

4th Atmospheric Composition and the Asian Monsoon (ACAM) Workshop

26-28 June 2019

Dewan Kuliah Utama, Universiti Kebangsaan Malaysia, Bangi, Selangor, Malaysia



DAY ONE: WEDNESDAY, 26 JUNE

8:00-8:40 **Registration**

OPENING *Chair: Mohd Talib Latif*

8:40-8:50 **Mohd Talib Latif**, Local Organizing Committee Co-Chair, UKM, Malaysia
Welcome address

8:50-9:00 **Mohammad Kassim**, Dean Faculty of Science & Technology, UKM, Malaysia
Opening address

9:00-9:20 **Workshop Sponsors**

9:20-9:30 **Fatimah Ahamad**, Local Organizing Committee Co-Chair, UKM, Malaysia
Logistics

9:30-10:00 **Hans Schlager**, ACAM Co-Chairs, DLR, Germany
Introduction to the 4th ACAM workshop

10:00-10:30 **Group Photo/Tea Break**

SESSION 1: **EMISSION AND AIR QUALITY IN THE ASIAN MONSOON REGION (1)**

Chairs: James Crawford, Prabir Patra

10:30-10:50 **Tao Wang** (*invited*), Hong Kong Polytechnic University, Hong Kong
“Tropospheric ozone trend in Hong Kong during 1994-2018: the role of emission and climate change in subtropical Asia”

10:50-11:05 **Shin-Ya Ogino**, Japan Agency for Marine-Earth Science and Technology
“Lower-tropospheric high-ozone layer over eastern edge of Indochina Peninsula revealed by ozonesondes in Hanoi, Vietnam”

11:05-11:20 **M. Fahim Khokhar**, Institute of Environ. Sciences and Engineering - NUST Pakistan
“Exploring the trends of aerosols and atmospheric pollutants in the changing climate of Pakistan”

11:20-11:35 **Rokjin Park**, Seoul national university, South Korea
“Inter-annual variability of PM_{2.5} concentrations over East Asia associated with climate connections”

11:35-11:50 **Jason Blake Cohen**, Sun Yat-Sen University, China
“Coupling remote sensing, models, and mathematics to constrain and attribute extreme pollution events in Southeast, East, and South Asia”

11:50-12:05 **Atul Kumar Srivastava**, Indian Institute of Tropical Meteorology
“Assessment of boundary layer pollutants over the Indo-Gangetic Basin: implication to UTLS aerosol characteristics”

12:05-12:20 **Ilse Aben**, SRON Netherlands Institute for Space Research, The Netherlands
“TROPOMI: a new European satellite instrument for atmospheric research. Focus on carbon monoxide and methane”

12:20-13:40 **Lunch Break**

SESSION 2: **EMISSION AND AIR QUALITY IN THE ASIAN MONSOON REGION (2)**

Chairs: Sachiko Hayashida, Xiaohua Pan

- 13:40-14:00 **Nguyen Thi Kim Oanh** (*invited*), Asian Institute of Technology, Thailand
 “Crop residue open burning: implication on air quality and climate forcing in Asian monsoon region”
- 14:00-14:15 **Xuemei Wang**, Institute for environmental and climate research, Jinan University, China
 “The characteristics of NO emission from soil and its effect on secondary pollution over China from modelling study”
- 14:15-15:30 **Chang-Keun Song**, Ulsan Natl. Inst. of Science and Technology, South Korea
 “Impact of current emission reduction of air pollutants over BTH region in China on ambient concentrations; preliminary results of modelling approach”
- 14:30-14:45 **Nasim Hossein Hamzeh**, Atmospheric Science and Meteorological Research Center, Iran
 “Investigation of monsoon effects on dust storms in South East of Iran”
- 14:45-15:00 **Liya Yu**, National University of Singapore
 “Impacts of peat-forest smoke on urban atmosphere in Maritime Continent: What is new?”
- 15:00-15:15 **Pallavi Saxena**, Hindu College, University of Delhi, India
 “Seasonal variation of trace gases at an urban location in Delhi of IGP of India”
- 15:15-15:30 **Pornpan Uttamang**, North Carolina State University, USA
 “Characterization air quality in Bangkok metropolitan region, Thailand”

POSTER SESSION 1 & Tea

Chair: Mian Chin

15:30-16:20 Poster introduction (1 min each)

16:20-18:10 Poster viewing & Tea

18:10 **Adjourn**

DAY TWO: THURSDAY, 27 JUNE

SESSION 3: EMISSION AND AIR QUALITY IN THE ASIAN MONSOON REGION (3)

