

## Preface to the Key Concept Series 2

We have published “Key Concepts of Science of Forms—Biological and Medical Fields” as a Special Issue of *Forma*, Vol. 27, 2012. It was composed of translations of some articles from the part of biology and medicine in the “Encyclopedia of Science of Forms” published in 2004 by Asakura Shoten Co. Ltd. This Encyclopedia has some other parts, such as physics, chemistry, geology, astronomy, mathematics and technology. In the present issue articles from physics and chemistry are picked up. However, the articles concerned to crystals are not included; a new issue for this field will be scheduled in future. Some translations are published as review articles because their contents are enriched by adding new topics.

Now, we hope that readers enjoy reading this special issue.

June 23, 2015

Ryuji Takaki, editor of this issue

### Contents

Preface

Ryuji Takaki

*Review*

Fullerenes, Carbon Nanotubes and Carbon Nano-Onions—They could Be Plasma Crystals

Eiji Ōsawa

*Review*

Quasicrystals

An-Pang Tsai

*Review*

Percolation

Sasuke Miyazima

*Review*

Vortex Dynamics

Ryuji Takaki

*Review*

Chemically Driven Convection in the Belousov-Zhabotinsky Reaction—Evolutionary Pattern Dynamics—

Hidetoshi Miike, Tatsunari Sakurai, Atsushi Nomura and Stefan C. Müller

*Forum*

Growing Cell Patterns

Tatsuzo Nagai

*Forum*

Interfacial Instability and Pattern Formation

Takao Ohta

*Forum*

Pattern Formation in Liquid Crystal

Hiroshi Orihara

*Forum*

Dissipative Structures in Liquid Crystals

Yoshiki Hidaka and Shoichi Kai

*Forum*

Patterns of Water Waves

Mitsuaki Funakoshi and Katsunori Yoshimatsu

*Forum*

Vortex Formation behind an Object

Osamu Sano

*Forum*

Behavior of Vortex Rings

Osamu Sano

*Forum*

Self-induced Vibration of a Drop

Ryuji Takaki

*Forum*

Moving Mercury Drop by Chemical Reaction

Osamu Sano and Norio Watanabe

*Forum*

Dynamics of Sand Ripples and Dunes

Hiraku Nishimori

*Forum*

Avalanches of Granular Materials

Kouichi Nishimura and Yasuaki Nohguchi