

MONDAY, 20 May 2013**09:00-09:30****Opening****09:30-10:00****Keynote 1**

Overview of the ParisFog research program

M. Haeffelin, J-C. Dupont**Session A: ParisFog****Chairpersons:** Thierry Elias and K.T. Valsaraj**10:00-10:15**

Previsibility of the meteorological conditions favorable to radiative fog formation during the 2011 ParisFog campaign

L. Menut, E. Lorant, S. Mailler, J-C. Dupont, M. Haeffelin, T. Elias**10:15-10:30**

Fog microphysics during ParisFog

F. Burnet, L. Gomes, M. Haeffelin, J-C. Dupont, T. Elias**10:30-11:00****Coffee Break****11:00-11:15**

Role of thermal and dynamical processes in fog life cycle during ParisFog field experiment

J-C. Dupont, M. Haeffelin, T. Elias, F. Burnet, E. Dupont**11:15-11:30**

Characterization of fog water turbulent flux in radiation fog and stratus lowering during PARISFOG

D. Tibebe, M. Held, J. Hejkal, T. El-Madany, J-C. Dupont, M. Haeffelin, **O. Klemm****11:30-11:45**

The PreViBOSS project: improving short term forecast of visibility by associating ParisFog ground-based and satellite observation data

T. Elias, D. Jolivet, J-C. Dupont, M. Haeffelin, F. Burnet

11:45-12:00

Size-dependent aerosol activation properties measured in radiation and stratus lowering fog during the ParisFog 2012/13 field campaign

E. Hammer, J. Hofer, M. Gysel, G. Roberts, N. Bukowiecki, **J-C. Dupont**, F. Burnet, M. Haeffelin, U. Baltensperger, E. Weingartner

Session B1: Fog Chemistry

Chairpersons: Guenter Engling and Dominik van Pinxteren

12:00-12:15

Cloud chemistry during the 'Hill Cap Cloud Thuringia 2010' field experiment

D. van Pinxteren, K. Müller, K.W. Fomba, Y. Iinuma, S. Mertes, J. Schneider, T. Lee, J. Collett, H. Herrmann

12:15-12:30

SPACCIM model studies on the multiphase fog chemistry during the HCCT-2010 field campaign

A. Tilgner, P. Bräuer, R. Wolke, H. Herrmann

12:30-14:00

Lunch

14:00-14:15

High concentrations of ionic species in fog water in the northern part of India

S. Tiwari, D.S. Bisht, A.K. Srivastava

14:15-14:30

Fog/cloud water organic speciation at two remote sites in Taiwan

G. Engling, K. Kawamura, E. Tachibana, K. Ono, J. Walk, T. El-Madany, K. Amelung, O. Klemm, S-C. Chang

14:30-14:45

Photocatalytic interfacial chemistry

D. Möller

14:45-15:00

Measurements of atmospheric hydroperoxides over a suburban area in Japan using a helicopter: evaluation of SO₂ oxidation capacity in fog/cloud water at a high-elevation

K. Watanabe, S. Michigami, Y. Saito, D. Nishimoto, S. Ishita, K. Ogawa, S. Iwama, N. Eda

15:00-15:15

Oxidation of green leaf volatiles in fog droplets – Formation of secondary organic aerosols

A.K. Hansel, F.S. Ehrenhauser, R. Kaur, N.K. Richards, C. Anastasio, **K.T. Valsaraj**

15:15-15:30

Validating the formation of aqueous processing secondary organic aerosol: observations of matrix effects in authentic atmospheric waters

A.J. Boris, Y. Desyaterik, J.L. Collett, Jr.

