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**4th NCCR Practical Course:
Synchrotron Data Acquisition Techniques in Macromolecular
Crystallography
3.-7.10. 2005 Swiss Light Source, Villingen, Switzerland**

The course covered all aspects of crystallography at synchrotron sources, including crystal stabilization and derivatization, crystallographic data acquisition and processing, data collection strategies for challenging problems in macromolecular crystallography including micro crystals and crystals with large unit cell dimensions, theory and application of anomalous scattering techniques including MAD/SAD and sulfur SAD phasing, and instrumentation and experimental considerations of beam lines including robotic crystal handling. The lectures covered basic theory and recent developments, but with an emphasis towards the practical aspects. The practicals and tutorials gave a unique opportunity to work with the equipment and software under expert guidance. Both test cases and actual samples/data from the participants were used for the tutorials. As the tutorials were organized in groups of four, there was also time for fruitful discussion with the expert tutors. The course venue at the SLS also allowed a practical demonstration of the possibilities opened with state of the art equipment, as the SLS is one of the leading synchrotrons in the world today.