



The 22nd International TOVS Study Conference (ITSC-22) Saint-Sauveur, Canada

25 October 2019

Wednesday 30 October 2019

16:00 – 19:00

Registration

Thursday 31 October 2019

Registration

8:30 – 9:00

Welcome	Liam Gumley and Vincent Guidard (ITWG co-chairs)
Welcome by ECCC	Louis Garand
Local arrangements	Louis Garand and Liam Gumley
Review of Agenda	Liam Gumley and Vincent Guidard (ITWG co-chairs)

9:00 – 10:00 Session 1: Direct readout (oral presentations – 12 minutes)

Chair-persons: Pascale Roquet, David Tobin

1.01	Nigel Atkinson	20 years of the NWP SAF
1.02	Pascal Brunel (for Mikael Rattenborg)	Status of the Direct Broadcast Network for globally coordinated real-time acquisition, processing and fast delivery of satellite direct readout data, an initiative of the World Meteorological Organisation
1.03	Liam Gumley	The DBNet Cloud Service for providing low-latency sounder data to NWP centers
1.04	Kathleen Strabala	The Utility of CSPP Atmospheric Sounding Products

10:00 – 10:15 Session 1: Direct readout (poster introductions – 1 minute – no visual aid)

Chair-persons: Pascale Roquet, David Tobin

1p.01	Hyunjong Oh (for Dahye Bae)	Current status and plans of Direct-readout LEO satellite data processing in NMSC/KMA
1p.02	Liam Gumley	CSPP LEO for JPSS, Metop, NOAA, and FY-3 satellites: New features and enhancements
1p.03	David Howard	Generation of direct readout sounding data products at the Bureau of Meteorology
1p.04	Masami Moriya	Current Status and Future Plan on direct readout activity in MSC/JMA
1p.05	Mathieu Asseray	IASI cloud mask comparison between global broadcast and local processing.
1p.06	Pascale Roquet	Porting the OPS AVHRR clusters algorithm to VIIRS in CrIS footprint.
1p.07	Scott Mindock	CSPP SDR and CSPP VIIRS ASCI Level 1 and 2 products for your Direct Broadcast System
1p.08	Kathleen Strabala (for David Hoese)	Polar2Grid and Geo2Grid: Open Source Software for Creating High Quality Images
1p.09	Graeme Martin	Community Satellite Processing Package for Geostationary Data (CSPP Geo) Level 2 Products and Image Generation for Direct Broadcast

10:15 – 10:45 Health break**10:45 – 12:15 Session 1: Radiative Transfer and Community software****(oral presentations – 12 minutes)****Chair-persons: Kathleen Strabala, Nigel Atkinson**

1.05	Benjamin Johnson	Recent Advances in the Community Radiative Transfer Model
1.06	James Hocking	RTTOV development status
1.07	Lise Kilic	Comparisons of ocean radiative transfer models with satellite observations from 1.4 to 89 GHz
1.08	Ming Chen	Advances of the Community Surface Emissivity Models (CSEM) in Support of NWP Data Assimilation
1.09	Raymond Armante	How it could be possible to evaluate the spectroscopic parameters: the example of the new release of GEISA-2019
1.10	Zhenglong Li	An alternative method to quantify NLTE radiances

12:15 – 12:30 Session 1: Radiative Transfer and Community software**(poster introductions – 1 minute – no visual aid)****Chair-persons: Kathleen Strabala, Nigel Atkinson**

1p.10	Xavier Calbet	Effects of Field of View Inhomogeneities in Radiative Transfer
1p.11	Nicholas Nalli	CRTM Infrared Sea Surface Effective-Emissivity (IRSSE) Model Upgrade Status
1p.12	Cristina Lupu	Evaluation of the RTTOV in the ECMWF NWP system
1p.13	Pascal Brunel (for Jérôme Vidot)	RTTOV for hyperspectral far infrared (FIR) instruments : the FORUM example
1p.14	Philippe Chambon	Development of an active sensor module for the RTTOV-SCATT radiative transfer simulator
1p.15	Benjamin Johnson (for Patrick Stegmann)	Progress towards a Polarized CRTM
1p.16	Raymond Armante	The 4A/OP model from NIR to TIR: new developments and validation results within the frame of international space missions
1p.17	Raymond Armante	Status of the new GEISA-2019 spectroscopic database
1p.18	Hu (Tiger) Yang	Comparison of Two Data Resampling Algorithms for Processing of Microwave Sounding Observations
1p.19	Eric Simon	Automated Identification of Anomalous SSMIS Brightness Temperatures Using a Neural Network

