

The 32nd Chinese Control Conference (CCC2013)

The 32nd Chinese Control Conference (CCC2013) was held on July 26–28, 2013 at the Xi'an Greenland Pico International Convention and Exhibition Center, in Xi'an, Shaanxi Province, China. Being the eastern terminal of the Silk Road and the site of the famous terracotta warriors of the Qin Dynasty, Xi'an is rich in sightseeing resources featuring culture and history. This year over 1500 attendees participated in the conference, and many of them brought their families with them to enjoy the culture and the picturesque scenery.

The CCC is an annual international conference initiated by the Technical Committee on Control Theory (TCCT) of the Chinese Association of Automation (CAA). More information on the current and past CCCs can be found at the TCCT Web site: <http://tcct.amss.ac.cn>. The 32nd CCC was



The registration desk.

jointly sponsored by the TCCT and the Systems Engineering Society of China and locally organized by Northwestern Polytechnical University. The conference was also cosponsored by several organizations, both domestic and

abroad: the Academy of Mathematics and Systems Science of the Chinese Academy of Sciences (CAS), the China Society for Industrial and Applied Mathematics, Xi'an Jiao Tong University, Xi'an University of Technology,

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Xi'an, the host city of CCC2013, is the home of the terracotta warriors and a world cultural heritage site known as the Eighth Wonder of the World.



General Chair Han-Fu Chen addresses the opening ceremony of the conference.



Minyue Fu delivers his plenary talk, "Distributed Estimation and Control for Networked Control Systems."



Wing Shing Wong delivers his plenary talk, "Networks of Open Interaction."

IEEE Control Systems Society (CSS), the Society of Instrument and Control Engineers (SICE) of Japan, and the Institute of Control, Robotics and Systems (ICROS) of Korea.

THE TECHNICAL PROGRAM

This year, 2809 paper submissions were received, including 115 papers from 27 countries/regions outside of mainland China: Australia, Austria, Burkina Faso, Canada, Colombia, Estonia, Finland, France, Germany, Hong Kong (China), India, Iran, Iraq, Italy, Japan, The Netherlands, Pakistan, Poland, Russia, Serbia and Montenegro, Singapore, Spain, Taiwan, Thailand, the United Arab Emirates, the United Kingdom, and the United States. After peer reviews organized by the Conference Program Committee, 1625 papers were accepted and included in the conference proceedings, which will be included in the IEEE conference publication program (IEEE catalog number CFP1340A -CDR).

The conference had seven distinguished plenary speakers. Their speeches on timely topics included

- » "Event-Driven Control, Communication, and Optimization" by Christos G. Cassandras, Boston University, United States
- » "Distributed Estimation and Control for Networked Control Systems" by Minyue Fu, University of Newcastle, Australia
- » "Modeling and Control of Autonomous Underwater Vehicles" by Demin Xu, Northwestern Polytechnical University, China
- » "Networks of Open Interaction" by Wing Shing Wong, Chinese University of Hong Kong, China
- » "Model-Based Optimization and Control of Subsurface Flow in Oil Reservoirs" by Paul M.J. Van den Hof, Eindhoven University of Technology, The Netherlands
- » "Control and Robustness for Quantum Linear Systems" by



Paul M.J. Van den Hof delivers his plenary talk, "Model-Based Optimization and Control of Subsurface Flow in Oil Reservoirs."



Ilan R. Petersen delivers his plenary talk, "Control and Robustness for Quantum Linear Systems."



Christos G. Cassandras delivers his plenary talk, "Event-Driven Control, Communication, and Optimization."



Demin Xu delivers his plenary talk, "Modeling and Control of Autonomous Underwater Vehicles."



Zongli Lin delivers his plenary talk, "Low Gain Feedback: Properties, Design Methods, and Applications."

Ian R. Petersen, University of New South Wales, Australia

- » “Low Gain Feedback: Properties, Design Methods and Applications” by Zongli Lin from University of Virginia, United States.

These plenary sessions were chaired by Qianchuan Zhao, Lihua Xie, Ding Liu, Jie Huang, Ji-Feng Zhang, Lei Guo, and Ben M. Chen, respectively.

