

## About XTOP conferences

The first XTOP conference devoted to X-Ray Topography and High Resolution Diffraction took place in Marseille in 1992. The original topics covered were X-ray topography, double- and triple-crystal diffractometry, reflectometry and the standing-wave technique. Later, other topics such as small-angle scattering and a broad portfolio of imaging were added.

XTOP brings together scientists from the fields of X-ray diffractometry, reflectometry, small-angle scattering, standing waves, coherent and conventional X-ray diffraction imaging and topography, as well as X-ray absorption and phase contrast imaging. XTOP is thus one of the central scientific conferences concerning methods and instrumentation in laboratory and synchrotron-based high-resolution X-ray diffraction methods, phase contrast imaging, and micro-tomography.

The list of previous XTOP conferences:

1992: **Marseille** (France)  
1994: **Berlin** (Germany)  
1996: **Palermo** (Italy)  
1998: **Durham** (United Kingdom)  
2000: **Ustron-Jaszowiec** (Poland)  
2002: **Aussois** (France)  
2004: **Praha** (Czech Republic)  
2006: **Baden-Baden** (Germany)  
2008: **Linz** (Austria)  
2010: **Warwick** (United Kingdom)  
2012: **Saint Petersburg** (Russia)  
2014: **Grenoble** and **Villard-de-Lans** (France)

## Scientific scope of XTOP 2016

The first day of the conference is traditionally devoted to the **companion school** with six tutorial lectures covering principal and highlight topics of the current XTOP. The lectures are aimed not only to students, but to the whole scientific audience interested in the broad portfolio of X-ray science.

Afterwards, three **conference** days follow. Each conference session starts by a **keynote lecture** related to the block of contributed **talks**. Two **poster sessions** run in the first two evenings.

## Poster prizes

Poster prizes sponsored by the IUCr and Atomicus will be awarded at the conference.

## Conference venue

The conference takes place at the “**Scala**” **University Cinema** (address: Moravské náměstí 3, i.e. Moravian square 3). The cinema, opened in 1929, has been successfully restored by Masaryk University in 2013 as a centre for cinema, culture and education. Being located in the city centre, you easily access many hotels, parks, pubs, churches, museums and other interesting places around.

The **companion school dinner** will be served at restaurant **Velká Klajdovka** (Big Klajdovka) on the south-east of the Hády hill with a natural reserve. The restaurant situated on a cliff 5.6 km at the azimuth of 68° from Scala provides a nice overview over the Brno city while having a dinner at the most southern place of the natural reserve *Moravian Karst*.

The **conference dinner** will be served at **Pivovarská** (Brewery) restaurant at Mendlovo náměstí (Mendel square, 1.3 km at 235° from Scala). The largest brewery in Brno dates back to 1323 when founded by the Cistercian monastery, nowadays being named Starobrnno (Old Brno) and one of its old buildings serves as a restaurant. The square is named by *Gregor Johann Mendel*, who lived and served as abbot in the Augustinian friar nearby. In the middle of the 19<sup>th</sup> century he was conducting hybridization experiments in garden peas. His studies led to the discovery of the (Mendelian) laws of inheritance so that he is acknowledged as one of the founders of genetics.

The following methods, applications and instrumentation cover the scientific topics of this XTOP:

### Methods and techniques:

- High resolution diffraction and topography
- X-ray reflectometry and small-angle scattering
- Microdiffraction and nanodiffraction
- Coherent diffraction imaging
- Absorption and phase contrast imaging and tomography
- Resonant (anomalous) scattering
- Fluorescence imaging
- Time resolved methods
- Theory and simulations of X-ray scattering

### Applications:

- Material science (from 0D to 3D objects)
- Nanomaterials and nanoscience
- Life and environmental sciences
- Non-destructive testing (including industrial needs and cultural heritage)

### Instrumentation:

- X-ray optics and instrumentation
- Advances in laboratory instrumentation and applications
- Advances in synchrotron instrumentation and applications
- Experiments at X-ray free-electron lasers