

International Workshop on Regional Ecology and its Environmental Effect

- Dust Sand Storm, its Impact and Mitigation Countermeasure -

Agenda

(3-5 Dec. 2006, Beijing)

Dec. 2,2006

14:00-20:00 Registration: (Hotel : Xin Da Du Hotel)

Dec. 3,2006

08:30 -10:30 Registration: (Hotel : Xin Da Du Hotel)

Opening Ceremony—Part I

(钓鱼台大酒店二层多功能厅 2nd Multi-function Hall, Diaoyutai Hotel)

Bus from Xin Da Du Hotel to Diaoyutai Hotel

(Participants accommodating in Xin Da Du Hotel--Departure at 11:45, Arrive at 12:00)

(Other participants can go to Diaoyutai Hotel Directly but please make sure to arrive there before 12:00)

Venue: Diao Yu Tai Hotel

Chairman: Prof. Zhang Yutian (CRAES)

12:00-12:10 Workshop Registration
12:10-12:30 The three Environmental Ministers Arrive
12:30-12:40 Speech by Minister of SEPA, P.R. China
Mr. Zhou Shengxian
12:40-12:50 Speech by Minister of MOE, Japan
Mr. WAKABAYASHI Masatoshi
12:50-13:00 Speech by Minister of MOE, Korea
Mr. LEE, Chi-Beom
13:00-13:10 Short Break

Opening Ceremony—Part II

Chairman: Prof. Zhang Yutian (CRAES)

13:10-13:20 Speech by President, CRAES, China
Prof. Meng Wei
13:20-13:30 Speech by President, NIES, Japan
Prof. OHTSUKA, Ryutaro
13:30-13:40 Speech by President, NIER, Korea
Prof. Yoon, Seong-Kyu

Plenary Session I

Chairman: Prof. Meng Wei, CRAES & Prof. OHTSUKA, Ryutaro, NIES

Keynote Speech (25 minutes) with Q&A (5 minutes)

- 13:40-14:10** **The Dust Storm and its Impact on Beijing's Air Quality**
Prof. Ren Zhenhai (Academician of Chinese Academy of Engineering, in CRAES)
- 14:10-14:40** **Adaptation Strategies and Cause of Blown-sand Disaster in China**
Prof. Shi Peijun , Beijing Normal University

Plenary Session II

Chairman: Prof. Yoon, Seong-Kyu & Prof. Shi Peijun, Beijing Normal University

Invited Speech (20minutes) with Q&A (5 minutes)

- 14:40-15:05** **Characterization of Northeast Asia Sand and Dust Storm (SDS) and Prediction Methods**
Prof. Quan Hao, Sino-Japan Friendship Center for Environmental Protection
- 15:05-15:30** **Potential Capability of Adjoint Inverse Modeling of Dust Emission and Transport over East Asia for Real-Time Dust Forecasting**
Prof. UNO, Kyushu University, Japan
- 15:30-15:50** **Coffee Break**
- 15:50-16:15** **The Evolution Mechanism of Dust Storm and Its Impact on the Atmospheric Chemistry over China**
Prof. Zhuang Guoshun (FuDan University & Beijing Normal University)
- 16:15-16:40** **Synthetic Analyses of Asian Dust in 2006 over the Korean Peninsula**
Dr. Park, Il-Soo, NIER
- 16:40-17:05** **Soil of Mongolia and Dust Storm**
Prof. D. Dorjgotov, Academician, MAS & NUM
- 17:05-17:30** **Advances of Research on East Asia's Sand-dust Aerosols and the Effect on Beijing**
Prof. Chai Fahe , CRAES
- 17:30-17:50** **Close Remark**
- 18:00-19:30** **Welcome Banquet**
会议中心二楼多功能厅 Multi-functional Hall, 2nd Floor, Meeting Center

Dec. 4, 2006

(新大都饭店主楼二层华兴宫 Hua Xing Hall, 2nd Floor, Main Building, Xin Da Du Hotel)

Session I

Chairman: Prof. Chai Fahe (CRAES) & Dr. Shiro Hatakeyama (NIES)
Speech (15minutes) with Q&A (5 minutes)

There will be 20 minutes for a special speech from SEPA (To be confirmed)

