TAC-3 AGENDA

Schedule of presentations
List of posters

TAC-3 AGENDA

Sunday, 24 June 2012	
18:00	Registration
20:00	End of Sunday registration time

ORAL PRESENTATIONS

Monday, 25 June 2012	
08:00	Registration
Opening ceremony	
Chair: R. Sausen	
08:40	Ministerialrat D. Schneyer, Bayrisches Staatsministerium für Wirtschaft, Infrastruktur, Verkehr und Technologie: *Opening Address on Behalf of Staatsminister Martin Zeil*
09:00	Prof. Dr.-Ing. U. Wagner, Member of the Executive Board of DLR: *Opening Address*
09:20	Prof. Dr. R. Sausen: *Introduction to Chiemsee and Technical Remarks*
Emissions I	
Chair: A. Petzold	
09:40	B. Anderson, D.L. Bulzan, E. Corporan, M. DeWitt, D. Hagen, S.C. Herndon, R. Howard, C. Klingshirn, W.B. Knighton, X. Li-Jones, J.S. Kinsey, D.S. Liscinsky, P. Lobo, R.C. Miake-Lye, R. Vander Wal, C. Wey, and P. Whitefield (solicited): *An Overview of the second NASA Alternative Aviation-Fuel Experiment (AAFEX-II)*
10:20	D. Delhaye, D. Ferry, O. Penanhoat,X. Vancassel, F.-X. Ouf, J. Yon, P. Desgroux, C. Focsa, C. Guin, D. Lottin, N. Harivel, B. Perez, and P. Novelli: *MERMOSE project: Investigation on particulate matter emitted from aircraft engines and contrails formation*
10:40	Coffee
11:20	I. Ježek and G. Mocnik: *Measuring car emission factors in real driving conditions*
11:40	S. Platt, I. El Haddad, A. Zardini, M. Clairotte, C. Astorga, R. Wolf, J. Slowik, B. Temime, N. Marchand, G. Mocnik, L. Drinovek, I. Ježec, U. Baltensperger, and A. Prévôt: *Primary and Secondary Organic Aerosol from Road Vehicles*
Emissions II	
Chair: V. Eyring	
12:00	J. Moldanova, M. Haeger-Eugensson, E. Fridell and T. Lin: *Primary and secondary PM in ship emissions*
12:20	J.-M. Diesch, F. Drewnick, T. Klimach, and S. Borrmann: *Particle and trace gas properties from ship exhaust plumes: Emission characteristics and impact on air quality*

12:40	P. Whitefield, P. Lobo, D. Hagen, Z. Yu, R.C. Miake-Lye, and T. Rindlisbacher: *Experiments to Define and Validate an Aerospace Recommended Practice for measuring Non-volatile PM from Gas Turbine Engines.*
13:00	Lunch
Aviation, cars and a boat trip	
Chair: R. Sausen	
14:30	U. Schumann, H. Schlager, U. Burkhardt, K. Gierens, V. Grewe, J. Hendricks, B. Kärcher, H. Mannstein, R. Meerkötter, C. Voigt, and H. Ziereis: *Climate-compatible Air Transport System – Results of the DLR CATS project towards reduced uncertainties*
14:50	A. Koch, U. Schumann, K. Dahlmann, V. Grewe, V. Gollnick, F. Linke, M. Kunde, and T. Otten: *Climate-compatible Air Transport System – Results of the DLR CATS project towards the climate impact mitigation potential given by actual and future long-range aircraft*
15:10	J. Borken-Kleefeld, J. Fuglestvedt, and T. Berntsen: *Taking the car, coach, train or plane? Comparing climate impacts from passenger trips*
15:30	Dipl.-Verw.-Wirt J. Seifert, Erster Bürgermeister der Marktgemeinde Prien am Chiemsee: *Welcome Address*
15:50	Coffee / get prepared for boat trip
16:30	Departure of the boat
	Visit of Castle Herrenchiemsee
19:45	Arrival at Hotel
20:15	Dinner

