

MONDAY, 21 MAY 2018

17:00-19:30 REGISTRATION – Teatro Leal (28.48953889, -16.3180558)

19:30 Welcome drink – Teatro Leal

TUESDAY, 22 MAY 2018

08:00-08:40 REGISTRATION

Panels available for placing posters (S1-S2-S3-S4).

08:40-09:00 OPENING CEREMONY DUSTWORKSHOP 9

09:00 Introduction, *Sergio Rodríguez, Meteorological State Agency of Spain.*

09:05-09:30 PLENARY LECTURE

Analysis of the controlling factors of dust and climate variability.
Paul Ginoux, NOAA, USA.

09:30-11:00 SESSION 1: SOURCES AND TRANSPORT OF DUST

Chair: **Emilio Cuevas**, Meteorological State Agency of Spain.

09:30 - S1.1 Characterizing the transport of African mineral dust to South America and the Amazon Basin using long-term PM measurements at Cayenne, French Guiana, and the MERRA-2 model.

Joseph M. Prospero, University of Miami, USA.

09:45 - S1.2 Atmospheric controls on the interannual variability of dust concentration and dust Transport pathways.

Kerstin Schepanski, Leibniz Institute for Tropospheric Research, Germany.

10:00 - S1.3 Saharan Air Layer profiling at the Canary Islands using MPL and radiosondes.

África Barreto, CIMEL-AEMET-University of Valladolid, Spain.

10:15 - S1.4 Modelling Namibian dust emission in the framework of AEROCLO-Sa.

Stefanie Feuerstein, Leibniz Institute for Tropospheric Research, Germany.

10:30 - S1.5 Analyses of temporal and spatial variations in sand and dust storm events in East Asia from 2007 to 2016.

Huizheng Che, Chinese Academy of Meteorological Science.

10:45 - S1.6 Causes and control measures of dust sandstorms in the adjacent Steppe region between China and Mongolia.

Shihai Lyu, Chinese Research Academy of Environmental Sciences.

11:00-11:25 COFFEE BREAK

11:25-12:55 SESSION 2: SOURCES AND TRANSPORT OF DUST

Chair: **Ina Tegen**, Leibniz Institute for Tropospheric Research, Germany

- 11:25 - S2.1 Observational Analyses of Multi-Scale Interactions Among Baroclinic Waves, Complex Terrain, and Moist Convection Recirculating Saharan Dust to Spain.
Mike L. Kaplan, Desert Research Institute, USA.
- 11:40 - S2.2 The voyage of detrital calcites from the Sahara-desert to the bottom of the Dead Sea.
Mordechai Stein, Geological Survey of Israel and The Hebrew University.
- 11:55 - S2.3 Spatial and Temporal Analysis of Sand and Dust Storms (SDS) Between the Years 2003 and 2016 in the Middle East
Ayse Gokcen Isik, Turkish State Meteorological Service
- 12:10 - S2.4 Characterizing Dust Storms Over the Persian Gulf and Oman Sea Using CALIPSO Recordings.
Farizeh Bayat, Institute for Advanced Studies in Basic Sciences, Iran.
- 12:25 - S2.5 Consideration of wildfires as a source of airborne mineral dust
Robert Wagner, Leibniz Institute for Tropospheric Research, Germany
- 12:40 - S2.6 Observational analysis of dust-convection interaction over the Sahara and its transport to the Iberian Peninsula
José Antonio García Orza, Miguel Hernández University, Spain

12:55-14:00 FREE TIME FOR LUNCH

14:00-14:25 POSTER SESSION S1-S2-S3-S4

14:25-14:50 PLENARY LECTURE

Applications of dust research in solar energy technologies.
Fabian Wolfertstetter, DRL Aerospace Agency of Germany

14:50-15:50 SESSION 3: DUST IMPACTS

Chair: **Casimiro Pio**, University of Aveiro, Portugal

- 14:50 - S3.1 Environmental Destruction and Economic Outcomes: Evidence from Dust Storms.
Timothy Foreman, Columbia University, USA.
- 15:05 - S3.2 Impacts of ambient dust on air quality and solar energy production in a desert environment.
Christos Fountoukis, Qatar Environment and Energy Research Institute.
- 15:20 - S3.3 Impact of African dust on air quality of Spain 2001-2016. Is it only dust that matters?
Noemi Perez, CSIC Research Council of Spain.
- 15:35 - S3.4 PM2.5 characteristics in and around Jeddah city, Saudi Arabia.
Mohammad Kadi, King Abdulaziz University, Saudi Arabia.

