

Program	Program NUCLEU PN 09-13 01 11
Project title (ENG):	Using global parameters of characterization in order to assess the organic matter dissolved in water.
Project title (RO):	Utilizarea unor parametri globali de caracterizare în vederea evaluării conținutului materiei organice dizolvate în ape.
Duration	2009 -2012
Team Leader	Dr. Eng Mășu Smaranda
Summary (short description) ENG	Improve water treatment processes for drinking water in order to reduce natural organic matter that decrease the potential for formation of toxic products for the carcinogenic risk of clotting agents using pre-hydrolyzed type Al _n with high-basicity (80%) .- -Develop a conceptual model of coagulation drive through clotting prehydrolyzes agents by qualitative parameters corellation that dissolved untreated organic matter with parameters spectrometer wavelength absorbance at 365 or A365 parameter with optimal dose of coagulation agents prehydrolysis basicity of 80%.Validation of the model developed on different surface waters. Develop method of analysis of raw water through innovative operational parameter SUVA SUVA, it was determined on the ratio A254 / DOCx100 [l / mg.m] and the expression of hydrophilicity / hydrophobicity of organic matter in surface water, A 254 (absorbance at wavelength 254), on which it is estimated efficiency reduction of dissolved organic carbon (DOC) application coagulation process.
Summary (short description) RO	Îmbunătățirea proceselor de tratare a apelor destinate potabilizării în scopul reducerii conținutului de materie organică naturală respectiv diminuarea potențialului de formare a produșilor toxici de risc cancerigen prin utilizarea agenților de coagulare prehidrolizați de tipul Al _n , cu grad de bazicitate ridicat (80%).- -Elaborarea unui model conceptual de coagulare prin antrenare, prin intermediul agenților de coagulare prehidrolizați.prin <i>corelările ale</i> parametrilor de calitate corespunzători materiei organice dizolvate din ape netratate, cu parametrii spectrometrici absorbanta la lungimea de unda 365, respectiv parametru A365 cu doze optime de agenți de coagulare prehidrolizați cu bazicitate 80%. Validarea modelului elaborat pe diferite ape de suprafață. Elaborarea metodei de analiză a apelor brute prin parametrul operațional inovativ SUVA SUVA, a fost deteminat din raportul A254/DOCx100 [l/mg.m] și este expresia caracterului hidrofil / hidrofob al materiei organice din apa de suprafață, A 254 (absorbanta la lungimea de undă 254), pe baza căruia se estimează eficiența de reducere a carbonului organic dizolvat (DOC) la aplicarea procesului de coagulare.
Dissemination of results	
PhD Thesis – Title RO, ENG	Evaluarea și aplicarea procedeeului de coagulare avansată la tratarea apelor de suprafață în scop potabil (RO), Smaranda Masu, 2010 Assessment and application of advanced coagulation process for surface water treatment for human consumption (ENG)
Full-paper ISI	Mășu S. , Simultaneous Reduction of Turbidity and Natural Organic Matter by Simple and Prehydrolyzed Aluminium Salts, <i>Revista de Chimie</i> , 2011 , 62(1), 64-68, VOS 000288339400013, ISSN 0034-7752 Mășu S. , Burtica G., Manea F., PISOI I., Spectrophotometric parameters for organic matter characterization in raw and treated surface water, <i>Environmental Engineering and Management Journal</i> , 2011 , 10(10),.1451-1457, WOS 000297703000005, ISSN 1582-9596, 1843-3707

