ICCSE/IEEE ICA/ICAA 2017

- The 2nd International Conference on Crowd Science and Engineering
- The 2nd IEEE International Conference on Agents
- The 5th International Conference on Ageless Aging

6-9 July 2017

Beijing, China

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Welcome Message (ICCSE 2017)

Dear ICCSE 2017 delegates,

On behalf of the ICCSE 2017 organizing committee, we warmly welcome you to the 2nd International Conference on Crowd Science and Engineering – Smart and Crowd.

ICCSE 2017 offers a wonderful opportunity for academics, industry practitioners and policy makers to gather and explore the transformative potential of crowd science research, with an aim to find ways to engineer efficient systems that can combine the strengths of both humans and machines for new innovative possibilities.

ICCSE 2017 provides a global forum for scientists, engineers and educators to present and discuss the latest Crowd Science and Engineering research, emerging technologies and their future applications. The ICCSE 2017 program includes 5 keynote speeches given by world renowned speakers, they are Martin McKeown, Xiaoming Li, Yew-Soon Ong, Takayuki Ito and Yuan Miao; 4 technical sessions on emerging research areas and a number of Poster/Demo/Exhibition sessions.

ICCSE 2017 is held on the campus of Tsinghua University, China. It offers ample opportunities for delegates to interact and connect each other. ICCSE 2017 wishes to thank our International Advisory Committee and Organizing Committee members for their great contributions to ensure the success of the conference. ICCSE 2017 also thanks Tsinghua University for providing the conference venue. Beijing is a modern cosmopolitan city, with spectacular scenery as well as a rich and diverse culture. Besides attending the conference, ICCSE 2017 delegates will find a whole lot to see and do in Beijing.

We hope that ICCSE 2017 will be a memorable event for all delegates. We welcome you to explore and enjoy the Tsinghua campus and wish you a wonderful stay in Beijing.

Yueting Chai, Tsinghua University, China

Takayuki Ito, Nagoya Institute of Technology, Japan

ICCSE 2017 General Chairs

Welcome Message (IEEE ICA 2017)

Dear IEEE ICA 2017 delegates,

On behalf of the Organizing Committee, we are delighted to invite you to the IEEE International Conference on Agents.

Intelligent agents are software entities which can carry out actions on behalf of clients with a certain degree of autonomy. Through sensing the environment, agents perform operations based on their possessed knowledge in order to change or influence the environment towards their goals. A Multi-Agent System (MAS) is a system where agents interact with other agents in a group cooperatively and/or competitively in order to reach their individual or common goals. In general, agents have five common characteristic properties: autonomy (some level of self-control), adaptivity (the ability to learn and improve performance with experience), reactivity (the ability to perceive the environment and respond timely to changes that occur), proactivity (the ability not only to act simply in response to their environment but also to exhibit goal-directed behaviours by taking initiatives) and sociability (the ability to interact, communicate and work with other agents).

Research on agent techniques and MASs mainly focus on improving existing or invent innovative frameworks, models, mechanisms, approaches and algorithms to improve agent effectiveness and efficiency in the above-mentioned five aspects for advanced autonomous problem solving abilities in complex environments. The ultimate purpose of such improvements and innovations is to create a new society where computational agents and humans can live, work and play with each other harmoniously.

ICA 2017 will provide a precious opportunity for AI researchers and domain experts to exchange new insights and research experience in agent technique and MASs and for industrial investigators to explore the great potential of different applications in these two important fields of AI.

Bo An, Nanyang Technological University, Singapore

Yang Gao, Nanjing University, China

IEEE ICA 2017 General Chairs

Welcome Message (ICAA 2017)

Dear ICAA 2017 delegates,

On behalf of the Organizing Committee, we are excited to invite you to the 5th International Conference on Ageless Aging (ICAA 2017).

The rapid aging of population worldwide has brought unprecedented social and economic challenges to the societies. Senior citizens face many physical, cognitive and emotional difficulties as a result of aging. To enable the elderly to lead an active, independent and dignified lifestyle in a rapidly aging society, research in different ageless aging technologies is urgently needed.

ICAA 2017 presents a forum to discuss advances in the state-of-the-art research and practices in ageless aging. Experts from both the academia health care organizations and industry will share their experience, visions, ideas and research results on ageless aging. Both theoretical and practical findings will be introduced and discussed.

ICAA 2017 discusses topics in multi-disciplinary areas, including AI, data analytics, cognition and person-centric care, future nursing homes, life-long learning, aging-in-place, serious games, productive aging, aging studies and test-bedding.

ICAA 2017 wishes to thank our International Advisory Committee and Organizing Committee members for their great contributions to ensure the success of the conference. ICAA 2017 also thanks the Tsinghua University for providing the conference venue.

Chin Jing Jih, Tan Tock Seng Hospital, Singapore

Cyril Leung, University of British Columbia, Canada

Chunyan Miao, Nanyang Technological University, Singapore

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- Qiong Wu – Nanyang Technological University, Singapore
- Liang Zou – The University of British Columbia, Canada
- Minting Huang – Nanyang Technological University, Singapore

Program at a Glance

Day 1: Thu., July 6, 2017, Central Main Building (CMB) ①, Tsinghua University	
8:00 - 8:50	Registration (CMB Lobby)
8:50 - 9:20	Welcome Speech (ICCSE/ICAA/ICA)
9:20 - 10:00	Keynote #1 (CMB Reception Hall) Speaker: Prof Martin McKeown, The University of British Columbia, Canada (ICAA)
10:00 - 10:30	Poster Session
10:30 - 11:10	Keynote #2 (CMB Reception Hall) Speaker: Prof Calton Pu, Georgia Institute of Technology, USA (ICCSE)
11:10 - 11:30	Group Photo (front of CMB main entrance)
11:30 - 12:30	ICCSE-S1 (CMB610) ICA-S1 (CMB Reception Hall) ICAA-S1 (CMB803)
Lunch: 12:30 - 14:00	Venue: Zhilanyuan Cafeteria in Tsinghua Campus ②
POSTER/DEMO Session: 13:00-14:00	Venue: Central Main Building (CMB)
14:00 - 14:30	Keynote #3 (CMB Reception Hall) Speaker: Prof. Chin Jing Jih, Lee Kong Chian School of Medicine and Tan Tock Seng Hospital, Singapore (ICAA)
14:30 - 15:00	Keynote #4 (CMB Reception Hall) Speaker: Prof. Chen Yiqiang, Chinese Academy of Sciences, China (ICAA)
15:00 - 15:40	Keynote #5 (CMB Reception Hall) Speaker: Prof. Yang Yu, Nanjing University, China (ICA)
15:40 - 16:00	Poster Session
16:10 - 17:40	ICCSE-S2 (CMB610) ICA-S2 (CMB Reception Hall) ICAA Panel Discussion (CMB803)
Reception: 18:00 - 20:00	Venue: Yan Ming Yuan Restaurant ③

Program at a Glance

Day 2: Fri., July 7, 2017, Central Main Building (CMB) ①, Tsinghua University	
8:30 - 9:00	Registration (CMB Lobby)
9:00 - 9:40	Keynote #6 (CMB Reception Hall) Speaker: Prof Xiaoming Li, Peking University, China (ICCSE)
9:40 - 10:20	Keynote #7 (CMB Reception Hall) Speaker: Prof. Ong Yew Soon, Nanyang Technological University, Singapore (ICCSE)
10:20 - 10:50	Keynote #8 (CMB Reception Hall) Speaker: Prof. Cuntai Guan, Nanyang Technological University, Singapore (ICAA)
10:50 - 11:00	Poster Session
11:00 - 12:30	ICCSE-S3 (CMB610) ICA-S3 (CMB Reception Hall) ICAA-S3 (CMB803)
Lunch: 12:30 - 14:00	Venue: Zhilanyuan Cafeteria in Tsinghua Campus ②
POSTER/DEMO Session: 13:00-14:00	Venue: Central Main Building (CMB)
14:00 - 14:40	Keynote #9 (CMB Reception Hall) Speaker: Prof. Matthew Taylor, Washington State University, USA (ICA)
14:40 - 15:10	Keynote #10 (CMB Reception Hall) Speaker: Prof Yuan Miao, Victoria University, Australia (ICCSE)
15:10 - 15:40	Keynote #11 (CMB Reception Hall) Speaker: Prof Takayuki Ito, Nagoya Institute of Technology, Japan (ICCSE)
15:40 - 16:00	Poster Session
16:10 - 18:00	ICCSE-S4 (CMB610) ICA-S4: Special Session (CMB Reception Hall) ICAA-S4 (CMB803)
Award Banquet: 18:30 - 21:00	Venue: Jiasuo Restaurant in Tsinghua Campus ④