15:50-16:10 COFFE BREAK

16:10-16:30 POSTER SESSION S1-S2-S3-S4

16:30-18:00 SESSION 4: DUST IMPACTS

Chair: **Franco Lucarelli**, University of Florence, Italy

- 16:30 - S4.1 The Association between Dust Storms and Daily Non-Accidental Mortality in the United States, 1993–2005.
James Crooks, Colorado School of Public Health, USA.
- 16:45 - S4.2 Modelling the short-term health effects of desert dust in epidemiological studies.
Aurelio Tobías, CSIC Research Council of Spain.
- 17:00 - S4.3 Assessing desert dust contribution to regional PM10 and PM2.5 levels: a one-year study over Portugal.
Carla Gama, University of Aveiro, Portugal.
- 17:15 - S4.4 Influence of African dust events of different intensity on atmospheric pollutants and mortality in Madrid, Spain.
Pedro Salvador, CIEMAT, Spain
- 17:30 - S4.5 Linking mineral dust aerosols in Barbados and Houston to North African sources using elemental Composition.
Shankar Chellam, Texas A&M University, USA.
- 17:45 - S4.6 A thorough analysis of a severe dust storm in the Arabian Peninsula using WRF-Chem, Satellite imagery, and ground observations. Impact on air quality in the United Arab Emirates.
Federico Karagulian, Khalifa University of Science and Technology, United Arab.

18:45 GUIDED WALKING TOUR - LA LAGUNA TOWN CENTER

Meeting point: Plaza del Adelantado (28.48750000, -16.31361111).

WEDNESDAY, 23 MAY 2018

08:30 DOOR OPENING

Panels available for placing posters (S5-S6-S7-S8).

09:00 Introduction, Alexander Baklanov, WMO, Switzerland.

09:05-9:30 PLENARY LECTURE

The ageing of African mineral dust during transport.
Paola Formenti, CNRS Research Council of France.

09:30-11:00 SESSION 5: DUST COMPOSITION AND PROPERTIES

Chair: **Joseph M. Prospero**, University of Miami, USA

- 09:30 - S5.1 Coarse mode dust size distributions and optical properties from aircraft measurements during AER-D over the Tropical Eastern Atlantic.
Claire L. Ryder, University of Reading, UK.
- 09:45 - S5.2 Rapid changes in mineralogy and mixing state of transported Saharan dust measured by on-line single-particle mass spectrometry.
Nicholas Marsden, University of Manchester, UK.
- 10:00 - S5.3 Dust concentration and composition measurement using different passive and active dust samplers in a dust transport region (Tenerife): Results from Single-particle characterization.
Andebo Waza, Technische Universität Darmstadt, Germany.
- 10:15 - S5.4 High variability of dust composition in the Saharan Air Layer.
Sergio Rodríguez, AEMET Meteorological State Agency of Spain.
- 10:30 - S5.5 PollyNET: A network of continuously running multiwavelength polarization/Raman lidars for dust extinction, mass, CCN and INP profiling.
Albert Ansmann, Leibniz Institute for Tropospheric Research, Germany.
- 10:45 - S5.6 Desert Dust Identification and Characterization by lidar.
Lucia Mona, CNR Research Council of Italy.

