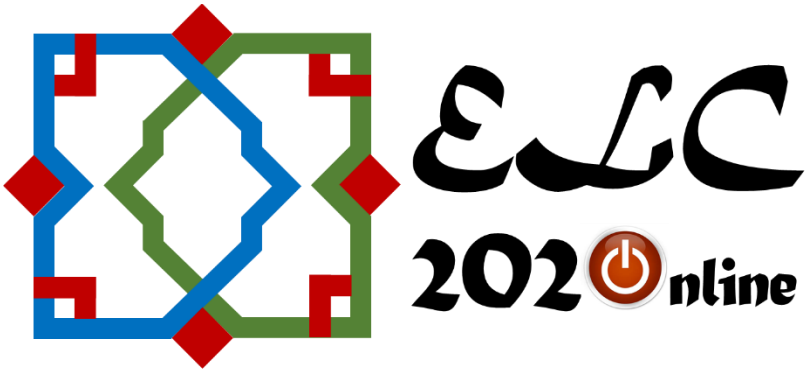

European Lidar Conference 2020

Granada

Scientific Program

Organised by: Atmospheric Physics Research Group, Andalusian Center for Environmental Studies (CEAMA), University of Granada

Preface

After the success of the first edition of the European Lidar Conference (ELC2018) in Thessaloniki, we are pleased to invite you to the second edition, which will take place online organized by the University of Granada (Spain) from the 18th to the 20th of November, 2020.

The European Lidar Conference is held every two years in between ILRCs. The 2020 edition is divided into five non-parallel different sessions covering a wide range of state-of-the-art lidar-related topics. Each session is structured as a plenary talk and oral/poster presentations, with a time slot at the end devoted to open discussion moderated by the session chairs.

ELC aims to be a suitable environment where lidarists can have a deep and open discussion, including industry partners and suppliers. During 2.5 days, experts will have the opportunity to network, find new and longstanding collaborations, exchange ideas, create novel ones, and be inspired by top-level keynote talks, to foster lidar-based research. A place where we can virtually meet and discuss the very technical aspects of our work.

ELC biannually brings together European groups active in lidar research, as well as researchers from many other countries worldwide. As in the previous edition, the participation of young researchers is especially encouraged.

Note that there is no board or established committee behind ELC, just a group of scientists who mobilized their resources for this experiment. As such, the involvement of the community for the continuation of this event will be needed. The whole idea is to “keep it simple” and “make it useful”.

Dr. Juan Antonio Bravo-Aranda
Marie Skłodowska-Curie
Cofund Postdoc

Dr. María J. Granados-Muñoz
Marie Skłodowska-Curie
IF Postdoc

Dr. Juan Luis Guerrero-Rascado
Associate Professor

ELC2020 Local Organizing Committee

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Alexandros Papayannis (National Technical University of Athens, Greece)
Gelsomina Pappalardo (CNR-IMAA, Italy)

Local Organizing Committee

Juan Antonio Bravo-Aranda (University of Granada, Spain)
María José Granados-Muñoz (University of Granada, Spain)
Juan Luis Guerrero-Rascado (University of Granada, Spain)

Scientific Committee

Chair: Adolfo Comerón (Universitat Politècnica de Catalunya, Spain)

Session 1: Lidar technology
- Georgios Tzeremes (ESA, The Netherlands)
- Andreas Behrendt (Hohenheim University, Germany)

Session 2: Lidar algorithms and data products
- Doina Nicolae (INOE, Romania)
- Giuseppe D'Amico (CNR, Italy)

Session 3: Lidar applications
- Vincent-Henri Peuch (ECMWF Copernicus Services,UK)
- Holger Baars (TROPOS, Germany)

Session 4: Challenges - Role of lidars in Cal/Val satellite missions
- Bojan Bojkov (EUMETSAT, Germany)
- Dirk Schüttemeyer (ESA, The Netherlands)

Session 5: Open topic - Synergies based on lidar techniques
- Martial Haeffelin (IPSL, France)
- Lucas Alados-Arboledas (University of Granada, Spain)

Open forum: Companies and users
- Volker Freudenthaler (University of Munich, Germany)
- Iwona Stachlewska (University of Warsaw, Poland)

Technical Program Committee

Responsible for abstracts reviewing:

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Sponsors

The organizers wish to acknowledge the support offered by:

- Raymetrics (https://www.raymetrics.com/)
- Lumibird (https://www.lumibird.com/)
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Conference Information

Technical Secretariat ELC2020

C/ Luis Amador, 26
Centro de Negocios de Cámara de Comercio de Granada
18014 – Granada (Spain)
Monday to Friday
09:00 to 14:00 h and 15:00 to 18:00 h (LT)
Tel: +34 958 536 820
e-mail: congresosgranada@viajeseci.es

General information

Local Organizing Committee: elc2020@ugr.es

Abstract submission and information: elc2020abstracts@ugr.es

Certificate of attendance

Certificates will be available upon request at: elc2020@ugr.es

Connection to the conference

A link to the conference virtual room will be provided by email. Due to IT limitations, the number of simultaneous connections to the virtual room is restricted. Please, consider minimizing the number of connections per institution if several participants can join with the same connection. Attendance is not restricted to registered participants, but in case the number of available connections is exceeded, those participants with a registered abstract will have priority to join the conference.
Please consider using an ethernet cable instead of wifi for a more stable connection. This is especially recommended for presenting authors.
Updated information and the link to the conference will be provided on the webpage http://www.elc2020.iista.es/ and by email during the week previous to the conference.

Presentation Information

Abstracts

All accepted abstracts are published in the ELC2020 Electronic Proceedings Book, included in your virtual conference bag and available at the website http://www.elc2020.iista.es/.

Instructions for oral presentations

Presenters will share their presentation in the plenary virtual room. An ethernet connection is advised for the presenters in order to avoid connection problems during their presentations.

