



# WCRP/SPARC Local Workshop

October 19-20, 2017

Korea Polar Research Institute, Incheon, Korea

**Thursday, October 19**

## Welcome and Session 1 (Chair: Baekmin Kim)

- 8:30 Registration
- 9:00 Opening and Logistics
- 9:05 Welcoming Remark (President of KOPRI)
- 9:10 **In-Sik Kang:** Stratospheric Influence on Predictability Enhancement in Late Winter (Keynote speech)
- 9:40 **Alexey Karpechko:** Predictability of Sudden Stratospheric Warmings in the ECMWF extended range forecast system
- 9:55 **Harry Hendon:** Impacts and predictability of Antarctic stratosphere-troposphere coupling during Austral Spring-Summer
- 10:10 **Yuna Lim:** The influence of QBO on MJO prediction skill in the subseasonal-to-seasonal (S2S) Models
- 10:25 PHOTO & COFFEE BREAK

## Session 2 (Chair: Kaoru Sato)

- 10:55 **Shigeo Yoden:** An emerging SPARC activity, SATIO-TCS: Stratospheric And Tropospheric Influences On Tropical Convective Systems (Invited)
- 11:15 **Andrew Charlton-Perez:** Stratosphere-Troposphere coupling: A Regime View
- 11:30 **Kanghyun Song:** The ENSO-SSW relationship
- 11:45 **Patrick Martineau:** Lower-stratospheric control of the frequency of sudden stratospheric warming events
- 12:00 **Judith Perlwitz:** What determines the strength of the QBO-Stratospheric Polar Vortex Connection?
- 12:15 LUNCH

### **Session 3 (Chair: Gufran Beig)**

- 13:30 **Hye-Yeong Chun:** Small-Scale Convective Gravity Waves: Contributions to the Large-Scale Circulations in the Middle Atmosphere (invited)
- 13:50 **Min-Jee Kang:** Momentum flux of convective gravity waves derived from an off-line gravity wave parameterization: Spatiotemporal variations at source level
- 14:05 **Byeong-Gwon Song:** Gravity Wave Activities in the Upper Mesosphere at King Sejong Station, Antarctica (62.22°S, 58.78°W) and Their Correlation with the Jet Stream in the Lower Atmosphere
- 14:20 **Yueyue Yu:** A stochastic Model with a Low-Frequency Amplification Feedback for the Stratospheric Northern Annular Mode
- 14:35 **Anu Xavier:** Extreme Rainfall Events Modulation by Monsoon Low Level Jet
- 14:50 COFFEE BREAK

### **Session 4 (Chair: Mijeong Park)**

- 15:20 **Yan Xia:** On the climate impacts of upper tropospheric and lower stratospheric ozone
- 15:35 **Gufran Beig:** Trends in temperature of the middle atmosphere and its linkage to stratosphere ozone recovery
- 15:50 **Larry Thomason:** SAGE III on the International Space Station
- 16:05 **Ha-Rim Kim:** Changes in robust atmospheric circulation and its impact on poleward moisture transport into the Arctic during winter,

### **Poster Session (16:30-18:30)**

### **Welcome Dinner: 19:00-**

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## **Friday, October 20**

### **Session 5 (Chair: Seok-Woo Son)**

- 9:00 **Jinro Ukita:** A Stratospheric Pathway for the Arctic-Midlatitude Climate Linkage (invited)
- 9:20 **Su-Jong Jeong:** Accelerating rates of Arctic carbon cycling revealed by long-term atmospheric CO<sub>2</sub> measurements (invited)
- 9:40 **Seungmok Paik:** Attributing causes of 2015 record minimum sea-ice extent in the Sea of Okhotsk
- 9:55 **Mee-Hyun Cho:** Flaring Black Carbon Impacts on Arctic Climate
- 10:10 COFFEE BREAK

### **Session 6 (Chair: Joowan Kim)**

- 10:45     **Wen Chen:** Role of stratosphere-troposphere interaction on the winter cold extremes in East Asia (invited)
- 11:05     **Hye-Jin Kim:** Eurasian winter temperature change and its association with Arctic sea ice loss
- 11:20     **Jiankai Zhang:** Persistent Shift of the Arctic Polar Vortex towards the Eurasian Continent in Recent Decades and its climatic impact
- 11:35     **Chang-Eui Park:** Emergence of aridification can be reduced by limiting the global warming to 1.5°C
- 11:50     **Laura Pan:** Atmospheric Composition and the Asian Monsoon: Recent Progresses and Collaboration Opportunities
- 12:05     LUNCH