12:30 – 13:30 Lunch**13:30 – 14:00 Poster viewing (Sessions 1, 2, 3)****14:00 – 15:20 Session 2: Calibration, validation****(oral presentations – 12 minutes)****Chair-persons: Dorothee Coppens, Raymond Armante**

2.01	Laura Le Barbier	IASI on-board METOP-C : instrument status L1 calibration/validation results
2.02	Dorothee Coppens (for Stéphanie Guedj)	EUMETSAT activities for IASI-C commissioning
2.03	David Tobin	Studies of the CrIS Noise and Calibration Covariances
2.04	Chunqiang Wu	FY-3D HIRAS Radiometric Calibration and Accuracy Assessment
2.05	Martin J. Burgdorf	Checking Beam Performance of HIRS and MHS With the Moon

15:20 – 15:30 Session 2: Calibration, validation (poster introductions – 1 minute – no visual aid) Chair-persons: Dorothee Coppens, Raymond Armante		
2p.01	Chengli Qi	HIRAS on-orbit performance and future development
2p.02	Jordi Chinaud	Radiometric and spectral intercomparison of IASI-C with other infrared sounders
2p.03	Yong Chen	Latest Improvements for CrIS Sensor Data Records
2p.04	Joe K. Taylor	Implementation of a Polarization Correction for the Cross-track Infrared Sounder (CrIS) Sensor
2p.05	Junye Chen	Progress of the Metop-C AMSU-A Lunar Contamination Correction Algorithm at NOAA/STAR
2p.06	Gu Songyan	The common re-calibration technology for long-term FY-3 microwave sounding data
2p.07	Yong Chen (for Flavio Iturbide-Sanchez)	Status of S-NPP/CrIS SDR Product After the Loss of the MWIR Band

15:30 Group Photo

15:45 – 16:15 Health Break

16:15 – 16:45 Session 2: Calibration, validation (oral presentations – 12 minutes) Chair-persons: Nathalie Selbach, Andrew Collard		
2.06	Chris Burrows	An assessment of data from the GIIRS instrument
2.07	Peng Zhang	Retrospective Calibration of Historical Chinese Fengyun Satellite Data

16:45 – 16:50 Session 2: Calibration, validation (poster introductions – 1 minute – no visual aid) Chair-persons: Nathalie Selbach, Andrew Collard		
2p.08	Lihang Zhou	NOAA-20 Calibration/Validation and algorithms improvements
2p.09	David Duncan	Evaluation of using measured SRFs in the radiative transfer for microwave sounders at ECMWF, UK Met Office, and DWD
2p.10	Yong Chen (for Denis Tremblay)	NOAA-20 CrIS Noise Assessment
2p.11	Quanhua (Mark) Liu	Calibration of NOAA-20 ATMS
2p.12	Bomin Sun	NOAA-JPSS dedicated radiosonde database in support of satellite data calibration/validation

16:50 – 17:30 Session 3: NWP centre reports (poster introductions – 3 minutes – 1 slide) Chair-persons: Nancy Baker, Mitch Goldberg		
3p.01	Alain Beaulne	Recent updates to the ECCO Global and Regional Prediction Systems
3p.02	Christina Köpken-Watts	Overview of radiance data assimilation developments at DWD since ITSC-21
3p.03	Andrew Collard	Progress and plans for the use of radiance data in the NCEP global and regional data assimilation systems
3p.04	S.Indira Rani	NCMRWF MWP Status
3p.05	Niels Bormann	Recent changes in the use of passive sounding data in the ECMWF NWP system
3p.06	Nadia Fourrié	Ongoing developments on satellite radiance assimilation at Météo-France
3p.07	Chawn Harlow	Recent upgrades in the use of satellite radiance observations within the Met Office global NWP system
3p.08	Fiona Smith	Satellite radiance assimilation at the Bureau of Meteorology
3p.09	Norio Kamekawa	Recent upgrades of satellite radiance data assimilation at JMA
3p.10	Xiaoyan Zhang	Overview of Satellite Radiance Data Assimilation in NCEP FV3 Regional System
3p.11	Eunhee Lee	Progress and plans for satellite data assimilation in KMA operational NWP system

