

PROGRAM

30th NATO/SPS International Technical Meeting
on Air Pollution Modelling and its Application

18th-22th May 2009

San Francisco

United States of America

Monday, 18th

08:30–09:00 Registration

09:00–09:40 Opening Session

09:40-10:20

COFFEE

TOPIC 1: LOCAL AND URBAN SCALE MODELLING

Chairperson: B. Fisher

Rapporteur: M. Astitha

10:20-10:40 1.1 Impact of High Resolution Land-Use data in Meteorology and Air Quality Modeling Systems
Limei Ran, Jonathan Pleim, Robert Gilliam

10:40-11:00 1.2 Modelling pollutants subgrid scale variability due to surface emission heterogeneity
Myrto Valari, Laurent Menut

11:00-10:20 1.3 Application of the atmospheric model RAMS to simulate high resolution urban flow validation with the MUST Case
Tamir Gustavo Reisin, Silvia Trini Castelli

11:20-11:40 1.4 Simulation of dense and light gas dispersion in presence of obstacles
Domenico Anfossi, Gianni Tinarelli, Maxime Nibart, Julien Commanay, Francesco Ganci, Silvia Trini Castelli, Luca Mortarini

11:40-12:00 1.5 Estimating Toxic Industrial Chemical (TIC) Source Emissions and the Hand-Off to Dispersion Models
Steven Hanna, Rex Britter, Jeff Weil, Olav Hansen, Ian Sykes, Joe Leung, Pete Drivas, Gene Lee

12:00-12:20 1.6 NOAA EPA Near-roadway Sound Barrier Atmospheric Tracer Study 2008

Kirk L. Clawson, Dennis Finn, Roger G. Carter, Jason D. Rich, Richard M. Eckman, Steven G. Perry, Vlad Isakov, David K. Heist, and Thomas Pierce

12:20-12:40 **1.7** Implementation of efficient two-way mesoscale-microscale coupling using interpolating metamodels
George Tsegas, Photios Barmpas, Ioannis Douros, Nicolas Moussiopoulos

12:40-13:00 **1.8** Horizontal dispersion of contaminants by unresolved submeso motions
Larry Mahrt, Danijel Belušić

13:00-14:00

Lunch

TOPIC 1: **LOCAL AND URBAN SCALE MODELLING
(continued)**

Chairperson: **D. Anfossi**

Rapporteur: **M. Valari**

14:00-14:40 **Invited Lecture (Key Topic: Interactions between Air Quality and Climate Change)**
Hiram Levy

14:40-15:00 **1.9** Application of urbanized MM5 (uMM5) for urban heat island, regional ozone, and urban-scale emergency-response applications
Robert David Bornstein, Erez Weinroth, Rochelle Balmori, Haider Taha

15:00-15:20 **1.10** The impact of MM5 and WRF meteorology over complex terrain on CHIMERE model calculations.
Alexander de Meij, Artur Gzella, Cornelis Cuvelier, Philippe Thunis, Bertrand Bessagnet

15:20- 15:40 **1.11** Real-time air quality assessment and management: cascading models in a web based implementation
Kurt, Yousef, Tai Fedra, Rashidi, Kim

15:40-16:00

COFFEE

**TOPIC 1: LOCAL AND URBAN SCALE MODELLING
(continued)**

Chairperson: D. Anfossi

Rapporteur: M. Valari

16:00- 16:20 **1.12** New Boundary Conditions for positive and negative skewed turbulence in fluctuating plume models.

