Program

The 19th International Conference on E-health Networking, Application & Services
（IEEE HealthCom 2017）
12-15 October 2017
Dalian, China
Improving Lives Through e-Health ICT Solution

The 1st IEEE International Workshop on Artificial Intelligence in Chinese Medicine Workshop

AI&TCM 2017

The 4th International Workshop on Security and Reliability of eHealth Information Systems

S&ReHIS 2017

The 2nd IEEE International Workshop on Emerging Technologies for Pervasive Healthcare and Applications

ETPHA 2017

The 1st International Workshop on Sustainable Ambient Assisted Living Management: Lessons Learnt from 5GPP

SUSTAAL5GPP 2017

Organized by

Co-organized by
China Computer Federation Dalian Membership Activity Center (CCF Dalian)
Dalian Computer Society
Dalian Key Laboratory of Smart Medical and Health

Sponsored by

Dalian, Liaoning, China, 12-15 October 2017

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Website: http://healthcom2017.ieee-healthcom.org/

Detail of Program can be found at,
https://www.edas.info/web/ieeehealthcom2017/program.html

All attendees should please scan the following QR code and join the wechat group for more information.

Brief Introduction of Dalian University

Dalian University was firstly formed on the basis of three colleges, namely Dalian University initially established in April 1949 (dismissed in July 1950, and re-established in the name of Dalian University of Technology Lvda City, later renamed to University of Dalian as an independent college in November 1983), Great Kanto Grammar School established in March 1948(renamed later as Dalian Normal Junior College), and Medical School of Lvda City established in October 1950 (renamed later as Medical School of Dalian City). In October 1987, the three colleges merged into the new Dalian University, consisting of Technical School, Normal School, and Medical School. Zhao Yaping, the the vice mayor of Dalian Municipal Government, took up the post of the President and the Secretary of Party Committee of Dalian University. In December 2008, Dalian Railway Medical School was incorporated into Dalian University. Over the past few years, Dalian University has achieved a historic leap-forward, developing into a comprehensive university with an array of 11disciplines, namely Philosophy, Law, Economy, Education, Literature, Art, History, Natural Science, Engineering, Medical Science, and Management under the lead of the advanced university culture. The university adheres to the idea of "Success to all, Joy to all", advocates the school ethos of "Respect for Academic Research, Respect for Science", insists on the Scientific Outlook on Development, and strives to get support and development on the basis of contribution.

Currently, there are 4,500 staff members including those working in the two affiliated hospitals, among whom 393 have earned the professorship, 524 have doctoral degrees, and 1,041 are lecturers. There are 20,300students at various levels. The university covers the total area of 12,150,000 square meters, with a construction area of 5,530,000 square meters. The library comprises approximately 1,710,000 volumes. Dalian University has 25 academic colleges, containing 63 undergraduate majors and 20 master degree programs, and two grade-A tertiary affiliated hospitals.

Attaching great importance to attracting overseas talents and developing international exchanges and cooperation, Dalian University has established friendly cooperation with more than 60 universities and research institutes. The university has invited many foreign specialists and famous scholars to teach and give lectures and sent teachers out to pursue their study and research to enhance the academic exchanges. Currently, Dalian University has entered a new stage of development. It strives to rank among the top local universities of teaching and research by adjusting structure, forming characteristics, and improving quality. With the guidance of the Scientific Outlook on Development, the university is persistent in pursuing high teaching quality, cultivating excellent talents, advocating advanced culture and managing the school by law.

In order to cultivate applicable high quality talents with good behavior and competence who are capable of learning and innovating, the university must give full priority to construction of disciplines, put emphasis on improving teaching quality to provide better service for local development, strengthen the building of talents teams and university culture, focus on the characteristic and connotative development, and motivate the mechanism reform and innovation. Dalian University intends to make concise the disciplinary orientation and transform its developmental pattern on the basis of the local conditions and the development of Liaoning Province and China. Between 2015 and 2020, the university will strive to set up doctoral degree program and rank among the top local universities of teaching and research of moderate size, high quality, proper structure, distinct characteristics and outstanding advantages.

Conference Information

19th IEEE International Conference on
e-Health Networking, Application & Services (HEALTHCOM 2017)
http://healthcom2017.ieee-healthcom.org
Dalian, China – October 12-15, 2017
Conference Venue: Infine Hotel, Dalian, China

IEEE HealthCom 2017 is fully sponsored by the IEEE Communications Society. It aims at bringing together interested parties from around the world working in the health care field to exchange ideas, to discuss innovative and emerging solutions, and to develop collaborations. e-Health is defined as the cost-effective and secure use of information and communications technologies in support of health and the related fields, including health-care related services, surveillance, literature, education, knowledge, and research, both at the local site and at a distance. It will make personalized medicine possible and affordable in the near future. The adoption of eHealth technologies in medical fields creates huge opportunities yet lots of challenges still need to be resolved to build reliable, secure, and efficient networks or platforms with great flexibility.

Registration Desk
Registration site:
    Lobby of Infine hotel
The allocation of time:
    Wed. Oct.11 13:00 - 19:00 （Beijing Time） Workshop
    Thur. Oct.12 10:00 - 19:00 （Beijing Time） Main track
Conference materials, name badges, receipt bills will be distributed at the Registration desk.

Conference Name badge
Conference name badges must be worn at all times while participants are in conference venue.
The badge will serve as your admission to all sessions and official functions.

Message Board
Any program changes or urgent announcements from the secretariat and private messages will be posted on the message board in the registration area and website. Please check the message board occasionally.