Regular oral presentations would have a 12-minute time slot plus 3 minutes for questions. In the case of the invited talks, the assigned time slot would be 27 minutes plus 3 minutes for questions. Additional time for questions will be available during the discussion time at the end of each session.

Instructions for poster presentations

Posters should be in landscape A4 pdf format and with enough resolution to be readable when projecting in your shared screen. Presenting authors are kindly asked to be available to comment on their posters during the poster session. Posters are presented in individual virtual rooms where the presenting authors would display their poster by sharing their screen.
The conference participants can join the authors to discuss their work during the poster sessions in the individual virtual room using a link with the following format:

https://meet.jit.si/elc2020_POSTERNUMBER

For example, https://meet.jit.si/elc2020_S01P00.

Please submit your poster to elc2020abstracts@ugr.es before 15 November 2020 for organizational purposes. Posters will be made publicly available together with the Proceedings Book.

Scientific Program

	Time (CET)		Wed 18th Nov 2020	Thu 19th Nov 2020	Fri 20th Nov 2020
	8:50	9:00	Welcome and logistics		
	9:00	9:30	In memoriam – P. Flamant & M. Wiegner		
			Session 1: Lidar Technology	**Session 3: Lidar Applications**	**Session 5: Open topic-Synergies**
	9:30	10:00	Invited talk (P. Vrancken)	Invited talk (R. Engelmann)	Invited talk (P. di Girolamo)
1h15'	10:00	10:15	S1O02	S3O02	S5O02
	10:15	10:30	S1O03	S3O03	S5O03
	10:30	10:45	S1O04	S3O04	S5O04
30'	10:45	11:15	**Coffee Break**	**Coffee Break**	**Coffee Break**
	11:15	11:30	S1O05	S3O05	S5O05
	11:30	11:45	S1O06	S3O06	S5O06
1h15'	11:45	12:30	**Discussion S1**	**Discussion S3**	**Discussion S5**
30'	12:30	13:00	**Open forum: companies and users**	**Open forum: companies and users**	**Concluding remarks & next conference (A. Papayannis, G. Pappalardo and L. Alados-Arboledas)**
1h30'	13:00	14:30	**Lunch Break**	**Lunch Break**	
			Session 2: Lidar Algorithms and Data Products	**Session 4: Challenges**	
	14:30	15:00	Invited talk (J. Reichardt)	Invited talk (J. v. Bismarck)	
1h15'	15:00	15:15	S2O02	S4O02	
	15:15	15:30	S2O03	S4O03	
15'	15:30	15:45	**Coffee Break**	**Coffee Break**	
45'	15:45	16:30	**Posters (S1&S2)**	**Posters (S3&S4&S5)**	
	16:30	16:45	S2O04	S4O04	
	16:45	17:00	S2O05	S4O05	
1h30'	17:00	17:15	S2O06	S4O06	
	17:15	18:00	**Discussion S2**	**Discussion S4**	

WEDNESDAY 18th NOVEMBER

Summary schedule (CET time)

08:50-09:00	Welcome and logistics
09:00-09:30	In memoriam – Pierre Flamant – Matthias Wiegner
09:30-10:45	Session 1: Lidar Technology
10:45-11:15	Coffee Break
11:15-11:45	Session 1: Lidar Technology (continued)
11:45-12:30	Discussion Session 1
12:30-13:00	Open forum: companies and users
13:00-14:30	Lunch Break
14:30-15:30	Session 2: Lidar Algorithms and Data Products
15:30-15:45	Coffee Break
15:45-16:30	Posters (S1&S2)
16:30-17:15	Session 2: Lidar Algorithms and Data Products (continued)
17:15-18:00	Discussion Session 2

Detailed program

08:50 - 09:00	Welcome
09:00 - 09:30	In memoriam – Pierre Flamant – Matthias Wiegner

Session 1. Lidar Technology
Chairs: Georgios Tzeremes and Andreas Behrendt

09:30 - 10:00	S01O01 Invited talk	**A Novel Direct-Detection Doppler Wind Lidar Based on a Fringe-Imaging Michelson Interferometer as Spectral Analyzer** P. Vrancken and J. Herbst
10:00 - 10:15	S01O02	**Potential of Fluorescence Lidar for Aerosol Characterization and for the Study of Aerosol – Clouds Interaction** I. Veselovskii, Q. Hu, P. Goloub, T. Podvin and M. Korenskiy
10:15 - 10:30	S01O03	**VEGA: A CH4/Wind Coherent Fiber Lidar at 1645 nm for Methane Remote Sensing with Industrial and Environmental Applications** N. Cézard, J. Le Gouet, M. Valla, A. Dolfi-Bouteyre, C. Juery and O. Duclaux
10:30 - 10:45	S01O04	**High-Resolution-Spectroscopy Lidar: Aerosol Backscatter and Extinction Profiles Retrieved from Pure Rotational Raman Spectra** B. Tatarov and D. Müller

10:45 - 11:15	**COFFEE BREAK**	
11:15 - 11:30	S01O05	**Compact Operational Tropospheric Water Vapor and Temperature Raman Lidar with Turbulence Resolution** D. Lange, A.Behrendt and V. Wulfmeyer
11:30 - 11:45	S01O06	**Use of light polarization to interpret Backscattering Angstrom Exponents (BAE) as retrieved by dual-wavelength polarization lidars** A. Miffre, D. Cholleton and P. Rairoux
11:45 - 12:30	**DISCUSSIONS SESSION 1** All attendants	

Open forum: companies and users
Chairs: Volker Freudenthaler and Iwona Stachlewska

12:30 - 13:00	Open forum: companies and users (Session I)

13:00-14:30 LUNCH BREAK AND SPONSORING

Session 2. Lidar Algorithms and Data Products
Chairs: Doina Nicolae and Giuseppe D'Amico

