

3rd Workshop on the Simultaneous Combination of Spectroscopies with X-ray Absorption, Scattering and Diffraction Techniques



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Combining spectroscopy and crystallography: a tool to investigate fluorescent proteins

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Structural biology relies increasingly on complementary methods that are applied to the same sample. In crystallo optical spectroscopy is a method of choice to assess the relevance of crystallographic structures, characterize colored ligands, monitor chemical changes induced by the X-ray beam, or identify intermediate states trapped in the crystal. Specifically, combining optical (absorbance, fluorescence or Raman) spectroscopy with kinetic crystallography allows the precise monitoring of structural changes and dynamical properties of proteins “in action”. The principles of kinetic crystallography and in crystallo spectroscopy will be presented. Examples concerning the fascinating world of photo-transformable fluorescent proteins from the GFP-family will be detailed.

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