# The 4<sup>th</sup> International Workshop on Regional Air Quality Management in Rapidly Developing Economic Regions

Theme: Regional air quality management: from science to policy 14-17 January 2014

The Hong Kong University of Science and Technology, Hong Kong, China (Final Announcement and Program Agenda)

Website: www.ust.hk/4raqm

Following the success of the first three workshops (which were held in 2007, 2009 and 2011) on Regional Air Quality Management in Rapidly Developing Economic Regions, with the continuous supports from the environmental authorities and academic institutes in Hong Kong and Guangdong, and also leveraging the focus of the recently published Special issue of Atmospheric Environment on "Improving Regional Air Quality over the Pearl River Delta and Hong Kong: from Science to Policy", we are pleased to announce that "The 4th International Workshop on Regional Air Quality Management in Rapidly Developing Economic Regions" with the theme "Regional Air Quality Management: from Science to Policy" will be held in Hong Kong from 14-17 January 2014 at the Hong Kong University of Science and Technology (HKUST).

Building upon the last three conferences and the AE Special Issue, this workshop aims at building a high-level platform for environmental scientists, engineers, government officials, enterprise managers, etc. to review the *air* quality sciences and pollution control policies, and put forward effective action ideas within the next five to ten years to expedite the interaction between science and pollution control policy to make contributions in improving regional air quality and protecting public health.

It is hoped that the conference can produce a summary (or a few summaries) to be submitted for journal publication regarding the direction of air quality science research and air control policy priorities in the next five to ten years for regional air quality improvement in China.

### Theme

- State of air quality science in China
- Fine Particulates (PM2.5) and their health impact
- Ozone and VOC pollution
- Regional Air Quality management system and how science can effectively drive policy

### **Special focus**

• Opportunities and challenges in air quality management in China in the coming five to ten years

### Registration

- Pre-registration starts 14:00 on Monday Jan 13 at Crowne Plaza Hotel and lasts until 20:30
- Registration and help desks start at 08:00 on Tuesday Jan 14.
- Most up-to-date information about the conference is available at http://envr.ust.hk/4raqm.

### Workshop Venue (Academic Building, HKUST)

- All **plenary sessions** on Tuesday (14 January) and Thursday (16 January) will be held at the Lecture Theater J at the Academic Building of HKUST.
- Parallel sessions on Wednesday (15 January) will be held at Lecture Theaters J and K, Rooms 1505, 4619, 4620 and 5619. Please see attached map for more information.
- The Poster Session will be held between 17:30 to 19:00 outside Lecture Theater J on Wednesday (15 January). Refreshments will be served. Posters can be set up at the display site after registration, and be removed after the close of the Poster Session. Any poster not removed by noon on Thursday (16 January) will be discarded.

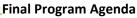
### **Opening Ceremony and Conference Banquet**

- The opening ceremony will be held at 0830 on 14 January at Lecture Theater J. All are invited.
- The Conference Banquet will be held at 1800 on 14 January at the Chinese Restaurant at HKUST. All registered participants are invited.

### Lunch

- Each registered participant will be provided with HK\$100 worth of meal coupons for lunch or refreshments from 14 to 16 January. They can be used at the following HKUST restaurants: Coffee Shop, LG1 Canteen II, LG5 McDonald, LG7 Kitchen 1, LG7 Kitchen 2 and LG7 Kitchen 3. Please see conference map on the reverse side of your badge for their locations.
- All plenary speakers and session chairs are also invited to join a sit-in lunch at the Chinese Restaurant during the lunch breaks on 14 and 15 January.





 Please find the enclosed final program agenda. There are changes from the draft program, please check the final of your talk and sessions. The most up-to-date program will be made available at the conference website http://envr.ust.hk/4raqm.



### **Presentation arrangements**

- Please note that you will NOT be able to use your own computer for your presentation. Please bring your presentation file (in ppt or pdf format) on a USB drive to the help desk for uploading during registration or the coffee breaks.
- You can use either English or Chinese for your presentation. However, since we have a number of international participants, please help by putting some English translations for the keywords or main conclusions if you use Chinese for your presentation.
- Since we have a very tight schedule and we are running parallel session, we ask all the session chairs to keep a strict time limit. The time allocated for all the talks in the parallel session is 15 minutes. We recommend the use of 12 minutes for presentation and 3 minutes for Q/A. Helpers will alert the speaker after 10 and 12 minutes. After 15 minutes, a timer will sound and we request that the speaker should stop the presentation (if still on-going) immediately.
- For the parallel sessions, we shall try to maintain the posted schedule. If a speaker cannot make
  his / her presentation, we ask the session chairs to extend the Q/A period for the earlier talks, or
  to suspend the session and resume the session at the posted time.
- We plan to the presentations (in pdf format) on the conference website afterwards. Please let
  us know by email to <a href="mailto:4raqm@ust.hk">4raqm@ust.hk</a> before the end of January 2014 if you want to show an
  edited version of your file, or if you do not want your file to be included.

### Transportation

- There will be 2 conference coaches taking participants from the Crowne Plaza and the Holiday Inn Hotels at the following schedule:
  - a. 07:40 on Tuesday Jan 14 from Hotels to HKUST for Opening Ceremony
  - b. 21:00 on Tuesday Jan 14 from HKUST to Hotels after Conference Banquet
  - c. 08:15 on Wednesday Jan 15 from Hotels to HKUST for Day 2 Parallel Sessions
  - d. 08:15 on Thursday Jan 16 from Hotels to HKUST for Day 3 Summary Session
  - e. 08:40 on Friday Jan 17 from Hotels to HKUST for site visit tour
- Please refer to http://envr.ust.hk/4AQM/transportation.html for more transport information.

### Non-Smoking Campus

 Please note that HKUST is a non-smoking campus. Smoking is not allowed throughout the campus, both indoor and outdoor. From the conference venue, one needs to take a 3-5 minute walk to leave the university before smoking is allowed.

### Short Course (for description, see http://envr.ust.hk/4raqm/short course.pdf)

We are pleased to announce that Drs. Judith Chow and John Watson of DRI have kindly agreed to organize a one day short course on "PM<sub>2.5</sub> Measurements for Air Quality Management" at room 4619 on Friday Jan 17. The course fee is HK\$1000 or RMB 800. Those interested should register at the help desk or online at http://envr.ust.hk/4raqm/shortcourse\_reg.html.