17:45 Icebreaker

Friday 1 November 2019

8:30 – 9:30 Session 4: Assimilation of geostationary infrared sensors (oral presentations – 12 minutes)

Chair-persons: Fiona Smith, Philippe Chambon

4.01	Haixia Liu	Assimilation of Infrared Radiances from Geostationary Satellites at NCEP
4.02	Hao Wang	Research on assimilation of FY-4A AGRI radiance in GRAPES Global Forecast System
4.03	Marc Pondrom	Assimilation of geostationary water vapour clear sky radiances with an Ensemble Kalman Filter
4.04	Mele T. Bushair	Impact of Geostationary Clear Sky radiances assimilation on the wind field over the Indian Ocean region

9:30 – 9:35 Session 4: Assimilation of geostationary infrared sensors (poster introductions – 1 minute – no visual aid)

Chair-persons: Fiona Smith, Philippe Chambon

4p.01	Nadia Fourrié	Towards the use of a bayesian approach for the assimilation of all-sky IASI radiances.
4p.02	Nancy L. Baker	All-Sky Radiance Assimilation for COAMPS-TC Tropical Cyclone Track and Intensity Prediction
4p.03	Ebony Lee	Assimilation of cloud-contaminated radiances in regional air quality model: a case study using GEMS synthetic radiance data

9:35 – 10:20 Session 4: All-sky assimilation of geostationary infrared sensors (oral presentations – 12 minutes)

Chair-persons: Fiona Smith, Philippe Chambon

4.05	Kozo Okamoto	Evaluation and assimilation of all-sky infrared radiances of Himawari-8 in the regional and global data assimilation system
4.06	Jonathan Guerrette	Evaluating the impact of assimilating cloud-affected infrared radiances from GOES-16 ABI on the forecast of a severe storm in the Midwest U.S.
4.07	Zhiquan Liu	4D variational and ensemble/variational assimilation of every 10-min AHI clear-sky and all-sky radiances at convective-scale

10:20 – 10:50 Health break

Action items from ITSC-21

Moderators Liam Gumley and Vincent Guidard

10:50 – 11:05 CGMS and IRC reports

11:05 – 12:30 Working group action items from ITSC-21 (15 minutes)

NWP

Radiative transfer and surface properties

Advanced Sounders

Products and Software

Climate

International and Future systems

12:30 – 13:30 Lunch

13:30 – 14:00 Poster viewing (Sessions 4, 5, 6)

14:00 – 15:00 Session 5: All-sky assimilation for microwave sensors (oral presentations – 12 minutes) Chair-persons: Nadia Fourrié, Peng Zhang		
5.01	Brett Candy	Towards all-sky MHS: Observation Preprocessing and NWP Suite Design
5.02	Philippe Chambon	Assimilating cloudy and rainy microwave observations within the ARPEGE global model
5.03	Katrin Lonitz	All-sky assimilation over land for surface sensitive microwave channels
5.04	Yanqiu Zhu	All-sky radiance assimilation over land at NCEP: Approaches and Status

