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New Prospect for Innovation of Industrial Olefin Polymerization Catalyst

by Dr. Q. Wang, Dr. B. Liu and Prof. M. Terano, School of Materials Science, JAIST

Project Objectives

The 21st century COE program at JAIST, "Technology Creation Based on Knowledge Science", has two main objectives. One is to search for a new theory of scientific knowledge creation, the other is to generate new scientific technology by application of the theory. As one project team, the objective of our study is to create a research strategy for studying catalysts and catalytic reactions. At present, we specifically focus on innovations regarding an important industrial olefin polymerization catalyst, the Ziegler-Natta catalyst.

The challenges of the Ziegler-Natta catalyst

The Ziegler-Natta catalyst is one of the most important chemical discoveries of the 20th century, and the polyolefin industry established with this catalyst has become one of the most important global industries, with great impact on the world economy and on people's daily lives.

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GUEST COLUMN: Exploring Scientific Creativity and Innovation

by MS. Judith A. Steeh, Technical Communication Program, JAIST

Whatever their fields, from science to the visual or verbal arts, creative people have many traits in common and use a common set of thinking tools.

Robert Root-Bernstein, PhD, professor of physiology at Michigan State University in East Lansing, Michigan, USA, spoke about creativity and innovation at a seminar at JAIST on August 2. In his talk, Root-Bernstein took a hard look at knowledge creation – the who, where, when, and how of the discovery process.

Much of his talk drew on research he conducted for his books *Discovering* and *Sparks of Genius: The Thirteen Thinking Tools of the World's Most Creative People* (written with his wife, independent scholar Michèle Root-Bernstein, PhD). Root-Bernstein has also compared the hobbies of 134 Nobel laureates in chemistry to those of a control group of scientists.

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