The Chinese Control Conference 2006

The Chinese Control Conference is one of the most important annual conferences on systems and control in China. It provides a forum to the Chinese scholars, engineers, and graduate students, both at home and from abroad, to exchange their newest research results and discuss their new ideas. It is also a convenient way for Chinese young researchers to learn new trends and developments from leading international researchers.

General Information

The 25th Chinese Control Conference was held 7-11, August, 2006 at the International Convention Center, Harbin, China. Harbin is a beautiful city in northeast China, which is famous for its Russian style buildings and ice and snow sculptures. The permanent organizer of the conference is the Technical Committee on Control Theory (TCCT), Chinese Association of Automation. This year, the local organizer was the Center for Control Theory and Guidance Technology, Harbin Institute of Technology (HIT). The conference is also co-sponsored by the IEEE Control System Society (CSS), the Society of Instrument and Control Engineers (SICE), Japan, and the Institute of Control, Automation, and Systems Engineers (ICASE), Korea, et.al.

The Proceedings of the 25th Chinese Control Conference will be included in the IEEE Conference Publication Program. The papers included in the conference proceedings will be archived in IEEE Xplore and indexed in the international science and technology proceedings (ISTP).

Fig.1 The Opening Ceremony of CCC'06

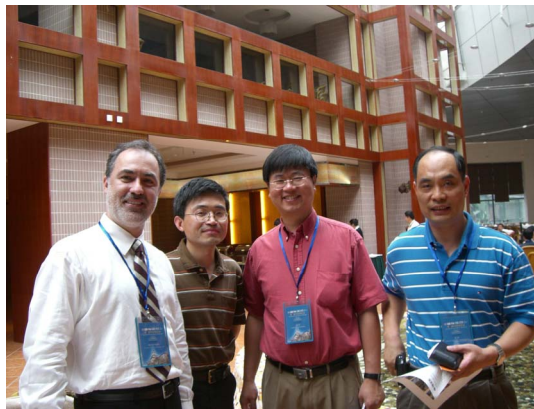*Fig.2 The conference hall for the plenary speeches*

Fig.3 The TCCT meeting at CCC'06.

First row (from left): Wei Huo, Guangren Duan, Dai-Zhan Cheng, Huashu Qin, Hongxin Wu, Han-Fu Chen, Lei Guo, Zhigang Han, Fengsheng Tu, Tielong Shen, Jie Huang, Jifeng Zhang. Second row: (from left) Min Wu, Yingmin Jia, Dewen Hu, Shaoyuan Li, Wensheng Yu, Li Yu, Bugong Xu, Yuping Tian, Anke Xue, Zengqiang Chen, Gang Feng, Zhongping Jiang, Zhihong Guan, Yi Huang, Yuqiang Wu, Yueming Hu, Xu Zhang

Technical Programs

There were 674 submissions to this CCC, including papers from USA, United Kingdom, Australia, Japan, Singapore, Sweden, Canada, Korea, Iran, Iraq, Romania, Hong Kong, Taiwan, etc. Among these submissions 461 papers were accepted and included in the conference proceedings, published in a CD ROM. There were 40 parallel lecture sessions (including eight invited ones) comprising 219 papers and 4 poster sessions with 102 papers. In five of these lecture sessions, all papers were represented in English. For convenience, these five sessions were arranged in the same rooms and last throughout the conference. Papers in the other sessions could be presented in either English or Chinese. The newly developed CCC electronic paper submission system greatly facilitated the paper submission and review process.

New to this year's CCC, eight program regional chairs have been appointed, who are responsible for conference publicity within their regions and organize the invited sessions. They are: B. Chen, National University of Singapore, Singapore; T. W. Chen, University of Alberta, Canada; J. W. Choi, Pusan National University, Korea; M. Y. Fu, University of Newcastle, Australia; J. Huang, Chinese University of Hong Kong; G. P. Liu, University of Glamorgan, United Kingdom; Z. L. Lin, University of Virginia, USA; T. L. Shen, Sophia University, Japan.

