The 31ˢᵗ Chinese Control and Decision Conference

GENERAL INFORMATION

Chinese Control and Decision Conference (CCDC) is an annual international conference and has been held successfully for 30 years. The 31st Chinese Control and Decision Conference (CCDC 2019) was successfully held in Nanchang, China during 3-5 June. CCDC 2019 was co-organized by Northeastern University, China and Technical Committee on Control and Decision of Cyber Physical Systems (TCCD-CPS), Chinese Association of Automation, China. The local organizer was East China Jiaotong University, China. The conference was technically co-sponsored by IEEE Control Systems Society (CSS), Technical Committee on Control Theory of Chinese Association of Automation and State Key Laboratory of Synthetical Automation for Process Industries of Northeastern University.

TECHNICAL PROGRAM

The CCDC 2019 received 1449 full paper submissions. After going through a rigorous reviewing process during which all the members in the Technical Program Committee worked professionally, timely, responsibly and diligently, 1170 papers were accepted for presentation in 107 oral sessions and 10 interactive sessions in the conference. 1021 delegates attended the conference.

In addition to the normal technical sessions, the technical program also included 3 keynote addresses and 10 distinguished lectures covering the state-of-the-art in both theory and applications in control, decision, automation, robotics and emerging technologies. The 3 keynotes were as follows:

1. "*Engine Controller Certification: the role of theory in practice*" by Professor Bob Bitmead, University of California, San Diego, USA;
2. "*Smart Manufacturing System in Process Industry —— the Integration of AI and Process Manufacturing*", Presented by Professor Wenli Du on behalf of Professor Feng Qian, East China University of Science and Technology, China;
3. "*Advanced Motion Planning for UAVs in Obstacle-Strewn Environments*" by Professor Ben M. Chen, Chinese University of Hong Kong, Hong Kong, China;

Distinguished lectures were delivered by Professor Marios M. Polycarpou of University of Cyprus on "*The Art and Science of Distributed Fault Diagnosis*", Professor Ian A. Hiskens of University of Michigan-Ann Arbor on "*Nonlinear dynamics of aggregate load models*", Professor Javad Lavaei of University of California at Berkeley on "*Efficient Computational Methods for Nonlinear Optimization, Data Analysis, and Learning Problems*", Professor Mehran Mesbahi of University of Washington on "*Graph Theoretic Aspects of Network Control*", Professor Yang Shi of University of Victoria on "*Robust Model Predictive Control with Efficient Event-Trigger Mechanism for Networked Systems*", Professor Bruno Sinopoli of the University of Washington in

Saint-Louis on "*Modeling, Analysis and Design of Resilient Cyber-Physical Systems*", Professor Gang Tao of University of Virginia on "*Adaptive Approximation-Based Control of Non-Canonical Nonlinear Systems*", Professor Guisheng Zhai of Shibaura Institute of Technology on "*Review and New Development in Switched Affine Systems*", Professor Jinliang Ding of Northeastern University on "*Data-driven Operational Optimization of Complex Industrial Processes and Its Application*", Professor Bin Jiang of Nanjing University of Aeronautics and Astronautics on "*Adaptive fault accommodation with flight control applications*".

All sessions, including keynote address sessions, distinguished lectures sessions, oral sessions and interactive sessions, were well attended and produced active discussions.

The USB flash disk, containing all the papers presented at the conference, was provided to each registered delegate. The papers written in English of official conference proceedings will be published by IEEE and included in the IEEE Xplore Database.

A WORKSHOP AND A TUTORIAL

The Workshop in Honour of Professor David Hill's 70th Birthday was organised and chaired by Professor Changyun Wen and Professor Zhong-Ping Jiang. A tutorial entitled "Tools for Distributed and Nonlinear Control of Dynamical Networks" was conducted by Professor Zhong-Ping Jiang and Professor Tengfei Liu.

AWARD CEREMONY

The award ceremony of the "Zhang Si-Ying (CCDC) Outstanding Youth Paper Award" and "Chinese Journal of Control and Decision 2018 Outstanding Paper Award" were held in the evening of 4 June, 2019.

The Zhang Si-Ying (CCDC) Outstanding Youth Paper Award serves to recognize Academician Zhang Si-Ying's highly-regarded perseverance, character and academic contribution. It also serves to inspire, motivate and encourage young scholars in their research. For a paper to be eligible for the award, the first author of the paper must not be older than 35 on the day of award presentation at the conference. The Zhang Si-Ying (CCDC) Outstanding Youth Paper Award winner receives an award of 10,000 CNY together with a certificate, each of the remaining finalists receives an award of 3,000 CNY and the Certificate of Finalist. The Award Committee for the CCDC 2019 was composed of five members: Professor David Hill of Australia, Professor Zhong-Ping Jiang of USA, Professor Marios M. Polycarpou of Cyprus, Professor Changyun Wen of Singapore and Professor Guang-Hong Yang of China. For the CCDC 2019, 80 papers were selected for consideration for the "Zhang Si-Ying Outstanding Youth Paper Award" based on reviewers' comments, nominations, and the evaluations of the Technical Program Committee members. These papers were sent to famous experts including some members of the International Advisory Committee for further evaluation. Based on the evaluations and recommendation, the Technical Program Committee shortlisted the

following five papers as the finalists for the Award:

