



**Seminar Topic:
Synthesizing with a Molecular Bowl of Carbon - Corannulene**

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Abstract

Corannulene ($C_{20}H_{10}$) is a polycyclic aromatic hydrocarbon that exhibits molecular curvature due to the arrangement of five six-membered rings around a central five-membered ring (Figure 1). It can, therefore, be considered as the cap region of fullerene C_{60} . This is the reason corannulene is sometime referred to as a 'buckybowl'. The nonplanarity of the structure endows corannulene (and C_{60}) with unique electronic properties that are not found in planar aromatic hydrocarbons such as anthracene and pyrene. In contrast to C_{60} , however, corannulene offers high solubility in common organic solvents and an avenue for multiple and well-defined substitutions on the aromatic nucleus. These two attributes are of high relevance to the synthetic and materials chemists as they allow for synthesis and unambiguous structural characterization of the synthesized materials. In this presentation, we will discuss our synthetic work revolving around this beautiful structural motif of carbon.

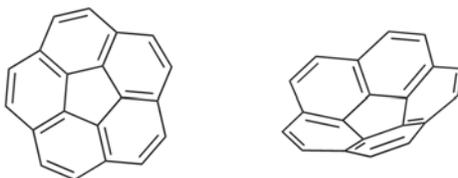


Figure 1. Chemical structure of corannulene.

Biography

Dr Mihaiela Stuparu obtained her doctoral degree from ETH-Zürich. After a one-year postdoctoral stay with Prof H. K. Hall Jr. at the University of Arizona, she returned to Zürich and finished her habilitation work under the mentorship of Prof J. S. Siegel at the University of Zürich. Dr Mihaiela Stuparu is a Nanyang Assistant Professor at School of Physical and Mathematical Sciences (SPMS) and School of Materials Science and Engineering (MSE) in Nanyang Technological University Singapore since 2014. She is an Elected Council Member of Singapore National Institute of Chemistry (SNIC), member of the Women Chapter of SNIC and Elected Council Member of the Singapore Chapter of the Royal Society of Chemistry (RSC).

Wednesday, 11 September 2019 || Time: 2:00 pm – 3:00 pm
Venue: MSE Meeting Room (N4.1-01-28)
Hosted by: Assistant Professor Le Ferrand Hortense