15:00 – 15:15 Session 5: All-sky assimilation for microwave sensors (poster introductions – 1 minute – no visual aid) Chair-persons: Nadia Fourrié, Peng Zhang		
5p.01	Stefano Migliorini	All-sky assimilation of moisture-sensitive radiances at the Met Office
5p.02	Niels Bormann	Assimilation of AMSU-A in the presence of cloud and precipitation
5p.03	Benjamin Johnson (for Emily Huichun Liu)	The use of precipitation-affected MW radiances in FV3-GFS Hybrid Data Assimilation System
5p.04	Katrin Lonitz	Updates from the all-sky assimilation of microwave radiances at the ECMWF
5p.05	Zhipeng Xian	All-sky Assimilation of the MWHS-2 Observations and Evaluation the Impacts on the Forecasts of Typhoons
5p.06	Masahiro Kazumori	All-sky microwave radiance assimilation in the JMA global NWP system
5p.07	Katrin Lonitz	Assessing the impact of different liquid water permittivity models on the assimilation of microwave radiances
5p.08	Victoria Galligani	Microphysical properties of ice particles as revealed by satellite microwave polarimetric measurements and radiative transfer modeling

15:15 – 15:45 Health Break

15:45 – 16:15 Communication from sibling working groups (oral presentations – 12 minutes) Chair-persons: Vincent Guidard, Liam Gumley		
a.01	Philippe Chambon	Research Highlights from the International Precipitation Working Group (IPWG)
a.02	Benjamin Ruston	Feedback from last two ISWG meetings

16:15 – 17:00 Session 6: Climate (oral presentations – 12 minutes) Chair-persons: Christina Köpken-Watts, Fabien Carminati		
6.01	Cyril Crevoisier	Establishing times series of essential climate variables from 3 successive Metop/IASI
6.02	Cheng-Zhi Zou	Toward Improved Climate Data Record Using Stable SNPP/ATMS Observations as References
6.03	Christoforos Tsamalis	Validation of the 183 GHz C3S/EUMETSAT FCDR using ERA5 simulations, SNOs and operational datasets

17:00 – 17:15 Session 6: Climate (poster introductions – 1 minute – no visual aid) Chair-persons: Christina Köpken-Watts, Fabien Carminati		
6p.01	Virgnie Capelle	Stand alone night-time sea surface temperature retrieved by the IASI/Metop suite: Toward long time series
6p.02	Virgnie Capelle	A long time series of Metop/IASI observations of Saharan aerosols distribution using AOD-Altitude-Surface temperature triplets
6p.03	Daniel K. Zhou	Surface skin temperature and its trend from recent 12-year IASI observations
6p.04	Pascale Roquet (for Jérôme Vidot)	RTTOV for a C3S project on early satellite data rescue
6p.05	Nathalie Selbach	Climate Data Records and user service of the EUMETSAT Satellite Application Facility on Climate Monitoring
6p.06	Nathalie Selbach	The EUMETSAT CM SAF Fundamental Climate Data Record of Microwave Imager Radiances
6p.07	Nathalie Selbach	Towards a climate data record of precipitation merging satellite observations by passive microwave sounders and imagers
6p.08	Nathalie Selbach	The GEWEX water vapor assessment (G-VAP): final results from first phase and the future of G-VAP
6p.09	Mitch Goldberg	The Value of Two Satellites in the Same Orbit for Nowcasting and Climate Monitoring
6p.10	Dirceu L. Herdies	The increase in the impact of the observations in a 40 multi-year Reanalysis on the tropical region with 41 emphasis on the Amazon basin
6p.11	Lei Shi	Satellite-Derived Upper Tropospheric Humidity Datasets and Comparison with Total Column Water Vapor
6p.12	Viju John	EUMETSAT's Contribution of Fundamental Climate Data Records (FCDR) to Copernicus Climate Change Service (C3S)

17:15 – 18:00 Session 6: Reanalysis (oral presentations – 12 minutes) Chair-persons: Christina Köpken-Watts, Fabien Carminati		
6.05	Bill Bell	The Assimilation of Radiance Data in the ERA5 Global Reanalysis
6.06	S.Indira Rani	Satellite era retrospective analysis over the Indian region
6.07	Ricardo Todling	Assessing the impact of observations in a multi-year Reanalysis

18:30 – 20:30 GSICS workshop

Saturday 2 November 2019

09:00 – 12:30 Working group meetings

(10:15 – 10:45 Health break)

