2024 Aerosol, Cloud, Precipitation and Climate Initiative workshop (DRAFT)
20-22 May 2024, Imperial College, London, UK and online

Monday, 20 May

Start Time (BST/UTC+1)	Speaker	Title
13:20	INTRODUCTION	
Session 1: Shallow Clouds - Natural Labs and Shipping		
13:30 (Virtual)	Ilaria Quaglia, Cornell U.	Modeling 2020 changes in shipping emissions may help explain 2023 anomalous warming
13:45	Edward Gryspeerdt, Imperial College	Mapping cloud sensitivity to aerosol using natural experiments
14:00	Anna Tippet, Imperial College	Observations Of Weak Liquid Water Path Response To Aerosols in Shiptracks
14:15	Peter Manshausen, U. Oxford	The origin of liquid water high-biases in (invisible) ship track studies
14:30 (Virtual)	Jianhao Zhang, NOAA	Natural variability in cloud radiative effect overwhelms substantial perturbations from the 2020 fuel regulation
14:45	Velle Toll, U. Tartu	Strong underestimation of cloud water increases in ship-track-like polluted cloud tracks
15:00	BREAK	
Session 2: Shallow Clouds - Large-Scale Modeling		
15:30	Ci Song, U. Wyoming	Buffering of aerosol-cloud adjustments by coupling between radiative susceptibility and precipitation efficiency
15:45	Yu Wang, U. Edinburgh	Comparing observational and ECHAM6-HAM2 modelling constraints in aerosol-cloud interactions
16:00	Michael Diamond, Florida State U.	Using aerosol-cloud "natural experiments" to test hypotheses for maintaining Earth's hemispheric albedo symmetry
16:15 (Virtual)	Johannes Mülmenstädt, Pacific Northwest National Laboratory	Weaving together the lines of evidence on ACI adjustments
16:30	Discussion	
Poster Session – Virtual		
17:30	Xin Wang, Wuhan U.	Causality of Observed Susceptibility of Cloud Properties to Nd

	Olimpia Bruno, Karlsruhe Institute of Technology	Global and long-term analysis of ice fog using measurements from an active satellite sensor
	Fan Liu, Wuhan U.	Dominance of aerosols on land-ocean contrast of warm rain for clouds
	Graham Feingold, NOAA	Physical science research needed to evaluate the viability and risks of marine cloud brightening
	Goutam Choudhury, Bar-Ilan U.	Role of optically thin clouds in spaceborne aerosol-cloud interaction studies
	Matthew Christensen, Pacific Northwest National Laboratory	Cloud Sensitivity to Aerosol Enhanced by SO2 Oxidation
	Andrew Gettleman, Pacific Northwest National Laboratory	Have Shipping Emissions Changes Accelerated Global Warming?
	Matthias Tesche, Leipzig U.	A cloud-by-cloud approach for studying aerosol-cloud interaction in satellite observations

Tuesday, 21 May

Start Time (BST/UTC+1)	Speaker	Title
Session 3: Shallow Clouds - Satellite		
09:00	Xin Lu, Zhengzhou U.	The Temperature Control of Cloud Adiabatic Fraction
09:15	Elise Devigne, Laboratoire d'Optique Atmosphérique	Assessing the Effects of Wildfire Aerosols on Clouds Properties using Satellite Observations
09:30	Rodrigo Q.C.R. Ribeiro, Imperial College	Retrieving cloud sensitivity to aerosol using ship emissions in overcast conditions
09:45	Jan Kretzschmar, Leipzig U.	Positive Liquid Cloud Adjustments to Aerosols from Urban Areas
10:00	Adam Povey, U. of Leicester	Analysis of new features of the Cloud CCI products
10:15	Yang Cao, Nanjing U.	Improving prediction of marine low clouds with cloud droplet number concentration and a deep learning method
10:30	BREAK	
Session 4: Shallow Clouds - Processes		
11:00	Franziska Glassmeier, Delft U.	Cold Pools Mediate the Response of Trade Cumulus Fields to Cloud-Droplet Number Perturbations
11:15	Tom Goren, U. Leipzig	Natural Co-variability between Cloud Droplet Concentrations and Liquid Water Path Shapes their Inverted V Relationship
11:30 (Virtual)	Fabian Hoffman, LMU	The Impact of Aerosol on Cloud Water: A Heuristic Perspective
11:45	Jung-Sub Lim, U. of Munich	Environmental and Lifecycle Effects on Entrainment and Mixing in Maritime Shallow Cumulus Clouds
12:00	Alexander Khain, Hebrew U. of Jerusalem	Effects of cloud-surrounding interaction on dynamics and microphysics of small cumulus clouds
12:15	LUNCH	
13:15	Shallow Clouds Discussion	
Session 5: Joint - Climate		
13:45	Minghuai Wang, Nanjing U.	Quantifying the contributions of changes in aerosols and meteorology to long-term trend in radiative effects of marine low clouds

