

**X-ray fluorescence and absorption spectroscopies as a tool for the study of biological materials and materials for environmental applications**

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X-ray fluorescence (XRF) and absorption (XAFS) spectroscopies are valuable techniques for the study of a large variety of materials providing information on the concentration and bonding configuration of various elements in the sample. The use of well-focused X-ray beams of high brilliance provided in Synchrotron Radiation facilities, offers the possibility of spatial dependent measurements that reveal compositional and/or structural inhomogeneities. Applications of conventional and micro-XRF and XAFS spectroscopies for the study of biological materials such as hard tissues and biominerals will be presented. Some examples on the characterization of palaeontological findings will be also provided. Finally, results on the XAFS and XRF characterization of materials related to environmental applications will be discussed.