### **Site visits** (0900 – 1300, Friday Jan 17)

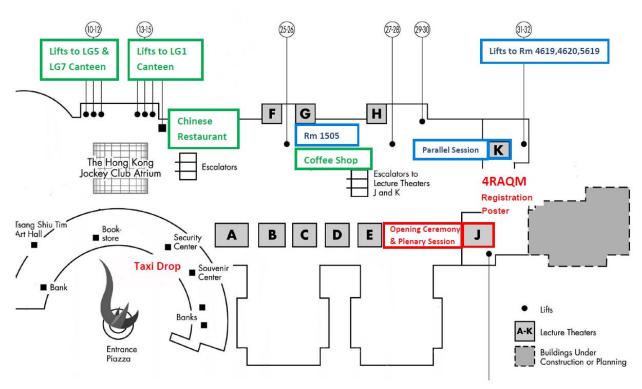
- We have arranged a site visit for the following three locations:
  - a. The HKUST Research Air Quality Supersite Facility
  - b. HKEPD Vehicle Emission Remote Sensing Facility
  - c. HKEPD Central Roadside Air Quality Monitoring Station
- Those who are interested please register online at <a href="http://envr.ust.hk/4raqm/sitevisit\_reg.html">http://envr.ust.hk/4raqm/sitevisit\_reg.html</a>
- The site visit coach will first pick up participants from the hotels at 08:40, and then pick up other participants at HKUST piazza (i.e. taxi drop on the enclosed map) at 09:00. We expect the site visits to finish by 13:00, and the coach will bring the participants back to the hotels.



### **Best Student Paper and Best Young Researcher Award**

- To encourage participation of young researchers, we are creating two awards this year. One for the **best student paper** and one for best paper from **recent PhDs graduated in or after 2009.** To be eligible, the **winner must be the 1st author and also present his/her paper** in the workshop.
- If you want to be considered for these awards, please email the Secretariat at <a href="mailto:4raqm@ust.hk">4raqm@ust.hk</a> or inform us during registration to let us know about your student / young research status.
- Session chairs are given a score sheet and asked to help assess the presentations. Participants
  competing for these awards are encouraged to inform the session chairs of their status.

### **Academic Building Directory**



### **Conference Chair**

- Conference Chair: Christine Kung-wai Loh, Under Secretary, Environment Bureau, The HKSAR Government
- Co-Chair: Joseph Hun-wei Lee, Vice President for Research and Graduate Studies, The Hong Kong University of Science and Technology

### Organized By:

- The Hong Kong University of Science and Technology
- South China University of Technology
- Tsinghua University
- Environment Bureau, The HKSAR Government
- Guangdong Regional Atmospheric Environmental Research Center

Hosted By Division of Environment, The Hong Kong University of Science and Technology

### **Advisory Committee**

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Kefa Cen	Zhejiang University, Academician of Chinese Academy of Engineering, China
<b>Guangrong Chen</b>	Guangdong Environmental Protection Bureau
Zhi Dang	South China University of Technology, China
Dale Evarts	Environmental Protection Agency, USA
Jiamo Fu	Guangzhou Institute of Geochemistry, Academician of Chinese Academy of
	Sciences, China
Colin Hong	Beijing-Hong Kong Academic Exchange Center, Hong Kong
Alan Lloyd	The International Council on Clean Transportation, USA
W.C. Mok	Environmental Protection Department, Hong Kong
Jeanne Ng	CLP Holdings, Hong Kong
Xiaoyan Tang	Peking University, Academician of Chinese Academy of Engineering, China
Wenxing Wang	Shandong Uni., Academician of Chinese Academy of Engineering, China
Quan Zhang	Shanghai Environmental Protection Bureau
Zhentian Zhang	Guangdong Environmental Protection Bureau
Yingmin Zhao	Ministry of Environmental Protection
	Guangrong Chen Zhi Dang Dale Evarts Jiamo Fu  Colin Hong Alan Lloyd W.C. Mok Jeanne Ng Xiaoyan Tang Wenxing Wang Quan Zhang Zhentian Zhang

# Updated Program Agenda

PROGRAM SUMMARY - JAN. 13-17, 2014

Date	Major Event
Monday, Jan. 13, 2014	Pre-registration
1400 – 2100	Registration at Crowne Plaza Hong Kong Kowloon East Hotel
Tuesday, Jan. 14, 2014	Day 1: Air Quality – From Science to Policy
0800 – 1200	Registration
0830 – 0900	Opening Remarks
0900 – 1800	Plenary Sessions 1 – 4
1800 – 2000	Conference Banquet
Wednesday, Jan. 15, 2014	Day 2: Technical Sessions
0900 – 1900	Parallel Sessions & Poster Session
Thursday, Jan. 16, 2014	Day 3: The Way Forward
0900 – 1100	Session Report and Discussion
1100 – 1110	Presentation of Best Student Paper and Young Professional Awards
1140 – 1300	Conference Summary and Publication Discussion
Friday, Jan. 17, 2014	Day 4: Short Course and Site Visits
0830 – 1700	Short Course: PM <sub>2.5</sub> Measurements for Air Quality Management by Dr. Judith C. Chow and Dr. John G. Watson Venue: Rm 4619. Registration fee: HK\$1,000. Register at <a href="http://envr.ust.hk/4raqm/shortcourse_reg.html">http://envr.ust.hk/4raqm/shortcourse_reg.html</a>
0900 – 1300	Site Visits (50 spaces available):  1. HKUST Air Quality Research Supersite  2. Vehicle Emission Remote Sensing Facility  3. HKEPD Central Roadside Air Quality Monitoring Station Register at <a href="http://envr.ust.hk/4raqm/sitevisit_req.html">http://envr.ust.hk/4raqm/sitevisit_req.html</a> or at help desk

