

# HARMO18 – Programme: oral presentations on 04.10.2017

## List of Topics:

**TOPIC 1. Model evaluation and quality assurance – model validation, model intercomparisons, model uncertainties and model sensitivities.**

**TOPIC 2. Environmental impact assessment: Air pollution management and decision support systems.**

**TOPIC 3. Use of modelling in support of EU air quality directives, including FAIRMODE activities.**

**TOPIC 4. Parametrization of physical processes in mesoscale meteorology relevant for air quality modelling.**

**TOPIC 5. Urban scale and street canyon modelling: Meteorology and air quality.**

**TOPIC 6. Use of modelling in health and exposure assessments**

**TOPIC 7. Inverse dispersion modelling and source identification.**

**TOPIC 8. Modelling air dispersion and exposure to accidental releases.**

**TOPIC 9. Modelling of passive control systems (PCS) including nature-based solutions in dispersion studies**

**TOPIC 10. Mathematical problems in air quality modelling.**

**TOPIC 11. Highlights of past work. Session devoted to reviews and to prominent scientists and ‘golden papers’ of the past, which have still relevance and should not be forgotten.**

## MONDAY 09.10.2017

09:00 09:30 Opening

### PLENARY SESSION

**Chairperson** *Helge OLESEN*

09:30 10:00 Invited Talk - CLEAN AIR EUROPE

*T. Henrichs, presented by Philippe. Thunis*

10:00 10:20 H18-042 - ON THE ASSIMILATION OF SATELLITE RETRIEVALS OF AEROSOL OPTICAL DEPTH TO IMPROVE 0-48 H AIR QUALITY PREDICTIONS OVER THE U.S.

*Luca Delle Monache, Rajesh Kumar, Pablo Saide, Stefano Alessandrini, Jamie Bresch, Zhiquan Liu, Gabriele Pfister, David Edwards, Irina Djalalova, Barry Baker, Pius Lee, Youhua Tang, James Wilczak*

10:20 10:40 H18-135 - EVALUATION OF SEVEN CHEMISTRY TRANSPORT MODELS IN THE FRAMEWORK OF EURODELTA III INTERCOMPARISON EXERCISE

*Mihaela Mircea, Bertrand Bessagnet, Marta García Vivanco, Cornelius Cuvelier, Guido Pirovano, Svetlana Tsyro, Sebnem Aksoyoglu, Astrid Manders, Maria-Teresa Pay, Rainer Stern, Wenche Aas, André S. H. Prévôt, Armin Aulinger, José María Baldasano, Johannes Bieser, Gino Briganti, Giuseppe Calori, Andrea Cappelletti, Claudio Carnevale, Giancarlo Ciarelli, Augustin Colette, Florian Couvidat, Massimo D'Isidoro, Jean-Charles Dupont, Hilde Fagerli, Sandro Finardi, Lucia Gonzalez, Richard Kranenburg, Frédéric Meleux, Laurent Menut, Pete Roberts, Laurence Rouïl, Camillo Silibello, Mark R. Theobald, Philippe Thunis, Anthony Ung, Les White*

10:40 11:00 H18-217 - THE EURODELTA/TFMM TREND MODELING EXERCISE (1990-2010)

*Cornelius Cuvelier and EuroDelta Trend Modelling Teams; EMEP-MSC (EMEP), INERIS (CHIMERE), TNO (LOTOS-EUROS), ENEA (MINNI), SMHI (MATCH), BSC (CMAQB), CERA (POLR), IASS (WRFN,WRFN), CIEMAT, EC-JRC*

**11:00 11:30 POSTER Session & Coffee-break**

### SESSION I

**Chairperson** *Bertrand CARISSIMO*

#### TOPIC 1/A

11:30 11:50 H18-077 - MULTI-MODEL ASSESSMENT OF PM TRENDS IN EUROPE DURING TWO DECADES (1990-2010)

*Svetlana Tsyro, Camilla Andersson, Bertrand Bessagnet, Augustin Colette, Florian Couvidat, Kees Cuvelier, Astrid Manders, Kathleen Mar, Mihaela Mircea, Noelia Otero, Wenche Aas, Maria-Teresa Pay, Valentin Raffort, Yelva Roustan, Mark R. Theobald, Marta G. Vivanco, Gino Briganti, Andrea Cappelletti, Massimo D'Isidoro, Mario Adani, Hilde Fagerli, Peter Wind*

### SESSION II

*Enrico FERRERO*

#### TOPIC 2/A

H18-119 - A METHOD FOR HIGH-RESOLUTION ANNUAL CONCENTRATION ASSESSMENT AND SCENARIO ANALYSIS FOR NO<sub>2</sub> IN EUROPE