- 08:30-08:50** **Meteorological and Chemical Analysis of Two Dust Storm Events in March, 2002 in Beijing**
Prof. He Kebin, Tsing Hua University
- 08:50-09:10** **Korea-China Co-research Project : A Study on Acute Effects of Fine Particles on Pulmonary Function**
Dr. Kim, Dae-Seon, NIER
- 09:10-09:30** **Data Assimilation Experiments for Severe Dust Storm Forecasts Over China Using Ensemble Kalman Filter**
Prof. Wang Zifa, Atmospheric Physics Institute, Chinese Academy of Sciences

- 09:30-09:50** **Changes of Chemical Composition of Aerosols Measured at Cape Hedo, Okinawa after Long-range Transport from the East Asia with Asian Dust**
Dr. Shiro Hatakeyama, NIES
- 09:50-10:10** **Influence of Gaseous Oxalic Acid on the Deposition and Oxidization of Sulfur Dioxide onto Yellow Sand**
Prof. Kazuhiko Sakamoto, Saitama University, Japan
- 10:10-10:30** **Coffee Break**

Session II

Chairman: Prof. Wang Wei (CRAES) & Dr. Park Il-Soo (NIER)

Speech (15minutes) with Q&A (5 minutes)

- 10:30-10:50** **Some Preliminary Results of Investigations of the Aerosol and Chemical Components of Gobi Mongolia**
Prof. Oyunchimeg D, Ministry of Nature and Environment,
Gankhuyag E, Institute of Meteorology and Hydrology, Mongolia
- 10:50-11:10** **Chemical Characteristics of Fine Particles during Spring Dust Storm Dominant Period in Two Chinese Cities, Baotou and Wuwei**
Prof. Hu Min, Beijing University
- 11:10-11:30** **Two Results on Asian Dust at Coast Areas of China and Japan**
Prof. Zhang Daizhou, Prefectural University of Kumamoto
- 11:30-11:50** **A Mechanism for the Increase of Pollution Elements in Dust Storms in Beijing**
Dr. Guo Jinhua, Beijing Normal University
- 11:50-12:00** **Close Remark**
- 12:00-13:30** **Lunch**
主楼一层咖啡厅-餐券就餐 Coffee House, 1st Floor, Main Building, with Meal Ticket
- 13:00-14:00** **Poster Section**

Session III

Chairman: Dr. SHIMIZU, Hideyuki (NIES) & Dr. Kim Dae-Seon (NIER)

Speech (15minutes) with Q&A (5 minutes)

- 13:30-13:50** **Numerical Simulation of Dust Storms in the Spring of 2001 over Northern China**
Prof. Zhang Yuanhang, Beijing University
- 13:50-14:10** **Heterogeneous Uptake Sulfur-containing Compounds over Dust**
Prof. Chen Jianmin, Fudan University
- 14:10-14:30** **Ground Observations of A Strong Dust Storm in Beijing in March 2002**
Prof. Zhang Renjian, Institute of Atmospheric Physics, Chinese Academy of Sciences
- 14:30-14:50** **Light Elimination Character of Aerosol in Dust Storm Background Region**
Dr. Zhang Xiaoling, National Meteorological Center of CMA
- 14:50-15:10** **Movement of Asian Dust Revealed by Network Observations Using Two-wavelength Polarization Lidars**
Dr. SUGIMOTO Nobuo, NIES
- 15:10-15:30** **Coffee Break**

Session IV

Chairman: Prof. Gao Jixi (CRAES) & Dr. Hong, You-Deog (NIER)

Speech (15minutes) with Q&A (5 minutes)

- 15:30-15:50 Road dust Loadings and its Source Characteristics in Beijing**
Dr. Jianhua Chen, CRAES
- 15:50-16:10 Germination Responses of Some Key Plant Species Grown at Horqin Sandy Land of China to the Simulated Desertificated Conditions**
Prof. Chen Lijun, Institute of Applied Ecology, Chinese Academy of Sciences, Shenyang
- 16:10-16:30 Recent Interannual Variation in Dust from Changes in Emission and Transport**
SUGATA Seiji, NIES
- 16:30-16:50 Simulation of Impacts of Heterogeneous Reactions on Nitrate Aerosol Concentration Distributions over East Asia**
Dr. Zhang Meigen, IAP, Chinese Academy of Sciences
- 16:50 – 17:10 Lidar Observations of Asian Dusts over Eastern China (31.90oN, 117.16oE)**
Dr. Jun Zhou, Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences
- 17:10 – 17:30 The Mineralogy and Sources of Dust Particles Collected from a Severe Asian Dust Storm Event in Beijing in Spring 2006**
Prof. Shao Longyi, China University of Mining and Technology
- 17:30 – 17:50 Hygroscopicity of Asian Dust Particles Mixed with Sulfate, Nitrate and Sea Salt**
Dr. Shi Zongbo, Prefectural University of Kumamoto, Japan
- 17:50-18:00 Close remark**
- 18:00-19:30 Diner**
主楼三层潮都城 Chao Du Hall, 3rd Floor, Main Building, with Meal Ticket