Instruction for Speakers
The allocation of time:
Keynote: 30-minute presentation + 10 minute- Q&A
Healthcom Presentation: 16 minute- presentation +4 minute-Q&A
Workshop Presentation: 16minute- presentation +4 minute-Q&A

Programme at a Glance

Restaurant in Infine hotel	Yinbofu Conference Room	The 8th Floor Conference Room	The 9th Floor Conference Room
Wed.Oct.11: On-Site Registration of Workshop (13:00-19:00 Beijing time)			
Thur.Oct.12: On-Site Registration of Main track (10:00-19:00 Beijing time), **Workshop Papers**			
09:30-12:00	Workshop 1, Session1 (20 mins/paper)		Workshop 2, Workshop 3 (20 mins/paper)
12:00-13:00	Lunch Time (Sea Rhythm Western Restaurant)		
13:00-14:30	Workshop 1, Session 2 (20 mins/paper)		
14:30-15:00	POSTER/DEMO SESSION		
15:00-18:00	Visit smart medical and health applications to the Affiliated Zhongshan Hospital of Dalian University		
18:00-19:00	Dinner Time (Sea Rhythm Western Restaurant)		
Fri.Oct.13 Keynote and General Papers			
08:30-08:50	Opening Ceremony		
08:50-09:30	Keynote: The U.S. Food and Drug Administration's Database of Medical Device Adverse Events Speaker: Michael Pecht		
09:30-10:00	Invited Speech: Big Data Strategy of Dalian High-tech Zone on Life Science Industry Speaker: Chi Yuan		
10:00-10:30	Tea Break, Photograph		
10:30-12:00	General Papers, Session 1 (20mins/paper)	General Papers, Session 2 (20mins/paper)	General Papers, Session 3 (20mins/paper)
12:00-13:00	Lunch Time (Sea Rhythm Western Restaurant)		
13:00-13:40	Keynote: Cyber Security Threats to Citizen's Health and Wellbeing Speaker: Helge Janicke		

13:40-14:20	Keynote: Integrated Network Application in Telemedical Assistant System Speaker: Chengsheng Pan
14:20-14:40	Tea break
14:40-17:40	General Papers, Session 4 (20mins/paper) / General Papers, Session 5 (20mins/paper) / General Papers, Session 6 (20mins/paper)
18:00-20:00	Banquet (Grand Ballroom)

Sat.Oct.14 Keynote and General Papers

08:30-09:10	Keynote: Role of mHealth in Universal Health Coverage (UHC) Speaker: Pradeep Ray
09:10-09:50	Keynote: Robust Surgical Endoscope Tracking and Navigation Speaker: Sean He
09:50-10:10	Tea Break
10:10-12:10	General Papers, Session 7 (20mins/paper) / General Papers, Session 8 (20mins/paper) / General Papers, Session 9 (20mins/paper)
12:10-13:00	Lunch Time (Sea Rhythm Western Restaurant)
13:00-14:40	General Papers, Session 10 (20mins/paper) / General Papers, Session 11 (20mins/paper) / General Papers, Session 12 (20mins/paper)
14:40-15:10	Invited Speech: Application of innovative electrocardiogram soft ware on cardiac arrhythmias Speaker: Shulong Zhang
15:10-15:40	Invited Speech: The establishment of the quat strategy on tumor cells + big data of tumor cells + the system of doctor decision + a personalized treatment Speaker: Xiaohui Zhang
15:40-16:00	Tea break
17:00-18:00	Dinner Time (Sea Rhythm Western Restaurant)

Sun.Oct.15 Morning Attendees Returning

Detail of Program can be found at,https://www.edas.info/web/ieeehealthcom2017/program.html

Welcome Message from the General Chairs

Dear honored experts, leaders, ladies and gentlemen:

Good morning!

Welcome to Dalian and thank you for the support for Healthcom2017!

Dalian is an important coastal city in China, the centers of shipping, logistics and finance and it is the most open and beautiful city in northeast China, which cooperates with global countries in economy, science and education. Dalian attaches great importance to the transformation of educational, scientific and technological achievements. I hope representatives and attendees will get to know Dalian and establish cooperation in Dalian.

Dalian University is the only one city-affiliated University of Dalian. With 30-year rapid development, it has become an influential university in China. We have established friendship and cooperation with 118 universities from all over the world, such as America, UK, Japan and Australia by inviting many excellent global specialists to visit and teach in Dalian University and we also sent faculties to visit and study abroad.

Computer science, Communication science and Medicine are the dominant disciplines of Dalian University. The integration of Information and Medical technology has promoted the teaching and researching levels, and lead to the advanced application of smart healthcare.

On behalf of Dalian University, I would like to welcome your visit, communication and cooperation with Dalian University.

The IEEE HEALTHCOM conference, as one of the most important meetings of the IEEE and influential academic conferences in the world has attracted a large number of global scientists and experts.

Today, we gather to discuss and explore the cutting edge technology, practical application and future planning with the theme of "Improving Lives Through e-Health ICT Solutions", which will not only promote our own development, but also further promote the world's smart healthcare technology and industry.

As the president of healthcom2017, I sincerely thank the members of the organizing committee who have worked hard for this event and thank you for your participation and support.

Finally, I wish you all the harvest at this conference! Wish you a happy and safe trip in Dalian! Thank you!

