## NSFC Former President Tang Ao-qing Passed Away



NSFC Former President Tang Ao-qing, a distinguished chemist and senior member of the Chinese Academy of Sciences, passed away at 11: 15 on July 15, 2008, aged 93.

Prof. Tang was born in Yixing, Jiangsu Province in November 1915. he graduated from the National Southwest Associated University in 1940 and taught in the university thereafter. He went to Columbia University in the United States for study in June 1946 and obtained Ph. D. degree in December 1949. After return to China in January 1950, he successively worked as professor in Peking University and Jilin University. He assumed the position of Vice President of Jilin University from 1956 and the President of the University from 1978 to 1986. He was the inaugural President of NSFC from 1986 to 1990. Prof. Tang also acted as Vice President of the China Association of Science and Technology, member of the Academic Degrees Committee of the State Council, and Deputy Director of the National Natural Science Award Council. He was elected Member of the Chinese Academy of Sciences in 1955, and member of the International Academy of Quantum Molecular Science in 1981. He was currently Honorary President of NSFC and Honorary President of Jilin University.

(The editorial)

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## Professor Tang Aoqing and NSFC



Professor Tang Anging was appointed by the State Council of China as the first President of National Natural Science Foundation of China in February 1986. This photo was taken in front of the Chinese Academy of Sciences, after the welcoming ceremony hosted by leaders of the Chinese Academy of Science.



Professor Tang Aoging chaired the first General Assembly of the National Natural Science Foundation of China on December 25, 1986.



In May 1996, Professor Tang Aoging met with Shiing-shen Chern, famous mathematician, who came to Beijing to attend the meeting celebrating the tenth anniversary of NSFC.



As the president of NSFC, Professor Tang Aoqing attached great importance on developing international cooperation. In March 1988, Professor Tang signed the cooperation agreement between NS-FC and DFG.



In April 1988, Professor Tang signed the cooperation agreements Between NSFC and Austrian Science Foundation, and NSFC and Austrian Industrial Research Promotion Fund respectively.

## Carbon Nanotube Film-Based Speaker Developed in Tsinghua University

A research group from Tsinghua University led by Prof. Fan Shoushan, Member of the Chinese Academy of Sciences, and Jiang Kaili, associate professor of Physics, found that carbon nanotube thin film could act as a speaker once fed by audio frequency electric currents. These carbon nanotube loudspeakers are only tens of a nanometer thick, transparent, flexible and stretchable, which can be further tailored into any shape and size. These results have been published in the journal Nano Letter.

Further studies on the discovery indicated that this phenomenon could be attributed to a thermo-acoustic effect. The ultra small heat capacity per unit area of carbon nanotube thin films leads to a wide frequency response range (from 100Hz to 100 kHz) and a high sound pressure level, according to the theoretical analysis. Based on this finding, the research group made practical carbon nanotube thin film speaker units, which possess the merits of nanometer thickness, transparent, flexible, stretchable and magnet-free. Such a single element thin film speaker can be tailored into any shape and size, freestanding on any insulating surfaces, which could bring new ideas to the traditional electro-acoustics designing and might lead approaches to the speaker manufacturing.

The research was funded by the National Basic Research Program of China (973), National Science Foundation of China, and Foxconn Technology Group. Patents was filed this April and the paper was published on web as ASAP articles of Nano Letter on Oct 29, 2008.

John Rogers, a material scientist from the University of Illinois at Urbana-Champaign, says: "It caps off a remarkable year in CNT research, in which people have been able to demonstrate realistic devices—speakers, transparent conductors, digital circuits, and transistor radios—formed in manufacturable ways and with properties that can be benchmarked in a meaningful way against existing technologies."

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