*Wouter Lefebvre, Bino Maiheu, Hans Hooyberghs, Stijn Janssen, Lisa Blyth*

11:50	12:10	H18-180 - AN INTERCOMPARISON OF MODELLED TRENDS OF NITROGEN AND SULPHUR WET DEPOSITION IN EUROPE OVER THE PERIOD 1990-2010 IN THE FRAMEWORK OF THE EURODELTA/TFMM TREND MODELLING EXERCISE  <i>Mark Theobald, Marta G. Vivanco, Wenche Aas, Mario Adani, Camilla Andersson, Bertrand Bessagnet, Gino Briganti, Andrea Cappelletti, Giancarlo Ciarelli, Augustin Colette, Florian Couvidat, Kees Cuvelier, Massimo D'Isidoro, Hilde Fagerli, Astrid Manders, Kathleen Mar, Mihaela Mircea, Noelia Otero, Maria-Teresa Pay, Valentin Raffort, Yelva Roustan, Martijn Schaap, Svetlana Tsyro, Peter Wind</i>	H18-040 - POLICIES FOR LONDON NO2 COMPLIANCE  <i>David Dajnak, Gregor Stewart, Sean Beevers</i>
12:10	12:30	H18-056 - COMPUTATIONAL FLUID DYNAMICS (CFD) MODELLING OF ATMOSPHERIC DISPERSION FOR LAND-USE PLANNING AROUND MAJOR HAZARDS SITES IN THE UK  <i>Simon Gant, Harvey Tucker</i>	H18-022 - AN HYBRID EULERIAN-LAGRANGIAN-STATISTICAL APPROACH TO EVALUATE AIR QUALITY IN A MIXED RESIDENTIAL-INDUSTRIAL ENVIRONMENT  <i>Giovanni Bonafè, Francesco Montanari, Fulvio Stel</i>
12:30	12:50	H18-086 - AN OVERVIEW OF USER-ORIENTED OPERATIONAL MODEL EVALUATION  <i>Jeffry Urban, Nathan Platt</i>	H18-095 – EMISSIONS MODELLING AND IMPACT ASSESSMENT OF FUGITIVE PARTICULATE MATTER IN ARID AND SEMI-ARID REGION  <i>Hala Hassan, Konstantinos Kakosimos, Prashant Kumar</i>
12:50	13:10	H18-174 - EVALUATION OF LOCAL AND REGIONAL AIR QUALITY FORECASTS FOR LONDON  <i>Amy Stidworthy, Mark Jackson, Kate Johnson, David Carruthers, Jenny Stocker</i>	H18-013 - EMERGENCIES MEDITERRANEAN - A PROSPECTIVE HIGH-RESOLUTION MODELLING AND DECISION-SUPPORT SYSTEM IN CASE OF ADVERSE ATMOSPHERIC RELEASES APPLIED TO THE FRENCH MEDITERRANEAN COAST  <i>Patrick Armand, Christophe Duchenne, Olivier Oldrini, Sylvie Perdriel</i>

**13:10    14:20    Lunch-break**

		<b>SESSION I</b>	<b>SESSION II</b>
<b>Chairperson</b>		<b>Emilia GEORGIEVA</b>	<b>Carlos BORREGO</b>
		<b>TOPIC 1/B</b>	<b>TOPIC 2/B</b>
14:20	14:40	H18-188 - MODELLING THE DISPERSION OF SHIP EMISSIONS WITH DIFFERENT PLUME RISE APPROACHES AND SENSITIVITY ANALYSIS  <i>Silvia Trini Castelli, Gianni Tinarelli, Giuseppe Carlino, Paola Radice, Luca Mortarini, Cristina Pozzi</i>	H18-052 - AIR QUALITY IMPACT OF VOCS EMISSION FROM THE ILLEGAL WASTE LANDFILLS LOCATED IN GIUGLIANO (NA)  <i>Sandro Finardi, Giuseppe Agrillo, Rita Baraldi, Giuseppe Brusasca, Luca Vitale, Giulia Carrierio, Paolo Ciccioli, Sara Di Lonardo, Osvaldo Facini, Daniela Famulari, Daniele Gasbarra, Beniamino Gioli, Luisa Neri, Vincenzo Magliulo, Rossella Prandi, Gianni Tinarelli, Piero Toscano, Alessandro Zaldei</i>

14:40	15:00	H18-053 - VALIDATION METRICS FOR TIME DEPENDENT OBSTACLE RESOLVING SIMULATIONS <i>Jörg Franke, Pham Ha Thanh</i>	H18-100 - WEB-BASED AIR QUALITY MODELING SYSTEM FOR NEAR-PORT ASSESSMENTS: EXAMPLE OF APPLICATION IN PORTO, PORTUGAL <i>Vlad Isakov, Timothy Barzyk, Saravanan Arunachalam, Brian Naess, Catherine Seppanen, Alexandra Monteiro, Sandra Sorte</i>
15:00	15:20	H18-108 - TOWARDS AIRGIS RE-DEVELOPMENT – A GIS BASED HUMAN EXPOSURE MODELING SYSTEM <i>Jibran Khan, Matthias Ketzel, Konstantinos Kakosimos, Ulla Hvidtfeldt, Mette Sørensen, Ole Raaschou Nielsen, Steen Solvang Jensen</i>	H18-006 - REAL-TIME MONITORING OF AIR POLLUTION IN URBAN AREAS USING A 3D CFD SIMULATION TOOL <i>Lobnat Ait Hamou, Laurent Krumenacker, Claude Souprayen, Krishnaprasad Acharya</i>
15:20	15:40	H18-171 - IN SEARCH OF A NEW PARADIGM FOR EVALUATING MODELS. LESSON LEARNED AFTER THREE PHASES OF THE AQMEII ACTIVITY <i>Ef시오 Solazzo, Christian Hogrefe, Stefano Galmarini</i>	H18-177 - RIAT+ AND PAIR2020: AN INTEGRATED ASSESSMENT TOOL USEFULL FOR AIR QUALITY PLANNING <i>Michele Stortini, Marco Deserti, Simona Maccaferri, Enrico Minguzzi</i>
15:40	16:00	H18-191 - IMPACT OF FIELD BIOMASS BURNING ON LOCAL POLLUTION AND LONG-RANGE TRANSPORT OF PM2.5 IN NORTHEAST ASIA IN AUTUMN 2014 <i>Katsushige Uranishi, Fumikazu Ikemori, Hiraki Shimadera, Akira Kondo, Seriji Sugata</i>	H18-082 - EMISSIONS FROM MARITIME AND HARBOUR ACTIVITIES IMPACTING THE AIR QUALITY OVER THE URBAN AREA AROUND PORT OF LEIXÕES <i>Sandra Sorte, Vera Rodrigues, Carlos Borrego, Alexandra Monteiro</i>