## 2014 PROGRAM GRID - TUESDAY, JAN. 14

uesday, Jan. 1 ocation: Lecture		uality - From Science to Policy	
ocalion. Lecture	Event	Title	Session Chair
0800	Lvoin	Registration outside Lecture Theatre J	COSSION CHAI
0830 – 0900	Opening Ceremony Joseph LEE Kam-sing WONG Zhiwen PAN Dale EVARTS Colin HONG Jiming HAO	J	g ed States EPA
0900 – 1030	Plenary 1	Air Quality Science in China – Review and Challenges	Christine Loh Dale Evarts
0900 - 0930	Jiming HAO	Air Quality Issues and Challenges	
0930 – 1000	Christine LOH	Air Quality Science and Policy	
1000 – 1100		Group Photo and Coffee Break	
1100 – 1240	Plenary 2	Health, Economy and Policy	Christine Loh Dale Evarts
1100 – 1120	Shaw-chen LIU	Is global warming a significant cause of worsening haze problem	in China?
1120 – 1140	Bingheng CHEN	Regional air pollution management an environmental health pe	rspective
1140 – 1200	Robert O'KEEFE	AQ Health Issues in Developing Economies	
1200 – 1220	H. Christopher FREY	Transportation Energy Use, Emissions, Air Quality, Human Expos	sure & Health Impa
1220 – 1240	Hajime AKIMOTO	SLCP Co-benefit Strategy on Air Quality and Climate in East Asia	ì
1240 – 1420		Lunch	
1420 – 1600	Plenary 3	Particulates and Visibility	Peter Louie, John Watson
1420 – 1440	Chak CHAN	Summary of results from Hong Kong Supersite Study	
1440 – 1500	Judy CHOW	Quality Assurance/Quality Control of Air Quality Measurements	
1500 – 1520	Markus AMANN	Controlling PM <sub>2.5</sub> pollution in Europe: the importance of NH <sub>3</sub> emis agricultural activities	sions from
1520 – 1540	Pen-chi CHIANG	Maximization of CO <sub>2</sub> Fixation Capacity by Steelmaking Slag Carb Packed Bed	oonation in a Rotatir
1540 – 1600	Tong ZHU	Air Pollution in Megacity Beijing and North China Plain	
1560 – 1640		Coffee Break	
1640 – 1800	Plenary 4	Photochemical Smog and Challenges in AQM	Peter Louie, John Watson
1640 – 1700	Tao WANG	Increasing external impact negates local control effort for ozone a study of Hong Kong and implications for other Chinese cities	•
1700 – 1720	Min SHAO	Variations of ground-level ozone and its precursors in Beijing in s	
1720 – 1740	Donald BLAKE	Impact of the Hong Kong's catalytic converter exchange program concentrations	
1740 – 1800	Yinon RUDICH	Evolution of the complex refractive index in the UV spectral re secondary organic aerosol	gion in ageing
1800 – 2000		Conference Banquet	

## 2014 PROGRAM GRID - WEDNESDAY, JAN. 15

Wednesda	y, Jan. <u>1</u>	5, 2014 Technical Sessions		
Time	Session ID		Room ID	Session Chair
Staring at 090	00			
0900 – 1030	Group 1			
	T1R1	Emission Characterization, Inventory and Trend	R1	Xuemei Wang, Hezhong Tian
	T1R2	The Hong Kong Supersites: Findings and Implications (Part 1)	R2	Chak Chan, Tao Wang
	T1R3	The Meteorology and the Impact on Air Quality	R3	Huiting Mao, Wenshi Lin
	T1R4	Integrated Air Quality Management: From Science to Policy (Part 1)	) R4	Christopher Fung, Wenjing Deng
	T1R5	Advanced Monitoring, Analysis and Comparisons	R5	Aijun Ding, Fred Prata
	T1R6	Pollution Formation and Process Analysis (Part 1)	R6	Jianzhen Yu, Junhua Li
1030 – 1100	Coffee E			
1100 – 1230	Group 2			
	T2R1	VOC Emission and the Impact on Ozone	R1	Min Shao, Daiqi Ye
	T2R2	The Hong Kong Supersites: Findings and Implications (Part 2)	R2	Chak Chan, Tao Wang
	T2R3	PM Modeling and Process Analysis	R3	Ralph Morris, Tzung-May Fu
	T2R4	Integrated Air Quality Management: From Science to Policy (Part 2)	) R4	Dave Ho, Gayle Hagler
	T2R5	Aerosol Optical Characteristics and Remote Sensing	R5	Allen Zheng, Frank S.C. Lee
1000 1400	T2R6	Pollution Formation and Process Analysis (Part 2)	R6	Xinming Wang, Tijian Wang
1230 – 1400	Lunch			
1400 – 1530	Group 3			
	T3R1	Source Identification, Apportionment and Process Studies	R1	Jay Turner, Yinchang Feng
	T3R2	Aerosol Characterization and Measurement (Part 1)	R2	Mei Zheng, Changhong Chen
	T3R3	Air Quality Modeling, Prediction and Control Assessment	R3	Hai Guo, Sam Saunders
	T3R4	Marine Emissions and Control Strategy	R4	David Pettit, Simon Ng
1530 – 1600	T3R5 Coffee E	Health Risk Communication: Exposure and Public Health (Part 1)	R5	H. Christopher Frey, Chit Ming Wong
1600 – 1730	Group 4			
	T4R1	Control Strategy and Experiences	R1	Donald Blake, Kebin He
	T4R2	Aerosol Characterization and Measurement (Part 2)	R2	Jianmin Chen, Zibing Yuan
	T4R3	Air Quality Modeling in Urban Areas	R3	Jonathan E. Pleim, C.H. Liu
	T4R4	Defeating Challenges and Achieving Solutions	R4	Christine Loh, Markus Amann
	T4R5	Health Risk Communication: Exposure and Public Health (Part 2)	R5	Bingheng Chen, T. W. Wong
1730 – 1900	Poster S	Session (Outside Lecture Theatre J, refreshment will be ser	ved)	

Room ID	R1	R2	R3	R4	R5	R6
Location	Room 4619	Room 4620	Room 5619	Lecture Theatre J	Lecture Theatre K	Room 1505
Nearest lift	Lift 31-32				Lift 25-26	