Program at a Glance

Day 3: Sat., July 8, 2017, Central Main Building (CMB) ①, Tsinghua University	
8:30 - 9:00	Registration (CMB610)
9:00 - 9:50	Keynote #12 (CMB610) Speaker: Prof. Pingzhong Tang, Tsinghua University , China (ICA)
9:50 - 10:20	Keynote #13 (CMB610) Speaker: Prof. Takeshi Nagae, Tohoku University, Japan (ICA)
10:20 - 10:40	Session Break
10:40 - 12:00	ICA Panel Discussion (CMB610)
Lunch: 12:00 - 13:00	Venue: CMB610
13:00 - 15:00	ICA-S5a (CMB610) ICA-S5b (CMB803)
15:00 - 15:20	Session Break
15:20 - 16:50	ICA-S6a (CMB610) ICA-S6b (CMB803)
16:50 - 17:10	ICA Closing (CMB610)
Day 4: Sun., July 9, 2017	
ICCSE Steering committee meeting	
ICAA Steering committee meeting	
Network Meeting	
University Visit and Social Event	

Martin McKeown

Professor, Department of Neurology, The University of British Columbia, Canada

Director, Pacific Parkinson's Research Centre; PPRI/UBC Chair in Parkinson's Research

Title: What Smart Games are Best? Using Electrophysiological Biomarkers to Guide Smart Game Development in Patient Populations (ICAA)

Venue: Reception Hall of Central Main Building, THU

Time: Thursday, July 6, 2017 9:20 AM - 10:00 AM

Biography:

Dr. McKeown is the PPRI/UBC Chair in Parkinson's Research, Director at the Pacific Parkinson's Research Centre (PPRC), Professor in the Department of Medicine, and adjunct professor in the Department of Electrical and Computer Engineering at the University of British Columbia, Canada. The PPRC is deemed an International Centre of Excellence by the (US-based) National Parkinson's Foundation.

He did his Engineering Physics, Medicine and Neurology training at McMaster, University of Toronto, and University of Western Ontario, respectively. He did a 3yr research fellowship at the Computational Neurobiology Laboratory at the Salk Institute for Biological Studies in San Diego before being hired as an Assistant Professor of Medicine and Biomedical Engineering at Duke University. He was recruited to UBC in 2003.

He has been responsible for a variety of peer-reviewed research projects funded through the National Institute of Health (US-NIH), the National Parkinson's Foundation (US-NPF), the Canadian Foundation for Innovation (CFI), the Natural Sciences and Engineering Research Council of Canada (NSERC), the Canadian Institutes of Health Research (CIHR), the International Association of Translational Neuroscience, and the (US) Whitaker Foundation. He was a member of the Neuroscience A (NSA) Canadian CIHR Scientific peer review committee as well as a member of the Scientific Advisory Board of the Parkinson's Society of Canada. He has authored over 180 peer-reviewed papers and book chapters.

His interests include examining novel treatments for Parkinson's and exploring how Engineering methods can be used to enrich the lives of people with Parkinson's. In addition to seeing patients (>700 patient visits/yr) Dr. McKeown supervises graduate students in Neuroscience and Engineering, and trains the next generation of doctors.

Calton Pu

Professor and John P. Imlay, Jr. Chair in Software College of Computing, Georgia Institute of Technology, USA

Title: The Various Aspects of Crowd Science: Some Successes and Many Challenges (ICCSE)

Venue: Reception Hall of Central Main Building, THU

Time: Thursday, July 6, 2017 10:30 AM - 11:10 AM

Abstract:

The term "crowd science" has been (re-)interpreted in many ways, ranging from citizen science (Wikipedia) to crowd sourcing approaches. We will discuss some examples of successful applications and difficult research challenges of several such interpretations, including ensemble methods and information gathering from social networks. As a concrete example, the IBM Watson used ensemble methods to win in Jeopardy, but learned profanities from Urban Dictionary. In addition to a generic discussion, we will use our experience with LITMUS, a landslide detection system that integrates various physical and social sensors to illustrate the research challenges of finding information from many open data sources.

Biography:

Calton Pu was born in Taiwan and grew up in Brazil. He received his PhD from University of Washington and served on the faculty of Columbia University and Oregon Graduate Institute. Currently, he is holding the position of Professor and John P. Imlay, Jr. Chair in Software in the College of Computing, Georgia Institute of Technology. He has worked on several projects in systems and database research. His contributions to systems research include program specialization and software feedback. His contributions to database research include extended transaction models and their implementation. His recent research has focused on automated system management in clouds (Elba project), information quality (e.g., spam processing), and big data in Internet of Things (GRAIT-DM project). He has collaborated extensively with scientists and industry researchers. He has published more than 70 journal papers and book chapters, 280 conference and refereed workshop papers. He served on more than 120 program committees, including the co-PC chairs of SRDS'95, ICDE'99, COOPIS'02, SRDS'03, DOA'07, DEBS'09, ICWS'10, CollaborateCom'11, ICAC'13, CLOUD'15, BigData Congress'16, CIC'16, and co-general chair of ICDE'97, CIKM'01, ICDE'06, DEPSA'07, CEAS'07, SCC'08, CollaborateCom'08, World Service Congress'11, CollaborateCom'12, IEEE CIC'15, ICIOT'17, and ICDCS'17. He is a Fellow of AAAS and IEEE.

Chin Jing Jih
Chairman, Division of Integrated and Community Care
Deputy Chairman, Medical Board, Senior Consultant Geriatrician
Director, Institute of Geriatrics and Active Ageing
Tan Tock Seng Hospital, Singapore

Title: Ageless Aging - from Vision to Reality (ICAA)

Venue: Reception Hall of Central Main Building, THU

Time: Thursday, July 6, 2017 14:00 PM - 14:30 PM

Biography:

Dr Chin Jing Jih graduated from National of University of Singapore in 1990, and completed his basic specialist training programme in Internal Medicine in 1996. After obtaining his Membership with the United Kingdom Royal College of Physicians, he went on to complete his advanced specialty training in Geriatric Medicine in 1999. In 2000 Dr Chin completed a research fellowship in dementia at Johns Hopkins University School of Medicine and a clinical attachment on ethics consultation at the St Francis International Centre for Health Care Ethics, Honolulu. He was admitted as a Fellow of the Singapore Academy of Medicine in 2003 and elected Fellow of the Royal College of Physicians in Edinburgh in 2004.

Dr Chin is presently Senior Consultant Geriatrician at Tan Tock Seng Hospital, where he chairs the Division of Integrative & Community Care, a Division tasked primarily to develop a framework of integrated care that bridges tertiary, primary and long term care systems through its Departments of Geriatric Medicine, Palliative Medicine, Continuing & Community Care and Rehabilitation Medicine. Dr Chin is also the Director of the hospital's Institute of Geriatrics and Active Ageing, which anchors the hospital's efforts in ageing research and innovation, as well as education, in ageing and geriatrics. He is an Adjunct Associate Professor with the NUS Centre for Biomedical Ethics. He chairs the Clinical Ethics Committee of Tan Tock Seng Hospital and the Research Ethics Committee of the National Healthcare Group. He has been an appointed member of the Singapore Medical Council since 2008 and serves as a member of the Bioethics Advisory Committee. He is a member of the Board of Directors for the Agency of Integrated Care (AIC), Governing Council of Dover Park Hospice and the Medical Advisory Board of Ang Mo Kio–Thye Hua Kwan Hospital. Dr Chin is also the past President of the Singapore Medical Association (2012-2015), and a former Specialty Editor of the Singapore Medical Journal. Prior to his appointment as Assistant Dean, Dr Chin served as an external member of NTU's Institutional Review Board.