Chairs: Didin Agustian Permadi, Jianchun Bian

- 8:30-8:50 **Maheswar Rupakheti** (*invited*), Institute for Advanced Sustainability Studies, Potsdam, Germany
"Understanding atmospheric processes and mitigation of air pollution in the Himalayan region through new Nepal Emissions Inventory (NEEMI)"
- 8:50-9:05 **Matthew Ashfold**, University of Nottingham Malaysia
"Impacts of northeast monsoon cold surges on atmospheric composition in Southeast Asia"
- 9:05-9:20 **Jianan Zou**, Lanzhou University, China
"The effects of aerosol chemical composition and hygroscopicity on the scattering coefficient in Beijing, China"
- 9:20-9:35 **Ohnmar May Tin Hlaing**, Environmental Quality Management Co., Ltd., Myanmar
"Air pollution in Myanmar rural ecosystem: The issue being neglected so far"
- 9:35-9:50 **Hossain Mohammed Syedul Hoque**, Center for Environmental Remote Sensing, Chiba University, Japan
"Simultaneous observations of formaldehyde and glyoxal using MAX-DOAS as part of international remote sensing network SKYNET"
- 9:50-10:05 **Alok Pandey**, The University of Edinburgh, Edinburgh, UK
"Evaluating tropospheric ozone in UKCA model with aircraft (IAGOS), satellite (OMI) and Ozonesonde observations over South Asia"
- 10:05-10:20 **Zhining Tao**, GESTAR-USRA/NASA Goddard Space Flight Center, USA
"Interactions of Asian monsoon and regional air quality –Synergy between MICS-Asia and ACAM"
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10:20-10:50 **Tea Break**

SESSION 4: AEROSOLS, CLOUDS AND THEIR INTERACTIONS WITH ASIAN MONSOON (1)

Chairs: Jonathon Wright, Klaus Gottschaldt

- 10:50-11:10 **Chandan Sarangi** (*invited*), Pacific Northwest National Laboratory, USA
"Aerosol-induced micro-physical, dynamical and structural changes in convective cloud systems during Indian monsoon"
- 11:10-11:25 **Mian Chin**, NASA Goddard Space Flight Center, USA
"Connections between air pollution and Asian winter/summer monsoon systems: Effects on surface air quality and UTLS aerosol composition"
- 11:25-11:40 **Meigen Zhang**, Institute of Atmospheric Physics, Chinese Academy of Sciences
"Changes in the diurnal variations of clouds and precipitation induced by anthropogenic aerosols over East China in August 2008"
- 11:40-11:55 **Shraddha Dhungel**, NASA Goddard Institute for Space Studies, USA
"The effect of aerosols and agriculture on South Asian summer monsoon"
- 11:55-12:10 **Tzung-May Fu**, Southern University of Science and Technology, China
"Aerosols suppress mesoscale convective system activities in Southern China"
- 12:10-12:25 **Piyush Patel**, Physical Research Laboratory, India
"Response of Indian summer monsoon to dust-induced modification in ice-clouds"
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12:25-13:40 **Lunch Break**

SESSION 5: AEROSOLS, CLOUDS AND THEIR INTERACTIONS WITH ASIAN MONSOON (2)

Chair: Bhupesh Adhikary

- 13:40-13:55 **Xiaohua Pan**, University of Maryland College Park/NASA Goddard Space Flight Center, USA
"Connecting Indonesian fires and drought with the El Nino, Indian Ocean dipole and monsoon during 1979-2016"

- 13:55-14:10 **Corinna Kloss**, CNRS, LPC2E, France
"Transport of the 2017 Canadian wild fire plume to the tropics and global stratosphere via the Asian monsoon circulation"
- 14:10-14:25 **Ritesh Gautam**, Environmental Defense Fund, USA
"Extreme smog over northern India during post-monsoon crop burning season: Quantifying long-term changes in aerosol loading and radiative effects using satellite data"
- 14:25-14:40 **Kevin Henson**, Manila Observatory, The Philippines
"Interactions of monsoon precipitation, and aerosol composition & transport in the Philippines (IMPACT-PH)"
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SESSION 6: IMPACT OF ASIAN MONSOON ON CONVECTION AND CHEMISTRY; UTLS RESPONSE TO ASIAN MONSOON (1)

Chair: Federico Fierli

- 14:40-15:00 **Hartwig Harder** (*Invited*), Max-Planck Institute for Chemistry, Germany
"The south Asian monsoon—pollution pump and purifier"
- 15:00-15:15 **Prabir Patra**, Japan Agency for Marine-Earth Science and Technology (JAMSTEC)
"Emissions of greenhouse gases and transport to the UT/LS region in monsoon Asia"
- 15:15-15:30 **Laura Pan**, National Center for Atmospheric Research, USA
"The Asian summer monsoon chemical and climate impact project (ACCLIP)"
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POSTER SESSION 2 & Tea

