



# 15<sup>th</sup> CAS-TWAS-WMO Forum

## 15<sup>th</sup> AeroCom / 4<sup>th</sup> AeroSAT workshops

September 19 – 27, 2016, Beijing, China

hosts: Zhaohui Lin, Xiaohong Liu, Diane Chen

co-organizers: M. Schulz, S. Kinne, M. Chin, T. Popp, R. Kahn, X. Liu and Z. Lin

### presentations

- **oral presentations** ... are allotted **20 min**
  - o this should include 5 minutes of discussions
- **poster presentations** ... can be introduced by 2 (powerpoint) slides
  - o one poster session for AeroCom and AeroSAT each
  - o posters will hang during the entire meeting

### Sunday, September 18, 2016

*AeroCom*

12:00 – 18:00 **optional visit of the GREAT Wall** (only if already registered with Diane)  
bus will be leaving at noon (12pm) from the (Foreign Expert Building) Hotel

[the tour will be organized by the *Beijing Dynasty Travel Company*  
Mr.Zhang Tongyu, Tel: 0086-13601271155, e-mail [zty728@aliyun.com](mailto:zty728@aliyun.com)]

14:30 – 20:00 **Registration**

*all poster authors: send your (max 2) slide ppt summary to [stefan.kinne@mpimet.mpg.de](mailto:stefan.kinne@mpimet.mpg.de)*



**Monday, September 19, 2016**

**AeroCom**

**08:00 - 09:00** Registration

*all poster authors: make sure that S. Kinne has your (max 2) slide ppt summary by now*

**09:00 - 10:00** **SESSION 0** **welcome** *chair: Zhaohui Lin*

<p>09:00 CAS &amp; IAP 09:20 Xiaohong Liu 09:30 Mian Chin 09:40 Thomas Popp / Ralph Kahn</p>	<p>welcome addresses Aerosol research in developing and developed countries AeroCom achievements and goals of this workshop AeroSAT meeting goals for this workshop</p>
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**10:00 - 10:30** coffee-break (and hang-up posters) and group-photo (1) *chair: Xiaohong Liu*

**10:30 - 11:30** **SESSION 1** **overview presentations**

<p>10:30 Stefan Kinne 10:50 Minghuai Wang 11:10 Mian Chin</p>	<p>an AeroCom review emergent constraints for aerosol indirect effects aerosol effects on multidecadal surface radiation trends</p>
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*chair: Stefan Kinne*

**11:30 - 12:10** **AeroCom poster introduction (part 1)**  
max 2 slides / 2 minutes per poster allowed *in alphabetic author order*

**12:10 - 13:30** lunch

*chair: Zhaohui Lin*

**13:30 - 14.30** **keynote presentation** (invited)

**Hong Liao** ***Climatic effects of aerosols in China constrained by nationwide measurements***

14:30 **Gunnar Myhre** *on Radiative Forcing* (presentation given by **Bjorn Samset**)

**14:50 - 15:20** coffee-break

*chair: Stefan Kinne*

**15:20 - 17:20** **AeroCom poster introduction (part 2)**  
max 2 slides / 2 minutes per poster allowed *in alphabetic author order*

**17:20 - 18:00** **poster viewing**



**Tuesday, September 20, 2016**

**AeroCom**

chair: **Paul Ginoux**

**09:00 - 10:00 SESSION 2 simulated dust / aerosol and clouds**

- 09:00 **Xiaohong Liu** *Dust vertical and horizontal distributions simulated by CESM and compared with Calipso observations*
- 09:20 **Zhaohui Lin** *Comparisons of dust cycles simulated by CESM with two different dust emission data-sets*
- 09:40 **Minghua Zhang** *Regime Dependence of Aerosol-Cloud Interactions*

