



10th Iberian and 7th Iberoamerican Congress  
on Environmental Contamination and Toxicology

CICTA 2015

# Poster Session

# Poster Session 2

FRIDAY 17.07.2015

## EMERGING TOXIC COMPOUNDS - AULA MAGNA P0

Ecotoxicity of diltiazem

*Cristina B. Garcia*

*Natália Ros*

Ecotoxicology study of a mixture of drugs

*Ana-Luís de Oliveira* Chronic effects in crustacean *Daphnia magna* after exposure to a solution of carbamazepine under single catalytic (TiO<sub>2</sub>) ozonation

*Marta Soares* Physiological alterations on the marine microalga *Tetraselmis suecica* exposed to the UV filter benzophenone-3

*Sandra Pontes Machado* Effects of psychopharmaceuticals exposure on RNA/DNA ratios in fish species

*Bruno Pinto* Effects of antidepressant fluoxetine in european sea bass juvenile's behavior

*Leranie Guimarães* Polystyrene microplastic localization and distribution in the gills and digestive gland of mussel *Mytilus galloprovincialis*

*Alexandre Campos* Impact of microcystin contaminated irrigation water on the physiology and mineral content of carrot (*Daucus carota*) - implications in crop quality

*Imaculada Vaz Vialdo* Effect of ibuprofen and carbamazepine on cytochrome (COX-2) gene expression, lipid and reproductive hormones in temperature conditioned sole

*Lúcia Guilherme* Influence of temperature on the toxicity of the antibiotic florfenicol to species representative of freshwater phytoplankton and zooplankton

*André M. P. T. Pereira* Assessment of the pharmaceutical removal by different wastewater treatments

*Danielli Lima da Cunha* Determinação do estrogênio sintético 17 $\alpha$ -etilnisteral por HPLC-FLD em águas superficiais do estado do Rio de Janeiro (Brasil)

*Jolanda Ribeiro* Potential of constructed wetlands for the removal of antibiotic resistant bacteria from livestock wastewater

*Miguel Santos* Impact assessment and pos-spill monitoring of HNS in the marine environment

## CELL AND MOLECULAR TOXICOLOGY - AULA MAGNA P0

Genotoxic effects of rocket propellant's component on rodents

*Anna V. Levinakaya*

Interference of estrogenic and androgenic inputs in the brown trout lipid metabolism - experimental biochemical and molecular studies

*Tânia Vieira Madureira*

Assessment of the maximum mutagenic concentration of the pesticide thiamethoxam when evaluated by the salmonella microsome test

*Elisabete Santos*

Scale sylvestrin: a wild rye potentially useful for aluminum tolerance study

*Cláudia Marlene Mesquita Senfim*

Real time PCR analysis of NMDA receptor expression in zebrafish embryos exposed to ketamine

*Ana Vidal*

Short term exposure to ketamine and its oxidative stress in zebrafish development

*MICROBIAL ECOTOXICOLOGY - AULA MAGNA P0*

Evidences of salt stress on basidiomycete and zygomycete fungi

*Cátia Vendeiro*

Impacto del cadmio en la actividad nitrificante del bacterioplancton de los canales de Xochimilco (México): estudio en mesocosmos

*Jose Luis Gama-Flores*

## AQUACULTURE AND ENVIRONMENT - ED. GEO P0

Microbiological contamination of *Sargassum* sp from north coast of São Paulo state (Brazil) by resistant bacteria

*Ana Júlia F. Cardoso de Oliveira*

Relation between physicochemical characteristics of water and the abundance and richness of phytoplankton species in the Mandinga Lagoon, ver. Mexico

*Itzel Galaviz-Villa*

**ENVIRONMENTAL CHEMISTRY MONITORING - ED. GEO P1**

Distributions of nutrients and metals in a sediment core and in superficial sediments from a reservoir used for public water supply São Paulo, Brazil

*Viviane Moschini-Carlos*

Metal and PAH assessment of the coastline and estuaries in the north of Portugal

*Maria Antónia Salgado*

Concentração de metais pesados em sedimentos de corrente do rio Itapicuru Mirim em área de exploração de ouro em Jacobina, Bahia, Brasil

*Marcus Vinicius Silva Santos*

Concentração de metais pesados na fração dissolvida do rio Itapicuru Mirim em área de exploração de ouro em Jacobina, Bahia, Brasil

*Marcus Vinicius Silva Santos*

The implementation of an abiotic typology for Brazilian reservoirs

*Marcos Pompéo*

Global amounts of polychlorinated biphenyls (PCBs) in the Porto coastline and Douro river estuary

*Marta João Tomé Rocha*

Total amounts of polycyclic aromatic hydrocarbons (PAHs) in the Oporto district

*Marta João Tomé Rocha*

Spatial and annual distribution of estrogenic endocrine compounds in the Aveiro Lagoon