15:30-16:00

Coffee Break

Session C: Fog Collection

Chairpersons: Bob Schemenauer and Otto Klemm

16:00-16:15

Optimal design of permeable fiber network structures for enhanced fog harvesting efficiency

K-C. Park, S.S. Chhatre, S. Srinivasan, **J.A. Kleingartner**, R.E. Cohen, G.H. McKinley

16:15-16:30

Mechanical characteristics of Raschel mesh and their application to the design of Large Fog Collectors

D. Lopez-Garcia, **J.D. Rivera**

16:30-16:45

Electrospun mats and their potential for fog collection

R. Hashaikeh, B. Lalia

16:45-17:00

A construction and characteristics of a fog droplet collector made with the use of a corona discharge

A.A. Paley, **N.P. Romanov**

17:00-17:15

An economic analysis of fog collection

R. LeBoeuf, E.D. Jara

17:15-17:30

Fostering success: Lessons from the Tojquia fog collection project

M. Rosato, **R.S. Schemenauer**, F. Rojas

18:00-19:30

Welcome Party

TUESDAY, 21 May 2013

09:00-09:30

Keynote 2

Recent changes in the number of foggy days and local climates in Northern Thailand and Japan

S. Nomoto

Session D: Fog and Vegetation

Chairpersons: Ann Dalkey and Shih-Chieh Chang

09:30-09:45

Wetting vs. dimming effect of fog on photosynthesis

S-C. Chang, J-Y. Jiang

09:45-10:00

Droplet-, liquid water-, and water vapor fluxes and their interaction with the canopy of a mountain cloud forest in Taiwan

T.S. El-Madany, F. Griessbaum, S-C. Chang, J-Y. Juang, O. Klemm

10:00-10:15

A microclimate study within fog-influenced coastal sage scrub habitat in Southern California

A. Dalkey, R. Sharifi

10:15-10:30

Development of Acid Fog Exposure System (AFES) and impacts of acid fog on two *Plagiomnium* species

H. Shimizu, Y. Fujinuma, Z. Iwatsuki, T. Totsuka

10:30-11:00

Coffee Break

Session E: Fog Modeling

Chairpersons: Genki Katata and Suping Zhang

11:00-11:15

Coupling of the single column model PAFOG with UM as an operational fog prediction model

S.S. Yum, W. Kim, C.K. Kim

11:15-11:30

Three-dimensional fog forecast with COSMO-FOG

M. Masbou

11:30-11:45

Development of the boundary layer model based on the LES model for fog simulation

Y. Akimoto, H. Kusaka, L. Xue, M. Haeffelin

11:45-12:00

The formation mechanism of a spring sea fog event over the Yellow Sea

P. Li, G. Fu, C. Lu, D. Fu, S. Wang

12:00-12:15

Numerical simulation of radiation fogs in complex terrain using WRF model

M. Belorid, J-C. Kim, C.B. Lee

12:15-12:30

LFC functional stability: wind pressure relief

R. Holmes, J.D. Rivera

12:30-14:00

Lunch

Session F: Fog Physics

Chairpersons: Fernando Garcia-Garcia and Michael Witiw

14:00-14:15

Cool season fog in Southern California coastal locations

M.R. Witiw, S. LaDochy

14:15-14:30

The impact of sea surface temperature front on stratus-sea fog over the Yellow and East China Seas

S-P. Zhang, M. Li

14:30-14:45

Seeking a unified understanding of fogs and low-level clouds

C. Lu, Y. Liu, S. Niu

14:45-15:00

On inhomogeneities of droplet concentration in fogs

F. García-García, J. Ávila-Juárez

15:00-15:15

Do cloud properties in a Puerto Rican tropical mountain cloud forest depend on long-range transport of African dust?

J.K. Spiegel, N. Buchmann, O.L. Mayol-Bracero, C.J. Valle-Díaz, L.A. Cuadra-Rodríguez, K.A. Prather, S. Mertes,

W. Eugster

15:15-15:30

Observed aerosol contribution to extinction of visible radiation in fog

T. Elias, J-C. Dupont, M. Haeffelin, F. Burnet, D. Jolivet

15:30-16:00

Coffee Break

16:00-17:30**Poster Session (2F Exhibition Hall)****Fog Climatology**

P1. Circalunar periods of solar and lunar origin in daily fog data by harmonic analysis

