

Xiao-ge Zhang, Jin Wang

Zhong-tuo Wang: A Brief Biography

Zhong-tuo Wang

Professor

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Professor Wang was born in Beijing in August 1928. He spent his college life in the Department of Electrical Engineering of Tsinghua University. After graduation from Tsinghua in 1951, he worked in Electric Department of Dalian Institute of Technology, present Dalian University of Technology, where he remains till now. Since 1954, he has been devoting himself to the development of industrial enterprises' electrification and automatic controlling.

As a founder of Chinese system engineering research and academic degree system, he has consistently advocated that system engineering researches must keep in close contact with the actual economic construction of the country. His research, which plays an important role in Chinese economic construction, involves many fields, including system analysis of energy and oil refining enterprises' production planning and scheduling, strategic research of counties' comprehensive economic and social development, meta decision theory and its application, comprehensive utilization of water resources, new methods and application of network planning techniques, intelligent interactive and integrated decision support system.

In recent years, he has carried out basic theoretical researches on knowledge integration and knowledge innovation. He has presided over several key research projects funded by the National Natural Science Foundation of China, such as "Informatization, Management Reform and Information Management", "Some Scientific Problems of Knowledge Management of Enterprises or Organizations". He has also gained fruitful achievements in the study of decision analysis and decision support system, knowledge management and knowledge system engineering. He is committed to the researches on the concepts, methods, techniques and tools of knowledge science and knowledge management and never stops the pace of the development of corresponding information system.

In his 60 years' academic career, he constantly challenges himself and gets out of academic comfort zones. In order to cope with new requirements, he adjusts his research direction from automatic control theory and industrial application to meta decision of system engineering, and then shifting to knowledge system engineering with focus on the mutual influence of informatization and management reform. He has fulfilled his academic transformation with an open mind and great passion. He developed the automatic control system of China's first oil tube winding machine and the exchange control system of China's first TELECT slag re-melting. He was the first to apply system engineering methods to the computer application field. He has hosted and participated in many scientific researches and has won

many awards, including the National Science and Technology Progress Awards, the Science and Technology Progress Awards by State Education Commission, the National Computer Application Achievement Award and the Science and Technology Award of Petrochemical Company. In 1984, he won the title of “Science and Technology Young Expert with Outstanding Contribution Award”. And in 1990 he obtained the title of “National Universities’ Outstanding Science and Technology Worker”.

As a scholar, he is admired by his colleagues for his profound knowledge, active thinking, broad vision, rigorous scholarship, unique teaching methods and creativity. He has published 11 textbooks and monographs, 9 translated works, more than 140 academic papers and scientific reports. His book *Distributing Computer Management and Control System* won the National Excellent Textbook Award. And another book, *System Engineering Theory*, has won the Excellent Textbook Award of the Ministry of Electronics Industry twice.

As a teacher, he especially enjoys training people in new ways to improve their creativity and productivity. In spite of his old age, he still insists the “eight to five” schedule. Although no longer teaching, he keeps editing textbooks. He is modest and agreeable, and indifferent to fame. He was elected member to the Chinese Academy of Engineering in 2001, but he prefers the title of a teacher to that of a CAE member. He is admired for his noble values of kindness, gentleness and generosity towards all. His contributions as an educator and a scholar are well recognized in the field, and he is known throughout Dalian University of Technology for his distinguished service to the University. His fondness of teaching won him many awards. In 1998, he won the title of the “National Model Teacher”. In 2009, at the 60 anniversary of Dalian University of Technology, he was awarded the “Meritorious Teacher of the Sixty Years” by the University.

He attaches great importance to international academic exchange. He once worked as a researcher in Vienna’s International Institute for Applied Systems Analysis (IIASA) where he hosted a cooperate project of “An Overall Development Study of Expert System: a Case Study of Shanxi” by IIASA and China’s State Science and Technology Commission. Some technical research results of this project reached the international advanced level and became IIASA’s demonstration project. He enjoys high reputation in the domestic and foreign academic peers. He served as vice chairman of the International Knowledge and Systems Science Society, editor-in-chief of *Journal of Knowledge and Systems Science*, deputy director of Systems Engineering Society of China, chairman of China Software Industry Association and an honorary member of Chinese Association of Automation.

He has been devoting himself to the promotion of management engineering and education in China, and has done a lot of pioneering work for China’s management engineering, system engineering and industrial engineering. Moreover, he applies his theories to project management and social economic problems. In recognition of his outstanding achievements and contributions to China’s system science and system engineering, he was awarded the “Lifetime Achievement Award of Chinese System Science and System Engineering Science and Technology”, the highest prize in Chinese system engineering field in November, 2014.