Dec. 5, 2006

(新大都饭店主楼二层华兴宫 Hua Xing Hall, 2nd Floor, Main Building, Xin Da Du Hotel)

Session I

Chairman: Academician D. Dorjgotov (Mongolian Academy of Science)
& Dr. Sugata Seiji (NIES)

Speech (15minutes) with Q&A (5 minutes)

There will be 20 minutes for a special speech from SEPA (TBC)

- 08:30-08:50 Study on the Situation of Land Desertification and Sand-dust storm Regionalization around Beijing Surrounding Area**
Prof. Gao Jixi, CRAES
- 08:50-09:10 Interactive Effects of Water Stress and High Temperature on Growth and Photosynthesis of *Leymus chinensis* -- A Dominated Grass in a Semi-arid Steppe Ecosystem**
Prof. Xu Zhenzhu, Institute of Botany, the Chinese Academy of Sciences
- 09:10-09:30 Physical and Chemical Properties of Asian Dust Collected at Gosan Background Site, Korea**
Dr. Hong, Yoo-Deog, NIER
- 09:30-09:50 Dustfall Intensity, Characteristics and Provenance of the Settled Dust during an Unusual Dust Haze Event in Beijing**
Prof. Liu Lianyou, Beijing Normal University
- 09:50-10:10 Atmospheric Aerosol Chemistry: from Molecular Cluster to Particle**
Prof. Yang Xin, Fudan University
- 10:10-10:30 Coffee Break**

Session II

Chairman: Dr. Yu Yunjiang (CRAES) & Dr. UEHIRO, Takashi (NIES)

Speech (15minutes) with Q&A (5 minutes)

- 10:30-10:50** **Quantitative Analysis on Impacts of Vegetation for Controlling Wind Erosion in the Area of Sandy Desertification**
Prof. Ding Guodong, Beijing Forestry University
- 10:50-11:10** **How to Accurately Understand the Problem of Wind Sand Storm and its Treatment?**
Prof. Jiang Gaomin, Institute of Botany, the Chinese Academy of Sciences
- 11:10-11:30** **Demonstration of Eco-village model in the Grassland Region of Northern China --- Causes of Land Degradation and the Countermeasures**
Dr. Li Qingfeng, College of Ecology and Environmental Sciences, Inner Mongolia Agricultural University
- 11:30-11:50** **Typical Appearance of DSS in Beijing Grasped by the Collaborative Monitoring Project with China, and Future Expectations of the New DSS Monitoring Network Based on the ADB/GEF Plan**
Masataka NISHIKAWA, NIES
- 11:50-12:00** **Close Remark**
- 12:00-13:30** **Lunch**
主楼一层咖啡厅-餐券就餐 Coffee House, 1st Floor, Main Building, with Meal Ticket
- 13:00-14:00** **Poster Section**

Panel Session A

Chairman: Prof. Wang Wei (CRAES) & Dr. Masataka Nishikawa (NIES)

The Physical-Chemical Characteristic and its Transformation of Dust Aerosol & The Evolvement, Transportation and Monitoring

Speech (15minutes) with Q&A (5 minutes)

- 13:30 - 13:50** **Characterization and Source Study of Asian Dust Episodes in Spring 2002 in Coastal China**
Prof. Liu Xiande, CRAES
- 13:50 – 14:10** **Dust-sand Monitoring Network of China Meteorological Administration and its Preliminary Results**
Dr. Tang Jie, Chinese Academy of Meteorological Sciences
- 14:10 – 14:30** **Individual Asian Dust Particles in the Southwestern Japan: Three Cases in 2005**
Dr. Hiroko Ogata, Prefectural University of Kumamoto, Japan
- 14:30 – 14:50** **Elevation of Urban Ambient Air Particulate Matter Level Causing by Suburban Area Wind Soil Erosion**
Prof. Bai Zhipeng, Nan Kai University
- 14:50 – 15:10** **Effect of Atmospheric Aerosols on the Photodecomposition of Nitrous Oxide**
Prof. Kong Lingdong, Department of Environmental Science & Engineering, Fudan University
- 15:10 – 15:30** **Influence of Sand-dust Weather on Air Quality of Beijing and its Solving Methods**
Dr. Li Xue, Beijing Environmental Protection Bureau
- 15:30 – 15:50** **Coffee Break**

