



## **Mathematics in Innovation – Study group**

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During this study group, we will address real-life problems using complex dynamical systems concepts and methods. We will learn about developing solutions which are feasible for implementation in practice.

The program will start with the presentation of one or two problems (details to follow) together with relevant background information. The problems are concerned with real systems which undergo critical transitions. The question is how to create tools which could be used to investigate possible scenarios, predict sudden shifts in useful time and advise on appropriate measures to be taken.

The group will collaborate to develop an innovation roadmap from the latest research to an algorithm which uses several data sets. We do not expect to resolve all the stages of this innovation cycle in this study group. Depending on time availability we may also consider what would constitute a proof of concept and ways to validate a good solution.

The study group activities will conclude with a presentation during the second week, where the participants will present their work, the analysis of the problems, insights achieved and ideas for further work.