Program	**Program NUCLEU PN 09-13 03 03**
Project title (ENG):	**Diagnostic analysis for the evaluation of pollution matrix related to noncompliant parameters from the category of compounds with nitrogen content and treatment possibilities of groundwater sources**
Project title (RO):	**Analiza diagnostic pentru evaluarea matricilor de impurificare asociate parametrilor neconformi din categoria compusilor cu azot si a posibilitatilor de tratare surse de ape subterane**
Duration	2009-2014
Team Leader	Cristiana COSMA
Summary (short description) ENG	The research activities of the project led to the achievement of one performant method for simultaneous analysis of nitrogen organic compound (ammonia, nitrates, nitrites) using ion-chromatography method and some technological variants for the treatment of groundwater containing natural/anthropic pollutants as ammonia ± inorganic oxidable associated compounds (sulphides, iron, manganese ± bromide) based on physical-chemical processes, and a treatment flow for groundwater with high level of chlorinated solvents and ammonia ions content. Likewise, a biotechnology for the treatment of drinking water supply with ammonia ions content was conducted.
Summary (short description) RO	Activitatile de cercetare din cadrul proiectului au condus la realizarea unei metode performante de analiza simultana a compusilor anorganici ai azotului (amoniu, azotati, azotiti) prin cromatografie ionica, a unor variante tehnologice de tratare ape subterane impurificate natural/antropic cu ioni de amoniu ± poluanti anorganici oxidabili asociati (sulfuri, fier, mangan ± bromuri) bazate pe procedee fizico-chimice si a unui flux de tratare surse subterane cu continut ridicat de solventi clorurati ± ioni amoniu. De asemenea, a fost realizata o biotehnologie de tratare surse de apa potabila cu continut ridicat de ioni amoniu.
Dissemination of results	
Full-paper ISI	Patroescu V., Jinescu C., **Cosma C**., Cristea I., Badescu V., Stefan C.S., How ammonium ions can influence the treatment process selection of groundwater supplies intended to human consumption, *Revista de Chimie, **2015**, 66, 4*
Conferences (platform, poster, abstract / full-paper)	Moise A., Florescu S., Badescu V., Ion chromatography - a rapid and reliable method for analyzing anions and cations in drinking water originating from different sources (drinking water processing systems or improvised underground sources), *International Symposium „The Environment and Industry”*, **2009**, Bucharest
	Moise A., Florescu S., Badescu V., Underground water pollution by ionic nitrogen compounds: and assessment study of south-east Romanian counties, *International Symposium „The Environment and Industry”*, 2011, Bucharest
	Cosma C., Nicolau M., Ballo A., Stefanescu M., Bumbac C., Consideration regarding treatment possibilities of drinking water supplies containing nitrogen compounds, *International Symposium „The Environment and Industry”*, 2011, Bucharest
	Cosma C., Nicolau M., Dinu L., Patroescu V., Lucaciu I., Stefanescu M., Cruceru L., Influence of pollution matrix upon the selection of suitable treatment technologies for groundwater potabilization, *ECOIMPULS 2012-Environmental Research and Technology*, **2012**, Timisoara

Conferences (platform, poster, abstract / full-paper)	**Cosma C**., Bumbac C., Patroescu V., Nicolau M., Cristea I., Badescu V., Advanced removal of ammonium ions from groundwater biological nitrification versus break point chlorination, *Conferinta Internationala UAB-BENA: Environmental Engineering and Sustainable Development*, **2013**, Alba Iulia
	Alexie M., Andrei N., Dinu L., **Cosma C**., Treatment possibilities of groundwater contaminated with organohalogenated solvents, *International Symposium „The Environment and Industry",* **2013**, Bucharest
	Cosma C., Cristea I., Alexie M., Natural Organic Matter (NOM)-Precursor of undesirable compounds in drinking water, *The Central and Eastern European, Conference on Health and the Enviroment, The Enviroment – A Platform for Health, 4th Edition*, **2014**, Cluj Napoca
	Patroescu V., **Cosma C**., Alexie M., Bumbac C., Tricolici O., Cristea I., Consideratii privind reactivitatea incarcarii organice naturale fata de clor din surse subterane tratate in sistem biologic pentru biooxidare ioni amoniu, *ARA-Conferinta Tehnico-Stiintifica „Performanta in serviciile apa-canal"*, 2014, Bucharest
	Patroescu V., **Cosma C.**, Bumbac C., Badescu V., Cristea I., Alexie M., Integrarea proceselor biotehnologice in filiere de tratare resurse naturale de apa potabila cu impurificare complexa, *Salonul Cercetarii Romanesti*, **2014**, Bucuresti
	Patroescu V., **Cosma C**., UGAL INVENT, Biological removal of ammonium from groundwater, **2014**, Galati