MIMS/CMMA Seminar on Self-Organization
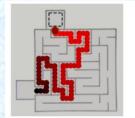
第4回 自己組織化セミナー

2013年8月29日（木）　16:30〜18：00

明治大学中野キャンパス　6階　研究セミナー室３

Chemical computing: solving mathematical problems with chemistry and Liesegang patterns: helicoids and particle size dependence

Dr. István Lagzi （Research Associate Professor, Eötvös University）

In the first part of the talk, several unconventional chemical computing algorithms will be presented and discussed, which can be successfully used to solve mathematical problems such as finding the shortest path in a maze or solving the "weakest" form of the traveling salesman problem. In the second part, the investigation of helical and helicoidal precipitation patterns emerging in the wake of reaction-diffusion fronts will be presented. In our experiments, these chiral structures arise with well-defined probabilities (P) controlled by conditions (e.g., the initial concentration of the reagents). We developed a model, which describes the observed experimental trends. The results suggest that P is determined by a delicate interplay among the time and length scales related to the front and to the unstable precipitation modes and, furthermore, we found that the noise amplitude also plays a quantifiable role. Finally, a new method will be presented to rationally design micro- and nanoparticles using reaction-diffusion processes.

1 cm

参加自由です。皆様のお越しをお待ちしております。

・中野キャンパスへのアクセス

　JR中央線快速・総武線、東京メトロ東西線／中野駅 下車 北口より徒歩約8分

　詳しくは、http://www.meiji.ac.jp/koho/campus_guide/nakano/access.html

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