**16:00 16:50 POSTER Session & Coffee-break**

		<b>SESSION I</b>	<b>SESSION II</b>
<i>Chairperson</i>		<i>Saravanan ARUNACHALAM</i>	<i>Prashant KUMAR</i>
		<b>TOPIC 1/C</b>	<b>TOPIC 8/A</b>
16:50	17:10	H18-159 - EVALUATION OF CLIMATOLOGICAL MODELLED AOD AGAINST MEASURED DATA IN BALTIC SEA AND ARCTIC REGIONS <i>Ketlin Reis, Mikhail Sofiev, Maje Prank, Marko Kaasik, Erko Jakobson</i>	H18-071 - ANALYSIS OF VARIATIONS OF CONCENTRATION WITH DOWNWIND DISTANCE AND CHARACTERISTICS OF DENSE GAS PLUME RISE FOR JACK RABBIT II 2016 CHLORINE FIELD EXPERIMENTS <i>Steven Hanna, Joseph Chang</i>
17:10	17:30	H18-029 - MODELLING OF BIOGENIC VOLATILE ORGANIC COMPOUNDS EMISSIONS OVER ITALY <i>Camillo Silibello, Rita Baraldi, Francesca Rapparini, Osvaldo Facini, Luisa Neri, Brilli Federico, Silvano Fares, Sandro Finardi, Enzo Magliulo, Piero Ciccioni, Paolo Ciccioni</i>	H18-028 - SYNTHETIC BOUNDARY CONDITIONS USING LES FOR URBAN DISPERSION MODELLING <i>Jan Burman, Lage Jonsson</i>

17:30	17:50	H18-007 - MODELING NITROGEN COMPOUNDS: CONCENTRATION, LAND-USE SPECIFIC DEPOSITION AND SEASONAL VARIABILITY IN SWITZERLAND <i>Sebnem Aksoyoglu, André S.H. Prévôt</i>	H18-139 - LES STUDIES FOR PREDICTING PLUME CONCENTRATIONS AROUND NUCLEAR FACILITIES USING AN OVERLAPPING TECHNIQUE <i>Hiromasa Nakayama, Tetsuya Takemi</i>
17:50	18:10	H18-041 QUALEARIA: EUROPEAN AND NATIONAL SCALE AIR QUALITY FORECAST SYSTEM PERFORMANCE EVALUATION. <i>Alessio D'Allura, Matteo P. Costa, Camillo Silibello</i>	H18-134 - JACK RABBIT II 2015 CHLORINE RELEASE EXPERIMENTS: SIMULATIONS OF THE TRIALS USING DRIFT AND PHAST AND COMPARISONS AGAINST PRELIMINARY EXPERIMENTAL DATA <i>Bryan McKenna, Maria Mallafrè Garcia, Simon Gant, Alison McGillivray, Rachel Batt, Mike Wardman, Harvey Tucker, Graham Tickle, Henk Witlox</i>

**20:00 23:00 ICE BREAKING**

## TUESDAY 10.10.2017

### PLENARY SESSION

#### Chairperson

**Silvia TRINI CASTELLI**

09:00 09:30 INVITED TALK - UPDATE ON THE FAIRMODE ACTIVITIES

*Philippe Thunis*

09:30 09:50 H18 -172 - THE ROLE OF MULTI-MODEL ENSEMBLES IN ASSESSING THE AIR QUALITY IMPACT ON CROP YIELDS AND MORTALITY

*Efsio Solazzo, Rita Van Dingenen, Angelo Riccio, Stefano Galmarini*

09:50 10:10 H18-014 -C-AIRPORT: A NEW WEB-BASED AIR QUALITY MODEL FOR COMMUNITY-SCALE ASSESSMENTS AROUND AIRPORTS.

*Saravanan Arunachalam, Akula Venkatram, Jeffrey Weil, Jo Ellen Brandmeyer, Brian Naess, Catherine Seppanen, Alejandro Valencia, Vlad Isakov*

10:10 10:30 H18-175 - IFDM-TRAFFIC, AN OPERATIONAL MODELLING SYSTEM FOR HARMONIZED LOCAL AIR QUALITY PLANS: LOOKING BACK AT 5 YEARS OPERATIONAL SERVICE AND OUTLOOK TO THE FUTURE

*Stijn Janssen, Wouter Lefebvre, Bino Maiheu, Stijn Vranckx, Filip Lefebvre, Lisa Blyth*

10:30 10:50 H18-024 - MODELLING THE IMPACT OF RECENT TRAFFIC MEASURES TAKEN IN MADRID (SPAIN) DURING A HIGH POLLUTION EPISODE

