

Program

Sunday, August 26, 2018

17:00 – 21:00 Registration

from 18:30 *BUFFET SUPPER / Informal get together*

Monday, August 27, 2018

07:30 *BREAKFAST*

08:45 – 09:00 Scientific organizers **Opening and welcome**

Aerosol Physical Chemistry (APC)

09:00 – 09:40 Christian George **Photosensitized reactions at the air/water interface**

09:40 – 10:20 Kevin Wilson **The Interfacial Chemistry of Organic Aerosols and Cloud Droplets**

10:20 – 10:50 *COFFEE BREAK*

10:50 – 11:30 Allan Bertram **Diffusion coefficients in organic-water matrices and comparison with Stokes-Einstein predictions**

11:30 – 12:10 Margaret Tolbert **Looking for Water on Mars: One Drop at a Time**

12:10 – 12:20 **Conference Photo**

12:20 *LUNCH*

13:40 – 14:10 **General Discussion APC**

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Monday, August 27, 2018

Aerosol Nucleation (Nuc)

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|---------------|------------------------|---|
| 14:10 – 14:50 | Jasper Kirkby | New insights from CLOUD on biogenic new particle formation in pristine to polluted environments |
| 14:50 – 15:30 | Joachim Curtius | Aerosol formation in the Amazon region: From the Boundary Layer to deep convective outflow - Molecular insights from the CLOUD experiment |
| 15:30 – 16:10 | Hanna Vehkamäki | Model and experiments to characterise cluster fragmentation inside an Atmospheric Pressure interface Time Of Flight (API-TOF) mass spectrometer |
| 16:10 – 16:40 | COFFEE BREAK | |
| 16:40 – 17:20 | Christopher Johnson | Disentangling the Roles of Structure, Composition, and Intermolecular Interactions in New Particle Formation |
| 17:20 – 18:00 | General Discussion Nuc | |
| 18:30 | DINNER | |

Program

Tuesday, August 28, 2018

08:00 *BREAKFAST*

Aerosols as Ice Nucleating Particles (Ice)

09:00 – 09:40 Angelos Michaelides **Cold water and ice: Molecular level insight from computer simulations**

09:40 – 10:20 Claudia Marcolli **Ice nucleation: thermodynamic vs. molecular control**

10:20 – 10:50 *COFFEE BREAK*

10:50 – 11:30 Alexei Kiselev **To freeze or not to freeze: competition between dynamic wetting and heterogeneous freezing in supercooled water droplet**

11:30 – 12:10 Barbara Wyslouzil **Ice nucleation at the edge of no-man's land**

12:10 *LUNCH*

13:40 – 14:10 **General Discussion Ice**

14:10 – 14:30 Peter Alpert **Direct Imaging of Molecular Diffusion and Reaction in Aerosol Particles**

14:30 – 14:50 Cari Dutcher **Using Microfluidic to Study Thermodynamics and Phase of Single Aqueous Aerosol Droplets**

14:50 – 15:10 NNr **On the freezing behavior of small supercooled and hypercooled water droplets**

15:10 – 15:30 Monica Passananti **Key components in new particle formation: sulfuric acid clusters with guanidine and diamines**

15:30 – 15:50 Tim Esser **A High Resolution Cryogenic Single Nanoparticle Mass Spectrometer**

15:50 – 16:10 Mario Nachbar **Heterogeneous ice cloud formation at extreme conditions**

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16:10 *COFFEE BREAK*

16:40 – 18:00 **Poster Session 1: Experimental Topics**

18:30 – 20:00 *DINNER*

20:00 – 21:30 **Poster Session 1 continued**

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Wednesday, August 29, 2018

08:00 *BREAKFAST*

Aerosol optics (Opt)

09:00 – 09:40 Yinon Rudich **Relationships between molecular composition change and organic aerosol optical properties**

09:40 – 10:20 Ruth Signorell **Multistep processes during efflorescence/deliquescence of single, optically trapped aerosol particles**

10:20 – 10:50 *COFFEE BREAK*

10:50 – 11:30 Jean-Pierre Wolf **Nucleation and Dissipation of Fog with Ultrashot Lasers**

11:30 – 12:10 Jonathan Reid **The Evolving Optical Properties of Organic Aerosol Particles**

12:10 *LUNCH*

13:40 – 14:10 **General Discussion Opt**

14:10 – 18:00 **Excursion**

19:00 *HERAEUS DINNER at the Physikzentrum
(cold & warm buffet, free beverages)*

Program

Thursday, August 30, 2018

08:00 *BREAKFAST*

Fundamentals of Secondary Organic Aerosols (SOA)

09:00 – 09:40 Andrew Ault **Modification of Aerosol Phase, Acidity, and Structure by Heterogeneous and Multiphase Chemistry**

09:40 – 10:20 Thomas Berkemeier **Formation and evaporation of organic aerosol from a kinetic modeling perspective**

10:20 – 10:50 *COFFEE BREAK*

10:50 – 11:30 Hartmut Herrmann **Multiphase Chemistry Contributions to SOA Formation**

11:30 – 12:10 **General Discussion SOA**

12:10 *LUNCH*

13:40 – 14:00 Theo Kurtén **Computational insights into formation mechanisms and properties of atmospheric autoxidation products**

14:00 – 14:20 Andreas Zuend **Development of a predictive aerosol viscosity model**

14:20 – 14:40 Josip Lovric **Water interactions with an organic nopinone surface: a combined theoretical and experimental study**

14:40 – 15:00 Bingbing Wang **Micro-spectroscopic characterization of particles generated from mesocosm and collected over South China Sea**

15:00 – 15:20 Antoine Roose **Experimental and theoretical investigation of HO₂ sticking on dicarboxylic acid aerosols**

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Thursday, August 30, 2018

Emerging Technologies for Determination of Molecular Structure (ETech)

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|---------------|--|---|
| 15:30 – 16:10 | Christian Pfrang | Small-angle X-ray scattering of self-assembled lyotropic phases in single aerosol particles |
| 16:10 – 16:40 | <i>COFFEE BREAK</i> | |
| 16:40 – 18:00 | Poster Session 2 : Theoretical Topics | |
| 18:30 – 20:00 | <i>DINNER</i> | |
| 20:00 – 21:30 | Poster Session 2 : continued | |

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Friday, August 31, 2018

08:00 *BREAKFAST*

Emerging Technologies for Determination of Molecular Structure (ETech)

09:00 – 09:40 Nonne Prisle Exploring the potential for synchrotron radiation based methods to study organic aerosol-water interactions directly at the molecular level

09:40 – 10:20 Markus Amman Perspective of X-ray excited electron spectroscopy to probe chemistry and structure at the surface of aerosol proxies

10:20 – 10:50 *COFFEE BREAK*

10:50 – 11:30 Michael Fárnik Uptake of atmospheric molecules on acid clusters

11:30 – 12:10 **General Discussion ETech**

12:10 *LUNCH*

13:40 – 14:10 Scientific organizers **Poster Awards
and
Final / General Discussion**

End of the seminar and Departure

*Please note that there will be **no** dinner at the Physikzentrum on Friday evening for participants leaving the next morning.*