

## University Continuing Education at TU Graz

TU Graz Life Long Learning (LLL) offers you continuing education at university level that you can carry out alongside your job. The application periods for several programmes starting in autumn 2025 have already begun.

**Birgit Baustädter**

### UNIVERSITY COURSE ON "DECARBONISATION AND SUSTAINABILITY MANAGEMENT":

Basic know-how on environmental and sustainability management systems, sustainability reporting and greenhouse gas accounting, backcasting and roadmapping with the aim of achieving climate neutrality including carbon footprint management with a special focus on the decarbonisation of supply chains. Applications can be submitted until

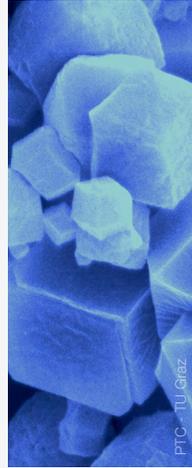
1 September 2025; the course starts on 8 September 2025.

### UNIVERSITY COURSE "ZERO CARBON MANAGEMENT":

Fundamental knowledge of sustainability management and the fields of activity relevant to the decarbonisation of companies. Applications can be submitted until 3 September 2025; the course starts on 15 September 2025.

**MASTER'S PROGRAMME "SPACETECH":** As part of the MSc in SpaceTech, participants are trained by experts in the fields of space systems and industrial engineering and prepared to take on key roles and management tasks in the international context of the space industry.

All continuing education programmes can be found on the website of Life Long Learning at TU Graz.



## Microporous Crystals for Greater Food Safety

A research team led by Paolo Falcaro has developed a microporous crystal compound that signals whether protein-rich foods are spoilt. The team won an ERC Proof of Concept Grant for this.

**Falko Schoklitsch**

The new FRESCO project builds on the results of the ERC Consolidator Grant-funded POPCRYSTAL project, which Paolo Falcaro recently completed. FRESCO will be funded to the tune of 150,000 euros over a period of 18 months. The aim is to increase food safety and reduce food waste. This is made possible by a microporous crystalline composite that detects toxic chemical compounds that are produced when protein-rich foods such as fish, meat or cheese spoil.

### COMPOSITE INK RECOGNISES TOXIC COMPOUNDS

A subgroup of microporous crystals, so-called metal-organic frameworks (MOFs), is considered to have great potential in the field of materials science, as they have a very large surface area despite their small size. Depending on the arrangement of their pores, they can have a wide variety of properties. Paolo Falcaro managed to precisely control the pore orientation in the POPCRYSTAL project. This was followed by research into lithographic methods for developing MOF-based applications in collaboration with researchers from the TU Graz lead project Porous Materials @ Work for Sustainability. The team published their initial findings in the prestigious journal *Advanced Materials*. These findings are now being further researched in the FRESCO project in order to develop an ink that recognises food spoilage.

The basis for this is a MOF developed as part of the POPCRYSTAL project, which can be applied to the inside of food packaging in the form of a non-toxic composite ink. The composite ink changes colour depending on the concentration of toxic compounds in the packaged food. This makes it possible to determine whether the food is still edible or not. During the new ERC project, Paolo Falcaro and his team, together with other researchers from TU Graz, want to further develop the composition of the MOF, test its effectiveness and find suitable partners from the packaging industry to bring the development into application. This is also the intention behind the Proof of Concept Grant: to build on an already acquired ERC grant and to evaluate the research results for marketable innovation potential.