General Chairs of Healthcom 2017
Chengsheng Pan, Dalian University, China
        Lei Shu, University of Lincoln, UK/Nanjing Agricultural University, China
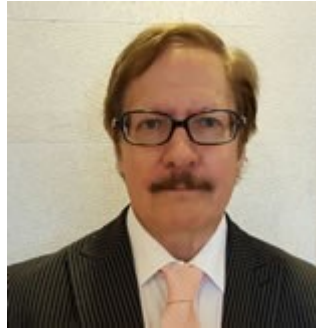
Keynote

Keynote 1: The U.S. Food and Drug Administration's Database of Medical Device Adverse Events
Speaker: Michael Pecht
Chair: Lei Shu, University of Lincoln, UK/Nanjing Agricultural University, China
Time: Fri. Oct.13 08:50-09:30

Michael Pecht
Professor of the University of Maryland
Founder and Director of CALCE
Editor-in-chief of IEEE Access
Chief Editor of the IEEE Transactions on Reliability
Chief Editor for Microelectronics Reliability

About the keynote speaker:

Professor Michael Pecht is a world renowned expert in strategic planning, design, test, and risk assessment of electronics and information systems. Prof Pecht has a BS in Physics, an MS in Electrical Engineering and an MS and PhD in Engineering Mechanics from the University of Wisconsin at Madison. He is a Professional Engineer, an IEEE Fellow, an ASME Fellow, an SAE Fellow. He is the editor-in-chief of IEEE Access, and served as chief editor of the IEEE Transactions on Reliability for nine years, and chief editor for Microelectronics Reliability for sixteen years. He has also served on three U.S. National Academy of Science studies, two US Congressional investigations in automotive safety, and as an expert to the U.S. Food and Drug Administration (FDA). He is the founder and Director of CALCE (Center for Advanced Life Cycle Engineering) at the University of Maryland, which is funded by over 150 of the world's leading companies at more than US$6M/year. The CALCE Center received the NSF Innovation Award in 2009 and the National Defense Industries Association Award. Prof Pecht is currently a Professor in Applied Mathematics, Statistics and Scientific Computation at the University of Maryland, as well as a Chair Professor in Mechanical Engineering. He has written over 500 technical articles and has 8 patents. In 2008, he was awarded the highest reliability honor, the IEEE Reliability Society's Lifetime Achievement Award. In 2010, he received the IEEE Exceptional Technical Achievement Award for his innovations in the area of prognostics and systems health management.

Abstract:

The U.S. Food and Drug Administration (FDA) has developed a Manufacturer and User Facility Device Experience (MAUDE) database, which stores the reports of adverse medical device events. Each adverse event report has an event description and is labeled with a variety of information such as "product problem". This information is submitted by technicians, hospital staff as well as the manufacturers of the medical devices. Given this database and the methods of data-mining 'big-data", there are now many opportunities to gleam previously unknown information and correlations. This presentation discusses the MAUDE database and gives an example of the data-mining opportunities.

Keynote 2: Cyber Security Threats to Citizen's Health and Wellbeing
Speaker: Helge Janicke
Chair: Liming Chen, De Montfort University, UK
Time: Fri. Oct.13 13:00-13:40

Helge Janicke
Director of De Montfort University's Cyber Technology Institute
Head of School of Computer Science and Informatics

About the keynote speaker:
Professor Helge Janicke is the Director of De Montfort University's Cyber Technology Institute. He is the Head of School of Computer Science and Informatics. Prof. Janicke was awarded his PhD in Computer Science in 2007 and worked on Cyber Security with organisations such as Airbus Group, QinetiQ, Ministry of Defence and General Dynamics UK amongst others. His interests are covering formal verification techniques and their application to Cyber Security, SCADA and Industrial Control System Security as well as aspects of Cyber Warfare. He established DMU's Airbus Group Centre of Excellence in SCADA Cyber Security and Forensics Research in 2013. He is a general chair of the International Symposium on SCADA and Industrial Control Systems Cyber Security Research (ICS-CSR). He is Editor-in-Chief for the Journal of Security and Safety (EAI) and serves on the editorial board and as reviewer for a number of international journals.

Abstract:
The health and well-being of a nation's citizens is a critical function of any state. Amongst other sectors, healthcare is a Critical Infrastructure and recent attacks on health-care organisations in the UK, and indeed world-wide, have demonstrated the vulnerabilities of a sector that is increasingly reliant on the functioning of its information systems and electronically controlled infrastructures. In this talk I will analyse some of the risks and threats that the health-care sector is facing, in particular highlighting dependencies on other critical infrastructures whilst considering a number of relevant threat actors. Whilst research has progressed significantly our understanding of cyber security, the fast pace of technology adoption and the ubiquity of devices, sensors and

communication links in emerging areas such as smart-care, e-health and assisted living, create new cyber security challenges that must be addressed. Many of these challenges have technological solutions but the real challenge is in the "wet-ware", the human component of these systems.

Keynote 3: Integrated Network Application in Telemedical Assistant System
Speaker: Chengsheng Pan
Chair: Liming Chen, De Montfort University, UK
Time: Fri. Oct.13 13:40-14:20

Chengsheng Pan
Professor/doctoral supervisor of Dalian University
President of Dalian University of China

About the keynote speaker：

Professor Chengsheng Pan is long engaged in air ground integrated network management technology and aerospace information transmission network technology research. He has led and organized seven National "863" projects, one National "973" project of China. He has published over 100 papers in related conferences, journals, and books, and been authorized with 12 items of patents. He has been awarded two second prizes of National Scientific and Technological Progress, first prize of National Defense Science and Technology, first prize of Technology Invention in Liaoning Province, first prize of Scientific and Technological Progress, et al. He is the consultant of International Journal of Innovative Computing and Information & Control, serving as the part-time member of its Science and Technology Committee and standing director of the Chinese Society of Command and Control.

Abstract:

The integration of telemedicine and information technology has become international medical research focus. We have launched research and application of the telemedical assistant system based on integrated network technology. We reviewed the current global research of link aggregation technology, unified carrier technology and telemedical assistant system and further issued the urgency and feasibility of the integration of innovative medical and information technology. We then discussed the key technologies of heterogeneous link aggregation based on self-similar model and business-oriented unified carrier for multi-network convergence in detail. In the aspect of link aggregation technology, we illustrated the dynamic cache management method and the design of link controller with self-similar model; in the aspect of unified carrier technology, we discussed the fast convergence technology, multi-service routing optimization

technology and Linux-based unified carrier system. In summary, we manifested the trends and landscape of the integrated network technology application in the telemedical assistant system.