## 2014 PROGRAM GRID - THURSDAY, JAN. 16

	Jan. 16, 2014 The Way Forward cture Theatre J	
Time	Session ID Session Title	Session Chair
Staring at 090	0	
0900 – 1100	Session Report and Discussion (5 minute reports by session chairman, followed by plenary discussions)	Shaw-chen Liu, John Watson
1100 –1110	Presentation of Best Student Paper Awards and Young Professional Awards	Christine Loh
1110 – 1130	Coffee Break	
1130 – 1250	Conference Summary and Publication Discussion	Christine Loh, Kebin He
1250 – 1300	Conference Closing Ceremony	

### TECHNICAL SESSIONS

Wednesday, Ja	Wednesday, Jan. 15, 2014 0900 –1030			
Session ID	T1R1	T1R2	T1R3	
Session Title	Emission Characterization, Inventory and Trend Chair: Xuemei WANG, Hezhong TIAN	The Hong Kong Supersites: Findings and Implications (Part 1) Chair: Chak CHAN, Tao WANG	The Meteorology and the Impact on Air Quality Chair: Huiting MAO, Wenshi LIN	
Location	Room 4619 (Lift 31-32)	Room 4620 (Lift 31-32)	Room 5619 (Lift 31-32)	
9:00 - 9:15	Emission and Control of Hazardous Trace Elements (HTEs) from Anthropogenic Activities in China Hezhong TIAN, Beijing Normal University, China	The Government-Academic Collaboration Framework of The Hong Kong Supersites Air Quality Monitoring Program: Its Objectives and Key Findings Larry SUEN, Environmental Protection Department, Hong Kong	Simulation of wind Circulation and pollutant diffusion over the Pearl River Delta region Wenshi LIN, Sun Yat-sen University, China	
9:15 - 9:30	Nitrogen Oxides Emissions from Coal-fired power plants in China: Current Status and Future Predictions  Kaiyun LIU, Beijing Normal University, China	An Integrated Study of Photochemical Air Pollution in Hong Kong: an Overview Likun XUE, The Hong Kong Polytechnic University	Sources and Dynamic Processes Controlling Background and Peak Concentrations of TGM in Nanjing, China Huiting MAO, Nanjing University, China	
9:30 - 9:45	Development of high-resolution emission inventory of air pollutants for Nanjing, the host city of 2 <sup>nd</sup> YOG  Liping QIU, Nanjing University, China	Ambient VOCs characterized by the IMR-MS multiple gas analyzer Arthur P.S. LAU, The Hong Kong University of Science and Technology	The research about the influence of the meteorological data to the PM <sub>2.5</sub> daily concentration forecasting model based on the BP neural network <i>Dawen YAO</i> , <i>Sun Yat-sen University, China</i>	
9:45 – 10:00	Estimated trends in on-road vehicle emissions of Yangtze-River-Delta in China from 2010 to 2030 Xiaomeng WU, Tsinghua University, China	The sources and formation mechanisms of submicron particles in an urban background area of Hong Kong Kalam CHEUNG, The Hong Kong Polytechnic University	A comparison of HYSPLIT back-trajectories generated from GDAS1 and GDAS0P5 data Lin SU, The Hong Kong University of Science and Technology	
10:00 – 10:15	Progress and Direction of Air Pollutant Emission Inventories in China Allen ZHENG, South China University of Technology, China	Characteristics of ambient non-refractory PM <sub>1</sub> at an urban roadside location in Hong Kong Berto P. LEE, The Hong Kong University of Science and Technology	Impact of Urban Morphology on Planetary Boundary Layer in PRD Mau Fung WONG, The Hong Kong University of Science and Technology	
10:15 – 10:30		Characterization of Organic Sulfur Compounds in Atmospheric Aerosols at a Coastal Site in Hong Kong using HR-ToF-AMS Dandan HUANG, The Hong Kong University of Science and Technology		

Wednesday, Ja	an. 15, 2014 0900 -103	30	
Session ID	T1R4	T1R5	T1R6
Session Title	Integrated Air Quality Management: From Science to Policy (Part 1) Chair: Christopher FUNG, Wenjing DENG	Advanced Monitoring, Analysis and Comparisons Chair: Aijun DING, Fred PRATA	Pollution Formation and Process Analysis (Part 1) Chair: Jianzhen YU, Junhua LI
Location	Lecture Theatre J (Lift 31-32)	Lecture Theatre K (Lift 31-32)	Room 1505 (Lift 25-26)
9:00 - 9:15	Quantification of the Impact of Bus Rapid Transit on Air Quality via Atmospheric Models: Istanbul Case Study Alper UNAL, Istanbul Technical University, Turkey	Overview of the latest progress of the SORPES Station in the western Yangtze River Delta (Ozone and PM <sub>2.5</sub> )  Aijun DING, Nanjing University, China	Effect of inorganic pollutants on the formation of ozone and secondary organic aerosol Junhua LI, Tsinghua University, China
9:15 - 9:30	A Model-based Comprehensive Framework for Air Quality Assessment in Hong Kong Christopher FUNG, Environmental Protection Department, Hong Kong	Diffusion sampler for Measurement of Acidic Particles in the Atmosphere Dawei WANG, The Hong Kong Polytechnic University	A Tale of Two Biomass Burning Aerosol Tracers (Levoglucosan and Potassium Ion): Evidence for Atmospheric Degradation of Levoglucosan Jianzhen YU, The Hong Kong University of Science and Technology
9:30 - 9:45	Comparative advantage strategy for rapid pollution mitigation in China Yuan XU, The Chinese University of Hong Kong	Establishing and Application of the Evaluation Index for VOCs Automatic Monitoring Technique  Song GAO, Shanghai Environmental Monitoring Centre, China	Heterogeneous OH oxidation of Succinic Acid Aerosol: Reaction Kinetics and Product Identification Man Nin CHAN, Lawrence Berkeley National Laboratory, USA
9:45 – 10:00	Environmental Data Management – From Micro to Macro for Environmental Policy Development Sue SUNG, Southern Methodist University, USA	The Application of Proton Transfer Reaction- Mass Spectrometry on Investigating VOCs in Hong Kong Cui LONG, The Hong Kong Polytechnic University	Aqueous-phase photochemical oxidation and direct photolysis of vanillin—a model compound of methoxy-phenols from biomass burning Yongjie LI, The Hong Kong University of Science and Technology
10:00 – 10:15	Impacts of 12 <sup>th</sup> Five-Year Plan (FYP) on summer ozone episodes in Hong Kong <i>Yun Fat LAM, City University of Hong Kong</i>	Benchmarking real-time SIFT-MS analysis of VOCs against regulatory GC-MS analysis Vaughan LANGFORD, Syft Technologies Limited	Carbonaceous Aerosols in China: Constraints on Primary Sources and Estimation of Secondary Contribution Tzung-May FU, Peking University, China
10:15 – 10:30		Some newly developed equipment for online measurement of air pollution in China <i>Titia Meuwese-Mulder, Synspec BV</i>	The role of mineral aerosol in atmospheric reaction of VOCs: A theoretical model in the presence of silica particle Yuemeng JI, Guangzhou Institute of Geochemistry, CAS, China

