






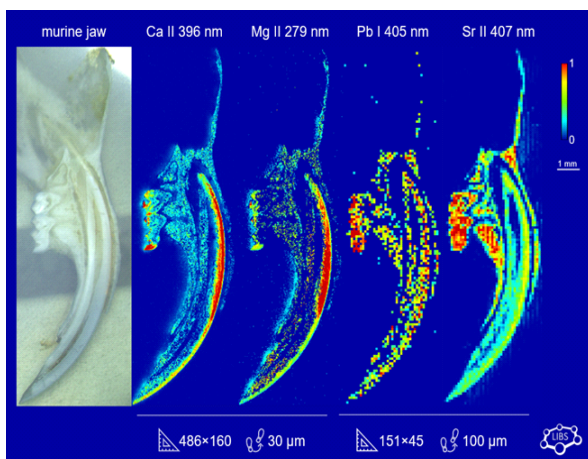
# Elemental imaging of murine Teeth and Bones

	<b>Sample</b> Murine teeth and bones		<b>Spatial resolution</b> 30 $\mu\text{m}$ and 100 $\mu\text{m}$
	<b>Elements of interest</b> Ca, Mg ,Pb, Sr		<b>Measurement rate</b> 20 Hz
	<b>Mode of analysis</b> Elemental imaging		

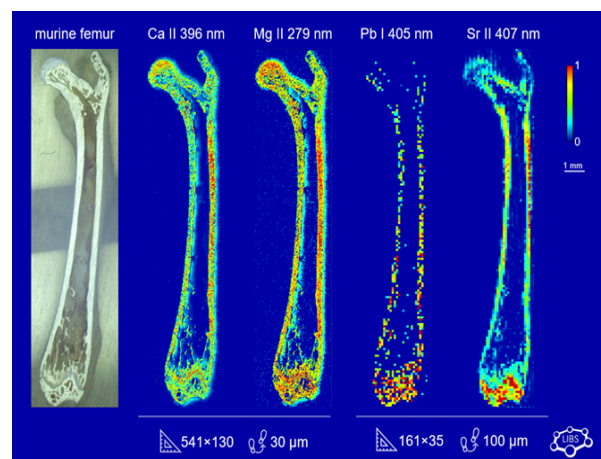
Analysis of hard tissues, teeth and bones, is an essential part of many fields such as archaeology, anthropology, forensic analysis and medical applications. The results of these analyses provide information on the age, sex, health, diet, place of origin, and migration of individuals. This information can be obtained by several analytical methods, e.g. LIBS.

In our work, model samples of murine jaws and bones embedded in epoxy were used for the qualitative analysis.

The samples were from individuals that had been exposed to lead nanoparticles for varying lengths of time. Using a fast mapping of the sample with a spatial resolution of 30 and 100  $\mu\text{m}$ , it was possible to obtain detailed information on the distribution of the biogenic elements. For information of the distribution of lead and strontium, mapping with a spatial resolution of 100  $\mu\text{m}$  was necessary.



**Fig.1.** Results of distribution of Ca and Mg from LIBS analysis and distribution of lead and strontium from  $\mu\text{LIBS}$  analysis of murine jaw.



**Fig.2.** Results of distribution of Ca and Mg from LIBS analysis and distribution of lead and strontium from  $\mu\text{LIBS}$  analysis of murine femur.