



Committees

Steering committee

Arnould Apituley	KNMI	The Netherlands	
Laura Bianco	NOAA	USA	
Chandrasekar V Chandra	Colorado State University	USA	<i>Honorary Chair</i>
Domenico Cimini	National Research Council of Italy	Italy	<i>Honorary Chair</i>
Alain Dabas	Météo-France	France	
Paolo Di Girolamo	Università della Basilicata	Italy	
Pauline Martinet	Météo-France	France	<i>General Chair</i>
Steven Reising	Colorado State University	USA	<i>Honorary Chair</i>
Herman Russchenberg	TU Delft	The Netherlands	
David Turner	NOAA	USA	<i>Honorary Chair</i>
Jim Wilczak	NOAA	USA	

Programme committee

Arnould Apituley	KNMI	The Netherlands
Laura Bianco	NOAA	USA
Alan Brewer	NOAA	USA
Chandrasekar V Chandra	Colorado State University	USA,
Domenico Cimini	National Research Council of Italy	Italy
Alain Dabas	Météo-France	France
Julien Delanoë	IPSL	France
Paolo Di Girolamo	Università della Basilicata	Italy
Alexander Haefele	MeteoSwiss	Switzerland
Martial Haeffelin	IPSL	France
Christophe Kiemle	DLR	Germany
Simone Kotthaus	IPSL	France
Ulrich Löhnert	Universität de Cologne	Germany
Jean-François Mahfouf	Météo-France	France
Pauline Martinet	Météo-France	France
Ewan James O'Connor	FMI	Finland
Gelsomina Pappalardo	CNR-IMAA	Italy
Roland Potthast	DWD	Germany
Steven Reising	Colorado State University	USA
Thomas Rieutord	Météo-France	France
Herman Russchenberg	TU Delft	The Netherlands
David Turner	NOAA	USA
Jim Wilczak	NOAA	USA

Local organizing committee

Philippe Caille	Météo-France	CIC
Christophe Ciais	Météo-France	CIC
Alain Dabas	CNRM	Météo-France
Pauline Martinet	CNRM	Météo-France
Jean-Antoine Maziejewski	Météo-France	CIC secretary
Thomas Rieutord	CNRM	Météo-France
Isabelle Varin	Météo-France	CIC secretary

ISTP 2019 is sponsored by

Leosphere, Metek Meteorologische Messtechnik GmbH, RPG Radiometer Physics GmbH

11th edition of the International Symposium on Tropospheric Profiling Programme

Monday 20 May 2019	
10:00-12:00	Registration
12:00-13:30	Lunch
13:30-14:00	Welcoming talk from Meteo-France and CNRM as hosts of the 11th edition of ISTP
14:00-15:30	Water vapour, ozone and trace gases
14:00-14:30	Water Vapor Variability in the Tropics Observed by Airborne Lidar and Modelling. Christoph Kiemle p. 1
14:30-14:45	Water vapour and temperature measurements with the lidar Raman Basil in the frame of NDACC project. Benedetto De Rosa p. 3
14:45-15:00	Combining Ground-based Active and Passive Observations to Improve the Accuracy of Thermodynamic Profiles in the Boundary Layer. Dave Turner p. 5
15:00-15:15	A new synergistic approach for tropospheric ozone profiling. Cecilia Tirelli p. 7
15:15-15:45	Tea break sponsored by Leosphere
15:45-17:30	New instruments
15:45-16:15	Global Observations from a Science-Quality Passive Microwave Atmospheric Sounder on a CubeSat: Temporal Experiment for Storms and Tropical Systems Technology Demonstration (TEMPEST-D). Steven C. Reising p. 11
16:15-16:30	Compact Automatic Rotational Raman Lidar System for Continuous Day- and Nighttime Temperature and Humidity Mapping. Diego Lange p. 13
16:30-16:45	Best Estimate Sedimentation Doppler Velocity from EarthCare Cloud Profiling Radar. Lukas Pfitzenmaier p. 15
16:45-17:00	Lidar-based technique for the observation of microphysical properties of liquid water clouds: Dual-FOV Polarization lidar. Cristofer Jimenez p. 17
17:00-17:15	BASTA : a very versatile cloud radar. Pragya Vishwakarma p. 19
17:15-17:30	Aeolus L2A aerosol products: principle and first glimpse on performances. Thomas Flament p. 21
18:00-21:00	Icebreaker
Tuesday 21 May 2019	
09:00-10:30	Validation, instrument synergies, and field experiments
09:00-09:30	The DACAPO initiative: Linking remote sensing, in-situ observations, and modelling to enhance the understanding of aerosol-cloud-precipitation interaction. Patric Seifert p. 23
09:30-09:45	Cross-comparison of cloud liquid water path values derived from observations by two space-borne and one ground-based instrument in Northern Europe. Vladimir Kostsov p. 25
09:45-10:00	Investigation of Ice Microphysics using Simultaneous Measurements at C- and Ka-Band. Martin Hagen p. 27
10:00-10:15	Using ultra-light drone (flying wing) for regular tropospheric profiling. Grégoire Cayez p. 29
10:15-10:30	Validation and operational monitoring of atmospheric products derived from IASI measurements. Stefan Stapelberg p. 31
10:30-11:00	Tea break
11:00-12:30	Validation, instrument synergies, and field experiments (continued)
11:00-11:15	Cloud detection and cloud base height retrieval using a ground thermal-infrared all sky imager. Guillaume Roussel p. 33
11:15-11:30	A compact, flexible, and mobile micro pulsed Doppler Lidar. Paul Schroeder p. 35
11:30-11:45	Profiling of aerosol vertical distribution by mobile on-road measurements in France. Stephane Victori p. 37
11:45-12:00	Challenges and chances in observing aerosol-cloud interaction in the Arctic with a ship-borne remote sensing supersite. Hanes Jascha Griesche p. 39

