

## Sunday, 5 June 2016

16 - 19:30 Registration

## Monday, 6 June 2016

8:30 Registration

9:00-9:30 Opening of ISARS2016

### 9:30 - 10:50 Session 1 - Topic 5: Operational Ground-Based Profiling for Improving Weather Forecasts, Chair: Dominique Ruffieux

9:30-9:50 Achievements in the first two years of the COST action 'TOPROF' on Operational Ground-Based Profiling Instruments for Improving Weather Forecasts - Anthony Illingworth

9:50-10:10 Effect of Carrier to Noise Ratio threshold filtering on the long-term wind speed and Weibull distribution parameters for a pulsed heterodyne wind lidar - Sven-Erik Gryning, Ekaterina Batchvarova, Rogier Floors and Alfredo Peña

10:10-10:30 Calibration of the Met Office Ceilometer Network using the Cloud Method - Emma Hopkin, Anthony Illingworth, Chris Westbrook, Cristina Charlton-Perez, Sue Ballard

10:30-10:50 A new french Aerosols Detection Network for Aviation - Jean-Luc Lampin, Olivier Traullé

10:50 - 11:30 coffee/tea break

### 11:30 - 13:10 Session 2 - Topic 5: Operational Ground-Based Profiling for Improving Weather Forecasts, Chair: Anthony Illingworth

11:30 - 11:50 An emerging European Doppler lidar network for meteorological applications - Ewan O'Connor

11:50 - 12:10 Using Profile Data from Scanning Doppler Lidars to Improve Forecasts of Winds in the Wind-Turbine Rotor Layer during the Second Wind Forecast Improvement Project - Robert M. Banta, A. Choukulkar, W.A. Brewer, Y.L. Pichugina, C. Clack, S.P. Sandberg, Joe Olson, Jaymes Kenyon, T. Bonin

12:10 - 12:30 Towards data assimilation from a continental-scale network of ground-based microwave radiometers into NWP - Domenico Cimini, Francesco De Angelis, Pauline Martinet, Olivier Caumont, Ulrich Löhnert

12:30 - 12:50 Wind profiler backscatter monitoring against high resolution 1.5km NWP - Catherine Gaffard and Zhihong Li

12:50 -13:10 Use coherent wind Doppler lidars for improving weather forecasts - Philippe Royer, Matthieu Boquet, Jean-Pierre Cariou, Ludovic Thobois

13:00 - 14:30 lunch

<b>14:30 - 16:10</b>	<b>Session 3 - Topic 5: Operational Ground-Based Profiling for Improving Weather Forecasts, Chair: Martial Haeffelin</b>
14:30 - 14:50	Identifying the different states of mixing within the boundary layer in a boreal continental environment - <i>Antti J Manninen</i>
14:50 - 15:10	RTTOV-gb - The ground-based version of the fast radiative transfer model RTTOV for an operational assimilation of ground-based microwave radiometer observations - <i>Francesco De Angelis, D. Cimini, J. Hocking, P. Martinet, S. Kneifel</i>
15:10 - 15:30	Estimating the mixing height from CL51 ceilometer aerosol layer heights - <i>Martin Piringer, Christoph Lotteraner</i>
15:30 - 15:50	Temperature retrievals in the boundary layer using ground-based microwave radiometers - <i>Pauline Martinet, A. Dabas, F. De Angelis, D. Cimini, G. Canut, A. Paci</i>
15:50 - 16:10	Dynamic data filtering of scanning long-range lidar wind speed measurements tested on free and wind turbine wake flow situations - <i>Hauke Beck, J.K. Seifert, J.J. Trujillo, M. Kühn</i>

**16:10 - 17:00 coffee/tea break and Poster session**

<b>17:00 - 18:40</b>	<b>Session 4 - Topic 5: Operational Ground-Based Profiling for Improving Weather Forecasts, Chair: Domenico Cimini</b>
17:00 - 17:20	Diurnal to seasonal variability of the atmospheric boundary layer depths over the multi-instrumented SIRTA observatory near Paris - <i>Martial Haeffelin, Juan-Antonio Bravo-Aranda, Christophe Pietras, Sandip Pal</i>
17:20 - 17:40	Real time turbulence and wind gust estimation from wind lidar observations using the turbulence reconstruction method - <i>Lucie Rottner, Irene Suomi, Thomas Rieutord, Christophe Baehr, Sven-Erik Gryning</i>
17:40 - 18:00	Combining ground-based and satellite remote sensing for improving the derivation of atmospheric stability - <i>Ulrich Löhnert, Kerstin Ebell, Emiliano Orlandi, Maria Toporov</i>

