

## The 7th GEMS Science Team Meeting

Date : October 10 - 12, 2016

Venue : Yonsei University, Seoul, Korea

GEMS Meeting Room		
Oct. 10-11	The Lounge, Grand Ballroom	
Oct. 12	Tutorial - Rm.553 Science Hall / ATBD discussion - The Lounge, B110	

### October 10<sup>th</sup> (Mon.) - The Lounge, Grand Ballroom

<b>11:00</b>	<b>12:00</b>	<b>Closed Meeting (GEMS 국내 연구진)</b>	<b>Science hall Rm. 553</b>
<b>12:30</b>	<b>13:00</b>	<b>Registration</b>	<b>The Lounge, Grand Ballroom</b>
		<b>Opening</b>	
		Opening Remark	Ji-hyung Hong (Director General, Climate & Air Quality Research, NIER)
		Congratulatory Remark	Kelly Chance (TEMPO Mission P.I., Harvard Smithsonian CfA)
13:00	13:30	Congratulatory Remark	Ben Veihelmann (ESA Sentinel 4 Project Scientist)
		Congratulatory Remark	Jay Al-Saadi (GEO-CAPE Program Scientist, TEMPO Deputy Project Scientist, CEOS ACC Co-Chair)
		Congratulatory Remark	Anjuli Bamzai (US Embassy Seoul)
13:30	13:40	Group Photo	
		<b>Status of GEMS mission</b>	
13:40	14:00	Hardware status of GEMS - preflight instrument characterization and calibration tests	Dennis Nick (BATC)
14:00	14:20	Status of GEMS software	YuGeun Ki (Saea Soft)
14:20	14:40	GEMS validation and application plans	Kyung-Jung Moon (NIER)
14:40	15:00	TEMPO L0-1 processor	Xiong Liu (Harvard-Smithsonian Astrophysical Observatory)
<b>15:00</b>	<b>15:30</b>	<b>Coffee Break</b>	
		<b>Status of International mission</b>	
15:30	15:50	CEOS GEO AQ Constellation	Jay Al-Saadi (GEO-CAPE Program Scientist, TEMPO Deputy Project Scientist, CEOS ACC Co-Chair)
15:50	16:10	Activities at Max Planck Institute for Chemistry for Sentinel 4	Simon Warnach (Max Planck Institute for Chemistry)
16:10	16:30	NICT project: Pollution prediction system at Fukuoka, Japan	Yasko KASAI (NICT, Tokyo Institute of Technology)
16:30	16:50	Progress toward a balloon flight for an Imaging Fourier Transform Spectrometer	Tom McElroy (York University)
		<b>Calibration and Validation</b>	
16:50	17:00	GEMS - Calibration	M. H. Ahn (Ewha Womans Univ.)
17:00	17:20	Introduction to a Chinese Sun/sky-radiometer observation network (SONET) and aerosol product intercomparison with the AERONET	Zhengqiang Li (Chinese Academy of Sciences)
17:20	17:40	Trace gas retrievals from the GeoTASO airborne instrument: A testbed for GEMS and TEMPO algorithm development	Caroline Nowlan (Harvard-Smithsonian Center for Astrophysics)
17:40	18:00	A concept of mini- satellite for air quality observation	Tamaki FUJINAWA (Tokyo Institute of Technology)
<b>18:00</b>		<b>Reception - The Lounge Buffet</b>	<b>The Lounge, Grand Ballroom (KRW 30,000 per person)</b>

### October 11th (Tues.) - The Lounge, Grand Ballroom

8:45	8:50	Opening	
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**Atmospheric composition (I): NO<sub>2</sub>, SO<sub>2</sub> and HCHO**