Tuesday, 26 June 2012	
08:30	Registration
Emissions III	
Chair: R. Miake-Lye	
09:00	C. Schieberle, U. Kugler, S. Orlikova, M. Uzbasich, J. Theloke and R. Friedrich: *A new European inventory of transport related emissions for the years 2005, 2020 and 2030*
09:20	M. Traut, A. Bows, and R. Wood: *Quantifying Shipping Emissions*
09:40	M. de Ruyter de Wildt, H. Eskes, F. Boersma, and P. van Velthoven: *Remote sensing of ship-emitted NO_2: correlation with economic growth and recession*
Impact on atmospheric composition	
Chair: P. Whitefield	
10:00	A. Petzold, A. Volz-Thomas, J.P. Cammas, and C.A.M. Brenninkmeijer: *IAGOS - In-service Aircraft for a Global Observing System*
10:20	E. G. Olumayede, J. M. Okuo, and C.C. Ojiodu: *Distribution and Temporal Behaviors of Total Volatile Organic Compounds over the Urban Atmosphere of Southwestern Nigeria*
10:40	Poster setup / Coffee
11:20	S. Barrett, C. Gilmore, J. Koo, and Q. Wang: *Adjoint methods applied to the atmospheric impacts of aviation*
11:40	K. Gottschaldt, C. Voigt, P. Jöckel, M. Righi, and S. Dietmüller: *Global sensitivity of aviation NOx effects to the proposed HO2 + NO -> HNO3 reaction*
12:00	M. Timko, E. Fortner, J. Franklin, Z. Zhu, W.B. Knighton, T. Onasch, R. Miake-Lye and S. Herndon: *Characterizing the Particulate Evolution of Aircraft Exhaust Plumes using Atmospheric Measurements*
12:20	J.E. Williams, O. Hodnebrog, P.F.J. van Velthoven, M. Gauss, V. Grewe, T.K. Berntsen, I.S.A. Isaksen, M.J. Prather,Q. Tang, O. Dessens, D. Olivie and F. Stodal: *The influence of non-mitigated road transport emissions on regional air quality: analysis of the QUANTIFY high-road study*
12:40	Lunch

Clouds and cloud processes I	
Chair: S. Unterstraßer	
14:20	H. Preston and D. Lee: *The inclusion of international aviation within the European Union's Emissions Trading Scheme*
14:40	D. Baumgardner, K. Beswick, M. Gallagher, and R. Newton: *Cloud Microphysical Properties Measured from Commercial Aircraft*
15:00	C. Voigt, K. Graf, A. Schwarzenboeck, U. Schumann, H. Schlager, P. Jeßberger, T. Jurkat, A. Petzold, J.-F. Gayet, M. Krämer, T. Thornberry, D. Fahey, S. Kaufmann, D. Schäuble, A. Minikin, B. Weinzierl, M. Klingebiel, S. Molleker, W. Frey, S. Borrmann, M. Scheibe, F. Dahlkötter, A. Schäfler, and A. Dörnbrack: *Detection of microphysical and optical properties of young contrails and contrail cirrus – selected results from the CONCERT (CONtrail and Cirrus ExpeRimenT) aircraft campaigns 2008 and 2011*
POSTER session	
15:20	Posters on display *Authors in attendance*
16:20	Posters / Coffee
Clouds and cloud processes II	
Chair: A. Heymsfield	
16:50	P. Jeßberger, C. Voigt, A. Petzold, I. Sölch, U. Schumann, J.-F. Gayet, T. Jurkat, and D. Schäuble: *Has the aircraft type an impact on the microphysical parameters of young contrails?*
17:10	J. Picot, R. Paoli, O. Thouron, and D. Cariolle: *Effects of atmospheric turbulence on the structure of a contrail in the vortex phase*
17:30	S. Unterstraßer and I. Sölch: *Numerical Modeling of contrail-cluster formation*
17:50	K. Gierens and S. Unterstraßer: *Formation conditions and simulations of contrails from hybrid engines of a future Blended Wing Body aircraft*
18:10	End of presentations
19:00	Dinner