### **Session 7 (Chair: Changhyun Yoo)**

- 13:30     **Jinwon Kim:** Effects of atmospheric river landfalls on the precipitation characteristics in the Western US (invited)
- 13:50     **Joowan Kim:** Thermal characteristics of the tropical tropopause layer in CMIP5 models
- 14:05     **Mijeong Park:** Fate of pollution emitted during the 2015 Indonesian Fire Season
- 14:20     **Fahim Khokhar:** An assessment of SLCP trends over Pakistan
- 14:35     **Joo-Hong Kim:** Thermal evolution of late summer melt ponds
- 14:50     ADJOURN

### **Poster Session**

1. **Hemanth Kumar** - Cross tropopause flux observed at sub-daily scales over south India monsoon regions
2. **Shipra Jain** - Occurrence of persistently low tropopause temperature and ozone over the Asian monsoon region as observed from Aura satellite
3. **Vazhathottathil Madhu** - Solar activity and associated changes in column ozone based on chemistry climate model simulation
4. **Dibas Shrestha** – Variability of Tropopause over South Asian Monsoon Region
5. **Jin-Haeng Lee** - Differences in the tropical convective activities during different phases of quasi biennial oscillation (QBO)
6. **Myung-Il Jung** - Possible impact of tropospheric ozone and methane on the recent Arctic warming
7. **Lei Song** - The Relationship between the Variation of High Latitude Stratospheric Planetary Wavenumber 1 and the Cold Anomalies over Eastern China

8. **Feiyang Wang** - Effect of Madden-Julian Oscillation Occurrence Frequency on the Interannual Variability of Northern Hemisphere Stratospheric Wave Activity in Winter
9. **Ji-Hee Yoo** - Characteristics of inertia-gravity waves revealed in rawinsondes at Jang Bogo Station, Antarctica (74°37.4'S, 164°13.7'E)
10. **Chao Wang** - A definition of the dynamical tropopause based on the Gaussian curvature of isentropic potential vorticity
11. **Hyesun Choi** - Reexamination on the type classification of Stratospheric Sudden Warming
12. **Hataek Kwon** - A numerical simulation of strong wind event at King Sejong Station, Antarctica.
13. **Ja-Young Hong** - The characteristics and impacts of extreme Atlantic windstorms on Arctic warming
14. **Sang-Yoon Jun** - Dynamical core in atmospheric model does matter in the simulation of Arctic climate
15. **Seok-Woo Son** – Does coupled ocean enhance ozone-hole-induced Southern Hemisphere circulation changes?
16. **Xuan Chen** - Shifting urban heat island clock in Megacity: a case study of Hong Kong
17. **Jinlong Huang** – The Precondition for Arctic Stratospheric Polar Vortex displacement Events
18. **Manuela Keguep** - Contribution to the aerial carbon sequestration assessment in the mangroves of Djirinda and Joal- Fadiouth (regions of Thiès and Fatick, Senegal- West Africa)
19. **Mohan Kumar Das** - Numerical Simulation and Dynamical Downscaling of South Asian Monsoon precipitation
20. **Lev Labzovskii** - The contribution of large urban areas to local CO<sub>2</sub> anomalies retrieved from OCO-2 and GOSAT spaceborne observations
21. **Sujung Lee** - Analysis of the characteristics of Korean precipitation variability in a changing climate
22. **Jin-Sil Hong** - Understanding the mechanisms leading to pure Extreme heat and Tropical night in Korea.
23. **Ho Thi Ngoc Huyen** - Long-term change of the tropical cyclone tracks and potential impacts over the southern region of Vietnam
24. **Lufeng Huang** - The impact of urbanization in Beijing area to local ecosystem
25. **Suqin Duan** - On the utility (or futility) of using stable water isotopes to study convection
26. **Lan Dai** - Linking meteorological drivers of spring-summer drought regimes to agricultural drought risk in China
27. **Jung Choi** - Regional climate response to aerosol versus greenhouse gas forcing
28. **Iman Roustia** - Assessment of SST variabilities in association with Climate Change
29. **Seunghwon Hyun** - Understanding a role of internal variability on the increase of global mean surface temperature in a warming scenario.
30. **Yan Chen** - Impacts of urban air conditioning on urban heat island over the northern hemisphere in summer
31. **Jaeyoung Hwang** - A Climatology of Northern Hemisphere Blocking in CESM Large Ensemble simulations
32. **Stefanie Kremser** – Developing observational data sets for assessing and validating climate models
33. **Shiyan Zhang** – Change in trend of Hadley circulation after 2000