**10:00 - 10:30** coffee-break

chair: **Stefan Kinne**

**10:30 - 12:00 SESSION 3 aerosol and the hydrological cycle**

- 10:30 **Andrew Gettelman** *Using Volcanic Emissions to Estimate Aerosol-Cloud Interactions*
- 10:50 **Edward Gryspeerd** *Applicability of present day relationships between aerosols and clouds to constrain climate forcing by aerosol-cloud interactions*
- 11:10 **Johannes Muelmenstaedt** *Satellite-derived warm rain fraction as a constraint on the cloud lifetime effect*
- 11:30 **Kentaroh Suzuki** *Process-oriented evaluation of warm cloud microphysics in climate models with a synergistic use of multi-sensor satellite observations*

**12:00 - 13:30** lunch

**13:30 - 14:30** poster viewing session

chair: **Toshihiko Takemura**

**14:30 - 16:00 SESSION 4 Asian focus (1)**

- 14:30 **Zhanqing Li** *Air Pollution and Climate Change in China: Impact and Feedback*
- 14:50 **Hua Zhang** *The Simulation Study of Global Distribution of Temporal and Spatial Variation of PM<sub>2.5</sub> Concentration*
- 15:10 **Jinyuan Xin** *Obs.-based relationships between PM<sub>2.5</sub> and AOD over China*
- 15:30 **Tianyi Fan** *Impact of a new emission inventory on CAM5 T simulations of aerosols and aerosol radiative effects in eastern China*

**16:00 - 16:30** coffee-break

chair: **Zhanqing Li**

**16:30 - 18:00 SESSION 5 Asian focus (2)**

- 16:30 **Toshihiko Takemura** *Climate change and impacts due to aerosol effects in Asian region based on modeling studies*
- 16:50 **Meigen Zhang** *Model analysis of soil dust impacts on boundary layer meteorology and air quality over East Asia in April 2015*
- 17:10 **Yiquan Jiang** *Seasonality in Anthropogenic Aerosol Effects on East Asian Climate Simulated with CAM5*
- 17:30 **Lin Wu** *The transport of sea-spray spume during high-wind conditions and its effects on sea salt aerosol emissions*



**Wednesday, September 21, 2016** AeroCom

chair: **Mian Chin**

**08:30 - 10:00** SESSION 6 **international experiments / AeroCom experiments**

- 08:30 **Bjorn Samset** *Aerosols as drivers of precipitation change: A PDRMIP multi-model study*
- 08:50 **Elisabeth Andrews** *Update on the AeroCom INSITU Project: Comparison of aerosol optical properties from in-situ surface measurements and models*
- 09:10 **Paul Ginoux** *Anthropogenic dust experiment: Sensitivity to land-use datasets and surface winds*
- 09:30 **Mian Chin** *AeroCom model experiments on UTLS aerosols and AeroCom connections to other international activities*
- 09:45 **Stefan Kinne** *Revisiting aerosol module assessments in AeroCom*

**10:00 - 10:30** coffee-break

chair: **Bjorn Samset**

**10:30 - 12.00** SESSION 7 **AeroCom model intercomparisons**

- 10:30 **Nick Schutgens** *Remote sensing evaluation of AEROCOM models*
- 10:50 **Mariya Petrenko** *AeroCom Biomass Burning Emissions Experiment Phase 1: Fire emission source strength emission factors*
- 11:10 **Huisheng Bian** *Investigation of global nitrate and its impact on air quality from AeroCom phase III experiments*
- 11:30 **Bjorn Samset** *Aerosols at the Poles: An AeroCom Phase II multi-model assessment*

**11:50** group photo (2)

**12:00 - 13:30** lunch

chair: **Stefan Kinne**

**13:30 - 14.30** SESSION 8 **summary and outlook**

**Michael Schulz** (via skype)  
*discussions on AEROCOM experiments / activities*  
*AeroCom summary and outlook*

**14:30 - 18:00** common excursion summer palace - with boat riding



**Thursday, September 22, 2016**

**AeroCom & AeroSAT**

chair: **Larisa Sogacheva**

**08:30 - 10:30 SESSION 9 AeroCom AeroSAT interactions**

- 08:30 - 08:50 **M. J. Choi** *Aerosol research in South Korea*
- 08:50 - 09:10 **Nick Schutgens** *Remote sensing evaluation of AeroSAT retrieval models*
- 09:10 - 09:30 **Stefan Kinne** *The MAC aerosol climatology*
- 09:30 - 09:50 **Gerrit de Leeuw** *Aerosol over China / multiple satellite instruments (MarcoPolo)*
- 09:50 - 10:10 **R. Kahn / T. Popp** *Outcome of last year AEROSAT meeting*
- 10:10 - 10:30 **discussion** *initial thoughts on "burning needs for collaboration"*

