Workshop on Atmospheric Chemistry: kinetics and spectroscopy 24-26 February 2010, University of Bayreuth

6 ½ years "Forschungsstelle für Atmosphärische Chemie"

Wednesday, 24 February 2010

12:30 Registration and lunch tickets (FAN B, close to lecture hall 30) and Lunch

14:00-14:05 Opening (Prof. Dr. **Stefan Peiffer**, Chair of Hydrology/Director of BayCEER)

14:05 Session: Atmospheric reaction kinetics and radical chemistry

(Chair: Karl-Heinz Becker)

14:05-14:35

Roger Atkinson: Alkanes - Atmospheric chemistry and pathways to SOA formation. 14:35-14:55

Astrid Kiendler-Scharr, J. Wildt, M. Dal Maso, T. Hohaus, E. Kleist, T. F. Mentel,

R. Tillmann, R. Uerlings, **Andreas Wahner**: Plant chamber investigations of the formation of new particles in natural VOC mixtures.

14:55-15:15

Geert K. Moortgat, Martin Beck, Frank Herrmann and Richard Winterhalter: The gas-phase ozonolysis of the sesquiterpene α -humulene.

15:15-15:35

Krzysztof Rudzinski: Aqueous-phase reactions involving radicals, the oxidation products from isoprene and terpenes.

15:35-16:00 Coffee break

16:00 Session: Atmospheric reaction kinetics and spectroscopy

(Chair: **Richard Wayne**)

16:00-16:30

Philippe Schmitt-Kopplin: FT-MS and high-resolution techniques in aerosol research. 16:30-16:50

Mathieu Cazaunau, Hélène Budzinski, **Eric Villenave**: Heterogeneous reactions of polybrominated diphenylethers of atmospheric interest.

16:50-17:10

Rafal Strekowski, Mike Nicovich, Paul Wine: Kinetic and mechanistic study of the reactions of O(¹D₂) with HCN and CH₃CN

17:10-17:30

Birger Bohn, Cornelius Zetzsch: Reaction of OH with 1,3,5-trimethylbenzene: experimental evidence for the formation of two adduct isomers.

17:30-18:00

Timothy J. Wallington, Mads Peter Sulbaek Andersen, Ole John Nielsen: Atmospheric oxidation and environmental impact of HFO-1234yf (CF₃CF=CH₂).

18:00 Dinner

19:15 Posters and Discussion (lecture hall 30)

(Chairs: Andreas Held and Cornelius Zetzsch)

19:15-20:00 Introductions and Questions

Instructions for the poster session:

Each contributor should present one slide with title and authors with either a characteristic graph or up to three bullet points. This is the opportunity that all of us have seen the poster presenters, who should explain the motivation and outcome with a very few sentences in an extremely short talk, taking *not more than one minute*, but accepting a maximum of one question from the audience and giving one short answer.

20:00-22:00 Poster Pub (in front of lecture hall 30)

Thursday, 25 February 2010

09:00 Session: Spectroscopy on interfaces, radicals, aqueous-phase photochemistry (Chair: **Hartmut Herrmann**)

9:00-9:30

Gernot Friedrichs: Sum-frequency generation spectroscopy at water-air interfaces: Composition and reactivity of environmental organic nanolayers. 9:30-9:50

Christa Fittschen, Chaithanya Jain, Alex Parker and Coralie Schoemaecker: Direct formation of HO₂ from the reaction of excited benzene and toluene with O₂. 9:50-10:10

Constanze Haegele, Dominik F. Schuler, Stefan Jagiella, **Friedhelm Zabel**: Products of the gas-phase photolysis of substituted benzenes at 254 nm in the presence of oxygen. 10:10-10:30

Wolf-Ulrich Palm, Maren Meyer-Grünefeld: Influence of clouds on the photochemical degradation in aqueous phase - suitability of Metamitron as actinometer and field measurements in Brazil and Germany.

10:30-11:00 Coffee and Posters

11:00 Session: Photochemistry on surfaces and in the aqueous phase (Chair: **Howard Sidebottom**)

11:00-11:30

Christian George: Photochemical production of halogenated radicals in the marine boundary layer: new and old directions.