12:00-12:15	Evaluation of a compact water vapor DIAL in humid climate conditions. Raisa Lehtinen	p. 41
12:15-12:30	Combining ground-based differential absorption radar and microwave radiometer observations for improved water vapor profiling in the cloudy atmosphere. Sabrina Schnitt	p. 43
12:30-14:00	Lunch break sponsored by RPG Radiometer Physics GmbH	
14:00-15:15	Temperature, wind, waves, and turbulence - Part 1	
14:00-14:30	Characterizing the subsiding shell of shallow cumulus with Doppler lidar. Ulrich Loehnert	p. 45
14:30-14:45	Application of Parametric Speaker to Wind Profiler/RASS. Ahoro Adachi	p. 47
14:45-15:00	CW wind lidar measurement campaign at Cesar Observatory. Steven Knoop	p. 49
15:00-15:15	Testing the Water Vapor Variance Similarity Relationship in the Interfacial Layer Using Raman Lidar and Radar Wind Profiler Observations with LES. Dave Turner	p. 51
15:15-16:45	Tea break & Poster session & sponsor exhibition	
p. 141	Cirrus cloud observations at the southern-hemispheric midlatitude site of Punta Arenas (53°S, 71°W). Boris Barja	
p. 143	Investigation of the susceptibility of mixed-phase cloud processes to aerosol perturbations with scanning SLDR-mode cloud radar. Audrey Teisseire	
p. 145	CENTRE for cloud remote sensing: 2018 cloud radar calibration campaign. Pragya Vishwakarma	
p. 147	Degreane Horizon UHF wind profiler: latest innovation. <i>Julien Marmain</i>	
p. 149	Wind and low level jet characteristics at Mace Head, Ireland. Jana Preissler	
p. 151	Climatology of the irregular flow events as observed by the Tusimice Observatory tower and SODAR/RASS system. Josef Keder	
p. 153	An evaluation of atmospheric stability indices from microwave radiometer. Flori Toanca	
p. 155	PEAKO - A new supervised machine learning radar Doppler spectra peak finding algorithm. Heike Kalesse	
p. 157	Profiles of stratiform precipitation during OLYMPEX: compatibility between 3-frequency radar and airborne in situ observations. Frederic Tridon	
p. 159	Influence of the temperature profiles in the retrieval of greenhouse gases column density from a low resolution FTIR system. Alexandru Dandocsi	
p. 161	Precipitation formation processes in mixed-phase clouds and their relation to dust availability: Case studies from both hemispheres. Teresa Vogl	
16:45-18:00	Aerosols, clouds and precipitation	
16:45-17:15	Investigating Raindrop Evaporation, Breakup, and Coalescence in Stratiform Rain. Christopher Williams	p. 53
17:15-17:30	Comparing microphysical cloud properties from remote sensing with cloud parcel; model results. Jana Preissler	p. 55
17:30-17:45	Using combined airborne high spectral resolution and differential absorption lidar and cloud radar measurements for ice cloud characterization. Martin Hagen	p. 57
17:45-18:00	Observation of narrow bands of heavy snow: two rare cases of snowfall impacted by industrial heat rejection in Europe. Quentin Laffineur	p. 59

