TAC-2 AGENDA

Sunday, 21 June 2009	
18:00	Registration
20:00	End of Sunday registration time

OPENING CEREMONY

Monday, 22 June 2009	
08:00	Registration
Opening ceremony	
Chair: R. Sausen	
08:45	Ministerialdirigent Hubert Steinkemper, Bundesministerium für Umwelt, Naturschutz und Reaktorsicherheit, Germany *Opening Address*
09:00	Dr. Claus Brüning, European Commission: *Opening Address*
09:15	Dr. Frits Brouwer, Director-General, Koninklijk Nederlands Meteorologisch Instituut, The Netherlands *Opening Adress*
09:25	Prof. Dr. Ulrich Schumann, Deutsches Zentrum für Luft- und Raumfahrt, Germany: *Opening Address*
09:35	Prof. Dr. Robert Sausen: *Introduction to Aachen and Maastricht*
10:00	Poster setup / Coffee

ORAL PRESENTATIONS

Monday, 22 June 2009	
Emissions	
Chair: N. Dotzek	
10:30	R. Kurtenbach, E. Anamaterou, C. Helmis, C. Heyder, M. Hoffmann, C. Jahn, A. Niedojadlo, M. O'Connor, K. Schäfer, G. Sgouros and P. Wiesen: *Airport air quality study in Athens. Gaseous and particle emissions from commercial aircraft at take-off condition*
10:50	B. Anderson and A. Beyersdorf: *An overview of the NASA Alternative Aviation Fuel Experiment (AAFEX)*
11:10	P. Whitefield, D. Hagen, P. Lobo and R. C. Miake-Lye: *Emissions from alternate aviation fuels and their environmental impact*
11:30	K. S. Patel, Y. Nayak, and M. Georg: *Polycyclic aromatic hydrocarbon road dust pollution in India*
11:50	R. C. Miake-Lye, E. C. Wood, M. T. Timko, Z. Yu, W. B. Knighton and S. C. Herndon: *The effects of alternative fuels on the composition of hydrocarbon and particle emissions from aircraft engines*
12:10	H. Hemmer, T. Otten, M. Plohr and A. Döpelheuer *Emission characteristics of future ultrahigh-bypass-ratio aero engines*
Impact on atmospheric composition I	
Chair: J. Penner.	
12:30	O. Dessens, A. Anger, T. Barker, H. Rogers, R. Jones and J. Pyle (solicited): *Effect of climate control on air pollution: Methodology and preliminary results from one-way coupling of an energy-environment-economy model and atmospheric chemistry model in decarbonising international transport*
13:10	Lunch
Chair: J. Penner	
14:40	T. Halenka, P. Huszar and M. Belda: *On the resolution sensitivity of transportation emission impacts – Application in effective emission concept for ships*
15:00	J. Moldanová and L. Persson: *Importance of subscale processes in modelling emissions from shipping*
15:20	G. Gadzhev, K. Ganev, D. Syrakov, G. Jordanov, M. Prodanova, N. Miloshev and A. Todorova: *Transport and transformation of air pollution from road and ship transport – Joint analysis of regional-scale impacts and interactions*
15:40	V. Matthias, I. Bewersdorff, A. Aulinger and M. Quante: *Enhanced aerosol formation due to ship emissions in the North Sea regions*
16:00	V. Eyring, I. Isaksen, T. Berntsen, W. Collins, J. Corbett, O. Endresen, R. Grainger, J. Moldanová, H. Schlager and D. Stevenson: *Transport impacts on atmosphere and climate: Shipping*
16:20	Posters / Coffee
Chair: F. Heinen	
16:50	S. Dalsøren, M. S. Eide, O. Endresen, G. Gravir, A. Mjelde and I. S. A. Isaksen: *Update on emissions and environmental impacts from the international fleet of ships*
17:10	J. Moldanová, E. Fridell, O. Popovicheva, A. Faccinetto and C. Focsa: *Characterisation of particulate matter and gaseous emissions from a large ship diesel engine*
17:30	K. S. Patel and S. Gupta:

	Environment impact of the extreme particulate in aerosol and their impact
17:50	M. Prather: *Uncertainties in calculating aviation's impact on global atmospheric chemistry*
18:10	End of presentations
19:00	Icebreaker (Krönungssaal, Rathaus Aachen)

