IGAC-SPARC Joint Workshop in Kyoto

The One Atmosphere:

Integration, Interface, and Impact

October 25 (Sun) – 26 (Mon), 2009
Inamori Hall at Shiran-Kaikan in Kyoto, Japan

The 130th Symposium on Sustainable Humanosphere

http://www.rish.kyoto-u.ac.jp/sparc-igac/list1.html

Supported by:

International Global Atmospheric Chemistry (IGAC)
Stratospheric Processes And their Role in Climate (SPARC)
Japan Society of Atmospheric Chemistry (JSAC)

Workshop organizing committee

Yutaka Kondo (Univ. of Tokyo)
Makoto Koike (Univ. of Tokyo)
Masato Shiotani (Kyoto Univ.)
Sachiko Hayashida (Nara Women's Univ.)
Shigeo Yoden (Kyoto Univ.)
Yasuhiro Murayama (NICT)
Yugo Kanaya (JAMSTEC)
Kenshi Takahashi (Kyoto Univ.)

Program

A PC projector is available.
Key Note presentations 25 + 5 min
Standard presentations 15 + 5 min

October 25 (Sun)

08:30-08:40

Welcome Y. Kondo & M. Shiotani

08:40-10:20 (chair : M. Koike)

Key Note

K. Law (CNRS, France, IGAC) Atmospheric Chemistry in the Earth System

T. Shepherd (Univ. of Toronto, Canada, SPARC) The Role of Stratospheric Dynamics in Chemistry-Climate Coupling

1. Aerosols and Oxidants from the Global Perspective

Y. Kanaya（JAMSTEC）Regional-scale photochemical ozone pollution in central east China in June: A highlight from MTX (Mount Tai Experiment) 2006 field campaign

H. Tanimoto（NIES）Exploring CO pollution episodes observed at Rishiri Island by AIRS satellite measurements and chemical transport model simulations: Long-range transport of burning plumes and implications for emissions inventories

10:40-12:00 (chair : Y. Kanaya)

J. Burrows (Univ. of Bremen, Germany, SPARC)

M. Kanakidou (Univ. of Crete, Greece, IGAC) Organics - more surprises to be expected?

N Takegawa (Univ. of Tokyo) Evolution of secondary aerosol in polluted air: Case studies for Tokyo and Beijing

M. Mochida (Nagoya Univ.) Hygroscopicity and cloud condensation nucleus activity of atmospheric aerosol particles over the western Pacific region

12:00-13:30 Lunch

13:30-14:50 (chair : M. Mochida)

2. Interface between Atmosphere, Biosphere, and Ocean

K. Pienaar (North-west Univ., Sourth Africa, IGAC) Deposition as an indicator of serval interacting processes

K. Takahashi (Kyoto Univ.) A new approach to explore trace gas exchange between the atmosphere and biosphere : In-situ analysis using laser-based techniques

Y. Miyazaki (Hokkaido Univ.) Marine biogenic sources of organic nitrogen and water-soluble organic aerosols over the western North Pacific in summer

A. Ito（NIES）Integrated modeling of atmosphere-ecosystem biogeochemical interactions through trace gas exchange

15:10-16:30 (chair : S. Hayashida)

3. Troposphere and Stratosphere Coupling

G. Beig (IITM, India, IGAC) Impact of long range transport of pollutants from Asia to neighboring countries and vise versa in the troposphere

A. M. Thompson (Penn State Univ., USA, SPARC) Variability of Stratosphere-Troposphere Exchange Observed from Strategic Ozonesonde Networks

F. Hasebe (Hokkaido Univ.) Recent results from SOWER activities in the tropical Pacific

K. Miyazaki (JAMSTEC) Transport and mixing in the extratropical tropopause region in a high vertical resolution GCM

16:30-18:00 Poster presentations

18:30- Reception / ice-breaker

October 26 (Mon)

08:30-10:10 (chair : S. Yoden)

3. Troposphere and Stratosphere Coupling (continue)

M. Barth (NCAR, USA, SPARC)

K. Sato (Univ. of Tokyo) Gravity Wave Generation and Propagation in the Middle Atmosphere Revealed by a High-Resolution GCM