In 2007, Dr Chin was awarded the Healthcare Humanity Award for his contributions in promoting awareness and practice of clinical and research ethics among healthcare professionals in Singapore. In 2008, he received the NHG Outstanding Citizenship Award in recognition for his leadership in developing the NHG human research protection programme. In 2011 he received the NHG Distinguished Achievement Award for his contribution to the local healthcare sector and to NHG.

Xiaoming Li

Professor of School of Electronics Engineering and Computer Science, Peking University, China; Vice Provost and the chief of task force for MOOCs at Peking University; Co-Director of the Joint Research Institute in Science and Engineering by PKU and UCLA

Title: What We Have Learnt from MOOC Data (ICCSE)

Venue: Reception Hall of Central Main Building, THU

Time: Friday, July 7, 2017 9:00 AM - 9:40 AM

Abstract:

MOOC provides three promises to the world: reduced inequality in accessing higher education resource, improved learning experience on campus through blended learning, and exciting opportunities for research through rich data. For the past five years, researchers from every corner of the world have been trying very hard in making use of the data from MOOC platforms. Many interesting results are reported. In this talk, I'll provide a collection of them, which by no means is complete, and rather reflecting my personal taste. Nevertheless, I hope the message conveyed in the talk is informative and may serve as a starting point for further investigation.

Biography:

Dr. Li Xiaoming is a vice provost at Peking University. Early 2013, he was appointed as the chief of task force for MOOCs, responsible for promoting MOOC related activities in Peking University. Since then, more than 90 MOOCs from PKU have developed and offered on edx, coursera, and major Chinese MOOC platforms, attracted millions of learners around the world.

Dr. Li is also a professor in computer science. He served as the head of department of computer science at Peking University, and a vice president of Chinese Computer Federation. His research activities have been mainly on search engine and web mining, and as MOOCs prevail, he is now working on MOOC data analytics.

Yew-Soon Ong

Professor and Chair of the School of Computer Science and Engineering, Nanyang Technological University, Singapore

Director of the Data Science and Artificial Intelligence Research Center; Director of the A*Star SIMTECH-NTU Joint Lab on Complex Systems

Title: Digital Engineering Design Thinking (ICCSE)

Venue: Reception Hall of Central Main Building, THU

Time: Friday, July 7, 2017 9:40 AM - 10:20 AM

Abstract:

The design of complex engineering systems encompasses a wide range of activities whose goal is to determine the optimum characteristics of a product before it is manufactured. A strong capability to engineer reliable and high quality products is necessary in all engineering design companies to stay competitive in an increasingly global economy, which is constantly exposed to high commercial pressures. Good engineering know-how of new design concepts and technologies results in lower time to market and better quality at lower cost. Today, the design process has been transformed by the introduction of massive computing power and advances in information technology, computational sciences and artificial intelligence. These advances are leading to interesting new ways of managing the design process yielding reduction in design cycle times, cost saving and improvements in product quality. Its design is multidisciplinary in nature and is characterized by complex analyses of mutually interdependent disciplines and large search spaces. Data Science and artificial intelligence, in particular, is playing an increasingly significant role in complex engineering design, primarily with expensive physics-based numerical simulations. In this talk, we summarize the current role of machine learning and computational optimization in several application domains, taking a special focus on the field of aircraft design.

Biography:

Yew-Soon Ong is Professor and Chair of the School of Computer Science and Engineering, Nanyang Technological University, Singapore. He is Director of the Data Science and Artificial Intelligence Research Center, Director of the A*Star SIMTECH-NTU Joint Lab on Complex Systems and Principal Investigator of the Data Analytics & Complex System Programme in the Rolls-Royce@NTU Corporate Lab. He received his PhD from University of Southampton, UK.

Dr. Ong is founding Editor-In-Chief of the IEEE Transactions on Emerging Topics in Computational Intelligence, founding Technical Editor-In-Chief of Memetic Computing Journal (Springer), Associate Editor of IEEE Transactions on Evolutionary Computation, IEEE Transactions on Neural Network & Learning Systems, IEEE Transactions on Cybernetics, IEEE Transactions on Big Data, and others. His research interests in computational intelligence span across memetic computation, evolutionary optimization using approximation/surrogate/meta-models, intelligent agents, machine learning and Data Analytics. His research grant comprises of external funding from both national and international partners that exceed 15 Million USD. Dr. Ong's research has advanced the academic standing of evolutionary computation, earning him the recognition of a Thomson Reuters Highly Cited Researcher for two consecutive years (2015 and 2016) and a position among the World's Most-Influential-Scientific Minds. He received the 2015 IEEE Computational Intelligence Magazine Outstanding Paper Award and the 2012 IEEE Transactions on Evolutionary Computation Outstanding Paper Award for his work pertaining to Memetic Computation.

Matthew Taylor
Assistant Professor, Allred Distinguished Professorship in Artificial Intelligence, School of Electrical Engineering and Computer Science, Washington State University, USA

Title: Improving Reinforcement Learning with Human Input (IEEE ICA)

Venue: Reception Hall of Central Main Building, THU

Time: Friday, July 7, 2017 14:00 PM - 14:40 PM

Abstract:

Reinforcement learning (RL) has had many successes, from controlling video games and robots to web server and data center optimization. However, significant amounts of time and/or data can be required to reach acceptable performance. If agents or robots are to be deployed in real-world environments, it is critical that our algorithms take advantage of existing human knowledge. This talk will discuss a selection of recent work that improves RL by leveraging 1) demonstrations and 2) reward feedback from imperfect users, with an emphasis on how interactive machine learning can be extended to best leverage the unique abilities of both computers and humans.

Biography:

Matthew E. Taylor received his PhD from the University of Texas at Austin, supervised by Peter Stone. Matt then completed a two-year postdoctoral research position at the University of Southern California with Milind Tambe and spent 2.5 years as an assistant professor at Lafayette College in the computer science department. He currently holds the Allred Professorship in Artificial Intelligence as an assistant professor at Washington State University in the School of Electrical Engineering and Computer Science. He and his group have published over 100 peer-reviewed papers and funding support includes a National Science Foundation CAREER award. Current research interests include intelligent agents, multi-agent systems, reinforcement learning, transfer learning, and robotics.

Yiqiang Chen

Professor and the Founding Director of Ubiquitous Computing System Research Center, Institute of Computing Technology (ICT), Chinese Academy of Sciences, China

Title: Dependable ADL Intelligent Computing for Healthcare (ICAA)

Venue: Reception Hall of Central Main Building, THU

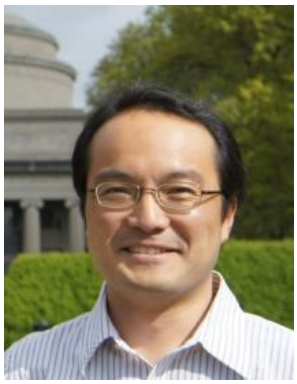
Time: Thursday, July 6, 2017 15:00 PM - 15:40 PM

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 designe 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.

Biography:

Dr Yiqiang Chen is a Professor and the Founding Director of Ubiquitous Computing System Research Center, Institute of Computing Technology (ICT), Chinese Academy of Sciences. He received his PhD degree from ICT in 2002. In 2004, he was a Post-Doctoral in the Department of Computer Science, Hong Kong University of Science and Technology (HKUST). His research focuses on human computer interaction and pervasive computing and wearable computing, especially on cognitive wearable computing--learning and understanding human behaviors (physiological, gesture, activity and context etc) in unobtrusive way. He has published over 100 papers in ACM/IEEE TMC, TKDE, TNN, TIST, TCSVT and PR, as well as International conferences such as ACM Multimedia, Ubicomp, AAAI, IJCAI, and PerCom. He has also initiated several collaborations with large multinational corporations such as Huawei, Legend, Changhong (the biggest TV manufacturer in China) and France Télécom (the biggest telecom company in France). His research works have been translated into several real world applications and are wildly used in China. One of them is the Multimodal Chinese Sign Language Interaction system which has been used in over 1,000 schools for the hearing impaired and several TV stations around China. He has many received international accolades including Best Paper/Contest/Video/Poster Awards, including PRICAI'05, Gamenet'14, ICDM'07 and AAAI-16, etc. He is the chair of the Wearable Multimedia Technical Committee of the National Audio-Video Standard Group which is responsible for the wearable e-Health data exchange standard in China, and also a TC member of IEEE MSA and IEEE IWCD.



