Meiji Institute for Advanced Study of Mathematical Sciences
Center for Mathematical Modeling and Applications

Meiji University
Center for Mathematical Modeling and Applications

# CMMA Colloquium 28

## 第28回 現象数理学コロキアム

## Self-organization and complexity: The origin of macroscopic order from microscopic processes


**Abstract:**
Simple rules can create complex patterns and dynamics. This connection is routinely used by living systems to create complex rhythms, spatio-temporal structures, and high-performance materials with design features at meso- and macroscopic length scales that seem to defy their molecular origins. In my lecture, I will present several examples that illustrate this point and demonstrate that many phenomena that appear to be unique to life processes actually occur in non-biological, often simple chemical systems. Specifically, I will discuss nonlinear wave patterns in reaction-diffusion media and examples of life-like structures in chemical reactions that form polycrystalline or amorphous solids. The unexpectedness of some of these universalities has profound consequences in a wide range of scientific disciplines ranging from the misidentification of early microfossils to deadly cardiac arrhythmias.



**講演者：Oliver STEINBOCK**
フロリダ州立大学 (USA)


**2017年 7月11日(火)**
16：30～17：30
会場：明治大学 中野キャンパス
高層棟６階 セミナー室３

※ 参加費無料、事前申し込み不要です。どなたでもご参加いただけます。

明治大学先端数理科学インスティテュート
文部科学省 共同利用・共同研究拠点
現象数理学研究拠点

MIMS


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