Wednesday, Ja	Wednesday, Jan. 15, 2014 1100 -1230			
Session ID	T2R1	T2R2	T2R3	
Session Title	VOC Emission and the Impact on Ozone Chair: Min SHAO, Daiqi YE	The Hong Kong Supersites: Findings and Implications (Part 2) Chair: Chak CHAN, Tao WANG	PM Modeling and Process Analysis Chair: Ralph MORRIS, Tzung-May FU	
Location	Room 4619 (Lift 31-32)	Room 4620 (Lift 31-32)	Room 5619 (Lift 31-32)	
11:00 - 11:15	Historical industrial emissions of non-methane VOCs in China for the period of 1980-2010 Daiqi YE, South China University of Technology, China	Four Season Observations of HONO at a Suburban Site in Hong Kong: Emission and Heterogeneous Reactions Zheng XU, The Hong Kong Polytechnic University	Ozone and Particulate Matter Source Apportionment Modeling to Identify Control Strategies for Reducing Regional Transport Ralph MORRIS, ENVIRON International Corporation, USA	
11:15 - 11:30	Emission characteristics and control mechanism of typical VOCs from Pearl River Delta Region Taicheng AN, Guangzhou Institute of Geochemistry, CAS, China	Simultaneous HTDMA and HR-ToF-AMS measurements at a suburban coastal site in Hong Kong in 2011  Ming Chee YEUNG, The Hong Kong University of Science and Technology	Sources of secondary organic aerosols in the Pearl River Delta region: contribution from the oxidation of semi-volatile primary organic aerosols  Teng YAO, The Hong Kong University of Science and Technology	
11:30 - 11:45	Impacts of biogenic VOC emissions on surface ozone in the Pearl River delta region, China <i>Xuemei WANG</i> , Sun Yat-sen University, China	Development and Application of Chemical Ionization Mass-spectrometry (CIMS) for Measurement of N2O5 in Hong Kong Yee-Jun THAM, The Hong Kong Polytechnic University	A sensitivity experiment of PM <sub>10</sub> emission control approaches with WRF/Chem model Yunpeng SHAN, Nanjing University of Information Science and Technology, China	
11:45 – 12:00	Pollution profiles and health risk assessment of VOCs emitted from e-waste dismantling workshop as well as elimination by an integrated biological-photo-catalytic technology at pilot scale  Guiying LI, Guangzhou Institute of Geochemistry, CAS, China	Atmospheric photochemical reactivity and ozone production at two sites in Hong Kong: Application of a photochemical box model with master chemical mechanism (PBM-MCM) Zhenhao LING, The Hong Kong Polytechnic University	Source Apportionment of the Fine Particulate Matter in Shanghai during the Heavy Haze Episode in Eastern China in January, 2013 Li LI, Shanghai Academy of Environmental Sciences, China	
12:00 – 12:15		High time-resolution measurements and source analysis of oxalate at a suburban coastal site in Hong Kong Yang ZHOU, The Hong Kong University of Science and Technology	Air Quality Modeling based on ADMS-Urban Model in Street Canyons over Urban Areas of Hong Kong Island Xiaolin XIE, The Hong Kong University of Science and Technology	
12:15 – 12:30		Cloud Condensation Nuclei (CCN) Measurements at a Coastal Site in Hong Kong: Size-resolved CCN Activity and Closure Analysis Junwang MENG, The Hong Kong University of Science and Technology		

Wednesday, Ja			
Session ID	T2R4	T2R5	T2R6
Session Title	Integrated Air Quality Management: From Science to Policy (Part 2) Chair: Dave HO, Gayle HAGLER	Aerosol Optical Characteristics and Remote Sensing Chair: Allen ZHENG, Frank S. C. LEE	Pollution Formation and Process Analysis (Part 2) Chair: Xinming WANG, Tijian WANG
Location	Lecture Theatre J (Lift 31-32)	Lecture Theatre K (Lift 31-32)	Room 1505 (Lift 25-26)
11:00 - 11:15	The science behind air quality management Hoi-Lam Damgy CHAN, Environmental Protection Department, Hong Kong	High Temporal Resolution Aerosol Retrieval Using Geostationary Ocean Color Imager (GOCI): Application and Validation in Northern China Yuhuan ZHANG, Institute of Remote Sensing and Digital Earth, CAS, China	Formation of secondary aerosols from gasoline vehicles: chamber simulation study Xinming Wang, Guangzhou Institute of Geochemistry, CAS, China
11:15 - 11:30	Examples of Scientific Studies to Backup Emission Control Programs Wai-Yun Connie LUK, Environmental Protection Department, Hong Kong	New remote sensing algorithm for mapping PM <sub>2.5</sub> over China Changqing LIN, The Hong Kong University of Science and Technology	SOA formation in Hong Kong: Implications for the multiphase chemistry of glyoxal and organosulfate  Siyuan WANG, The Hong Kong University of Science and Technology
11:30 - 11:45	The Fair Winds Charter: stakeholder engagement and policy change for the shipping sector in Hong Kong  Veronica BOOTH, Civic Exchange	Ambient aerosol optical, physical and chemical properties observed during haze pollution conditions in Beijing winter  Zhengqiang LI, Institute of Remote Sensing and Digital Earth, CAS, China	HONO chemistry in urban area of Beijing: Implication for outdoor and Indoor environments Ivo Allegrini, Institute of Atmospheric Pollution Research, Italy
11:45 – 12:00	Reducing Hong Kong's emissions through building energy efficiency Barbara FINAMORE, Natural Resources Defense Council, USA	Characteristics of Aerosol Optical Properties and Their Chemical Apportionments during CARE- Beijing 2006 Tingting HAN, Beijing Normal University, China	Determination of primary organic carbon-to- elemental carbon (OC/EC) ratio in the EC tracer method Cheng WU, The Hong Kong University of Science and Technology
12:00 – 12:15	The design of the supersites monitoring network in Shanghai  Dongfang WANG, Shanghai Environmental  Monitoring Center, China	Optical Properties on Size-resolved Particles at an Urban Site of Hong Kong during Winter Period Yuan GAO, The Hong Kong Polytechnic University	Analysis of absorption and scattering properties of water host droplet with solid aerosol inclusion  Linghong CHEN, Zhejiang University, China
12:15 – 12:30	Air and Ground Traffic, Meteorology, Air Pollution and Health in the Megacity of São Paulo Alberto SALVO, Department of Economics, National University of Singapore		