10:30 - 11:00 coffee-break

chair: **Stefan Kinne**

11:00 - 12:00 **AeroSAT poster introduction**  
max 2 slides / 2 minutes per poster allowed *in alphabetic author order*

12:00 - 13:30 lunch

chair / rapporteur **Stefan Kinne / Linlu Mei**

**13:30 - 18:00 SESSION 10 interactions – concepts, applications and needs**

13:30 - 13:35 session introduction + seed questions by chair

- 13:35 - 13:50 **Andrew Gettelman** *use of uncertainties in models*
- 13:50 - 14:30 **discussion** *how to use uncertainties in satellite datasets ?*
- 14:30 - 14:45 **Mian Chin** *use of aerosol types in models*
- 14:45 - 15:30 **discussion** *how to use aerosol type information in satellite datasets ?*
- 15:30 - 16:00 coffee-break
- 16:00 - 16:15 **Xiaoyan Ma** *Evaluations of seasonal / spatial global AOD variations in GEOS-Chem-APM based on multiple-platform observations*
- 16:15 - 16:30 **Po-Lun Ma** *Satellite simulators reconcile modeled and observed aerosol effects on clouds*
- 16:30 - 16:35 **Ralph Kahn** *how support aerosol-cloud studies (ACPC) ?*
- 16:35 - 17:00 **discussion** *how .. (all)*
- 17:00 - 17:05 **Thomas Popp** *needs for data assimilation to standardize algorithm qualification*
- 17:05 - 17:30 **discussion** *how .. (all)*
- 17:30 - 17:35 **Michael Schulz (via skype)** *how can we support CMIP6 [AERCHEMMIP/RFMIP/VOLMIP] ?*
- 17.35 - 18.00 **discussion** *how .. (all)*

19:00 – 22:00 common dinner

- Grand Mansion Asian Games Village Restaurant



**Friday, September 23, 2016**

**AeroSAT**

*chair / rapporteur* **Gerrit de Leeuw / Rob Levy**

**09:00 - 12:00** SESSION 11 **uncertainties in satellite retrievals**

**09:00 - 09:05** session introduction + seed questions by chair

**09:05 - 09:20** **Andy Sayer** *(Miss-) use of linear regression for validation / alternative methods*

**09:20 - 09:35** **Thomas Popp** *ESA Aerosol\_cci progress on pixel-level uncertainties*

**09:35 - 09:50** **Qi Zhang** *Variation and trends of MODIS C5 & C6 products errors ...*

**09:50 - 10:30** *discussions* (1)  
uncertainties as function of different scales

**10:30 - 11:00** coffee-break

**11:00 - 12:00** *discussions* (2)  
use of linear regression and alternatives

**12:00 - 13:30** lunch

*chair / rapporteur* **Ralph Kahn / Jan Griesfeller**

**13:30 - 15:30** SESSION 12 **air quality and aerosol**

**13:30 - 13:35** session introduction + seed questions by chair

**13:35 - 13:50** **Lorraine Remer** *The NOAA VIIRS aerosol products and air quality applications*

**13:50 - 14:05** **Olga Kalashnikova** *From Climate to Air Quality: Polarimetric Characterization of Speciated Airborne Particulate Matter*

**14:05 - 15:30** *discussions*  
where do we stand with the AOD to PM conversion ?  
how can satellite information be useful for air quality applications

**15:30 - 16:00** coffee-break

*chair / rapporteur* **Thomas Popp / Olga Kalashnikova**

**16:00 - 18:00** SESSION 13 **aerosol typing**

**16:00 - 16:05** session introduction + seed questions by chair

**16:05 - 16:20** **Lucia Mona** (via **skype**)  
*Update of aerosol type inventory*

**16:20 - 18:00** *discussions*  
connecting retrieved optical properties with interpretive composition  
assessing retrieved aerosol-type uncertainty