Keynote 4: Role of mHealth in Universal Health Coverage (UHC)
Speaker: Pradeep Ray
Chair: Augusto or His-pin Ma
Time: Sat. Oct.14 08:30-09:10

Pradeep Ray

Shanghai 1000 Talent Distinguished Professor, University of Michigan Joint Institute, Shanghai Jiao Tong University, China
Honorary Professor and Founder, WHO Collaborating Centre on eHealth, UNSW -Australia
Professor, MoE Engineering Research Centre for Digital Medicine, Shanghai Jiao Tong University
Visiting Professor, Hiroshima University, Japan

About the keynote speaker：

Professor Pradeep Ray has recently been awarded the Shanghai 1000-talent Distinguished Professor status to work on the role of entrepreneurship in mHealth for addressing global problems. He is also a Professor in the Engineering Research Centre for Digital Medicine at Med-X Institute of Shanghai Jiao Tong University. He has been founder of the WHO Collaborating Centre on eHealth at the University of New South Wales (UNSW)-Australia where he is an Honorary Professor in the School of Public Health and Community Medicine (SPHCM). Pradeep led to completion (2006-2009) the WHO Research on the Assessment of e-Health for Health Care Delivery (eHCD) involving a number of countries in the Asia-Pacific region (India, China, Vietnam and Philippines). Pradeep also led to completion a number of international initiatives, such as the ITU-D/IEEE Mobile eHealth Initiative for Developing Countries (2004-2009) and the Global Longitudinal Study on the Assessment of mHealth (2009-2012). This study involved a number of developing countries, such as Bangladesh, India, PNG and Indonesia. The highly cited work by APuHC on mHealth Bangladesh led to the formation of the UNSW YunusSocial Business Hub for Health, the first of its kind in Australia. He has been an IEEE Distinguished Lecturer on eHealth (since 2014). He has been a founder and a Chair of IEEE eHealth Technical Committee (2009-2013) and the founder of IEEE Healthcom (since 1999).
Abstract:

The United Nations has recognized the need for a holistic approach of sustainable development where health, environment and social wellbeing are being targeted together through the new global Sustainable Development Goals (SDGs). In the healthcare sector Universal Health Coverage (UHC) is the platform that seeks to overcome inequality in tackling the service provision gap and financial gap that populations face. The role of ICT (Information and Communication Technologies) to build the essential building blocks of UHC has been accepted, In particular, the proliferation of mobile phones in developing countries, have raised the spectre of better access to quality healthcare in a cost-effective manner. Mobile communication devices, in conjunction with Internet and social media, present opportunities to enhance disease prevention and management by extending health interventions beyond the reach of traditional care—an approach referred to as mHealth. It has been predicted that by 2017 there will be "more mobile phones than people" on the planet, and currently three-quarters of the world's population have access to a mobile phone. The World Health Organization (WHO) has announced that m-health has the "potential to transform the face of health service delivery across the globe". Interestingly, the Govt of China has been actively encouraging universities to impart entrepreneurship education to its engineering and technical students. This requires inter-disciplinary approach to technical education and research. This talk will present an overview of the role entrepreneurship can play in helping address the global problem of Universal Health Coverage (UHC) based on mHealth.

Keynote 5: Robust Surgical Endoscope Tracking and Navigation
Speaker: Sean He
Chair:　Augusto or His-pin Ma
Time: Sat. Oct.14 09:10-09:50

Sean He
Professor of Computer Science
School of Electrical and Data Engineering
Core Member, Global Big Data Technologies Centre
Core Member, AAI - Advanced Analytics Institute

About the keynote speaker：

Professor Sean He, as a Chief Investigator, has received various research grants including four national Research Grants awarded by Australian Research Council (ARC). He is the Director of Computer Vision and Pattern Recognition Laboratory at the Global Big Data Technologies Centre (GBDTC). He is also the Director of UTS-NPU International Joint Laboratory on Digital

Media and Intelligent Networks. He is an IEEE Senior Member and has been an IEEE Signal Processing Society Student Committee. He is a leading researcher in several research areas including big-learning based human behaviors recognition on a single image, image processing based on hexagonal structure, authorship identification of a document and a document's components (e.g., sentences, sections etc.), network intrusion detection using computer vision techniques, car license plate recognition of high speed moving vehicles with changeable and complex background, and video tracking with motion blur. He has played various chair roles in many international conferences such as ACM MM, MMM, IEEE BigDataSE, IEEE CIT, IEEE AVSS, IEEE TrustCom, IEEE ICPR and IEEE ICARCV. In recent years, he has many high quality publications in IEEE Transactions journals such as IEEE Transactions on Computers, IEEE Transactions on Parallel and Distributed Systems, and IEEE Transactions on Multimedia; and in Elsevier's journals such as Pattern Recognition, Signal Processing, and Computer Networks. He has also had papers published in premier international conferences and workshops such as ACL, IJCAI, CVPR, ECCV and ACM MM. He has recently been a guest editor for various international journals such as Journal of Computer Networks and Computer Applications (Elsevier), Future Generation Computer Systems (Elsevier) and Signal Processing (Elsevier). He is currently an Advisor of HKIE Transactions.

Abstract:

Medical endoscopic procedures with a surgical tool called endoscope are widely performed in minimally invasive surgery (MIS). The endoscopes have been integrated with cameras at their distal tip and directly inserted into the body through natural orifices (e.g., mouth and nose) to observe the interior of hollow organs, e.g., sinuscopes for sinus inspection, colonscopes for colon/rectum cancer detection, angioscopes for examining the lumen of blood vessels, and bronchoscopes for lung and bronchus cancer diagnosis, staging, and treatment. Nowadays, navigated endoscopy is generally agreed to be the next generation of interventional or surgical endoscopy. It usually combines pre- and intra-operative imaging information to guide physicians during endoscopic procedures. However, endoscope three-dimensional motion tracking that spatially and temporally synchronizes various sensory information still remains challenging for developing different endoscopic navigation systems. In this respect, endoscope tracking and navigation aim at fusing the modality information to accurately and robustly locate or fly through the endoscope at any interest of regions. Unfortunately, fusing the multimodal information is still an open issue due to the information incompleteness, e.g., image artifacts, tissue deformation, and sensor output inaccuracy in computer assisted endoscopic interventions. In this talk, a novel framework of multimodal information fusion is presented to use evolutionary computing for endoscopic navigation systems. As most popular evolutionary computing algorithms, adaptive particle swarm optimizer and differential evolution are modified to precisely localize the endoscope and estimate the movement.