Takayuki Ito

Professor and Head of the Department of Techno-Business Administration, Nagoya Institute of Technology, Japan

Title: Towards an Intelligent Crowd Discussion and Decision Support System (ICCSE)

Venue: Reception Hall of Central Main Building, THU

Time: Friday, July 7, 2017 15:10 PM - 15:40 PM

Abstract:

Good discussions are essential for group decision, especially when the number of people in the group is large as like "crowd". So, it is important to provide good support for having coherent discussions that avoid some of the bad behaviors, like flaming, that have been observed in some large discussion crowds. We have developed crowd based online decision support system that has facilitator support functions, and deployed it for several real-world online discussion supports as case studies. We propose a facilitator-mediated online discussion model in order to lead discussion to a better direction for a decision. Our extreme goal is to realize automated facilitator agent that can adequately lead participants to achieve reasonable decision. In reality, online discussion often fails into "flaming", which is the act of posting or sending offensive messages during a discussion. Such flaming phenomena have been focused as bad behavior of online discussion forums. After several cases studies, we learned several lessons. The most important achievement is that in any social experiments, flaming has not been observed in our facilitator-mediated crowd decision support system. Also, we obtained some insights in which social presence of a facilitator would have large effect for participants' behavior.

Biography:

Dr. Takayuki ITO is Professor of Nagoya Institute of Technology. He received the B.E., M.E, and Doctor of Engineering from the Nagoya Institute of Technology in 1995, 1997, and 2000, respectively. From 1999 to 2001, he was a research fellow of the Japan Society for the Promotion of Science (JSPS). From 2000 to 2001, he was a visiting researcher at USC/ISI (University of Southern California/Information Sciences Institute). From April 2001 to March 2003, he was an associate professor of Japan Advanced Institute of Science and Technology (JAIST). From 2005 to 2006, he is a visiting researcher at Division of Engineering and Applied Science, Harvard University and a visiting researcher at the Center for Coordination Science, MIT Sloan School of Management. From 2008 to 2010, he was a visiting researcher at the Center for Collective Intelligence, MIT Sloan School of Management. He was a board member of IFAAMAS, the PC-chair of AAMAS2013, PRIMA2009, General-Chair of PRIMA2014, IEEE ICA2016, is the Local Arrangements Chair of IJCAI2020, and was a SPC/PC member in many top-level conferences (IJCAI, AAMAS, ECAI, AAAI, etc). He received the JSAI(Japanese Society for Artificial Intelligence) Achievement Award, 2016, the JSPS Prize, 2014, the Fundamental Research Award of Japan Society for Software Science and Technology,2014, the Prize for Science and Technology (Research Category), The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science, and Technology, 2013, the Young Scientists' Prize, The Commendation for Science and Technology by the Minister of Education, Culture, Sports, Science, and Technology, 2007, the Nagao Special Research Award of the Information Processing Society of Japan, 2007, the Best Paper Award of AAMAS2006, the 2005 Best Paper Award of Japan Society for Software Science and Technology, the Best Paper Award in the 66th annual conference of 66th Information Processing Society of Japan, and the Super Creator Award of 2004 IPA Exploratory Software Creation Projects. He was the JST PREST (Sakigake, Super Challenge Type) Research, and a principal investigator of the Japan Cabinet Funding Program for Next Generation World-Leading Researchers (NEXT Program). He is currently principal investigator of JST CREST project. Further, he has several companies, which are handling web-based systems and enterprise distributed systems. His main research interests include multi-agent systems, intelligent agents, collective intelligence, social computing, crowd science and engineering, group decision support systems, agent-mediated electronic commerce, and software engineering on offshoring.

Yuan Miao

Professor and Head of the Information Technology Discipline, College of Engineering & Science, Victoria University, Australia

Title: Capture Human Knowledge for Collective Intelligence (ICCSE)

Venue: Reception Hall of Central Main Building, THU

Time: Friday, July 7, 2017 14:40 PM - 15:10 PM

Abstract:

Crowd sourcing has made great impact in organizing people for individual tasks. How to enable collective intelligence including crowd thinking, crowd creation or crowd decision making remains challenging. As human beings, we are capable of collective intelligence particularly the knowledge that carries causal relationships to support inference and decision making. This talk will discuss how cognitive maps can help knowledge capturing, visualization, simplification and division, as well as dynamics relationships and parallel processing towards collective intelligence.

Biography:

Yuan Miao is a professor and the Head of the Information Technology Discipline in the College of Engineering and Science. Yuan received his PhD from Tsinghua University in 1996. He has been an associate professor at Tsinghua University and assistant professor at Nanyang Technological University. He joined Victoria University as an associate professor in 2004.

Yuan's research interests are knowledge modelling, intelligent technologies, edutainment and eHealth. Information systems use computer software to perform information processing tasks that were conducted manually by human beings. For example, business managers use information systems to generate statistical report for quarterly sales, and make decision on the adjustment to production and marketing. Yuan contributes on knowledge and software models to capture human knowledge, that we can teach computers how to perform a task, then leave computers to carry out the task, from modelling causal relationships, decomposition of complex knowledge networks, dynamics of logics, knowledge based negotiation automation to their applications in smart environment, aged care and education.

Yuan has led the ARC Linkage granted research on privacy-preserving data sharing in electronic health environment, Science Group granted research on data analysis and knowledge modeling in SPDT, ARC Linkage granted research on data exchange in health information systems. He also led the Microsoft Research project on mathematics learning game supported by Microsoft Asia.

Cuntai Guan

Co-Director of Rehabilitation Research Institute of Singapore
Professor, School of Computer Science and Engineering, Nanyang Technological University, Singapore

Title: Brain-Computer Interfaces and Their Roles in Motor and Cognitive Rehabilitation (ICAA)

Venue: Reception Hall of Central Main Building, THU

Time: Friday, July 7, 2017 10:20 AM - 10:50 AM

Abstract:

Brain-Computer Interfaces (BCIs) connect human central nervous systems (CNS) with an external device (usually a computer), where the computer interprets the brain signals, translates them into actions, and feeds back to the CNS system so as to replace, restore, supplement, enhance and improve human motor and/or cognitive functions. In the last decade, we have witnessed the accelerations of applying BCIs in various medical applications, such as stroke rehabilitation, cognitive training in elderly, assistance to ALS patients, and even restoration of motor functions for people with spinal cord injury. In this talk, we will discuss the advance of BCI technologies and its medical applications, in particular, in motor and cognitive rehabilitations. Stroke is the leading cause of severe disabilities in many countries. Upper limb weakness and loss of hand function are among the most devastating types of disabilities. We will present BCI based stroke rehabilitation systems and a series of clinical studies aiming at restoring the motor functions of the upper limb in stroke patients. We will then introduce BCI based cognition enhancement in elderly, as the cognitive decline in aging population could be the precursor to dementia. At the moment, there is no effective treatment for dementia. Therefore, one of the appealing strategies is to slow down and delay the onset of dementia. Cognitive training is one of the potential approaches sought after by researchers. In this talk, we will present a method which incorporates BCI based attention training into a cognitive training system, where the feedforward attention training mechanism is used to drive memory training and control the progress of memory training.

Biography:

Prof Cuntai Guan is currently Professor in the School of Computer Science and Engineering, Nanyang Technological University (NTU), Singapore. He is concurrently also the co-Director of Rehabilitation Research Institute of Singapore (RRIS), and Principal Scientist at Institute for Infocomm Research, Agency for Science, Technology, and Research (A*SATR), Singapore. His research interests include Brain-computer Interfaces, neural engineering, machine learning, data analytics, and their medical applications. He published over 290 refereed journal and conference papers and held nineteen granted patents and applications. He was a recipient of the inaugural Annual BCI Research Award in the US, the IES Prestigious Engineering Achievement Award, Singapore, and winner of BCI Competitions. He is an associate editor of several journals, including IEEE Transactions on Biomedical Engineering, Brain Computer Interfaces, Frontiers in Neuroscience, IEEE Access, and a Guest-Editor of IEEE Computational Intelligence Magazine.