11:00–11:25 COFFEE BREAK

11:25-12:55 SESSION 6: DUST COMPOSITION AND PROPERTIES

Chair: **Konrad Kandler**, Technische Universität Darmstadt, Germany

- 11:25 - S6.1 The A-LIFE field experiment in the Eastern Mediterranean – Overview and early results.
Bernadett Weinzierl, University of Vienna, Austria.
- 11:40- S6.2 Original balloon observations of large Saharan dust particles in the free troposphere over the western Mediterranean Sea.
Francois Dulac, Laboratory of Climate Sciences and Environment (LSCE), France.
- 11:55 - S6.3 Assessing eRSTdust performance in detecting dust on SEVIRI data by means of EARLINET Measurements.
Alfredo Falconieri, CNR Research Council of Italy.
- 12:10 - S6.4 Vertical particle size distributions of winter Subarctic dust storms.
Pavla Dagsson Waldhauserová, Agricultural University of Iceland.
- 12:25 - S6.5 Characterization of Falling Sand and Dust at El Paso, Texas, USA: Preliminary Results.
Thomas E. Gill, University of Texas, USA.
- 12:40 - S6.6 Size-resolved and bulk chemical composition of Saharan dust over the Atlantic Ocean.
K. Wadinga Fomba, Leibniz Institute for Tropospheric Research, Germany.

12:55-14:00 FREE TIME FOR LUNCH

14:00-14:25 POSTER SESSION S5-S6-S7-S8

14:25-14:50 PLENARY LECTURE

Atmospheric iron as nutrients: emission, processes, deposition and impacts.
Zongbo Shi, University of Birmingham, UK.

14:50-15:50 SESSION 7: DUST, RADIATION AND CLOUDS

Chair: **Carlos Perez**, Barcelona Supercomputing Centre, Spain

- 14:50 - S7.1 Role of mineral dust in cloud formation: modelling aspects.
Slobodan Nickovic, Republic Hydrometeorological Service of Serbia.
- 15:05 - S7.2 The effect of atmospheric weathering on the ice-nucleating ability of K-feldspar and quartz
Michael. Adams, University of Leeds, UK.
- 15:20 - S7.3 Uncertainty of ice nucleating particle number to source distribution, size distribution, and mixing state of K-feldspar.
Jan P. Perlwitz, NASA Goddard Institute for Space Studies, USA.
- 15:35 - S7.4 Global scale variability of the mineral dust shortwave and longwave refractive index from laboratory chamber experiments.
Paola Formenti, CNRS Research Council of France.

15:50-16:10 COFFEE BREAK

16:10-16:30 POSTER SESSION S5-S6-S7-S8

16:30-18:00 SESSION 8: DUST AND THE OCEAN

Chair: **Kerstin Schepanski**, Leibniz Institute for Tropospheric Research, Germany.

- 16:30 - S8.1 Lithogenic and Biogenic Fluxes from Sediment Trap Samples Collected at 150 m Depth in the Canary Basin.
Inmaculada Menendez, Universidad de Las Palmas de Gran Canaria, Spain.
- 16:45 - S8.2 ProcEss studies at the Air-sEa Interface after dust deposition in the Mediterranean sea (PEAcEtIME project).
Karine Desboeufs, CNRS Research Council of France.
- 17:00 - S8.3 Global transport of airborne microbes over the tropical and subtropical oceans.
Jesus M. Arrieta, IEO Institute of Oceanography of Spain.
- 17:15 - S8.4 Sources and composition of water-soluble trace elements in aerosols over the South Atlantic, Arctic and Equatorial Pacific oceans.
Jaw Chuen Yong, GEOMAR Helmholtz Centre for Ocean Research, Germany
- 17:30 - S8.5 Elemental atmospheric deposition fluxes from insoluble particles deposition samples collected in the western Mediterranean region.
Fu Yinghe, CNRS Research Council of France.
- 17:45 - S8.6 Importance of direct deposition measurements and impact of aerosols in coastal waters of the NW Mediterranean.
Francesc Peters, CSIC Research Council of Spain.

20:00 CONFERENCE DINNER AT HOTEL LAGUNA NIVARIA

(28.48750000, -16.31361111). Previous reservation is needed

THURSDAY, 24 MAY 2018

08:30 DOOR OPENING

Panels available for placing posters (S9-S10-S11-S12).

09:00 Introduction, *Carlos Pérez, Barcelona Supercomputing Centre, Spain.*

09:05-9:30 PLENARY LECTURE

Radiative forcing and response to anthropogenic dust aerosols.

Ron L. Miller, NASA, USA.

