Contribution ID: **129** Type: **Talk**

DECTRIS CLOUD : Collaborative, Scalable, and Insightful Analysis of Scientific Data

Tuesday 25 March 2025 16:45 (15 minutes)

Modern photon science experiments generate vast amounts of high-resolution data, necessitating scalable computational solutions to ensure reproducibility, accelerate analysis workflows, and facilitate collaborative research endeavors. DECTRIS CLOUD offers a high-performance platform where scientists can deploy, share, and collaboratively use software, enhancing data curation through advanced visualization and analysis tools that facilitate better decision-making.

By integrating on-demand computing power, automated data pipelines, and secure cloud storage, DECTRIS CLOUD supports streamlined data analysis, reducing processing time while ensuring consistency across experiments. Researchers can share fully configured computational environments using DECTRIS CLOUD's container-based approach, ensuring reproducibility by eliminating discrepancies between local setups. The platform's real-time collaboration tools further enhance teamwork, enabling researchers to share data, monitor experiments, and refine analyses together, fostering user support in photon and neutron large-scale facilities.

This presentation will illustrate how DECTRIS CLOUD accelerates scientific discovery by providing an efficient, transparent, and collaborative platform for data analysis. We will demonstrate how cloud-enabled environments powered by DECTRIS CLOUD's advanced data curation and collaborative analysis capabilities can serve as an elastic extension of local infrastructure, improving efficiency, enhancing data integrity, and fostering transparent, collaborative research in large-scale scientific investigations.

Primary author: LEROY, Ludmila (DECTRIS)

Co-authors: Dr BURIAN, Max (DECTRIS); Dr LARSEN, Camilla (DECTRIS)

Presenter: LEROY, Ludmila (DECTRIS)

Session Classification: Outreach and Internationalization (TA4 and TA5)