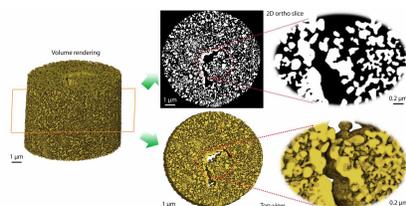


Helping chemists to understand degradation and stabilization of catalytic nanoporous gold structures

Correlative Multiscale 3D Imaging of a Hierarchical Nanoporous Gold Catalyst by Electron, Ion and X-ray Nanotomography. Y. Fam et. al, ChemCatChem 10 2858 (2018)

DOI: [10.1002/cctc.201800230](https://doi.org/10.1002/cctc.201800230)



It is difficult for X-rays to compete in spatial resolution with electrons, but they can probe relatively large bulk sample volumes at atmospheric pressure in a non-destructive manner. This makes X-ray tomography a promising tool to investigate catalytic nanoporous materials under real operating conditions. In this work researchers from Karlsruhe Institute of Technology and the University of Bremen in Germany compared X-ray ptychographic tomography, electron tomography and focused ion beam-scanning electron microscopy.

Read more: <https://www.psi.ch/coherent-x-ray-scattering/helping-chemists-to-understand-degradation-and-stabilization-of-catalytic-nanoporous-gold-structures>

A crystal-clear picture

Fast and accurate data collection for macromolecular crystallography using the JUNGFRÄU detector, Leonarski F. et. al, Nat. Methods 15, 799–804 (2018)

DOI: [10.1038/s41592-018-0143-7](https://doi.org/10.1038/s41592-018-0143-7)



The JUNGFRÄU detector represents the latest generation of pixel-array detector from the Paul Scherrer Institute. It uses direct detection charge integrating technology with dynamic gain switching to achieve a high dynamic range while maintaining a low-noise performance. Compared to previous generation X-ray detectors, JUNGFRÄU improves the accuracy of crystallographic measurements in two respects. First it removes count-rate limitation inaccuracies for high photon counts, allowing the full flux of the next generation light sources to be used for faster

measurements in Macromolecular Crystallography (MX). At the same time JUNGFRÄU improves the accuracy of long wavelength data collection for *de novo* structure determination using native-SAD phasing, due to uniform pixel sensitivity.

Read more: <https://www.psi.ch/macromolecular-crystallography/a-crystal-clear-picture>

EU grants 14 million to Swiss Researchers



A team with three researchers from the ETH Domain has been awarded a prestigious EU grant. They received the contract signed by the EU confirming the extraordinary 14 million euros funding. With it, they will investigate quantum effects which could become the backbone of future electronics.

Read more: <https://www.psi.ch/sls/scientific-highlights-and-news>