

Program	P4 - Cercetare fundamentală și de frontier / Proiecte complexe de cercetare de frontieră (PCCF) PN-III-P4-ID-PCCF2016-0114
Project Leader Institution (CO)	UNIVERSITATEA BUCURESTI / Dr. Mariana Carmen Chifiriuc
Team Leader-Partner ECOIND	Dr. Mihai NITA-LAZAR
Project title (ENG):	Selection and dissemination of antibiotic resistance genes from wastewater treatment plants into the aquatic environment and clinical reservoirs
Project title (RO):	Selectia si diseminarea genelor de rezistenta la antibiotice de la nivelul statiilor de epurare a apelor uzate in mediul acvatic si sectorul clinic
Duration / Perioada de desfasurare	48 month / luni (2018-2022)
Summary (short description)	<p>The RADAR project aims to assess the prevalence and dissemination of antibiotic resistance (AR) from urban, clinical and industrial wastewater into the aquatic environment via wastewater treatment plants (WWTPs). Moreover, RADAR will give information on the environmental and clinical resistome, identifying the possible mechanisms of AR emergence and spread.</p> <p>Scientific objectives: i) investigation of WWTPs resistome to establish the prevalence of AR bacteria (ARB)/genes (ARGs) in the environmental samples from upstream-WWTP-downstream transects; ii) evaluation of selected antibiotics (beta-lactams, fluoroquinolones and macrolides) occurrence in both WWTP' influent and effluent; iii) comparative analysis of geographically and time related ARB/ARGs from wastewaters and clinical sources; iv) assessing and prediction how the presence/absence of ARGs and their relative abundance depending on a class of geographical, hydrological, physico-chemical and microbiological factors.</p>
Summary (short description) RO	<p>Scopul proiectului RADAR este de a evalua prevalenta si diseminarea rezistentei la antibiotice (RA) in mediul acvatic poluat si de a compara rezistomul din mediul inconjurator cu cel clinic, pentru a distinge intre posibilele mecanisme de emergenta si de diseminare a RA.</p> <p>Obiective stiintifice: i) investigarea rezistomului la nivelul statiilor de epurare a apelor uzate (SEAU) pentru a stabili prevalenta bacteriilor RA (BRA)/genelor de RA (GRA); ii) evaluarea prezentei antibioticelor selectate si a produsilor de metabolizare a acestora (beta-lactamice, fluoroquinolone si macrolide) in afluentii si efluentii SEAU; iii) analiza comparativa a BRA/GRA din ape reziduale si din probe clinice; iv) evaluarea gradului in care prezenta/absenta GRA si abundenta lor relativa depinde de o serie de predictorii geografici, hidrologici, fizico-chimici si microbiologici.</p>