4. Possible Impacts on Climate and Earth System

G. Feingold (NOAA, USA, IGAC) Where, why, and how on earth does aerosol affect clouds and precipitation

P. Rasch (PNNL, USA, IGAC) Geoengineering by seeding boundary layer clouds

K. Shibata (MRI) MRI chemistry-climate model for the troposphere and stratosphere (MRI-CCM 2) : Utilities from local air pollution to global warming

10:30-11:30 (chair : F. Hasebe)

T. Peter (ETH Zurich, Switzerland, SPARC) Impact of geoengineering aerosols on stratospheric temperature and ozone

H. Akiyoshi (NIES) Ozone and halogen recovery times in the future stratosphere calculated by the CCSR/NIES CCM under the CCMVal-REF2 scenario and a no-climate-change run

K. Sudo (Nagoya Univ.) Roles of Atmospheric Chemistry and Aerosols in the CCSR/NIES/FRCGC Climate Model

11:30-12:00 **Panel discussions** (chair : Y. Kondo & M. Shiotani)

12:00-12:05 **Concluding Remarks** M. Shiotani & Y. Kondo

Poster presentations

The poster board size is 900mm (width) x 2100mm (height).
Thumbtacks (drawing pins) are available. Any sort of sticky tapes cannot be used.

1. Aerosols and Oxidants from the Global Perspective

P-01	Hiroyuki Suzuki (Nagoya Univ.)	In situ detection of NO2, peroxy nitrates, alkyl nitrates, and HNO3, using thermal dissociation laser-induced fluorescence instrument in central Tokyo during summer 2009
P-02	Akihiro Yabushita (Kyoto Univ.)	Snowpack photochemistry of nitrate: Implications for O3 and HCHO at the South Pole
P-03	Ramlal L. Verma (Univ. of Tokyo)	Temporal variation of elemental carbon in Guangzhou, China, in summer 2006
P-04	Naga Oshima (Univ. of Tokyo)	Aging of black carbon in outflow from anthropogenic sources using a mixing state resolved model: Aerosol optical properties and cloud condensation nuclei activities
P-05	Hitoshi Matsui (Univ. of Tokyo)	Modeling study on aerosols and their optical properties around Beijing in summer 2006
P-06	Sayaka Fukuda (Kobe Univ.)	Effect of enhanced UV radiation on photochemical ozone and aerosol formation
P-07	Risa Uchida (Kobe Univ.)	Secondary organic aerosol formation in ozone-isoprene reaction system

2. Interface between Atmosphere, Biosphere, and Ocean

P-08	Yumiko Honda (Nara Women's Univ.)	Spatiotemporal variation in distribution of aerosol and trace gases from biomass burning in southeast Asia observed by satellite
P-09	Satomi Eto (Nara Women's Univ.)	Analysis of relationships between atmospheric methane concentrations observed by SCIAMACHY and rice paddy emissions in Asia
P-10	Yasuhito Masuda (Kyoto Univ.)	Compact Instruments for measuring atmospheric CO2 column density
P-11	Ryuichi Wada (Nagoya Univ.)	In situ observation of carbon dioxide isotope ratios in urban Nagoya using a mid-IR absorption spectrometer
P-12	Sayaka Hayase (Kyoto Univ.)	Direct emission of IO radical and I2 molecules from the interaction of gaseous O3 with KI solution surface

