

Workshop III

Nano-scale information materials using organic/inorganic templates

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The fusion of nano technology and information technology is essential to sustain the present growth rate and to induce new industry in this ever-growing information age. Considering Korean industry whose competitiveness lies heavily on information related technologies, this field will be inevitable for future.

Nano materials can be described as novel materials whose size of elemental structure has been engineered at the nanometer scale. Materials in the nanometer size range exhibit fundamentally new behavior, as their size falls below the critical length scale associated with any given property. “ Bottom-up “ techniques involve manipulating individual atoms and molecules. Bottom-up process usually implies controlled or directed self assembly of atoms and molecules into nano structures. It resembles more closely the processes of biology and chemistry, where atoms and molecules come together to create structures such as crystals or living cells.

Nano scale sensors are included in the electronics area since the diverse sensing mechanisms are often housed on a semiconductor substrate and usually give rise to an electronic signal. The application of nano technology to the chemical sensors should allow improvements in functionality such as gas sensing.

In this presentation, we will discuss about the nano scale information materials and devices fabricated by using the organic/inorganic nano templates.