L. Hejkrlik

P2. Long-term variation of fog frequency in Croatia

K. Pandzic, T. Likso

P3. Climatological aspects of radiation fogs in Haean Basin, South Korea

M. Belorid, C.B. Lee

P4. Coastal fog and ocean surges in the city of Lagos, Nigeria

O.A. Ediang, A.A. Ediang

Fog and Transportation

P5. The characteristics of fog at seven major airports in Middle & Southern China under Southern China quasi-stationary front

J. Yang, F. Liu, Z. Cao

P6. Influence of visibility and base of stratus clouds on the operation Maceio International Airport in the northeast of Brazil

N. Fedorova, V. Levit, R.N. Rodrigues

Fog Modeling

P7. Structure and formation mechanism of a sea fog event over the Yellow Sea

G.Fu, J.Guo, P.Li, D.Fu, S.Gao, S.Zhang

P8. Comparison study between observation and simulation for sea fog over the Yellow Sea in May 2009

D. Fu, S. Wang, D. Chen, H. Pang, P. Li

P9. On the influence of land-surface-ground water table interactions in the formation of fog and very low stratus with TerrSysMP-FOG

M. Masbou, P. Shrestha, M. Sulis, M. Übel, A. Bott, S. Kollet, C. Simmer

P10. Fog events in the Maceio Airport on the Northern coast of Brazil during five years 2002-2005 and 2007

N. Fedorova, A.O. Silva, V. Levit, J.M.S. Afonso

P11. Study of the effect of vegetation on the fog forecast by the "PAFOG" model in the northern coast of Brazil

V. Levit, J.L. de Souza, N. Fedorova, J.M.S. Afonso, A.O. Silva, I. Teodoro

P12. Development of the fog stability index for forecasting of fogs that form on the west coast of the Korean Peninsula

Y. Song, S.S. Yum

P13. Influence of aerosol characteristics on the life cycle of a ParisFog radiation fog event

S. Stolaki, J-C. Dupont, **M. Haeffelin**, C. Lac, T. Elias

P14. Evaluation of climatic simulation over complex topography: mean climate and fog events over the Sao Paulo city, Brazil

R.P. da Rocha, F.L.T. Gonçalves

P15. Mathematical modeling and numerical analysis of the effect of turbulence on fog formation

A. Amiryan, A. Barseghyan

Fog Physics

P16. Study on the macro-micro characteristics of sea fog along the South China Sea

S. Niu, Y. Yue, Y. Zhang, F. Xu, L. Zhao, J. Lü

P17. Characteristics and causes of ten day persistent fog-haze weather occurred in East China

D. Liu, Pumeijuan, Zhoubin, W. Yan

P18. The stratus-to-fog transition: feedbacks between cloud layer dynamics and droplet microphysics

J-C. Dupont, M. Haeffelin, F. Burnet, J-B. Renard, J. Delanoe

P19. Evolution characteristics of meteorological elements during a spring heavy sea fog off the coast of South China Sea

J. Lü, S.Niu, Y. Zhang, F. Xu

Fog Remote Sensing

P20. Sea fog detection using MTSAT-1R infrared and AMSR microwave measurements around the Korean peninsula

H. Park, J.H. Kim, D. Shin

Fog Chemistry

P21. Summary of two-year sea fog research on chemical composition in South China Sea

Y. Yue, **S. Niu**, Y. Zhang, F. Xu, L. Zhao, J. Lü

P22. Fog as a transformer for organic aerosols – phase partitioning of carboxylic acids at a mountain site in Germany

S. Schüttauf, J. Matschullat, F. Zimmermann, D. van Pinxteren, H. Herrmann

P23. Impacts of HONO sources on visibility prediction over North China Plain (NCP)

Y. Li, J. An, I. Gultepe

P24. Air pollution in Tbilisi in the winter fogs

A. Amiranashvili, T.Bliadze, V.Chikhladze

P25. Fog and dew water chemistry at Mt. Tateyama, Japan

K. Watanabe, D. Nishimoto, S. Ishita, S. Iwama, Y. Uehara, H. Honoki

P26. Chemistry of fog water during the 2012 / 2013 ParisFog campaign

O. Klemm, D. Tibebe, J. Hejkal, M. Held, T. El-Madany, J. Dupont, M. Haeffelin

P27. Application of a new active fog collector at two sites in Taiwan

J. Walk, O. Klemm, T. El-Madany, K. Amelung, S-C. Chang, Y-J. Hsia, P-H. Lin, N-H. Lin, G. Engling, C. Achten, C. Stader, C-P. Wang