Chair: Hans Schlager

- 15:30-16:15 Poster introduction (1 min each)
- 16:15-18:10 Poster viewing & Tea
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18:10 **Adjourn**

20:00-22:30 Workshop Dinner

DAY THREE: FRIDAY, 28 JUNE

SESSION 7: IMPACT OF ASIAN MONSOON ON CONVECTION AND CHEMISTRY; UTLS RESPONSE TO ASIAN MONSOON (2)

Chairs: Hiroshi Tanimoto, Rolf Mueller

- 8:30-8:50 **Pengfei Yu** (*invited*), NOAA, USA and Jinan University, China
"Modeling stratospheric aerosols"
- 8:50-9:05 **Michelle Santee**, Jet Propulsion Laboratory/California Institute of Technology, USA
"Characterizing intraseasonal and interannual variability in the composition of the Asian summer monsoon anticyclone using aura microwave limb sounder measurements"
- 9:05-9:20 **Federico Fierli**, EUMETSAT, Germany
"Diagnostics from in-situ observation from Geophysica measurements of the Asian summer monsoon campaign in 2017 and comparison with Chemistry-Climate-Model simulations"
- 9:20-9:35 **Silvia Bucci**, CNRS/PSL-ENS, Sorbonne Université/École polytechnique, France
"Convective sources and transport patterns into the stratosphere during the 2017 StratoClim campaign"
- 9:35-9:50 **Xiaolu Yan**, Forschungszentrum (IEK-7: Stratosphere), Jülich, Germany
"The efficiency of transport into the stratosphere via the Asian and North American monsoon circulations"
- 9:50-10:05 **Prajwal Rawat**, Aryabhata Research Institute of Observational Sciences, Nainital, India
"Balloon borne and Satellite observations of Himalayan UTLS region"
- 10:05-10:20 **Baerbel Vogel**, Forschungszentrum (FZJ), Jülich, Germany
"Lagrangian simulations of the transport of young air masses to the top of the Asian monsoon anticyclone and into the tropical pipe"
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10:20-10:40 **Tea Break**

Working Group Discussion

- 10:40-11:40 Separate WG meetings
- 11:40-12:00 Report WG3 (Training School)
- 12:00-12:10 Report WG2 (Modeling and Analysis)
- 12:10-12:20 Report WG1 (Observations and Data Sharing)
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12:20-14:40 **Lunch Break**

SESSION 8: IMPACT OF ASIAN MONSOON ON CONVECTION AND CHEMISTRY; UTLS RESPONSE TO ASIAN MONSOON (3)

Chairs: Suresh Babu, Masatomo Fujiwara

- 14:40-15:00 **Stephan Borrmann** (*invited*), Max-Planck Institute for Chemistry, Germany
"In-situ measurements of aerosols and clouds within the Asian monsoon anticyclone and the ATAL: partical physical properties and chemical Composition"
- 15:00-15:20 **Michael Höpfner** (*invited*), Karlsruhe Institute of Technology, IMK, Germany
"Trace gases and aerosols in the AMA as observed by airborne infrared limb-imaging during StratoClim, Kathmandu, July 2017"
- 15:20-15:35 **Juying Warner**, University of Maryland College Park, USA
"Upper tropospheric ammonia detected from AIRS"
- 15:35-15:50 **Brice Barret**, Laboratoire d'Aérodologie, Université de Toulouse, CNRS, UPS, Toulouse, France
"ATAL aerosol budget from high resolution simulations"
- 15:50-16:05 **Jean-Paul Vernier**, NIA/NASA Langley Research Center, USA
"The impact of the summer Asian monsoon on UTLS aerosols"

16:05-16:20	Jianchun Bian , LAGEO, Institute of Atmospheric Physics, Chinese Academy of Sciences, China “Overview of 10-year sounding water vapor, ozone and particle campaign (SWOP) at Lhasa and Kunming during the ASM (2009-2018)”
16:20-16:35	Jonathon Wright , Tsinghua University, China “Outcomes of the SPARC reanalysis intercomparison project: An Asian monsoon perspective”
16:35-16:50	Mark Parrington , European Centre for Medium-Range Weather Forecasts, UK “Atmospheric composition in the Asian monsoon from 2003-2016 in the Copernicus Atmosphere Monitoring Service Global Reanalysis”
16:50-17:10	CLOSING
