Course: Environmental toxicology

Lectures: Structure and tasks of contemporary toxicology: environmental toxicology, utility toxicology, clinical toxicology, forensic toxicology. Environmental toxicology: industrial, non-industrial (sanitary toxicology, food toxicology, pesticide toxicology and ecotoxicology). Specialized terms used in toxicology: toxicants (poisons and harmful substances), types of toxicity (subacute, acute and chronic), evaluation of toxic effects of poisons (toxic dose LD 50 and toxic concentration LC 50, effective and inhibitory concentration EC/IC 50, epidemiological studies). Toxicometry: methods of toxicological testing, bioindicators – organisms used in toxicological testing, alternative methods of toxicity assessment, computational methods in toxicity assessment. Extrapolation of toxicometry results from experimental organisms to humans. Toxicity of poisons of natural origin (mold in residential construction, blue – green algae in domestic water intakes).

Laboratory: Getting to know the toxicology laboratory (culture room, exercise room, and equipment). Observations of organisms used in the IIŚ UZ toxicology laboratory: culturing test organisms, obtaining experimental material for testing, macroscopic and microscopic analysis. Methodology for setting up a toxicology test: water for dilutions, preparation of a range of poison concentrations, vessels and volume of solutions. Conduct a control test: check the water used for dilutions, the condition of the test organisms and the correctly performed steps when applying the test organisms to the test vessels. Practical performance of a lethal test (acute toxicity LC 50) with the daphnia *Daphnia magna* Straus and planarian *Dugesia tigrina* Girard. Calculation of the LC 50 lethal concentration using Reed's method. Evaluation of the toxicity of the test substance - toxicity classes of poisons according to Liebmann.

Responsible person: Prof. Marlena Piontek

More info:

https://webapps.uz.zgora.pl/syl/index.php?/course/showCourseDetails/1285882