**Tuesday, 7 June 2016**

<b>9:00 - 11:00</b>	<b>Session 5 - Topic 3: Experimental Studies and Modeling of Boundary-Layer Physics, Chair: James Wilczak/Yelena Pichugina</b>
9:00 - 9:20	The coastal gradient of wind speed measured by wind lidars and simulated with the WRF model - <i>Rogier Floors, Andrea N. Hahmann, Guillaume Lea, Nikola Vasiljevic, Elliot Simon, Ioanna Karagali, Michael Courtney, Charlotte Bay Hasager and Alfredo Peña</i>
9:20 - 9:40	Kelvin-Helmholts billows in rising morning inversions - <i>Margarita A Kallistratova, Petenko I.V., Kouznetsov R.D., Kuznetsov D.D., and Perepelkin V.G.</i>
9:40 - 10:00	Evaluation of Wind Shear Correlation with Lidar Data from an Offshore Wind Turbine - <i>Florian Haizmann, D. Schlipf, P. W. Cheng</i>
10:00 - 10:20	Diurnal cycle and turbulence evaluated by remote sensing and numerical weather prediction model during a winter stable period - <i>Guylaine Canut, P.Martinet, A.Paci, T. Sabatier and F Troude</i>
10:20 - 10:40	On the experience of forecasting of the atmospheric boundary layer characteristics by applying the sodar and temperature profiler data - <i>Natalia V Vazaeva, Chkhetiani O.G., Kulichkov S.N., Maksimenkov L.O.</i>

10:40 - 11:00	Low-level jets at Utö, Finland based on Doppler lidar observations - <i>Minttu Tuononen/Ewan O'Connor</i>
<b>11:00 - 11:30 coffee/tea break</b>	
<b>11:30 - 13:10 Session 6 - Topic 3: Experimental Studies and Modeling of Boundary-Layer Physics &amp; Topic 4: Ground-Based Remote Sensing Technology Applications, Chair: Ewan O'Connor</b>	
11:30 - 11:50	The Second Wind Forecast Improvement Project (WFIP2): Observations and Model Evaluation - <i>James Wilczak, R. Banta, L. Benjamin, S. Benjamin, L. Berg, L. Bianco, J. Bickford, A. Brewer, A. Choukulkar, K. Clawson, A. Clifton, J. Cline, D. Cook, I. Djalalova, H. Fernando, K. Friedrich, E. Grimmit, J. Kenyon, B. Kosovic, C. King, K. Lantz, C. Long, J. Lundquist, M. Marquis, J. McCaa, K. McCaffrey, S. Midya, V. Morris, J. Olson, Y. Pichugina, J. Sharp, M. Stoelinga, W. Shaw, K. Wade, S. Wharton</i>
11:50 - 12:10	Comparison of planetary boundary layer heights from Jenoptik ceilometers and the Unified Model - <i>Vibha Selvaratnam, Mariana Adam and Carlos Ordóñez</i>
12:10 - 12:30	High-frequency Wind Retrieval Algorithms from Nacelle-mounted Lidars for Wind Turbine Control Applications - <i>Raghu Krishnamurthy, Paul Mazoyer, Matthieu Boquet, David Schlipf, Steffen Raach, Andrew Scholbrock, Paul Fleming</i>
12:30 - 12:50	Wind Field Reconstruction from Nacelle-Mounted Profiling LiDaRs integrating Induction Models - <i>Antoine Borraccino, D. Schlipf, F. Haizmann</i>
12:50 - 13:10	Simulation-based analysis of the wind speed measurement error in shear for VAD lidar - <i>Shumpei Kameyama and Nobuki Kotake</i>
<b>13:00 - 14:30 lunch</b>	
<b>14:30 - 16:10 Session 7 - Topic 4: Ground-Based Remote Sensing Technology Applications, Chair: Robert Banta</b>	
14:30 - 14:50	What is the best way to derive the wind velocity from a Doppler spectrum? - <i>Dominique Philipp Held, Jakob Mann, Nikolas Angelou</i>
14:50 - 15:10	Wind Turbine Wake Characterization Metrics for Temporally Disjunct 3D Measurements - <i>Paula Doubrawa, R.J. Barthelmie, H. Wang, S.C. Pryor, M. J. Churchfield</i>
15:10 - 15:30	Comparing In-Situ Measurements Of Small Remotely Piloted Aircraft With LiDAR Measurements In Complex Terrain - <i>Alexander Rautenberg, Jan Anger, Martin Hofsaß, Christoph Schulz, and Jens Bange</i>
15:30 - 15:50	OpenLidar: Towards an Open Source Wind Lidar Platform - <i>Andrew Clifton, Ines Würth, Florian Haizmann, Steffen Raach, Nikola Vasiljevic</i>
15:50 - 16:10	CO2 vertical profile retrieval from ground-based IR atmospheric spectra - <i>Kobra Khosravian, Ulrich Löhnert, David Turner, and Kerstin Ebell</i>
<b>16:10 - 17:00 coffee/tea break and Poster session</b>	
<b>17:00 - 18:40 Session 8 - Topic 4: Ground-Based Remote Sensing Technology Applications, Chair: Ulrich Löhnert/Jan Schween</b>	
17:00 - 17:20	Nowcasting the Power Output of a Wind Turbine using a Long Range Lidar - <i>Ines Würth, M. Wigger, P. W. Cheng</i>
17:20 - 17:40	Analysis of Lidar-measured and Modeled Wind Flow over Complex Terrain during Second Wind Forecast Improvement Project (WFIP2) - <i>Yelena Pichugina, A. Brewer, R. Banta, A. Choukulkar, C. Clack, J. Olson, M. Marquis, J. Wilczak, T. Bonin, J. Kenyon, A. Weickmann, and S. Sandberg</i>
17:40 - 18:00	The Lidar Cyclops Syndrome Bypassed: 3D Wind Field Measurements from a Turbine mounted Lidar in combination with a fast CFD solver - <i>Torben Mikkelsen, Poul Astrup, Marijn Floris van Dooren</i>
18:00 - 18:20	Robust low cost offshore power curve tests with lidar - <i>Peter J M Clive</i>

