

SibFU scientists proposed universal test systems based on modified sorbents

Young scientists of the Siberian Federal University have proposed using layer-by-layer modified sorbents to determine environmental pollutants. The developed method will allow to improve the systems monitoring and analyzing the environmental situation (for instance in Krasnoyarsk krai) and increase the effectiveness of dealing with the causes of environmental disasters.



"Unprocessed sorbents are not selective, i.e. they trap a group of substances but the reagent treatment can make them component-sensitive" explains **Olga Buyko** who has a Candidate of Science (Ph.D.) degree in Chemical Sciences and is a research fellow in SibFU Research Department, the head of the project.

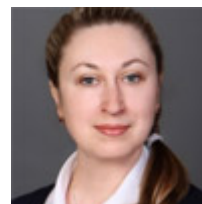
The scientists work on universal express-test systems based on modified sorbents. These systems can be used outside of laboratories and successfully test water, precipitation, soil and food items on hazardous substances. The scientists note that the systems will not only help detect heavy metals, toxic dyes and polyaromatic hydrocarbons but also determine the concentration of these substances in the composition of the tested objects.

"The degree of contamination is assessed on color scale especially designed for the project. When pollutants are detected in samples the sorbents change color or luminesce when exposed to the ultraviolet. We have the measurement error at 10 to 20 percent." added **Olga Buyko**.

New tests will be available for the residents of the Krasnoyarsk krai as well as for the staff of analytical laboratories, standardization centers and other institutions involved in process safety and environmental auditing.

The research was supported by Krasnoyarsk Regional Fund of Science and Technology Support and Russian Foundation for Basic Research as a part of a joint competition of basic scientific research projects for young scientists.

"Our goal is to provide the necessary support to those scientists whose research is aimed at dealing with pressing socioeconomic issues of our region. The project to develop new methods for the determination of environmental pollutants is for sure strongly oriented for implementation. The results of the project can be successfully implemented in the fields of ecology and healthcare." says executive director of Krasnoyarsk Regional Fund of Science and Technology Support **Irina Panteleeva**.



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