The 6th GEMS Science Team Meeting

Date : October 6– 8, 2015
Venue : Hotel Riviera Haeundae, Busan, Korea

October 6th (Tue.)

8:40	**9:30**	**Registration**	
Opening			
9:30	9:40	Welcome Remark	Ji-hyung Hong (Director General, Climate & Air Quality Research, NIER)
9:40	9:50	Group Photo	
Status of GEMS Mission (I)			
9:50	10:00	Status of GEMS mission	Jhoon Kim (Yonsei Univ.)
10:00	10:20	GEMS development status	James Lasnik (BATC)
Status of International Mission			
10:20	10:40	The status of the TEMPO mission	Kelly Chance (Harvard Smithsonian CfA)
10:40	11:00	AQ Constellation Activities in preparation for GEMS: GEO-CAPE, CEOS-ACC, and KORUS-AQ Status	Jay Al-Saadi (NASA LaRC)
11:00	11:20	Status of TROPOMI and Sentinel-4	Pepijn Veefkind (KNMI)
11:20	11:40	GEMS-related retrieval activities at JPL	Thomas P. Kurosu (JPL, NASA)
11:40	12:00	GEMS-Calibration	M. H. Ahn (Ewha Womans Univ.)
12:00	**13:30**	**Lunch**	
Pre-launch activities			
13:30	13:50	Plan for pre-flight calibration and characterization activities	James Lasnik (BATC)
13:50	14:10	Expected trace gas and aerosol retrieval accuracy of the Geostationary Environment Monitoring Spectrometer	Ukkyo Jeong and Jhoon Kim (Yonsei Univ.)
14:10	14:30	OMI and OMPS pre-launch calibration activities	Glen Jaross (NASA GSFC)
14:30	14:50	Calibration of Earth Observation hyperspectral instruments, some examples	Berit Ahlers (ESA ESTEC)
14:50	15:10	Coffee Break	
Atmospheric composition (I): Ozone and NO_2			
15:10	15:30	Ozone Enhancement in theLower Troposphere over Central and Eastern China Observed from OMI:Comparison with Emission Inventories, Ground-based Measurements,and Model simulations. *[S. Hayashida, A. Ono, S. Kayaba, M. Kajino, M. Deuchi, T. Maki, T. Sekiyama, K. Yamaji, X. Liu, and K. Chance]*	Sachiko Hayashida (NARA Women's Univ.)
15:30	15:50	Key Features and Validation of the OMI TOMS V9 Total Ozone Algorithm	David Haffner (SSAI/GSFC, NASA)

	15:50	16:05	GEMS-O3 retrieval algorithm	Jae. H. Kim (Busan National Univ.)
	16:05	16:25	Tropospheric Nitrogen Dioxide Column Density Trends Seen from the 10-year Record of OMI Measurements over East	Hitoshi Irie (Chiba Univ.)
	16:25	16:45	An improved retrieval algorithm for NO2 and other tracers and a novel model system to integrate multiple geostationary satellite measurements	Jintai Lin (Peking Univ.)
	16:45	17:00	GEMS-NO2 retrieval algorithm	Hanlim Lee (Pukyong Nat'l University)
17:00	**17:50**		**Poster session**	
17:50	**18:30**		**Disccusion**	
18:30			**Reception**	

October 7th (Wed.)

8:50	**9:00**		**Opening**	
	9:00	9:20	Status of GEO-KOMPSAT 2B	S.R. Lee (KARI)
	Validation			
	9:20	9:40	KORUS AQ 2016 & MAPS Seoul 2015	J. Y. Ahn (NIER)
	9:40	10:00	Satellite and observation based physical modeling and verification of surface PM2.5 concentrations	Alexis Lau and Ying Li (HKUST)
	10:00	10:20	Utilization of AERONET sunphotometer and lidar data for calibration and validation of GEMS measurements	Youngmin Noh (GIST)
	10:20	10:40	A Balloon Pointing System Test for the Imaging Fourier Transform Spectrometer	Tom McElroy (York University)
10:40	11:00		Coffee Break	
	Atmospheric composition (II): SO_2 and HCHO			
	11:00	11:20	Sulfur dioxide vertical column DOAS retrievals from OMI: prototype development for S5P and S4	Nicolas Theys (IASB-BIRA)
	11:20	11:35	GEMS-SO2 retrieval algorithm	J.H. Jeong and Y.J. Kim (GIST)
	11:35	11:50	GEMS-HCHO retrieval algorithm	Rokjin Park (Seoul National Univ.)
11:50	**13:20**		**Lunch**	
	Aerosol, Cloud, and Surface			
	13:20	13:40	Aerosol Transport and High-Resolution Atmospheric Motion Vector Observations from Geostationary Satellites	Dong L. Wu (UCLA/JIFRESSE)
	13:40	14:00	CalWater2 -- Long-Range Transport from Asia and Aerosol Impacts on Weather	Ryan Spackman (NOAA/STC)
	14:00	14:20	Cirrus Clouds and aerosols over Hanoi: A survey of ground Lidar and satellite data	Hoang Dothe (Spectral Sciences, Inc.)
	14:20	14:35	GEMS-Cloud	Yong Sang Choi (Ewha Womans Univ.)
	14:35	14:50	GEMS-Aerosol	Mijin Kim and Jhoon Kim (Yonsei Univ.)
	14:50	15:05	GEMS-Surface reflectance	Myeong-Jae Jeong(GWNU) and Jung Moon Yoo (Ewha Womans Univ.)

15:05	15:20	Coffee Break	
Modeling and Data Assimilation			
15:20	15:40	Atmospheric composition OSSEs for the geostationary satellite constellation	David Edwards (NCAR)
15:40	15:55	GEMS - CTM simulation	K.M. Han and C.H. Song (GIST)
15:55	16:15	Inferring information on emissions, transport, and chemistry from geostationary satellite observations: lessons from the CalNex data and model results	Si-wan Kim (NOAA)
16:15	16:30	GEMS-Assimilation system	Seon Ki Park (Ewha Womans Univ.)
16:30	16:45	Comparison of RTM (DISORT, LIDORT, VLIDORT) Results	Kwang-Mog Lee (Kyungpook National Univ.)
GEMS Unified Data Processing Package			
16:45	17:00	GEMS Unified Data Processing Package	Y.K. Ki and J.B. Lee (Saeasoft Co.)
17:00	17:10	Break	
17:10	**17:45**	**Disscusion**	
17:45		**Busan tour**	

October 8th (Thu.)

Tutorial			
9:00	9:50	Algorithm physics and trace gas retrievals	Kelly Chance (Harvard Smithsonian CfA)
9:50	10:00	Short Break	
10:00	10:50	Ozone and Other Trace Gas Measurements: The Development of Differential Optical Absorption	Tom McElroy (York Univ)
10:50	11:00	Short Break	
11:00	11:50	DOAS	Nicolas Theys (IASB-BIRA)
11:50	**13:00**	**Lunch**	
13:00	13:50	A short history of BUV instrument design and calibration	Glen Jaross (NASA GSFC)
13:50	14:00	Short Break	
14:00	14:50	Soft-calibration of UV-VIS satellite measurements	David Haffner (SSAI/GSFC, NASA)
14:50	15:10	Short Break	
15:10	16:00	An overview about how calibration can be included from the system approach with examples from predecessor	Berit Ahlers (ESA ESTEC)
16:00	16:10	Short Break	
16:10	17:00	Introduction to a regional chemical transport model as a transfer standard for surface fluxes and observations from multiple platforms	Si-wan Kim (NOAA)