**Saturday, September 24, 2016**

**AeroSAT**

*chair / rapporteur Thomas Popp / Gareth Thomas*

**09:00 - 12:00** SESSION 14 **long satellite records**

**09:00 - 09:05** session introduction + seed questions by chair

**09:05 - 09:20** Robert Levy *Creating aerosol optical depth climate records from satellite remote sensing*

**09:20 - 09:35** Huikyo Lee *Is climatological aerosol optical depth averaged over the last 16+ years stationary?*

**09:35 - 09:50** L. Sogacheva *How the different retrieval approaches effect the aerosol optical depth retrieved from the (A)ATSR  
(+ brief overview of other European datasets – inquired)*

**09:50 - 10:30** *discussions* (1)  
ideas for deriving historical AOD

**10:30 - 11:00** coffee-break

**11:00 - 12:00** *discussions* (2)  
what needs to be done to achieve consistent CDR quality

*chair / rapporteur Ralph Kahn / Sophie Vandebussche*

**12:00 - 12:30** SESSION 15 **summary and wrap-up**

Thomas Popp *AeroSAT 2016 preliminary summary*

**12:30 - 14:00** lunch

**14:00 - 16:00** **poster viewing**



## International Lecture Course on Atmospheric Aerosol September 25-27, 2016 Beijing, China

Host: CAS-TWAS center of excellence for Climate and Environment Sciences

Co-organizers:

CAS-TWAS center of excellence for Climate and Environment Sciences (ICCES)  
Commission on Science and Technology for sustainable development in the South  
University of Wyoming

### Sunday, September 25, 2016

- 08:00 - 09:00 Registration
- 09:00 - 09:30 Open Ceremony & Introducing Lecturers
- 09:30 - 10:30 Lecture by **Prof. Brian Toon** (University of Colorado, USA)
- *Aerosols in the upper troposphere and lower stratosphere and their relationship to the Asian Monsoon*
- 10:30 - 11:00 Tea/Coffee Break
- 11:00 - 12:00 Lecture by **Prof. Brian Toon** (University of Colorado, USA)
- *Volcanic eruptions and climate change: historic examples and what we need to measure after the next volcanic eruptions*
- 12:00 - 14:00 Lunch Break
- 14:00 - 15:30 Lectures by **Prof. Margaret Tolbert** (University of Colorado, USA)
- *Going Through a Phase: Particulate Water in Atmosphere aerosol*
  - *As cold as ice: cirrus cloud formation in the upper troposphere*
- 15:30 - 16:00 Tea/Coffee Break
- 16:00 - 17:30 Lectures by **Prof. Brian Toon** (University of Colorado, USA)
- *Clouds and aerosols on Mars and Earth: unsolved problems in Martian dust storms and the cause of the Martian river valleys*
  - *Dead Dinosaurs and Nuclear Wars*





## Monday, September 26, 2016

- 09:00 - 10:30 Lecture by **Dr. Mian Chin** (National Aeronautics and Space Administration, USA)
- ***Modeling atmospheric aerosols and evaluating model with observations: Opportunities, challenges, and way forward***
- 10:30 - 11:00 Tea/Coffee Break & Group Photo
- 11:00 - 12:00 Lecture by **Dr. Mian Chin** (National Aeronautics and Space Administration, USA)
- ***Modeling atmospheric aerosols and evaluating model with observations: Opportunities, challenges, and way forward (Contd.)***
- 12:00 - 14:00 Lunch Break
- 14:00 - 15:30 Lecture by **Prof. Hong Liao** (Nanjing University of Information Sci. and Techn., China)
- ***Historical Changes and Climatic effects of Aerosols in China***
- 15:30 - 16:00 Tea/Coffee Break
- 16:00 - 17:00 Lecture by **Prof. Hong Liao** (Nanjing University of Information Sci. and Techn., China)
- ***Historical Changes and Climatic effects of Aerosols in China (Contd.)***

