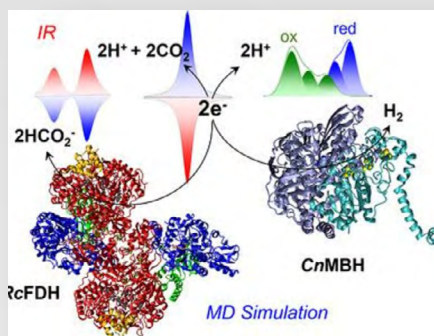




Newsletter

Winter 2024/25



Research Highlights

[Click here](#) to take a brief look at what researchers at UniSysCat have been working on the past few months.



Current Affairs

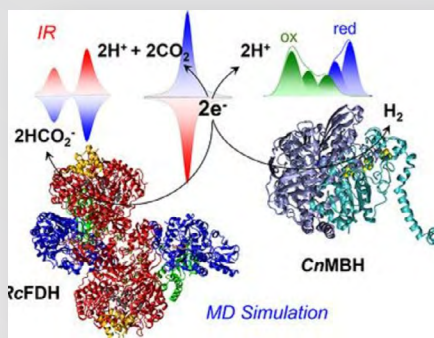
[Click here](#) to view the most recent events, awards and other affairs hosted by UniSysCat.



Upcoming Events

[Click here](#) to take a look at the colloquia and other events coming up.

Research Highlights



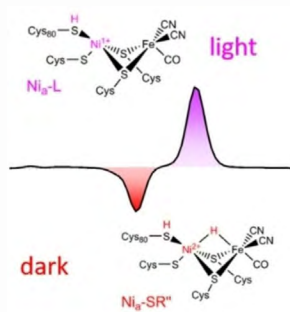
Unexpected coupling of enzymatic reactions in solution

The UniSysCat groups Leimkühler, Lenz, Mroginski and Zebger jointly elucidated the coupling of the reactivities of two physiologically unrelated enzymes in solution by theory and spectroscopy to achieve hydrogen-driven formate production and the reverse reaction.



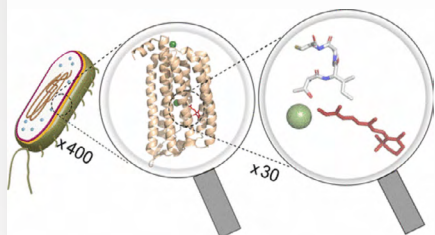
Nickel catalysts at work: Converting CO₂ to valuable chemicals

Using sophisticated operando spectroscopy a team around UniSysCat group leader Beatriz Roldán Cuenya from the FHI Berlin gains insights into the function of a nickel-based catalyst of great potential for the reduction of CO₂.



Shortcut for enzymatic hydrogen splitting discovered

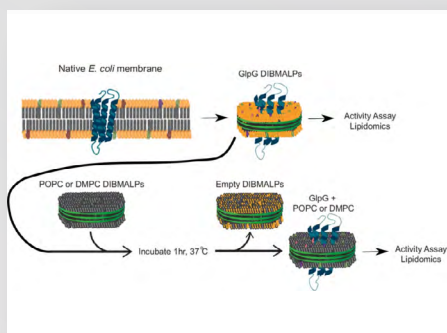
The UniSysCat groups of spectroscopists Horch and Zebger discover a potential shortcut for catalytic hydrogen cleavage in a hydrogenase that is controlled by light - opening up new possibilities for manipulating this process.



Observed in living cells: Chloride pump responds to light

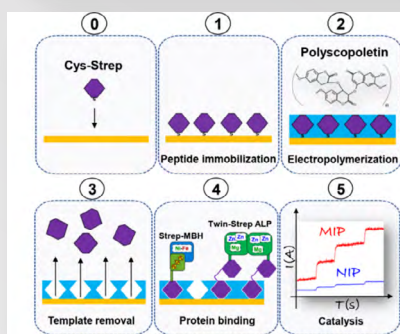
A UniSysCat team involving the groups of Joachim Heberle and Ramona Schlesinger has shown that it is possible to study proteins, such as a chloride pump, in living cells using time-resolved IR and UV/Vis spectroscopy.

Research Highlights



Now measurable: How does their environment influence membrane proteins?

A team around UniSysCat group leader Adam Lange shows a new way how to measure the interaction of membrane proteins with different lipids and the influence of lipid exchange on the stability and activity of the protein.



Incorporating enzymes into laboratory equipment

An interdisciplinary team including the five UniSysCat groups of Oliver Lenz, Maria-Andrea Mroginski, Ulla Wollenberger, Frieder W. Scheller and Ingo Zebger uses molecular imprinting to immobilize and exploit enzymes for heterogenous catalysis.

Current Affairs



Prof. Dr. Helmut Schwarz awarded with “Wolf Prize 2025”

Helmut Schwarz receives the prestigious Wolf Prize for Chemistry for “quantifying reactive species in the gas phase to solve fundamental problems in catalysis”. We warmly congratulate the former member of our predecessor cluster UniCat.



UniSysCat presented renewal proposal for Excellence Cluster funding

On February 5, the UniSysCat research consortium presented its renewal proposal to the German Research Foundation (DFG), as part of the competitive selection process for continued funding under Germany's Excellence Strategy.



Learning from Nature: On the road to green chemistry - Article in Berliner Morgenpost

While the evaluations of the Clusters of Excellence are in full swing, the Berliner Morgenpost sheds light on UniSysCat's pioneering research. The article “Von der Natur lernen: Auf dem Weg zur Grünen Chemie” by Andreas Abel was published on February 1.