Tuesday, 23 June 2009	
08:30	Registration
Clouds and cloud effects	
Chair: C. Brüning	
09:00	J. Penner and M. Wang: *Effects of aircraft aerosols on cirrus clouds, tropopause temperatures, and water transport to the stratosphere*
09:20	U. Burkhardt: *Climate impact of contrail cirrus*
09:40	K. Eleftheratos, C. Zerefos and P. Minnis: *Update of man-made and natural trends in cirrus clouds*
10:00	M. Vazquez-Navarro, H. Mannstein and B. Mayer: *Lifecycle of contrails*
10:20	O. Popovicheva and P. DeMott: *Ice nucleation on soot in contrails and cirrus*
10:40	Posters / Coffee
Chair: K. Gierens	
11:10	P. Minnis, R. Palikonda, D. Duda and P. Heck: (solicited) *Microphysical properties of contrails derived from satellite measurements*
11:40	C. Voigt, T. Jurkat, U. Schumann, D. Schäuble, H. Schlager, A. Petzold, D. Delhaye, A. Dörnbrack, F. Arnold, M. Krämer, J.-F. Gayet, J. Schmale, J. Schneider, S. Borrmann, H. Eichler and the CONCERT team: *Detection of contrails from various aircraft – Overview of the CONCERT (CONtrail and Cirrus ExpeRimenT) campaign*
12:00	V. Dedesh, R. Tenishev, S. Kiose, V. Popov, E. Pavlova, I. Voronich, M. LAvrov, V. Mogilnikov, A. Zamyatin, R. Kagarmanov, A. Lanshin, A. Evstigneev, A. Nevzorov and O. Popovicheva: *Quantitative forecast model of the formation conditions of steady contrails and prospects of its appliance*
12:20	U. Schumann: *A contrail cirrus prediction tool*
12:40	A. M. Sayer and R. G. Grainger: *A global ship track climatology from ATSR-2: June 1995 – January 2001*
13:00	Lunch
POSTER session	
Chair: N. Dotzek	
14:30	Posters on display *Authors in attendance*
16:00	Posters / Coffee
Impact on climate I	
Chair: P. Hammingh	
16:30	B. Kärcher, U. Burkhardt, P. Minnis and S. Unterstrasser: *Impact of microphysical variability on contrail cirrus optical depth and radiative forcing*
16:50	N. Lamquin, C. J. Stubenrauch, S. Cros and H. Smit: *Risk assessment of contrail impact on climate using AIRS, MOZAIC and Aero2K databases*
17:10	Y. Balkanski, G. Myhre, G. Rädel and K. Shine: *Direct radiative effect of aerosols emitted by transport: From road, shipping and aviation*
17:30	H. Preston, L. L. Lim, D. S. Lee and P. Hooper:

	Transport emissions and climate stabilization
17:50	R. B. Skeie, J. S. Fuglestvedt, T. Berntsen, M. T. Lund, G. Myhre and K. Rypdal: *Global temperature change from the transport sectors: Historical development and future scenarios*
18:10	M. Ponater, N. Stuber, K. P. Shine, E. Highwood, G. Rädel and S. Dietmüller: *Indications of distinctive efficacies for transport-related ozone perturbations*
18:30	End of presentations