Luca Mortarini, Enrico Ferrero, Pasquale Franzese

16:20- 16:40 **1.13** LES estimation of peak concentration characteristics at various locations in urban area

Tsuyoshi Nozu, Tetsuro Tamura

16:40- 17:00 **1.14** High-resolution air-quality modelling of the Windsor-Detroit area using two models: comparisons to BAQSMet data

Paul Andrew Makar, Junhua Zhang, Wanmin Gong, Michael D. Moran, Craig Stroud, Sunling Gong, Sylvie Gravel, Jeff Brook, Katherine Hayden, Sylvain Menard, Donald Talbot, Hugo Landry, Mourad Sassi, Alexander Kallaur, David Sills

**TOPIC 2: REGIONAL AND INTERCONTINENTAL
MODELING**

Chairperson: W. Gong

Rapporteur: J. Godowitch

17:00- 17:20 **2.1** Four Diagnostic Urban Wind Flow and Dispersion Models Tested with Joint Urban 2003 Field Data

Steven Hanna, John White, Tom Harris, Michael Brown, Hadassah Kaplan, Y. Alexander, J. Moussafir, Y. Wang, J. Hannan, R. Fry, C. Kiley

17:20- 17:40 **2.2** Application of CAMX model in Switzerland with the new SOA system

Andreani-Aksoyoglu Sebnem, Daniel Oderbolz, Johannes Keller, Iakovos Barmpadimos, Andre S.H. Prevot

18:00-22:00 **Poster Session**

Monday, 18th
(Parallel Session)

Topic 8 Special Session on California 2000 Field Study

Chairperson: R. Fovell

Rapporteur: R. Cohen

10:20-10:40 8.1 Central California Ozone Study: Synthesis of Results
Steven Reynolds, Carol Bohnenkamp, Ajith Kaduwela, Bruce Katayama, Evan Shipp, James Sweet, Saffet Tanrikulu, Stephen Ziman

10:40-11:00 8.2 Meteorological Triggers for Ozone Episodes in Central California
Ahmet Palazoglu, Scott Beaver, Angadh Singh

11:00-11:20 8.3 Factors Controlling the Formation of Ozone in the San Francisco Bay Area
Su-Tzai Soong, Saffet Tanrikulu.

11:20-11:40 8.4 Effects of VOC and NO_x Emission Changes on Ozone and Precursor Concentrations in Central California from 1990 to 2004
Charles Lloyd Blanchard

11:40-12:00 8.5 Summertime Topographically Forced Flows in Central California Revealed by a Network of 25 Wind-Profiling Radars and MM5 Simulations
James Mihcael Wilczak, Jian-wen Bao, Sara Michelson, Laura Bianco, Irina Djalalova

12:00-12:20 8.6 Evaluation and Sensitivity investigation of the Central California Air-quality Simulations Using Observations from the 2000 Central California Ozone Study (CCOS)
Jian- Wen Bao, Sara A. Michelson, Evelyn D. Grell, Georg A. Grell Mail

12:20-12:40 8.7 High-resolution Meteorological Modeling of California Air Quality Episodes: Model Intercomparison and Validation

Robert Fovell

12:40-13:00 **8.8** A Mass Consistency Method for Air Quality Modeling over
Complex Terrain
Mehmet Talat Odman, Yongtao Hu, Aika Yano

13:00-14:00
Lunch

14:00-14:40 **Invited Lecture (Key Topic: Interactions between Air
Quality and Climate Change)**
Hiram Levy

Topic 8 **Special Session on California 2000 Field Study
(continued)**

Chairperson: J. Wilczak

Rapporteur: R. Yin

14:40-15:00 **8.9** An Investigation of Aloft Model Performance for Two Episodes
during the 2000 Central California Ozone Study
Neil Wheeler, Kenneth Craig, Stephen Reid

15:00-15:20 **8.10** Evaluation of Toxic Air Contaminants in the San Francisco Bay
Area: Regional Modeling
Phillip Troy Martien

15:20-15:40 **8.11** Regional Source Apportionment of Airborne Particulate Matter
During the California Regional Particulate Air Quality Study

Mike Kleeman, Qi Ying, Jin Lu, Paul Livingstone, Paul Allen, Ajith Kaduwel

15:40-16:00

COFFEE

**Topic 8 Special Session on California 2000 Field Study
(continued)**

Chairperson: J. Wilczak

Rapporteur: R. Yin

16:00-16:20 8.12 Source Contributions to the secondary organic aerosol formation during the wintertime California Regional Particulate Air Quality Study
Jianjun Chen, Qi Ying, Mike Kleeman

