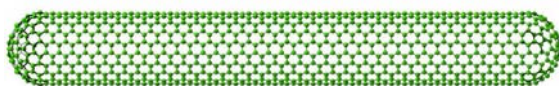


## *GCOE Programme: Mechanical Systems Innovation Open Seminar*

GCOE Programme: The Mechanical System Innovation Open Seminar 2008 will be held as follows. Professor Fei Wei at Tsinghua University is a leading researcher in carbon nanotube science and engineering. His scaled-up CVD production of nanotubes for application is well recognized in the field. Do not miss this chance to hear his talk in Tokyo. Participants from any departments or outside of The University of Tokyo are welcome.



### **Professor Fei Wei**

Beijing Key laboratory of Green Chemical Reaction Engineering and Technology  
Department of Chemical Engineering, *Tsinghua University*, Beijing, 100084, China

### **Mass Production of Aligned Carbon Nanotubes in a Fluidized Bed**

Date: 14:30 ~ 16:00 on September 8, 2008 (Monday)

Place: 7-3-1 Hongo, Bunkyo-ku, Tokyo

The University of Tokyo, Engineering Building II, Conf. Room 73C2 (7<sup>th</sup> Floor)

Map: [http://www.u-tokyo.ac.jp/campusmap/cam01\\_04\\_03\\_e.html](http://www.u-tokyo.ac.jp/campusmap/cam01_04_03_e.html)

**Abstract :** Increasing attention has been focused on controlling the growth of aligned carbon nanotube (CNT) forests. These aligned CNTs in the forest-like arrays are of many attractive properties, such as identical tube length, uniform orientation, extra high purity, easy spinning into macroscopic fibers, etc. To produce more aligned CNT forest, various ways were developed to solve this problem.

We reported a general strategy for fabrication of vertically aligned carbon nanotube (CNT) arrays intercalated compounds. The CNT array can be grown among various lamellar substrate and the structure can be further modulated by substrates, time. This CNT can be mass produced by fluidized bed with more than 1 kg/hr. Further applications MWNT forest were developed, including CNT aerogel, CNT paper, CNT foams, transparent conductive film, CNT yarn, which show excellent performance of large aspect ratio of CNT in forest form. The energy absorption of as grown CNT array intercalated compound is 110 kJ/kg. This was 10 times of that of pristine vermiculite.

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