Organic Chemistry for Solving the Climate Problem - with Prof. Omar Yaghi

Start Time: Monday, March 11, 2024

End Time:

On 4 March, UniSysCat had the honour of inviting the renowned chemist Prof. Dr. Omar M. Yaghi from the University of California, Berkeley, to give a special UniSysCat colloquium, which was also his inaugural lecture for the presentation of the Humboldt Research Award. Yaghi gave an inspiring talk entitled "Organic Chemistry for Solving the Climate Problem". He described how porous materials developed in the laboratory, known as covalent organic frameworks, are used to enable carbon capture and water extraction from the air.

Omar M. Yaghi is the *James and Neeltje Tretter Chair Professor of Chemistry* at the University of California, Berkeley, and an elected member of the US National Academy of Sciences as well as the German National Academy of Sciences Leopoldina. He is the world's leading chemist in the field of ultraporous materials consisting of organic frameworks, known as COFs (covalent organic frameworks) and MOFs (metal organic frameworks). To make such frameworks, Yaghi also pioneered reticular chemistry, a new field of chemistry concerned with "stitching molecular building blocks together by strong bonds", as he describes it. His research opens up far-reaching possibilities for curbing climate change: for example, gaseous molecules such as water, hydrogen, methane and carbon dioxide can be stored in the holes of the porous structures, which he and his team develop.

Within the Humboldt Research Award programme, he will extend his research in synthesizing novel metal-free covalent networks probing them not only for gas storage but also as nano- and mesoscopic reaction vessel towards coupling of small molecules. Professor Yaghi is hosted by UniSysCat member Prof. Matthias Driess at the TU Berlin. The Humboldt Research Award will enable him to cooperate closely with UniSysCat researchers in the future.

In 2021, Omar Yaghi also won the [Gerhard Ertl Lecture Award](#) which is co-hosted by UniSysCat.