

Tentative Outline

Special Thematic Issue for Current Biotechnology

Title of thematic issue

Impact of Endocrine Disruptors on wildlife and human health: from exposure to diseases and remediation.

Guest Editor:

Prof. Damiano Gustavo Mita

Aims & Scope:

The proposed thematic issue aims at focusing the attention of the scientific and political world on the risks to which the living beings, including humans, are exposed, directly and /or indirectly, to Endocrine Disruptors Chemicals (EDCs). Since the introduction of this term by Colbourn in the 1993, EDCs are recognized as substances, of natural or synthetic origin, that alter the function of endocrine systems in a way that adversely affects the organism itself or its progeny. Out of approximately 85,000 known chemical products, approximately 1000 are recognized as potential endocrine disruptors. These include plasticizers, such as phthalates and bisphenol A with its analogues, flame retardants, industrial chemicals, including alkylphenols, heavy metals, dioxins, polycyclic aromatic hydrocarbons, and pesticides. These compounds are present in everyday products such as fresh and canned food, water bottles, plastics, cosmetics, fertilizers, kid's toys and many others. Diseases associated with the EDCs exposure are hormone related cancers, endometriosis, male and female infertility, obesity, diabetes, early puberty, autoimmune diseases, neurodegenerative diseases, asthma, and heart diseases.

In this thematic issue we will examine: i) the sources of exposure to EDCs from food to some drugs; ii) some diseases associated with the EDCs exposure; iii) the risk of biodiversity loss in ecosystems; iv) the synergetic effects of EDCs mixtures; v) some innovative techniques for EDCs removal.

From the illustrated aspects in the thematic issue we hope: a) to increase the interest of the scientific community towards this very active but not completely explored research sector; and b) to call the attention of legislators to a greater vigilance on the epidemiologies associated with exposure to these environmental pollutants and to promote the development of new and more appropriate toxicological tests for the detection of potential endocrine disruption of the hundreds of new chemicals that each year enter in the market.

Keywords:

Endocrine Disrupting Chemicals (EDCs) - Obesity - Male and Female Fertility – Endometriosis- Prostate Cancer - Ecosystems pollution – Food Pollution - Pollution Remediation - Cocktail effect - Biodiversity.

Subtopics:

The subtopics to be covered within this issue are listed below:

- 1) - Presence of EDCs in food and in the environment (Four papers)
Examples: Fresh and canned food – Beverages - Aquatic ecosystems
- 2) - Diseases correlated to the exposure to EDCs (Five/Six papers)
Examples: Male and female reproductive system – Obesity – Endometriosis – Prostate
- 3) - Effect of EDCs mixtures (Two/Three papers)
- 4) - Risk for Biodiversity conservation in aquatic ecosystems (Three papers)
- 5) - Technologies for pollution remediation (Three/Four papers)
Examples: Adsorption – Phytoremediation – Enzyme remediation

Schedule:

- ✧ Manuscript submission deadline: 30 September
- ✧ Peer Review Due: 30 October
- ✧ Revision Due: 20 November
- ✧ Announcement of acceptance by the Guest Editors: 30 November
- ✧ Final manuscripts due: 10 December

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