Yang Yu

Associate Professor, LAMDA Group, Department of Computer Science, National Key Laboratory for Novel Software Technology, Nanjing University, China

Title: Derivative-free Optimization — Towards More Possibilities for Learning (IEEE ICA)

Venue: Reception Hall of Central Main Building, THU

Time: Thursday, July 6, 2017 15:00 PM - 15:40 PM

Abstract:

Machine learning systems are commonly rooted in optimizations. Optimization ability restricts what a learning system can represent and learn. Convex programming and gradient-based methods are widely adopted optimization tools in machine learning, which, however, have limited suitable conditions. Derivative-free optimization, with recent progress in both theoretical foundation and practice advantage, is catching up. Without the restrictions of gradients, derivative-free optimization has a much broader range of applicability. In this talk, we will introduce some progress of derivative-free optimization, and demonstrate its usefulness in creating more possibilities for learning system design.

Biography:

Yang Yu is an Associate Professor in the Department of Computer Science, Nanjing University, China. His research interest is in artificial intelligence, mainly on derivative-free reinforcement learning, theoretical-grounded evolutionary algorithms, and ensemble learning. His work has been published in Artificial Intelligence, IJCAI, AAAI, NIPS, KDD, etc. He has been granted several awards such as the best paper award of IDEAL'16, GECCO'11, PAKDD'08. He is/was a Senior PC member of IJCAI'15/17, a Publicity Chair of IJCAI'16/17 and IEEE ICDM'16, a Workshop Chair of ACML'16.

Pingzhong Tang
Assistant professor, Institute of Interdisciplinary Information Sciences, Tsinghua University, China

Title: Large-Scale Mechanism Design (IEEE ICA)

Venue: Room 610, Central Main Building, THU

Time: Saturday, July 8, 2017 9:00 AM - 9:50 AM

Abstract:

In this talk, I will summarize our recent efforts on applying the theory of mechanism design to nationwide scale industrial settings, around the theme of resource allocation. The results are a set of mechanisms that satisfy both economics and computational constraints.

Biography:

Dr. Pingzhong Tang is a National-Youth-1000 assistant professor and head of the Computational economics group at Institute of Interdisciplinary Information Sciences (aka. Yao class), Tsinghua University. Before joining Tsinghua, he spent two years as postdoc at computer science department of CMU. He obtained PhD degree at department of computer science and engineering at HKUST. He has been visiting scientist at Stanford University, Harvard University, University of California at Berkeley and Microsoft research Asia.

Takeshi Nagae
Associate professor, Tohoku University, Japan

Title: Multi-Agent Systems and Mechanism Design in Urban Road Transportation (IEEE ICA)

Venue: Room 610, Central Main Building, THU

Time: Saturday, July 8, 2017 9:50 AM - 10:20 AM

Abstract:

In this talk, the following three topics are introduced to demonstrate how the multi-agent systems regarding transportation (e.g. the traffic flow in an arterial road section, the fleet of buses and their user in a demand-driven bus system, the shared-cars and their users, etc) could be captured as a mathematical model, and how these models can be utilized for management of such systems:
1) A simplified traffic flow model for a risk-sensitive control of an arterial road section with multiple signalized intersections;
2) An adoptive pricing and scheduling of a buss fleet for morning commute without demand estimation;
3) a coordination of multiple stakeholder via price-adjustment in a car-sharing system with limited resources of the shared vehicles and the parking slot capacities

Biography:

Takeshi Nagae is an Associate Professor in the Graduate School of Engineering, Tohoku University. He received his Ph.D from Tohoku University. He then has spent 1 year in Kyoto University (in the disaster management field), 4 years in Kobe University (in the traffic engineering field), 4 years in the University of Electro-Communications (in the information science and mechanism design field), before he returned to Tohoku University at 2012, right after the Great East Japan Earthquake. His research interests are in traffic engineering, analyses and management of urban road network, pre- and post- disaster management, mechanism design / auction theory, stochastic control and financial engineering.

Morning, 6th July 2017

ICCSE-S1: Joint NTU-PKU Special Session on Smart Education

Session Chairs: Dr. Kaigui Bian and Dr. Han Yu
Venue: CMB 610 Session Time: 11:30 AM - 12:30 PM

Population Distribution Projection by Modeling Geo Homophily in Online Social Networks
Yuanxing Zhang, Zhuqi Li, Kaigui Bian, Yichong Bai, Zhi Yang and Xiaoming Li

Deep Model for Dropout Prediction in MOOCs
Wei Wang, Han Yu and Chunyan Miao

A weighted multi-attribute method for Personalized Recommendation in MOOCs
Yuqin Wang, Bing Liang, Wen Ji and Yiqiang Chen

Unsupervised Embedding for Latent Similarity by Modeling Heterogeneous MOOC Data
Zhuoxuan Jiang, Gao Cong, Xiaoming Li

A Social Curiosity Inspired Recommendation Model to Improve Precision, Coverage and Diversity
Qiong Wu, Siyuan Liu, Chunyan Miao, Yuan Liu, and Cyril Leung

ICA-S1: Social networks and social learning

Session Chair: Dr. Di Wang
Venue: CMB Reception Hall Session Time: 11:30 AM - 12:30 PM

Detecting Abnormal Attention in Online Social Networks from Local Views
Yingying Tao, Quan Bai, Jiamou Liu and Hangxia Zhou

A Consensus Value Approach for Influence Maximization in Social Networks
Fang Yang, Hui Wang, Yanni Tang, Jiamou Liu and Wu Chen

ICAA-S1: Serious Games and Interactive Technology

Session Chair: Prof. Zhiqi Shen
Venue: CMB 803 Session Time: 11:30 AM - 12:30 PM

Pumpkin Garden: A Tablet Game Platform for Parkinson's Disease Rehabilitation
Siyuan Liu, Zhiqi Shen, Yongmei Yuan, Jun Ji and Martin McKeown

Utilizing the Social Network to Incentivize the Elderly to Play Exergames
Qingyu Guo, Chaoyue He and Zhiqi Shen

Drone that flies with hand gesture
Xiaodong Yang and Yiqiang Chen

Design of an Age-friendly E-commerce System
Bo Huang, Lei Meng, Xiaohai Tian, Xinjia Yu, Simon Fauvel, Jun Lin and Frank Yunqing Guan

The Effects of Familiarity Elements Play in the Persuasiveness and Adoption of Wellness Games Among the Elderly
Zhengxiang Pan and Chunyan Miao

Fun-Knee: smart knee rehabilitation with gamification
Yang Qiu, Kun Man Li, Eng Chuan Neoh, Huiguo Zhang, Xin Yue Khaw, Xiuyi Fan, Chunyan Miao

Afternoon, 6th July 2017

ICCSE-S2: Models and Methods for Crowd Science and Engineering

Session Chair: Prof. Zhijun Yan
Venue: CMB 610 Session Time: 16:10 PM - 17:40 PM

Extracting Temporal Information from Online Health Communities
Lichao Zhu, Hangzhou Yang and Zhijun Yan

Using Blockchain Technology to Build Trust in Sharing LoRaWAN IoT
Jun Lin, Zhiqi Shen and Chunyan Miao

Collaborate Agents for Aging Society
Chi Zhang and Zhiqi Shen

A Truthful Mechanism for Scheduling Parallel Applications in Service Clouds
Bingbing Zheng, Li Pan, Shijun Liu

A Reputation Model for Aggregating Ratings based on Beta Distribution Function
Yuan Liu, Shittu Usman Chitawa, Guibing Guo, Xingwei Wang, Zhenhua Tan and Shuang Wang

A Context Model for Mechanical ventilation in Grain Storage
Chen Caiyuan, Shu Xin, Mo Tong and Li Weiping

A Multi-Agent Model for Urban Water-Energy-Food Sustainable Development Simulation
Guijun Li, Yongsheng Wang, Daohan Huang and Hongtao Yang

ICA-S2: Agent application 1

Session Chair: Dr. Han Yu

Venue: CMB Reception Hall Session Time: 16:10 PM - 17:40 PM

HTN guided game tree search for adaptive CGF commander behavior modelling
Xiao Xu, Mei Yang, Ge Li and Keidi Huang