	<p>Mășu S., Removal of Dissolved Organic Carbon by Processes of Coagulation, <i>Journal of Environmental Protection and Ecology</i>), 2013, 14(1), 49-54, WOS 000317437400006, ISSN: 1311-5065</p>
Full-paper BDI	<p>Mășu S., Albulescu M., Turuga L, Natural organic matter from surface water: potential risk for drinking water” <i>Annals of West University Timișoara, Series of Chemistry</i>, 2010, 19 (3), 9-16, ISSN 1224-9513, E-ISSN 1584-1294</p> <p>Mășu S., Impact of anthropogenic activities on the quality of potable water <i>Annals of West University Timișoara, Series of Chemistry</i>, 2010, 19 (3), 17-24, ISSN 1224-9513, E-ISSN 1584-1294.</p> <p>Albulescu M., Uruioc S., Turugă Livia, Mășu S. Eutrophication Control In A Few Artificial Lakes From S-W Of Romania, <i>Annals of West University Timișoara, Series of Chemistry</i>, 2010, 19 (3), 51-60, ISSN 1224-9513, E-ISSN 1584-1294</p> <p>Uruioc S., Masu S., Albulescu M., Popa M., Preliminary Study Regarding the Heavy Metal Concentration in some Surfaces Waters from Ocna de Fier Mining Area Banat, <i>Annals of University of Timișoara, Series of Chemistry</i>, 2010, 19,(3) 9-16, ISSN 1224-9513, E-ISSN 1584-1294</p> <p>Pisoi I., Manea F., Masu S., Savii C., Burtica G., Removal of organic load and suspended solids from water by electrocoagulation method. <i>AES Bioflux</i>, 2010, 3(2):187 -193, online SSN 2066-7647, Print ISSN 2066-7620, ISSN-L 2066-7620</p> <p>Mășu S., Coagulation of surface waters with prehidrolyzed iron salts, 16-18. November, 2011, <i>International Symposium "The Environment and Industry" - SIMI 2011</i>, vol. I, p. 47-54, Bucharest, Timisoara. ISSN 1843-5831</p> <p>Mășu S., Albulescu M., Some new aspects regarding the removal of organic matter from water supplies <i>Annals of West University Timișoara, Series of Chemistry</i>, 2012, 20 (4), 51-60, ISSN 1224-9513, E-ISSN 1584-1294</p>
Conferences (platform, poster, abstract / full-paper	<p>Mășu S., Dura I., Rus V., Removal of natural organic matter by hydrolized aluminum salts as coagulants, 2009. <i>16th Symposium on Analytical and Environmental Problems</i>, Szeged, 256-259, ISBN 978-963-306-146-6</p> <p>Mășu S., Surse de materie organică naturală cu potențial de risc din ape de suprafață destinate potabilizării, 03.06.2010” <i>Simpozion Internațional *Didactica* Oțelu Roșu, Romania</i>.</p> <p>Mășu S., Impactul unor factori antropogeni asupra calitatii sursei de apa potabila, Bega” 03.06.2010” <i>Simpozion Internațional *Didactica* Oțelu Roșu, Romania</i>.</p> <p>Mășu S., Influența unor factori antropogeni asupra calității surselor de apa potabilă”, 07.06.2010. Masa Rotundă S.C. Aquatim S.A. Ziua Mondială a Mediului, Timisoara, Romania</p> <p>Mășu S., Removal of Dissolved Organic Carbon by Processes of Coagulation, 26-28 November, 2010, <i>International Workshop “Global and Regional Environmental Protection”</i>, Timisoara, Book of proceedings, vol. II, 81-84. ISBN 978-606-554-210-5, ISBN 978-606-554-212-9.</p> <p>Turuga L., Albulescu M., Uruioc S., Mășu S., Popa M., Groundwater quality control in steel industry areas, May 26-27, 2010, <i>TIMISOARA's Academic Days, XIIth Edition</i>, , Timisoara, Romania, pg 100</p>

<p>Conferences (platform, poster, abstract / full-paper)</p>	<p>Mășu S., Coagulation of surface waters with prehydrolyzed iron salts, 2011. <i>International Symposium "The Environment and Industry" - SIMI 2011</i>, Bucharest, vol. I, 47-54, <i>ISSN</i> 1311-5065</p>
	<p>Mășu S., Spectral Analysis of Raw And Treated Water by Simple and Prehydrolyzed Aluminium Salts 25-26 october, 2012, <i>International Conference ECO IMPULS 2012, Environmental Research and Technology</i>, Timisoara, Romania.</p>
	<p>Mășu S., Optimizarea monitorizării calității apelor și a tratamentului uzinal de obținere a apei potabile prin utilizarea analizei spectrofotometrice, 19 martie, 2013, <i>Ziua Mondială a Apei 2013, A.B.A. Banat. Sesiune de manifestări, Cooperare în domeniul apei-Timișoara, România</i> .</p>
	<p>Mășu S., Use UV spectrophotometer analysis to optimize water quality monitoring in treatment plants. Part 1 Raw and treated surface water 22nd, September, 2014, <i>The 20th International Symposium on Analytical and Environmental Problems</i>, Szeged, Hungary, 75-78., ISBN 978-963-12-1161-0</p>
	<p>Mășu S., Morariu F, Popescu D., Drinking Water Coagulation: Residual Aluminum, 26-28 mai, 2016, <i>6th International Symposium Federation of Environmental Societies on Trace Elements and Minerals, FESTEM</i> , Catania, Italia, Publicare in Abstract book of New horizons on trace elements and minerals role in human and animal health, FESTEM 2016, Catania, Italia,. 111.</p>