Mechanical Catalysis: Methods of Enzymatic, Homogeneous, and Heterogeneous Catalysis

Gerhard Swiegers

DESCRIPTION

- Provides a clear and systematic description of the key role played by catalyst reactant dynamism including: (i) the fundamental processes at work, (ii) the origin of its general and physical features, (iii) the way it has evolved, and (iv) how it relates to catalysis in man-made systems.

- Unifies homogeneous, heterogeneous, and enzymatic catalysis into a single, conceptually coherent whole.

- Describes how to authentically mimic the underlying principles of enzymatic catalysis in man-made systems.

- Examines the origin and role of complexity and complex Systems Science in catalysis--very hot topics in science today.

ABOUT THE AUTHOR

Gerhard F. Swiegers, PhD, earned his doctorate at the University of Connecticut in 1991 and then worked at the Australian National University and the University of Wollongong, Australia. In 1998, he joined the Commonwealth Scientific and Industrial Research Organization (CSIRO), the major government laboratory in Australia. From 1998 to 2006, he was involved with designing anti-counterfeiting devices for bank notes. In 2005, one of his inventions was commercialized as a spin-off company known as Datatrace DNA Pty Ltd, and in 2006, Dr. Swiegers joined the firm as Vice President, Strategic Research. Several of Dr. Swiegers's inventions are currently used by national governments and major companies around the world.