Knowledge-driven enrichment of cyber-physical systems for industrial applications using the KbR modelling approach (short)
Michael Walch

An Optimized Fusion Method for Double-wearable-wireless-band Platform on Remote Controller (short)
Wenchao Xu, Yanbo Liu, Yanqin Yang, Xiaolei Liu, Bai Hu, Tianxing Chu and Hongzhi Song

A New Strategy Designed for Reducing the Risk of Aviation Network Based on PSO (short)
Congliang Tu, Minggong Wu and Xiangxi Wen

ICAA-Panel discussion

Panel Chair: Prof. Yiqiang Chen

Venue: CMB 803 Session Time: 16:10 PM - 17:40 PM

Topic: Cognitive health

Panellists:

Prof. Martin McKeown - Professor, Department of Neurology, The University of British Columbia, Canada; Director, Pacific Parkinson's Research Centre; PPRI/UBC Chair in Parkinson's Research

Prof. Chin Jing Jih - Chairman, Division of Integrated and Community Care; Deputy Chairman, Medical Board, Senior Consultant Geriatrician Tan Tock Seng Hospital, Singapore

Prof. Jane Wang - Professor, Electrical and Computer Engineering Department, University of British Columbia, Canada

Prof. Cuntai Guan - Co-Director of Rehabilitation Research Institute of Singapore; Professor, School of Computer Science and Engineering, Nanyang Technological University, Singapore

Morning, 7th July 2017

ICCSE-S3: Fintech

Session Chair: Prof. Baowen Sun

Venue: CMB 610 Session Time: 11:00 AM - 12:30 PM

Analysis of E-commerce Transaction System's Division of Labor Based on Essential Services Quantity
Li Wang, Yueting Chai and Yi Liu

Will the monopolistic market structure Produce market power?——a direct measure of market power of Internet platform enterprises
Baowen Sun, Wenjun Jing, Xuankai Zhao and Yi He

The Value of Crowdfunding: An Explanation Based on Demand Uncertainty
Hang Liu and Yong Wang

Examining the Drivers of the Quality of User Idea by a Firm for Open Innovation: from the Interaction perspective
Qian Liu and Yang Zhao

A Risky Driving Behavior Scoring Model for the Personalized Automobile Insurance Pricing
Zhishuo Liu, Qianhui Shen, Han Li and Jingmiao Ma

ICA-S3: Crowd intelligence

Session Chair: Prof. Naoki Fukuta

Venue: CMB Reception Hall Session Time: 11:00 AM - 12:30 PM

Persuasive Public-Friendly Route Recommendation with Flexible Rewards
Sotsay Sengvong and Quan Bai

Elderly Friendliness Evaluation of Mobile Assistants
Di Wang, Xinjia Yu, Simon Fauvel, Ah-Hwee Tan and Chunyan Miao

Efficient Scheduling in Crowdsourcing based on Workers' Mood
Han Yu, Zhiqi Shen, Simon Fauvel and Lizhen Cui

ICAA-S3: Joint NTU-PKU Special Session on AI for Aging

Session Chairs: Prof. Xiaoming Li and Prof. Chunyan Miao

Venue: CMB 803 Session Time: 11:00 AM - 12:30 PM

AI Empowered Context-aware Smart Pillbox System for Medication Adherence
Qiong Wu, Zhiwei Zeng, Jun Lin and Yiqiang Chen

Romer: An Affective Intelligent Robot for Aging eHealth
Tao Wang

Learning routines of activities of daily living with spatiotemporal neural networks
Shan Gao and Ah-Hwee Tan

Making Context-aware and Explainable Decisions with Assumption-Based Argumentation
Zhiwei Zeng, Xiuyi Fan, Qiong Wu and Cyril Leung

Optimal Allocation of Senior Centers
Yanhai Xiong, Yeng Chai Soh and Cyril Sik Leung

Fall Detection for the Elderly by Accelerometers
Hangwei Qian, Xiuyi Fan and Cyril Sik Leung

eHealthPortal: A Social Support Hub for the Active Living of the Elderly
Di Wang and Ah-Hwee Tan

A sleep stage classification algorithm based on radial basis function networks
Zhihong Cui and Xiang-Wei Zheng

Afternoon, 7th July 2017

ICCSE-S4: Crowd AI

Session Chair: Prof. Lizhen Cui

Venue: CMB 610 Session Time: 16:10 PM - 18:00 PM

Intelligent Interaction Based on Holographic Personalized Portal
Yadong Huang, Yueting Chai, Yi Liu and Xiang Gu

Compressing Trajectory for Trajectory Indexing
Kaiyu Feng and Zhiqi Shen

Optimal Crowds Contest Model for Crowdsourcing
Song Xu, Lei Liu, Lizhen Cui and Yongqing Zheng

Neighborhood Social Interactions and Residential Location Choice
Leiju Qiu and Yong Tu

Employers' Online Searching and Vacancy Duration in China: Evidence from an Online Job Board
Zhenzhen Shi, Xuenan Ju, Keng Yang and Baowen Sun

Literature Review on Collective Intelligence: a Crowd Science Perspective
Chao Yu, Yueting Chai and Yi Liu

Application of Cluster Analytical Method in Colleges and Universities Patent Development Trend Analysis
Lili Zhang and Tingting Zhu

A review of knowledge management and future research trend
Tingwei Gao, Yueting Chai and Yi Liu

A MCIN-based Model of Crowd-designing Clothing Industry
Nan Yixuan, Chai Yueting, Liu Yi and Shen Jianping

ICA-S4: Special Session on Papers from Top Sister Conferences

Session Chair: Prof. Yang Yu
Venue: CMB Reception Hall Session Time: 16:10 PM - 18:00 PM

Trade Reduction for Dual-Role Exchanges
Dengji Zhao

Contest Design with Uncertain Performance and Costly Participation
Priel Levy

Two Evolutionary Strategies for Robust Defensing Reputation Attacks
Shujuan Ji

ICAA-S4: Cognition

Session Chair: Dr. Di Wang
Venue: CMB 803 Session Time: 16:10 PM - 18:00 PM

Efficiently Identifying Cognitive Distortion — A Knowledge Graph Approach
Xuejiao Zhao and Zhengchang Xing

Learning Complex Crowdsourcing Task Allocation Strategies from Humans
Lizhen Cui, Xudong Zhao, Lei Liu, Han Yu and Yuan Miao

Motivational Socio-Emotional Selectivity Model
Hao Zhang and Xinjia Yu

Neurocomputational Modeling of Memory Loss
Di Wang, Ah-Hwee Tan, Chunyan Miao and Ahmed Moustafa

Empirical Study on Assessment Algorithms with Confidence in Crowdsourcing
Yiming Cao, Lei Liu, Lizhen Cui and Qingzhong Li

Unobtrusive Sensing System for Measuring Living Well Indices for the Elderly
Huiguo Zhang, Xiuyi Fan and Cyril Leung

Reminding Cooking Subtasks for Patients with Alzheimer's Using Reinforcement Learning
Haipeng Chen and Yeng Chai Soh

Towards Emotion Adaptation in Multimedia Caring Services for the Elderly
Yi Dong, Han Hu, Han Yu and Liang Zhang

PEAR: An app for Person-Centred Care of Dementia Patients
Ashish Kumar, Syin Chan, Chiew Tong Lau and Maode Ma

Morning, 8th July 2017

ICA-Panel discussion

Venue: CMB 610 Session Time: 10:40 AM - 12:00 PM

Topic: Standard rules for multiple AIs

- How can we define the social rule for multiple artificial intelligence (Multi-agents)?

- How such rules can affect to human society?

- Is it possible to make rules which will apply to both of AIs and humans?

Panellists:

- Prof. Ping Zhong Tang, Prof. Shigeo Matsubara, Prof. Matthew Taylor, Prof. Takayuki Ito

- Facilitator: Prof. Minjie Zhang

Afternoon, 8th July 2017

ICA-S5a: Agent applications

Session Chair: Dr. Xing Su
Venue: CMB 610 Session Time: 13:00 PM - 15:00 PM

Next Generation of Airborne Platforms: From Architecture Design to Sensors Scheduling
Ludovic Grivault, Amal El Fallah Seghrouchni and Raphaël Girard-Claudon.

