

## "Applications of Raman Scattering, Infrared Spectroscopy, and Synchrotron Radiation to the Study of Solid State Matter"

### **Purpose**

There is an important number of laboratories in South-America, specifically in Brazil and Argentina, using expensive and sophisticated equipments engaged in the development of new materials and their characterization using electromagnetic radiation. The different techniques globally engulf X-rays, Raman and infrared spectroscopies and may be of interest to Physics, Chemistry, and Biology Departments spread along LatinAmerica supporting graduate work.

The purpose of this school/workshop is to give to interested individuals, professionals, graduate students, and advanced undergraduates, the basic understating of the principles of those techniques as well as their applications to recent developing fields as nanostructured materials. For this purpose we plan to start a basic develop to then move into the different, more specialized subfields. We aim to provide a deep understating of the different techniques through lectures given by specialists in the field that, being locals, can be easily accessed in their respective research facilities. We expect that our meeting, as another end result, will help to bridge the different experimental facilities on condensed matter in this geographical area of the world. For those interested the school/ workshop will also be offered as posgraduate credit course. For this purpose the attended will be requested that in addition of attending all lectures, to take an open book exam on every point developed at the meeting. Since in this case we contemplate a period for concept maturing the exam will be given about a month later by each professor using the student e-mails. The student will be expected to respond to the different queries within a week. Approval of the course means a 60 % of correct answers of each item, and then, our host institution will issue the corresponding certificate on assistant or approval that interested may then be able to present at their home Institution.