## Tuesday, September 27, 2016

- 09:00 - 10:30 Lectures by **Prof. Xiaohong Liu** (University of Wyoming, USA)
- ***Overview of aerosol representations in GCMs***
  - ***Overview of cloud microphysics and aerosol-cloud interactions in GCMs***
- 10:30 - 11:00 Tea/Coffee Break
- 11:00 - 12:00 Lecture by **Prof. Xiaohong Liu** (University of Wyoming, USA)
- ***Modeling studies of aerosol-cloud-climate interactions***
- 12:00 - 13:00 ***Closing session***
- ***Summary of lecture course***
  - ***Distributing Certificates***



## **AeroCom posters** *poster introductions on Monday afternoon*

**P-1-01** *Hannah Affum*

*Transport and fate of refinery particulates within a coastal industrial area in Ghana*

**P-1-02** *Débora Alvim*

*Evaluation of CAM-chem simulations with CO and aerosol satellite data and investigation of Fire Radiative Power with CO and AOD observations*

**P-1-03** *Tommi Bergman*

*Validation of aerosol optical properties of EC-Earth and stand-alone TM5*

**P-1-04** *Claudia Di Biagio*

*Global scale variability of the mineral dust longwave refractive index: a new dataset for climate modelling and remote sensing*

**P-1-05** *Somporn Chantara*

*Chemical composition of PM<sub>2.5</sub> from near source and urban sites in Chiang Mai, Thailand during biomass burning season*

**P-1-06** *Huiyun Du*

*Modeling investigation of rapid formation of a regional extreme severe winter haze episode covering a mega-city cluster in North China Plain*

**P-1-07** *Yan Feng*

*Increased absorption by brown carbon: impact on black carbon radiative effect*

**P-1-08** *Andrew Gettelman*

*Interaction of Aerosol Forcing and Climate Feedbacks*

**P-1-09** *Paul Ginoux*

*AeroCom Anthropogenic dust experiment*

**P-1-10** *Daisuke Goto*

*High resolved aerosol simulations using a non-hydrostatic atmospheric transport model (NICAM)*

**P-1-11** *Jan Jürgen Griesfeller*

*The AeroCom infrastructure in a changing IT environment*

**P-1-12** *Zakaria Fouad Fawzy Hassan*

*Aerosol Pollution and its Impact on Precipitation*

**P-1-13** *H. K. Wasana Isuri Jayawardena*

*Numerical simulation of air pollution dispersion in a lee side wake – A case study at south western part of Sri Lanka*

**P-1-14** *Sana Khushi*

*Utility Asset Management System of WASA – A GIS based approach for sustainable service delivery*



**P-1-15** Stefan Kinne

*The climate impact of black carbon*

**P-1-16** Alf Kirkevåg

*Aerosol validation and effective radiative forcing estimates from a preliminary version of CAM5-Oslo*

**P-1-17** Abdolnabi Abdeh Kolahchi

*The relationship between characteristics of physiographic and dust storm phenomena in Khuzestan, Iran*

**P-1-18** Thomas Kühn

*Modeling Black Carbon: from international Climate Law to Impact on Arctic Climate*

**P-1-19** Carlo Lacagnina

*Aerosol direct radiative effect based on PARASOL and OMI satellite observations*

**P-1-20** Anna Lewinschall

*Regional aerosol emissions and temperature response: Local and remote climate impacts of regional aerosol forcing*

**P-1-21** Hongyu Liu

*Constraints from airborne 210 Pb observations on aerosol scavenging and lifetime in a global chemical transport model*

**P-1-22** Qiao Ma

*Influence of NO<sub>2</sub> on secondary organic aerosol formation from ozonolysis of limonene*

**P-1-23** Xiaoyan Ma

*Aerosol forcing under cloudy sky: estimations from both satellite retrievals and global modeling*

**P-1-24** Rashed Mahmood

*Seasonality of global and Arctic black carbon processes in AMAP models*

**P-1-25** Martine Michou

*Improvement of the representation of sea salt aerosols in CNRM-CM and CNRM-RCSM*

**P-1-26** Mahmood Molanezhad

*Studying the Concentration of Urban Air Pollutants under Different Synoptic Conditions, Case Study: Teheran*