Wednesday, Ja Session ID	an. 15, 2014 1400 -153 T3R1	T3R2	T3R3
Session Title	Source Identification, Apportionment and Process Studies Chair: Jay R. TURNER, Yinchang FENG	Aerosol Characterization and Measurement (Part 1) Chair: Mei ZHENG, Changhong CHEN	Air Quality Modeling, Prediction and Control Assessment Chair: Hai GUO, Sam SAUNDERS
Location	Room 4619 (Lift 31-32)	Room 4620 (Lift 31-32)	Room 5619 (Lift 31-32)
14:00 - 14:15	Improved receptor models for source apportionment in urban air ambient Yinchang FENG, Naikai University, China	The Chemical Characteristics of Particulate Matters in Shanghai during Heavy Air Pollution Episode in Central and Eastern China in December 2013 Changhong CHEN, Shanghai Academy of Environmental Sciences, China	Modelling Ozone Reduction under Different Emission Source Removal Scenarios during a Multi-day High Ozone Period in Hong Kong Sam SAUNDERS, University of Western Australia
14:15 - 14:30	Source Apportionments for Submicron Organic Aerosol by Positive Matrix Factorization in Southern Taiwan Yee-Lin WU, National Cheng Kung University, Taiwan	Ambient concentration and chemical speciation of elements in PM <sub>2.5</sub> from Beijing, China <i>Jiajia GAO</i> , <i>Beijing Normal University</i> , China	Temporo-spatial Impacts of NOx Control on Ozone Pollutant Levels in Hong Kong and the PRD Region Ying LI, The Hong Kong University of Science and Technology
14:30 - 14:45	An Observation-Based Model for Secondary Inorganic Aerosols Zibing YUAN, The Hong Kong University of Science and Technology	Trends of Ambient Fine Particles (PM <sub>2.5</sub> ) and Major Aerosol Chemical Components in the Pearl River Delta Region during 2007-2011: Observation at a Regional Background Site in Fall-winter Seasons Xiaoxin FU, The Hong Kong Polytechnic University	Modeling study of regional severe hazes over Mid-Eastern China in January 2013 and its implications on pollution prevention and control  Zifa WANG, Institute of Atmospheric Physics, CAS, China
14:45 – 15:00	Sources of HUmic-LIke Substances: Positive matrix factorization analysis of PM <sub>2.5</sub> chemical composition and biomass burning molecular marker measurements  Binyu KUANG, The Hong Kong University of Science and Technology	Chemical Characterization of Atmospheric Water Soluble Humic-like Substances in Hong Kong Di HU, Hong Kong Baptist University	An Urban Air Quality Forecasting Method Based on Multilayer Sample Optimization Rule Yonghong LIU, Sun Yat-sen University, China
15:00 – 15:15	Weight of Evidence Apportionment of Hong Kong Ambient Particulate Matter Jay R. TURNER, Washington University in St. Louis, USA	PM <sub>2.5</sub> source apportionment in China and its link to policy <i>Mei ZHENG</i> , <i>Peking University</i> , <i>China</i>	Preliminary results of air exchange between South China Sea and subtropical continental region of South China Hai GUO, The Hong Kong Polytechnic University
15:15 – 15:30	Characterization of carbonaceous aerosols during and post-Shenzhen UNIVERSIADE period <i>Yuqin WANG, University of Chinese Academy of Sciences, China</i>	Near-source air quality assessment: challenges and collaboration  Gayle Singleton Willis HAGLER, Environmental Protection Agency, USA	

Wednesday, Ja	Wednesday, Jan. 15, 2014 1400 -1530			
Session ID	T3R4	T3R5		
Session Title	Marine Emissions and Control Strategy Chair: David PETTIT, Simon NG	Health Risk Communication: Exposure and Public Health (Part 1) Chair: H. Christopher FREY, Chit Ming WONG		
Location	Lecture Theatre J (Lift 31-32)	Lecture Theatre K (Lift 31-32)		
14:00 - 14:15	Identification of Ship Emission and its Influence on Air Pollution over Shanghai with China's Largest Port <i>Yan ZHANG, Fudan University, China</i>	Update of WHO air quality guideline T. W. WONG, The Chinese University of Hong Kong		
14:15 - 14:30	Hong Kong Stepping up Control on Marine Emissions - Catalysts for Change Yu-Tao Tony LEE, Environmental Protection Department, Hong Kong	The effects of dust-haze on mortality are modified by seasons and individual characteristics in Guangzhou, China Tao LIU, Guangdong Provincial Institute of Public Health, China		
14:30 - 14:45	A Novel Ultra-Violet Camera Systems for Measuring SO <sub>2</sub> Ship Emissions in Harbors and Ports Fred PRATA, Nicarnica AS, Norway	Estimation of PM <sub>2.5</sub> with high resolution from NASA satellite data for assessment of long term effects on mortality  Chit Ming WONG, The Hong Kong University		
14:45 – 15:00	Using domestic and international policy tools to reduce ship emissions in Hong Kong Richard KASSEL, Natural Resources Defense Council, USA	Impact of Traffic Volume and Composition on the Air Quality and Pedestrian Exposure in Central, Hong Kong Zhi NING, City University of Hong Kong		
15:00 – 15:15	The Case for a Pearl River Delta Emission Control Area Simon NG, Civic Exchange, Hong Kong	Exposure to traffic-related air pollution of children attending naturally ventilated primary schools in Hong Kong Claudie Chiu-yi WONG, The Chinese University of Hong Kong		
15:15 – 15:30	How Los Angeles and Its Ports Reduced Smog While Maintaining Economic Growth David PETTIT, Natural Resources Defense Council, USA	Sensitivity of estimated children's PM <sub>2.5</sub> exposure to activity patterns, and geographic and seasonal variations  Wenwei CHE, The Hong Kong University of Science and Technology		