Article in Berliner Morgenpost: Green chemistry to become Berlin's next big thing

The Berliner Morgenpost reports on Berlin's chances of positioning itself at the forefront of the transformation of the chemical industry. The article by Joachim Fahrún was published on January 27.



Current Affairs



Hydrogenase research and green chemistry - highlights of UniSysCat

The third issue of the TU magazine “WIR/VIER” about the work of the Berlin University Alliance focuses on the Clusters of Excellence. Two articles highlight the research and transfer achievements of UniSysCat.



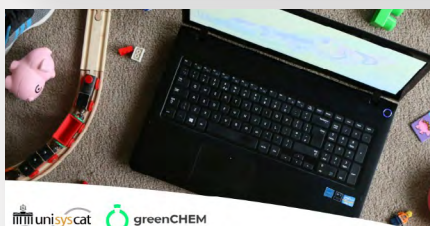
Article in GEO: “We even eat oil”

UniSysCat PostDoc Benjamin Steininger has been interviewed for the January 2025 edition of the German magazine GEO. Steininger speaks about petromodernity, the era of fossil raw materials, the end of which is now approaching.



Bringing Cutting-edge science from the university into the classroom

UniSysCat and TU Berlin's Institute for Chemistry presented an experiment kit to Hans-Litten-Schule in Berlin. The kit designed by UniSysCat scientist Dr. Michael Schwarze is used to demonstrate sustainable energy generation.



uni sys cat greenCHEM

Career & Family in Experimental Science

Event on balancing career and family in experimental science

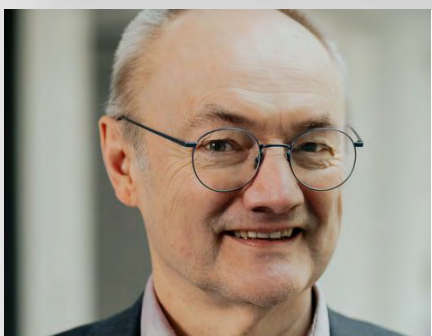
How can a career in experimental science coexist with the demands of starting and raising a family? This question took center stage at the “Career & Family” event, co-organized by greenCHEM and UniSysCat.

Current Affairs



Dr. Bonnie Murphy receives the Clara Immerwahr Award 2025

Dr. Bonnie Murphy from the Max Planck Institute of Biophysics was honored for her groundbreaking research in catalysis. Join us in celebrating her achievements at the award ceremony on April 11, 2025, at TU Berlin.



ERC Synergy Grant for Peter Saalfrank and partners

A team of four scientists, including UniSysCat group leader Peter Saalfrank from the University of Potsdam, was awarded an ERC Synergy Grant for their project IRASTRO, that is dedicated to interstellar astrochemical research.



EC²/BIG-NSE 17th Jubilee and Alumni Meeting

The EC²/BIG-NSE doctoral program celebrated its 17th Jubilee and Alumni Meeting on October 28-29, 2024, welcoming around 40 alumni for insightful panel discussions.



Beatriz Roldán Cuenya, wins “ACES – Margarita Salas” Award 2024

We congratulate UniSysCat group leader Roldán Cuenya from FHI Berlin, on winning the “ACES – Margarita Salas” Award in Physics, Mathematics and Engineering, that honors her research on catalytic nanostructured materials.



Current Affairs



In the focus of “DAS OFFENE WISSENSLABOR”

The Berlin University Alliance showcases Berlin's exceptional research landscape, bringing the people behind the science closer. Under the motto “How can chemistry become more sustainable?”, they present UniSysCat.



New video: “What do you like about being a researcher?”

We asked our scientists why they love what they are doing: research. The answers they gave are very inspiring. The video is now online on UniSysCat's YouTube channel: <https://www.youtube.com/@UniSysCat>



Welcome to the Synthesizer Podcast!

The new podcast on the “Future of Chemistry and Society,” produced by Nona Schulte-Römer and UniSysCat postdoc Benjamin Steininger, went online. Also the UniSysCat scientists Maria Andrea Mroginski, Peter Seeberger and Matthias Driess will be guests in the upcoming episodes.



Upcoming Events



Clara Immerwahr Award Ceremony 2025

The Clara Immerwahr Award Ceremony 2025 will take place on Friday April 11, 2025 at 2 pm at the TU Berlin. Guests are cordially invited! This year's awardee Dr. Bonnie Murphy will give a talk about "Machineries in anaerobic CO₂ fixation."

Date: April 11, 2 PM - Please register.



Clara Immerwahr Award Symposium 2025

For the first time, we are bringing together all past recipients of the Clara Immerwahr Award for a symposium in Berlin. This event offers a unique platform for scientific exchange, interdisciplinary discussions, and networking.

Date: April 10, 9 AM -6 PM - Please register.



New series: "Exzellentes Pub Quiz"

What are the Berlin Clusters of Excellence actually researching? To find this out, from now on, we monthly invite you to a pub quiz at the fahimi bar in Kreuzberg! Dates: March 3, April 7, May 12, June 2, September 8, October 13 and November 10.

Date: Every Month, fahimi bar Kreuzberg

A Coffee Lecture Series on Research Data Management



Coffee Lecture on Research Data Management

The last lecture of the series "No research without... Excellence" will be given by Dr. Mohammad Khatamirad, researcher at BasCat. He will speak about "FAIRness" of research data.

Date: March 18, 2 PM online



Upcoming Events



UniSysCat Colloquium

Dr. Michelle Browne from the Department of Chemical Energy at the Helmholtz Zentrum Berlin will be speaking on the topic "Beyond Conventional Metal Oxide Catalysts for the Oxygen Evolution Reaction"

Date: 26.03.25, 5:15 pm, TU Berlin & online



Imprint

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