P28. Aqueous phase enrichment of organic carbonyl compounds in orographic clouds during HCCT-2010

D. van Pinxteren, Y. Iinuma, A. Mutzel, S. Mertes, K.U. Goss, H. Herrmann

P29. Modelling the multiphase chemical processing of monoethanolamine from industrial CCS processes in tropospheric aqueous particles, cloud and fog droplets

A. Tilgner, R. Schrödner, P. Bräuer, R. Wolke, H. Herrmann

P30. Towards a more detailed description of the organic chemistry in the CAPRAM mechanism using the improved mechanism generator GECKO-A

A. Tilgner, P. Bräuer, C. Mouchel-Vallon, R. Wolke, B. Aumont, H. Herrmann

P31. Laboratory studies of the peroxy radicals in the oxidation process of glyoxal, methylglyoxal and hydroxyacetone in aqueous solution

T. Schaefer, **A. Tilgner**, H. Herrmann

P32. Fog composition at three sites in Norway

Y. Wang, J. Zhang, **P. Herckes**, M. Karl, C. Dye

P33. The chemical composition of sea fog over the Northwestern Pacific and Bering Sea

T. Lee, T.S. Rhee, D. Hahm, K. Park, J.L. Collett, Jr.

P34. Microorganisms in fog and their impact on fog chemistry

M. Wimmer, D-W. Kang, R. Krajmalnik-Brown, **P. Herckes**

P35. Determination of surface-active substances in atmospheric water

M. Soda, H. Okochi, H. Ogata

P36. Observation of cloud water chemistry in the free troposphere using Mt. Fuji

T. Isobe, D. Tahara, H. Okochi, H. Ogata, Y. Minami

P37. Observation of humic-like substances (HULIS) in cloud and dew water at urban and mountainous site in Japan

E. Yamanokoshi, H. Okochi, H. Ogata

P38. Observation of cloud water chemistry at the foot of Mt. Fuji and its controlling factors

S. Ogawa, D. Tahara, H. Okochi, H. Ogata, Y. Minami

P39. Effect of fog process on size distribution of polycyclic aromatic hydrocarbons in atmospheric aerosol PM₁₀

S. Fan, H. Huang, K. Gu

Fog Deposition

P40. Occult precipitation – evaluation of long-term monitoring observation in the Czech Republic

M. Tesař, **J. Fišák**, M. Šír, K. Bartůňková

P41. Acid fog deposition on the declining beech forest in Tanzawa Mountains, Japan

M. Igawa, K. Kojima, K. Yoguchi, B. Nanzai

Fog and Vegetation

P42. Long term trend of acid fog in Mt. Oyama, Japan and the collection efficiency of a passive fog collector

M. Igawa, K. Kojima, K. Suzuki, O. Yoshimoto, B. Nanzai

P43. Soil acidification and decline of trees in forest within the precinct of shrine in Kameoka (Japan) by acid fog

M. Kawamura, K. Ito

P44. Quantifying cloud water in the hydrologic budget of the Luquillo Mountains, Puerto Rico

M. Scholl, O. Mayol-Bracero, C. Valle-Diaz, T. Heartsill-Scalley

P45. Fog capture and rainfall interception by *Pinus pumila* Regal canopy at Mt. Tateyama in the northern Japan Alps, Japan

Y. Uehara, A. Kume

P46. Fog water contribution in a *fayal-breza* cloud forest (Canary Islands): A isotopic study

C.M. Regalado, J.C. Guerra, A. Ritter, M.T. Arencibia

P47. Impacts of acid fog on the growth of several cultivars of rice plants grown in the paddy fields of Nagasaki Prefecture, Japan

S. Ito, A. Mori, T. Watanabe, H. Saji, **H. Shimizu**

Fog Collection

P48. A landscape architecture course: Designing fog collection systems and integration into the community in Lima, Peru

