

# School on Reticular Chemistry: description and design of framework materials

27<sup>th</sup> – 31<sup>st</sup> March 2019, Stockholm University



## General Information

Reticular Chemistry is the chemistry of linking molecular building blocks by strong bonds to make crystalline frameworks. It has made large impacts in design and synthesis of new framework materials and prediction of their properties. The school coincides with the year's Aminoff Prize awarded to Prof. Michael O'Keeffe and Prof. Omar Yaghi. The Aminoff Prize symposium to be held at the Royal Swedish Academy of Sciences on April 1, 2019 ([www.kva.se/aminoff2019](http://www.kva.se/aminoff2019)).

The school is intended for PhD students, postdocs and young researchers, who wish to learn how to describe structures of framework materials, such as zeolites, metal-organic frameworks (MOFs), and covalent organic framework (COFs). Emphasis will be placed on the theory of topology and the use of computer programs to aid in the structural analysis. Lectures will focus on topology, which cover basic graph theory, tilings, nets, reticular chemistry and design of framework materials. There will also be computer labs to give the participants some hands-on exposure to free data analysis software, including Systre, 3dt and ToposPro. The demonstrations and practice will use zeolites and MOFs as examples.

Although basic topology will be reviewed at the beginning of the course, some prior knowledge of crystal structures and topology is highly encouraged in order for participants to benefit from the school. If possible, participants should bring their own laptops for the computer labs. Researchers from all related fields are encouraged to apply. However, due to the limited space, a maximum of 48 participants will be selected. The school is free of charge, and the participants need to pay the coffee and meals.

## Speakers

- **Prof. Michael O'Keeffe**, Arizona State University, USA
- **Prof. Davide M. Proserpio**, University of Milan, Italy
- **Prof. Omar Yaghi**, University of California, Berkeley, USA

## Topics

- Introduction to Graph Theory
- Periodic Graphs and Nets
- Periodic Tilings and Nets
- The Reticular Chemistry Structure Resource Database
- Systre, 3dt and TOPOS
- Deconstructing Crystal Structures
- Periodic Surfaces
- Design, Synthesis and Applications of Porous Materials

**School Website:** <https://www.mmk.su.se/school-on-reticular-chemistry>

**Deadline:** Registration 15<sup>th</sup> February; Abstract 10<sup>th</sup> March

## Organization Committee

Prof. Xiaodong Zou, Dr. A. Ken Inge, Dr. Zhehao Huang, Laura Samperisi, Erik Grape

\*If you have any question, please contact [reticular.chemistry.school@mmk.su.se](mailto:reticular.chemistry.school@mmk.su.se).