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18:20 - 18:40	Comparison of wind speed measurements between small and miniature Doppler Sodars and a Lidar - <i>Mahfoud Laskri</i>
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## Wednesday, 8 June 2016

### 9:00 - 11:00 **Session 9 - Topic 1: Ground-Based Remote Sensing Development, Chair: Torben Mikkelsen**

9:00 - 9:20	Recommendations for processing atmospheric attenuated backscatter profiles from Vaisala CL31 Ceilometers - <i>Simone Kotthaus, E. O'Connor, C. Munkel, C. Charlton-Perez, and C.S.B. Grimmond</i>
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9:20 - 9:40	Improved SoDAR Processing for Wind Turbine Power Performance Applications - <i>Niels LaWhite</i>
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9:40 - 10:00	WindScanner Measurements in Complex Terrain: Results from the Kassel 2014 Experiment - <i>Lukas Pauscher; Nikola Vasiljevic; Doron Callies; Guillaume Lea; Jakob Mann; Fernando Borbón; Tobias Klaas; Julia Gottschall; Julian Hieronimus; Martin Kühn; Michael Courtney</i>
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10:00 - 10:20	On the need of a direct retrieval method for mixing layer height using simulated brightness temperature measurements - <i>Umar Saeed, Ulrich Löhnert, Thijs Heus, Roel Neggers, Francesc Rocadenbosch, Susanne Crewell (from Topic 5)</i>
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10:20 - 10:40	3rd generation wind measurement tools and techniques - <i>Peter J M Clive</i>
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10:40 - 11:00	Monitoring of Wind Field Evolution Using a Nacelle-Mounted Lidar System - <i>David Schlipf, S. Raach, F. Haizmann, P. Fleming, A. Scholbrock, R. Krishnamurthy, M. Boquet (moved from poster P3.3)</i>
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### 11:00 - 11:30 coffee/tea break

### 11:30 - 13:10 **Session 10 - Topic 1: Ground-Based Remote Sensing Development, Chair: Margarita Kalistratova**

11:30 - 11:50	Combining gradient and profile fit method for an advanced ceilometer-based boundary layer height detection algorithm - <i>Christoph Munkel</i>
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11:50 - 12:10	Automatic correction scheme for the temperature dependent overlap function of CHM15k ceilometers - <i>Maxime Hervo, Alexander Haeferle, Giovanni Martucci</i>
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12:10 - 12:30	High-stability microwave radiometers for improved temperature profiling - <i>Harald Czekala, Thomas Rose, Gerrit Maschwitz</i>
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12:30 - 12:50	A distributed Doppler sodar for monitoring semi-organized structures in shallow ABLs - <i>Rostislav Kouznetsov and Margarita Kalistratova</i>
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### 13:00 - 14:30 lunch

### 14:30 - 16:10 **Session 11 - Topic 1: Ground-Based Remote Sensing Development and Topic 2: Ground-Based Remote Sensing in Boundary-Layer Science, Chair: Christoph Munkel**

14:30 - 14:50	Doppler lidar based reconstruction for fast estimation of turbulence : contribution and validation - <i>Thomas Rieutord, Christophe Baehr, Lucie Rottner</i>
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14:50 - 15:10	Doppler Wind profiler uncertainty in a turbulent atmosphere - <i>Jan H. Schween</i>
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15:10 - 15:30	Mountain-Valley wind system as observed by a mobile windprofiler - <i>A. Haeferle, M. Ortolano and Dominique Ruffieux</i>
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15:30 - 15:50	Convective boundary layer observations with a new combination of scanning temperature, humidity, and wind lidar - <i>Andreas Behrendt, Volker Wulfmeyer, Eva Hammann, Shravan Kumar Muppa, Florian Späth, Simon Metzendorf, Andrea Riede</i>
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### 16:10 - 17:00 coffee/tea break and Poster session

### 17:00 - 18:40 **Session 12 - Topic 4: Ground-Based Remote Sensing Technology Applications, Chair: Sven-Erik Gryning**

17:00 - 17:20	Low-level jets at wind profiles by the sodar data - <i>Mikhail A. Lokoshchenko, Kseniya I. Akhiyarova</i>
17:20 - 17:40	A parallel study of costal wind profiles at Ahopol (Bulgaria) and Lamezia Terme (Italy) for wind energy applications using remote sensing data - <i>Teresa Lo Feudo, Damyan Barantiev, Daniel Gulli, Rosamaria Calaudi, Elenio Avolio, Hristina Kirova, Claudia Roberta Calidonna, Ekaterina Batchvarova, and Anna Maria Sempreviva</i>
17:40 - 18:00	Low level jets offshore: results from measurements in the North Sea - <i>Peter J M Clive</i>
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<b>20:00 - 22:00</b>	<b>ISARS2016 Evening Social Event</b>

## Thursday, 9 June 2016

<b>9:00 - 11:00</b>	<b>Session 13 - Topic 2: Ground-Based Remote Sensing in Boundary-Layer Science, Chair: Jacob Mann</b>
9:00 - 9:20	Boundary layer ground-based remote sensing : Physics of the measurement and representativeness - <i>Alain Weill</i>
9:20 - 9:40	Automatic remote sensing detection of the Convective Boundary Layer structure over complex terrain using the novel PathfinderTURB algorithm - <i>Yann Poltera, Giovanni Martucci, Maxime Hervo, Alexander Haefele, Lukas Emmenegger, Dominik Brunner, Stephan Henne</i>
9:40 - 10:00	Climatology of the Boundary Layer height in the eastern Po valley as retrieved by the ALICE-net, San Pietro Capofiume ceilometer - <i>Federico Angelini, L. Di Liberto, D. Dionisi, F. Barnaba, F. Costabile, and G. P. Gobbi</i>
10:00 - 10:20	Lidar measurements of the shelter behind a fence - <i>Alfredo Peña, Andreas Bechmann, Davide Conti, Nikolas Angelou, Torben K. Mikkelsen, Peggy Friis</i>
10:20 - 10:40	LACOST, an atmospheric laboratory on the Tyrrhenian coastline - <i>Stefania Argentini, I. Petenko, S. Bucci, G. Mastrantonio, A. Conidi, S. Federico, G. Casasanta, R. Sozzi, M. Morelli, M. Cozzolino, D. Cosimi, M. Kallistratova</i>
10:40 - 11:00	Sodar and in situ measurements of the vertical wind component parameters - <i>Mikhail A. Lokoshchenko, Kseniya I. Akhiyarova, Mikhail A. Novitsky, Vitali G. Perepelkin</i>

