

## JSPS-DFG Workshop on Aerosols

# “Physicochemical Properties of Atmospheric Aerosols and their Effects on Air Quality and Public Health”

Max Planck Institute for Chemistry, Mainz, Germany

November 25-27, 2015

Wednesday, November 25

- 9:20 am Welcome remark
- 9:30 am Keynote: Ulrich Pöschl: *Multiphase Chemistry in the Earth and Life Sciences*  
(Chair: M. Shiraiwa)

### Session 1: Multiphase Processes

Chair: Y. Morino and C. Pöhlker

- 10:10 am Yosuke Sakamoto: *SOA formation via the oligomerization reaction of Criegee intermediate in the ozonolysis of unsaturated VOCs*
- 10:30 am John Crowley: *Heterogeneous formation of ClNO<sub>2</sub> in the troposphere*
- 10:50 am Coffee break
- 11:10 am Kei Sato: *Terpenylic acid and nine-carbon compounds formed during the aging of *b*-pinene ozonolysis secondary organic aerosol*
- 11:30 am Satoshi Inomata: *A simultaneous and time-resolved measurement of *a*-pinene ozonolysis products in gaseous and aerosol phases for the determination of gas-aerosol partitioning*
- 11:50 am Gerhard Lammel: *Air-sea gas exchange of long-lived semivolatile organic compounds in the Mediterranean Sea*
- 12:10 pm Hang Su: *Soil nitrite as a source of atmospheric HONO and OH radicals*
- 12:30 pm Lunch



## Session 2: Health aspects of aerosols

Chair: A. Takami and M. Kuwata

- 1:40 pm Satoshi Takahama: *Characterization of carbonaceous particulate matter by infrared spectroscopy*
- 2:00 pm Manabu Shiraiwa: *Quantification of reactive oxygen species in atmospheric aerosols*
- 2:20 pm Akihiro Fushimi: *Contributions of Open Burning to PM<sub>2.5</sub> in Suburban Tokyo and the Impact of Biomass Smoke on Cellular Redox Activity*
- 2:40 pm Christopher Kampf: *Posttranslational modifications of proteins induced by air pollutants*
- 3:00 pm Yuji Fujitani: *Comparison of redox activity of roadside and urban aerosols in Japan*
- 3:20 pm Coffee break
- 3:30 pm Group discussion
- 4:15 pm Summary

## Thursday, November 26

- 9:30 am Keynote: Shinichi Enami: *Reactions of reactive oxygen species with lung antioxidants at the air-water interface*  
(Chair: K. Sato)

## Session 3: Aerosol health effects

Chair: A. Fushimi and C. Kampf

- 10:10 am Kayo Ueda: *Estimating the health impact of particulate air pollution*
- 10:30 am Andrea Pozzer: *Contribution of outdoor air pollution sources to premature mortality on a global scale*
- 10:50 am Coffee break
- 11:10 am Ayako Yoshino: *Observations of chemical composition of fine aerosol in Japan for epidemiology study*
- 11:30 am Kurt Lucas: *Molecular processes of the innate immune system in the development of inflammation and allergy*
- 11:50 am Akiko Furuyama: *Effect of diesel exhaust particles on endothelial cells*
- 12:10 pm Harald Saathoff: *Particle deposition for cell exposure at the air-liquid interface*



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12:30 pm                      Lunch

Session 4: **Physicochemical properties**

Chair: M. Mochida and Y. Cheng

1:40 pm                      Christopher Pöhlker: *Long-term Aerosol Studies in the Amazon in Combination with modern Microspectroscopy*

2:00 pm                      Michihiro Mochida: *Characterization of the chemical structures and the properties of organic aerosols*

2:20 pm                      Mikinori Kuwata: *Experimental and observational study of haze in equatorial Asia*

2:40 pm                      Frank Drewnick: *Application of a mobile laboratory to investigate emissions from anthropogenic sources and their impact onto local air quality*

3:00 pm                      Coffee break

3:20 pm                      Yoshiteru Iinuma: *Nitrated Secondary Organic Tracer Compounds: Field and Laboratory Studies*

3:40 pm                      Yu Morino: *Simulation of dimerization process using secondary organic aerosol models*

4:00 pm                      Corinna Hoose: *Biological Aerosol Particles: Simulation of Emissions and Interactions with Clouds*

4:20 pm                      Group discussion

5:00 pm                      Summary

7:00 pm                      Dinner



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## Friday, November 27

9:30 am                      Keynote: Thomas Leisner  
                                    (Chair: M. Shiraiwa)

### **Session 5: Climatic effects**

Chair: A. Pozzer and H. Su

10:10 am                      Naruki Hiranuma: *Getting ahead in making a cloud*

10:30 am                      Bettina Weber: *Role of cryptogamic covers in the formation of bioaerosols*

10:50 am                      Coffee break

11:10 am                      Tomoki Nakayama: *Optical properties of secondary organic aerosols generated from isoprene*

11:30 am                      Yafang Cheng: *Long-term air-borne measurements of black carbon using a Lufthansa passenger aircraft (IAGOS-CARIBIC-SP2)*

11:50 am                      Naga Oshima: *Aging of black carbon and its impact on the spatial distribution and radiative effect using a MRI global model*

12:10 pm                      Final Discussion

12:30 pm                      Closing remark

12:40 pm                      Lunch

1:30 pm                        Lab tour

5:00 pm                        Mainzer Christmasmarket