Chairman: Prof. Chai Fahe (CRAES) & Dr. Park Il-Soo (NIER)

- 15:50 – 16:10 Microphysical and Chemical Characteristics of Individual Mineral Particles in Fog in Beijing**
Dr. Li Weijun, China University of Mining and Technology in Beijing
- 16:10 – 16:30 Biological Effects of PM_{2.5} and PM₁₀ Collected during the Dust Storm Period**
Dr. Guo Xinbiao, Peking University School of Public Health
- 16:30 - 16:50 Validation of MODIS Aerosol Products by CSHNET over China**
Prof. Wang Yuesi, Institute of Atmospheric Physics, Chinese Academy of Sciences
- 16:50 – 17:10 Isotopic Composition of Airborne Carbonate during Dust Storm and its Source Significances**
Prof. Cao Junji, State Key Laboratory of Loess and Quaternary Geology, Institute of Earth Environment, Chinese Academy of Sciences

Panel Session B

Chairman: Dr. Gao Qingxian (CRAES) & Dr. Kim Dae-Seon (NIER)

**The Simulation and Forewarning
&
Regional Ecological Change's Impact on Dust Storm
&
The Environmental Impact of Dust Events, its Prevention Planning and Technical Countermeasure**

Speech (15minutes) with Q&A (5 minutes)

- 13:30 - 13:50 The Influence of Dust-sand Storm to Air Quality of the Air pollution Prevention Pivot Cities from January to June of 2006**
Dr. Tong Yanchao, China National Environmental Monitoring Center
- 13:50 – 14:10 The Analysis on Ecological Environment and Regional Ecological Function of Xilinguole Steppe**
Prof. Li Zhenghai, College of Life Science, Dalian Nationalities University
- 14:10 – 14:30 Desertification Trend Discussion from 1981 to 2003 in China and Mongolia**
Dr. Zhang Shihuang, Institute of Geographic Sciences and Natural Resources Research, CAS
- 14:30 – 14:50 Effects of Climate Change on Rocky Desertification—A Case Study in Yongshun County, Hunan Province, China**
Dr. Xiong Yujiu, Beijing Normal University
- 14:50 – 15:10 Study on The Desert Bio-crust And Its Effecton**
Prof. Yan Deren, Inner Mongolia Academy of Forestry
- 15:10 – 15:30 The Influence of Sand-dust Weather on Air Quality of Beijing in 2000~2005**
Dr. Qiu Qihong, Beijing Municipal Environmental Monitoring Center
- 15:30 – 15:50 Coffee Break**

Chairman: Prof.. Gao Jixi (CRAES) & Dr. Sugimoto Nobuo (NIES).

- 15:50 – 16:10 Analysis on Transportation Paths and Source Locations of Sand-dusts Affecting Beijing**
Zhang Zhigang, National Meteorological Center of CMA
- 16:10 – 16:30 Dust Storm Sources and their Transport Throughout China**
Dr. Gao Qingxian, CRAES
- 16:30 - 16:50 Inner Mongolia Grassland Adds New Sand and Dust Source**

16:50 – 17:10 Dr. Zan Chenggong, Inner Mongolia Eco-environment Monitoring Station
Study on Dust from Urban Construction in Beijing
Li Lingjun, Beijing Municipal Environmental Monitoring Center

Closing Ceremony

Chairman: Prof. Zhang Yutian, CRAES

17:10 – 18:00 Conclusion and Cooperative Suggestion

19:00 - 20:30 Dinner

POSTER SESSION

Activities of “Green Earth Network”, a Japanese Non-Profit Organization (NPO), in China

Kunio TAKAMI¹⁾, Hideyuki SHIMIZU²⁾, Takashi UEHIRO²⁾

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Application of Laser Lidar on Dust Events in Hohhot

Xuhui Dong¹, Hui Qi¹, Shuli Zhao², Tiesuo Li³, Xuechun Bai³, Yian Di¹, Yan Chen¹, Yanpeng Wang¹, Nobuo Sugimoto⁴, Masataka Nishikawa⁴, Kazuhiko Sakamoto⁵, Qingyue Wang⁵

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3. Inner Mongolia Environmental Monitoring Centre, Hohhot, China

4. National Institute for Environmental Studies, Japan.

5. Saitama University, Japan.

Atmospheric Deposition of ¹³⁷Cs Associated with the Asian Dust Event in March 2002.