Advanced Sounders
Climate
Radiative transfer

12:30 – 13:30 Lunch

13:30 – 17:00 Working group meetings

(15:15 – 15:45 Health break)

NWP
Products and Software
International and Future systems

17:00 – 18:00 Technical sub-group meeting

RTTOV/CRTM

Sunday 3 November 2019

Day Free

Monday 4 November 2019

8:30 – 10:00 Session 7: Assimilation of new hyperspectral infrared instruments (oral presentations – 12 minutes)

Chair-persons: Keyi Chen, Chris Burrows

7.01	Ruoying Yin (for Wei Han)	Assimilation of high temporal GIIRS radiance in GRAPES
7.02	Chris Barnet	Information content of the CrIS instrument and recent data denial experiments relevant to operational use of sounder data.
7.03	Fabien Carminati	Implementation and assessment of FY-3D Hyperspectral Infrared Atmospheric Sounder (HIRAS) in the Met Office system
7.04	Reima Eresmaa	New IR sounders in the ECMWF NWP system
7.05	Dmitry Gayfulin	Assessment and assimilation of observations of the hyperspectral IR sounder IKFS-2 on board the Russian Meteor-M N2 satellite
7.06	Ruoying Yin	The evaluation of GIIRS longwave temperature sounding channels using 4D-Var

10:00 – 10:15 Session 7: Assimilation of new hyperspectral infrared instruments (poster introductions – 1 minute – no visual aid)

Chair-persons: Keyi Chen, Chris Burrows

7p.01	Kirsti Salonen	Impact assessment of IASI temperature and humidity retrievals in the ECMWF system
7p.02	Sylvain Heilliette	Evaluation of the performance of CrIS instrument under various assimilation scenarios
7p.03	Silke May	Operational use of inter-channel correlations for IASI in the DWD EnVar and investigation into the use of Reconstructed Radiances
7p.04	Reima Eresmaa	Detection of aerosol- and trace-gas-affected IR radiances at ECMWF
7p.05	James Jung	Quantifying the effects of the CrIS-FSR Radiance Polarization Corrections using the NCEP Global Data Assimilation System.

10:15 – 10:45 Health break

10:45 – 11:15 Session 8: Space agency reports (poster introductions – 5 minutes – 2 slides)

Chair-persons: Vincent Guidard, Liam Gumley

8p.01	Kozo Okamoto	Status report of space agency: JMA and JAXA
8p.02	Dieter Klaes	The Current EUMETSAT Polar System
8p.03	Mitch Goldberg	NOAA
8p.04	Peng Zhang	CMA
	TBC	Russian Meteorological Satellite Programs

11:15 – 12:30 Session 9: Advances in the assimilation of infrared sensors (oral presentations – 12 minutes)

Chair-persons: Nadia Smith, Brett Candy

9.01	Erin Jones	Assimilation of Hyperspectral Infrared Shortwave CrIS Observations in the NOAA Global Data Assimilation System
9.02	Kirsti Salonen	Enhancing the hyperspectral infrared radiance assimilation in the ECMWF system
9.03	Olivier Coopmann	4D-Var assimilation of IASI ozone-sensitive radiances in operational global model ARPEGE
9.04	Christina Köpken-Watts (for Liselotte Bach)	Assimilating solar satellite channels in a convective-scale LETKF
9.05	Bryan M. Karpowicz	Improvements to Ozone Analyses using Hyperspectral Sounders in the 9.6 um Band

12:30 – 13:30 Lunch

13:30 – 14:00 Poster viewing (Sessions 7, 8, 10, 11, 12)

14:00 – 15:00 Session 10: Retrievals

(oral presentations – 12 minutes)

Chair-persons: Kirsti Salonen, Dieter Klaes

10.01	Thomas August	Status of regional IASI L2 products at EUMETSAT and studies in view of MTG-IRS
10.02	Bjorn Lambrigtsen	The New NASA Multi-mission Microwave Sounder Retrieval System
10.03	Nadia Smith	Continuity in Sounding Products from Multiple Platforms - examples from CLIMCAPS and NUCAPS
10.04	Yoann Tellier	Retrieval of the radiative flux and atmospheric vertical heating rate profiles in the thermal infrared with the IASI instruments onboard the Metop platforms

