
Editorial

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Biographical notes: Jae-Chul Pyun is an Associate Professor of the Department of Materials Science and Engineering at Yonsei University, Seoul, South Korea. He received his BS and MS in Chemistry from Seoul National University, Seoul, South Korea. He received his PhD in Chemistry from Saarland University/Fraunhofer Institute for Biomedical Engineering (FhG-IBMT), Saarbruecken, Germany in 2001. He had worked in KIST Europe fGmbH, Saarbruecken, Germany as a team leader during 2001–2007. He joined Yonsei University as an Assistant Professor in 2007. His interest has been focused on the development of biosensors based on tailored bio- and nanomaterials for medical diagnosis.

Jin-Woo Park is an Associate Professor of the Department of Materials Science and Engineering at Yonsei University, Seoul, South Korea. She received her BS in Metallurgical Engineering from Yonsei University, Seoul, South Korea, in 1996. She completed her PhD in Materials Science and Engineering at Massachusetts Institute of Technology (MIT), in the USA, under supervision of Professor Thomas W. Eagar in 2002. From 2002 to 2003, she was double-appointed as a Post-doctoral Research Associate and a Research Assistant Professor in Oak Ridge National Laboratory and University of Tennessee, respectively. She also worked for Samsung Electro-Mechanics in Suwon, Korea, as a Principal Engineer from 2004 to 2006. She came back to Yonsei University as an Assistant Professor in 2007. Her major field of research is materials interfaces from nano- to macro-scales.

Defense Nano Technology Application Center (DNTAC) was established in July, 2008, supported by Ministry of Defense, South Korea. DNTAC has developed new defence nanotechnology for future weapon systems, and DNTAC's main research areas include:

- nano materials for energy absorption
- nano functional materials
- quantum nano devices
- nano-bio chemistry
- nano materials for high temperature.

The fundamental concept for DNTAC is ‘*Dynamic Nanotechnology*’ which means that dynamics for fundamental nanotechnology and dynamics for weapon system advancement are combined in the research of DNTAC.

As nanotechnology has become successfully integrated into fundamental scientific research and the development of new manufacturing technologies, it also has made a huge impact on developing modern defence technology. In this sense, the above mentioned areas of DNTAC research cover a wide range of nanotechnology. Combined with the trends of technology convergence, the impact of nanotechnology on the modern defence system will continue to increase.

We proudly announce that this special issue of the *International Journal of Nanotechnology* can present the results of the research efforts of DNTAC for the past few years. This special issue contains 20 papers covering the above-mentioned research areas, and is believed to significantly contribute to the advancement of the defence nanotechnology. Based on this special issue, we wish more interest will be focused on the future defence nanotechnology.