

Program	Program Nucleu, PN 09-13 02 16
Project title (ENG):	Research on the impact of urban air pollution on air quality inside museums and other historical sites in order to protect and mitigate effect of heritage objects
Project title (RO):	Cercetari privind impactul poluarii aerului din zonele urbane asupra calitatii aerului din interiorul muzeelor si altor obiective istorice cu scopul protejarii si reducerii efectelor asupra obiectelor de patrimoniu
Duration	2014-2015
Team Leader	Senior Researcher Eng. Elena Bucur
Summary (short description) ENG	<p>Through this project was approached a theme topical for the environment, human health and the preservation of monuments and heritage objects in the context of the current climate or air quality assessment in museums, libraries, places of worship or monuments in order to protect their and preserving the national heritage.</p> <p>Case studies conducted in storage areas and exhibition belongs to the National Museum of Romanian Aviation in the period 2014-2015 focused mainly determining the level of urban pollution specific pollutants NO₂, SO₂, CO, CO₂, O₃ and PM_{2.5} particulates and microclimate parameters: temperature and relative humidity (RH) with demonstrated efficacy in studies of literature on exhibits.</p> <p>In order to assess the possible impact of long-term monitoring data were treated statistically and interpreted by correlation and regression statistical analysis demonstrating that if the spaces tested air quality and microclimate factors do not represent a major risk for the safety of exhibits.</p>
Summary (short description) RO	<p>Prin intermediul acestui proiect a fost abordata o tematica de actualitate pentru domeniul mediului, sanatatii populatiei si al conservarii monumentelor si al obiectelor de patrimoniu in contextul climatic actual, respectiv evaluarea calitatii aerului din muzee, biblioteci, lacase de cult sau monumente istorice in vederea protejarii acestora si conservarii patrimoniului national.</p> <p>Studiile de caz derulate in spatiile de depozitare si expunere apartinand Muzeului National al Aviatiei Romane in perioada 2014-2015 au vizat cu precadere stabilirea nivelului de poluare cu poluanti specifici zonelor urbane : NO₂, SO₂, CO, CO₂, O₃ si pulberi PM_{2.5} si parametric de microclimat: temperatura si umiditate relativa (RH)cu efect demonstrat, in studiile de literatur, asupra exponatelor.</p> <p>In vederea evaluarii posibilului impact datele de monitorizare de lunga durata au fost tratate si interpretate statistic prin analize de corelare si regresie statistica, demonstrand ca, in cazul spatiilor testate calitatea aerului si a factorilor de microclimate nu reprezinta un risc major pentru siguranta exponatelor.</p>
Dissemination of results	
Full-paper ISI	E. Bucur , A. Vasile, R. Diodiu, A. Catrangu, M. Petrescu, Assessment of indoor air quality in a wooden church for preventive conservation, JEPE, Vol. 16, No. 1, pg. 7-17 (2015)
	E. Bucur , A. F. Danet, C. B. Lehr, E. Lehr, A. Vasile, Indoor Air Quality Assessment in the Romanian National Aviation Museum, Rev Chimie, 67(8), 1421-1426 (2016)
	E. Bucur , A. F. Danet, C. B. Lehr, E. Lehr, M. Nita-Lazar, Binary logistic regression – instrument for assessing museum indoor air impact on exhibits, JA&WMA , Publicat on-line 2016