ITC CONFERENCE GRANT
SCIENTIFIC REPORT

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

Action number: CA16202
Conference title: 9th International Workshop on Sand / Dust storms and Associated Dustfall
Conference start and end date: 22/05/2018 to 24/05/2018
Conference attendance start and end date: 22/05/2018 to 24/05/2018
Grantee name: Carla Gama

ACTIVITIES DURING YOUR ATTENDANCE AT THIS CONFERENCE:

During the 9th International Workshop on Sand / Dust storms and Associated Dustfall (dust workshop 9), held in La Laguna, Tenerife, Spain, from 22 to 24 May 2018, I made the oral communication entitled "Assessing desert dust contribution to regional PM10 and PM2.5 levels: a one-year study over Portugal", in session 4 of the conference: Dust impacts.
This communication exploits the use of aerosol measurements and the use of numerical simulations to estimate the importance of African dust contribution to PM10 and PM2.5 concentrations observed over Portugal, during a one-year period. This estimation is important for air quality stakeholders: if determined with sufficient certainty, the natural contributions from desert dust outbreaks to particulate matter levels in ambient air may be subtracted when assessing compliance with air quality limit values, as foreseen in the European Air Quality Directive. In this way, this communication exploits dust products suited to be transferred to the needs of the air quality sector, one of the diverse socio-economic sectors affected by the presence of high concentrations of airborne mineral dust.
After presenting the work, and later during coffee breaks, there were a couple of questions that peaked participant's interest for the applied methodologies.

IMPACT ON YOUR RESEARCH AND FUTURE COLLABORATIONS (if applicable):

The presented oral communication is related to the objectives of the InDust COST Action (CA16202), which include the identification and exploitation of dust monitoring observations, as well as dust forecast products, best suited to be transferred/tailored to the needs of the diverse socio-economic sectors affected by the presence of high concentrations of airborne mineral dust.
Different ideas emerged from the discussion with the workshop participants and from other presentations (such as the interesting communication by Noemi Perez, from the CSIC Research Council of Spain, on the impact of African dust on air quality over Spain during 2001-2016). The next step of my research will be testing the use of the ratio of observed PM2.5/PM10 concentrations to screen out possible fire-contaminated cases within the identified desert dust transport events, in order to avoid ascribing this double contribution (fires plus dust) to desert dust only.

In summary, my participation in the dust workshop 9 contributed to the discussion on specific dust products that are needed for the air quality community, and how the measurent and modelling dust researchers can address those needs. Air quality stakeholders currently use the P40 methodology to assess the dust contribution to particulate matter levels, which has limitations. The idea to exploit the ratio PM10/PM2.5 and to combine it with the P40 methodology is a direct outcome of my participation in the conference, and can be the basis for a more robust methodology. This will be soon tested in colaboration with Portuguese air quality stakeholders.