Sessions of Healthcom 2017

Instruction for Speakers

The allocation of time:

Healthcom and Workshop Presentation: 16 minutes presentation + 4 minutes Q&A

Title/Number of paper, all of authors' names, and Electronic Presentation (PPT or PDF) should be sent to us one day earlier.(Please send the mail to: **dlsmartcity@hotmail.com** or directly copy to the volunteers at work)

Newest and detail of Program can be found at,

https://www.edas.info/web/ieeehealthcom2017/program.html

Thursday, October 12

Thursday, October 12, 09:30 - 12:00

W1S1: Workshop AI & TCM, Session 1
The 1st IEEE International Workshop on Artificial Intelligence in Chinese Medicine Workshop
Room: The 8th Floor Conference Room
Chair: Tong Yu (Information Institute of TCM, P.R. China)

1. Research on the Construction of Knowledge Service Platform for TCM Health Preservation
2. A Preliminary Study on Syndrome Differentiation of Cold and Heat
3. Intelligent Monitoring System Based on STM32
4. Structural Technology Research on Symptom Data of Chinese Medicine
5. Construction of Knowledge Graph of Traditional Chinese Medicine Based on the Ontology
6. Traditional Chinese Medicine Prescription Mining Based on Abstract Text
7. Ontology Constructing for Chinese medicine Knowledge of Beng Lou

W2&W3: Workshop ETPHA & ReHIS
Room: The 9th Floor Conference Room
Chair: Tareq Alhadidi (Prince Sattam bin Abdulazizi University & Biomedical Technology Dep., Saudi Arabia)

1. Advanced Block-Chain Architecture for e-Health Systems
2. Systemic Design Approach to Reducing Rates of Unplanned Hospital Readmissions
3. The Design of Wearable Sleep Apnea Monitoring Wrist Watch
4. Feasibility Analysis for Deploying National Healthcare Information System (NHIS) for Pakistan
5. A New Formula for Noninvasive Determination of Cardiac Output by Bioadmittance Signal Processing

Thursday, October 12, 12:00 - 13:00

L1: Lunch

Room: Sea Rhythm Western Restaurant

Chair: Jing Qin (Dalian University, P.R. China)

Thursday, October 12, 13:00 - 14:30

W1S2: Workshop AI & TCM, Session 2: The 1st IEEE International Workshop on Artificial Intelligence in Chinese Medicine Workshop
Room: The 8th Floor Conference Room
Chair: Tong Yu (Information Institute of TCM, P.R. China)

1. Reasoning Algorithm of Outdoors Tumble Based on E˙(t) Set for the Elderly
2. Outline of the Construction and Application of a GFO-based TCM Diagnoses Ontology for Syndrome Differentiation of Psoriasis Vulgaris
3. Missing value imputation methods for TCM medical data and its effect in the classifier accuracy
4. Review of Multi view Auto-stereoscopic display system based on depth image analysis

Thursday, October 12, 14:30 - 15:00

SP1: Post Session: Post for Demo, Poster, Short Papers
Room: The 8th Floor Conference Room
Chair: Ismini Psychoula (De Montfort University, European Union)

1. Simultaneous Learning of Speech Feature and Segment for Classification of Parkinson Disease
2. Non-invasive Sleep Monitoring based on RFID
3. An e-Healthcare Sensor Network Load-balancing Scheme using SDN-SFC
4. Alert Me: Enhancing Active Lifestyle Via Observing Sedentary Behavior Using Mobile Sensing Systems
5. iSkin Specialist - Towards Care Everywhere
6. Transfer Bi-directional LSTM RNN for Named Entity Recognition in Chinese Electronic Medical Records
7. Improved Persuasive Design: Matching Personal Traits and Inducing Effortful Thinking
8. Metrics for Assessing Blockchain-based Healthcare Decentralized Apps
9. A Method for Classifying Medical Images using Transfer Learning: A Pilot Study on Histopathology of Breast Cancer
10. CAir: Mobile-Health Intervention for COPD Patients
11. LSTM-RNNs Combined with Scene Information for Human Activity Recognition

Thursday, October 12, 15:00 - 18:00

Visit smart medical and health application
Go to Zhongshan Hospital of Dalian University
Chair: Changqing Ji (Dalian University, P.R. China)

Thursday, October 12, 18:00 - 19:00

Dinner Time
Room: Sea Rhythm Western Restaurant
Chair: Jing Qin (Dalian University, P.R. China)

Friday, October 13

Friday, October 13, 08:30 - 08:50

Opening Ceremony
Room: YinBoFu
Chair: Zumin Wang (Dalian University, P.R. China)

Friday, October 13, 08:50 - 09:30

K1: Keynote 1: The U.S. Food and Drug Administration's Database of Medical Device Adverse Events
Michael Pecht,　University of Maryland, USA
Room: YinBoFu
Chair: Lei Shu (Guangdong University of Petrochemical Technology, P.R. China)

Friday, October 13, 09:30 - 10:00

I1: Invited Speaker 1
Chi Yuan, Dalian High-Tech Zone
Room: YinBoFu
Chair: Lei Shu (Guangdong University of Petrochemical Technology, P.R. China)

Friday, October 13, 10:00 - 10:30

T1: Tea Break, Photograph
Chair: Jing Qin (Dalian University, P.R. China)