09:30-11:00 SESSION 9: DUST AT DIFFERENT SCALES

Chair: **Xiaoye Zhang**, China Meteorological Administration

- 09:30 - S9.1 Considering subgridcale wind variability in large-scale dust models – are we there yet?
Ina Tegen, Leibniz Institute for Tropospheric Research, Germany.
- 09:45 - S9.2 Short-term variations of the Saharan Air Layer atmospheric properties over the North Atlantic driven by NAFDI: Summer 2017 case analysis.
Emilio Cuevas, AEMET Meteorological State Agency of Spain.
- 10:00 - S9.3 How can dust measurements constrain the representation of the dust cycle in Earth System Models?
Yves Y. Balkanski, Institut Pierre Simon Laplace, France.
- 10:15 - S9.4 CATS Lidar Observations of Dust and Applications for Data Assimilation in the NASA GEOS-5 AGCM
Edward P. Nowottnick, NASA, USA.
- 10:30 - S9.5 Revisiting the observed correlation between weekly averaged Indian monsoon precipitation and Arabian Sea aerosol optical depth.
Disha Sharma, Jawaharlal Nehru University, India.
- 10:45 - S9.6 Constraining soil dust emissions from natural and anthropogenic sources.
Martina Klöse, Barcelona Supercomputing Centre, Spain.

11:00-11:25 COFFEE BREAK

11:25-12:55 SESSION 10: DUST FORECAST AND SERVICES, SDSWAS & InDUST NETWORK

Chair: **Enric Terradellas**, Meteorological State Agency of Spain

- 11:25 - S10.1 Sand and dust storms as a complex interdisciplinary problem.
Alexander Baklanov, WMO, Switzerland.
- 11:40 - S10.2 SDS-WAS: ensemble prediction of airborne dust.
Ernest Werner, AEMET Meteorological State Agency of Spain.
- 11:55 - S10.3 Dust assimilation activities at the Barcelona Supercomputing Center.
Enza Di Tomaso, Barcelona Supercomputing Centre, Spain.
- 12:10 - S10.4 The impacts of Asian dust on numerical weather forecasts.
Gill-Ran Jeong, Korea Institute of Atmospheric Prediction Systems, South Korea .
- 12:25 - S10.5 inDust: international network to encourage the use of monitoring and forecasting dust products.
Sara Basart, Barcelona Supercomputing Centre, Spain.

12:55-14:00 FREE TIME FOR LUNCH

14:00-14:30 POSTER SESSION S9-S12

14:30-15:45 SESSION 11: DUST FORECAST AND SERVICES, UNCDD – DESERTIFICATION

Chair: **Slodoban Nickovic**, Republic Hydrometeorological Service of Serbia

- 14:30 - S11.1 Global policy to combat Sand and dust storms.
Utchang Kang and Ana Vuković, United Nations Convention to Combat Desertification.
- 15:00 - S11.2 The NASA Micro Pulse Lidar Network (MPLNET): near real time lidar observations across The global dust belt.
Ellsworth J. Welton, NASA, USA.
- 15:15 - S11.3 Saharan dust in Central Europe: Results from a combined Ceilometer/Lidar network.
Werner Thomas, DWD, Germany.
- 15:30 - S11.4 Dust Products of the Korean New-Generation Geostationary Meteorological Satellite Geo-KOMPSAT-A.
Sung-Rae Chung, Korea Meteorological Administration, South Korea.

15:45-16:10 COFFEE BREAK

16:10-16:30 POSTER SESSION S9-S12

16:30-17:30 SESSION 12: DUST FORECAST AND SERVICES

Chair: **Saviz Sehatkashani**, Atmospheric Science & Meteorological Research Center, Iran

- 16:30 - S12.1 Aerosol profiles from GRASP code using ceilometer and sunphotometer measurements.
Roberto Román, University of Valladolid, Spain.
- 16:45 - S12.2 Spectral and synoptic analysis of a rare case of haboob in Tehran
Shahrbanou Tabarestani, Islamic Azad University, Iran
- 17:00 - S12.3 Dust storms in the Middle East: An observational and modeling study of two events using in-situ and remotely sensed measurements and WRF-Chem-RTFDDA.
Yongxin Zhang, National Center for Atmospheric Research, USA.
- 17:15 - S12.3 Atmospheric and surface properties during the record-breaking dust event of September 2015 in Middle East and East Mediterranean.
Stavros Solomos, National Observatory of Athens, Greece.

17:30-18:00 CLOSING OF THE DUSTWORKSHOP9