16:20-16:40 8.13 Long-term One-Atmosphere CMAQ Modeling in Central California: Model Performance Evaluation
Ajith Kaduwela, James Kelly, Kathleen Fahey
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16:40-17:00 8.14 Evaluating CMAQ particulate matter simulations in Central California with ground and airborne LIDAR observations
Dazhong Yin, Bruce Jackson, Ajith Kaduwela

17:00- 17:20 8.15 BEARPEX 2007 & 2009: a California field study aimed at understanding chemistry and aerosols at the urban-forest interface
Ronald Cohen, Allen H. Goldstein, BEARPEX Team

17:20-17:40 8.16 Post-2000 Air Quality Studies in California: ARCTAS-CA 2008 and 2010 CalNex
Ajith Kaduwela, Eileen McCauley, Ronald Cohen, Donald Blake, Hanwant Singh, David Parrish

18:00-22:00 Poster Session

Tuesday, 19th

**TOPIC 2: REGIONAL AND INTERCONTINENTAL
MODELING (continued)**

Chairperson: W. Gong

Rapporteur: J. Godowitch

08:00-08:20 2.3 Spatial heterogeneity of precursor emission impacts on ozone in
Houston
Wei Zhou

08:20-08:40 2.4 Evaluating intercontinental and cross-border ozone transport in
North America
Amir Hakami, Maryam Mirzajani

08:40-09:00 2.5 EVALUATION OF SEA-SALT AEROSOL FORECASTS OVER
THE MEDITERRANEAN
Pavel Kishcha

09:00-09:20 2.6 Constraining the potential source strength of various soil dust
sources contributing to atmospheric PM10 concentrations in Europe
Elise Hendriks, Martijn Schaap, Hugo Denier van der Gon

09:20-09:40 2.7 Meso-to-global modeling of atmospheric transport : numerical
recipies, tests and applications
Eugene Genikhovich, Mikhail Galperin, Mikhail Sofiev, Irene Gracheva, Joana Soares

09:40-10:00 2.8 Development and Application of the CMAQ Ozone and Particle
Precursor Tagging Methodologies (OPTM and PPTM)
Sharon Douglas, Thomas C. Myers, Jay L. Haney, Yihua Wei

10:00-10:40

Coffee

TOPIC 2: REGIONAL AND INTERCONTINENTAL

MODELING (continued)

Chairperson: P. Builtjes

Rapporteur: B. Timin

10:40-11:00 **2.9** The WRF-CMAQ Integrated On-line Modeling System:
Development, Testing, and Initial Applications
Rohit Mathur, Jonathan Pleim, David Wong, Tanya Otte, Robert Gilliam, Shawn Roselle, Jeffrey Young, Francis Binkowski, Aijun Xiu

11:00-11:20 **2.10** Integrated modelling of allergenic pollen: phenological stages,
pollen release and transport for different species
Pivli Siljamo

11:20-11:40 **2.11** AMFIC : AIR QUALITY MODELLING AND FORECASTING IN
CHINA
Wouter Lefebvre, Karen Van de Vel, Koen De Ridder, Joachim Maes, Clemens Mensink, Bas Mijling, Ronald van der A, Peter Viaene, Jo Vliegen

11:40-12:20 **Invited Lecture (Key Topic: Regional and
Intercontinental Modelling)**
Robert Vautard

12:20-13:20

Lunch

**TOPIC 2: REGIONAL AND INTERCONTINENTAL
MODELING (continued)**

Chairperson: P. Builtjes

Rapporteur: M. Astitha

13:20-13:40 **2.12** Application of Model and Ambient Data Fusion Techniques to
Predict Current and Future Year Ozone and PM_{2.5} Concentrations in Unmonitored Areas