Hideshi FUJIWARA¹⁾, Hideyuki SHIMIZU²⁾, Yasuhito SHIRATO³⁾, Toshiya OHKURO⁴⁾.

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⁴⁾ University of Tokyo, 1-1-1 Yayoi, Bunkyo, Tokyo 113-8657, Japan

Bioreactivity of Particulate Matter in Beijing Air: Results from Plasmid DNA assay

Longyi SHAO¹⁾, Zongbo SHI¹, T. P. Jones²⁾, Jinjuan LI¹⁾, A. G. Whittaker²⁾, K. A. Bérubé²⁾

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2) Cardiff University, CF10, 3YE, UK; E-mail: shaoL@cumtb.edu.cn

Characterization of Plant Wax n-Alkanes in Aerosols in Beijing during Spring Dust Storm Period

Hong LI^{1*}, Longyi SHAO², Zongbo SHI³, Tao HE⁴

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²Earth Sciences, China University of Mining & Technology, Beijing 100084, China

³JSPS Fellow, Prefectural University of Kumamoto, Kumamoto 862-8502, Japan

⁴Hunan University of Science and Technology, Xiangtan, 411201, China

Development of Lidars for Dust Monitoring Network

Ichiro MATSUI¹⁾, Nobuo SUGIMOTO¹⁾, Atsushi SHIMIZU¹⁾

National Institute for Environmental Studies, 16-2 Onogawa, Tsukuba, Ibaraki, 305-8506, Japan

Enhancement of Mite Allergen-Induced Eosinophil Infiltration in the Murine Airway and Local Cytokine/Chemokine Expression by Asian Sand Dust

Takamichi ICHINOSE¹⁾, Kaori SADAKANE¹⁾, Hirohisa TAKANO²⁾, Rie YANAGISAWA²⁾, Masataka NISHIKAWA²⁾, Ikuko MORI²⁾, Kyoko HIYOSHI³⁾, Hideyuki SHIMIZU²⁾

¹⁾ Oita University of Nursing and Health Sciences, Oita, Japan.

²⁾ National Institute for Environmental Studies, Ibaraki, Japan.

³⁾ Ishikawa Prefectural Nursing University, Ishikawa, Japan.

Evaluation of the Technologies and Activities for Control Desertification in China

Guo Yu QIU^{1,2)}, Hideyuki SHIMIZU²⁾, Jing YIN¹⁾, Peijun SHI¹⁾, Yong GAO³⁾

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³⁾ Inner Mongolia Agricultural University, Hohhot 010019, China

Influence of *Salix psammophila* Checkerboard on Wind-sand Flux and Soil Physical and Chemical Properties.

Yong GAO¹⁾, Hideyuki SHIMIZU²⁾, Guo Yu QIU^{2), 3)}, Ji WANG¹⁾, Jian WANG¹⁾

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Lidar Observation and Characterization of a Heavy Dust Event in Beijing Area

Xuhui Dong¹⁾, Yanping Chen¹⁾, Shuli Zhao²⁾, Hui Qi¹⁾, Lijun Ren¹⁾, Yanpeng Wang¹⁾, Nobuo Sugimoto³⁾, Masataka Nishikawa³⁾, Kazuhiko Sakamoto⁴⁾, Qingyue Wang⁴⁾

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Main Problem Faced and Relevant Countermeasure during the Environment Protection Work in Desertification Rural Areas in China

Han Yongwei, Gao Jixi, TuoXuesen

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Studies on Development Trend of Grassland Desertification and Its Influencing Factors in

Hulunbeir Steppe

LV Shi-Hai, GAO Ji-Xi (*Ecological Environment Institute of Chinese Research Academy of Environmental Sciences, Beijing 100012, China*)

Study on Vertical Distribution Characteristics of Ultrafine Particles in Dust Storm Period over North China Coastal Areas by High Time-Space Resolution Aircraft Measurement in the Spring of 2006

Wei Wang^{1*}, Xiaoyu Liu¹, Jianzhong Ma², Yue Chen², Dandan Xu^{1,3}, Hongjie Liu¹, Zongshuang Wang¹, Hong Li¹, Chunmei Geng¹

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Study on the Relation between Soil Nutrient and Physical Characteristics of the Different Communities in Reclaimed Land of Coal Mine

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