14:30 - 15:00	S02O01 Invited talk	**Investigation into the Optical and Microphysical Homogeneity of Cirrus Clouds** J. Reichardt
15:00 - 15:15	S02O02	**GRASP Retrieval of Dust Properties by Combining Elastic Lidar and Sun-photometer Observations** M. A. López-Cayuela, M. Herreras-Giralda, C. Córdoba-Jabonero, A. Lopatin, J.L. Guerrero-Rascado and O. Dubovik
15:15 - 15:30	S02O03	**Exploring The Use Of Warping Networks To Improve The Lidar Optical Retrievals** D. Nicolae, C. Talianu, L. Belegante, D. Ene and V. Nicolae
15:30 - 15:45	**COFFEE BREAK**	
15:45 - 16:30	***POSTER SESSION (sessions 1 and 2)***	

16:30 - 16:45	S02O04	**PBL Height Detection From Aerosol Lidar Data Using Morphological Image Processing Techniques** G. D'Amico, G. Vivone, L. Mona, A. Giunta, S. Ciamprone and G. Pappalardo
16:45 - 17:00	S02O05	**Inverting Non Monochromatic DIAL by applying Optical Similitude Absorption Spectroscopy (OSAS)** P. Rairoux, S. Galtier, C. Pivard, D. Cholleton and A. Miffre
17:00 - 17:15	S02O06	**The EarthCARE lidar retrieval chain** G-J van Zadelhoff, D.P. Donovan, U. Wandinger and M. Haarig
17:15 - 18:00	**DISCUSSIONS SESSION 2** All attendants	

POSTER SESSION (sessions 1 and 2)
15:45-16:30

S01P01	**Pure-rotational Raman measurements: a technique to unambigously retrieve aerosol properties during day- and night-time. First measurements in Barcelona** J. A. Zenteno-Hernández, A. Comerón, A. Rodríguez-Gómez, C. Muñoz-Porcar and M. Sicard
S01P02	**Development of the Raman lidar system to measure CO2** N. Dehkhoda, D. Kim, H. Lee, Y. Noh, G. Kim, J. Kim and K. Kim
S01P03	**Lidar Design Study for Turbulence Sensing from Ground into the Free Atmosphere Based on Angle-of-Arrival Fluctuation Analysis** P. Vrancken
S01P04	**Overview of Recent Lidar Developments at ONERA's Optics Department for Wind and Gas Remote Sensing** N. Cézard, A. Dolfi-Bouteyre
S01P05	**Cloud Detection with a Low-cost CW Lidar Using a Laser Diode Power-modulated by a Pseudo-Random Sequence and a Digital Signal Processor** A. Ardanuy and A. Comerón
S01P06	**Alpha-lidar: A State-of-the-art Continuous Daytime Depolarization Raman Lidar** L. Belegante, D. Ene, D. Nicolae, A. Nemuc, R. Pirloaga, V. Nicolae, I. Binietoglou, V. Freudenthaler, G. Giorgoussis, A. Tavernarakis, C. Evangelatos and A. Louridas
S01P07	**Bioaerosol Detection Over Athens, Greece Using the Laser Induced Fluorescence Technique** S.C. Richardson, M. Mytilinaios, R.Foskinis, C. Kyrou, A. Papayanni1, I. Pyrri, E. Giannoutsou and I.D.S.Adamakis
S01P08	**Experimental Determination of Dead Time Correction for Non-Paralyzable PMTs: Temporal Evolution and Statistical Analysis** D. Bermejo-Pantaleón, J.A. Bravo-Aranda, J. L. Guerrero-Rascado, M.J. Granados-Muñoz, P. Ortiz-Amezcua, J. Abril-Gago, M. Jiménez-Martín and L. Alados-Arboledas

S01P09	**Designing and Building a Novel, Ground-Based Lidar System for Aerosol Typing in the Planetary Boundary Layer** R. Howe, I. Binnietoglou, J.O.D. Williams, A. Fragkos, G. Tsaknakis, J. Lapington and J. Vande Hey
S01P10	**Combination of scanning and vertically pointing Doppler lidar in order to retrieve 3D wind vector and turbulence** J. Bühl and C. Bollig
S02P01	**Aerosol Typing from AIAS Depolarization Lidar Data, Observed over Volos City, during PANACEA Campaign, July 2019.** M. Mylonaki, A. Papayannis, C.A. Papanikolaou, R. Foskinis, O. Soupiona and I. Maroufidis
S02P02	**Radiative effects of Saharan dust spheroidal aerosols over the Northern Mediterranean using lidar retrieved signals as inputs in LibRadtran model** O. Soupiona, R. Foskinis, A.Papayannis, G. Sánchez-Hernández, P. Ortiz-Amezcua, M. Mylonaki, C.A. Papanikolaou, L. Alados-Arboledas and B. Psiloglou
S02P03	**Study of vertically resolved aerosol size distribution using GRASP code with sun/sky photometer and multiwavelength lidar measurements** F. Molero, M.Pujadas and B. Artíñano
S02P04	**Detection and Segmentation of Aerosol Layers & Clouds using Lidar Measurements** I. Maroufidis, O. Soupiona, G. Lentaris, M. Mylonaki, D. Soudris and A. Papayannis
S02P05	**Australian bushfires during January 2020: biomass burning aerosol properties retrieved from satellite observations** C.-A. Papanikolaou, A. Papayannis, M.Mylonaki, O.Soupiona, E. Giannakaki and R. Foskinis
S02P06	**CCN Number Concentration From 3β+2α HSRL-2 Observations During ORACLES Campaign: Comparison of Analytical and In-Situ Results** A. Kolgotin, D. Müller, I. Veselovskii, M. Korenskiy and A. Ansmann
S02P07	**Separation of LIDAR backscatter coefficient as Asian dust, fine and coarse mode pollution using two wavelength and one depolarization ratio Data** T.G. Kim, Y.M. Noh and K.C. Kim
S02P08	**Central Asian Dust Experiment (CADEX): Dust Layers and Average Profiles of Extinction Coefficients in Tajikistan observed from March 2015 until August 2016** D. Althausen and J. Hofer
S02P09	**Automatic Lidar data processing workflow implemented at SIRTA observatory for continuous observations of tropospheric aerosols properties in the framework of ACTRIS and COPERNICUS atmosphere monitoring: proof of concept and application to IPSL Raman lidar IPRAL** C. Pietras, C. Boitel, P. Delville, MA. Drouin, M. Haeffelin and F. Lapouge
S02P10	**Microphysical particle parameter retrieval from air-borne lidar and photometer data** C. Böckmann, K. Nakoudi and C. Ritter