11:30-11:50

Sasho Gligorovski: Light-induced heterogeneous and multiphase processes in the atmosphere.

11:50-12:10

Markus Ammann, Yulia Sosedova, Olga Vesna, Aurélie Rouvière, Veronika Zelenay and Christian George: Feedbacks between organic aerosol oxidation and gas phase HOx: a laboratory perspective.

12:10-12:30

Hartmut Herrmann: Some recent tropospheric multiphase chemistry developments.

12:30 *Lunch* (1.5 h)

14:00 Session: Particulate matter, nanoparticles and field measurements

(Chair: Andreas Wahner)

14:00-14:30

Günter Helas: Surface features on micro-particles made visible by atomic force microscope (AFM) phase images.

14:30-14:50

Ari Setyan, Jean-Jacques Sauvain, Michael Riediker, Michael Guillemin, **Michael J. Rossi**: The Characterization of functional groups at the interface of soot, TiO₂ and aerosol nanoparticles. 14:50-15:10

Nadia Butkovskaya, Alexander Kukui and **Georges Le Bras**: Pressure and temperature dependence of the ethyl nitrate formation yield in the $C_2H_5O_2 + NO$ reaction. 15:10-15:30

Andreas Held: Controls on cloud formation over the Arctic pack ice - some results from the Arctic Summer Cloud Ocean Study (ASCOS).

15:30-16:00 Coffee and Posters

16:00 Session: Heterogeneous processes on surfaces and chemistry

(Chair: Georges Le Bras)

16:00-16:30

Markus Ammann: Phase transfer at the interface between chemistry and climate. 16:30-16:50

Mélanie Petitjean, György Hantal Coline Chauvin, Paul N. M. Hoang, Sylvain Picaud, Pál Jedlovszky, Philippe Mirabel, Stéphane Le Calvé: Uptake of carbonyl species on ice and liquid/ice clouds.

16:50-17:10

Peter Behr, Rabih Nehme, **Reinhard Zellner:** Thermodynamics and kinetics of the uptake of acetone and acetic acid on ice surfaces.

17:10-17:30

Mingjin Tang, Jim Thieser, Gerhard Schuster, **John Crowley**: Heterogeneous processing of NO_3 and N_2O_5 on mineral dust.

17:30-18:00

Hinrich Grothe, Philipp Baloh, Fabian Weiss: Spectroscopy, microscopy and diffraction experiments devoted to ice clouds.

18:00-19:30 Lab visit (Bus transport to Dr.-Hans Frisch Strasse 1-3 and to dinner)

The bus will stop at the Hotel Goldener Hirsch/Bayerischer Hof to drop off participants, who do not intend to visit the laboratory, and it will stop on the way back as well to take participants to the dinner. The location of the workshop dinner is ca. 1.1 km from the hotels.

20:00 Workshop Dinner at a local brewery: **Aktienkeller**, Kulmbacher Straße 60 (no special dress required: absolutely informal)

Friday, 26 February 2010

09:00 Session: Arctic and tropospheric halogens, models, LR transport

(Chair: Andreas Held)

9:00-9:30

Jan W. Bottenheim, Stoyka Netcheva, Ralf M. Staebler, and Alexandra Steffen: OASIS-Canada.

9:30-9:50

Ulrich Platt: Halogen oxides in the continental atmosphere.

9:50-10:10

Heinz F. Schöler: Organohalogens from terrestrial sources.

10:10-10:30

Jonathan Williams: Rain forest VOC and reactivity.

10:30-11:00 Coffee and Posters

11:00-11:20

Ivan Holoubek, Jana Klanova, Pavel Cupr: Temporal and spatial trends of POPs in ambient air on the global, regional and local scales.

11:20-11:40

Gerhard Lammel, Francesca Guglielmo, Jana Klánová, Semeena V.S., Irene Stemmler, Andreas Stohl: Studying the chemistry and the large-scale distribution of persistent organic pollutants - The example of DDT.

11:40-12:00

Thomas Foken, Andrei Serafimovich, Johannes Lüers: Coupling and Damköhler number - two concepts of the interpretation of transport and chemical reactions.

12:00 End and Lunch

Posters (a complete list is available on the homepage).