Wednesday, 27 June 2012	
08:30	Registration
Clouds and cloud processes III	
Chair: M. Krämer	
09:00	D.P. Duda, S.T. Bedka, R.C. Boeke, T.L. Chee, K. Khlopenkov, R. Palikonda, D. Spangenburg, and P. Minnis: *Contrail Detection in the Northern Hemisphere: Methods and Results*
09:20	P. Minnis, D.P. Duda, T. L. Chee, S.K. Bedka, D.A. Spangenberg, R. Palikonda, and K.T. Bedka: *Contrails versus Contrail Cirrus From a Satellite Perspective*
09:40	K. Graf, U. Schumann, H. Mannstein, and B. Mayer: *On the diurnal cycle of cirrus coverage in the North Atlantic flight corridor*
10:00	U. Schumann and K. Graf: *Radiative forcing by contrail cirrus – a combined model and observation analysis method*
10:20	S. Bedka, P. Minnis, D. Duda, and R. Palikonda : *Seasonal and diurnal variability in linear contrail microphysical properties, as derived using MODIS infrared observations*
10:40	Posters / Coffee
Clouds and cloud processes IV	
Chair: R. Paoli	
11:20	K. Eleftheratos, C. Zerefos, and P. Minnis: *Changes in aircraft induced cloudiness during the past three decades*
11:40	J. Hendricks and B. Kärcher (solicited): *Do aircraft black carbon emissions affect cirrus clouds on the global scale?*
12:20	A. Gettelman and J. Chen: *The Climate Effect of Anthropogenic and Aviation Aerosol Emissions*
12:40	Lunch
Clouds and cloud processes V	
Chair: P. Minnis	
14:20	Chen, C.-C., A. Gettelman, and C. Craig: *Simulations of contrail and contrail cirrus radiative forcing*
14:40	U. Burkhardt: *Contrail cirrus radiative forcing for increasing air traffic*
POSTER session	
15:00	Posters on display *Authors in attendance*
16:00	Posters / Coffee

Impact on climate	
Chair: P. van Velthoven	
16:30	K. Lundgren, B. Vogel, H. Vogel, and C. Knote: *Regional Scale Impact of Traffic Emission on Radiation over Europe*
16:50	D. Olivié, D. Cariolle, H. Teyssèdre, D. Salas, A. Voldoire, H. Clark, D. Saint-Martin, M. Michou, F. Karcher, Y. Balkanski, M. Gauss, D. Olivier, B. Koffi, and R. Sausen: *Modeling the climate impact of road transport, maritime shipping and aviation over the period 1860-2100 with an AOGCM*
17:10	H. Teyssèdre, P. Huszar, D. Cariolle, A. Voldoire, S. Sénési, M. Michou, D. Saint-Martin, D. Salas Y Melia, P. Ricaud, and F. Karcher: *Impact of aviation on atmospheric chemistry and climate*
17:30	M. Lund, V. Eyring, J. Fuglestvedt, J. Hendricks, A. Lauer, D.S. Lee, and M. Righi: *Global mean temperature change from shipping towards 2050: Improved representation of the indirect aerosol effect in simple climate models*
17:50	End of presentations
18:45	Conference Dinner/ Boat trip on Lake Chiemsee
23:00	End of Conference Dinner