14:00	Daniel Rosenfeld, Hebrew U. of Jerusalem	Largest marine cloud brightening requires adding both fine and coarse aerosols
14:15	Guy Dagan, Hebrew U. of Jerusalem	Effective radiative forcing from aerosol-cloud interaction is enhanced by remote clouds modifications
14:30	Philip Weiss, U. Oxford	Aerosol-Convection Interactions In Global Climate Simulations At The Kilometer Scale
14:45	Suf Lorian, Hebrew U. of Jerusalem	On the sensitivity of aerosol-cloud interactions to changes in sea surface temperature in radiative-convective equilibrium
15:00 (Virtual)	Zengxin Pan, Wuhan U.	Large Warming of Tropical Convective Anvils Masked by Their Underlying Clouds
15:15 (Virtual)	Zhanqing Li, U. Maryland	Aerosol-cloud-interaction for convective clouds: Differentiating the impact of meteorology and cloud-PBL coupling
15:30	BREAK	
Session 6: Deep Clouds – Environmental Interactions		
15:45 (Virtual)	Stephen Saleeby, Colrado State U.	Aerosol Impacts on Convective Cell Microphysics In Perturbed Moisture Environments
16:00	Celine Cornet, U. de Lille	C3IEL, the Cluster for Cloud evolution ClImatE and Lightning mission to study convective clouds at high spatial and temporal resolutions
16:15	Sue van den Heever, Colorado State U.	ACPC Deep Convection Model Intercomparison Project – Final Conclusions
16:30	Jiwen Fan, Argonne National Laboratory	How do aerosol properties and processes affect supersaturation in convective clouds**?**
16:45	Daniel Rosenfeld, Hebrew U. of Jerusalem	Aircraft-observed high supersaturation indicate potential aerosol convective invigoration effect
17:00	Luiz Machado	How convection modify particles and gas concentration in Amazonian Forest
17:15	Philip Stier, U. Oxford	The GEWEX Aerosol Precipitation Initiative (GAP): towards an understanding of aerosol-precipitation interactions on regional to global scales – from idealised radiative convective equilibrium to global km-scale aerosol-climate modelling
17:30	BREAK	
Poster Session – In person		
18:00	Keemik Hannes, U. Tartu	Simultaneous CCN and INP perturbations on clouds at industrial aerosol hot spots

	Velle Toll, U. Tartu	How well do ship-track-like polluted cloud tracks represent global cloud adjustments?
	George Jordan, Met Office	Has imposing stricter limits on marine fuels inadvertently boosted
	Netta Yeheski, Hebrew U. of Jerusalem	Exploring Aerosol-Cloud Interactions Along the Subtropical to
	Alan Gadian, U. Leeds	
	Ying Chen, U. Birmingham	Observational evidence of strong aerosol fingerprints on cloud and effect on radiative forcing
	Odran Sourdeval, U. Lille	Aerosol - Ice Cloud Interactions Quantified from Lidar-Radar Observations
	William Smith, Cambridge U.	Comparison of marine cloud brightening I large eddy simulations and parcel models
	Jiwen Fan, Argonne National Laboratory	Improving Aerosol Radiative Forcing and Climate in E3SM: Impacts of New Cloud Microphysics and Improved Wet Removal Treatments
	Kallista Angeloff, U. Oxford	Aerosol–cloud interactions at the changing poles
	George Horner, Imperial College London	Constraining the impact of aerosols on detrained cirrus
	Option for Virtual Posters to have colleague present	

Wednesday, 22 May

Start Time (BST/UTC+1)	Speaker	Title
Session 7: Deep Clouds – Tropical Convection, Mixed Phase Clouds and TRACER		
09:00	Annette Miltenberger, U. Mainz	Aerosol impact on an organized deep convection case - a Lagrangian perspective
09:15 (Virtual)	Jianhua Yin, Wuhan U.	Large Effects of Fine and Coarse Aerosols on Tropical Deep Convective
09:30 (Virtual)	Lin Zang, Wuhan U.	Cloud-driven water vapor uplift and its radiative effects over tropics
10:00	Quentin Coopman, U. de Lille	Aerosol effects on how mixed phase clouds are mixed
10:15	Prathap Ramamurthy	Influence on urbanization on convective processes
10:30	BREAK	
Session 8: Deep Clouds – TRACER I		
11:00 (Virtual)	Toshi Matsui	Unveiling Aerosol-Deep Convection Interactions through the Joint Cell-Thermal Tracking Analysis of Large Eddy Simulation from the TRACER Field Campaign Simulations
11:15	Sarah Brooks, Texas A&M U.	Aerosol Properties that Drive Ice Nucleation
11:30	Anita Rapp, Texas A&M U.	Sensitivity of convective cell characteristics to TRACER thermodynamic and aerosol environments in observations and idealized simulations
11:45	Greg McFarquhar	Analysis of In-Situ Aircraft Observations from ESCAPE: What We Have Learned and What We Need to Learn
12:00	LUNCH	
Session 9: Deep Clouds – TRACER II		
13:30	Gijs de Boer	Evaluating the spatiotemporal variability of coastal atmospheric properties using Uncrewed Aircraft Systems (UAS) during TRACER
13:45	Pavlos Kollias, Stony Brook U.	Analysis of high spatiotemporal radar observations of deep convective cores during the TRACER and ESCAPE field campaigns.
14:00	Aida Galfione, Politecnico di Torino	On the estimation of convective updraft velocities using GOES IR cooling rates and multi-Doppler radar techniques: Preliminary results from the ESCAPE and TRACER field campaigns

14:15 (Virtual)	Tamanna Subba, Brookhaven National Laboratory	Implications of Sea Breeze Circulation on the Atmospheric Aerosol Environment in the Houston Coastal Region
14:30 (Virtual)	Michael Jensen, Brookhaven National Laboratory	Properties of Convective Downdraft Outflow from Isolated Cells Observed during TRACER
14:45 (Virtual)	Zachary Mages, Stony Brook U.	Convective Cell Interactions during ESCAPE and TRACER
15:00 (Virtual)	Malinda Millangoda, U. Houston	Evaluation of NCEP Quantitative Precipitation Estimates against TRACER Observations
15:15	BREAK	
Session 10: Deep Clouds – TRACER III		
15:45 (Virtual)	Markus Petters	Dynamic range of modeled cloud droplet number concentration during TRACER
16:00	Stephen Saleeby/Jiwen Fan	TRACER Model Intercomparison Project Cases and Model Configuration
16:15	Deep Clouds Discussion	
17:30	Adjourn	