



SOCIÉTÉ CHIMIQUE DE GENÈVE

Observing chemical dynamics on the atomic scale of time and space

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The atomic scale resolution of space (the Ångström) was achieved a century ago with the discovery of X-ray and electron diffraction. It will take about 8 decades to reach the atomic scale of time (the Femtosecond) thanks to the pioneering works of Ahmed Zewail using optical domain spectroscopy. However, from the early days of the “Femtosecond revolution”, was it clear that optical domain spectroscopies (ultraviolet, visible, infrared, Terahertz) do not deliver structure. It will take another decade or so to fully merge the atomic scale resolution of space with that of time, using either ultrashort pulses of electrons or of X-rays. The electron-based approach was pioneered by Ahmed Zewail. A larger part of the community of ultrafast scientists opted for X-rays using either large-scale installations (synchrotrons or X-ray free electron lasers) or table-top systems (plasma sources or High harmonic generation) as sources of short wavelength radiation. In this talk, I will review some of the landmarks leading to the development of the field of ultrafast structural dynamics using electron or X-ray pulses. I will then focus on the methods we have developed: ultrafast X-ray spectroscopy, and present some of our recent results on metal complexes and solar materials.

Conférence présentée le

LUNDI 13 FÉVRIER 2017 à 17h30

**Université de Genève – Bâtiment Sciences II
Auditoire A. Pictet A100
30, quai Ernest-Ansermet, Genève**

La conférence est publique

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