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**Crystallization in gels: A practical workshop.**

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Gels have been used since XIX century as a media to grow crystals under diffusion controlled mass transport. Inorganic, organic and bio-macromolecules have been crystallized using gels of different nature in the search for crystal improvement (nucleation density, crystal size, crystal quality, etc.). In spite of the advantages of using convection free system in crystal growth, the difficulty to set up the experiments and to prepare the gels has precluded its use as a general tool for crystallization. Based in the experience obtained in the last years we have arranged this workshop to share the knowledge on the crystallization in gelled media.

The workshop will cover fundamental and practical aspects of both, the crystallization of biological macromolecules as well as organic and inorganic molecules, namely:

- 1) Fundamentals of crystallization in gels and other porous media
- 2) Pattern formation in gels
- 3) Crystallization techniques
- 4) Review of types of compounds crystallized in gels
- 5) Types of gels currently used in crystallization
- 6) Video-demonstrations of:
  - Preparation of agarose, silica and polyethylene oxide gels.
  - Setting gel crystallization experiments.
  - Harvesting crystals from gels.
  - In situ X-ray crystallography of protein crystals.
  - In-situ X-ray cryo-crystallography of protein crystals.
- 7) Pattern formation in gels

**Keywords: Gel, microfluidic, nucleation, crystal growth, crystallization.**