

TAC-4 AGENDA

Schedule of presentations

List of posters

TAC-4 AGENDA

Sunday, 21 June 2015	
18:00	Registration
19:30	End of Sunday registration time

ORAL PRESENTATIONS

Monday, 22 June 2015	
08:00	Registration
Opening ceremony	
Chair: R. Sausen	
09:00	Staatsministerin Ilse Aigner; Bayrisches Staatsministerium für Wirtschaft, Infrastruktur, Verkehr und Technologie: <i>Opening Address</i> Prof. Dr.-Ing. R. Henke, Member of the Executive Board of DLR: <i>Opening Address</i>
09:30	Prof. Dr. R. Sausen: <i>Introduction to the region and technical information</i>
10:00	D.W. Fahey: <i>Aviation and Climate: An update (solicited presentation)</i>
10:40	Poster setup / Coffee
Emissions and near field processes	
Chair:	
11:20	E. Herms: <i>Aircraft engine emissions - European Regulation and Certification</i>
11:40	K. Dogushan, B. Brem, F. Klein, I. El-Haddad, L. Durdina, T. Rindlisbacher, R. Huang, J. Slowik, U. Baltensperger, A. Prevot: <i>Thrust dependence and engine variability of primary volatile organic compound emissions from commercial aircraft turbine engines</i>
12:00	J. Peck, Z. Yu, D. Liscinsky, R. Miake-Lye: <i>A Volatile Particle Microphysical Simulation Model for the Evolution of Surrogate Organic Emissions in an Aircraft Exhaust Plume</i>
12:20	P.D. Whitefield, P. Lobo, D. E. Hagen, E. A. Black, R. C. Miake-Lye, Z. Yu, L. Durdina, B. T. Brem, J. Wang, G. J. Smallwood, K. A. Thomson, T. Rindlisbacher, F. Siegerist, A. A. Mensah, J. C. Corbin, M. Abegglen, B. Sierau: <i>Development of a Certification Method for Aircraft Engine Non-volatile PM Emissions: Results from the North American Reference System Deployment in the Aviation - Particle Regulatory Instrument Demonstration Experiment (A-PRIDE) 4 Campaign</i>
12:40	R. Moore, B. Anderson, E. Winstead, L. Thornhill, A. Beyersdorf, C. Hudgins, R. Martin, M. Shook, L. Ziemba, ACCESS Science Team: <i>In-Situ Measurements of Aircraft Engine Exhaust Measured during the 2013-2014 ACCESS Project</i>
13:00	Lunch

Emissions and near field processes	
Chair:	
14:30	M. Abegglen, B. Sierau, B. Brem, J. Wang, T. Rindlisbacher, U. Lohmann: <i>Chemical characterization of particulate matter aircraft turbine engine exhaust using single particle mass spectrometry</i>
14:50	B. Brem, L. Durdina, J. Wang, T. Rindlisbacher, F. Siegerist, S. Rocci-Denis, O. Penanhoat: <i>Sensitivity of aircraft gas turbine non- volatile particulate matter mass and number emissions to fuel aromatic content</i>
15:10	L. Durdina, B. Brem, J. Wang, T. Rindlisbacher, Theo, F. Siegerist, S. Rocci-Denis, O. Penanhoat, G. Andac, J. Zelina: <i>Spatial variability of PM and gaseous emissions at the exit plane of an in-service commercial aircraft turbine engine</i>
15:30	D. Delhaye, F.-X. Ouf, D. Ferry, D. Gaffie, O. Penanhoat, S. Peillon, F. Salm, X. Vancassel, T. Cottard, C. Focsa, N. Harivel, B. Perez, E. Quinton: <i>The MERMOSE project: characterization of particulates emissions of a commercial aircraft engine: from morphology to chemical composition</i>
15:50	Poster / Coffee
16:20	B.E. Anderson, R. H. Moore, A. Brown, H. Schlager: <i>NASA Alternative-Fuel Effects on Contrails and Cruise Emissions (ACCESS) Flight Experiments</i>
16:40	R. Kurtenbach, P. Wiesen, O. Zaporozhets, K. Synylo: <i>Measurement of aircraft engine emissions inside the airport area</i>
17:00	E. Turgut, M. Cavcar, O. D. Yay, E. Yilmaz, O. Usanmaz, K. Armutlu, T. Dogeroglu: <i>Estimating Gaseous Emission Production of an Entire Flight of Commercial Aircraft Based on Emission Measurements and Actual Flight Data Records</i>
17:20	M. Plohr: <i>Procedures to apply NOx correlation methods to engine concepts with staged, lean combustor technology</i>
17:10	End of presentations
18:30	Dinner