*Marta João Tomé Rocha*

Global amounts of pesticides and their toxic impacts in the Mondego river estuary

*Marta João Tomé Rocha*

Evolução do perfil físico-químico dos sedimentos do estuário do rio Lima

*Júlia C. O. Lopes*

Evolução do perfil físico-químico dos sedimentos do estuário do rio Cávado

*Júlia C. O. Lopes*

Caracterização físico-química dos sedimentos do estuário do rio Minho

*Júlia C. O. Lopes*

Factors influencing infant exposure to organochlorine pesticides through breast milk intake

*Joana Gomes Martins*

Desenho de um índice regional de calhad del agua para embalses baseado en la lógica difusa

*Jacinto Elías Soléno Diaz*

Natural radiation and geochemical data of the Vila Pouca de Aguiar massif, northern Portugal

*Élita Martins*

Monitoring the impacts on the ecosystem integrity of Portleão stream (Douro basin, NE Portugal) after a large spill of mining wastes

*Amílcar Teixeira*

Sediment quality assessment related to benthic macrofauna in São Francisco river (Minas Gerais, Brazil)

*Élita Martins*

## ECOSYSTEM LEVEL EFFECTS - ED. GEO P1

Diversidad y dinámica planctónica (fitoplancton y rotíferos) y la producción primaria de un lago urbano hipertrófico de la Ciudad de México

*Jose Luis Gama Flores*

Eutrophication due to sewage discharges causes blooms of *Perridinium quinquecorne* (Dinophyceae) off the coasts of the Port of Veracruz, Mexico: a case study 2010-2014

*Alfredo Pérez-Moreales*

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## Cell and Molecular Toxicology

### Genotoxic effects of rocket propellant's component on rodents

*Anna V. Lovinskaya<sup>1</sup>, Saule Zh. Kolumbayeva<sup>1</sup>, Serikbay K. Abilev<sup>2</sup>, Oksana L. Kolomiets<sup>2</sup>*

The development of the space industry contributes the emergence of new environmental hazardous factors which may negatively affect the environment and health. Continuous exploitation of spaceport and rocket launch sites leads to pollution with propellant components and products of its decomposition and combustion. There is an acute problem of rocket fuel and its components contamination of the environment of Kazakhstan, which hosts the Baikonur Cosmodrome. The results of field work in the fall region of burned-out rocket stages in Russia and Kazakhstan indicate the presence of the propellant's component unsymmetrical dimethylhydrazine (1,1-DMH) and its oxidation products in soil, water and plants in concentrations exceeding the MAC. Despite the data on the toxic effects of 1,1-DMH on the body, its genotoxic effects in somatic and germ cells of mammals are not well understood. In addition, knowledge of the mechanisms of genotoxic effects of xenobiotics gives the possibilities for purposeful searches of remedies. The mutagenic activity and organ-specific genotoxic effects of 1,1-DMH in *BALB/c* mice have been studied using cytogenetic and Comet assay methods. The mechanisms of meiosis infringement in germ cells of mice have been studied using immunocytochemical analysis of synaptonemal complex (SC). The background rodent species (*Citellus pygmaeus Pallas*) from 1,1-DMH contaminated areas have been examined as well. The pronounced genotoxic potential of 1,1-DMH in dose- and time-

dependent effects on animal models (acute and subacute (10 days) exposure) was defined. There was a statistically significant increase of aberrant cells number and ploidy level compared to intact animals. 1,1-DMH induced DNA single-strand breaks in the cells from visceral organs tissues of mice with a damage index depending on the dose and duration of the exposure. 1,1-DMH influenced a pronounced genotoxic effect on germ cells of mice. The statistically significant increase of SC abnormalities of meiosis in 1,1-DMH-exposed animals compared to control was determined. That was a result of SC fragmentation in nuclei, association between SC of sex and autosomal bivalents, and atypical SC structures. The SC abnormalities in the spermatocytes defined on 38<sup>th</sup> day after 10 days of subacute 1,1-DMH exposure indicate the risk of long term preservation of the chromosomal abnormalities occurred in the stem cells. A high level of structural and genomic mutations in bone marrow cells and DNA breaks in cells of visceral organs tissues of *Citellus pygmaeus* from Ulytau district of Karagandy region exposed to rocket and space activities were identified.

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### Interference of estrogenic and androgenic inputs in the brown trout lipid metabolism – experimental biochemical and molecular studies

*IV Madureira<sup>1,2</sup>, J Pinheiro<sup>2</sup>, F Malhão<sup>1,2</sup>, C Lopes<sup>1,2</sup>, R Urbatzka<sup>2</sup>, JF Gonçalves<sup>1</sup>, LFC Castro<sup>1,2</sup>, E Rocha<sup>1,2</sup>*

In fish, the lipid-energetic dependent processes – such as reproductive phenomena – are recognized as being quite susceptible to modulation by hormones and/or hormone mimics. Nevertheless, it is still much unknown