Friday, October 13, 10:30 - 12:00

GP1: Health Monitoring, Traffic Characterization & Management
Room: YinBoFu
Chair: Thomas Lindh (Royal Institute of Technology, Sweden)

1. An Effective Approach for Epileptic Seizures Detection from Multi-Sensors Integrated in an Armband

2. A Data-Driven Approach to Pre-Operative Evaluation of Lung Cancer Patients
3. Pulmonary Nodules Detection Based on Local Receptive Field and Semi-supervised Deep Autoencoder
4. Technical note - corrigendum to "c-Fos immunoreactivity and variation of neuronal units in rat's motor cortex after chronic implants"

GP2: Healthcare Information Systems
Room: The 8th floor conference room
Chair: Hsi-Pin Ma (National Tsing Hua University, Taiwan)

1. Assessment of Healthcare Claims Rejection Risk Using Machine Learning
2. ICU Mortality Prediction Using Modified Cost-Sensitive PCA and Chaos PSO
3. Beyond Best Effort: Automated Feedback for Improved Data Quality in Clinical Disease Registries. A Case Study of the International Niemann-Pick Disease Registry (INPDR)
4. A Machine Learning Based System for the Automatic Evaluation of Aphasia Speech
5. LSTM Based Classification Model and Its Application for Doctor - Patient Relationship Evaluation

GP3: Security and Privacy on eHealth
Room: The 9th floor conference room
Chair: Lei Shu (Guangdong University of Petrochemical Technology, P.R. China)
1. Anonymizing Approach to Resist Label-Neighborhood Attacks in Dynamic Releases of Social Networks
2. Finger ECG-based Authentication for Healthcare Data Security Using Artificial Neural Network
3. Privacy and Security for Patient-centric Elderly Health Care
4. Security Analysis of a mHealth App in Android: Problems and Solutions
5. 4G UAV Communication System and Hovering Height Optimization for Public Safety

Friday, October 13, 12:00 - 13:00

L2: Lunch
Room: Sea Rhythm Western Restaurant
Chair: Jing Qin (Dalian University, P.R. China)

Friday, October 13, 13:00 - 13:40

K2: Keynote 2: Cyber Security Threats to Citizen's Health and Wellbeing
Helge Janicke, De Montfort University, UK
Room: YinBoFu
Chair: Liming Luke Chen (De Montfort University, United Kingdom (Great Britain))

Friday, October 13, 13:40 - 14:20

K3: Keynote 3: Integrated Network Application in Telemedical Assistant System
Chengsheng Pan, Dalian University, China
Room: YinBoFu
Chair: Liming Luke Chen (De Montfort University, United Kingdom (Great Britain))

Friday, October 13, 14:20 - 14:40

T2: Tea Break
Room: YinBoFu
Chair: Jing Qin (Dalian University, P.R. China)

Friday, October 13, 14:40 - 17:40

GP4: Intelligence information/data processing
Room: YinBoFu
Chair: Zhengxing Huang (Zhejiang University, P.R. China)
1. A Survey of Data Mining Technology on Electronic Medical Records
2. SimpleHealth - A Mobile Cloud Platform to Support Lightweight Mobile Health Applications for Low-end Cellphones
3. How Do You Breathe--a Non-contact Monitoring Method Using Depth Data
4. Visually Impaired People Location in Indoor Environments Based on Visual and Inertial Data Fusion
5. Mobile Cloud ECG Intelligent Monitoring and Data Processing System
6. Adaptive Forwarding of mHealth Data in Challenged Networks
7. Short-Term Forecasting of Hospital Discharge Volume based on Time Series Analysis
8. Application of PSO algorithm with Dynamic Inertia Weight in Medical Image Thresholding Segmentation

GP5: IoT Application and Wearable Sensor Systems
Room: The 8th floor conference room
Chair: Minkeun Ha (KTH Royal Institute of Technology, Sweden)

1. Distributed Performance Management of Internet of Things as a Service for Caregivers
2. Stress Evaluation Index based on Poincare Plot for Wearable Health Devices
3. Lighting fixture communicating in infrared and visible for indoor health monitoring
4. Privacy Modelling and Management for Assisted Living within Smart Homes
5. Wearable Accelerometer Based Extended Sleep Position Recognition
6. Multi-parameter health monitoring watch
7. A Novel System Architecture for Brain Controlled IoT Enabled Environments
8. An Ensemble Approach to Activity Recognition Based on Binary Sensor Readings

GP6: Network/Communication Infrastructures and Architectures for Healthcare

Room: The 9th floor conference room
Chair: Carlos Juiz (Universitat de les Illes Balears, Spain)

1. Standardization of IT Governance in Healthcare Institutions
2. Deadline-constrained Data Aggregation Scheduling in Urban Vehicular Networks
3. CC-Fog: Toward Content-Centric Fog Networks for E-Health
4. Clustered Multi-dictionary Code Compression Method for Portable Medical Electronic Systems
5. TinySense: Multi-User Respiration Detection using Wi-Fi CSI Signals
6. Classification of ECG Signals Based on 1D Convolution Neural Network

Friday, October 13, 18:00 - 20:00

B: Banquet
Room: Grand Ballroom
Chair: Lei Shu (Guangdong University of Petrochemical Technology, P.R. China)

Saturday, October 14

Saturday, October 14, 08:30 - 09:10

K4: Keynote 4: Role of mHealth in Universal Health Coverage (UHC)
Pradeep Ray,Shanghai Jiaotong University,China
Room: YinBoFu

Saturday, October 14, 09:10 - 09:50

K5: Keynote 5: Robust Surgical Endoscope Tracking and Navigation
Sean He, University of Technology, Sydney (UTS), Australia
Room: YinBoFu

Saturday, October 14, 09:50 - 10:10

T3: Tea Break
Room: YinBoFu
Chair: Jing Qin (Dalian University, P.R. China)