S02P11	**Validation of aerosol optical properties from lidars using balloon-borne measurements** F. Navas-Guzmán, S. Brunamonti, G. Martucci, G. Romanens, Y. Poltera, F. G. Wienhold and A. Haefele
S02P12	**SCC-Cloud Module: Validation Using Cloudnet Classification, and Possible Improvements** S. Ciamprone, G. D'Amico, I. Binietoglou and, H. Baars
S02P13	**Design of an algorithm based on ceilometer measurements to estimate planetary boundary layer and cloud base heights and its validation** R. Barragán, F. Molero, M.Pujadas and B. Artíñano
S02P14	**Backscattering Matrix Calculation for Non-Spherical Particles for 1.55 and 2 Micron Lidars within the Physical Optics Approximation** D. Timofeev, A. Konoshonkin, N. Kustova and A. Borovoi
S02P15	**SAFETRANS: Unsupervised Visibility Range Estimation Tool, Using 3D LIDAR Backscattering Measurements** H.X. de Lastic, A. Papayannis and G. Georgoussis
S02P16	**Arctic Cirrus Cloud Properties over the research base of Ny-Ålesund, Svalbard** K. Nakoudi, I. Stachlewska, C. Ritter, M. Maturilli and R. Neuber
S02P17	**Radar-lidar and Depolarization Ratios for Ice Crystals of Cirrus Clouds** V. Shishko, A. Konoshonkin, N. Kustova, D. Timofeev and A. Borovoi
S02P18	**The BAQUNIN Super-Site Lidar: Features and Retrieval Algorithms** G. Mevi, M. Cacciani, A. Di Bernardino, A. M. Iannarelli and S. Casadio
S02P19	**ELDAmwl: The EARLINET Single Calculus Chain Module for the Retrieval of Optical Products at Multiple Wavelengths** I. Mattis, V. Jaenisch, G. D'Amico, C. Dema and D. Summa
S02P20	**Systematic water vapour Raman Lidar Measurements over the free troposphere of Athens, Greece using the EOLE Raman lidar system: Implication for Stratospheric-Tropospheric Exchanges** E. Kralli, A. Papayannis, R. Foskinis, O. Soupiona, H.-X. de Lastic, M. Mylonaki and C.A. Papanikolaou
S02P21	**Assessment of the Temporal Stability of Lidar Optical Parameters by Means of an Implemented Depolarization Calibration** M. Hoyos-Restrepo, J.A. Bravo-Aranda, E. Montilla-Rosero, M.J. Granados-Muñoz, P. Ortiz-Amezcua, J.A. Benavent-Oltra, L. Alados-Arboledas and J.L. Guerrero-Rascado
S02P22	**Climatological Analysis of the Aerosol Properties over Thessaloniki using measurements from the Single Calculus Chain version 5** K.A Voudouri, N. Siomos, D. Balis, G. D'Amico and I. Mattis
S02P23	**Time Based Wind Model For Lidar Measurements** G. Petrov and N. Baranov
S02P24	**Tailored lidar observations for the early detection of volcanic particles** N. Papagiannopoulos, L. Mona, G. D'Amico, M.M. Parks and S. von Löwis
S02P25	**Retrieval of Detailed Aerosols Properties of Biomass Burning over Argentina from Combined Sun Photometer and Lidar Observations using GRASP**

	M.E. Herrera, O. Dubovik, B. Torres, J.A. Benavent-Oltra, A.E. Bedoya-Velásquez, A. Lopatin, J. Pallota, P. Ristori, J.L. Bali, T. Lapyonok, D. Fuertes, D. Pérez-Ramírez and E.J. Quel
S02P26	**Study of the Atmospheric Boundary Layer Structure in a Rural Environment by Doppler Lidar** J. Andújar-Maqueda, P. Ortiz-Amezcua, L. Alados-Arboledas, S. Aguirre, P. Serrano-Ortiz and J.L. Guerrero-Rascado
S02P27	**Laser-Wavelength-Dependent Efficiency of Determining the Aerosol Backscatter Coefficient using High-Spectral-Resolution Lidar** Ts. Evgenieva, V. Anguelov and L. Gurdev
S02P28	**Aerosol Typing in the Eastern Mediterranean during Pre-TECT campaign over Finokalia, Crete** K. A Voudouri, E. Marinou, A. Giallitaki, A. Kampouri, M. Tsichla, I. Tsikoudi, N. Siomos, V. Amiridis, D. Balis and C. Meleti
S02P29	**Deep Learning The Atmospheric Boundary Layer Height** D.R. Vivas, E. Sánchez and J.H. Reina
S02P30	**Improved Wind Field Retrievals in the Low Atmosphere with Doppler Lidar** C. García-Ayala, P. Ortiz-Amezcua, L. Alados-Arboledas and J.L. Guerrero-Rascado
S02P31	**Automated layer detection from Single Calculus Chain optical products** N. Siomos, K. A Voudouri, D. Balis, S. Ciamprone, G. D'Amico

THURSDAY 19th NOVEMBER

Summary schedule (CET time)