15:00 – 15:15 Session 10: Retrievals

(poster introductions – 1 minute – no visual aid)

Chair-persons: Kirsti Salonen, Dieter Klaes

10p.01	Hee-Jung Kang	Atmospheric profile retrieval using rapid scan observation of Geo-KOMPSAT-2A Satellite
10p.02	Thomas August	First results from the Metop-C IASI Level 2 cal/val
10p.03	Thomas August	An adaptative OEM retrieval for IASI
10p.04	Geoff Cureton	Near Real Time Active Fires and GAASP Level-2 Products Via Direct Broadcast Using the Community Satellite Processing Package
10p.05	Hyun-Sung Jang	Comparison of PCRTM-derived CrIS retrievals of temperature, water vapor, and trace gases (O3, CO, CH4, and N2O) with in-situ measurements
10p.06	Robert Knuteson	Satellite Inter-comparison of Geostationary GIIRS and Polar-orbiting IR Sounders CrIS and IASI: Radiances, Thermodynamic Retrievals, and Stability Indices
10p.07	Awdhesh K. Sharma	Sounding Data Products generated at NOAA/NESDIS Using High Spectral Resolution Infrared and Advanced Microwave Sounders (CrIS/ATMS)
10p.08	Nadia Smith (for Rebekah Esmaili)	Expanding the capability of real-time temperature, humidity, and trace gas retrieval products in field campaigns
10p.09	Zied Sassi	Towards A Further Use Of Satellite Observations For A Better Definition Of Surface Temperature
10p.10	Dorothee Coppens (for Mayté Vasquez)	IASI L1 and L2 reprocessing status at EUMETSAT
10p.11	David Duncan	An experimental 2DVAR retrieval using AMSR2

15:15 – 15:45 Health Break

15:45 – 16:30 Session 11: Validation

(oral presentations – 12 minutes)

Chair-persons: Thomas August, Benjamin Ruston

11.01	Maria Toporov	Combining satellite- with ground-based measurements for near-real-time monitoring of atmospheric stability, atmospheric water vapor and liquid water.
11.02	Michelle Feltz	Investigating the Comparisons of Hyperspectral IR Sounders, Radio Occultation, and Radiosondes in Radiance Space
11.03	Eric Péquignot	Ground-based remote sensing network for the validation of multi-scale satellite products and numerical models

16:30 – 16:40 Session 11: Validation (poster introductions – 1 minute – no visual aid) Chair-persons: Thomas August, Benjamin Ruston		
11p.01	Fabien Carminati	Extended characterisation of NWP model biases and uncertainties across the microwave and infrared domains
11p.02	Anthony L. Reale	Enterprise Assessment and Uncertainty Estimates for Satellite Retrievals Using Collocations with Conventional and GRUAN Radiosondes
11p.03	Christina Stumpf	Application of the fast visible radiative transfer model RTTOV-MFASIS: comparison to RTTOV-DOM and use for model cloud validation of ICON
11p.04	Nicholas R. Nalli	Validation of the Environmental Data Record (EDR) product suite from the SNPP/NOAA-20 NOAA Unique Combined Atmospheric Sounding System (NUCAPS)
11p.05	Joe K. Taylor	FIREX-AQ ER-2: A Summary of Scanning High-resolution Interferometer Sounder (S-HIS) Observations
11p.06	Eui-Seok Chung	Reconciling opposing Pacific Walker circulation trends in observations and climate model projections
11p.07	Olaf Stiller	Generating synthetic visible satellite images with RTTOV
11p.08	Olaf Stiller	Using ensemble based diagnostics to identify sub-optimally used observations

16:45 – 17:30 Session 12: Satellite data impact in NWP (oral presentations – 12 minutes) Chair-persons: Cristina Lupu, Cyril Crevoisier		
12.01	Niels Bormann	Global observing system experiments in the ECMWF assimilation system
12.02	Buddhi Prakash Jangid	Impact of Hyperspectral Radiances in 4D-VAR data assimilation system
12.03	Bruna Barbosa Silveira	Assessment of assimilating Metop combined retrieval L2 product in AROME-France

