

3RD ANNUAL ONLINE SCIENTIFIC WORKSHOP

CLIMATE AND ATMOSPHERE RESEARCH & INNOVATION IN THE EASTERN MEDITERRANEAN & MIDDLE EAST

Program

Tuesday, 7th November 2023

All times are in EEST (Cyprus local time)

Opening Session		
09:00	Workshop Introduction & Opening	Charbel Afif Saint Joseph University of Beirut (Lebanon) The Cyprus Institute (Cyprus)
Air Pollution Sources and Impacts (Chair: Charbel Afif)		
09:10	Invited Speaker	
	Air quality projections in the Middle East: from observations to model validation and impacts	Sergey Osipov King Abdullah University of Science and Technology (Saudi Arabia)
9:30	Oral Presentations	
	Machine learning-enabled high-resolution downscaling of ultra-fine particle concentrations: bridging the gap in air quality assessment	Pantelis Georgiades The Cyprus Institute (Cyprus)
	Impact of the construction of rubberized and conventional asphalt roads on air quality: a pilot study in Kuwait	Mohamed F. Yassin Kuwait Institute for Scientific Research (Kuwait)
	Long-term source apportionment of submicron organic aerosol at the urban environment of Athens, Greece	Kalliopi Petrinoli National Observatory of Athens (Greece)
	Remote sensing observations from AREAD ship campaign in the Mediterranean and Middle East	Alkistis Papetta The Cyprus Institute (Cyprus)
	Emission Inventory for Cyprus	Eva Eriksson The Cyprus Institute (Cyprus)
	Enhanced sulfate formation through synergistic effects of chlorine chemistry and photosensitization in atmospheric particles	Ruifeng Zhang City University of Hong Kong (China)
10:30	Coffee Break (10 Min)	
vPICO session (Chair: Fatma Öztürk)		
10:40	Oral Presentations	
	Sulfate formation in incense burning particles	Zhancong Liang King Abdullah University of Science and Technology (Saudi Arabia)
	Source apportionment of PM _{2.5} oxidative potential in an East Mediterranean site	Marc Fadel Université du Littoral Côte d'Opale (France)

Quantification of NOx emissions from fossil-fuel fired power plants using satellite data in the EMME region	Anthony Rey-Pommier The Cyprus Institute (Cyprus) Laboratoire des Sciences du Climat et l'Environnement (France)
Emission of volatile organic compounds from residential biomass burning and their rapid chemical transformations	Maximilien Desservettaz The Cyprus Institute (Cyprus)
Thermal processes and secondary recycling regulate the atmospheric levels of highly toxic polychlorinated naphthalenes in an urban mediterranean site	Minas Iakovides The Cyprus Institute (Cyprus)
Quantifying the synergy of heat-stress and air-quality on human mortality	Theo Economou The Cyprus Institute (Cyprus)
Validating national emission inventories with satellite-derived estimates: world emissions case study for Cyprus	Jonilda Kushta The Cyprus Institute (Cyprus)
Preliminary estimate of short-lived air pollutants from the July 2021 Arakapas wildfire in Cyprus and implications for nation emissions reporting	Corey McClintock The Cyprus Institute (Cyprus)
Speciation of the PM2.5 carbonaceous fraction in an urban site in Greater Cairo Area	Eliane Farah Saint Joseph University of Beirut (Lebanon) Université du Littoral Côte d'Opale (France)
Road tailpipe emissions, secondary aerosol formation and pertinent health implications in Cyprus	Michelle Duri University of Nicosia (Cyprus)
Chemical characterization of PM2.5 in the tunnel of a Middle Eastern capital	Nansi Fakhri Saint-Joseph University of Beirut (Lebanon) The Cyprus Institute (Cyprus)
VECLim - an early warning support system for climate-sensitive vector-borne diseases	Ahmet Arca The Cyprus Institute (Cyprus)
Evaluation of urban heat island (UHI) effect from a double perspective: observations and simulations. The case of the Nicosia area.	Giandomenico Vurro The Cyprus Institute (Cyprus)
Variation in trends of maximum temperature change on the Libyan coast for the period (1961-2099) by using spatial techniques.	Asmahan Ali AlMukhtar Othman University of Zawia (Libya)
Modelling new particle formation in the Asian monsoon upper troposphere-lower stratosphere	Christos Xenofontos The Cyprus Institute (Cyprus)
Modelling of carbonaceous aerosols for air pollution health impact studies in Europe	Niki Paisi The Cyprus Institute (Cyprus)
Urban scale WRF-PMCAMX forecasts: evaluation of the meteorological forcing and its impact onto the pm predictions	Areti Pappa University of Patras, Department of Physics (Greece)
Simulated future thermal comfortability over cities in Cyprus	Katiana Constantinidou The Cyprus Institute (Cyprus)
Assessing the spatial distribution of urban thermal risk in Nicosia through machine learning techniques	Konstantina Koutroumanou-Kontosi The Cyprus Institute (Cyprus) National and Kapodistrian University of Athens (Greece)
Sensitivity simulations of Izmit bay water circulation to wind speeds and directions using MITGCM	Sabri Mutlu Istanbul Technical University (Turkey)
Atmospheric chemical kinetics using posits arithmetic	Kyriacos Sophocleous The Cyprus Institute (Cyprus)
Predicting future wet and dry spell durations in Europe: an analysis with bias-corrected Q-GAM data	Georgia Lazoglou The Cyprus Institute (Cyprus)