Thursday, 21st

**TOPIC 3: DATA ASSIMILATION AND AIR QUALITY
FORECASTING (continued)**

Chairperson: G. Kallos

Rapporteur: B. Pun

08:00-08:20 **3.7** Application of Potential Vorticity in a comprehensive Air Quality Forecast model to specify aloft Ozone
Hsin-mu Lin, Rohit Mathur, Daiwen Kang

08:20-08:40 **3.8** Toward Suitable Assimilation Algorithms for Ozone Forecasts: A Comparison Study
Lin Wu, Vivien Mallet, Marc Bocquet, Bruno Sportisse

**TOPIC 4: MODEL ASSESSMENT AND
VERIFICATION**

Chairperson: T. Iversen

Rapporteur: R. Jones

08:40-09:00 **4.1** Cluster Analysis and Classification of Wind Fields for Meteorological and Air Quality Model Validation
Scott Beaver, Yiqin Jia, Su-Tzai Soong, Cuong Tran, Saffet Tanrikulu, Douw Steyn, Bruce Ainslie, Ahmet Palazoglu, Angadh Singh

09:00-09:20 **4.2** The combined non-local diffusion and mixing schemes for use in air quality and chemical transport models
Dragutin Mihailovic

09:20-09:40 **4.3** On the Use of a Dynamic Evaluation Approach to Assess Multi-year Change in Modeled and Observed Urban Nitrogen Oxide Concentrations
James Godowitch, Alice Gilliland, George Pouliot, S. T. Rao

09:40-10:00 4.4 Evaluation of the air quality forecasting system using satellite and in-situ data
Marje Prank, Milla Lanne, Joana Soares, Mikhail Sofiev

10:00-10:20 4.5 Est modus in rebus, Thoughts on ensemble modeling
Stefano Galmarini, Slawomir Potemski

10:20-11:00

COFFEE

TOPIC 4: MODEL ASSESSMENT AND VERIFICATION (continued)

Chairperson: G. Schayes

Rapporteur: P. Makar

11:00-11:20 4.6 Clustering Analysis of Air Quality Model Performance
Christopher Fung

11:20-11:40 4.7 Source Term Estimation using a Hybrid GA with Synthetic and FFT07 Data
Luna Marie Rodriguez, Kerrie J Long, Andrew Joesph Annunzio, Sue Ellen Haupt, George Spencer Young

11:40-12:00 4.8 AN APPLICATION OF A LAGRANGIAN PARTICLE MODEL WITH CHEMICAL REACTIONS TO POWER PLANT POLLUTION DISPERSION IN COMPLEX TERRAIN
Enrico Ferrero, Stefano Alessandrini

12:00-12:40 **Invited Lecture (Key Topic: Aerosols in the atmosphere)**
Spyros Pandis

12:40-13:40

LUNCH

TOPIC 4: MODEL ASSESSMENT AND VERIFICATION (continued)

Chairperson: S. Trini-Castelli

Rapporteur: E. Ferrero

13:40-14:00 **4.9** Regional climate-air quality simulations over Europe: Future climate and sensitivity analysis
Eleni Katragkou, Dimitris Melas, Prodromos Zanis, Ioannis Tegoulas

14:00-14:20 **4.10** A Methodology for Determining the Impact of Climate Change on Ozone Levels in an Urban Area
Martin Cope, Sunhee Lee, Bill Physick, Debbie Abbs, Kim E Nguyen, John McGregor

14:20-14:40 **4.11** Integrated Application of Source Apportionment Tools to Support Development and Implementation of Air Quality Regulations to Protect Public Health
Davyda Hammond, Tim Watkins, Gary Norris, Matt Landis, Janet Burke, Ram Vendamtham

14:40-15:00 **4.12** AN INVESTIGATION OF HIGH SUMMERTIME OZONE LEVELS IN ISTANBUL
Selhattin Incecik, Ulas Im, Tayfun Kindap, Orhan Yenigün, Mehmet Talat Odman, Sema Topçu, Mete Tayanç