Thursday, 28 June 2012	
08:30	Registration
Metrics and mitigation I	
Chair: U. Schumann	
09:00	M. Eide, S. Dalsøren, Ø. Endresen, B. Samset, G. Myhre, J. Fuglestvedt, and T. Berntsen: *Reducing CO_2 from shipping – Do non-CO_2 effects matter?*
09:20	B. Aamaas, J. Borken-Kleefeld and G.P. Peters: *The climate impact of travel behavior: a German case study*
09:40	S. Seidel, V. Ehrler, and A. Lischke: *Comparability of calculated emissions in freight transport*
10:00	O. Deuber, G. Luderer and O. Edenhofer: *Economic evaluation of climate metrics: A conceptual framework*
10:20	O. A. Søvde, S. Matthes, A. Skowron, L. Lim, D. Iachetti, I. S. A. Isaksen, D. Lee, and G. Pitari: *An updated study of aircraft emission mitigation possibilities*
10:40	Posters / Coffee / Poster removal
11:10	*Technical information concerning your proceedings contribution*
Metrics and mitigation II	
Chair: D. Fahey	
11:20	P. Brok and J. Middel: *Aviation and Emissions Scenario and Policy Analysis Capabilities of AERO-MS*
11:40	R. Singh Chouhan: *Urban Forest and Its Significance in Mitigating Vehicular Pollution*
12:00	S. Meilinger: *Operational Flight Planning using Lido/Flight*
12:20	Matthes, S., M. Duffau, J. Fuglestvedt, V. Grewe, V. P. Hullah, D. Lee, V. Mollwitz, K. Shine, R. Sausen: *REACT4C - Weather-dependent climate-optimized flight trajectories*
12:40	Lunch
14:20	E. Irvine, K. Shine, and B. Hoskins: *The dependence of contrail formation on the weather pattern and altitude in the north Atlantic*
14:40	C. Frömming, V. Grewe, S. Brinkop, S. Dietmüller, J. Fuglestvedt, H. Garny, P. Jöckel, M. Ponater, A. Sovde, E. Tsati, and S. Matthes: *Calculation of climate cost functions for weather dependent, climate optimized flight planning*
15:00	H. Mannstein and U. Schumann: *Smart aircraft routing*
Closing Session	
Chair: R. Sausen	
15:20	Summary, conclusions, awards, ...
16:00	Poster removal / Coffee / Departure of Airport Bus at 4pm
16:30	End of meeting

POSTERS

A. Clouds and cloud processes	
A.01	L. Bock, U. Burkhardt, and B. Kärcher: *Microphysical and optical properties of contrail cirrus in a global climate model*
A.02	L. Forster, C. Emde, S. Unterstrasser, and B. Mayer: *Effects of three-dimensional photon transport on the radiative forcing of realistic contrails*
A.03	D. Iachetti and G. Pitari: *Study of the impact of altered flight trajectories on soot-cirrus*
A.04	S. Kaufmann, C. Voigt, D. Schäuble, A. Schwarzenboeck, H. Schlager, M. Zöger, T. Thornberry, and D. Fahey: *High resolution measurements of relative humidity in young contrails with the Atmospheric Ionization Mass Spectrometer*
A.05	B. Kärcher, U. Burkhardt, M. Ponater, C. Frömming, P. Minnis, and R. Palikonda : *On the effects of optical depth variability on contrail radiative forcing*
A.06	M. Lainer and S. Unterstrasser : *Numerical simulations of persisting contrails with Lagrangian microphysics*
A.07	L. Lim, J. Carter, D. Lee, B. Owen, and R. Rodríguez De León : *Radiative forcing from present-day and future contrails coverage*
A.08	M. Righi, J. Hendricks, and R. Sausen: *Impact of transportation sector on global aerosol for present-day and future scenarios*
A.09	D. Spangenberg, S. Bedka, D. Duda, R. Palikonda, F. Rose, and P. Minnis: *Contrail Cloud Radiative Forcing over the Northern Hemisphere from Terra and Aqua MODIS Data*
A.10	O. Thouron and R. Paoli: *Large-eddy simulations of kilometer-scale atmospheric turbulence*
A.11	M. Vazquez-Navarro, H. Mannstein, and S. Kox : *Lifetime and physical properties of contrails and contrail cirrus*
A.12	G.M. Whelan, F. Cawkwell, H. Mannstein, and P. Minnis: A 10yr Irish Observational AVHRR and Radiosonde Contrail Climatology
A.13	H.-W. Wong, R. Miake-Lye, R. Moore, S. Crumeyrolle, A. Beyersdorf, L. Ziemba, E. Winstead, B. Anderson, C. Heath, R. Ross, K. Tacina, and D. Bulzan: *Laboratory and Modeling Studies on the Effects of Emissions Performance and Ambient Conditions on the Properties of Contrail Ice Particles in the Jet Regime*
B. Emissions	
B.01	V. Archilla, J. Rodriguez Maroto, M. Pujadas, A. González, E. Rojas, A. Entero, J.M. Fernázndez-Mainez, A. Jimenez, D. Sanz, D. Mercader, and J.C. Bezares *Setting up a turbojet test cell as a platform for environmental impact assessment*
B.02	J. P. Franklin, P. Lobo, P. Whitefield, R. Hoffelt, S. Herndon, W.B. Knighton, E. Fortner, and R. Miake-Lye: *The other emissions from aircraft at a major US airport: auxiliary power unit, tire abrasion, braking*
B.03	D. Heinrichs, V. Ehrler, M. Mehlin, J. Hendricks, M. Righi, R. Sausen, K. Lundgren, B. Vogel, and H. Vogel: *Transport Emission Scenarios and Effects on Regional and Global Air Quality and Climate: The Project ‚Transport and the Environment'*
B.04	W.B. Knighton, S. Herndon, E. Wood, R. Miake-Lye, M. Timko, Z. Zhu, J. Franklin, A. Beyersdorf, E. Winstead, B.Anderson, C. Wey, and D. Bulzan: *Near-idle organic gas emissions scaling method for characterizing aircraft engine exhaust emissions: Assessment of the influence of fuel flow, ambient temperature and alternative fuels*