Tuesday, 23 June 2015	
08:30	Registration
Miscellaneous	
Chair:	
09:00	P. Brok, R. Berghof, S. Maertens, M. Hepting: <i>TEAM_Play for Europe</i>
09:20	S. Christie, S. Blakey, P. Le Clercq, S. Matthes, H. Schlager, D. Lee, D. Raper, P. Wiesen, N. Zarzalis, T. Panidis. P. Brok: <i>Research strategies for developing alternative fuels in aviation</i>
09:40	J. Scheelhaase, R. Sausen, K. Dahlmann, M. Jung, H. Keimel, H. Nieße, M. Schäfer, F. Wolters: <i>Limiting aviation's full climate impact by market-based measures - Main results of the research project AviClim</i>

Mitigation of aviation's climate impact	
Chair:	
10:00	V. Grewe: <i>Eco-efficiency in aviation: From design to routing options for climate mitigation (solicited presentation)</i>
10:40	Posters / Coffee
11:00	P. Lobo, T. W. Chan, P. Canteenwalla, C. Ginestra, B. Dally, D. Hagen, P. Whitefield, G. Hemighaus, J. Bauldreay: <i>Assessment of non-volatile PM emissions from a turbojet engine with Synthesized Aromatic Kerosene derived jet fuel blends at simulated altitudes</i>
11:20	F. Linke, V. Grewe, V. Gollnick: <i>The Implications of Intermediate Stop Operations on Aviation Emissions and Climate</i>
11:40	H. Yamashita V. Grewe, P. Jöckel, F. Linke, M. Schäfer, D. Sasaki: <i>Climate impact assessment of routing strategies: Interactive air traffic in a climate model</i>
12:00	C. Frömming, S. Brinkop, V. Grewe, E. Irvine, A. Søvde, S. Matthes: <i>Characteristic weather patterns over the North Atlantic and their effect on air traffic climate impact and route optimization</i>
12:20	S. Matthes, V. Grewe, T. Champougny, C. Frömming, S. Brinkop, E. Irvine, A. Søvde: <i>Climate-optimized trajectories in the North Atlantic and mitigation potential</i>
12:40	Lunch
FAA research and poster session	
Chair: R. Sausen	
14:00	M. Gupta: <i>A Brief Overview of FAA Research on Aviation Emissions and Their Environmental Impacts</i>
14:20	2 min presentations by poster authors: <i>Introduction to posters</i>
15:00	Posters on display (incl. Coffee/tea, selection for Poster Award) <i>Authors in attendance</i>
Impact on air quality and climate	
Chair:	
16:30	V. Matthias, A. Aulinger, J. Bieser, M. Quante: <i>The impact of shipping on air pollution in North Sea coastal areas - situation today and in the future</i>
16:50	S. Arunachalam, S. Boone, J. Bowden, M. Omary: <i>Sensitivity Analysis Approaches for Assessing Air Quality Impacts of Airport Emissions</i>
17:10	M. Righi, J. Hendricks, R. Sausen: <i>The global impact of the transport sector on atmospheric aerosol and climate in the Representative Concentration Pathways</i>
17:30	End of presentations
18:30	Barbeque

Wednesday, 24 June 2015	
08:30	Registration
Impact on air quality and climate	
Chair:	
09:00	G. Pitari, G. Di Genova, N. De Luca, I. Cionni, L. Lim, A. Skowron: <i>REACT4C: Radiative forcing from aircraft emissions of NO_x: role of H₂O and O₃ stratospheric changes</i>
09:20	M. Lund, J. Fuglestedt: <i>Global and regional climate impacts of aviation and on-road transport</i>
09:40	J. Hendricks, M. Righi, K. Dahlmann, K.-D. Gottschaldt, V. Grewe, M. Ponater, R. Sausen, D. Heinrichs, C. Winkler, A. Wolfermann, T. Kampffmeyer, R. Friedrich: <i>Quantifying the climate impact of emissions from land-based transport in Germany</i>
Impact on clouds	
Chair:	
10:00	C. Voigt, U.Schumann, A. Minikin, T. Jurkat, S. Kaufmann, R. Schlage, D. Fütterer, S. Mertes, S. Molleker, M. Klingebiel, R. Weigel, J. Schneider, S. Borrmann, M. Krämer, C. Rolf, M. Schnaiter, E. Järvinen, M. Wirth, S. Groß, H. Ziereis, K. Graf, L. Bugliaro, M. Zöger: <i>Detecting Contrail Cirrus – First results of the HALO mission ML-CIRRUS</i>
10:20	Posters / Coffee
11:00	D. Baumgardner, K. Beswick, M. Gallagher, G. Raga: <i>Cirrus Properties from Commercial Aircraft Measurements and Implications for Flight Operations</i>
11:20	J.-C. Khou, W. Ghedhaïfi, X. Vancassel, F. Garnier: <i>Spatial Simulation of Contrail Formation in the Near-Field of a Commercial Aircraft</i>
11:40	S. Unterstraßer, K. Gierens, I. Sölch: <i>Numerical Modeling of natural cirrus and contrail-cirrus. How different are they?</i>
12:00	R. Paoli, O. Thouron, D. Cariolle: <i>A numerical study of contrail-to-cirrus transition using 3D large-eddy simulations</i>
12:20	Lunch / prepare for excursion
Impact on clouds	
Chair:	
14:00	J. Rosenow, H. Fricke: <i>Angular dependence of individual condensation trails on the extinction of solar radiation</i>
14:20	M. Vazquez, L. Bugliaro: <i>Synergetic study of the evolution of a contrail cluster</i>
Electro mobility	
Chair:	
14:40	U. Wagner: <i>Electro mobility: Technological options and contribution to reduction of emissions (solicited presentation)</i>
15:20	End of presentations
15:30	Departure for excursion

16:00	Visit to Schloss Linderhof
18:20	Departure to Ettal
19:00	Conference Dinner
22:00/ 23:00	Return to hotel

Thursday, 25 June 2015	
08:30	Registration
Impact on clouds	
Chair:	
09:00	P. Minnis, D. Duda, S. Bedka, D. Spangenberg, T. Chee: <i>Radiative Forcing Due to Linear Contrails Detected in 2006 and 2012 Northern Hemisphere MODIS Imagery</i>
09:20	U. Schumann, K. Graf, C. Voigt: <i>Contrail-cirrus predictions compared to observations</i>
09:40	E. Irvine, K. Shine: <i>The effect of climate change on the potential for contrail formation.</i>
10:00	L. Bock, U. Burkhardt, B. Kärcher: <i>Modelling of contrail cirrus: microphysical and optical properties</i>
10:20	S. Unterstraßer: <i>Technical information concerning your proceedings contribution</i>
10:40	Posters / Coffee
11:20	A. Bier, U. Burkhardt, L. Bock: <i>Process-based studies of the life cycle of contrail cirrus in a global climate model</i>
11:40	S. Barrett, S. Eastham, F. Caiazzo: <i>Impact of alternative jet fuels on contrails</i>
12:00	J. Penner, U. Schumann, Y. Chen, C. Zhou, K. Graf: <i>Simulations of dehydration effects from contrails in a global climate model</i>
12:20	Summary, conclusions, awards, ...
13:00	Lunch
	End of conference