Wednesday, 24 June 2009	
08:00	Registration
Impact on atmospheric composition II	
Chair: T. Berntsen	
08:30	D. Cariolle, R. Paoli, D. Hauglustaine, D. Caro, B. Cuenot and R. Paugam: *Introduction of plume chemistry into large-scale atmospheric models*
08:50	N. Sitnikov, H. Schlager, V. Sitnikova, F. Ravegnani, A. Ulanovskiy, A. Lukjanov, A. Roiger, M. Scheibe, M. Lichtenstern and P. Stock: *Investigation of NO2 pollutions on board of research aircraft (some results of QUANTIFY and POLARCAT field campaigns)*
09:10	R. Paoli, R. Paugam, L. Nybelen, C. Sarrat and D. Cariolle: *High-resolution numerical simulations of physico-chemical processes in aircraft wakes*
09:30	M. Uphoff and K. H. Schluenzen: *Sensitivity of model results depending on parameterisation of aircraft-induced mixing in a mesoscale model*
09:50	S. C. Herndon, E. C. Wood, M. T. Timko, Z. Yu, W. B. Knighton and R. C. Miake-Lye: *The evolution of aircraft engine emissions in the atmosphere*
10:10	Posters / Coffee
10:40	J. Williams, G.-J. van Zadelhoff and P. van Velthoven: *The effect of ice particles on the tropospheric ozone budget via heterogeneous conversion processes*
Impact on climate II	
Chair: U. Schumann	
11:00	R. Kaur and C. Dey: *Short-haul flights and climate change: What are the effects and potential alternatives?*
11:20	M. Z. Jacobson, J. T. Wilkerson, A. D. Naiman and S. K. Lele: *Quantifying the effects of aircraft on climate with a model that treats the subgrid evolution of contrails from all commercial flights worldwide*
11:40	End of presentations
12:00	Bus transport to Maastricht
13:00	Lunch (room Napoleon)
Chair: B. Bregman	
14:00	Staatssecretaris Tineke Huizinga, Ministerie van Verkeer en Waterstaat, NL *Welcome address*
14:15	Dr. Claus Brüning, EC *Atmospheric research in the 7th Framework Programme of the EU*
14:25	Hein Haak, Climate and Seismology, Koninklijk Nederlands Meteorologisch Instituut, The Netherlands *Welcome address*
14:35	Prof. Robert Sausen, Deutsches Zentrum für Luft- und Raumfahrt: *The impact of transport on climate*
15:00	Henk van Hoorn, Ministerie van Verkeer en Waterstaat, NL: *Overview National Transportation Policy of The Netherlands*
15:15	Sibrand Hassing, Ministerie van Verkeer en Waterstaat, NL: *Ship emissions and the Road to Copenhagen*
15:30	Coffee
Chair: R. Sausen	
16:00	Panel Discussion

16:45	Press conference / Buses to Valkenburg
17:30	Last bus to Valkenburg
17:30	Guided tour Fluweelengrot / Ruins
18:45	Buses to Berg en Terblijt
19:00	Conference Dinner
22:30	Buses to Aachen

Thursday, 25 June 2009	
08:30	Registration
Impact on climate III	
Chair: B. Bregman	
09:00	D. S. Lee, D. W. Fahey, P. M. Forster, P. J. Newton, R. C. N. Wit, L. L. Lim, B. Owen and R. Sausen: *Aviation and global climate change in the 21st century*
09:20	L. Wilcox, B. Hoskins and K. Shine: *Water vapour emissions from aircraft*
09:40	C. Fichter, M. Ponater, V. Grewe and R. Sausen: *Air traffic climate effects in dependency of emission location and altitude*
10:00	L. Lim, H. Preston, D. S. Lee: *Exploring the uncertainties involved in calculating temperature response from the transport sector*
10:20	S. Unterstrasser and K. Gierens: *Numerical simulations of contrail-to-cirrus transition – The impact of radiation*
10:40	Posters / Coffee
11:10	N. Dotzek: *Technical information concerning your proceedings contribution*
Metrics and mitigation	
Chair: J. Moldanová	
11:20	J. Fuglestvedt, K. P. Shine, J. Cook, D. S. Lee, A. Stenke, R. Skeie, G. J. M. Velders and I. A. Waitz: (solicited) *Comparing climate impacts of transportation*
12:00	R. Egelhofer, D. Schmitt and K. Shine: *Aircraft design driven by climate change*
12:20	P. Hammingh: *Effects of biofuels on emissions of air pollutants*
12:40	U. Kugler, J. Theloke, P. Builtjes, R. Stern, W. Jörß, R. Köble, B. Thiruchittampalam, T. Geftler, M. Uzbasich, R. Friedrich, U. Dämmgen and J. Appelhans: *Abatement strategies to reduce air pollution from transport in Germany*
13:00	Lunch
Chair: R. Miake-Lye	
14:30	T. Berntsen, J. Fuglestvedt and K. Rypdal: *Climate effects of passenger cars: Gasoline versus diesel*
14:50	H. Mannstein, K. Gierens, K. Graf, A. Waibel, S. Meilinger, A. Seifert and C. Köhler: *Smart aircraft routing – a possibility for mitigation?*
15:10	S. Matthes: *ECATS - Mission of Association for an environmental compatible air transport system*
15:20	M. Gupta: *Aviation Climate Change Research Initiative (ACCRI):* *The Next Steps*
Closing Session	
Chair: R. Sausen	
15:30	Summary, conclusions, awards, ...
16:00	Coffee
16:30	End of meeting