Saturday, October 14, 10:10 - 12:10

GP7: Artificial Intelligence and Machine Learning
Room: YinBoFu
Chair: Liming Luke Chen (De Montfort University, United Kingdom (Great Britain))
1. A Fault Diagnosis Method for Information Systems Based on Weighted Fault Diagnosis Tree
2. Exploring Diseases based Biomedical Document Clustering and Visualization using Self-Organizing Maps
3. A Supervised Machine Learning Study of Online Discussion Forums about Type-2

4. Closed Loop Control of Blood Glucose Level with Neural Network Predictor for Diabetic Patients
5. Using Predictive Classifiers to Prevent Infant Mortality in the Brazilian Northeast
6. Multivariate time-series classification of sleep patterns using a hybrid deep learning architecture

GP8: Image/Network/Communication and Video Processing on eHealth
Room: The 8th floor conference room
Chair: Christian Kohlschein (RWTH Aachen University, Germany)

1. A Novel Benchmark on Human Activity Recognition Using WiFi Signals
2. A Research on CSI-based Human Motion Detection in Complex Scenarios
3. An Application of Vision Technology on Intelligent Sorting System by Delta Robot
4. ViLiP - A Visual Literature Research Platform For Biomedical Publications
5. Transabdominal Fetal Pulse Oximetry: The Case of Fetal Signal Optimization
6. Exploring Risk Factors and Predicting UPDRS Score Based on Parkinson's Speech Signals

GP9: eHealth to Support Quality of Life
Room: The 9th floor conference room
Chair: Liming Luke Chen (De Montfort University, United Kingdom (Great Britain))
1. Happy Times: A Mobile Multimedia Reminiscence Therapy Application to Reduce Behavioral and Psychological Symptoms in Persons with Alzheimer's -Phase 1
2. Influence of Emotional labor on Organizational Commitment in Government Logistics Personnel: The Mediating Effect of Job Burnout and The Moderating Effect of Perceived Organizational Support
3. Home-based Exercise System for Patients Using IoT Enabled Smart Speaker
4. FAAL: Fog Computing-based Patient Monitoring System for Ambient Assisted Living
5. Helping the Elderly with Physical Exercise: Development of Persuasive Mobile Intervention Sensitive to Elderly Cognitive Decline
6. AutiAid: A Learning Mobile Application for Autistic Children

Saturday, October 14, 12:10 - 13:00

L3: Lunch
Room: Sea Rhythm Western Restaurant
Chair: Jing Qin (Dalian University, P.R. China)

Saturday, October 14, 13:00 - 14:40

GP10: Pervasive and Ubiquitous Computing on eHealth
Room: YinBoFu
Chair: Liming Luke Chen (De Montfort University, United Kingdom (Great Britain))

1. Research on SCKM Algorithm Based on the Parallel Clustering
2. Un-Apriori: a Novel Association Rule Mining Algorithm for Unstructured EMRs
3. Design and Implementation of a Mobile-health Call System Based on Scalable kNN Query
4. A New Classification Algorithm WKS Based on Weight
5. Cuff-less Blood Pressure Estimation Using Kalman Filter on Android Platform

GP11: Sustainable eHealth Service and Applications
Room: The 8th floor conference room
Chair: Zhengxing Huang (Zhejiang University, P.R. China)
1. Socio-technical Approach to Engineer Gigabit App Performance for PhysicalTherapy-as-a-Service
2. Remote Patient Health Monitoring Cloud Brokering Services
3. Subjective Liver Ultrasound Video Quality Assessment of Internet based Videophone Services for Real-Time Telesonography
4. Health Service Provision based on Typed Resources of Data, Information and Knowledge
5. Internet of the Body and Cognitive Companion

GP12: Body Sensor and Sensor Network
Room: The 9th floor conference room
Chair: Liming Luke Chen (De Montfort University, United Kingdom (Great Britain))
1. User Behavior Driven MAC Scheduling for Body Sensor Networks
2. A Multi-layer Low-Energy Adaptive Clustering Hierarchy for Wireless Sensor Network
3. Anti-synchronization of Coupled Boolean Networks
4. Analyzing Chronological Order Reconstruction Problem in Cyber-Physical Systems
5. Gram Staining of Intestinal Flora Classification Based on Convolutional Neural Network
6. A Post-processing Beam Hardening Correction Method for Axial Computed Tomography

Saturday, October 14, 14:40 - 15:10

I2: Invited speaker: Application of innovative electrocardiogram software on cardiac arrhythmias
Shulong Zhang, MD PhD Director of Cardiology Department, Affiliated Zhongshan Hospital of Dalian University
Room: YinBoFu

Saturday, October 14, 15:10 - 15:40

I3: Invited speaker 3: The establishment of the quat strategy on tumor cells + big date of tumor cells + the system of doctor decision + a personalized treatment
Xiaohui Zhang, PhD. In organic chemistry/medicine chemistry, CEO of Dalian

Xiaohui Medical Science & Tech. Co. Ltd,
Room: YinBoFu

Saturday, October 14, 15:40 - 16:00

T4: Tea Break
Room: YinBoFu
Chair: Jing Qin (Dalian University, P.R. China)

Saturday, October 14, 17:00 - 18:00

D: Dinner
Room: (Sea Rhythm Western Restaurant)
Chair: Jing Qin (Dalian University, P.R. China)

Sunday, October 15

Sunday, October 15 Morning Attendees Returning

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Zhiyang Li, Dalian Maritime University