09:30-10:45	Session 3: Lidar Applications
10:45-11:15	Coffee Break
11:15-11:45	Session 3: Lidar Applications (continued)
11:45-12:30	Discussion Session 3
12:30-13:00	Open forum: companies and users (Session II)
13:00-14:30	Lunch Break
14:30-15:30	Session 4: Challenges
15:30-15:45	Coffee Break
15:45-16:30	Posters (S1&S2)
16:30-17:15	Session 4: Challenges (continued)
17:15-18:00	Discussion Session 4

Detailed program

Session 3. Lidar applications
Chairs: Vincent-Henri Peuch and Holger Baars

09:30 - 10:00	S03O01 Invited talk	**Observation of high-altitude aerosol layers in the Central Arctic during MOSAiC** R. Engelmann, K. Ohneiser, H. Baars, H. Griesche, M. Radenz, J. Hofer, D. Althausen and A. Ansmann
10:00 - 10:15	S03O02	**Ocean Particulate Optical Properties in mid-latitude regions from Spaceborne Lidar Measurements** D. Dionisi, V.E. Brando, G. Volpe, S. Colella and R. Santoleri
10:15 - 10:30	S03O03	**Canadian Wildfire Smoke over Europe in 2017 vs. Australian Wildfire Smoke over Punta Arenas, Chile in 2020** K. Ohneiser, A. Ansmann, H. Baars, M. Haarig and P. Seifert
10:30 -10:45	S03O04	**Characteristics of Finnish Airborne Pollen Using Lidar and In-situ Instruments** X. Shang, E. Giannakaki, S. Bohlmann, A. Ruuskanen, M. Filioglou, A. Leskinen and M. Komppula
10:45 - 11:15	**COFFEE BREAK**	
11:15 - 11:30	S03O05	**Depolarization Ratio Observations at Multiple Wavelengths During An Intense Pollination Event In Finland** S. Bohlmann, X. Shang, E. Giannakaki, M. Filioglou, V. Vakkari and M. Komppula

11:30 - 11:45	S03O06	**Identification of an Indirect Aerosol Effect from Aviation on Natural Evolving Cirrus Clouds Using Airborne and Space-borne Depolarization Lidar Measurements** S. Groß, B. Urbanek, M. Wirth, F. Ewald, E. Marinou, C. Gausa, T. Jurkat-Witschas and C. Voigt
11:45 - 12:30	**DISCUSSIONS SESSION 3** All attendants	

Open forum: companies and users
Chairs: Volker Freudenthaler and Iwona Stachlewska

12:30 - 13:00	Open forum: companies and users (Session II)

13:00-14:30 LUNCH BREAK AND SPONSORING

Session 4. Challenges: Role of lidars in Cal/Val satellite missions
Chairs: Bojan Bojkov and Dirk Schüttemeyer

14:30 - 15:00	S04O01 Invited talk	**ESA's Wind Lidar Mission Aeolus** J. von Bismarck, S. Bley, T. Fehr, T. Kanitz, T. Parrinello, A. Straume-Lindner and D. Wernham
15:00 - 15:15	S04O02	**ATLID(-like) Cloud and Aerosol Algorithms Applied to Aeolus Observations** D.P Donovan, G-J van Zadelhoff, H. Baars, T. Flamet and D.Trapon
15:15 - 15:30	S04O03	**Results from German Cal/Val Activities for the Aeolus Mission** H. Baars, U. Wandinger, A. Cress, A. Geiß, V. Lehmann, R. Leinweber, C. Lemmerz, A. Martin, M. Weißmann and O. Reitebuch
15:30 - 15:45	**COFFEE BREAK**	
15:45 - 16:30	***POSTER SESSION (sessions 3, 4 and 5)***	
16:30 - 16:45	S04O04	**Preliminary Validation of Aerosol Retrievals from Aeolus Satellite Mission Based on Ground-Based Lidar Measurements in the Iberian Peninsula**

		J. Abril-Gago, M. J. Costa, J. A. Bravo-Aranda, M. J. Granados-Muñoz, D. Bortoli, V. Salgueiro, P. Ortiz-Amezcua, D. Bermejo, M. Jiménez, L. Alados-Arboledas and J. L. Guerrero-Rascado
16:45 - 17:00	S04O05	**Investigation of the ability of the GOME2/ Metop satellite instrument to detect elevated aerosol layers and comparison to EARLINET lidar database** K. Michailidis, N. Siomos, D. S. Balis, M.-E. Koukouli, K.-A. Voudouri, T. Olaf, G. Tilstra, R.-E. Mamouri, A. Comerón and M. Sicard
17:00 - 17:15	S04O06	**Overview of the role of lidars during the 2019 TROpomi vaLIdation eXperiment (TROLIX'19)** A. Apituley, J. Sullivan, T. McGee and M. de Haij
17:15 - 18:00	**DISCUSSIONS SESSION 4** All attendants	

POSTER SESSION (sessions 3, 4 and 5)
15:45-16:30

S03P01	**Ice formation of liquid water cloud influenced by aging Asian dust over Wuhan (30.5°N,114.4°E), China** Y. He, F. Yi, Y. Yi, F.Liu, Y.Zhang and C.Yu
S03P02	**Plan Position Indicator Lidar and Himawari-8 Satellite Sensor Observations of Atmospheric Aerosol Optical Properties in the Planetary Boundary Layer** J. Aminuddin, B. Purbantoro, A. N. Aziz, Z. Irayani, R.L. Tursilowati, N. Manago, H. Irie and H. Kuze
S03P03	**Aerosol effects on Low Cloud formation over the Attica region, Greece** R. Foskinis, A. Papayannis, M. Komppula, E. Bossioli, M. Tombrou, O. Soupiona, E. Kralli, C. A. Papanikolaou and M. Mylonaki
S03P04	**Long-range-transported Saharan Air Layers and their Radiative Impacts on Atmospheric Stability as determined from Airborne Lidar Measurements** M. Gutleben, S. Groß and M. Wirth
S03P05	**Analyzing the Effects of Biomass Burning in the Amazon Region on the São Paulo Urban Boundary Layer** G.A. Moreira, F.J.S. Lopes, G. Codato, M.P. Sánchez, J.J. Silva da Silva, A.A. Gomes, J.V. Tito, L.A.H. Silva, L.C. Silveira, E. Landulfo and A.P. Oliveira
S03P06	**Meteorological Variables And Visibility Range Estimates At the Greek Airports of Tatoi, Elefsina and Mikra – A Time Series from 2008 to 2018** A. Papayannis, H.X. de Lastic, N. Karatarakis and M. Mihelaraki

S03P07	**Characterization Of Forest Fire And Saharan Dust Aerosols Over Southwestern Europe Using A Multiwavelength Raman Lidar And AERONET Version 3 Inversion Products: Optical Properties Of A Summer Case Study** V. Salgueiro, M.J. Costa, F.T. Couto, D. Bortoli and J.L. Guerrero-Rascado
S03P08	**Saharan Dust Particles Observed by Elastic-Raman Depolarization Lidars over Three Greek Urban Sites (Volos, Ioannina and Athens) During the Panacea Campaigns 2019-2020** A. Papayannis, C.A. Papanikolaou, R. Foskinis, M. Mylonaki, O. Soupiona, E. Kralli, M. Tombrou, E. Bossioli and I. Maroufidis
S03P09	**EMORAL lidar measurements during the 2018 CoMet Campaign in Silesia, Poland** P. Poczta, D. Wang, I.S. Stachlewska, R. Fortuna, J. Nęcki, D. Schüttemeyer and A. Fix
S03P10	**Ground-based remote sensing during the ESA-AtmoFlex Campaign over Grosseto, Italy** R. Fortuna, D. Wang, I.S. Stachlewska, K. Markowicz, L. Alados-Arboledas, F. Miglietta and D. Schuettemeyer
S03P11	**Analysis Of A Major Saharan Dust Outbreak Over Transylvania, Romania In April 2019 Using Remote Sensing Instruments** A. Mereuta, H. Stefanie, A. Radovici, C. Botezan, N. Ajtai and A. Ozunu
S03P12	**Geometrical And Optical Properties Of Free Tropospheric Aerosol Layers Over Gwal Pahari** E. Giannakaki, K. Lalos, X. Shang, M. Filioglou and M. Komppula
S03P13	**Cirrus cloud observations at the southern-hemispheric midlatitude site of Punta Arenas(53°S, 71°W)** B. Barja, P. Seifert, F. Zamorano, M. Radenz, J. Bühl, H. Baars, R. Engelmann and A. Ansmann
S03P14	**Smoke Observations by Lidar and Sun Photometer Mobile Measurements during FIREX-AQ campaign in summer 2019** I. E. Popovici, P. Goloub, T. Podvin, L. Blarel, G. Dubois, A. Lapionak, M.F. Sánchez-Barrero, L. Proniewski, S. Victori, B. Holben, D. Giles, A. La Rosa, T. Eck, M. Sorokin, J. Schafer, A. Smirnov, A. Sinyuk, I. Slutsker, J. Kraft, J. Campbell and E. Welton
S03P15	**Ground Based Lidar and Ceilometer Observations of Dust Storms in Iceland** S. von Löwis, S. Yang, M.M. Parks, M. Wiegner, G.N. Petersen, D. Finger
S03P16	**Volcanic Aerosol from June 2019 Onward Observed by Raman Lidar** G. Vaughan, D.P. Wareing and H.M.A. Ricketts
S03P17	**To what extent is Cyprus influenced by the dust?** A. Nisantzi, R. Mamouri, D.G. Hadjimitsis, J. Buehl, P. Seifert and A. Ansmann
S03P18	**Modelling desert dust transport and comparison between model lidar simulator and lidar observations** F.T. Couto, E. Cardoso, M.J. Costa, R. Salgado, J.L. Guerrero-Rascado and V. Salgueiro
S03P19	**Lidar Observations of Mixed-Phase and Ice Clouds in Northern Norway - Statistics of Cloud Occurrence, Geometrical Properties, and a Case Study** B. Schäfer, M. Gausa, I. Hanssen, T. Carlsen, R.O. David and T. Storelvmo

