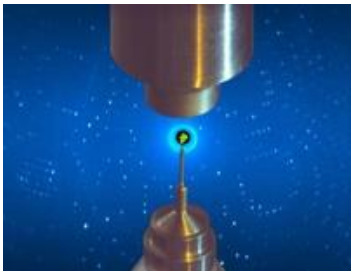

Contribution ID: **11** Type: **Poster**

LP3 and DEMAX

Wednesday, 9 June 2021 14:40 (20 minutes)

Proteins are of enormous importance to life on earth. They have a multitude of different functions in all organisms and can work as enzymes, gene regulators, structural components, transporters, and receptors. Most drugs act on proteins. The structures and mechanisms of proteins are therefore prominent topics in life science research.
Access to both state-of-the-art X-ray (MAX IV) and neutron sources (ESS) will increase the capacity for innovation in the life sciences. To enable efficient use of these unique and powerful facilities by Lund researchers, Lund University hosts the protein production platform, LP3 (www.lu.se/lp3). LP3 assists users with: 1) Recombinant protein production, 2) biophysical protein characterisation 3) High-throughput crystallization and structure determination, and 4) Stable isotope labelling and bio-deuteration of biological macromolecules.
Since 2016, the DEuteration and MAcromolecular Xtallization (DEMAX) platform of the ESS is co-localized with LP3. DEMAX and LP3 are coordinating in their efforts [1-4] to develop cost-effective production of deuterated proteins for macromolecular crystallography, enable crystallization of interesting proteins for neutron work, and for the production of labelled proteins/lipids for neutron reflectometry.

1 Koruza et al. Crystals, 2018. 8(11)
2 Koruza et al. Arch Biochem Biophys, 2018. 645: 26
3 Koruza et al. Acta Crystallogr D Struct Biol, 2019. 75: 895
4 Koruza et al. J Struct Biol, 2019. 205: 147

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