	Assessment of the relationship of atmospheric blocking and heatwaves over the Mediterranean region	Iliana Koutsoupi National and Kapodistrian University of Athens / National Observatory of Athens, IAASARS (Greece)
	Comparison study between heat index(hi) of different algorithms over Egypt	Rania S. Ezzeldeen Egyptian Meteorological Authority (Egypt)
	A global approach to define concurrent atmospheric and marine heatwaves	Lorine Behr Justus Liebig University Giessen (Germany)
	Alexa storm and its effect on Egypt	Eman Said Mohamed Egyptian Meteorological Authority (Egypt)
	Exploring the relationship between grace/grace-fo terrestrial water storage anomalies and the standardized precipitation index (SPI) in arid regions.	Rihan Al Saodi The university of Jordan (Jordan)
	Feedbacks on weather via fire-generated aerosols over Greece	Anastasios Rovithakis Technical University of Crete (Greece)
	Greenhouse gas data for emission inventories from atmospheric inversions what have we learned? What do we need?	Christian Mielke German Federal Environmental Agency (Germany)
	Decarbonizing lifestyles: strategies for a sustainable future	Doaa Salman Abdou October University for Modern Sciences and Arts (Egypt)
	FUTUREMED: a transdisciplinary network to bridge climate science and impacts on society	Samira Khodayar Mediterranean Centre for Environmental Studies (CEAM) (Spain)
	Calibration and validation campaign for EARTHCARE using UAVs and lidars in Cyprus	Franco Marengo The Cyprus Institute (Cyprus)
	Refined flux calculations for greenhouse gases: insights from automated non-steady-state transparent soil chambers	George Themistokleous Agricultural Research Institute (Cyprus)
	Calibration and validation campaign for EDU4CLIMATE using UAVs and PMEYE lidar in EMME	Maria Kezoudi The Cyprus Institute (Cyprus)
	Single instrument for simultaneous monitoring of up to ten greenhouse gases and air pollutants	Morten Hundt MIRO Analytical AG (Switzerland)
	Sampling atmospheric volatile organic compounds using unmanned aerial vehicles: from Estonia to Cyprus	Dmitrii Krasnov Estonian University of Life Science (Estonia)
12:45	Lunch (45 Min)	
Atmospheric Dust, Climate change and weather extremes (Chair: Diana Francis)		
13:30	Invited Speaker	
	Atmospheric desert dust: impacts and measurements for this relevant atmospheric constituent in the East Mediterranean and the Middle East	Lucia Mona National Research Council (Italy)
13:50	Oral Presentations	
	Quantifying the effect of giant dust particles on radiative forcing, deposition rate, and atmospheric loading over the Middle East	Georgiy Stenchikov King Abdullah University of Science and Technology (Saudi Arabia)
	Toward dust monitoring using AeroTape, an IOT image processing-based aerosol analyser	Adrien Reynaud Oberon Sciences (France)
	Exploring the association of heat stress and human health in Cyprus	Fragkeskos Kekkou Aristotle University of Thessaloniki (Greece)
	Drivers of accelerated warming in mediterranean climate-type regions	George Zittis The Cyprus Institute (Cyprus)

	Temperature trend from different sources in Cyprus: a methodological challenge	Jocelyne Gerard Saint-Joseph University of Beirut (Lebanon)
14:55	Coffee Break (10 Min)	
	New Instrumentation and Research Infrastructure (Chair: Salwa Hassan)	
15:05	Oral Presentations	
	Assessing spatial and temporal urban air quality variabilities with the VAISALA-AQT530 monitor	Roubina Papaconstantinou The Cyprus Institute (Cyprus)
	Elevating GHG emission surveillance in Cypriot agriculture: introducing a cutting-edge infrastructure	Andreas Savvides Agricultural Research Institute (Cyprus)
	Real-time detection of condensed polycyclic aromatic hydrocarbons on a molecular composition level at low pg.m^{-3} by CHARON fusion PTR-TOF	Markus Leiminger IONICON Analytik (Austria)
	ACTRIS - University of Helsinki topical centre units provide support for measurements of secondary aerosol formation	Nina Sarnela University of Helsinki (Finland)
15:50	Coffee Break (10 Min)	
	Atmosphere & Climate Modelling and Prediction (Chair: Tareq Hussein)	
16:00	Invited Speaker	
	Trends in global and East Mediterranean fine particulate matter air pollution	Li Chi Washington University in St. Louis (USA)
16:20	Oral Presentations	
	An estimation of the anthropogenic aerosols effective radiative forcing based on seven CMIP6 earth system models	Alkiviadis Kalisoras Aristotle University of Thessaloniki (Greece)
	High resolution paleoclimate simulations with the COSMO-CLM model in the Eastern Mediterranean and Middle East	Eva Hartmann Justus-Liebig-University Giessen (Germany)
	A statistical approach to estimate future burnt area and GHG emissions from mediterranean wildfires	Tim Van der Schriek National Observatory of Athens (Greece)
	Estimating BC concentration in EMME using a generalised proxy	Pak Lun Fung University of Helsinki (Finland)
17:00	End of the Scientific Workshop	