Wednesday 22 May 2019	
09:00-10:00	Aerosols, clouds and precipitation (continued)
09:00-09:15	Contrasting the relationship of cloud-top temperature, vertical air motions and rain rate between northern and southern hemisphere. Johannes Buehl p. 61
09:15-09:30	Comparison of Antarctic and Arctic Stratiform Mixed-phase Cloud Properties Using Ground-based Remote Sensing Measurements. Damao Zhang p. 63
09:30-09:45	Understanding the Sensitivity of GOES ABI 1.378 μm Daytime Radiances to Thin Cirrus Cloud Presence. Simone Lolli p. 65
09:45-10:00	Study of mixed-phase clouds using ground-based lidar observations at the coast of Adelie Land, East Antarctica. Audrey Teisseire p. 67
10:00-10:30	Evaluation of models and data assimilation
10:00-10:30	Evaluation of fine-scale circulations and turbulence simulated with WRF LES using UAS observations and Doppler lidar in a high sub-alpine desert valley. James Pinto p. 69
10:30-11:00	Tea break
11:00-13:00	Evaluation of models and data assimilation (continued)
11:00-11:15	Evaluation of the urban weather forecast over Seoul metropolitan area from KMA LDAPS. Jae-Young Byon p. 71
11:15-11:30	A new criterion to detect drizzle from ground-based: a potential new tool for model evaluation. Claudia Acquistapace p. 73
11:30-11:45	Multifrequency radars retrievals of rain microphysics: evaluation of the rain representation in the WRF Model. Frederic Tridon p. 75
11:45-12:00	Assessing ice microphysics parameterization in the new ICON model using triple-frequency Doppler cloud radar observations. Davide Ori p. 77
12:00-12:15	What benefit from ground-based microwave radiometers to better forecast fog events ? Pauline Martinet p. 79
12:15-12:30	Evaluation of MAR and IPSL-CM models with RADAR/LIDAR data and ERA5 atmospheric reanalysis at Dumont d'Urville, Antarctica : A clouds and precipitation study. Audrey Teisseire p. 81
12:30-12:45	Assimilation of Visible Satellite Cloud Observations in a Convection Resolving Model. Roland Potthast p. 83
12:45-13:00	Overview of the Role of Ground-Based Remote Sensing during the Second Wind Forecast Improvement Project (WFIP2). James Michael Wilczak p. 85
13:00-14:00	Lunch
14:00-18:00	Visit of the medieval city of Carcassonne

Thursday 23 May 2019	
09:00-10:30	Algorithms for improved parameter retrievals
09:00-09:30	Aerosol particle depolarization ratio measurements at 1.5 μm with a Halo Doppler lidar. Ville Vakkari p. 87
09:30-09:45	Separating particle populations in cloud radar Doppler spectra of mixed phase clouds. Martin Radenz p. 89
09:45-10:00	Impact of microwave radiometer accuracy and stability on retrieved parameters. Emiliano Orlandi p. 91
10:00-10:15	Boundary layer classification with machine learning. Thomas Rieutord p. 95
10:15-10:45	Tea break
10:45-12:15	Algorithms for improved parameter retrievals (continued)
10:45-11:00	Application of a 35-GHz hybrid-mode cloud Doppler radar for the retrieval of hydrometeor ratios in mixed-phase clouds. Majid Hajipour p. 97
11:00-11:15	Precipitation profile algorithm for gpm: identification of hail. V. Chandrasekar p. 99
11:15-11:30	Doppler lidar telescope focus correction to obtain reliable attenuated backscatter