A Distributed Power Managing Method based on Power Grid Network Centrality
Daichi Shibata and Takayuki Ito.

Generating Questions Asked by Facilitator Agents Using Preceding Context in Web-based Discussion
Yuto Ikeda and Shun Siramatsu.

Multi-agent patrolling in dynamic environments
Mehdi Othmani-Guibourg, Amal El Fallah-Seghrouchni, Jean-Loup Farges and Maria Potop-Butucaru.

ICA-S5b: Coordination

Session Chair: Dr. Takanobu Otsuka
Venue: CMB 803 Session Time: 13:00 PM - 15:00 PM

Toward Market Design for Facilitating Continuous Participation
Asuka Shimada and Shigeo Matsubara

Dynamic Coalition Structure Generation for Autonomous Connected Vehicles
Hafez Eslami Manoochehri and Rym Wenkstern

Core Time Mechanism for Managing Large-Scale Internet-based Discussions on COLLAGREE (short)
Tomohiro Nishida, Takayuki Ito, Takanori Ito, Eizo Hideshima, Shunpei Fukamachi, Akihisa Sengoku and Yumika Sugiyama

Cucker-Smale Flocking Under Asynchronous Update Dynamics (short)
Jing Ma and Edmund Lai

Neural Basis for the Emergence of Social Norms in Multiagent Systems
Chao Yu, Yatong Chen, Hongtao Lv, Jiankang Ren, Hongwei Ge and Liang Sun

ICA-S6a: Reasoning & learning

Session Chair: Dr. Xing Su

Venue: CMB 610 Session Time: 15:20 PM - 16:50 PM

Approximation for Strategic Single Point Weighted Steiner Tree Problem
Nan Wang, Wu Jun, Chongjun Wang and Lei Zhang.

Population-Based Metaheuristic Approaches for Feature Selection on Mammograms (short)
Jinn-Yi Yeh and Si-Wa Chan.

A Real-time Ensemble Classification Algorithm for Time Series Data (short)
Yaodong Yang, Hongyao Tang and Jianye Hao

Improvement of Cost Sensitive Decision Tree Construction Process (short)
Qian Wang

ICA-S6b: Mechanism design

Session Chair: Prof. Shigeo Matsubara
Venue: CMB 803 Session Time: 15:20 PM - 16:50 PM

Weighting Estimation Methods for Opponents' Utility Functions using Boosting in Multi-time Negotiations
Takaki Matsune and Katsuhide Fujita

The resilience of cooperation in a dilemma game played by reinforcement learning agents
Koichi Moriyama, Kaori Nakase, Atsuko Mutoh and Nobuhiro Inuzuka

Estimation and propagation of change effects in ontology based on graph properties (short)
Mouhamadou Gaye and Moussa Lo

Tsinghua Campus Map for Key Conference Locations

Places of Interest

About Beijing

Beijing is unarguably one of the most visited places in the world. Every year finds millions of people come to Beijing to see the capital of China, a fast changing metropolitan city of old and new. Beijing is a sleepless city, so you can easily find something for you at any time for whatever you like.

There are in fact a great number of tourist attractions and historic sites in Beijing. Some of these interesting places are within walking distance, some are a bit further away. It takes quite some time to savvy everything that Beijing City has to provide. But if you only have a short stay in Beijing, you should make sure to get around the top ten places in Beijing City. In this way, you can say that you have been to Beijing City!

Top 10 Must See Places in Beijing

Tiananmen Square

Forbidden City

Great Wall

Summer Palace

Temple of Heaven

Ming Tombs

Hutong Tour

Lama Temple

Beihai Park

Capital Museum

1. Tiananmen Square

What is the most representative place in Beijing? The answers are various. But Tiananmen Square is unarguably on the top list. Lying in the heart of Beijing City, it is the place for massive parades and gathering. It boasts of the largest square of such kind in the world. This was the place when in 1949, from a rostrum on Tiananmen (the Gate of Heavenly Peace), Chairman Mao announced the establishment of the People's Republic of China. Tiananmen Square is circled by Tiananmen (Gate of Heaven Peace) on its north; the Great Hall of the People on its west; on the east of Tiananmen Square lies the National Museum of China, there are Monument to the People's Heroes and Chairman Mao's Mausoleum on the south. At sunrise and sunset the raising and lowering ceremony of the Chinese National Flag is well worth seeing. The young troops perform very well. Make sure to be there 30 minutes earlier to get a good standing point.

How to get there:

- Buses to Tiananmen: take No.1, 2, 4, 5, 10, 20, 52, 57, 22, 54, 120, 802, special bus No.1 and get off Zhongshan Park stop or Tian An Men stop.
- Take subway.

Ticket fees and tour time:

- Tiananmen Square: Free
- Tiananmen (Gate of Heavenly Peace): RMB 15
- The Great Hall of the People: RMB 15
- Chairman Mao's Mausoleum: Free
- The National Museum of China: RMB 15
- Opening Time (Tiananmen Square): Whole Day
- Travelling time: 2-4 hours

2. Forbidden City (the Imperial Palace)

Beijing is an old capital city developing at a fast pace. The Forbidden City is the ideal place for you to begin your exploration of Beijing by opening its mysterious face. With over 9,000 rooms and over 250 acres, this large palace building was built between 1406 and 1420. It burned down and was rebuilt, sacked and renovated for times, so most of the architecture you can see today dates back to the 18th century in the Qing Dynasty. Make sure to wear comfortable shoes as you have to walk a lot! There is a Starbucks in the palace in case you need some coffee to recharge you. I highly recommend you to have a guide. It is quite helpful to have a guide escort you and tell the stories behind the palace. If you are a non-group tourist, I suggest you rent a multi lingual guide recorder either at Meridian Gate (southern gate of Forbidden city) or the Gate of Divine Prowess (Northern gate of Forbidden City) and return it when you finish your Forbidden City Tour.

How to get there:

- Buses to the Forbidden City: No. 1, 2, 4, 5, 10, 20, 52, 57, 22, 54, 120, 802, special bus No.1 and get off at Zhongshan Phongshan Park stop or Tian Am Men stop.
- Take subway.

Ticket fees and tour time:

- Address: No.4 Jingshan Front Street, Dongcheng District
- Opening Hour: 8:30-17:00
- Ticket office hours: From 9: to 15:00 pm
- Travel Time: Two hours
- Entrance Fee: RMB 60

Check for more details: URL: www.dpm.org.cn

3. Great Wall at Badaling, Juyongguan, Mutianyu, Simatai and Jinshanling

Climbing the Great Wall is a must for you no matter how busy you are! In Beijing there are mainly eight sections of the Great Wall crossing the northern part of Beijing for 600 kms. The eight sections are Badaling, Juyongguan, Huanghuacheng, Jiankou, Mutianyu, Gubeikou, Jinshanling, and Simatai. Most of the sections of the Great Wall in Beijing are well-preserved and mainly the relics dating from the Ming Dynasty, the time for huge construction. For the Great Wall hiking, get ready for strong footwear. For hot weather, please also prepare for sunblock, sunglasses and water. For cold days, get ready for your hat and heavy coat.

Badaling Great Wall:

- Ticket Fees: RMB40 (Nov. 01 to Mar. 31); RMB 45 (Apr. 01 to Oct. 31)
- Open Hours: 06:40 to 18:30
- HikeTime: 2.5 hours

How to go there: Take Bus 919. Or take a tourist bus:

- No. 1 at Front Gate (Qianmen);
- No. 2 at Beijing Railway Station;
- No. 3 at East Bridge;
- No. 4 at Xizhi Gate or Beijing Zoo;

Juyongguan Great Wall:

- Ticket Fee: RMB 45 Open Hours: 07:30 to 17:30
- Hike Time : 2.5 hours

How to go there: Take tourist Bus Route as below:

- Take No. 1 at Front Gate (Qianmen)

- Take No. 2 at Beijing Railway Station
- Take No. 3 at East Bridge
- Take No. 4 at Beijing Zoo or Xizhimen Gate

Mutianyu Great Wall:

- Ticket Fee: RMB35
- Open Hours: 07:30 to 17:30
- Hike Time: 2.5 hours

How to go there: Take Bus no 916 or take tourist Bus No. 6 at Xuanwumen Gate

Simatai Great Wall:

- Ticket Fee: RMB 35
- Open Hours: 08:00 to 17:00
- Hike Time: 2 hours

How to go there:

- Take bus No.12 from Xuan Wu Gate directly to Simatai.
- Take the 970 bus out of Beijing to Miyun and hire a taxi from there.