Fig.4 .Four oversea attendees
(from left) Miroslav Krstic (CCC'06 plenary spraker), Zhongping Jiang (Chair, CCC'06 pre-conference tutorial workshops),
Zongli Lin (CCC'06 Program regional chair), and Jie Huang (CCC'06 Program regional chair)

Six plenary speeches on timely topics were delivered by six IEEE Fellows. They are:
- "Feedback Control of Decoherence: Systems Theoretical Approach," by Tzyh-Jong Tarn, Washington University, USA;
- "Boundary Control of PDEs and Applications to Turbulent Flows and Flexible Structures," by Miroslov Krstic, University of California, San Diego, USA;
- "Efficient Data Representations for Signal Processing and Control: `Making Most of a Little'," by Graham Goodwin, University of Newcastle, Australia;
- "A Global-Analysis Approach to Robust Control," by Anders Lindquist, Royal Institute of Technology, Sweden;
- "Advances in Convex Optimization," by Stephen Boyd, Stanford University, USA, and
- "Multi-Agent Systems with Local Rules: Towards a Theory of Analysis and Control." by Lei Guo, Chinese Academy of Sciences, China.

Fig 5. Prof. Tzyh-Jong Tarn presents a plenary talk

Fig 6. Prof. Miroslov Krstic presents a plenary talk

Fig. 7 A toast to the success of CCC'06:
(from left)Jifeng Zhang (Organizing Chiar), Han-Fu Chen (General Chair), Graham C.Goodwin (plenary speaker),
Stephen P. Boyd (plenary speaker), Guangren Duan (Program Chair), Lei Guo (plenary speaker), Dai-zhan Cheng (Program Chair), Anders
Lindquist (plenary speaker), Tzyh-Jong Tarn (plenary speaker), and Zicai Wang (advisor)

Pre-workshops and Pre-symposium

At this conference, 4 pre-conference tutorial workshops were arranged:

- "Fundamental Performance Limitation in Feedback Control," by Jie Chen, University of California, Li Qiu, Hong Kong University of Science and Technology, and Weizhou Su, South China University of Technology;
- "Networked Embedded Control Systems," by Xiaoming Hu and Ulf Jonsson, Royal Institute of Technology;
- "Pliable, Feedback and Cooperative Controls of Constrained Systems," by Zhihua Qu, University of Central Florida; and
- "Time-delayed Feedback Control: Methodology, Stability and Application." by Yuping Tian, Southeast University.

As a pre-conference symposium, the Second China-Japan Joint Workshop on Control of Non-smooth, Switched, and Hybrid Systems was held on August 6, 2006 at the International Convention Center, Harbin. The organizers were Yu Yao from HIT, China and Tielong Shen from Sophia University, Japan.

Awards

Two awards have been issued in the 25th CCC: the 12th Guan Zhao-Zhi Award and the first Poster Award. The winning papers for the 12th Guan Zhao-Zhi Award were

- "A Unified Treatment for Controllability/Observability Problems of Partial Differential Equations of Second Order," by Xiaoyu Fu, Sichuan University;
- "Optimal AD-Conversion via Sampled-Data Processing Horizon Control Theory," by Milan Derpich, Daniel E. Quevedo and Graham Goodwin, University of Newcastle.

The winning papers for the first Poster Award were

- "Adaptive Nonlinearity Compensation for Power Amplifiers Based on Model-Matching Approach" by Yuanming Ding, Dailian University, and Akira Sano, Keio University;
- "Optimal Adaptive Sampled-Data Based Control of Stochastic Systems with Compact Parameter Set" by Shuping Tan, Beijing Institute of Control Engineering.

Post-tours

The conference also organized technical and sightseeing tours. Technical visits included laboratories and centers at HIT. Participants enjoyed the one-day city tour as well as the two-day ones: visits to Wudalianchi (Five Large Connected Pools) and Jingpo Lake.

Finally, we mention that the conference program and activities can be found in the TCCT homepage: http://tcct.amss.ac.cn and the homepage for the Center for Control Theory and Guidance Technology: http://cctgt.hit.edu.cn, and the next CCC (CCC 2007) will be held in Zhangjiajie, a marvelous sightseeing place in Hunan province, website http://sise.csu.edu.cn/ccc07.

Fig. 8   Xiaoyu Fu, and Milan Derpich et.al. receive the Guan Zhao-Zhi Award at CCC'06. Lei Guo,, presents the awards.

Fig. 9   Yuanming Ding et.al. and Shuping Tan receive the Poster Award at CCC'06. Han-Fu Chen, presents the awards.

Fig.10   Milan Derpich, winner of the 12th Guan Zhao-Zhi Award, singing at the banquet

Fig. 11 Graham C.Goodwin and Guangren Duan exercise Chinese Wushu at the Two Dragons Mountain, located at the east of Harbin