S.I. Feld, B.R. Spencer, S.M. Bolton

P49. Air conditioning condensate from atmospheric moisture: An adaptation measure in a changing climate

M.A. Najm, M.Tomaszkiewicz, N. Saleh, F. Ghizzawi, J. Eid, M. El-Fadel

P50. Water from fog (WFF) system powered by solar energy

A. Barseghyan

P51. Nepal's climate change education and its relation with fog collection and dew to poor & indigenous people

D.N. Yadav, U. Bhandari & Associates

P52. Harvesting of atmospheric water in Nepal

T.I. Shrestha

Fog and Dew Measurement

P53. Development of automated liquid water content recording system for spatial analysis of radiation fogs

M. Belorid, C.B. Lee

P54. Evaluation of the supply of deposited precipitation amount to the total precipitation amount

J. Fisak, **K. Bartunkova**, G.B. Mekonnen

P55. Comparison of sonic anemometer performance under foggy conditions

T.S. El-Madany, F. Griessbaum, G. Fratini, J-Y. Juang, S-C. Chang, O. Klemm

Dew

P56. Pollutant deposition via dew in urban and rural environment, Cracow, S Poland

P. Muskała, **M. Sobik**, M. Błaś, Ż. Polkowska, A. Bokwa

P57. Dew and hoarfrost frequency, formation efficiency and chemistry in Wroclaw, Poland

G. Gałek, **M. Sobik**, M. Błaś, Ż. Polkowska, K. Cichała-Kamrowska, K. Wałaszek

P58. Surface wettability and dewing

H. Lim

P59. Determination of polycyclic aromatic hydrocarbons in dew and cloud water at urban and mountainous site in Japan

M. Fujita, H. Okochi, H. Ogata

P60. Observation of volatile organic compounds in dew and cloud water at urban and mountainous site in Japan

S. Yamamoto, H. Okochi, Y. Kobayashi, H. Ogata

P61. Physical and chemical properties of dew harvesting in the rural and urban coastal areas of Southern Iran

A. Esfandiarnajad, U.R. Kamalian, A. Khaksar, H. Ardalan

THURSDAY, 23 May 2013**09:00-09:30****Keynote 3**

Hierarchical biomimetic functional surfaces for fog harvesting

J.P.S. Badyal**Session G: Fog Climatology and Detection****Chairpersons:** Ismail Gultepe and Jörg Bendix**09:30-09:45**

Fog in the Namib region: Satellite-based detection, and distribution

J. Cermak**09:45-10:00**

Analyzing the spatio-temporal distribution of fog in a neotropical lowland forest using in-situ and satellite data

J. Bendix, A. Obregón**10:00-10:15**

Frequency of fog – a global outlook

M. Sobik, M. Błaś**10:15-10:30**

Fog and haze weather characteristic of the urban boundary layer in the Chongqing of China

Y. Jiang, W. Jiang, J. Yu, Y. Wang, Y. Han, Z. Li, Y. Zhang**10:30-11:00****Coffee Break****Session B2: Fog Chemistry****Chairpersons:** Mitsuo Uematsu and Pierre Herckes**11:00-11:15**

Atmospheric inorganic nitrogen input via dry, wet, and sea fog deposition to the subarctic western North Pacific Ocean

J. Jung, H. Furutani, M. Uematsu, S-W. Kim, S-C. Yoon

11:15-11:30

Fog chemistry and droplet size distribution at Lake Mashu, Northern Japan

T. Yamaguchi, Y. Watanabe, G. Katata, H. Shimizu, I. Noguchi

11:30-11:45

Extremely acid fog water chemistry in Nanjing, China

M. Pu, G. Zhang, D. Liu, W. Yan, Z. Li

11:45-12:00

Fog composition in the central valley of California changes over the last 20-30 years?

