November 11, 2004

Dear Colleague,

is a great pleasure invite you to Frascati (Italy) to attend the next

**International Conference on X-ray Optics and Microanalysis**

**ICXOM – XVIII**

*September 25-30, 2005 - Frascati (Rome) Italy*

The ICXOM (International Conference on X-ray Optics and Microanalysis) series are conferences devoted to X-ray researches and new developments in X-ray micro-focusing optics and their applications in Physics, Chemistry, Material sciences, Earth and Environmental sciences. The next meeting will be hosted by the National Laboratory of Frascati (INFN - LNF) from 25 to 30 September 2005, certainly one of the best seasons to visit Rome and the neighbouring area of the Castelli Romani where Frascati is placed.

Many intense X-ray sources are now available for scientific and technological applications. The recent ideas and the continuous developments bring X-ray sources, optics and detectors to performances that were almost unbelievable a few years ago. The new generation of powerful table-top devices for elemental and diffraction analysis, but in particular the many synchrotron radiation facilities all around the world that deliver bright and ultra-bright X-ray beams to hundreds of users investigating with different techniques the atomic structure of matter witness the almost exponential increase of X-ray brilliance. X-ray sources produced countless discoveries, ranging from atomic scale maps of proteins to structures of high-temperature superconducting materials. However, only now for the first time in decades, thanks also to the developments of new optical elements such as refractive optics, multilayers, polycapillary lenses, phase gratings, etc., X-ray scientists look at a new scenario that promise to be more exciting than ever. Researchers and funding agencies in Europe, USA and Japan are supporting the construction of new X-ray sources capable not only to generate the most brilliant sources but also to produce short X-ray pulses comparable with the dynamics of the chemical bonds. Actually, this class of machines, called free electron lasers (FELs), will be able to deliver powerful beams of coherent X-rays probably reshaping the landscape of X-ray science.

This international meeting will be a perfect forum for the discussion of the challenging tasks associated to the new X-ray sources, of the scientific goals and of the new outstanding problems associated to X-ray optics. Sections will be also devoted to new techniques in microanalysis, new X-ray instrumentation and X-ray optics.

The Conference represents a unique opportunity for the wide interdisciplinary X-ray community to gain information about current and future researches in this area, and in particular for young scientists who have interest in undertaking new investigations following the foreseen development of the next generation light sources. Moreover, the Conference may represent also an important opportunity to explore and discuss new international initiatives in X-ray science.
Taking into account this wide scenario the ICXOM program will include a limited number of invited plenary lectures and several oral contributions. Short oral communications devoted to young investigators are also planned together with poster sections that will be arranged during the entire week.

Conference topics:

- **X-Ray optics: fundamentals and applications**
  - Grazing incidence optics
  - Refractive optics
  - Phase analysis
- **Quantitative analysis and standardization**
- **Electron Probe Microanalysis and Scanning Electron Microscopy**
- **Advanced X-Ray Instrumentation systems**
- **X-Ray imaging techniques**
- **State-of-the-Art of Microanalysis methods: Fluorescence Tomography/Holography, TXRF, SIMS, FIB, EFTEM**
- **Applications of Micro- and Surface Analysis techniques in:**
  - Earth and Environmental Sciences
  - Life Sciences
  - Material Sciences
  - Archeometry
  - Industrial processes

If you are interested to attend ICXOM 2005, in order to be inserted in the mailing list and receive in time all the circulars, please, reply by e-mail to the conference address:

icxom05@lnf.infn.it

All necessary information about the meeting and the deadlines are available at the URL:

http://www.lnf.infn.it/conference/2005/icxom

that will be regularly updated.