POSTERS

A. Emissions	
A.01	J. Borken-Kleefeld, H. Steller, G. de Ceuster, F. Vanhove, M. Eide, O. Endresen, H. Behrens, D. Lee, B. Owen, T. Meretei, K. Rypdal, R. Skeie, J. van Aardenne, G. Erhardt and R. Sausen: *QUANTIFY transport emission scenarios up to 2100*
A.02	J. Moldanová, E. Fridell, O. Popovicheva, A. Faccinetto and C. Focsa: *Characterisation of particulate matter and gaseous emissions from a large ship diesel engine*
A.03	A. Okhapkin and A. Shustov: *Simulation and forecasting of the civil aircraft pollutants above the territory of Russia*
A.04	A. Paxian, V. Eyring, W. Beer, R. Sausen and C. Wright: *Bottom-up emission inventory for international shipping*
A.05	V. Tishkova, B. Demirjian, D. Ferry, O. Popovicheva, N. Persiantseva, E. Kireeva, N. Shonija, N. Zubareva, J. Moldanova and E. Fridell: *Ship exhaust characterization: Microstructure, elemental composition, surface chemistry*
B. Impact on atmospheric composition	
B.01	A. Akachat: *Atmospheric pollution and particulate matter concentration at petrol station in semi-urban site*
B.02	B. Ambade and K. S. Patel: *Chemical composition of rainwater in Raipur*
B.03	A. J. Badyda: *The multifarious influence of vehicular traffic on the municipal environment*
B.04	K. Dahlmann, V. Grewe, M. Ponater and S. Matthes: *Trends in ozone concentration caused by emissions from fossil fuel combustion and natural sources*
B.05	O. Dessens, P. Hoor, M. Gauss, I. S. A. Isaksen, B. Koffi, M. Prather, Q. Tang, P. van Velthoven and J. A. Pyle: *Transport modes impact on atmospheric chemistry: 2000 to 2100 SRES A1 scenario*
B.06	N. Dotzek, S. Matthes and R. Sausen: *SPIDER model simulations of aircraft plume dilution*
B.07	K. Gottschaldt, C. Voigt and B. Kärcher: *ECHAM5/Messy simulations with the HO2 + NO → HNO3 reaction*
B.08	J. Hurley and D. S. Lee: *Impact of aviation emissions from multi-year MOZART simulations*
B.09	V. K. Jena and S. Gupta: *Assessment of chemical composition of atmosphere and its impact*
B.10	T. Jurkat, C. Voigt, F. Arnold, H. Schlager, M. Lichtenstern and H. Aufmhoff: *Sulfuric acid formation in jet aircraft exhaust - In-flight ion trap CIMS investigations of different aircraft*
B.11	M. Köhler, G. Rädel, K. P. Shine, H. L. Rogers and J. A. Pyle: *Regional growth in aircraft NOx emissions and related atmospheric impacts*
B.12	R. C. Pike and J. A. Pyle: *Air-quality impacts of large-scale biofuel use: What can a global model tell us about our future decisions?*
B.13	C. Schnadt Poberaj, R. Bintanja, B. Koffi, O. Dessens, S. Dalsoren, M. Gauss, V. Grewe, P. Hoor, I. Isaksen, D. Olivié, J. Staehelin and P. Van Velthoven: *QUANTIFY Activity 3: Model evaluation of global chemistry models*
C. Clouds and cloud effects	