*Rafael Borge, David de la Paz, Jessica Domingo, Cristina Valdés, M<sup>a</sup> Teresa Rozas, Sonia Lázaro, Javier Pérez, Christina Quaassdorff, Álvaro Fernández, Juan Manuel de Andrés, Julio Lumbreras*

**10:50 11:20 POSTER Session & Coffee-break**

### SESSION I

#### Chairperson

**Fernando MARTIN**

#### TOPIC 5/A

11:20 11:40 H18-045 - MIXING AND TRANSPORT CHARACTERISTICS WITHIN REAL STREET INTERSECTIONS: THE CASE OF MARYLEBONE ROAD, LONDON(UK)

*Silvana Di Sabatino, Beatrice Pulvirenti, Prashant Kumar*

11:40 12:00 H18-107 - HIGH RESOLUTION MODELLING OF ELEMENTAL CARBON FOR DENMARK

*Matthias Ketzler, M. Burman, J. K. Nøjgaard, J.H. Christensen, U. Im, J. Brandt*

### SESSION II

#### Philippe THUNIS

#### TOPIC 3

H18-151 - EVALUATING THE ROBUSTNESS OF THE SHERPA AIR QUALITY MODEL THROUGH THE APPLICATION OF GLOBAL SENSITIVITY ANALYSIS TECHNIQUES

*Enrico Pisoni, D. Albrecht, R. Rosati, S. Tarantola, P. Thunis*

H18-061 - CAPABILITIES OF THE BULGARIAN CHEMICAL WEATHER FORECAST SYSTEM EVALUATED WITH THE FAIRMODE-DELTA TOOL

*Emilia Georgieva, Dimiter Syrakov, Maria Prodanova, Kiril Slavov*

12:00	12:20	H18-019 - SINGLE REALIZATION COUPLED URBAN AND INDOOR AIRBORNE CONTAMINANT MODELING <i>Paul Bieringer, Michael Sohn, Harmen Jonker, Aaron Piña, George Bieberbach</i>	H18-111 - SPATIAL REPRESENTATIVENESS EVALUATION BY POINT CENTRED VARIOGRAPHY <i>Oliver Kracht, Michel Gerboles</i>
12:20	12:40	H18-160 - PROGRESS IN URBAN AIR QUALITY ASSESSMENT: CFD MODELLING OF A WHOLE TOWN IN SPAIN <i>Esther Rivas, JL. Santiago, F. Martin, A. Ariño, J.M. Santamaría, Juan José Pons</i>	H18-176 - APPLYING THE FAIRMODE TOOLS TO SUPPORT AIR QUALITY DIRECTIVE: THE EXPERIENCES OF ARPAE <i>Michele Stortini, Simona Maccaferri, Chiara Agostini</i>
12:40	13:00	H18 -211 - EFFECT OF URBAN DESIGN ON AIR POLLUTION DISPERSION THROUGH COMPLEX LES SIMULATIONS. <i>Elsa Aristodemou, Laetitia Mottet, Dimitrios Pavlidis, William Lin, Christopher Pain, Alan Robins</i>	H18-149 - FROM CTM MODEL RESULTS TO LOCAL EXPOSURE: FIRST STEPS <i>Florian Pfäfflin, Volker Diegmann, Stephan Nordmann</i>

**13:00 14:10 Lunch-break**

**SESSION I**

**Chairperson Steven HANNA**

**TOPIC 5/B**

14:10	14:30	H18-158 - QUANTIFYING THE REDUCTION OF AIR POLLUTION BY VEGETATION IN URBAN AREAS <i>Aakash Rai, Prashant Kumar</i>
14:30	14:50	H18-136 - LAGRANGIAN TIME SCALES WITHIN A TWO-DIMENSIONAL URBAN CANYON <i>Annalisa Di Bernardino, Paolo Monti, Giovanni Leuzzi, Giorgio Querzoli</i>
14:50	15:10	H18-091 - THE IMPACT OF ROAD STRUCTURES AND BUILDINGS ON URBAN AIR QUALITY <i>Nico Schulte, Seyedmorteza Amini, Faraz Ahangar, Akula Venkatram</i>

**SESSION II**

**Clemens MENSINK**

**TOPIC 4**

H18-027 - ON THE DRAG FORCE DISTRIBUTION OVER ARRAYS OF CUBICAL BUILDINGS: WIND TUNNEL EXPERIMENTS <i>Riccardo Buccolieri, Hans Wigö, Mats Sandberg, Silvana Di Sabatino</i>
H18-141 - MODELLING THE IMPACT OF URBAN GROWTH ON MESOSCALE METEOROLOGICAL FEATURES AND CHARACTERISTICS OVER THE URBAN AREA OF PARIS <i>Theodoros Nitis, George Tsegas, Vasilios Akylas, Vincent Vigué, Nicolas Moussiopoulos</i>
H18-185 - A 3D PLANET BOUNDARY LAYER SCHEME FOR THE REPRESENTATION OF DISPERSION PROCESSES IN SUB-KILOMETER HORIZONTALLY NON-HOMOGENEOUS FLOWS <i>Elena Tomasi, Lorenzo Giovannini, Pedro Jimenez, Branko Kosovic, Stefano Alessandrini, Enrico Ferrero, Marco Falocchi, Dino Zardi, Luca Delle Monache</i>