17:30 – 17:55 Session 12: Satellite data impact in NWP (poster introductions – 1 minute – no visual aid) Chair-persons: Cristina Lupu, Cyril Crevoisier		
12p.01	S.Indira Rani	Assessment of the impact of zonal component of Radiosonde winds: A prelude to the assimilation of Aeolus winds
12p.02	Hyoung-Wook Chun	Assessment of impact of satellite radiances on analysis in KIAPS
12p.03	Robin Faulwetter	Extended Use of Humidity sensitive Radiances in the DWD System
12p.04	David Duncan	Assessment of the FY-3D microwave instruments at ECMWF
12p.05	Jisoo Kim	Impacts of cloud screening algorithm of the ATMS on numerical weather prediction model: Scattering index
12p.06	Magnus Lindskog	Use of microwave radiances in the MetCoOp operational HARMONIE-AROME limited-area data assimilation
12p.07	Stuart Newman	Extending use of microwave humidity data over land at the Met Office
12p.08	Youngchan Noh	Impact of NOAA Low Latency LEO DBNet Constellation Infrared Sounder Data on NCEP GFS forecasts
12p.09	Hongyi Xiao	The Impact of FY3D-MWRI Radiance Assimilation on the Typhoon Shanshan Forecasts with GRAPES 4D-Var
12p.10	William F. Campbell	Background Fit to Satellite Observations
12p.11	Shuang Xi	Let more Polar Orbiting Satellite Data available in Regional NWP in CMA-DBNet Data, its potential, application and questions
12p.12	Niels Bormann	Evaluation and assimilation of MW sensors on NOAA-20 and Metop-C
12p.13	Niels Bormann	Continuous Data Assimilation at ECMWF and implications for satellite observation timeliness
12p.14	Brett Candy	Current Use of FY-3 microwave instruments and Future Plans
12p.15	Keyi Chen	Assimilating FengYun-3C Microwave Sounding Data over Land in the Southwest Vortex Precipitation in China
12p.16	Benjamin Ruston	Unified Observation Processing
12p.17	Hidehiko Murata	Operational Use of NOAA-20 ATMS and CrIS Radiance Data in JMA's Global NWP System

Tuesday 5 November 2019

8:30 – 10:00 Session 13: Advances in satellite data assimilation (oral presentations – 12 minutes)

Chair-persons: Heather Lawrence, Kozo Okamoto

13.01	Maziar Bani Shahabadi	Implementation of slant-path radiative transfer in Environment Canada's Global Deterministic Weather Prediction system
13.02	Hyo-Jong Song	Impact of the mid-loop for satellite radiance on a hybrid data assimilation skill
13.03	Ruth B.E. Taylor	Observation selection for variational bias correction
13.04	Kristen Bathmann	Surface Dependent Correlated Infrared Observation Errors in the FV3 Framework
13.05	Joël Bédard	Understanding the link between satellite radiance thinning and observation error variance inflation in global 4D-EnVar
13.06	Cristina Lupu	Surface skin temperature for satellite data assimilation at ECMWF

10:00 – 10:15 Session 13: Advances in satellite data assimilation (poster introductions – 1 minute – no visual aid)

Chair-persons: Heather Lawrence, Kozo Okamoto

13p.01	Kwangjae Sung	Local Unscented Transform Kalman Filter for Highly Nonlinear System
13p.02	Jeon-Ho Kang	Impact of SSMIS BC method considering background-error in KIAPS DA system
13p.03	Shuai Han	Development and Progress of High Resolution CMA Land Surface Data Assimilation System
13p.04	In-Hyuk Kwon	Evaluation of Variational Bias correction using an iterative bias correction against analysis
13p.05	Sid Boukabara	Leveraging Modern AI techniques in NWP and Enhancing Satellite Data Exploitation
13p.06	Marco Matricardi	The assimilation of the IASI full spectrum using reconstructed radiances
13p.07	Agnes Lim	Quantifying the Sensitivity of NCEP's GDAS/GFS to CrIS Detector Differences
13p.08	Shi Chunxiang	A land data assimilation study based on LIS with FY3C land surface temperature and microwave brightness temperature

