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## **Preface: On nanotechnology in Korea**

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Nanotechnology that controls particle size to a nanometre scale is a scientific art. Nanotechnology has shifted the paradigm of common lives of human beings as well as fundamental scientific research and engineering manufacturing for the last decade. We can observe the influence of the nanotechnology in places. Since the late 1990s, many governments including USA, Japan, Korea, Canada, Germany, European Union (EU) and other countries have established special programs for research and development (R&D) of nanotechnology. Under the auspicious programs, there are a huge number of papers of nano science and technology published every year, and new technologies are industrialised.

We, Korea, have relatively a small number of research groups in scientific world but have made excellent progresses in science and technology for last several decades. The research environments in Korea cannot be compared to the well-developed countries. However, we have several national research facilities, including a synchrotron x-ray source (Pohang Light Source), a neutron research reactor (Hanaro), proton beam sources, five national nanocenters and others. The nanocenters are under construction and will play a key role on the R&D projects of nanotechnology. The Korean government has established about 20 special programs called “21th century frontier R&D projects”, including nanotechnology. Korea will invest 200 million US dollars a year for 10 years to the programs. This is not only the fund for the R&D nanotechnology in Korea. The government has established various R&D programs and many industrial companies also have their own programs for development of nanotechnology. In Korea, nano scientists and engineers are making a dash to the new scientific world with a pride and also responsibility.

There is an annual nanotechnology conference in Korea, Nano Korea. The conference was first held in 2003 and about 6000 people attend at the conference every year. There is another nano meeting called “Korean Nanowire meeting”. The Nanowire meeting is held four times a year. Chinese and Japanese nano communities also have Nanowire meetings. The nanoscientists in the three countries have made an agreement to have a regular meeting. The first Korea-China Nanowire meeting was held in October, 2005 in Beijing.

This special issue of the *International Journal of Nanotechnology* is specially devoted to present the current status of nanotechnology in Korea. However, it is not representative of all nanotechnology activities and groups in Korea. Only 13 review articles of nanotechnology in various fields, including material science, physics, chemistry and biology, have been specially invited. It should be noted that the contributors are prominent young nanoscientists who lead nanotechnology, currently and also in the future. We hope that this “fusion” special issue, which covers many different scientific fields will trigger the development of research and communication networks among the fields, and contributes to the discovery, development and industrialisation of new technologies.