15:10	15:30	H18-166 - CFD MODELLING OF PARTICLE MATTER DISPERSION IN A REAL HOT-SPOT <i>Jose Luis Santiago, B. Sanchez, F. Martin, A. Martilli, C. Quaassdorff, D. de la Paz, R. Borge, F.J. Gómez-Moreno, E. Díaz, B. Artíñano, C. Yagüe, C. Blanco, S. Vardoulakis</i>	H18-189 - THE IMPACT OF TOPOGRAPHY AND SEA SURFACE TEMPERATURE ON THE EVOLUTION OF THE URBAN BOUNDARY LAYER <i>George Tsegas, Theodoros Nitis, Nicolas Moussiopoulos</i>
15:30	15:50	H18-137 - CHARACTERIZING POLLUTANT PLUME DISPERSION IN URBAN ATMOSPHERIC SURFACE LAYER <i>Ziwei Mo, Chun-Ho LIU</i>	H18-078 - INFLUENCE OF WRF PARAMETERIZATION ON AIR QUALITY MODELLING <i>Goran Gašparac, Amela Jeričević, Branko Grisogono</i>
<b>15:50</b>	<b>16:40</b>	<b>POSTER Session &amp; Coffee-break</b>	
		<b>SESSION I</b>	<b>SESSION II</b>
<i>Chairperson</i>		<i>Sebnem AKSOYOGLU</i>	<i>Matthias KETZEL</i>
		<b>TOPIC 1/D</b>	<b>TOPIC 4 (cnt); TOPIC 6</b>
16:40	17:00	H18-051 - SMOKE PLUME FROM FIRE LAGRANGIAN SIMULATION AND VALIDATION USING GROUND-BASED LIDAR DATA <i>Enrico Ferrero, Bret Anderson, Stefano Alessandrini</i>	H18-109 - HORIZONTAL SCALE OF CLOSED BREEZE CELLS AT THE SOUTHERN BULGARIAN BLACK SEA COAST <i>Hristina Kirova, Ekaterina Batchvarova, Damyan Barantiev</i>
17:00	17:20	H18-187 - COMPARISON OF SOME COMMERCIAL DISPERSION MODELS FOR HEAVY GAS RELEASES <i>John Tørnes, Thomas Vik</i>	H18-127 - MODELING AIR QUALITY IMPACT OF POLLUTANTS EMITTED BY AN OIL/GAS PLANT IN COMPLEX TERRAIN IN VIEW OF A HEALTH IMPACT ASSESSMENT <i>Cristina Mangia, Marco Cervino, Silvia Trini Castelli, Luca Mortarini, Andrea Bisignano</i>
17:20	17:40	H18-036 - THE COUPLED CHEMISTRY-METEOROLOGY MODEL BOLCHEM: AN APPLICATION TO THE AIR POLLUTANTS LEVEL IN THE PO VALLEY (ITALY) HOT SPOT. <i>Rita Cesari, Tony Christian Landi, Alberto Maurizi</i>	H18-081 - SENSITIVITY ANALYSIS REGARDING NO2 EXPOSURE ASSESSMENT AND HEALTH IMPACTS AT A EUROPEAN SCALE. <i>Bino Maiheu, Wouter Lefebvre, Martin Williams, Heather Walton, Stijn Janssen, Lisa Blyth, Sean Beavers</i>
17:40	18:00	H18-080 - TRAFFIC EMISSION SIMULATION AND VALIDATION WITH MEASURED DATA IN SOUTH KOREA <i>Christina Quaassdorff, K.-H. Kwak, R. Borge, S.-B. Lee</i>	H18-110 - CFD SIMULATIONS OF POLLUTANT SPATIAL DISTRIBUTION IN A LARGE OFFICE <i>Nektarios Koutsourakis, John G. Bartzis, George C., Efthimiou, Ioannis Sakellaris</i>



## WEDNESDAY 11.10.2017

### PLENARY SESSION

**Chairperson** *Silvana DI SABATINO*

09:00 09:20 H18-072 - A SIMPLE ANALYTICAL URBAN PUFF DISPERSION MODEL COMPARED WITH TRACER OBSERVATIONS IN JU2003

*Steven Hanna, Joseph Chang*

09:20 09:40 H18-069 - ON THE INTER-MODEL COMPARISON OF URBAN CANOPY EFFECTS PARAMETERIZATION

*Tomas Halenka, Peter Huszar, Michal Belda, Jan Karlicky, Tereza Novakova*

09:40 10:00 H18-084 - HOW DO PBL SCHEMES IN WRF DESCRIBE SUMMER AND WINTER CONDITIONS AT A HIGH ARCTIC SITE?

*Ekaterina Batchvarova, Hristina Kirova, Sven-Erik Gryning, Henrik Skov, Lise Lotte Sørensen*

10:00 10:20 H18-200 - A PARTICLE SIZE DEPENDENT WET DEPOSITION SCHEME FOR THE LAGRANGIAN DISPERSION MODEL, NAME.

