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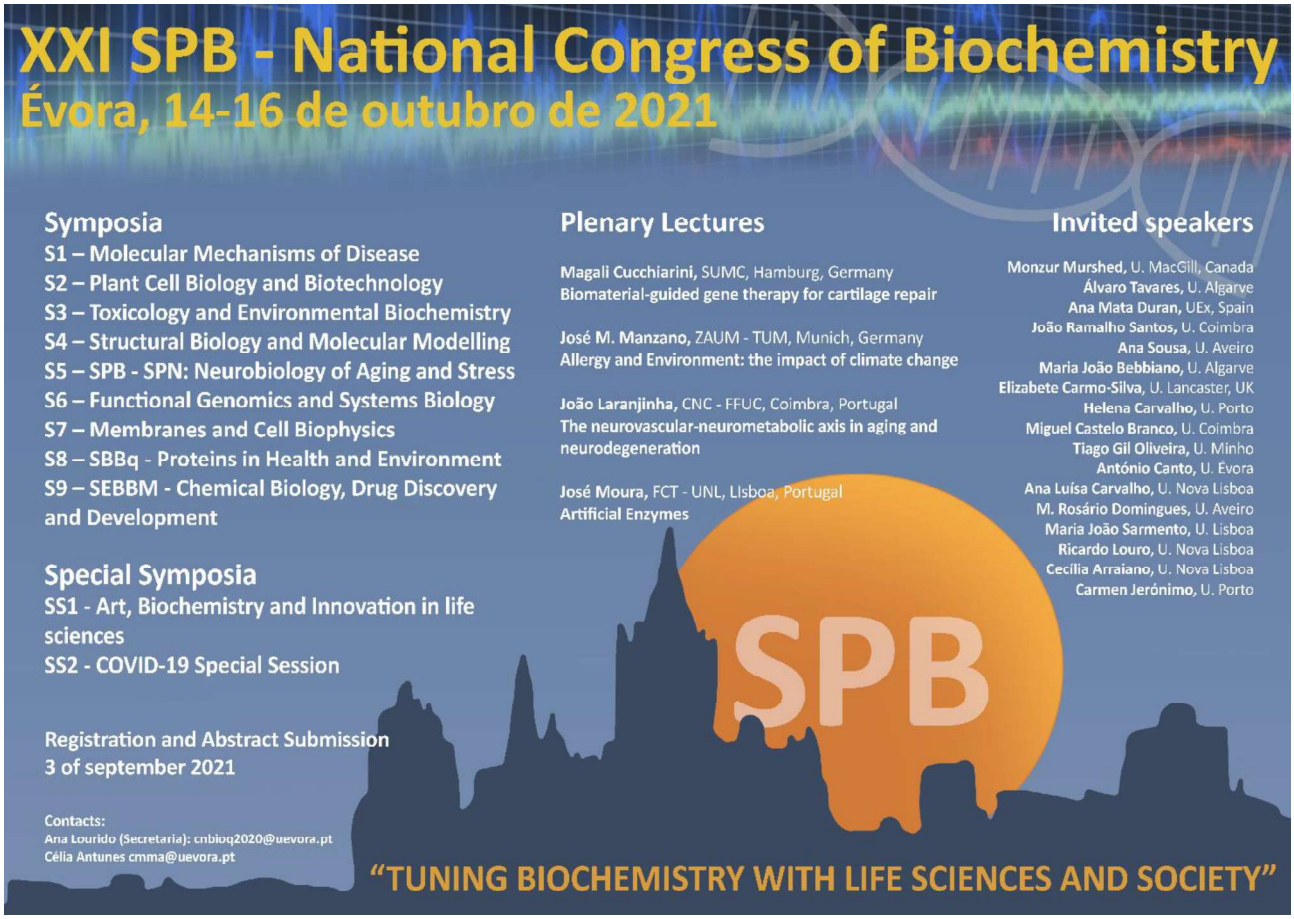

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Biochemistry and Society: Biochemistry applied to Art and Heritage

Art & Biochemistry

Caldeira A.T., Martins M.R., Salvador C., Arantes S., Bhattacharya S., Palma V., Silva I.

Established in 2009, the HERCULES Lab is a research infrastructure from the University of Évora, devoted to the study and valorisation of cultural heritage, focusing on the integration of physical and material sciences methodologies and tools in interdisciplinary approaches.

Nowadays, the laboratory researchers are engaged in the material and historical study of different cultural heritage artifacts, namely, archaeological artifacts (ceramics, glass, metals, organic materials), art objects (easel paintings and polychrome sculpture, metals, historical textiles, ancient manuscripts), and built heritage (mortars, stone, mural paintings and glazed tiles).

Biochemical approaches are being used to study of the biodegradation processes of the materials used to produce artistic artifacts led to the development of novel biotechnology-based products used for identification of bio-contaminants and for materials conservation, that you can find in this exposition.

Let's get the bones “talking”!

Teresa Fernandes and Célia Lopes

Laboratory of Biological Antropology

Human skeletons constitute the most direct and trustworthy testimony of the populations that preceded us. In fact, they contain a great deal of information about the ways of life, the type of diet and the impact of pathogens and chronic diseases on the living and health patterns of populations in the past.

Today, the study of skeletons allows, after the usual macroscopic analyses, the use of molecular biology and biochemical techniques for a more detailed analysis. Examples of this action are the use of collagen to calculate isotopic ratios or the analysis of peptides, which are fundamental in the reconstitution of diets, or the use of ancient DNA for attributing the aetiology of some diseases.

The exhibit illustrates some of the ways in which neoplastic, metabolic, and infectious diseases can reach bone tissue.