1. *"Dynamic analysis and decision-making in disease-behavior systems with perceptions"* by Xue Feng of Peking University and Princeton University, Long Wang of Peking University and Simon A. Levin of Princeton University;
2. *"An Adaptive Compensation Scheme for Angular Velocity Control of Spacecraft Under Finite Sequential Actuator Faults"* by Yajie Ma and Bin Jiang of Nanjing University of Aeronautics and Astronautics and Jiangsu Key Laboratory of Internet of Things and Control Technologies, Gang Tao of Nanjing University of Aeronautics and Astronautics and University of Virginia, Hao Yang of Nanjing University of Aeronautics and Astronautics and Jiangsu Key Laboratory of Internet of Things and Control Technologies;
3. *"A modified Riccati approach to analytic interpolation with applications to system identification and robust control"* by Yufang Cui and Anders Lindquist of Shanghai Jiao Tong University;
4. *"A Novel Hybrid Systems Framework For Leader-Following Consensus of Multi-Agent Systems"* by Guanglei Zhao, Shida Yang and Changchun Hua of Yanshan University;
5. *"An Adaptive Evolutionary Multi-objective Algorithm Based on R2 Indicator"* by Fei Li of Anhui University of Technology, Jianchang Liu and Yuexi Song of Northeastern University and Liangliang Shang of Nantong University.

During the conference, all the Award Committee members attended the oral presentations of the 5 finalist papers. Each member independently assessed their originality, technical quality and written and oral presentations. On the basis of these assessments, Paper 1 listed above won the CCDC 2019 Zhang Si-Ying Outstanding Youth Paper Award. Porfessor Zhong-Ping Jiang introduced the award selection criteria and process, Professor Guang-Hong Yang and Professor Linya Liu presented the awards with certificates to all the finalists and the winner in the presentation ceremony.

All the papers published in Chinese Journal of Control and Decision in 2018 were sent to distinguished experts in the relevant areas for evaluations for the 2018 Outstanding Paper Award of the journal. Based on their comments and recommendations, 3 papers, respectively authored by Huijie Li of Xi'an Jiaotong University, Daming You of Central South University and Hao Ren of Chongqing University, won the Award.

The 32nd CHINESE CONTROL AND DECISION CONFERENCE

The 32nd Chinese Control and Decision Conference (CCDC 2020) will be held in Hefei, China, during 23-25 May, 2020. Keynote addresses on the state-of-the-art of the theories and applications in control and decision will be delivered by Professor Anuradha Annaswamy of Massachusetts Institute of Technology, USA and Professor Rodolphe Sepulchre of University of Cambridge, UK and Professor Wen Gao of Peking University, China. Distinguished lectures will be delivered by Professor Jun Fu of Northeastern University, China, Professor Vijay Gupta of University of Notre Dame, USA, Professor Guoqiang Hu of Nanyang Technological University, Singapore, Professor Rajesh

Rajamani of University of Minnesota, USA, Professor Rong Su of Nanyang Technological University, Singapore and Professor Qianchuan Zhao of Tsinghua University, China. The Organizing Committee will invite additional prominent professors/academicians as speakers of keynotes and distinguished lectures for the CCDC2020. Information for the CCDC2020 will consistently be updated on the conference website: http://www.ccdc.neu.edu.cn.

International Technical Program Chairs   Changyun Wen,
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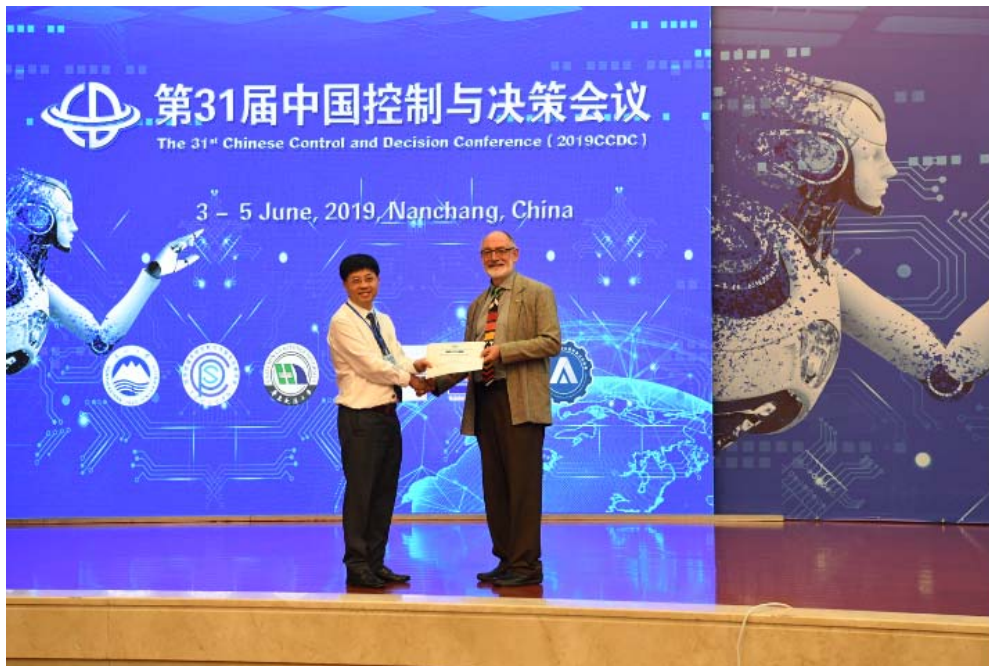Bob Bitmead after Professor Bob Bitmead delivering his keynote address

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