*Helen Webster, David Thomson*

10:20 10:40 H18-157 - EVALUATION OF URBAN PARAMETERIZATIONS IN THE WRF MODEL USING ENERGY FLUXES MEASUREMENTS

*Sandra Rafael, Vera Rodrigues, Carlos Borrego, Myriam Lopes*

**10:40 11:10**

**POSTER Session & Coffee-break**

### SESSION I

**Chairperson** *Roberto SAN JOSE'*

#### TOPIC 8/B

11:10 11:30 H18-034 - A LARGE EDDY SIMULATION STUDY OF MEAN DISPERSION AND CONCENTRATION FLUCTUATIONS FROM A POINT SOURCE

*Massimo Cassiani, Hamidreza Ardeshiri, Soon-Young Park, Andreas Stohl, Massimo Marro, Pietro Salizzoni, Ignacio Pisso, Kerstin Stebel, Solvejg Dinger, Arve Kylling*

11:30 11:50 H18-016 - ADAPTATION OF THE LAGRANGIAN MODULE OF A CFD CODE FOR ATMOSPHERIC DISPERSION OF POLLUTANTS IN COMPLEX URBAN GEOMETRIES AND COMPARISON WITH EXISTING EULERIAN RESULTS

*Meissam Bahlali, Bertrand Carissimo, Eric Dupontc*

### SESSION II

**David CARRUTHERS**

#### TOPIC 7/A

H18-003 - RECONSTRUCTION OF THE SOURCE TERM AND THE RISK AREA FOR THE 2016 AL-MISHRAQ FIRE

*Oscar Björnham, Håkan Grahn, Niklas Brännström*

H18-039 - COMBINED USE OF EULERIAN AND LAGRANGIAN MODELLING FOR LOCAL SCALE SOURCE APPORTIONMENT

*Matteo Paolo Costa, Giuseppe Brusasca, Giuseppe Calori, Sandro Finardi, Cristina Pozzi, Rossella Prandi, Paola Radice, Gianni Tinarelli*

11:50	12:10	H18-153 - DOWNWIND CHLORINE HAZARD ESTIMATES FOR THE 2015 JACK RABBIT II CAMPAIGN <i>Nathan Platt, Kevin Luong, Jeffry T. Urban</i>	H18-130 - IDENTIFICATION OF OUTDOOR CONTAMINATION SOURCES BY USING VARIATIONAL CONTINUOUS ASSIMILATION METHOD <i>Tomohito Matsuo, Takaya Matsuomoto, Hikari Shimadera, Akira Kondo</i>
12:10	12:30	H18-173 - COUPLED CFD AND FOREST FIRE MODELS FOR RISK ANALYSIS ON NUCLEAR POWER PLANTS <i>Claude Souprayen, Amita Tripathi, Lobnat Ait-Hamou, Malo Le Guellec, Liying Chen</i>	H18-181 - SOURCE TERM ESTIMATION USING AN ADJOINT MODEL: A COMPARISON OF TWO DIFFERENT ALGORITHMS <i>Gianni Tinarelli, G. Carlino, F. Uboldi</i>
12:30	12:50	H18-198 - JRODOS FOR NUCLEAR EMERGENCIES: IMPLEMENTATION IN SWITZERLAND AND FURTHER DEVELOPMENTS <i>Cyrill von Arx, Markus Oberle</i>	H18-001 - COUPLING ADJOINT AND BAYESIAN APPROACHES FOR SOURCE TERM ESTIMATION <i>Paul Westoby, Luca delle Monache</i>

**12:50 14:00 Lunch-break**

		<b>SESSION I</b>	<b>SESSION II</b>
<i>Chairperson</i>		<b>Akula VENKATRAM</b>	<b>Jeffrey WEIL</b>
		<b>TOPIC 5/C</b>	<b>TOPIC 7/B</b>
14:00	14:20	H18-037 - A FORMULATION FOR THE STREET CANYON RECIRCULATION ZONE BASED ON PARAMETRIC ANALYSIS OF LARGE EDDY SIMULATIONS <i>Arsenios Chatzimichailidis, Christos D. Argyropoulos, Marc J. Assael, Konstantinos E. Kakosimos</i>	H18-144 - REAL-TIME USE OF INVERSE MODELING TECHNIQUES TO ASSESS THE ATMOSPHERIC ACCIDENTAL RELEASE OF A NUCLEAR POWER PLANT <i>Olivier Saunier, Anne Mathieu, Damien Didier</i>
14:20	14:40	H18-206 - EFFECTS OF ANTHROPOGENIC HEAT FLUX USING DIFFERENT AIR CONDITIONING SYSTEMS ON THE HEAT WAVE EVENTS IN THE CITY OF HONG KONG <i>Yi Wang, Silvana Di Sabatino, Alberto Martilli, Yuguo Li, Pak Wai Chan</i>	H18-012 - INVERSE DISPERSION MODELLING FOR A QUICK SCAN SERVICE TO ASSESS FUGITIVE EMISSIONS FROM LANDFILLS <i>Armand, Albergel, Denis Morin, Didier Buty, Maxime Ninart, Laurent Makke, Robin Goix, Robert Kelly, Caroline Bouchet, Felix Vogel</i>
14:40	15:00	H18-116 - URBAN AIR QUALITY SIMULATIONS IN A HIGH-RISING BUILDING AREA WITH VARIOUS NO2-TO-NOX EMISSION RATIOS <i>K.H. Kwak, J.-J. Baik</i>	H18-152 - THE URBAN GREENHOUSE GAS EMISSIONS ASSESSMENT THROUGH INVERSE MODELING (URGE) PROJECT: A PILOT STUDY IN THE OSLO AREA. <i>Ignacio Pisso, Sasana Lopez-Aparicio, Philipp Schneider, Norbert Schmidbauer, Matthias Vogt</i>