S03P20	**Evaluation of NMMB-MONARCH Dust Reanalysis Using EARLINET/ACTRIS and LIVAS/CALIPSO Dust Related Products** M. Mytilinaios, L. Mona, N. Papagiannopoulos, S. Basart, E. Di Tomaso, O. Jorba, C. P. García-Pando, E. Proestakis, E. Marinou and V. Amiridis
S03P21	**Estimation of biomass in the Sierra de Huétor Natural Park through the combination of lidar data and supervised classification** J.M. López-Torralbo and J.V. Pérez-Peña
S03P22	**The vertical distribution of African dust over the Iberian Peninsula and the western Mediterranean** J.A.G. Orza and J.L. Leal-Contreras
S03P23	**Statistical characterization of wind and turbulence within atmospheric boundary layer over an urban site** P. Ortiz-Amezcua, A. Martínez-Herrera, T. Fernández-Sánchez, A.J. Manninen, P. Pentikäinen, E.J. O'Connor, J.L. Guerrero-Rascado and L. Alados-Arboledas
S03P24	**Vertical profiling of Asian dust with multi-wavelength Raman lidar system in Korea during DRAGON** S.h. Joo,Y.M. Noh, G.Y. Kim, J.S. Kim and K.C. Kim
S03P25	**Utilizing Active Remote Sensing To Characterize Marine Aerosol Properties In The Eastern Mediterranean** M. Tsichla, A. Gialitaki, E. Marinou, A. Tsekeri, I. Tsikoudi, V. Amiridis, N. Kalivitis and N, Mihalopoulos
S03P26	**Raman LIDAR Unattended and Automatic Measurements at La Palma (Canary Islands, Spain) for the Cherenkov Telescope Array (CTA) experiment** M. Iarlori, V. Rizi, E. Pietropaolo, C. Aramo and L. Valore for the CTA Consortium, V. Silvestri, A. Cirella, S. Galli, M. Marengo and G. Dughera
S03P27	**Planetary Boundary Layer Top Estimation in Southwestern Colombia: LiDAR retrievals, Radiosonde, and PM Ground Concentration Comparative Analysis** J. Céspedes, C.A. Melo-Luna, P. Ristori and J.H. Reina
S03P28	**DIAL and GNSS Observations of Boundary Layer Diurnal Water Vapour Cycles in Iqaluit, Nunavut** S. Hicks-Jalali, Z. Mariani, J. Gwozdecky and R. Crawford
S03P29	**Unique Observations Of Extraordinarily Clean Saharan Dust Over Warsaw, Poland** D. Szczepanik, E. Tetoni, D. Altchausen, W. Kumala and I.S. Stachlewska
S03P30	**Comparison of Saharan Dust Calendars for Germany based on lidar/ceilometer measurements and model simulations** F. Wagner, V. Bachmann, J. Förstner, A. Hoshyaripour, I. Mattis, J. Straub, H. Vogel and B. Vogel
S03P31	**Advection of Biomass Burning Aerosols Towards the Southern Hemispheric Mid-latitude Station of Punta Arenas as Observed with Multiwavelength Polarization Raman Lidar** A.A. Floutsi, H. Baars, M. Radenz, M. Haarig, Z. Yin, P. Seifert, C. Jiménez, A. Ansmann, R. Engelmann, B. Barja, F. Zamorano and U. Wandinger
S03P32	**Doppler lidar returns: the good, the bad and the inconclusive** M. Kayser and V. Lehmann

S03P33	**Detection Limits of a Ground-Based Lidar for New Particles Formed in the Upper Troposphere** M.T. Silva, D.A. Gouveia, J.L Guerrero-Rascado, A.L. Correia and H.M.J. Barbosa
S03P34	**Statistical Study of Cloud Optical Depth for Optically Thin Clouds over a Middle Latitude Site by Aerosol Lidar** M.M. Jiménez-Martín, J.A. Bravo-Aranda, M.J. Granados-Muñoz, P. Ortiz-Amezcua, D. Bermejo-Pantaleón, J. Abril-Gago, L. Alados-Arboledas and J. L. Guerrero-Rascado
S03P35	**Development of mobile compact IR differential absorption lidar for research of methane in the atmosphere** O.A. Romanovskii, S.A. Sadovnikov, S.V. Yakovlev, A.I. Nadeev, N.G. Zaitsev, A.A. Nevzorov, A.V. Nevzorov, E.V. Gordeev, O.V. Kharchenko, N.E. Rossomahina, N.S. Kravtsova and D.A. Tuzhilkin
S03P36	**Biomass Burning Recorded By Lidar In Relationship With Vegetation Type** M. Adam, K. Fragkos, D. Nicolae, L. Belegante, D. Ene and V. Nicolae
S03P37	**Aerosol Types From EARLINET Data Using The Updated NATALI Code** V. Nicolae, C. Talianu, J. Vasilescu and D. Nicolae
S03P38	**Intercomparison of ABL Height Estimations Using Different Techniques in the Framework of HyMeX-SOP1** D. Summa, B. De Rosa, F. Madonna, N. Franco and P. Di Girolamo
S03P39	**Characterization Of Aerosol Microphysical Properties: Results From An Inter-Comparison Between The Lidar Raman Basil And In Situ Sensors On-Board The ATR 42 In The Framework Of Hymex-SOP1** B. De Rosa, P. Di Girolamo, D. Summa and I. Veselovskii
S04P01	**AEOLUS calibration and validation activities at SPU Lidar Station - Brazil** A.C. Yoshida, F.J.S. Lopes, A. Cacheffo, G.A. Moreira, J.J. da Silva and E. Landulfo
S04P02	**Noise Suppression by Optimisation in Aeolus Optical Properties Retrieval without the Need for Spatial Filtering** F. Ehlers, A. Dabas, T. Flament, D. Trapon, A. Lacour and A.G. Straume-Lindner
S05P01	**Aerosol Optical Properties of Arabian Dust Using a Multi-wavelength Raman Lidar** M. Filioglou, E. Giannakaki, A. Hirsikko, X. Shang, S. Romakkaniemi and M. Komppula
S05P02	**Long-range and high-altitude transatlantic transport of dust: Lessons learned for Mars exploration** A. López-Jiménez, M.-P. Zorzano, M.A. López-Cayuela and C. Córdoba-Jabonero
S05P03	**Aerosol Radiative Effect during the Summer 2019 Heatwave produced partly by an Inter-continental Saharan Dust Outbreak** C. Córdoba-Jabonero, M. Sicard, A. Ansmann and M.A. López-Cayuela
S05P04	**Lidar Measurement of Haboob Dust Storm Outbreak in Tehran** H. Panahifar and H.R. Khalesifard
S05P05	**Aerosol and clouds measurements during joint POLIMOS and RAMOS campaign**