B.05	R. Kurtenbach, P. Wiesen, and Y. Elshorbany: *Adaptation for Sustainable fuel*
B.06	D. Lottin, D. Ferry, J. Yon, F.X. Ouf, and D. Delhaye: *Transmission Electron Tomography : from 2D to 3D microphysical properties of aerosols. Application to aircraft soot emissions*
B.07	S. J. Moon , W. W. Yoon, B. B. Jin, and J. C. Yoo *A Study on University Greenhouse gas Inventory Guideline*
B.08	G. Pitari, D. Iachetti, and N. De Luca: *Perturbations of sulphate and black carbon aerosols due to aviation emissions and impact on ozone photochemistry*
B.09	M. Yahyaoui, E. Joubert, J. Steinwandel, P. Chavrier, and I. Lombaert-Valot: *The Chemical Reactor Network approach for the emission prediction at the exhaust of aircraft gas turbine combustor*
B.10	F. Yin, A. G. Rao, and J. P. van Buijtenen: *Performance Characteristic of a Multi-fuels Hybrid Engine*
B.11	Z. Yu, H.-W. Wang, J. Peck, S. C. Herndon, R. Miake-Lye, M. Jun, I. A. Waitz, D. S. Liscinsky, A. C. Jennings, B.S. True, M. B. Colket, L. D. Ziemba, E. L.Winstead, and B. E. Anderson: *Quantifying the Composition of Volatile Particulate Matter Emissions from Aircraft Engines*
C. Impact on climate	
C.01	S. Matthes, P. Jöckel, A. Sovde, A. Skowron, B. Owen, D. Lee, D. Iachetti, and G. Pitari: *Updated assessment of aviation impact on ozone formation and climate impact - REACT4C multi-model estimate*
C.02	M. Ponater and C. Frömming: *Performance of two GCM borne radiation schemes in calculating contrail radiative forcing*
D. Impact on atmospheric composition	
D.01	A. Barseghyan and A. Amiryan: *Novel Method of Solving Differential Equations for Mathematical Modeling Dynamic Processes in Atmosphere and Climate*
D.02	A. Barseghyan: *Program package for mathematical simulation of complex reaction mechanisms and its illustration on ozone kinetics*
D.03	S. Matthes, P. Brok, D. Raper, T. Tsalvoutas, and P. Wiesen: *ECATS – European networking on Aviation & Environment*
D.04	C. Rojo, X. Vancassel, and J.-L. Ponche: *Modelling alternative fuels for aircraft: influence on the evolution and behaviour of aerosols*
D.05	J. E. Williams and P. van Velthoven: *Future Arctic shipping routes and European air quality in 2025*
E. Metrics and mitigation	
E.01	K. Dahlmann, V. Grewe, and A. Koch *Efficient evaluation of measures for air traffic climate optimization*
E.02	M. Hagström, T. Mårtensson, K. de Cock, and Raj Nangia: *RECREATE - Airworthy cruiser-feeder operations for emission reductions*
E.03	E. Irvine, K. Shine, and B. Hoskins: *Assessing the trade-off in CO2 and contrail climate impacts for an individual flight*
E.04	A. Skowron and D. Lee: *Aviation NOx Global Warming Potential - an insight into its heterogeneity*