15:00	15:20	H18-163 - LES ON THE SWITCHING PATTERN OF URBAN CANOPY FLOW AND ITS RESULTING DISPERSION BEHAVIOUR – EFFECTS OF BACKGROUND THERMAL STRATIFICATION AND THE LOCAL HEAT FLUX <i>Yuto Sakuma, Teturo Tamura, Hisaaki Ozaki, Denise Hertwig, Omudth Coceal</i>	H18-204 - SENSITIVITY ANALYSIS OF PARAMETERIZATION MODELS AND OBSERVATION NETWORKS FOR ENSEMBLE-BASED ATMOSPHERIC DISPERSION DATA ASSIMILATION SYSTEM <i>Xiaole Zhang, Meng Huang, Yan Wang</i>
15:20	15:40	H18-212 - VOLATILE ORGANIC COMPOUNDS IN PARKING GARAGE AND ASSOCIATED HEALTH RISK ASSESSMENT <i>Mohamed Yassin, Ashraf Ramadan, Bashayer Z. Alshammari</i>	H18-048 - DEVELOPMENT OF THE METHOD FOR IDENTIFICATION OF THE UNKNOWN SHORT-DURATION SOURCE IN URBAN ATMOSPHERIC ENVIRONMENT USING THE CFD MODEL <i>George Efthimiou, Spyros Andronopoulos, Alexandros G. Venetsanos, Ivan V. Kovalets, Kostas Kakosimos, Christos D. Argyropoulos</i>
15:40	16:00	H18-073 - ASSESSMENT OF NO2 CONCENTRATION LEVELS WITHIN A STREET CANYON AND A TUNNEL PORTAL MICRO ENVIRONMENT <i>Ulrich Uhrner, Rafael Reifeltshammer, Peter Johann Sturm</i>	H18-147 - TIME-DEPENDENT INVERSE DISPERSION MODELLING IN URBAN ENVIRONMENTS <i>Leif Å Persson, Niklas Brännström, Jan Burman</i>

**16:00 16:30 POSTER Session & Coffee-break**

**FREE AFTERNOON**

**20:00 23:00 SOCIAL DINNER**

## THURSDAY 12.10.2017

### PLENARY SESSION

#### Chairperson

*Ekaterina BATCHVAROVA*

- 09:00 09:20 H18-142 - TWENTYFIVE YEARS OF HARMONISATION CONFERENCES - LOOKING BACK AND AHEAD  
*Helge Olesen*
- 09:20 09:40 H18-089 - CLASSIC PAPERS ON DISPERSION IN THE SURFACE LAYER  
*Akula Venkatram*
- 09:40 10:00 H18-201 - DISPERSION VARIABILITY, SCALAR FLUCTUATIONS, AND SHORT-TERM PEAK CONCENTRATIONS IN THE ATMOSPHERIC BOUNDARY LAYER  
*Jeffrey Weil, Peter Sullivan, Edward Patton, Andrezj Wyzogrodsky*
- 10:00 10:20 H18-033 - USING SENSOR DATA AND INVERSION TECHNIQUES TO SYSTEMATICALLY REDUCE DISPERSION MODEL ERROR  
*David Carruthers, A. L. Stidworthy, D. Clarke, J. K. Dicks, R. L. Jones, I. Leslie, O. A. M. Popoola, A. Randle, M. Seaton*
- 10:20 10:40 H18-218 - LAGRANGIAN MODELING EMBEDDED IN RANS CFD CODES FOR CONCENTRATIONS AND CONCENTRATION FLUCTUATIONS PREDICTIONS FROM AIRBORNE HAZARDOUS RELEASES IN URBAN ENVIRONMENTS  
*John Bartzis, George C. Efthimiou, Spyros Andronopoulos, Alexandros G. Venetsanos*

**10:40 11:10 POSTER Session & Coffee-break**

### SESSION I

#### Chairperson

*John BARTZIS*

#### TOPIC 8/C

- 11:10 11:30 H18-096 - TALL BUILDING EFFECTS IN FAST DISPERSION MODELS  
*Denise Hertwig, Lionel Soulhac, Vladimír Fuka, Torsten Auerswald, Paul Hayden, Alan Robins, Zheng-Tong Xie, Omduth Coceal*
- 11:30 11:50 H18-068 - WEB VISUALIZATION OF ATMOSPHERIC DISPERSION MODELLING APPLIED TO VERY LARGE CALCULATIONS  
*Olivier Oldrini, Sylvie Perdriel, Patrick Armand, Christophe Duchenne*

### SESSION II

#### Sonja VIDIČ

#### TOPIC 9 & misc

- H18-194 - CFD AND WIND TUNNEL MODELLING OF GREEN INFRASTRUCTURES EFFECTS ON AIR QUALITY IN PORTO'S URBAN AREA  
*Vera Rodrigues, Sandra Rafael, Bruno Vicente, Joana Leitão, Sandra Sorte, Myriam Lopes, Carlos Borrego, Ana Isabel Miranda*
- H18-079 - CFD CHARACTERIZATION OF STREET CANYON HEATING BY SOLAR RADIATION ON BUILDING WALLS  
*Beatrice Pulvirenti, Silvana Di Sabatino*