	8:50	9:00	GEMS - NO <sub>2</sub>	Hanlim Lee (Pukyong Nat'l University)
	9:00	9:10	The effect of aerosol properties on satellite based NO <sub>2</sub> AMF	Hyunkee Hong and Hanlim Lee (Pukyong Nat'l University)
	9:10	9:30	An improved retrieval algorithm for NO <sub>2</sub> and a novel model system to integrate multiple geostationary satellite measurements	Liu Mengyao (Peking University)
	9:30	9:50	Global tropospheric NO <sub>2</sub> profiles obtained from a cloud-slicing technique applied to Aura OMI observations	Sungyeon Choi (SSAI/NASA)
	9:50	10:00	GEMS - SO <sub>2</sub>	J.H. Jeong and Y.J. Kim (GIST)
	10:00	10:10	GEMS - HCHO	Rokjin Park (Seoul National Univ.)
<b>10:10</b>	<b>10:30</b>	<b>Coffee Break</b>		
		<b>Atmospheric composition (II): Ozone</b>		
	10:30	10:50	Remote-sensing evidence of decadal changes in major tropospheric ozone precursors over East Asia	Yoonsoo Choi (University of Houston)
	10:50	11:10	Comparison of OMI Observation with Model Simulations to Study Lower Tropospheric Ozone enhancement Over Central and Eastern China	Sachiko Hayashida (Nara Women's University)
	11:10	11:30	An Improved Ozone Profile Algorithm for the Airborne GeoTASO Sensor (Authors : Thomas P. Kurosu, Vijay Natraj, Jessica L. Neu)	Thomas P. Kurosu (NASA JPL)
	11:30	11:40	GEMS - Ozone	Jae. H. Kim (Busan National Univ.)
		<b>Status of GEOKOMPSAT-2 mission</b>		
	11:40	12:00	Status of GEOKOMPSAT-2 mission	S.R. Lee (KARI)
<b>12:00</b>	<b>13:00</b>	<b>Lunch</b>		
		<b>Aerosol, Cloud, and Surface</b>		
	13:00	13:20	Combined use of surface-based and satellite observations for retrieving absorption properties of boundary layer aerosols	Omar Torres (NASA)
	13:20	13:40	Feasibility analysis for hyperspectral remote sensing of aerosols	Jun Wang (Univ. of Iowa)
	13:40	14:00	An advanced hybrid algorithm by using satellite-based and ground-based observation for ground-level PM <sub>2.5</sub> estimation	Alexis Lau (Hong Kong University of Science and Technology)
	14:00	14:10	GEMS - aerosol	Mijin Kim and Jhoon Kim (Yonsei Univ.)
	14:10	14:20	GEMS - Surface reflectance	Kwonho Lee(GWNU) and Jung Moon Yoo (Ewha Womans Univ.)
	14:20	14:30	GEMS - Cloud	Bo-Ram Kim and Yong-Sang Choi (Ewha Womans Univ.)
	14:30	14:50	Cloud, Aerosol, and Surface Products from Sentinel-4	Diego Loyola (German Aerospace Center (DLR))
	14:50	15:10	Simulation of the aerosol distributions for Kyushu region with the horizontal resolution of ~5km using NICAM	Takeshi Kuroda (NICT, Tokyo Institute of Technology)
	15:10	15:30	Aerosol assimilation studies for the geostationary constellation	David Edwards (NCAR)
	15:30	15:50	Measurements of Boundary Layer Aerosol and Wind Profiles with Lidar Techniques	Sang-Woo Kim (SNU)
<b>15:50</b>	<b>16:10</b>	<b>Coffee Break</b>		
		<b>Chemistry, Modeling and Assimilation</b>		
	16:10	16:30	Impacts of the spatial resolution of a priori information on the retrieval of trace gases	Si-Wan Kim (NOAA)
	16:30	16:50	An estimation of NO <sub>x</sub> emissions over East Asia using OMI-observed NO <sub>2</sub> columns	K.M. Han and C.H. Song (GIST)
	16:50	17:10	Assimilation of GEMS radiance using MLEF and WRF-Chem	Seon Ki Park (Ewha Womans Univ.)
	17:10	17:30	O <sub>3</sub> and NO <sub>2</sub> OSSEs for the GEO-CAPE Mission	Vijay Natraj (NASA JPL)
	17:30	17:40	GEMS - RTM	Kwang-Mog Lee (Kyungpook National Univ.)
<b>17:40</b>	<b>18:00</b>	<b>Discussion</b>		

**October 12th (Wed.)****Tutorial**

9:30	10:10	Measuring ozone and handling stray light in spectrophotometers
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**Science Hall, Rm. 553**

Tom McElroy (York University)
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10:20 11:00 An introduction to trace gas retrievals with the GeoTASO airborne instrument

11:10 11:50 Aerosol retrievals from space: principals and numerical modeling

12:00 13:30 Lunch

Caroline Nowlan (Harvard-Smithsonian Center for Astrophysics)  
 Jun Wang (Univ. of Iowa)

