

“We want to optimally prepare young scholars for their professional careers, both inside and outside of university.”

Spokespersons

Prof. Dr. Arne Thomas (Technische Universität Berlin), Prof. Dr. Matthias Drieß (Technische Universität Berlin), Prof. Dr. Holger Dobbek (Humboldt-Universität zu Berlin)

Host university

Technische Universität Berlin

Partner institutions

Charité – Universitätsmedizin Berlin

Freie Universität Berlin

Fritz-Haber-Institut der Max-Planck-Gesellschaft (FHI)

Helmholtz-Zentrum Berlin (HZB)

Humboldt-Universität zu Berlin

Leibniz-Forschungsinstitut für Molekulare Pharmakologie (FMP)

Max Planck Institute of Colloids and Interfaces (MPIKG)

University of Potsdam

UniSysCat has many national and international partners, including Aix-Marseille Université [France]; ETH Zurich, University of Zurich, LightChEC/ Solar Light to Chemical Energy Conversion [Switzerland]; Northwestern University, Center for Innovative and Strategic Transformation of Alkane Resources (CISTAR), Inorganometallic Catalyst Design Center (ICDC) [USA]

The **Excellence Strategy** aims to strengthen cutting-edge university research in Germany. The German federal and state governments launched this program to provide long-term support for top-quality research groups – so-called Clusters of Excellence – and high-performance universities. **Unifying Systems in Catalysis (UniSysCat)** is one of seven Clusters situated in Berlin. In 2018, it was granted an initial seven years of funding.



With the Berlin University Alliance, Freie Universität Berlin, Humboldt-Universität zu Berlin, Technische Universität Berlin, and Charité – Universitätsmedizin Berlin want to overcome boundaries and create a unique regionally and internationally integrated research environment.



Unifying Systems in Catalysis (UniSysCat)

Cluster of Excellence

How to Understand and Utilize Networks in Catalysis

More than 85 percent of all products come into contact with a catalyst during production. Catalysis research is therefore not only regarded as one of the most important research areas in chemistry, it is also the main driver of “green chemistry,” which focuses on sustainability and resource conservation. The **UniSysCat** Cluster of Excellence, proposed by Technische Universität Berlin, will play a key role in Germany and can build on ten years of outstanding work by UniCat, the previous Cluster from the Excellence Initiative. ▶▶

Website unisyscat.de

UniSysCat

» Individual catalytic reactions are already well understood in many cases. The challenge now is to decipher reaction networks in chemical and biological catalysis in space and time so that they can then be controlled, predicted, and modified. Which key parameters enable and control chemocatalytic and biocatalytic networks? How can chemical and/or biological processes be coupled to create catalytic systems with new functions? These are UniSysCat's central research questions.

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