11:50	12:10	H18-186 -MODELLING ATMOSPHERIC DISPERSION OF RADIOACTIVITY WITH NPK-PUFF USING METEOROLOGICAL DATA FROM HIRLAM AND HARMONIE-AROME <i>Jasper Tomas, Arjan van Dijk, Chris Twenhöfel</i>	H18-123 - ARM2 METHOD TO ESTIMATE NO2 AIR CONCENTRATIONS BY USING NOX AIR CONCENTRATIONS OBTAINED BY AIR POLLUTION MODELS: VERIFICATION AND ADAPTATION BY USING AIR QUALITY NETWORK OF TUSCANY DATA <i>Andrea Lupi, Franco Giovannini, Antongiulio Barbaro.</i>
12:10	12:30	H18-011 - MODELLING OF TOXIC CONTAMINANTS DISPERSION DURING A REAL INDUSTRIAL ACCIDENT USING LARGE EDDY SIMULATION AND LAGRANGIAN MODELS <i>Christos Argyropoulos, George C. Efthimiou, Spyros Andronopoulos, Konstantinos E. Kakosimos, Nicholas C. Markatos</i>	H18-199 - ANALYTICAL MODELLING OF DISPERSION FOR BAYESIAN SOURCE TERM ESTIMATION <i>Andrew Webb, Paul Westoby</i>
12:30	12:50	H18-009 - SIMULATION OF THE FUKUSHIMA ACCIDENT: SENSITIVITY TESTS ON TURBULENCE PARAMETERS IN THE UPPER TROPOSPHERE <i>Stefano Alessandrini, Enrico Ferrero, Francois Vandenberghe, Christopher Rozoff, Silvia Trini Castelli</i>	H18-120 - VALIDATION OF THE RIO-IFDM-OSPM CHAIN USING THE ANTWERP "CURIEUZEUEZEN" CITIZEN SCIENCE MEASUREMENTS <i>Wouter Lefebvre, Hans Hooyberghs, Bino Maiheu, Joris Van den Bossche, Stijn Janssen</i>

**12:50 14:00 Lunch-break**

		<b>SESSION I</b>	<b>SESSION II</b>
<b>Chairperson</b>		<b>Vlad ISAKOV</b>	<b>Paolo MONTI</b>
		<b>TOPIC 8/D</b>	<b>TOPIC 10</b>
14:00	14:20	H18-059 - VALIDATION OF DISPERSIONS MODELS USING CABAUW FIELD EXPERIMENTS AND NUMERICAL WEATHER RE-ANALYSIS <i>Gertie Geertsema, Marko Kaasik</i>	H18-215 - A NEW METHOD FOR ASSESSING THE UNCERTAINTY ASSOCIATED WITH 3D DISPERSION SIMULATIONS IN ANY VARIABLE METEOROLOGICAL CONDITIONS <i>Christophe Duchenne, Patrick Armand, Marine Marcilhac, Sylvain Girard, Thierry Yalamas</i>
14:20	14:40	H18-102 - APPLICATION OF AN INNOVATIVE RISK DEDICATED PROCEDURE FOR BOTH CONVENTIONAL AND 3D ATMOSPHERIC DISPERSION MODELS EVALUATION <i>Jean-Marc, Lacomme Truchot Benjamin, Duplantier Stéphane</i>	H18-035 - DATA ASSIMILATION AT LOCAL SCALE TO IMPROVE CFD SIMULATIONS OF DISPERSION AROUND INDUSTRIAL SITES AND URBAN NEIGHBOURHOODS <i>Cécile Defforge Raphaël Bresson, Marc Bocquet, Patrick Armand, Bertrand Carissimo</i>

14:40	15:00	H18-156 - IMPLEMENTATION OF A NEW WET DEPOSITION SCHEME INTO THE LDX ATMOSPHERIC TRANSPORT MODELLING <i>Arnaud Quérel, Denis Quélo, Ylva Roustan, Anne Mathieu</i>	H18-216 - VALIDATION OF A LATTICE BOLTZMANN MODEL IN COMPLEX URBAN ENVIRONMENTS AGAINST THE EXPERIMENTAL CAMPAIGNS OF THE COST ACTION ES1006 <i>Frédéric Gille, Patrick Armand, Christophe Duchenne, Guillaume Douarre</i>
15:00	15:20	H18-128 - A NEW MODEL FOR ESTIMATING THE CONCENTRATION STATISTICS IN A TURBULENT BOUNDARY LAYER <i>Pietro Salizzoni, Massimo Marro, Lionel Soulhac, Massimo Cassiani</i>	H18-020 - A LAGRANGIAN DISPERSION MODEL WITH A STOCHASTIC EQUATION FOR THE TEMPERATURE FLUCTUATIONS <i>Andrea Bisignano, Enrico Ferrero, Luca Mortarini, Stefano Alessandrini</i>
15:20	15:40	H18-005 - USING METEOROLOGICAL ENSEMBLES FOR ATMOSPHERIC DISPERSION MODELLING OF THE FUKUSHIMA NUCLEAR ACCIDENT <i>Raphaël Périllat, Irène Korsakissok, Vivien Mallet, Anne Mathieu, Thomas Sekiyama, Mizuo Kajino, Kouji Adachi, Yasuhito Igarashi, Damien Didier</i>	H18-182 - A STUDY OF THE INFLUENCE OF SETTLING VELOCITY IN AIR POLLUTION DISTRIBUTION BY A MODEL APPLYING AN ANALYTICAL SOLUTION OF THE ADVECTION-DIFFUSION EQUATION <i>Tiziano Tirabassi, D.M. Moreira</i>

**15:40 16:00** *Closing and END of Conference*

**16:00 16:30** *Coffee-break*