### 11:00 - 11:30 coffee/tea break

<b>11:30 - 13:10</b>	<b>Session 14 - Topic 2: Ground-Based Remote Sensing in Boundary-Layer Science, Chair: Alain Weill</b>
11:30 - 11:50	On an impact of Kelvin-Helmholtz waves on intensity of small-scale turbulence in the stable atmospheric boundary layer - <i>Daria V Zaytseva</i>
11:50 - 12:10	Profiles of the Turbulent Humidity Flux: is a water budget feasible ? - <i>Jan H. Schween</i>
12:10 - 12:30	Wind speed profile statistics from acoustic sounding at Black Sea coastal site - <i>Damyan Barantiev, Ekaterina Batchvarova and Mikhail Novitsky</i>
12:30 - 12:50	Quasi-regular structures in the summertime Antarctic ABL observed with a multiple-point sodar - <i>Roetislav D. Kouznetsov, Priit Tisler, Timo Vihma</i>
12:50 - 13:10	Wintertime circulation in the Chamonix-Mont-Blanc valley from scanning wind lidar measurements (Passy-2015 field experiment) - <i>Tiphaine Sabatier, A. Paci, A. Dabas, JM. Donier, T. Douffet, Y. LARGERON, Q. Rodier, G. Canut, O. Garrouste, R. Guillot, C. Lac, V. Masson (moved to poster presentation)</i>

### 13:00 - 14:30 lunch

<b>14:30 - 16:10</b>	<b>Session 15 - Topic 2: Ground-Based Remote Sensing in Boundary-Layer Science, Chair: Stefania Argentini</b>
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14:30 - 14:50 Copmarison od second moments between remote sensing devices in complex terrain - *Martin Hofsäß, O. Bischoff, P. W. Cheng*

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14:50 - 15:10 Wave activity in a coastal atmospheric boundary layer - *Lyulyukin V.S., Kuznetsov D.D.*

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**15:30 - 16:00 End of conference, ISARS2018 venue**

## ISARS2016 POSTERS PROGRAMME

No.	TITLE	AUTHORS
	<b>Topic 1</b>	
P1.1	Assessing atmospheric profiles from microwave radiometers and radio acoustic sounding systems	<i>Laura Bianco, Katherine McCaffrey, Katja Friedrich, Domenico Cimini, Julie Lundquist and James Wilczak</i>
P1.2	Combined wind & aerosol measurements using coherent Doppler lidars	<i>Philippe Royer, Matthieu Boquet, Jean-Pierre Cariou, Ludovic Thobois</i>
P1.3	Economic technology for atmosphere parameters distant recording using radio acoustic sounding system	<i>V.M. Kartashov, S.I. Babkin, Y.G. Tolstykh</i>
P1.4	Estimation of the turbulence intensity from fluctuations in sound propagation in the surface layer at Dome C, Antarctica	<i>Igor Petenko, Stefania Argentini, Margarita Kallistratova, Alessandro Conidi, Giampietro Casasanta</i>
P1.5	Estimation of Thermal Stratification in the Urban Boundary Layer of the Moscow Megalopolis from a Small Ground-Based Remote Sensing Network	<i>Vladislav Yushkov</i>
P1.6	Measurements of Velocity Variance and Turbulence Dissipation Rates in the Planetary Boundary Layer from Wind Profiling Radars	<i>Katherine McCaffrey, Laura Bianco, Paul Johnston, James Wilczak</i>
P1.7	Range simulation of coherent wind Doppler lidar	<i>Philippe Royer, Matthieu Boquet</i>

## Topic 2

P2.1	Classifying the Cloudy Boundary Layer for Land Surface-Atmosphere Interactions	<i>Tobias Marke</i>
P2.2	Determination of mixing layer height by ceilometer and radiosonde – some results for Sofia, Bulgaria	<i>Venceslav Danchovski, R. Dimitrova, G. Guerova, D. Ivanov, P. Savov, N. Kolev, Ts. Evgenieva</i>