10:15 – 10:45 Health Break

10:45 – 12:30 Session 14: Preparation for new hyperspectral instruments (oral presentations – 12 minutes)

Chair-persons: Karen Saint-Germain, Niels Bormann

14.01	Dorothee Coppens	MTG-IRS: scientific improvements for a user-friendly mission
14.02	Francisco Bermudo	IASI-NG Program: General Status Overview
14.03	Adrien Deschamps	IASI-NG L1 processing: how to estimate the instrument response function in real-time ?
14.04	Eric Jurado	Development and Verification challenges of the IASI-NG system
14.05	Francesca Vittorioso	Evaluation of a first IASI-NG channel selection for Numerical Weather Prediction
14.06	Lucie Leonarski	Ice cloud properties, an information content analysis from high spectral resolution measurements in the thermal infrared: Application to IASI and IASI-NG

12:30 – 13:30 Lunch

13:30 – 14:00 Poster viewing (Session 13, 14, 15, 16)

14:00 – 14:45 Session 15: Polar regions (oral presentations – 12 minutes) Chair-persons: Erin Jones, Reima Eresmaa		
15.01	Heather Lawrence	Arctic Observing System Experiments at ECMWF for the APPLICATE project
15.02	Zheng Qi Wang (for Roger Randriamampianina)	Impact of observations on the AROME-Arctic regional model
15.03	Louis Garand	Continuous observation of high latitudes from space: a review of medium Earth orbit (MEO) and highly elliptical orbit (HEO) options

14:45 – 14:50 Session 15: Polar regions (poster introductions – 1 minute – no visual aid) Chair-persons: Erin Jones, Reima Eresmaa		
15p.01	Zheng Qi Wang	PRECISE: Production of a regional Reanalysis for Europe within the Copernicus climate change Services
15p.02	Zheng Qi Wang (for Harald Schyberg)	The Arctic Regional Reanalysis of the Copernicus Climate Change Service
15p.03	Stéphane Laroche	Impact of Terrestrial and Satellite Observations over the Polar Regions on the ECCO Global Weather Forecasts during the YOPP Special Observing Periods

14:50 – 15:20 International (oral presentations – 12 minutes) Chair-persons: Vincent Guidard, Liam Gumley		
b.01	Stephen English	Communicating the value of passive bands used by TOVS-heritage microwave instruments in the context of radio frequency interference and spectrum allocation
b.02	Richard Kelley	Update to World Radiocommunication Conference 2019 and WRC-23 items of interest

15:20 – 15:50 Health Break

15:50 – 16:05 International (oral presentations – 12 minutes) Chair-persons: Vincent Guidard, Liam Gumley		
b.03	Heikki Pohjola	WMO Space Programme Update

16:05 – 16:50 Session 16: Future missions (oral presentations – 12 minutes) Chair-persons: Bill Bell, Stephen English		
16.01	William Smith Sr.	Combined Polar Hyper-spectral and Geo-multispectral Data - Demonstration of the Need For Geo-Hyper-spectral Sounder
16.02	Joe K. Taylor (for Hank Revercomb)	Hyperspectral Imaging Infrared Sounding from geostationary orbit
16.03	Karen St.Germain	Accelerating Toward NOAA's Next-Generation Observing Architecture
(poster introductions – 1 minute – no visual aid)		
16p.01	Dieter Klaes	EUMETSAT Plans

16:50-17:30 Working groups finalize reports

18:00 Banquet

and presentation of prizes for best oral and poster presentations

Wednesday 6 November 2019

8:30 – 10:10 Working group reports (15 minutes)

NWP
Radiative transfer and surface properties
Advanced Sounders
Products and Software
Climate

10:10 – 10:30 Health Break

10:30 – 10:50 Working group reports (15 minutes)

International and Future systems

10:50 – 11:00 Technical sub-group report (5 minutes)

RTTOV/CRTM

11:00 – 11:10 Closing