

<b>Program</b>	<b>Program Nucleu, PN 16 25 01 10</b>
<b>Project title (ENG):</b>	<b>The accumulation of potentially hazardous industrial additives in sewage sludge.</b>
<b>Project title (RO):</b>	<b>Studiu privind acumularea in namolurile statiilor de epurare a unor aditivi industriali cu caracter potential periculos</b>
<b>Duration</b>	2016-2017
<b>Team Leader</b>	Senior Researcher Andrei Niculae Researcher Florentina Laura Chiriac
<b>Summary ENG</b> (short description)	The project aimed at developing new methods for the determination of organic compounds such as potentially hazardous industrial additives from sewage sludge by LC-MS / MS. In this project, two LC-MS / MS methods were developed, one for the separation, identification and quantification of flame retardants such as $\alpha$ -, $\beta$ - and $\gamma$ -Hexabromocyclododecane (HBCD) diastereoisomers and the second for the determination of plasticizers (Bisphenol A) and antioxidants (Butylhydroxyanisole) from sewage sludge samples. The interest analites were isolated from the complex matrices using the ultrasonic assisted extraction method. Detection limits were between 0.07-0.14 ng/g for $\alpha$ -, $\beta$ - and $\gamma$ -HBCD diastereoisomers and 0.41 ng/g for BPA and 0.59 ng/g for BHA respectively.
<b>Summary RO</b> (short description)	Proiectul a avut ca scop dezvoltarea de noi metode pentru determinarea compusilor organici de tipul aditivilor industriali cu potential periculos din namolurile statiilor de epurare prin LC-MS/MS. In cadrul acestui proiect au fost dezvoltate doua metode LC-MS/MS una pentru identificarea si cuantificarea unor aditivi ignifuganti, de tipul diastereoizomerilor $\alpha$ -, $\beta$ - si $\gamma$ -hexabromociclododecanului (HBCD) si ce-a de-a doua pentru determinarea plastifiantilor (Bisfenol A) si a antioxidantilor (Butilhidroxianisol) din probe de namol. Analitii au fost izolati din matricea complexa utilizand metoda extractiei cu solventi asistata ultrasonic. Limitele de detectie au fost situate intre 0,07-0,14 ng/g pentru diastereoizomerilor $\alpha$ -, $\beta$ - si $\gamma$ -HBCD si respectiv 0,41 ng/g pentru BPA si 0,59 ng/g pentru BHA.
<b>Dissemination of results</b>	
Full-paper ISI	Florentina Laura Chiriac, Liliana Cruceru, Marcela Niculescu, Luoana Florentina Pascu, Carol Blaziu Lehr, Toma Galaon, <i>Simultaneous Determination of <math>\alpha</math>-, <math>\beta</math>- and <math>\gamma</math>-hexabromocyclododecane Diastereoisomers in Sewage Sludge using Liquid Chromatography Tandem Mass Spectrometry</i> , REV. CHIM. (Bucharest), 68, No. 8, 2017, pp. 1685-1689.