

Warwick Chemistry Departmental Seminar

Hosted by the Measurement and Modelling Cluster



Professor Jasper van Thor

Imperial College London, Department of Life Sciences

12 October 2017

4.00 pm, Physics Lecture Theatre, Science Concourse. ALL WELCOMED

‘Ultrafast Structural Dynamics and Coherence in Protein Crystals’

Pump-probe methods applied to protein crystals are designed to find real-space information for ultrafast structural dynamics and coherence. Using the LCLS X-ray Free Electron Laser, femtosecond time resolved crystallography has been successfully used to solve the structure of an excited state intermediate in the photoisomerisation reaction of a biological photoreceptor protein, with careful design of the optical field from femtosecond spectroscopy studies. We also use ultrafast crystal spectroscopy to access coherence and electronic dynamics such as the photosynthetic exciton equilibration end energy transfer in natural photosynthesis. I will present recent work on both types of ultrafast crystal studies.