Jianxin Zhang, Dalian　University

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The conference location

Dalian Infine Hotel

Add：No.135 Jinma Road，Dalian Economy and Technology Development Zone, Dalian, China
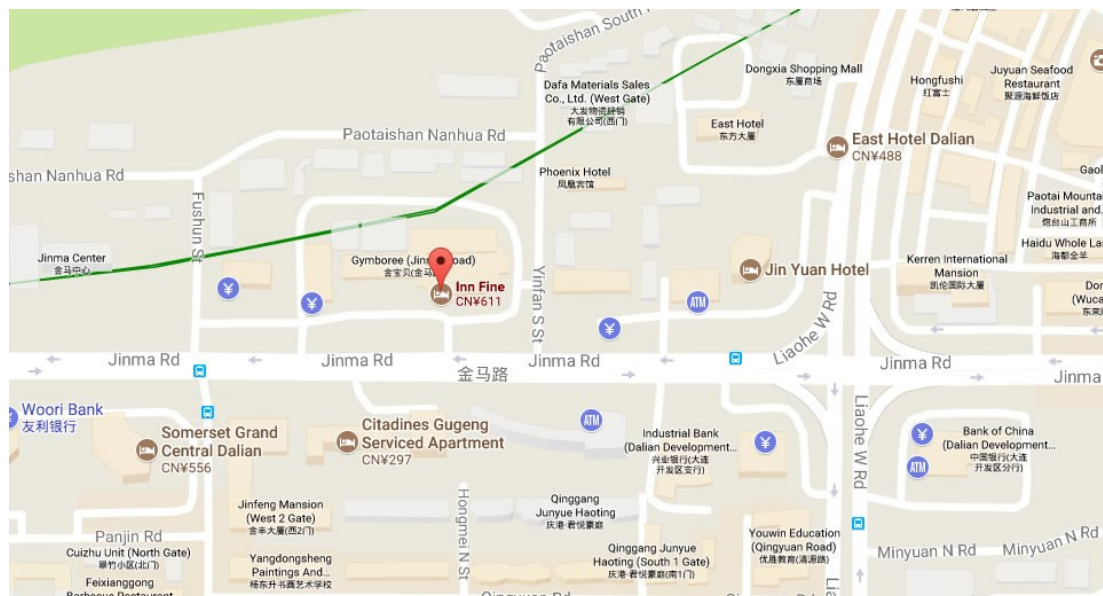
Hotel and catering contact information：

Email: reservation@infinehotel.cn

Tel: Lijuan Wang <0086-15641124898> Booking number <0086-411-39968888-999>

Mode of transportation:

The hotel is easily accessible from Dalian Zhoushuizi International Airport, Dalian Train Station and Dalian North Railway Station. Taking a taxi is the most convenient way to get to the Infine hotel. And please note that Dalian Infine Hotel is about 60-minute drive from Dalian Train Station, about 50-minute drive from the Zhoushuizi International Airport and about 30-minute drive from Dalian North Railway Station.

Note: As the conference's organizer, we will provide traffic guidance services at the arriving **exit B** in Zhoushuizi International Airport **(Oct. 11-12 10:00am-15:00pm Beijing time)**

If you can't speak Chinese, please show the following sentence to the taxi driver if necessary.
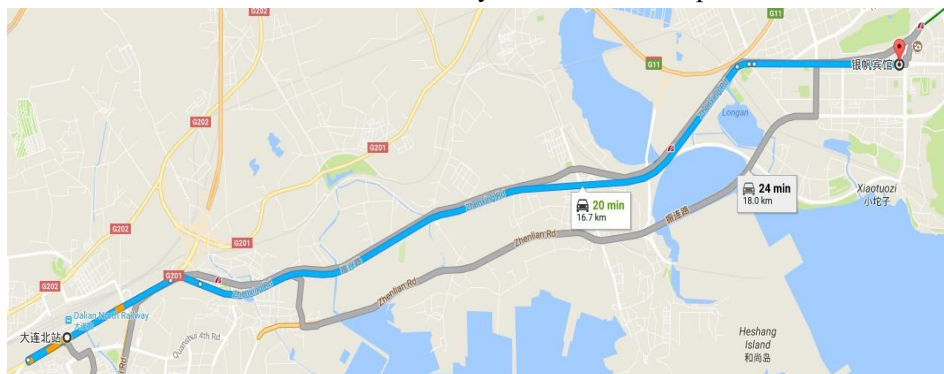
师傅，请送我到大连经济技术开发区银帆宾馆！（大连经济技术开发区金马路135号）

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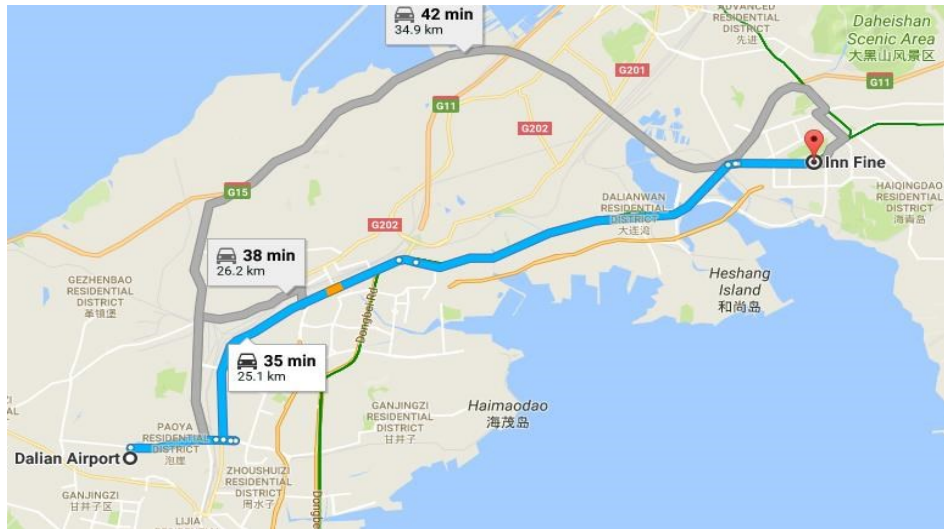
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