10 beamlines taking light

MAX IV continues to make excellent progress delivering new beamlines with exciting new scientific capabilities to the research community. The latest beamline to join the stable, SPECIES, following MAXPEEM, began commissioning 1 April in preparation for future user operations. The green-highlighted names of beamlines (right in) show the ones with open shutters, either conditioning the equipment or making measurements. Making all this progress possible is the outstanding performance, stability, and reliability of the accelerator systems at MAX IV, as can be seen by the flat beam history plots in the centre of the figure.

Machine operation schedule here!

Having your head in the clouds could be a really good thing

The ATMOS research group in the NANOMO unit, are trying to find out what kind of chemistry is happening in cloud droplets and tiny nanometer-sized aerosol particles in the atmosphere. This knowledge could give us more accurate theoretical models to understand the ongoing climate change. They are using the beamline HIPPIE at MAX IV as commissioning experts, and the experiment is done both to provide useful data but also to verify the capacity and capability of the beamline experimental station.

– We want to know how the surface separates itself chemically from the interior of solutions that are similar to those that make up the cloud droplets in the atmosphere, explains Nønne Prisle, Associate Professor at the University of Oulu.

Read the full story here!

Capturing protein motion at FemtoMAX
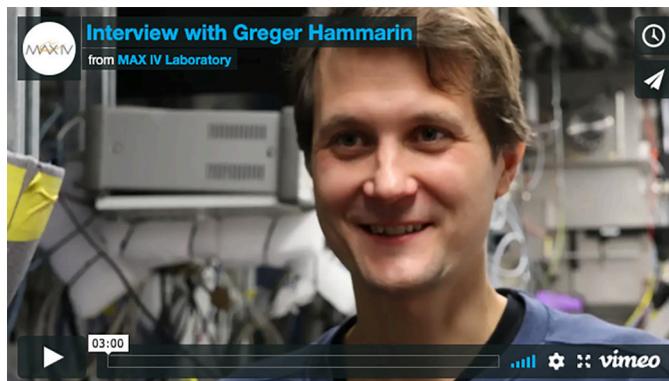
A research team from the University of Gothenburg recently visited the beamline FemtoMAX to develop a method for studying moving proteins. They use electric fields to stimulate motion of the proteins in a sample while imaging them with the X-ray beam.

Read the full story here!

Students use AI for sample positioning at BioMAX
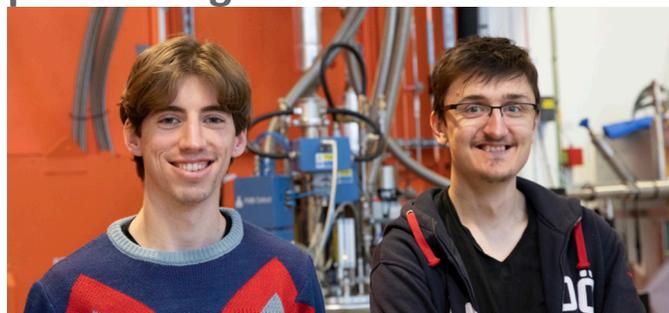
The samples at BioMAX beamline are very sensitive biomolecule crystals. It could, for example, be one of the many proteins you have in your body. They only last for a short time in the intense X-ray light before being damaged and needs to be placed exactly right before the researchers switch on the beam. In their masters' project, Isak Lindhé, and Jonathan Schurmann have used methods of artificial intelligence to train the computer how to do it.

Read the full story here!