	profiles. Pyry Pentikäinen	p. 101
11:30-11:45	Cloud radar spectral polarimetry for atmospheric research. Alexander Myagkov	p. 103
11:45-12:00	Water vapour profiling by microwave radiometers: absorption model uncertainty and recent advancements. Domenico Cimini	p. 9
12:00-13:30	Lunch break sponsored by Metek Meteorologische Messtechnik GmbH	
13:30-15:00	Measurement networks, aircraft and satellite platforms	
13:30-14:00	Combining Thermodynamic and Kinematic Profilers to Observe Derived Quantities. Timothy Wagner	p. 105
14:00-14:15	The Ruisdael Observatory: a new facility for atmospheric research in the Netherlands. Herman Russchenberg	p. 111
14:15-14:30	Hardware Performance, Software Tools and Data Formats – Ground-Based Microwave Sounding Radiometers are prepared for Operational Networks and Data Assimilation. Gerrit Maschwitz	p. 109
14:30-14:45	The DWD project for evaluating ground-based remote sensing systems for future network deployment. Christine Knist	p. 107
14:45-15:00	Temperature and humidity sounding from EUMETSAT operational hyperspectral missions. Thomas August	p. 113
15:00-16:30	Tea break & Poster session & sponsor exhibition	
p. 163	The Juelich Ozone Sonde Intercomparison Experiment (JOSIE): Over 20 Years of Ozonesonde QA/QC and Improvements on Data Quality. Herman G.J. Smit	
p. 165	Vertical profiling of aerosols/ash layers with lidars at Meteo-France. Sylvain Aubert	
p. 167	Spatial features of stratification dynamics of the atmospheric surface layer. Nikolay Baranov	
p. 169	HELSTOP: A Project Design for the Harmonization and Evaluation of Lower Stratospheric and Tropospheric Ozone Vertical Profiles. Herman G.J. Smit	
p. 171	Verification of IFS cloud base height against Vaisala CL51 observed cloud base height in National Atmospheric Observatory in Košetice (NAOK). Beata Szabo-Takacs	
p. 173	Assimilation of GNSS tomography products into WRF using radio occultation data assimilation operator. Ester Trzcina	
p. 175	Towards data assimilation of a European network of ground-based microwave radiometers into numerical weather prediction. Pauline Martinet	
p. 177	Evaluation of a 95 GHz radar simulator at SIRTa observatory for the retrieval of fog microphysical properties by cloud radar and microwave radiometer synergy. Alistair Bell	
p. 179	Time based wind model for lidar measurements. Gleb Petrov	
p. 181	Boundary layer height derivation with machine learning. Thomas Rieutord	
p. 183	Are microwave profilers useful to improve atmospheric attenuation estimates for radiopropagation purposes? Domenico Cimini	
p. 185	Boundary layer cloud life cycle in ICON-LEM and ground-based observations. Claudia Acquistapace	
p. 187	Evaluation of Precipitation-Evaporation from Supersite Observations and Simulations. Andreas Foth	
16:30-17:30	Measurement networks, aircraft and satellite platforms (continued)	
16:30-16:45	A Multi-Instrument Cross-Validation of Infrared Thermodynamic Profilers. Timothy Wagner	p. 115
16:45-17:00	Study of the configurations and scanning strategies of Doppler Lidars for providing wind and aerosol/cloud profiles. Ludovic Thobois	p. 117
17:00-17:15	Combining satellite with ground-based measurements for near-real-time monitoring of atmospheric stability, atmospheric water vapor and liquid water. Maria Toporov	p. 119
17:15-17:30	CO ₂ profiling by space-borne Raman lidar. Paolo Di Girolamo	p. 121
20:00-23:30	Conference dinner at "Hôtel Dieu"	

Friday 24 May 2019	
09:00-10:30	Boundary layer and mesoscale studies
09:00-09:30	Humidity inversions above Arctic stratocumulus clouds: Small scale boundary layer processes observed with BELUGA. Ulrike Egerer p. 123
09:30-09:45	Differences of atmospheric boundary layer characteristics between pre-monsoon and monsoon period over the Erhai Lake. Lujun Xu p. 125
09:45-10:00	Factors controlling evaporation and the CO2 flux over an open water lake in southwest of China on multiple temporal scales. Qun Du p. 127
10:00-10:15	Planning for LOTOS: A New Lower Troposphere Observing System. Tammy M. Weckwerth p. 129
10:15-10:45	Tea break
10:45-11:45	Boundary layer and mesoscale studies (continued)
10:45-11:00	Combined use of Raman lidar measurements and MESO-NH model simulations for the characterization of complex water vapour field structures and their genesis. Paolo Di Girolamo p. 131
11:00-11:15	Surface Layer Profiles of Humidity, Temperature and Wind Measured with Scanning Lidar Systems. Diego Lange p. 133
11:15-11:30	Towards understanding aerosol transport using Doppler lidar. Ewan J. O'Connor p. 135
11:30-11:45	Using Integrated Sounding Systems to observe boundary layer evolution and structure in the Southern Ocean and on the Great Plains. William OJ Brown p. 137
11:45-13:00	Open discussion - Symposium Wrap Up -Prize giving ceremony. End of the conference
13:00-14:00	Lunch