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ECOTOXICOLOGY

Ecotoxicology is the scientific discipline on the borderline between biology, ecology, chemistry and toxicology. It is the study of the effects of contaminants on constituents of the biosphere, including humans. It also deals with the fate of natural and anthropogenic toxicants in the environment. Ecotoxicology develops in two main directions. In the field studies bioindicators taken from the studied ecosystems indicate the state of the environment. On the other hand, the biological activity of the sample may be evaluated with the use of standard bioassays. In the early 90th first culture-free biotests had been developed, since then ecotoxicological studies have been introduced to many laboratories in live science, technical, environmental and medical universities.

2nd National Workshop on Ecotoxicology was organized on spring 2012 and gathered Polish scientists interested in application of biotests. Ecotoxicological part of this issue of "KOSMOS" includes selected presentations from the workshop.

First two articles show the possibility of application of a battery of bioassays for the assessment of the quality of aquatic environment. P. ŁASZCZYCA and co-workers describe biological monitoring of surface water on an example of Goczalkowice Water Reservoir. A. DROBNIEWSKA discusses the potentiality of using bioassays in the management of wastewater treatment plants. Cyanobacterial blooms are one of the most serious concerns for water bodies worldwide. A. SIEROSŁAWSKA presents the characteristics of anatoxin-a, one of the most dangerous neurotoxin produced by cyanobacteria. M. PIONTEK and co-workers describes problem concerning anthropogenic sources of heavy metals in the road dust in urban areas. Microtox® is the most widely used bioassay with luminescent bacteria. A. TRUSZ-ZDYBEK and co-workers describe selected applications of the Microtox® in ecotoxicology. K. SOSNOWIEC and co-workers show the reliability of Microtox® in investigating interactions between toxicants.

The goal of the presented articles is to focus Reader's attention on need of the use of ecotoxicological analysis in environmental studies. Next editions of National Workshop on Ecotoxicology will be organized in the future. We hope that next articles will be published in Kosmos soon.