of China in 2008 and 2009. He was awarded the first Science and Technology Progress Prize of the Ministry of Education in 2007, and the first Science and Technology Progress Prize of Zhejiang Provincial in 2008 and in 2014. As well as he was awarded the second National Science and Technology Progress Prize in 2010.

Keynote 7:
“Internet+” Healthcare in Zhengzhou University

Speaker:

Prof. Wei Liu
Associate Professor, Software and Applied Science and Technology Institute
Cooperative Innovation Center of Internet Healthcare
Zhengzhou University

Short Bio:

Dr. Liu received his Bachelor and Master degree from the Institute of Information Engineering, Zhengzhou University in 2003 and 2008. He received his PhD degree from Graduate School of Information Sciences, Tohoku University in 2013. His research focuses on information security, network performance analysis and internet healthcare. Dr. Liu’s work has been supported by various funding agencies, including the National Natural Science Foundation of China, the Key Science and Technology Program of Henan Province, the Natural Science Foundation of Henan Province etc. He has published over 15 papers in the international journals and conferences such as IEEE TPDS, IJWIN, IEEE ICC, PIMRC etc.