TOX-OER MOOC: learning toxicokinetics and liver as target organ of xenobiotics

Carolina ROCHA-PEREIRA1, Renata SILVA1, Jorge SOARES1, Alfredo G. CASANOVA2, Helena CARMO1, Félix CARVALHO1, Maria de Lourdes BASTOS1 and Fernando REMIÃO1*

1UCIBIO/REQUIMTE, Laboratory of Toxicology, Department of Biological Sciences, Faculty of Pharmacy, University of Porto, Portugal; 2Toxicology Department, University of Salamanca, Salamanca, Spain. remiao@ff.up.pt

TOX-OER (Learning Toxicology through Open Educational Resources) is an Erasmus+ Action KA2 Project, involving 7 countries, which aims to develop an international Massive Open Online Course (MOOC) in Toxicology. Its purpose is to enhance digital integration in learning, teaching, training and youth work at various levels, by developing scientific, pedagogic, informative and formative materials (1). TOX-OER MOOC platform is already available online (https://toxoer.com/), in English and all partner-country languages. The MOOC is organized into seven modules: General Concepts; Pharmaco-Toxicokinetics; Main Groups of Xenobiotics; Environmental Pollutants; Target Organ Toxicity and Biomarkers; Environmental Toxicology; and Patents and Patent Application. The Target Organ Toxicity and Biomarkers module (8 ECTS) includes 5 topics, one of which is dedicated to liver toxicity.

MOOC Structure

Liver structure and physiology
Main mechanisms of hepatotoxicity

http://moodle.toxoer.com/ is a powerful pedagogical tool for the Toxicology Education process, not only in the classroom but also in any computer of the world.

A book (Spanish-English edition) has just been edited to share the experience of this project development, which include personal visions of the authors that could be useful as a guide for others with a similar goal: to improve OER in the field of Toxicology.

This book is free and available at: https://toxoer.com/intellectual-outputs/