Session ID	T4R1	T4R2	T4R3
Session Title	Control Strategy and Experiences Chair: Donald BLAKE, Kebin HE	Aerosol Characterization and Measurement (Part 2) Chair: Jianmin CHEN, Zibing YUAN	Air Quality Modeling in Urban Areas Chair: Jonathan E. PLEIM, C.H. LIU
Location	Room 4619 (Lift 31-32)	Room 4620 (Lift 31-32)	Room 5619 (Lift 31-32)
16:00 - 16:15	Controlling Fine Particulate Pollution in Beijing- Tianjin-Hebei Region Kebin HE, Tsing Hua University, China	Radiocarbon analysis of carbonaceous aerosols in China: method development and application Gan ZHANG, Guangzhou Institute of Geochemistry, CAS, China	High-resolution WRF-CMAQ modeling with simple urban parameterization  Jonathan E. Pleim, Environmental  Protection Agency, USA
16:15 - 16:30	Experience on Vehicle Emission Control in Megacities of China Ye WU, Tsing Hua University, China	Airborne submicron particulate (PM <sub>1</sub> ) pollution in Shanghai, China: Chemical variability, formation/dissociation of associated semi-volatile components and the impacts on visibility <i>Jianmin CHEN, Fudan University, China</i>	Urban impacts over air quality modeling in Greater Beijing Area  Man YU, University of Iowa, USA
16:30 - 16:45	An integrative approach for area-wide vehicle emissions reduction Kaishan ZHANG, Sichuan University, China	Chemical Composition Analysis of Precipitation in Zhuhai Xingcheng LU, The Hong Kong University of Science and Technology	Evaluation of Urban Schemes in Simulating Atmospheric Boundary Layer: A Typical Summer Pollution Case Study over Megacity Weichun MA, Fudan University, China
16:45 – 17:00	Combating vehicular pollution – a review of the inspection and maintenance program in Hong Kong Shuk-Wai Freda FUNG, Civic Exchange	Investigating the important role of atmospheric ammonia on haze formation in Beijing, China Lianfang WEI, University of Chinese Academy of Sciences, China	Heavy air pollution and haze weather forecast for urban: technique and application <i>Tijian WANG</i> , <i>Nanjing University</i> , <i>China</i>
17:00 – 17:15	Air Quality Management at Hong Kong International Airport Mike KILBURN, Airport Authority Hong Kong	Aerosol particle size distribution research during sand storm in Wuhan area Wenxiang CAO, HUBEI Environmental Monitoring Center Station, China	Effects of the aqueous phase S(IV)+NO <sub>2</sub> reaction on sulfate formation and sulfate budget analysis in the Pearl River Delta region  Xin YU, The Hong Kong University of Science and Technology
17:15 – 17:30			

Wednesday, Jan. 15, 2014 1600 -1730				
Session ID	T4R4	T4R5		
Session Title	Defeating Challenges and Achieving Solutions Chair: Christine LOH, Markus AMANN	Health Risk Communication: Exposure and Public Health (Part 2) Chair: Bingheng CHEN, T. W. WONG		
Location	Lecture Theatre J (Lift 31-32)	Lecture Theatre K (Lift 31-32)		
16:00 - 16:15	Challenges and Solutions: Hong Kong's Experience W.C. MOK, Environmental Protection Department, Hong Kong	Launch of a Risk-based Air Quality Health Index in Hong Kong S. W. PANG, Environmental Protection Department, Hong Kong		
16:15 - 16:30	Effective Regional Air Quality Management: International Experiences Dale EVARTS, Environmental Protection Agency, USA	Acute effect of ambient air pollution on asthma hospitalization in Shanghai, China Jing CAI, Fudan University, China		
16:30 - 16:45	Progress and challenges of Regional Air Quality Management Issues in the Pearl River Delta region Liuju ZHONG, Guangdong Regional Atmospheric Environmental Research Center, China	Time-series studies of air pollution and acute health effects in Hong Kong  Linwei TIAN, The Chinese University of Hong Kong		
16:45 – 17:00	A Conceptual Model for Integrated Regional Air Quality Management Jeanne Ng, Air and Waste Association, Hong Kong	PM <sub>1</sub> might be the culprit of cardiovascular effects of particulate matter air pollution in Guangzhou, China Hualiang LIN, Guangdong Provincial Institute of Public Health, China		
17:00 – 17:15	Institutional Collaboration - Environmental Stakeholders John WATSON, Desert Research Institute, USA	Health risk assessment of carbonyl-containing volatile organic compounds in the atmosphere of megacities, China  Boguang WANG, Jinan University, China		
17:15 – 17:30				

