

# The 26<sup>th</sup> Chinese Control Conference

The Chinese Control Conference (CCC) is a series of annual conferences on systems and control in China. Since 1979 it has been held for 26 times. Originally, it provides a forum to the Chinese scholars, engineers, and graduate students to exchange their newest research results and discuss their new ideas. In recent years, a steadily increasing number of colleagues from abroad have attended the conference. Among them many oversea Chinese scholars are active in various organizing works of the CCC, helping to makes CCC more and more international. The Technical Committee on Control Theory (TCCT) of the Chinese Association of Automation (CAA) is the permanent sponsor of CCC. Each year a university is chosen to be the local sponsor and the conference will be in or near the city where the university is located.

## General Information

The 26<sup>th</sup> Chinese Control Conference was held on July 26-31, 2007 at the Best Western Premier Zhangjiajie Hotel, Zhangjiajie, Hunan Province, China. Zhangjiajie is a tourism city known by the magnificent scenes with miraculous mountains and beautiful rivers. The Zhangjiajie National Forest Park is a UN designated Natural Heritage. In addition to the TCCT, as the permanent sponsor, Central South University and Hunan Automation Association are the local sponsors, responsible for local organization of the Conference. The conference is also co-sponsored by the IEEE Control System Society (CSS), the Society of Instrument and Control Engineers (SICE), Japan, the Institute of Control, Automation, and Systems Engineers (ICASE), Korea, the Institute of Systems Science, Chinese Academy of Sciences, National University of Defense Technology, Hunan University, Hunan University of Technology, and the CAI Division of Hong Kong Institute of Engineers.

The Proceedings of the 26<sup>th</sup> Chinese Control Conference will be included in the IEEE Conference Publication Program with the IEEE Catalog Number: 07EX1694. The papers included in the conference proceedings will be archived in IEEE Xplore and have been selected for coverage in the ISI Proceedings/Index to Scientific & Technical Proceedings (ISTP).



*Fig.1: The Opening Ceremony of the 26th Chinese Control Conference. Over 600 people attended the conference.*

## Technical Programs

There were 1572 submissions to this CCC, including 91 papers from outside of Chinese mainland including America, Australia, Britain, Cameroon, Canada, Central African Rep., Colombia, Comorin, Congo, Egypt, Esthonia, France, Hongkong, Hungary, Iran, Italy, Japan, Jordan, Korea, Singapore, Sweden, Taiwan, Tunisia, and

Turkey. Among these submissions, 874 papers were accepted and included in the Conference Proceedings, published in 6 volumes of hardcopies as well as in a CD ROM. There were 62 parallel Lecture Sessions (including 10 invited ones) comprising 358 papers and 4 Poster Sessions with 199 papers. 6 of these Lecture Sessions are English sessions and all papers were represented in English. Papers in the other sessions could be presented in either English or Chinese. More than 600 people attended the conference.

Eight Program Regional Chairs have been appointed for this year CCC. They are responsible for conference publicity within their respective regions and for organizing invited sessions. They are: B. Chen, National University of Singapore, Singapore; T. Chen, University of Alberta, Canada; J. Huang, Chinese University of Hong Kong, Hong Kong; Z. Lin, University of Virginia, USA; G. P. Liu, University of Glamorgan, United Kingdom; W.Q. Liu, Curtin University of Tech, Australia; Z.H. Qu, University of Central Florida, USA; T. L. Shen, Sophia University, Japan.

Six plenary speeches on timely topics were delivered by six world renowned scientists. These speeches are: “Information Architecture and Control Design for Rigid Formations,” by B.D.O. Anderson, The Australian National University, Australia; “Systems Biology and Complex Disease,” by J.R. Wu, University of Science and Technology, China; “From Infinite Horizon to Receding Horizon for Controls, Estimations, and Optimizations,” by W.H. Kwon, Seoul National University, Korea; “Systems and Control Impact in a Changing World,” by T.E.Djafaris, University of Massachusetts in Amherst, USA; “Hybrid Systems: Stability and Control,” by A.R. Teel, University of California, USA; “Analysis and Control of Discontinuous Dynamical Systems” by T.L. Shen, Sophia university, Japan.



*Fig. 2: B. D. O. Anderson is delivering a plenary talk.*



*Fig. 3: W. H. Kwon is delivering his plenary talk, chaired by Lei Guo*



Fig. 4: The oral session: Guan Zhao-Zhi Award Final Defense



Fig. 5: A poster session.

### Plenary Panel Discussion

At this conference, a Plenary Panel Discussion “Outlook of Control and Automation” was organized. The panelists are: X. R. Cao, the Hong Kong University of Science and Technology; B. Chen, National University of Singapore; H. F. Chen, Chinese Academy of Sciences, China; G. R. Duan, Harbin Institute of Technology, China; L. Guo, Chinese Academy of Sciences, China; Z. Lin, University of Virginia, U.S.A.. The Panel Discussion was organized and directed by Co-Chairs: J. Huang and Z. P. Jiang. Many interesting problems, such as: “How can control science contribute 21<sup>st</sup> century science and technology?” and “What are the fundamental problems in controls that need to be addressed now?” were discussed at the Panel Discussion. The discussions were warm and thoughtful.



Fig.6: B. M. Chen, H. F. Chen and G. R. Duan (from left) at the Plenary Panel Discussion.

### Awards

Two awards have been issued in the 26<sup>th</sup> CCC: the 13<sup>th</sup> Guan Zhao-Zhi Award and the second Poster Award. The winning paper for the 13<sup>th</sup> Guan Zhao-Zhi Award is “Output Feedback Stabilization for Discrete-time Systems with a Time-varying Delay”, by Yong He (Central South University), Min Wu (Central South University), Guoping Liu (University of Glamorgan, Chinese Academy of Sciences) and Jin-Hua She (Tokyo University of Technology). The winning papers for the 2nd Poster Award are “Control Location Selection Strategy for Power System Emergency Control” by Zhang Xuemin, Mei Shengwei, Tsinghua University, and “HTS Levitation and Transportation with Linear Motor Control” by JianXun Jin (University of Electronic Science & Technology of China), YouGuang Guo (University of Technology, Sydney, Australia), JiaXin Chen (University of Technology, Sydney, Australia), LuHai Zheng (University of Electronic Science & Technology of China), and JianGuo Zhu (University of Technology, Sydney, Australia).



*Fig.7: Y. He, Central South University, China, receives the Guan Zhao-Zhi Award, presented by Lei Guo*

### **Review of the Past and Prospect for the Future**

Since this year is the last year of the 5 year term of the 8<sup>th</sup> TCCT, Professor Daizhan Cheng, current Chair of TCCT, gave a TCCT work report at the Opening Ceremony. He reviewed the progress of CCC in the past 5 years. The number of paper submissions has been increased from 231 (2003) to 1572 (2007). More academic activities have been included in CCC, such as Pre-conference Tutorial Workshop, Plenary Penal Discussion, Poster Session and Poster Award. The TCCT and CCC websites have also been established.



*Fig. 8 :TCCT members who attended the TCCT meeting at CCC'07.*

At the Opening Ceremony, the current IEEE CSS President, Professor Djaferis delivered a speech. On behalf of IEEE CSS, he pronounced that IEEE CDC09 will be held in Shanghai and CDC09 will be jointed by CCC09 as a single Conference. It has also been decided by IEEE CSS BOG that Professor Lei Guo (Chinese Academy of Sciences) and Professor John Baillieul (Boston University) will be the General Co-Chairmen. This is a great news for Chinese control community. It will also be welcome by the international control community.

Right before the Conference a ceremony for the signing the agreement between IEEE CSS and CAA TCCT on the joint Conference of CDC-CCC09 was held. Prof. Djaferis, Current President of IEEE CSS, and Prof. Cheng, Current Chairman of CAA TCCT, signed the agreement, on behalf of IEEE CSS and CAA TCCT respectively.



*Fig. 9: T.E.Djaferis, Current President of IEEE CSS, and D. Cheng, Current Chairman of CAA TCCT, signed the agreement between IEEE CSS and CAA TCCT on the joint Conference of CDC-CCC09*

During the Conference, an organizational meeting for CDC-CCC09 was held. Prof. Lei Guo chaired the meeting. Prof. Daizhan Cheng reviewed the preparation work so far. Twenty CCC attendants from USA, Singapore, Hong Kong and Chinese Mainland attended the meeting and had a very constructive discussion on the related issues.

During the Conference, the representatives from Society of Instrument and Control Engineers (SICE) Japan and from Hong Kong Institution of Engineers have contacted TCCT. They discussed with TCCT for the opportunities and ways for further collaborations.



*Fig. 10: Singers of Tujia minority performs at the conference banquet.*



*Fig. 11: B.D.O. Anderson, D. W. Hu and A.R. Teel (from right to left) perform the dance of Tujia minority*



*Fig. 12: Lei Guo, Daizhan Cheng and the members of the Organizing Committee of CCC'07.*

### **Post-tours**

Zhangjiajie is a famous tour city. As a UN designed natural heritage, it has uniquely spectacular mountains and rivers. The conference also organized some post-conference tours. Participants enjoyed Zhangjiajie National Park, Tianzishan Nature Reserve, Huanglong Cavern.



*Fig. 13: The scenery of Zhangjiajie National Forest Park*



*Fig. 14: The scenery of Tianzishan Nature Reserve*

Finally, we mention that the Conference Program and Activities can be found in the TCCT homepage: <http://tcct.amss.ac.cn> or CCC07 website: <http://sise.csu.edu.cn/cc07>. The next CCC (CCC 2008) will be held in Kunming, Yunan province, which is known as the “spring city”, as its climate is spring like all year round. The website for CCC08 is <http://ccc08.kmust.edu.cn/>.

Weihua Gui

Chair, Program Committee

Min Wu

Chair, Organizing Committee