- P2.3 Discriminating the PBL internal layering by synergic monitoring of ceilometers and microwave radiometers  
*Juan Luis Guerrero-Rascado, M. J. Costa, M. Potes, V. Salgueiro, R. Salgado, S. Pereira, D. Bortoli, V. Prior, G. A. Moreira, A. Valenzuela, A. Cazorla and L. Alados-Arboledas*
- P2.4 The Effects of the Tropospheric Aerosols on the Formation(evolution) of the ABL over the Region of Sofia  
*Nikolay Kolev, Plamen Savov, Tsvetina Evgenieva, Petia Kaleyna, Plamen Muhtarov, Doyno Petkov, Ventsislav Danchevski, Orlin Gueorguiev*
- P2.5 Detecting the planetary boundary layer height from wind speed spectra with Doppler wind lidar measurements  
*Márcia Marques*
- P2.6 Wintertime circulation in the Chamonix-Mont-Blanc valley from scanning wind lidar measurements (Passy-2015 field experiment) - *moved from oral on Thursday to poster presentation*  
*Tiphaine Sabatier, A. Paci, A. Dabas, JM. Donier, T. Douffet, Y. Langeron, Q. Rodier, G. Canut, O. Garrouste, R. Guillot, C. Lac, V. Masson*

### Topic 3

- P3.1 Application of radiosounding data for atmospheric boundary-layer study related to PM10 pollution in Sofia  
*Orlin Gueorguiev, Blagorodka Veleva, Elena Hristova, Maria Kolarova*
- P3.2 Comparison of the ABL structure over coastal strip of waters and over homogeneous land surface  
*Daria V. Zaytseva, Lyulyukin V.S., Kuznetsov D.D., Kouznetsov R.D.*
- P3.3 Monitoring of Wind Field Evolution Using a Nacelle-Mounted Lidar System (moved to oral presentation on Wednesday)  
*David Schlipf, S. Raach, F. Haizmann, P. Fleming, A. Scholbrock, R. Krishnamurthy, M. Boquet*
- P3.4 Wind field in closed breeze circulation cells: modelling and observations  
*Hristina Kirova, Elenio Avolio, Damyan Barantiev, Ekaterina Batchvarova, Claudia Roberta Calidonna, Teresa Lo Feudo, Daniel Gulli, Rosamaria Calaudi, Valeri Nikolov*

## Topic 4

- P4.1 A comparison among statistical and classical methods to obtain the planetary boundary layer height by lidar data *G. A. Moreira, J. L. Guerrero-Rascado, J. A. Benavent-Oltra, P. Ortiz-Amezcu, E. Landulfo, L. Alados-Arboledas*
- P4.2 Atmospheric stability using Doppler Wind Lidar profiler: A Case Study in Florianópolis Island *Santos, P.A.A., Sakagami Y., Haas R., Passos J.C., Taves F.F., Nassif F., Moreira A., Moreira G. A., Marques M. T. A., Beu C., Landulfo, E.*
- P4.3 Evaluation of local solar radiation components based on satellite and neighboring site data *Vanya Maneva, Dimiter Atanassov, Anton Petrov, Hristomir Branzov*
- P4.4 Evaluation of Single and Multiple Doppler Lidar Techniques to Measure Complex Flow during the XPIA Field Campaign *Aditya Choukulkar, A. Brewer, R. Banta, S. Sandberg, A. Weickmann, T. Bonin, J.K. Lundquist, R. Delgado, G.V. Iungo, R. Ashton, M. Debnath, L. Bianco, J. Wilczak, B. Kosovic, S. Oncley, D. Wolfe*
- P4.5 Quantifying full-scale wakes with lidar measurements *R.J. Barthelmie, H. Wang, P.Doubrawa, S.C. Pryor*
- P4.6 RADAR observation of the convective thermal inhomogeneity's of the atmosphere in the metropolis *V.N. Oleynikov, V.M. Kartashov, D.B. Yevsieiev, E.I. Oleynikova*
- P4.7 Using Doppler lidar measurements from a suite of scanning strategies to determine the boundary layer height *Timothy A. Bonin, R. M. Hardesty, W. A. Brewer*
- P4.8 Lidar use cases for the acquisition of high value data sets *Peter J M Clive*
- P4.9 Certification of lidars for post-construction wind energy applications *Peter J M Clive*
- P4.10 A comparison of 2- and 5- beam nacelle mounted lidar measurements on an offshore wind turbine *Peter J M Clive*