POSTERS

A. Clouds and cloud processes	
A.01	D. Cariolle, H. Clark, R. Paoli, O. Thouron, D. Saint Martin, M. Benhamou, A. Schwarzenboeck, D. Hauglustaine, R. Valorso, X. Vancassel: <i>The TC2 (Traînees de Condensation et Climat) project</i>
A.02	H. Clark, O. Thouron, R. Paoli, D. Cariolle: <i>Modelling the chemistry in contrails from the vortex to the diffusion phase using a mesoscale model</i>
A.03	L. Bock, U. Burkhardt: <i>Global modelling of contrail cirrus for future scenarios</i>
A.04	L. Lim, R. Rodríguez De León, D. Lee, O. Søvde: <i>Uncertainties with respect to contrail coverage modelling in REACT4C</i>
A.05	R. Rodríguez De León, L. Lim and D. Lee: <i>Uncertainties with respect to contrail radiative modelling in REACT4C</i>
A.06	J. Strandgren, L. Bugliaro, M. Schmidl, M. Rapp: <i>The life cycle of cirrus clouds from a combination of active and passive satellite sensors</i>
A.07	S. Gruber, B. Vogel, H. Vogel, J. Bechtold: <i>Simulating contrails with COSMO-ART based on real time flight tracks</i>
A.08	C. Voigt, B. Anderson, H. Schlager, T. Jurkat, R. Moore, S. Kaufmann, R. Schlage, M. Lichtenstern, F. Heidelberg: <i>Detection of contrails on biofuel emissions by aviation</i>
B. Emissions	
B.01	K. S. Patel, D. Sahu , B. Blazhev, J. Nicolas, E. Yubero, J. Hoinkis, L. Matini: <i>Transport pollution in India</i>
B.02	S. Ramteke, K. S. Patel, D. Sahu, B. Blazhev, E. Yubero, J. Hoinkis: <i>Contamination assessment of ions in road dust of India</i>
B.03	Moore, Richard, M. Shook, A. Beyersdorf ,C. Corr, S. Herndon, B. Knighton, R. Miake-Lye, L. Thornhill, E. Winstead, Z. Yu, L. Ziemba, B. Anderson: <i>Influence of Jet Fuel Composition on Aircraft Engine Emissions: A Synthesis of Aerosol Emissions Data from the NASA APEX, AAFEX, and ACCESS Missions</i>
B.04	Freeman, Sarah, D. Lee, L. Lim: <i>Examining the role of aviation NOx emissions as a short lived climate forcer</i>
B.05	Eleftheratos, Kostas, I. Kapsomenakis, C. Zerefos: <i>Volcanic and air transport effects on atmospheric composition</i>
B.06	G. Pitari, G. Di Genova, N. De Luca: <i>A modelling study of the impact of land transportation on Arctic black carbon and solar radiation transfer</i>
B.07	S. Christie, P. Lobo, D. Lee, D. Raper, B. Kandelwal, S. Blakey: <i>The impact of biofuel blend ratio on gaseous emissions and smoke from an aircraft APU</i>

C. Impact on climate, metric and mitigation	
C.01	M. Ponater, V. Rieger, S. Dietmüller, R. Sausen: <i>Towards uncovering the origin of efficacy differences for different radiative forcing contributions related to transport emissions</i>
C.02	S. Matthes, K. Gierens: <i>Brief review of the Forum AE workshop on Aviation B transport impact on climate change – role of NOx emissions</i>
C.03	L. Lim, B. Owen, D. Lee: <i>Aviation impacts on climate: Where are we heading?</i>
C.04	V. Rieger, V. Grewe: <i>TransClim: A fast climate-response-model for evaluating new developments in road traffic</i>
C.05	L. Lim, D. Lee, S. Matthes, U. Burkhardt, S. Dietmüller, D. Iachetti, I. Isaksen, B. Owen, G. Pitari, A. Skowron, O. Søvde: <i>REACT4C: Simplified Mitigation Studies</i>
C.06	V. Grewe, L. Bock, U. Burkhardt, K. Gierens, S. Unterstrasser, T. Reichelt, A. Gangoli Rao, A. Bhat, F. Yin, Y. Levy: <i>Assessing the climate impact of a multi-fuel blended wing body: Results from the AHEAD EU-project</i>
C.07	S. Matthes, O. Søvde, L. Lim, S. Dietmueller, A. Skowron, D. Iachetti, G. Pitari: <i>The global impact of weather-dependent climate-optimal trajectories in the North Atlantic</i>
D. Miscellaneous	
E.01	H. Flentje, A. Wagner, J. W. Kaiser, A. Benedetti, S. Remy: <i>Evaluation of the July 2013 MACC simulations of Canadian forest fires with ceilometer profiles</i>
E.02	S. Seum and the VEU Project Team: <i>The DLR-Project Transport and the Environment – Building competency for a sustainable mobility future</i>
E.03	Eyasu Ayalew, Yonas Gebre: <i>A Survey of Occupational Exposure to Inhalable Wood Dust Among Workers in Small- and Medium-Scale Wood-Processing Enterprises in Ethiopia</i>