

High repetition rate single-particle imaging at the European XFEL

Monday 14 September 2020 14:00 (30 minutes)

The dream of imaging single molecules was instrumental to the construction of X-ray free-electron lasers (XFELs). The European XFEL marks the beginning of the high-intensity, high-repetition-rate and high data-rate era of XFELs, bringing the dream closer to reality.

In this talk, I will present the evolution of X-ray diffraction imaging and in particular highlight the latest results from the European XFEL. I will also demonstrate the importance of developing robust structure validation procedures for the long-term success and wider adoption of the method as well as how to best make use of this wealth of data to extract as much new knowledge as possible. I will also discuss what new techniques might be over the horizon and what is still required to achieve the dream of ultrafast X-ray diffractive imaging of single proteins.

Primary author: Dr MAIA, Filipe (Uppsala University)

Presenter: Dr MAIA, Filipe (Uppsala University)

Session Classification: Session 1 - Coherent imaging