In addition to these plenary lectures, there were 132 oral sessions, including 49 invited sessions, in 22 parallel tracks, and four poster sessions. The 1625 presented papers were divided between 785 in oral sessions and the remainder in poster sessions. The conference languages were Chinese and English. Papers in English sessions were presented in English and in other sessions could be presented either in English or Chinese.

AWARDS

The following awards were presented at the closing ceremony of CCC2013: the 19th Guan Zhao-Zhi Award, the Seventh Poster Paper Award, the IEEE CSS Beijing Chapter Young Author Prize, and the Outstanding Volunteers Award. The winning papers for the 19th Guan Zhao-Zhi Award were “Generalized Criteria for Determining the Maximal Ellipsoidal Invariant Set of Linear Systems under Saturated Linear Feedback,” by Yuanlong Li from Shanghai Jiao Tong University and Zongli Lin from University of Virginia, and “Identification of Nonlinear Stochastic Systems: Strongly Consistent Estimates for Function Values, Gradients, and System Orders,” by Wenxiao Zhao and Han-Fu Chen from the Chinese Academy of Sciences. In addition, “Bounded Tracking and Anti-Swing Control of Underactuated Cranes for Payload Transportation and Lowering,” by Ning Sun and Yongchun Fang from Nankai University, won a nomination award of the 19th Guan Zhao-Zhi Award.

Two papers received the Seventh Poster Paper Award: “Dynamic Output Feedback Robust MPC for Con-



An oral session in progress.



A poster session in progress.

strained Quasi-LPV Systems with Both Polyhedral and Ellipsoidal Bounds on Estimation Error,” by Bao-cang Ding from Xi’an Jiaotong University, and “T-S Fuzzy Model Based on Time-Delay State Space for the Control of Burning Through Point,” by Zhenyan Wang, Zhen Zhang, and Jianqin Mao from Beijing University of Aeronautics and Astronautics and Kemin Zhou from Louisiana State University.

The recipient of the IEEE CSS Beijing Chapter Young Author Prize was Zhongkui Li from Peking University for “Distributed Robust Consensus of Heterogeneous Uncertain Multi-agent Systems,” coauthored by Zhisheng Duan from Peking University and Frank L. Lewis from the University of Texas at Arlington. Twenty-three students from Northwestern Polytechnical University were recognized with the Outstanding Volunteers Award.

PANEL DISCUSSIONS

CCC2013 arranged two plenary panel discussions. The panel “Control Science and High Level Talents Cultivation” was organized by Jie Chen from Beijing Institute of Technology, China, with panelists Jian Chu from Zhejiang University, China, Ding Liu from Xi’an University of Technology, China, and Wei Ren from University of California, Riverside, United States. The panel “What Young Control Scholars Are Doing and Thinking” was organized by Jie Huang from the Chinese University of Hong Kong, China, with panelists Guowei Cai from Khalifa University, United Arab Emirates, Tao Li from the Academy of Mathematics and Systems Science, CAS, China, Lu Liu from City University of Hong Kong, China, Keyou You from Tsinghua University, China, and Bin Zhou from the Harbin Institute of Technology, China. Many questions were raised by the

Awards Presentations



Lei Guo (middle), chair of the Evaluation Committee for the Guan Zhao-Zhi Award, presents the award to Yuanlong Li (left) and Wenxiao Zhao (right).



Lei Guo (left), chair of the Evaluation Committee for the Guan Zhao-Zhi Award, presents a Nomination Award to Ning Sun.



Hongxin Wu (middle), Chair of the Poster Award Evaluation Committee, presents the Poster Award to Zhenyan Wang (left) and Baocang Ding (right), respectively.



Christos G. Cassandras (left), past president of IEEE Control Systems Society, presents the IEEE CSS Beijing Chapter Young Author Prize to Zhongkui Li.



