

## Tentative Outline

### Special Issue for Current Analytical Chemistry

#### Analytical challenges in determination of pharmaceuticals in the environment

*Guest Editors: prof. Piotr Stepnowski and dr. Anna Białk-Bielińska*

#### **Aims & Scope:**

Pharmaceuticals are a class of so-called "emerging" contaminants that have raised great concern in the last years. Hundreds of tons of pharmaceuticals are dispensed and consumed annually worldwide. Recent development and continual improvement of the advanced instruments and analytical methodologies have made possible detection of pharmaceuticals at low concentration levels in different environmental matrices. Traces of pharmaceuticals and their metabolites have been found in all environmental compartments. In the last few years dozens of papers have been published on the development, optimization and validation of analytical methodologies for the analysis of pharmaceutical compounds in aqueous and solid environmental samples, and several hundreds of papers reported on the application of those methods in different fields. Although impressive improvements have been observed methodological challenges are still numerous.

Therefore, aim of this Thematic Issue is to present an update review of the main topics related with the recent improvements and challenges in the determination of pharmaceuticals in the environment from an analytical point of view.

The scope of this Issue focuses on the strategies and current challenges in determination of the residues of these environmental contaminants in terms of their chirality; analysis in the marine and drinking waters; target and non target analysis; improvements in decreasing of detection limits; application of new, greener and more selective sample preparation techniques as well as application of fast chromatography (i.e. UHPLC) and high resolution MS, providing therefore high-throughput, high selectivity and high accuracy; application of modern sorbents in the sample preparation techniques (e.g. nanomaterials).

#### **Subtopics:**

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

- **Advances in the analysis of chiral pharmaceuticals in the environment**
- **Challenges and strategies in the analysis of pharmaceuticals in marine and drinking waters**
- **Target and non target analysis of pharmaceuticals**
- **Improvement in detection and quantification of pharmaceuticals in the environment**
- **New trends (new sorbents) in the sample preparation techniques**
- **Challenges of green analytical chemistry with respect to the analysis of pharmaceuticals**

#### **Schedule:**

- Manuscript Submission April 1, 2015
- Peer Review Due: May 1, 2015
- Revision Due: June 01, 2015
- Notification of Acceptance by the Guest Editor: June 20, 2015
- Final Manuscript Due: July 1, 2015

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