

Title **Electron microscopy and nano-carbon materials**

Speaker **Dr. Sumio IIJIMA**
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Date & Time **Friday, December 16, 2011 4:00p.m.**

Place **INAMORI Hall, Ito campus,
Kyushu University**

Abstract

The discovery of carbon nanotubes (CNTs) owes entirely high resolution electron microscopy (HRTEM). There will be no alternative way to find such a nano-scale object without a priori knowledge. I will introduce briefly the background leading to the discovery of the CNT in terms of the HRTEM. Another part of the my presentation will be concerned with the state of art of structural characterization of nano-carbon materials using the latest atom-resolution electron microscopes as well as other characterization techniques of Raman, photoluminescence and optical absorption spectroscopy, etc. The advantage of HRTEM over other techniques is to be able to look into detailed local atomic structure such as lattice defects. Another emphasis of HRTEM will be on dynamic observation of a reaction process which is not available for other high resolution probe microscope techniques.

I shall also speak about synthesis, structure characterization, and industrial applications of nano carbon materials including graphene.

About the Speaker

After graduating from Tohoku University, he moved to Arizona State University where he developed high-resolution transmission electron microscopy (HRTEM) (1970-1982). In 1982 he returned to Japan and worked for 5 years on an ERATO project on nano-particles, then joined the NEC fundamental research laboratories. In 1991 he discovered carbon nanotubes that have initiated nano-materials science and nanotechnology. Following the discovery, he has been honored with numerous awards and prizes that include: Franklin Medal in physics (2001), Agilent Europhysics award (2002), Balzan Prize (2007, Italy-Switzerland), Kavli Prize (Norway, 2008), Prince of Asturias Award (Spain, 2008), Order of Culture (Japan, 2009), He is members of Foreign Associate of the National Academy of Science (USA. 2007), the Norwegian Academy of Science and Letters(2009) and also member of Japan Academy(2010).

Host **Professor Naotoshi NAKASHIMA**

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