Wednesday, J	Jan. 15, 2014 1730 -1900 Poster Session
Location: Ou	utside Lecture Theatre J (Refreshments will be served)
Poster ID	Title & Author
P1	Importance of long term spinning up soil moisture on the outputs of Weather Research and Forecasting (WRF)Model Chun Yin DY, The Hong Kong University of Science and Technology
P2	Ozone source apportionment in the Pearl River Estuary during the PRIDE–PRD2004 campaign Jin SHEN, Peking University & Guangdong Environmental Monitoring Center, China
Р3	Atmospheric observation plan for haze in Singapore  Mikinori KUWATA, Nanyang Technological University, Singapore
P4	Real-time measurements of non-methane hydrocarbons (NMHCs) from 2005 to 2010 in Hong Kong: a multi-year data analysis Jiamin OU, The Hong Kong Polytechnic University
P5	Pollution characteristics of air pollutants during the Chinese Spring Festival in Wuhan City, mid-china Li LIU, Huazhong University of Science and Technology, China
P6	Compositional diversity of HUmic-LIke Substances from different biomass burning aerosols  Peng LIN, The Hong Kong University of Science and Technology
P7	Reactive oxygen species (ROS) generation capability of HUmic-LIke Substances from different aerosol samples.  Peng LIN, The Hong Kong University of Science and Technology
P8	Characterization on C1-C4 alkyl nitrates at a coastal site in Hong Kong Senchao LAI, South China University of Technology, China
P9	Characterization of polar organic compounds at three sites in the Pearl River Delta Region Wingyi WONG, The Hong Kong University of Science and Technology
P10	Evaluating the degree of oxygenation of organic aerosols during foggy days and hazy days in springtime in Hong Kong using High-resolution Time-of-Flight Aerosol Mass Spectrometry (HR-ToF-AMS)  Yongjie LI, The Hong Kong University of Science and Technology
P11	Ambient Protein Concentration in PM <sub>2.5</sub> in Rural Guangzhou  Yingyi ZHANG, South China University of Technology, China
P12	Seasonal Variations and Chemical Characteristics of PM <sub>2.5</sub> at a Rural Site in Guangzhou, China <i>Yan ZHAO, South China University of Technology</i>
P13	Source of Particulate matter in Hong Kong under tropical cyclone: A case study  Dongwei WU, The Hong Kong University of Science and Technology
P14	Reducing Emissions of Toxic Organic Pollutants from a Diesel Engine by Fueling Water-containing Butanol Diesel Blends Lin-Chi WANG, Cheng Shiu University, Taiwan
P15	Numerical Modeling of a Strong Dust Event over the South China Region Lin SU, The Hong Kong University of Science and Technology
P16	Study of water activities and osmotic coefficients of five alkylamine-sulfates at different molar ratios  Meike SAUERWEIN, The Hong Kong University of Science and Technology
P17	Air pollution prediction using LUR method: A case study in an highly industrialized region, Shanghai Xinrui CHEN, Fudan University, China

P18	Development of Multi-Parameter Estimation Model of PM <sub>2.5</sub> based on Remote Sensing Ying ZHANG, Institute of Remote Sensing and Digital Earth, CAS, China
P19	Development of forecast air pollution modeling system in China  Yun Fat LAM, City University of Hong Kong
P20	Modeling Inorganic Nitrogen Deposition in Guangdong Province, China  Zhijiong HUANG, South China University of Technology, China
P21	Simulation of ozone formation at different elevations in mountainous areas in Hong Kong using WRF-CMAQ  Nan WANG, The Hong Kong Polytechnic University
P22	Updated 2010 Anthropogenic VOCs Emission Inventory and its Improvement in Regional Ozone Modeling in the Pearl River Delta Region, China Shasha YIN, South China University of Technology, China
P23	上海市霾污染评价指标体系 Yusen DUAN, Shanghai Environmental Monitoring Centre, China
P24	Effects of NOx and VOCs from five emission sources on summer surface O <sub>3</sub> over the Beijing-Tianjin-Hebei region <i>Yu QU, Institute of Atmospheric Physics, CAS, China</i>
P25	Coupled modeling of Typhoons and Air Quality Guangze GAO, The Hong Kong University of Science and Technology
P26	The Impact of Meteorological factors on Air Quality in Xi'an Wenjing DENG, The Hong Kong Institute of Education
P27	Research on the correlation between morphology and air quality in urban area  Miao HE, The Hong Kong University of Science and Technology
P28	Metallic corrosion in the polluted urban atmosphere of Hong Kong  Bo LIU, The Hong Kong Polytechnic University
P29	Real-time ambient air monitoring using selected ion flow tube-mass spectrometry (SIFT-MS)  Vaughan LANGFORD, Syft Technologies Limited
P30	Atmospheric chamber investigation of the BVOC a-phellandrene: implications for ambient air quality Sam SAUNDERS, University of Western Australia
P31	Spatial and temporal variation of polycyclic aromatic hydrocarbons in Hong Kong: One-year monitoring study  Ka Shing CHOW, The Hong Kong University of Science and Technology
P32	Investigation of air pollution in Hangzhou City by CMAQ model Kun LUO, Zhejiang University, China
P20 P21 P22 P23 P24 P25 P26 P27 P28 P29 P30 P31	Modeling Inorganic Nitrogen Deposition in Guangdong Province, China Zhijiong HUANG, South China University of Technology, China Simulation of ozone formation at different elevations in mountainous areas in Hong Kong using WRF-CMAQ Nan WANG, The Hong Kong Polytechnic University  Updated 2010 Anthropogenic VOCs Emission Inventory and its Improvement in Regional Ozone Modeling in the Pearl River Delta Region, China Shasha YIN, South China University of Technology, China 上海市疆污染评价指标体系 Yusen DUAN, Shanghai Environmental Monitoring Centre, China  Effects of NOx and VOCs from five emission sources on summer surface O₃ over the Beijing-Tianjin-Hebei region Yu QU, Institute of Atmospheric Physics, CAS, China  Coupled modeling of Typhoons and Air Quality Guangze GAO, The Hong Kong University of Science and Technology  The Impact of Meteorological factors on Air Quality in Xi'an Wenjing DENG, The Hong Kong Institute of Education Research on the correlation between morphology and air quality in urban area Miao HE. The Hong Kong University of Science and Technology  Metallic corrosion in the polluted urban atmosphere of Hong Kong Bo LIU, The Hong Kong Polytechnic University Real-time ambient air monitoring using selected ion flow tube-mass spectrometry (SIFT-MS) Vaughan LANGFORD, Syft Technologies Limited  Atmospheric chamber investigation of the BVOC a-phellandrene: implications for ambient air quality Sam SAUNDERS, University of Western Australia  Spatial and temporal variation of polycyclic aromatic hydrocarbons in Hong Kong: One-year monitoring study Ka Shing CHOW, The Hong Kong University of Science and Technology  Investigation of air pollution in Hangzhou City by CMAQ model

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