



COETox

International Conference of Environmental and Occupational Health

ABSTRACT BOOK



iBAMTOX
Ibero-American Meeting on Toxicology and Environmental Health

2016

21-23 June | Porto



FOREWARD



On behalf of the Organising Committee, I would like to cordially welcome you to the *3rd International Conference on Occupational & Environmental Toxicology* (ICOETox 2016), which is held in Porto in conjunction with the *3rd Ibero-American Meeting on Toxicology and Environmental Health International* (IBAMTOX 2016).

This conference is co-organised by the Portuguese National Institute of Health (INSA), the Institute of Public Health- Universidade do Porto (ISPUP) and the Instituto de Ciências, Tecnologias e Agroambiente da Universidade do Porto (ICETA-UP).

The Organising Committee was successful in inviting a number of outstanding international and local speakers in order to offer you a very attractive scientific programme. The Conference covers most of the current topics of Environmental and Occupational Toxicology; we have tried to achieve a good balance between research and practice and to allow sufficient time for interaction and discussion. This meeting provides a good opportunity for divulging one's work and discussing a great variety of topics that we hope will be reflected in a fruitful interchange of experiences, knowledge and ideas. It is also a chance for renewing old contacts and making many new friends.

The city of Porto, known as *Invicta* (unvanquished) City, has an important historical legacy, although architectural images show its urban renovation process giving valuable testimony of its history and modernity. Indeed, Porto historical centre was designated World Cultural Heritage in 1996 due to the many historical buildings and urban mesh. Porto is divided between the river Douro and the Atlantic Ocean, and boasts of poetic sunsets where the eyes absorb and the soul savours. Downtown is located the busiest commercial area, where typical products are found alongside prestigious designer brands. It is also worth highlighting the world famous Porto Wine, produced exclusively in the Douro Demarcated Region and aged in cellars. And finally, our visitors should not forget to try our local cuisine, as Porto has gone beyond tradition in order to reach the best international standards.

I would like to express my sincere thanks to our collaborating institutions and all those organisations and companies which put their trust in this project and provided sponsorship for the meeting; without their effort, support and collaboration this Conference would not have been possible.

I hope that, despite the tight scientific programme, you will find some time to enjoy our landscapes, typical food, and kind people, and that this meeting will meet all your expectations from the scientific and social points of view. I wish you a productive Conference and a pleasant stay in Porto. Thank you for being here.

Bem-vindos ao Porto!

(João Paulo Teixeira)

ICOETox 2016 | IBAMTOX 2016 Scientific Committee



LOCAL ORGANISING COMMITTEE

JOÃO PAULO TEIXEIRA
CARLA COSTA
SOLANGE COSTA
CRISTIANA PEREIRA
SÓNIA FRAGA
ANA MENDES

SCIENTIFIC COMMITTEE

JOÃO PAULO TEIXEIRA – PORTUGAL
FERNANDO BARBOSA - BRAZIL
ANDREW COLLINS - UK
BLANCA LAFFON - SPAIN
CARLA COSTA - PORTUGAL
CRISTIANA PEREIRA - PORTUGAL
FÉLIX CARVALHO - PORTUGAL
ANA MENDES - PORTUGAL
LANG TRAN - UK
MARIA DUSINSKA - NORWAY
NURSEN BASARAN - TURKEY
PETER MOLLER - DENMARK
SAM KACEW - CANADA
SÓNIA FRAGA - PORTUGAL
SOLANGE COSTA - PORTUGAL
STEFANO BONASSI - ITALY
VANESSA ANDRADE - BRAZIL
VANESSA VALDIGLESIAS – SPAIN

SPONSORS



An  **InSTEM** company
PERCEPTIVE
INSTRUMENTS



Taylor & Francis
Taylor & Francis Group



P05.**EVALUATING CYTOTOXIC AND GENOTOXIC EFFECTS OF
MICROCYSTIN USING *SACCHAROMYCES CEREVISIAE* AS EUKARYOTIC
CELL MODEL**Sara Barreiros^{1,*}, M.J. Silva², E. Valério^{1,3}¹Departamento de Saúde Ambiental, Instituto Nacional de Saúde Doutor Ricardo Jorge, Lisboa, Portugal;²Departamento de Genética Humana, Instituto Nacional de Saúde Doutor Ricardo Jorge, Lisboa, Portugal;³Centro Interdisciplinar de Investigação Marinha e Ambiental (CIIMAR/CIMAR), Universidade do Porto, Porto, Portugal.*presenting author: sara.barreiros@insa.min-saude.pt

Microcystins (MC) are one of the most common hepatotoxins, produced by cyanobacteria. These toxins are cyclic peptides that have a high affinity for the Serine / Threonine (PPs) protein phosphatases family, namely PP1 / PP2A, acting as their inhibitors. MCs also induce oxidative stress in cells through the production of reactive oxygen species (ROS). Both effects have been associated to cytotoxic and genotoxic effects of MC in animal cells [1]. The effects of MCs on cells of higher eukaryotic organisms, such as animals and plants, have been extensively studied. However, a complete characterization of the effects of these toxins has not yet been achieved [1]. In this study the cytotoxic and genotoxic effects of MC on a eukaryotic cell model (the yeast *Saccharomyces cerevisiae*) were evaluated. The cytotoxic effects were assessed using an MTT assay and the genotoxic effects evaluated using the comet assay and the expression levels of genes involved in DNA repair systems obtained by Real-Time PCR (RT-qPCR). The results obtained will be discussed.

[1] E. Valério, et al., *Mini Rev Med Chem*.**16**, doi: 10.2174/1389557516666160219130553 (2016)