Jinshanling Great Wall:

- Entrance Fee: RMB 30
- Opening Hours: 08:00 to 16:50
  Hiking time: 2 hours

How to go there

- Take the 970 bus out of Beijing to Miyun and hire a taxi from there.

4. Summer Palace (Yiheyuan)

Regarded as the largest imperial garden in China, Beijing's Summer Palace is in fact a park-styled royal retreat extending out over 10 square miles in northwest suburban Beijing . Once a summer resort for emperors, this 290-acre partk-palace is still a retreat for visitors, who can take a rest here or wander around old pavilions, buildings, temples, bridges and the huge lake - Kunming Lake. Summer Palace is mainly comprised of Longevity Hill (Washoushan) and Kunming Lake. Much of the park is covered by Kunming Lake. With masterly design and artistic architecture integrating the highlight of Chinese garden arts, the Summer Palace has earned a title of "Royal Garden Museum". It is a royal garden most completely preserved with richest landscapes and large compact buildings. The Summer Palace was listed as the world cultural heritage in1998.

How to go there:

- Take busses No.726, 826, 718, 332, 331 or 737 and get of at Yiheyuan Dongmen
- Check for more details: www.summerpalace-china.com
- Address: Yiheyuan (Summer Palace) Road, Haidian District 62881144-209
- Open Time: 6:30-20:30
- Ticket Fee: RMB 40 (low season) / RMB 50 (peak season)

5. Temple of Heaven (Tiantan)

Temple of Heaven is one of the real highlights of Beijing. It is situated in the southern Beijing City. It has been one of the most sacred sites for the whole country for the past five centuries. It worked as sacrificial compound buildings for the Ming and Qing emperors. It boasts of the largest sacrificial place in Beijing among a few imperial altars to Heaven, Earth, the Sun, the Moon super natures. What's the intriguing by-production of the temple is that if you enter the Temple of Heaven in the early morning, you can find many people doing all types of kung fu and taiji and other morning exercises. Furthermore, many people happily play each other with music, songs or cards. You can also join them if you want. The most highliht part of the temple is the unique century-old trees - row upon row of Chinese cypress, Chinese juniper and scholar trees etc. Some of the cypresses are over 600 years old! When once visiting the temple, Dr Henry Kissinger, said that the USA could rebuild the Temple of Heaven if it wanted, but it could not produce the trees!

How to go there:

- Take 6, 20, 39 Buses
- Address: on the east of Tianqiao, Chongwen District 67018866
- Open Time: 6:00-21:00
- Tour Time: 1.5 hours
- Ticket Fee: RMB 35

6. Ming Tombs (13 tombs in Ming Dynasty)

Located 50 kilometers northwest of the downtown Beijing, noted as the 13 Tombs , this is the burial area of 13 out of 17 emperors of the Ming Dynasty, the ruling dynasty of China from 1368 to 1644. It was the final dynasty in China administered by ethnic Hans. At present there are only two tombs which have been dug and open to the public: Dingling Tomb and Changling Tomb. Changling Tomb is the first tomb to be excavated. It took two years for the digging and restoration, and was opened in 1958. Dingling has been excavated so completely that people now have to go into the burial chamber itself. However, it is a very deep climb down and people with problems of their heart or kneels are not advised to visit the underground tomb. Wheel-chair users or people with some difficulty of action, I advise them to visit the Changling Tomb instead.

How to go there:

- Travel Time: 2 hours
- Tourist Bus Route: 1, 2, 3, 4, 5
- Ticket Fees as below:
- Changling Tomb: RMB 30 (Nov.01 to Mar.31) / RMB 45 (Apr.01 to Oct.31)
- Dingling Tomb: RMB 40 (Nov.1 to Mar.31) / RMB 60 (Apr.1 to Oct.31)
- Opening Time: Changling Tomb: 08:30 to 17:30 / Dingling Tomb: 08:30 to 18:00

7. Hutong Pedicab Tour (Shichahai Area)

Do you want to experience a man-driving Pedicab? In today's well preserved old Beijing hutong areas, you can still find this kind of old transportation tool now still kept for tourists as the typical traffic tool of travelling the hutong - Beijing featuring old city alleys. The neighbourhoods of narrow, twisting streets represent the real life of ordinary Beijingers, where passageways - small narrow ways link to courtyards of traditional connected homes. Rickshaw tours of the hutongs consist of the sites that normally include the Drum Tower, courtyard neighbourhoods and Prince Gong's Building. There are many small restaurants, bars and inns. Ascending the top of the Bell Tower you can have a bird's eye view of the surrounding hutongs. The most intriguing part of the hutong travel is wandering through "Pipe Tobacco Alley" close to the Bell Tower. In the "Pipe Tobacco Alley", you will feel you are back to the years of old Beijing.

How to go there: Two Areas for Hutong Exploring:

- Shichahai Area: north of Beihai Park
- Dazhalan Area: south of Tiananmen Square
- Rickshaw: RMB 50-100

8. Lama Temple (Yonghegong)

Lama Temple is Beijing's most frequented religious place. It is comprised of five main halls and many galleries. This temple was first the palace offered to a prince. When he gained the throne, he offered it to the Tibetan Buddhists as the religious sacred place. The Lama Temple is dedicated to the Yellow Sect of Buddhism. It is actually an active temple, with many faithful belivers with burning armloads of incense. The temple has a valuable relic: the biggest Buddha statue carved from a single tree. The statue is huge with three stories up and about nine feet across. It is quite easy to get to the temple for it is the only temple in the downtown Beijing which has its own subway stop! It is a large place for sightseeing, not for something you only travel in only 20 minutes.

How to go there:

- Address: No.13 Imperial College Stree, Dongcheng District, Beijing
- Take subway or No.62, 13, 116 and special 2 bus and get off at Lama Temple

- Open Time: 09:00-16:30
- Travel Time: 1.5 hours
- Ticket Fee: RMB 20

9. Beihai Park (Winter Palace)

Beihai Park was once a winter palace for emperors in the past. It is located just to the north-west of Forbidden City. Among many things to see, there are now two important things not to be missed here: the park itself and the round city. The round city has a jar, which is believed to be the only thing left from the great Khan that reigned China in Yuan Dynasty (1279-1368 A.D). You can hire a rowboat and row the boat on the water. The interesting attractions in Beihai Park are Round City, White Pagoda, Jade Flower Island, Nine-Dragon Wall, Wanfo Lou Tower, Iron Screen etc. The lake is Beijing's biggest and prettiest public lake.

How to go there:

- 1 Wen Jin Street (northwest of the Forbidden City)
- Open Time: 09:00-16:30
- Travel Time: 2 hours
- From the South Gate: 101、103、109、812、814、846
- From the North Gate: 107、111、118、701、823
- From the East Gate: 5

10. Beijing Capital Museum

A trip to Beijing City is not complete without visiting its museums. There are a great number of museums dotting around the city. If you don't have much time available in Beijing, you can focus your museum tour to Beijing Capital Museum. Beijing's new Capital Museum is now open to the public, located on Fuxingmenwai Dajie, the western part of Beijing's Chang'an Jie. The museum is a five-storey mansion, catering for a maximum of 13 concurrent exhibitions, which can be seen in about 5 hours at the cost of 30 yuan per visitor.

How to go there:

- URL: www.capitalmuseum.org.cn
- Tel:010-63370491/92
- Open Time: 09:00-16:30
- Travel Time: 1.5 hours
- Black out date: Monday
- Address: Fuxingmenwai Dajie, Chang An Avenue

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Contact Person:

- **ICCSE 2017: Dr Lizhen Cui, clz@sdu.edu.cn, +86-13964058752**
- **IEEE ICA 2017: Dr Chao Yu, cy496@dlut.edu.cn, +86-13842849694**
- **ICAA 2017: Dr Jun Lin, junlin@ntu.edu.sg, +86-13717741976**