**P-1-27** James Mollard

*Multiple observational constraints on carbonaceous aerosol absorption in the Hadley Centre climate model*

**P-1-28** Paulo Nobre

*Radiation fluxes in the Brazilian Global Atmospheric Model using CLIRAD and RRTMG radiation schemes*

**P-1-29** O. K. Nwofor

*Aerosol loading in the Nigerian sub-Sahel; analytical deductions from AERONET data*

**P-1-30** Paul C Onyenekwe

*Pollutants in 3 Area Councils of the Federal Capital Territory, Nigeria*



- P-1-31** *Mariya Petrenko, Ralph Kahn, Mian Chin, Maria Val Martin*  
*AeroCom Biomass Burning Emissions Experiment Phase 1: Fire emission source strength emission factors (also relevant for AEROSAT)*
- P-1-32** *Bing Pu*  
*The impact of Pacific Decadal Oscillation on springtime dust activity in Syria*
- P-1-33** *Marc Salzmann*  
*Effects of Aerosol on Global Mean and Indian Summer Monsoon Precipitation Trend during the 20th Century*
- P-1-34** *Bjorn Samset*  
*Quantifying the semi-direct aerosol effect of black carbon Dust emission derived from satellite based surface extinction*
- P-1-35** *Andy Sayer*  
*Deep Blue' aerosol project new developments: VIIRS and beyond*
- P-1-36** *Shaymaa Shedeed*  
*Aerosol-cloud interactions: a challenge for measurements of cloud-climate interactions*
- P-1-37** *Yingxi Shi*  
*Constructing an event based aerosol product under high aerosol loading conditions*
- P-1-38** *Tanja Stanelle*  
*Aerosol component of the global climate-aerosol-chemistry model ECHAM6-HAMMOZ: ECHAM6-HAM2*
- P-1-39** *Tanja Stanelle*  
*Air pollution in Southern West Africa: What do different emission inventories tell us?*
- P-1-40** *Kentaroh Suzuki*  
*Energy budget analysis of scattering and absorbing aerosol effects on global precipitation with a global aerosol-climate model*
- P-1-41** *Qian Tan*  
*Evaluation of modeled vertical distribution of SO<sub>2</sub> and sulfate*
- P-1-42** *Shahina Tariq*  
*Effects of Anthropogenic Methane Aerosols on Climate of Pakistan*
- P-1-43** *Gloria Titos*  
*A review of the effect of hygroscopic growth on the aerosol light-scattering coefficient*
- P-1-44** *Maria Val Martin*  
*AeroCom Biomass Burning Emissions Experiment Phase 2: A fire emission plume injection height parameterization (also relevant for AEROSAT)*
- P-1-45** *Jingxu Wang*  
*Factors Affecting Aerosol Radiative Forcing*
- P-1-46** *Qiuyan Wang*



*Impact of anthropogenic aerosols from global, East Asian, and non-East Asian sources on East Asian summer monsoon system*

**P-1-47 Zhili Wang**

*Sensitivity of precipitation extremes to radiative forcing of greenhouse gases and aerosols*

**P-1-48 Fanglin Yang**

*Radiative Forcing and Climatic Impact of the Mount Pinatubo Volcanic Eruption*

**P-1-49 Fangqun Yu**

*Study of particle formation and growth with an advanced particle microphysics model and implications to aerosol indirect radiative forcing*

**P-1-50 Paul Zieger**

*Evaluation and improvement of the parameterization of aerosol hygroscopicity in global climate models using in-situ surface measurements*

**P-1-51 Paul Zieger**

*Recent findings from laboratory generated sea salt experiments*

**P-1-52 Meigen Zhang**

*Model analysis of soil dust impacts on boundary layer meteorology and air quality over East Asia in April 2015*

**P-1-53 Shipeng Zhang**

*Structure Uncertainties in Aerosol-Cloud-Interactions in CAM5*

**P-1-54 Xiao-Xiao Zhang**

*Modeling of dust deposition in central Asia*

**P-1-55 Shixian Zhai**

*Sensitive analysis of one haze episode in Nov. 2012 over Beijing by GRAPES-CUACE aerosol adjoint model*