P. Herckes, J.W. Hutchings, A. Marcotte, Y. Wang, K.F. Moore, K. Hoag, J.L. Collett, Jr.

12:00-12:15

Speciation of brown carbon in clouds impacted by biomass burning

J.L. Collett, Jr., Y. Desyaterik, Y. Sun, X. Shen, T. Lee, X. Wang, T. Wang

12:15-12:30

Artificial radionuclides in fog water sampled in France before and just after the nuclear accident of Fukushima

O. Masson, K. Sellegri, R. Gurriaran, L. Bourcier, P. Paulat, P. Laj

12:30-14:00

Lunch

Session H: Fog Physics, Measurement, and Control

Chairpersons: Fabio Gonçalves and Jeff Collett

14:00-14:15

Ice fog: measurements and its parameterization

I. Gultepe, Z. Vukovic, J. Milbrandt

14:15-14:30

Interaction between aerosol and microphysical structures of sea fog

L. Zhao, S. Niu, Y. Zhang, F. Xu

14:30-14:45

An economical fog liquid water content (LWC) hot-wire probe design

R. LeBoeuf, J.D. Rivera, E.D. Jara

14:45-15:00

Supercooled fog control in Macedonia

V. Spiridonov, S. Stefanov

15:00-15:30

Town Hall: Fog as a system

Brief perspectives, discussion, and a survey on fog and its interactions with other parts of the ocean-atmosphere-biosphere-human system

15:30-16:00

Coffee Break

Session I: Fog Deposition

Chairpersons: Werner Eugster and Mizuo Kajino

16:00-16:15

Development of simple and accurate fog deposition estimation (FogDES) scheme for meteorological models

G. Katata, H. Nagai

16:15-16:30

Modeling fog chemistry and its deposition on a mountain forest in summer in Japan

M. Kajino, G. Katata, T. Hiraki, M. Aikawa, T. Kobayashi, H. Ueda

16:30-16:45

Estimate of fog water deposition and corresponding sulfur deposition in the Kinki region of Japan

H. Shimadera, A. Kondo, Y. Inoue

16:45-17:00

Tree rings as an indicator of pollutant fog deposition to subalpine spruce forests in Southern Poland

M. Godek, **M. Sobik**, M. Błaś, Ż. Polkowska

17:00-17:15

Does fog chemistry in Switzerland change with altitude?

P. Michna, **W. Eugster**

17:15-17:30

Fog dynamics and *Brassica* productivity during winter season in semi-arid region of India

S. Singh, D. Singh

19:40-21:30

Banquet

FRIDAY, 24 May 2013

09:00-09:30

Keynote 4

Chemistry of HONO in Dew - gas/water equilibrium and possible effect of drying on the atmospheric chemistry

N. Takenaka, W. Shimazaki, K. Takayama, N. Ojira, K. Ohira, H. Soda, T. Suzue**Session J: Dew****Chairpersons:** Hiroshi Okochi and Amber Hill

09:30-09:45

Dew in the alpine meadow of the Tibetan Plateau

S. He, K. Richards

09:45-10:00

The Role of Dew in Desert Plants

A. Hill, S. Rachmilevitch

10:00-10:15

Dew as a potential climate change adaptation measure under water scarcity

M. Tomaszewicz, **M.A. Najm**, M.E. Fadel

10:15-10:30

Seasonal change of dew formation as water resource on moss (*Polytrichum commune* Hedw.) turf surface in autumn**Y. Iida**, Y. Morimoto

10:30-11:00

Coffee Break

Session K: Fog and Transportation

Chairpersons: Detlev Möller and Lynnet van Schalkwyk

11:00-11:15

The use of self-organising maps as a synoptic classification method for fog events at Cape Town International Airport

L. van Schalkwyk, L.L. Dyson

11:15-11:30

Fog prediction in a short period

K. Tomine, K. Yoshii

11:30-11:45

A new algorithm for sea fog detection using MTSAT-2 multispectral data

Y. Wang, F. Yu, X-Y. Zhuge, Y. Wang

11:45-12:00

Advection and radiation fog comparison at São Paulo highway sites

F.L.T. Gonçalves, P. Herckes, P.C. Vasconcellos, H. Bauer, V.K. Censon, S.G. Avila, J.L. Collett, Jr.

12:00-12:30

Closing