	D. Wang, J. Delanoe, D. Ene, P. Poczta, I.S. Stachlewska and D. Schüttemeyer
S05P06	**Development of the ACTRIS-UBB aerosol and cloud remote sensing national facilities in Cluj-Napoca, Romania** A. Radovici, H. Stefanie, C. Botezan, A. Mereuta, A. Ozunu and N. Ajtai
S05P07	**Bioaerosol Atmospheric Monitoring over Large Urban Areas based on Long Distance LIDAR Sensing Non-scanning Shematic** I. Nedkov, M. Iliev, R. Ilieva, B. Angelova, D. Paneva, I. Grigorov, G. Kolarov, Z. Cherkezova-Zheleva, D. Stoyanov and V. Grudeva
S05P08	**Case Study of Air Quality over Sofia by Ceilometer, Lidar and Photometers during Summer** N. Kolev, B. Tatarov, P. Savov, Ts. Evgenieva, I. Grigorov, N. Miloshev and D. Petkov
S05P09	**Lidar And Radar Signal Simulation: Assessing The Stability Of The Aerosol-Cloud Interaction Index** C.M. Fajardo-Zambrano, J.A. Bravo-Aranda, M.J. Granados-Muñoz, J.L. Guerrero-Rascado and L. Alados-Arboledas
S05P10	**Aerosol Profiles From MPL-Lidar And Photometric Measurements Using GRASP In A Subtropical North Atlantic Site.** A. Barreto, R. Román, N. Prats, A. Lopatin, D. Fuertes, A.J. Berjón, F. Almansa, E. Cuevas and M. Yela
S05P11	**Investigation of Aerosol Layer Height Algorithms to Identify the Transition Layers Using Synergy of Lidar, Ceilometer and Radiometer Measurements** C. Talianu, M. Adam, F. Toanca, D.N. Nicolae and S. Andrei
S05P12	**Dust Event in Southwest Germany: LIDAR, Sun Photometer Observations, and Regional Dust Modeling** H. Zhang, F. Wagner, H. Saathoff, H. Vogel, B. Vogel, V. Bachmann and J.Förstner
S05P13	**High Precision Temperature Measurements Using Vibro-Rotational Raman Scattering** T. Capek, J. Borysow, C. Mazzoleni and M. Moraldi
S05P14	**Can LIDAR Measurements Help in the Understanding of the Air Quality?** S. Castillo, P. Ortiz-Amezcua, G. de Arruda-Moreira, G. Sánchez, J.A. Casquero-Vera, H. Lyamani, G. Titos, F.J. Olmo and L. Alados-Arboledas
S05P15	**Assessment of the atmospheric aerosol properties retrieved by GRASP algorithm during SLOPE II campaign** L. Alados-Arboledas, J.A. Benavent-Oltra, A. Cazorla, J.A. Casquero, R. Róman, G. Titos, H. Lyamani, P. Ortiz-Amezcua, G.A. Moreira, A.E. Bedoya-Velásquez, D. Pérez-Ramírez, J.L. Guerrero-Rascado and F. J.Olmo
S05P16	**Comparison between All-Sky Camera-Derived Cloud Motion Vectors and Wind Lidar Observations** M. López-Cuesta, F.J. Rodríguez-Benítez, P. Ortiz-Amezcua, A. Jiménez-Garrote, J. Tovar-Pescador, J.L. Guerrero-Rascado, L. Alados-Arboledas and A.D. Pozo-Vázquez
S05P17	**Planetary Boundary Layer Height During The Pre-TECT Campaign Using Remote Sensing Observational Datasets And WRF Model** I. Tsikoudi, A. Gialitaki, E. Marinou, M. Tsichla, E. Drakaki, A. Kampouri, V. Vakkari, M. Komppula, E. Giannakaki, V. Amiridis and H. Flocas

S05P18	**Validation of Lidar-derived Cloud-relevant Aerosol Properties with Airborne In-situ Observations of Dust at Barbados and Cyprus** M. Haarig, A. Ansmann, H. Baars, B. Weinzierl, M. Dollner, M. Schöbel, A. Walser, D. Althausen, R. Engelmann, A. Floutsi, J. Bühl, U. Wandinger and R. Mamouri

FRIDAY 20th NOVEMBER

Summary schedule (CET time)

09:30-10:45	Session 5: Open topic – Synergies
10:45-11:15	Coffee Break
11:15-11:45	Session 5: Open topic – Synergies (continued)
11:45-12:30	Discussion Session 4
12:30-13:00	Concluding remarks and next conference

Detailed program

Session 5. Open topic - Synergies based on lidar techniques
Chairs: Martial Haeffelin and Lucas Alados-Arboledas

09:30 - 10:00	S05O01 Invited talk	**Complex Water Vapour Field Structures, their Genesis and their Role in the Activation of Mesoscale Convective Systems: A Characterization Study based on the Combined Use of Raman Lidar and DIAL Measurements, and MESO-NH Model Simulations in the Framework of HYMEX-SOP IOP8** P. di Girolamo, M.-N. Bouin, C. Flamant, D. Summa and B. de Rosa
10:00 - 10:15	S05O02	**Freezing fog event observed with wind lidar and cloud radar over a peri-urban site in southeastern Romania** R. Pîrloaga, S. Ștefan, A. Nemuc and B. Antonescu
10:15 - 10:30	S05O03	**Using Lidar Together with Cloud Radar and Wind Profiler Data to Investigate an Optically Thick Layer of Aerosol over Great Britain and Ireland** H.M.A. Ricketts, C. Walden, C. Westbrook, J. Jeffery, E. O'Connor, J. Preißler and E. Norton
10:30 - 10:45	S05O04	**Retrievals of cloud optical and microphysical properties from airborne lidars and in-situ measurements** K. Baibakov, C. Nguyen, L. Nichman, N. Bliankinshtein, K. Bala, M. Wolde and A. Korolev
10:45 - 11:15	**COFFEE BREAK**	
11:15 - 11:30	S05O05	**Intercomparison of DIAL, MLS, and IASI Measurements of Vertical Ozone Profiles in the Upper Troposphere - Stratosphere over Tomsk at the Siberian Lidar Station** O.A. Romanovskii, A.A. Nevzorov, A.V. Nevzorov and O.V. Kharchenko

11:30 - 11:45	S05O06	**Shipborne Lidar Measurements of Water-Vapor, Temperature, and Wind on R/V Maria S Merian During EUREC4A** D. Lange, F. Späth, A. Behrendt and V. Wulfmeyer
11:45 - 12:30	**DISCUSSIONS SESSION 5** All attendants	

12:50-13:30 Concluding remarks and next conference