3. Troposphere and Stratosphere Coupling

P-13	Shin-Ya Ogino (JAMSTEC)	Seasonal and intra-seasonal variations in ozone over the Northern subtropical region revealed by ozonesonde observations in Hanoi, Vietnam
P-14	Masatomo Fujiwara (Hokkaido Univ.)	Seasonal to decadal variations of water vapor in the tropical lower stratosphere observed with balloon-borne frost-point hygrometers
P-15	Takashi Shibata (Nagoya Univ.)	Simultaneous observations of humidity by CU-CFH and cirrus clouds by lidar in upper troposphere over Indonesia
P-16	Suginori Iwasaki (National Defense Academy)	Characteristics of deep convection above 380 K measured by using the A-train
P-17	Eriko Nishimoto (Kyoto Univ.)	Zonally asymmetric temperature structure around the tropical tropopause and its relationship to deep convection in monsoon regions
P-18	Hiroyasu Kubokawa (Hokkaido Univ.)	Analysis of the tropical tropopause layer using the nonhydrostatic icosahedral atmospheric model (NICAM)
P-19	Takatoshi Sakazaki (Hokkaido Univ.)	Diurnal wind variations in the UT/LS region detected in MU-radar and reanalysis data
P-20	Yoshio Kawatani (JAMSTEC)	The roles of equatorial trapped waves and three-dimensionally propagating gravity waves in driving the quasi-biennial oscillation
P-21	Masakazu Taguchi (Aichi Univ of Education)	Wave driving in the tropical lower stratosphere as simulated by WACCM: Annual cycle and ENSO-induced changes

P-22	Takenari Kinoshita (Univ. of Tokyo)	On the three-dimensional residual circulation and wave activity flux of the primitive equations
P-23	Ignacio Pisso (JAMSTEC)	Lagrangian estimates of ozone depletion potentials for very short lived species
P-24	Yasuko Kasai (NICT)	Sensitive observation of atmospheric compositions using submillimeter-wave SIS receiver from space - Estimation of SMILES observation capability -
P-25	Tomohiro Sato (Tokyo Inst. Tech. /NICT)	Laboratory measurement of the line broadening parameters of H2O2 for JEM/SMILES observation from space
P-26	Kazutoshi Sagi (Ibaraki Univ.)	Feasibility study for infrared imaging spectrometer on geostationary satellite

4. Possible Impacts on Climate and Earth System

P-27	Tetsu Nakamura (NIES)	Influence of lower stratospheric ozone variation on tropospheric temperature and mean meridional circulation in Northern Hemisphere summer
P-28	Nawo Eguchi (NIES)	Tropical impact of 2009 northern stratospheric sudden warming
P-29	Yousuke Yamashita (Univ. of Tokyo)	Ozone and temperature response of a chemistry climate model to the solar cycle, volcanic aerosol, sea surface temperature, and QBO
P-30	Minoru Kadota (IPRC)	Taking stratospheric effect into account improces extended range weather forecast
P-31	Tomoki Nakayama (Nagoya Univ.)	Could Secondary Organic Aerosols Act as Brown Carbon?: Laboratory Studies of Aerosol Absorption
P-32	Satomi Kagamitani (Nagoya Univ.)	Simultaneous measurements of relative humidity dependence of light extinction and aerosol chemical compositions in central Tokyo during summer 2009
P-33	Makoto Koike (Univ. of Tokyo)	Cloud Properties in East Asia : Possible Impacts of Anthropogenic Aerosols

IGAC/IGBP section

P-34	Jen-Ping Chen (IGAC)	Application of a physically-based aerosol parameterization scheme in studying aerosol mixing state
P-35	Sarah J. Doherty (IGAC)	The International Global Atmospheric Chemistry project: An overview
P-36	Sybil Seitzinger (IGBP)	IGBP: Providing scientific knowledge to improve the sustainability of the living Earth
P-37	James R. Drummond (IGAC)	Measurements of Carbon Monoxide with the MOPITT Instrument 1999-2009
P-38	Sarah J. Doherty (IGAC)	Black carbon in Arctic snow and its effect on surface albedo
P-39	Celine Mari (IGAC)	Atmospheric composition of West Africa: the AMMA program
P-40	J.J. Kobus Pienaar (IGAC)	DEBITS: Past, Present and Future
P-41	E.H. Kleynhans (presented by J.J. Kobus Pienaar (IGAC))	Long term measurements of ambient gaseous species at remote sites in South Africa
P-42	David W.T. Griffith (IGAC)	Ground-based total column and in situ measurement of CO2, CH4 and other trace gases in the southern hemisphere
P-43	V. Sherlock (presented by David Griffith (IGAC))	Preliminary comparisons of GOSAT and ground-based FTS total column CO2 and CH4 retrievals in the southern hemisphere
P-44	Olga L. Mayol-Bracero (IGAC)	The Impact of Transport on the Physico-Chemical Properties of Caribbean Aerosols: African Dust and Pollution from North America