General Chair Han-Fu Chen (sixth from left), General Cochair Ji-Feng Zhang (first from left), and Program Chair Quan Pan (first from right), present the Outstanding Volunteers Award to student volunteers from Northwestern Polytechnical University, Xi'an, China.

audiences ranging from talent cultivation in control and systems field to the development of control science. The panelists not only shared their views on the state of the art but also offered many insightful perspectives.

PRECONFERENCE WORKSHOPS

Two preconference workshops, organized by Shaoyuan Li from Shang-

hai Jiao Tong University, China, and Zhongke Shi from Northwestern Polytechnical University, China, were held in Qujiang Hall of the Xi'an ZTE Hotel. The two workshops were "Theory and Technology of Networked Control Systems: A Networked Predictive Control Scheme" by Guoping Liu from the Harbin Institute of Technology, China, and

"Research and Development on Fault Diagnosis, Fault-Tolerant and Cooperative Control with Applications to Manned and Unmanned Aircraft Systems" by Youmin Zhang from Concordia University, Canada. The two speakers presented recent developments in their respective research areas and provided valuable advice for young researchers.



The panel discussion, "Control Science and High Level Talents Cultivation."



Student volunteers: Happy to serve.



The panel discussion, "What Young Control Scholars Are Doing and Thinking?"



A tea break.

SOCIAL EVENTS

There were over 100 student volunteers serving at the conference. They offered assistance and hospitality throughout the conference venue, at the registration site, the hotel, the meeting rooms, the opening and closing receptions, and the tea breaks. These young students with their smiles and considerate service provided a pleasant experience for the conference attendees and helped the conference run smoothly.

Many participants brought their families to visit Xi'an. The worldwide famous historical and cultural attractions, such as the terracotta warriors, the Giant Wild Goose Pagoda, the

Huaqing Pool, and Mount Hua, made their journey to CCC2013 memorable.

CONCLUDING REMARKS AND INVITATION TO CCC2014

Many individuals, including the attendees, the authors, and members of the conference committees, made great contributions to the success of the conference in a variety of ways. A 300-member program committee reviewed papers, compiled the final program, and edited the book of abstracts and the proceedings. Eight program regional chairs were responsible for promoting the conference within their respective regions and for organizing invited sessions:



The local organizer arranges dinners with delicious Xi'an cuisine for attendees.

- » Tongwen Chen, University of Alberta, Canada
- » Gary G. Feng, City University of Hong Kong, China



Guoping Liu presents his preconference workshop, "Theory and Technology of Networked Control Systems: A Networked Predictive Control Scheme."



Youmin Zhang presents his preconference workshop, "Research and Development on Fault Diagnosis, Fault-Tolerant, and Cooperative Control with Applications to Manned and Unmanned Aircraft Systems."



The conference banquet.



A performance of Fou Drums, which was performed at the opening ceremony of the 2008 Olympic Games in Beijing, was given at the conference banquet.



Welcome to CCC2014 in Nanjing.



Huayin Laoqiang, a local opera, was performed at the conference banquet.

- » Shuzhi Sam Ge, National University of Singapore, ASEAN
- » Guoping Liu, University of Glamorgan, United Kingdom
- » Wei Ren, University of California, Riverside, United States
- » Tielong Shen, Sophia University, Japan

- » Xiaolan Xie, ENSM.SE, France
- » Xiaoming Hu, KTH, Sweden
- » Xinghuo Yu, RMIT University, Australia.

The organizing committee successfully completed the task of local arrangements. Last but not least, the student volunteers provided their

thoughtful service and warm hospitality wherever needed throughout the conference.

The next CCC will be held on July 28–30, 2014 in Nanjing, Jiangsu Province. At the closing ceremony of CCC2013, Organizing Committee Cochair Yuming Bo reported on the progress of the preparation work for CCC2014 and extended a warm invitation to colleagues around the world to participate in the conference. More information on CCC2014 is available on the conference Web site: <http://ccc.amss.ac.cn/2014/en>. We are looking forward to seeing old friends and meeting new colleagues in Nanjing next year.

Yanlong Zhao
CCC2013 General Secretary



Members of the Technical Committee on Control Theory after their meeting at CCC2013.