Poster

New access model at PETRA III & future PETRA IV beamline at DESY

J. Hakanpää, A.B. Dey, K. Bagschik, J.-P. Kurz, D. Unger, F. Bertram, C. Schlueter, D. Novikov, M. Tolkiehn, M. Lippmann, R. Khubbutdinov, H.-C. Wille, O.H. Seeck

Deutsches Elektronen-Synchrotron DESY, 22607 Hamburg,Germany

johanna.hakanpaa@desy.de

PETRA III is a 3rd generation synchrotron source operating 25 beamlines with almost 60 experiment station at DESY campus in Hamburg, Germany. In the next years, the accelerator is planned to be upgraded into the world ’s most powerful synchrotron radiation source: PETRA IV will act as the ultimate X-ray microscope for nanoresearch, with outstanding potential for users from industry and with relevant applications in energy research, information technology, mobility, the environment and medicine. To ensure that access process to the new beamlines is optimal for growing and evolving user community, the current access scheme of PETRA III has been reviewed, optimised and is currently under pilot testing at selected beamlines. Two single crystal X-ray diffraction beamlines, namely the High-throughput Macromolecular Crystallography (P11) and Small Molecule (P24) Crystallography beamlines, are now operating under a rolling access model together with High-resolution Diffraction (P08), Hard X-ray Photoelectron Spectroscopy (P22), In-situ X-ray Diffraction & imaging (P23), as well as chemistry laboratories.

The new access model aims to provide better responsiveness in terms of shorter time from proposal submission to beamtime and lower the threshold for cross-disciplinary work and (partially) outsourced projects. Simultaneously we looked to simplify the application process while recognising that various disciplines of research carried out at the beamline has diverse needs. This lead into a try-out that merges all our current proposals users (including Block Allocation Groups and Long-Term Proposals) into one proposal format, which can be extended for more time-demanding projects. Review is done as ‘rolling’, a procedure that is already widely in use at various synchrotron sources and submission is thus continuous without deadlines. Validity of proposals is 2 years, providing that first experiments take place within 6 months of approved proposal with ranking permitting to submit for an experiment.

In the test phase we also look to evaluate how to carry out projects that are partially outsourced to synchrotron staff, which types of complementary experiments for each discipline are beneficial and how our databases and administrative procedures can be adapted to the new access model. Based on feedback from the user communities of current PETRA III beamlines and on simulations we anticipate a more adaptive and efficient access model to PETRA III beamlines, eventually also covering PETRA IV.

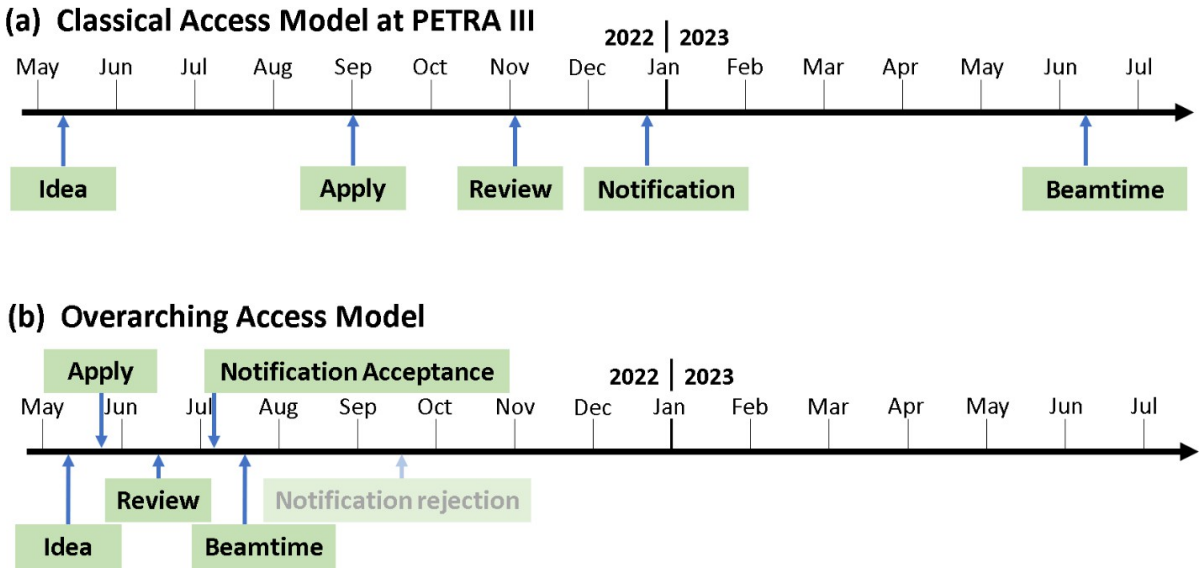

Figure 1. Comparison of the current (a) and piloted (b) piloted access model timelines at PETRA III.