ITC CONFERENCE GRANT
SCIENTIFIC REPORT

This report is submitted for approval by the grant to the MC Chair.

Action number: CA16202 - International Network to Encourage the Use of Monitoring and Forecasting Dust Products
Conference title: WeBIOPATR WORKSHOP & CONFERENCE, PARTICULATE MATTER: RESEARCH AND MANAGEMENT
Conference start and end date: 01/10/2019 to 03/10/2019
Conference attendance start and end date: 30/09/2019 to 04/10/2019
Grantee name: Cristina Antonia Marin

ACTIVITIES DURINGYOUR ATTENDANCE AT THIS CONFERENCE:

(**max**.500 words)
The WeBIOPATR2019 conference was held between 01 – 03 October 2019 at the Mechanical Faculty, University of Belgrade. This scientific meeting addresses in general atmospheric studies, air quality and particulate matter specifically. The conference aims to connect atmospheric researchers with air quality monitoring practitioners and decision maker parties in order to facilitate the dissemination of the scientific research and the knowledge transfer from research to practice. During the meeting, 58 contributions have been presented by researchers from 12 countries.
The sessions of the conference as poster and oral presentations were: “Collaboration with public”, ”Health Effects”, “Chemical Characterization of aerosols”, “Inhalation Exposure and Microenvironments”, “Monitoring and Measurements”, “Source Characterization”, “Atmospheric Processes and Modeling”.
My contribution to the conference was an oral presentation for the session: “Source Characterization”. The title of the presented work was: “**A Major Saharan Dust Intrusion over Romania”.** The paper presented an unusual event of Saharan dust intrusion over Romania during winter time conditions.
The aim of this study was the synergetic characterization of the special dust event.
The synoptic conditions were evaluated by using ERA-25 Interim reanalysis; the MSG-SEVIRI desert dust imagery; analysis and forecast from Copernicus Atmosphere Monitoring Service (CAMS). Dust and snow samples were collected in order to derive the chemical composition, physical properties and the particle morphology. The techniques used for analysing the collected samples were: Inductively Coupled Plasma-Optical Emission Spectrometry and Scanning Electron Microscopy with energy disperse X-ray spectrometry. The optical parameters were derived from absorption and scattering measurements performed with a nephelometer and an aethalometer.
The main conclusions of the research are as follows: the dust transport was triggered by a low pressure system originated in the North of Libya. The dust layer was observed through Seviri dust images in the first 24 hours and then validated by CAMS forecast and reanalysis products. The elemental composition and the ratios computed from different elemental concentrations indicated the origin of the sampled particles as dust from North Sahara. The optical parameters were representative for the fine mode of the re-suspended dust particles; these parameters were in good agreement with the values reported in the Iberian Peninsula for dust intrusions.
Since the objective of the study was the synergetic characterization of an unusual dust intrusion, dust monitoring observations and dust forecast products were used. Thus, the conference contribution is related with two important objectives of the **inDust** Action: the identification and the exploitation of dust monitoring observations and the identification and the exploitation of dust forecast products. The

methodologies used and the results obtained in the presented work are related with the activities conducted within the Working Group 1 and 2 of the **inDust** Action.
Also, during the participation at the conference, I disseminated the **inDust** Cost Action and the possibility for ITC grants and STSM within this action.

IMPACT ON YOUR RESEARCH AND FUTURE COLLABORATIONS (if applicable)

(**max**.500 words)
After the conference, the results presented there have been accepted for publication in the November issue of the Remote Sensing Journal: https://www.mdpi.com/2072-4292/11/21/2466.
Also, by participating at the conference, I was able to meet people in the aerosol scientific community, to learn from the presented contributions and to discuss the possibility for future collaborations. For example, I have met researchers from the Mining and Metallurgy Institute Bor. We discussed the possibility for scientific papers or projects regarding the air quality in the Bor region (which is close to the Romanian border) and in the Western part of Romania.
Another plan for a collaboration, which could be more related with the activities conducted by the **inDust** Cost action, was discussed with another **inDust** partner present at the conference, Zoran Mijic from the Institute of Physics, Belgrade. We planned to analyse together the dust intrusions that affect both Romanian and Serbian territory by using remote sensing techniques and simulations such as the DREAM model.
Thus, my participation at conference, which was possible only due to the **inDust** ITC grant, has allowed me to improve my scientific knowledge, to be able to share the results within the research community and to make connections for future collaborations.