C.01	S. L. Baughcum, M. Y. Danilin, L. M. Mioshevich and A. J. Heymsfield: *Properties of ice-supersaturated regions based on radiosonde analysis*
C.02	S. Dietmüller, M. Ponater, R. Sausen and S. Pechtl: *Some evidence against a significant contrail impact on diurnal temperature range*
C.03	A. Ferrone, P. Marbaix and J.-P. van Ypersele: *Simulation of aircraft-induced cloudiness in the regional climate model CCLM*
C.04	K. Graf, B. Mayer, H. Mannstein and U. Schumann: *Aviation fingerprint in diurnal cycle of cirrus over the North Atlantic*
C.05	E. Kireeva, O. Popovicheva, N. Persinatseva and N. Shonija: *Aviation and ship soot as freezing nuclei of water/sulphate cloud droplets*
C.06	A. D. Naiman, F. Ham, S. K. Lele, J. T. Wilkerson and M. Z. Jacobson: *Large-eddy simulation of persistent contrails*
C.07	G. Rädel, K. Shine and R. Forbes: *Predicting persistent contrails using the ECMWF integrated forecast system*
C.08	D. Schäuble, C. Voigt, B. Kärcher, P. Stock, H. Schlager, M. Krämer, C. Schiller, R. Bauer, N. Spelten, M. de Reus, M. Szakall, S. Borrmann, U. Weers and T. Peter: *Airborne measurements of the nitric acid partitioning in persistent contrails*
C.09	S. Unterstrasser, I. Sölch and K. Gierens: *Numerical models for contrail and contrail cirrus simulation*
C.10	G. M. Whelan, F. Cawkwell, H. Mannstein and P.Minnis: *The use of meteorological data to improve automated contrail detection in satellite imagery over Ireland*
C.11	A. Zamyatin, V. Dedesh, A. Zhelannikov and R. Kagarmanov: *Peculiarities of airplane vortex wakes and condensation trails interaction and their mathematical modelling*
D. Impact on climate	
D.01	A. Abdellatif: *Sensitivity of climate models*
D.02	H. H. Asadov and N. M. Suleymanov: *New formulation of atmospheric turbidity factor given by Linke*
D.03	T. Berntsen and J. Fuglestvedt: *Global temperature responses to current emissions from the transport sectors*
D.04	V. Grewe, M. Plohr, G. Cerino, M. Di Muzio, Y. Deremaux, M. Galerneau, P. de Saint Martin, T. Chaika, A. Hasselrot, U. Tengzelius and V. Korovkin: *Small supersonic transport aircraft (S4TA) – Is the impact upon the atmosphere acceptable? Results from the HISAC project*
D.05	J. Hilaire and D. S. Lee: *Quantifying the impacts of shipping NOx emissions on tropospheric chemistry and climate*
D.06	D. Olivié, D. Cariolle, H. Teyssèdre, D. Saint-Martin and F. Karcher: *Climate impact of transport sectors modelled with an atmosphere-ocean general circulation model*
D.07	D. Peters and R. G. Grainger: *Aerosol optical properties*
D.08	G. Pitari and D. Iachetti: *Radiative forcing from particle emissions by future supersonic aircraft*
D.09	M. Ponater: *Distinctive efficacies for the components contributing to total aviation climate impact*
D.10	R. Rodriguez de Leon and D. S. Lee: *Uncertainties in the radiative properties of cirrus in climate models*
D.11	A. Skowron, D. S. Lee, J. Hurley and R. R. De Leon: *How realistic is a negative NOx GWP?*

E. Metrics and mitigation	
E.01	A. Agha and M. S. Tamannai: *Fuel cells: A sustainable approach meeting future energy demands*
E.02	J. Borken-Kleefeld, T. Berntsen and J. Fuglestvedt: *Comparing the climate impact of passenger and freight transport modes*
E.03	O. Deuber: *A matter of choice! Role of metrics in climate policies in aviation*
E.04	N. Dickson, K. Gierens, H. Rogers and R. Jones: *Vertical spatial scales of ice supersaturation*
E.05	C. Fichter, M. Ponater, D. S. Lee, V.Grewe, K. Obermaier and R. Sausen *Effects of global mean flight altitude changes*
E.06	S. Matthes and K. Gierens: *ECATS - Towards an Environmental Compatible Air Transport System - Research contributions*
E.07	S. Matthes, V. Grewe and R. Sausen *REACT4C : A novel concept for environmentally friendly flight routing*
E.08	P. Viaene, K. Van de Vel, W. Lefebvre, S. Janssen, F. Blommaert, G. Cosemans, K. De Ridder, I. De Vlieger, F. Fierens, C. Mensink, L. Schrooten, J. Vankerkom and T. Van Mierlo: *Impact on air quality of a 90 km/h speed limit during PM10 episodes*