**ATBD Discussion (GEMS Science Team All Participants)**

13:30 14:00 Calibration

14:00 14:30 RTM

14:30 15:00 Aerosol

15:00 15:30 Surface reflectance

15:30 16:00 Cloud

16:00 16:30 Ozone

16:30 17:00 NO<sub>2</sub>

17:00 17:30 SO<sub>2</sub>

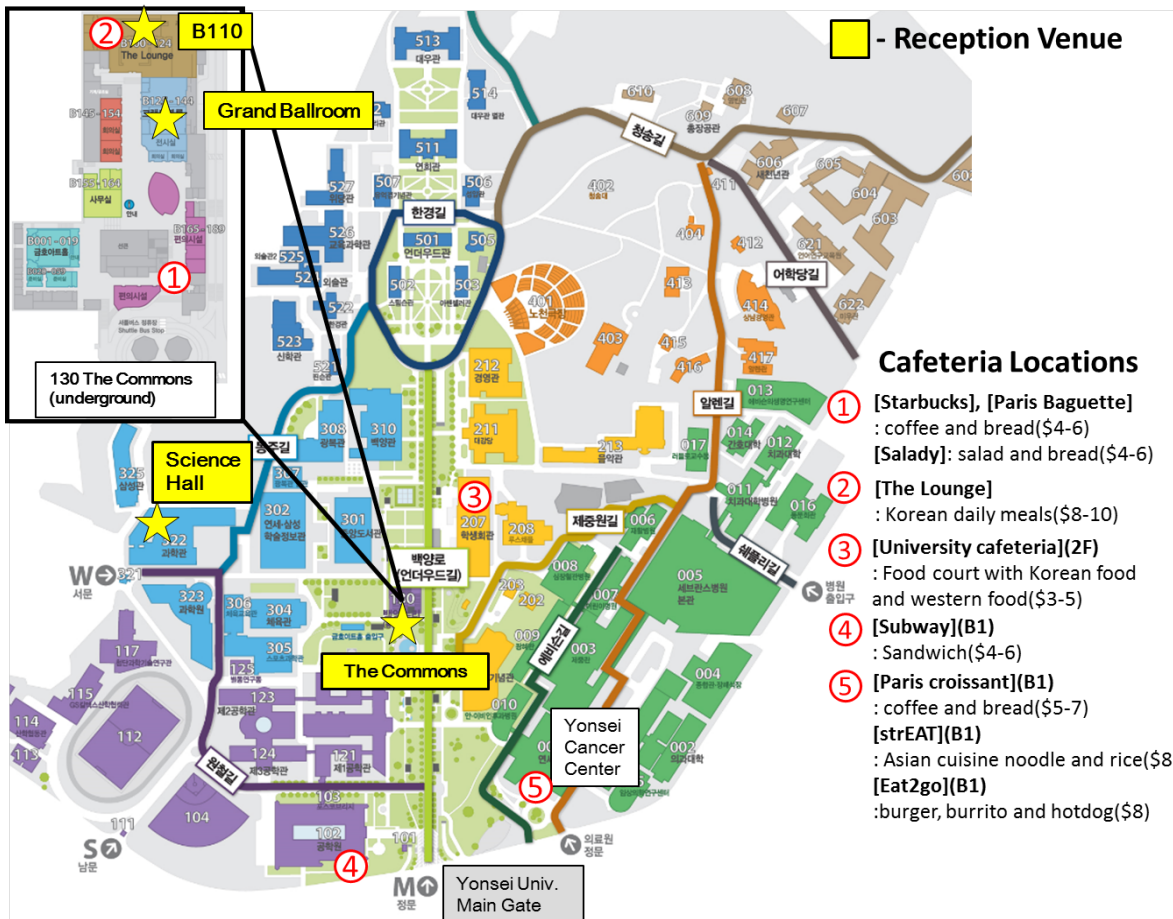
17:30 18:00 HCHO

**The Lounge, Choi-Yong Hall (B110)**

M. H. Ahn (Ewha Womans Univ.)  
 Kwang-Mog Lee (Kyungpook National Univ.)  
 Mijin Kim and Jhoon Kim (Yonsei Univ.)  
 Kwonho Lee (GWNU) and Jung Moon Yoo (Ewha Womans Univ.)  
 Bo-Ram Kim and Yong-Sang Choi (Ewha Womans Univ.)  
 Jae. H. Kim (Busan National Univ.)  
 Hanlim Lee (Pukyong Nat'l University)  
 J.H. Jeong and Y.J. Kim (GIST)  
 Rokjin Park (Seoul National Univ.)

18:30 GEMS and CEOS Joint Dinner - Korean BBQ restaurant

**Refer to p. 4 for details (KRW 30,000 per person)**



**“화로사랑” (Korean BBQ restaurant) (2F)**  
**To join the ‘GEMS and CEOS joint Dinner’ (Wed),**  
**we will meet at the fountain**  
**in front of the Commons at 6:10 pm.**

**“화로사랑” (Korean BBQ restaurant) (2F) INFO.**  
**Address :** 45-12 Changcheon-dong, Seodaemun-gu, Seoul  
**Phone :** 02-365-3327 (Restaurant)  
**CEOS staff :** 010-5745-1952