**P-1-56 Chen Zhou**

*The effective radiative forcing due to partly internally mixed and externally mixed anthropogenic aerosols and their effects on global climate*

## **AeroSAT posters** poster introductions on Thursday morning

**P-2-01 Antti Arola**

*Retrieval of aerosol optical depth from surface solar radiation measurements using machine learning algorithms, non-linear regression and a radiative transfer-based look-up table*

**P-2-02 Heming Bai**

*Prediction of ground-level PM<sub>2.5</sub> concentrations from 3km resolution MODIS AOD over southern Jiangsu*

**P-2-03 Yahui Che**

*Inter-comparison of three AATSR Level 2 (L2) AOD products over China*



**P-2-04 Thomas Fairlie**

*Characterizing the Asian Tropopause Aerosol Layer using balloon measurements, satellite observations, and a chemical transport model*

**P-2-05 Cheng Fan**

*An Atmospheric Correction Algorithm for FY3/MERSI data over land in China*

**P-2-06 Michael Garay**

*Improvements to the MISR Operational Aerosol Product Including Cloud Screening, Uncertainty, and Microphysical Properties*

**P-2-07 Paul Ginoux**

*Dust emission derived from satellite based surface extinction*

**P-2-08 Kang Hu**

*Climatology (2002–2014) of aerosol products derived from MODIS, MISR and OMI sensors over the Yangtze River Delta*

**P-2-09 Christina Hsu**

*Retrieving Aerosol Plume height information by synergetic use of VIIRS OMPS and CALIOP Observations*

**P-2-10 Guang Jie**

*Aerosol Optical Depth Retrieval in Xinjiang Region Using Indian National Satellite (INSAT 3D) Data*

**P-2-11 Aoki Kazuma**

*Temporal and spatial variability of Aerosol optical properties retrieval from sky radiometer observation in Japan sites.*

**P-2-12 Carlo Lacagnina**

*Aerosol Single Scattering Albedo: comparing PARASOL, OMI and MISR retrievals*

**P-2-13 Antti Lipponen**

*Pixel level uncertainty estimates for AOD using Bayesian Dark Target algorithm*

**P-2-14 Ying Li**

*Monitoring World Atmosphere Aerosol and Siberia Wildfire in 2012 using Satellite and Model Datasets*

**P-2-15 Hongqing Liu**

*NOAA VIIRS Dark Target-Bright Surface Aerosol Optical Depth Algorithm*

**P-2-16 She Lu**

*Joint retrieval of aerosol optical depth and surface reflectance over land using geostationary satellite data*

**P-2-17 Shana Mattoo**

*Aerosol absorption retrievals from the PACE broad spectrum Ocean Color Instrument (OCI)*

**P-2-18 Linlu Mei**

*Aerosol retrieval over Polar Region*

**P-2-19 Ali Akbar Noroozi and Elhame Haghnejad**



*Identify areas with dust storm potential of physiographic and climatic characteristics*

**P-2-20** *Muhammad Imran Shahzad*

*Analyses of Extreme Air Pollution Events over Lahore using Satellite and Ground Based Remote Sensing*

**P-2-21** *Krishna Kumar Shukla*

*Identification of the cloud base height over the central Himalayan region: Intercomparison of Ceilometer and Doppler Lidar*

**P-2-22** *Gareth Thomas*

*The Optimal Retrieval of Aerosol and Cloud (ORAC) algorithm: Introduction, overview and status*

**P-2-23** *Si-Chee Tsay*

*7-SEAS/BASELINe: Satellite-surface perspective of air quality and aerosol-cloud effects on the environment*

**P-2-24** *Sophie Vandenbussche*

*IASI dust within the ESA aerosols CCI: four different scientific approaches, their intercomparison and comparison with external data*

**P-2-25** *Sophie Vandenbussche*

*Exploitation of almost 10 years of 3D dust distribution from IASI with the MAPIR algorithm for studying desert dust sources in Asia.*

**P-2-26** *Yanqing Xie*

*Image fusion of MODIS AOD products based on the maximum likelihood estimate method*