15:00-15:20 **4.13** The ability of mesoscale meteorological models - driving chemical transport models - to predict the vertical profiles of meteorological parameters COST728 evaluation study
Ekaterina Anguelova Batchvarova

15:20-15:40 **4.14** NEW DIRECTIONS IN EVALUATING REGIONAL-SCALE PHOTOCHEMICAL AIR QUALITY MODELING SYSTEMS
Kenneth Schere

Excursion

Friday, 22nd

TOPIC 5: AEROSOLS IN THE ATMOSPHERE

Chairperson: A. I. Miranda

Rapporteur: S. Douglas

08:00-08:20 **5.** Validation of coupled regional climate chemistry simulation in
CECILIA EC 6FP Project
Tomas Halenka, Peter Huszar, Michal Belda

08:20-08:40 **5.2** Cloud processing of gases and particles in urban-industrial plumes:
Comparison of several models
*Wanmin Gong, Junhua Zhang, Si-Wan Kim, Maud Leriche, Greg Frost, Celine Mari, Stu McKeen,
Jean-Pierre Pinty, Pierre Tulet, Anne Marie Macdonald, Richard Leaitch*

08:40-09:00 **5.3** Development of NCEP Global Aerosol Forecasting System: An
overview and its application for improving weather and air quality forecasts
*Sarah Lu, Ho-Chun Huang, Youhua Tang, Yu-Tai Hou, Jeff McQueen, Mian Chin, Arlindo da
Silva, Everette Joseph, William Stockwell*

09:00-09:20 **5.4** Chemical composition of aerosols along the long-range transport
paths
*Marina Astitha, Chris Spyrou, George Kallos, H.A.C. (Hugo) Denier van der Gon, A.J.H. (Antoon)
Visschedijk*

09:20-09:40 **5.5** Simulating Particulate Matter in Central California using CMAQ-
MADRID
Betty Pun, Rochelle Balmori, Yang Zhang, Ping Liu, Xiao-Huan Liu

09:40-10:20

Coffee

**TOPIC 6: INTERACTIONS BETWEEN AIR QUALITY
AND CLIMATE CHANGE**

Chairperson: E. Renner

Rapporteur: Y. Zhang

10:20-10:40 6.1 Aerosol Cloud Interaction Processes in the ICLAMS Modeling System
George Kallos, Stavros Solomos, Jonilda Kuhsta

10:40-11:00 6.2 Evaluating Aerosol-Radiation-Cloud-Precipitation-Climate Feedbacks Simulated using Online-Coupled WRF/Chem
Yang Zhang, Xin-Yu Wen, Xin-Yi Dong, Yao-Sheng Chen, Ying Pan, Carey J. Jang

11:00-11:20 6.2 Assessing impacts of aerosol processes on equilibrium climate sensitivity
Trond Iversen, Alf Kirkevåg, Øyvind Seland, Jens Debernard, Jon Egill Kristjansson, Corinna Hoose

11:20-11:40 6.4 Modelling of climate change impact on PM levels in Poland
Katarzyna Juda-Rezler, Wojciech Trapp, Magdalena Reizer

11:40-12:00 6.5 Novel mesh-adaptive LES simulations for multiscale atmospheric flows: application to the urban environment
Dimitros Pavlidis

12:00-12:40

LUNCH

TOPIC 7: AIR QUALITY AND HUMAN HEALTH

Chairperson: J. Baldasano

Rapporteur: P. Lee

12:40-13:00 7.1 Modevaluation of Regional Chemistry Transport Models

Peter Builtjes

13:00-13:20 **7.2** Estimation of personal exposure to NO₂ using ambient concentrations and activity data

Bill Physick, Jennifer Powell, Martin Cope, Kate Boast, Sunhee Lee

13:20-13:40 **7.3** Examining the Impact of Regional-Scale Air Quality Regulations on Human Health Outcomes

Valerie Garcia, Edith Gego, Christian Hogrefe, