

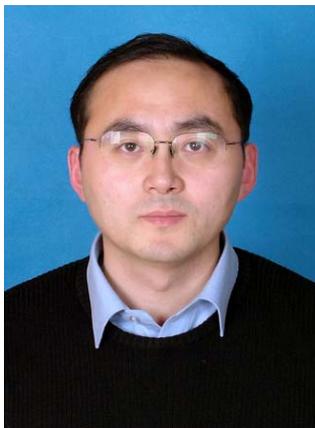
Plenary Panel Session on Control Research and Education in the 21st Century

Time: July 18, 2008
Venue: to be announced
Chair: Professor Zhong-Ping Jiang, Polytechnic University of New York, USA
Co-chair: Professor Ben M. Chen, National University of Singapore, Singapore

Panelists: Professor Yiguang Hong, Chinese Academy of Sciences, China
Professor Xiaoming Hu, Royal Institute of Technology, Sweden
Professor Jie Huang, Chinese University of Hong Kong, China
Professor Wei Kang, US Naval Postgraduate School, USA
Professor Qiang Lu, Tsinghua University, China
Professor Lihua Xie, Nanyang Technological University, Singapore

CCC'08 proudly presents the panel session on Control Research and Education in the 21st century. The primary objective of the panel session is to provide a forum for us to contemplate about the new challenges and opportunities in control research and education that we face in the 21st century. We are honored to be able to invite six prominent professors in the field of control to share their views and experiences with the audience. During the panel session, the audience will have an opportunity to share his/her own views, or seek advice on issues that are commonly encountered in junior researchers and educators, in particular students. Some of these common questions are: how to identify an emerging research area, how to start a career as a researcher, how to select research topics, how to publish papers in an international journal, how to find collaborators, how to write a successful proposal, etc. Issues related to control education will also be discussed at the panel session.

The panel consists of six distinguished panelists. In an alphabetic order, they are:



Professor Yiguang Hong received his B.Sc. and M.S. degrees from the Department of Mechanics, Peking University, China, and his PhD degree from Chinese Academy of Sciences (CAS). He is currently a professor in Institute of Systems Science, Academy of Mathematics and Systems Science, CAS.

He has published one book and more than 70 journal papers. Also, he is a recipient of Guang Zhaozhi Award of Chinese Control Conference (in 1997), Young Author Prize of IFAC World Congress (in 1999), the US National Research Council Research Associateship Award (in 2000), Young Scientist Award of CAS (in 2001), Youth Award for Science and Technology of China (in 2006), and Outstanding Youth Award of CAS (in 2007). In addition, He is a vice chairman of IEEE CSS Beijing Chapter. His research interests include nonlinear dynamics and control, multi-agent systems, robotics, and reliability of software and communication systems.



Professor Xiaoming Hu was born in Chengdu, China. He received the B.S. degree from University of Science and Technology of China in 1983. He received the M.S. and PhD degrees from Arizona State University in 1986 and 1989 respectively. He served as a research assistant at the Institute of Automation, the Chinese Academy of Sciences, from 1983 to 1984. From 1989 to 1990 he was a Gustafsson Postdoctoral Fellow at the Royal Institute of Technology, Stockholm, where he is currently a full professor of Optimization and Systems Theory, and a vice director of the Center for Autonomous Systems. He is also a member of the executive committee of ACCESS Linnaeus Centre, recently established at KTH through a ten-year 100 Million SEK grant from the Swedish Research Council. He holds also an S.S. Chern guest professorship at Nankai University. Xiaoming Hu is leading or participating in many research projects sponsored by EU, the Swedish Research Council, the Swedish Strategic Research Foundation, and the Swedish Defense Institute. His main research interests are in nonlinear control systems, nonlinear observer design, sensing and active perception, motion planning, control of multi-agent systems, and mobile manipulation.



Professor Jie Huang studied at Fuzhou University from 1977 to 1979, Nanjing University of Science and Technology from 1979 to 1982 where he received his master degree in 1982. He studied at Johns Hopkins University from 1986 to 1990 and received Ph.D. degree there in 1990. He was a faculty member with Nanjing University of Science and Technology from 1982 to 1986. From 1990 to 1995, he was employed in various institutions in USA. Since 1995, he has been with Department of Mechanical and Automation Engineering, Chinese University of Hong Kong. He served as a science advisor for the Leisure and Cultural Services Department of the Hong Kong Special Administrative Region, and honorary advisor of the Science Museum of Hong Kong. His research interests include nonlinear control theory and applications, neural networks, and flight guidance and control. He is the author of the book “Nonlinear Output Regulation: Theory and Applications”, SIAM, 2004, and co-author (with M. Abu-Khalaf, and F.L. Lewis) of the book “Nonlinear H_2/H -Infinity Feedback Control: A Practical Design Approach Using Neural Networks”. He received the best paper award (with Zhiyong Chen) of the 8th International Conference on Control, Automation, Robotics, and Vision in 2004, and Croucher Senior Research Fellowship Award in 2006.

Dr. Huang is an IEEE Fellow, and a distinguished lecturer of IEEE Control Systems Society. He is editor at large of Communications in Information and Systems, advisory editor for Asia of Transactions of The U.K. Institute of Measurement and Control, subject editor of International Journal of Robust and Nonlinear Control, a guest editor for IEEE Transactions on Neural Networks, and associate editor of Journal of Control Science and Engineering. He served as member of board of governors of IEEE Control Systems Society, associate editor of Conference Editorial Board of IEEE Control Systems Society, Asian Journal of Control, and IEEE Transactions on Automatic Control. He was the General Chair of 2002 International Conference on Control and Automation, Publicity

Chair of 2003 IEEE Conference on Decision and Control, Program Co-chair of 2006 World Congress of Intelligent Control and Automation, General Chair of 2007 IEEE International Conference on Control and Automation, and Program Vice Chair of 2009 IEEE Conference on Decision and Control.



Professor Wei Kang received his bachelor's and master's degrees, both in mathematics, from Nankai University, China, in 1982, and his PhD in mathematics from the University of California at Davis in 1991.

From 1991 to 1994, he was a visiting assistant professor of Systems Science and Mathematics at Washington University in St. Louis. Since 1994, he joined the faculty of Applied Mathematics at US Naval Postgraduate School. He has held visiting positions at various institutions and companies including: University of California at Davis, AFRL at Wright-Patterson Air Force Base, Nankai University, Intel Corporation, and University of Reims Champagne-Ardenne.

Dr. Wei Kang's research interests are in control theory with engineering applications including: computational mathematics in control design, bifurcations and normal forms, H-infinity control, manufacturing and process control, autonomous vehicles, and space systems. His research was funded by Air Force Research Laboratory, Air Force Office of Scientific Research, Army Research Office, Ford Motor Company, and Intel Corporation. Dr. Kang has an extensive publication list of more than one hundred technical papers.

Wei Kang is an IEEE Fellow and a member of SIAM. He served as an Associate Editor for several journals. He was a plenary speaker at various conferences including the 7th SIAM Conference on Control and Applications, and the 1st IFAC Conference on Control and Analysis of Chaotic Systems. He is the recipient of several research awards including Carl E. and Jessie W. Menneken Faculty Award of 2003 from NPS Foundation, and the Best Paper Award of the 6th International Conference on Control, Automation, Robotics and Vision.



Professor Qiang Lu graduated from the Department of Electrical Engineering, Tsinghua University, and is Academician of the Chinese Academy of Sciences, Foreign Member of the Royal Swedish Academy of Engineering Science, IEEE Fellow, professor of Electrical Engineering Department of Tsinghua University and the director of Academy Committee of the State Key Laboratory of Power System. He is engaged in the fields like Power System Nonlinear Optimal Control, Advanced EMS (Advanced Energy Management System) and so on. He has published more than 100 academic papers in China and abroad and three monographs, among which one is in English, published by Kluwer Academic Publisher (U.S.A).

The awards he obtained include: the Second Grade of Natural Science Award of China, the First Grade Award of National Excellent Science and Technology Book, the Third Grade of National Scientific and Technological Progress Award, the special grade of National Excellent Teaching Achievement Award and so on.

In recent years, he embarks on the new subject establishment of the laboratory. He presided over two important projects of the National Natural Science Foundation of China, on “Decentralized Nonlinear Control Theory and Application to Power Systems” and “Intelligent Control of Power Systems”. He once acted as the chief scientist of National Key Basic Research Project (1998-2002), the principal of the project of “Nonlinear Robust Control of Power Systems” which is a Cross-discipline Key Project of the National Natural Science Foundation of China, and the principal of the project of “Application of Nonlinear Control to the Three Gorges Hydroelectric Station” which is a National Key Science and Technology Tackling Project. Now he is responsible for the important projects, such as “973 Special Subjects of National Defense”, “Hybrid Voltage Control on Northeast Power Grid of China”, “AEMS in Shanghai Power Grid”, “Collapse prevention for Shenzhen Power Grid” and so on.



Professor Lihua Xie received the B.E. and M.E. degrees in electrical engineering from Nanjing University of Science and Technology in 1983 and 1986, respectively, and the Ph.D. degree in electrical engineering from the University of Newcastle, Australia, in 1992. He was an associate lecturer and later lecturer with the Department of Automatic Control, Nanjing University of Science and Technology from 1986 to 1989. Since 1992, he has been with the School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore, where he is currently a professor and the Director, Centre for Intelligent Machines. He concurrently holds an adjunct appointment as a Changjiang Professor

with South China University of Technology. His current research interests include robust control and estimation, sensor networks, networked control systems, time delay systems, and control of disk drive systems.

He has authored/co-authored a number of technical papers, two patents and three books *H-infinity Control and Filtering of Two-dimensional Systems* (with C. Du, Springer, 2002); *Optimal and Robust Estimation* (with F. Lewis, D. Popa, CRC Press, 2007) and *Control and Estimation of Systems with Input/Output Delays* (with H. Zhang, Springer, 2007). He is a recipient of the Best Theoretical Paper Award of the 6th World Congress of Intelligent Control and Automation (with X. Lu, H. Zhang and W. Wang) and the Best Paper Award of the 6th International Conference on Information, Communications, and Signal processing (with W. Wang and H. Zhang). He is currently an associate editor of *Automatica*, the *Transactions of the Institute of Measurement and Control*, and *Journal of Control Theory and Application*, and is also a member of the Editorial Board of *IET Proceedings on Control Theory and Applications*. He served as an associate editor of *IEEE Transactions on Automatic Control* from 2005 to 2007, *IEEE Transactions on Circuits and Systems-II* from 2006 to 2007, *International Journal of Control, Automation and Systems* from 2004 to 2006, and the Conference Editorial Board, *IEEE Control Systems Society* from 2000 to 2005. He was the General Chairman of the 9th International Conference on Control, Automation, Robotics and Vision and the Program Chair of the forth IEEE International Conference on Control and Automation and the 8th International Conference on Control, Automation, Robotics and Vision. Dr Xie is a Fellow of IEEE and a Fellow of Institution of Engineers, Singapore.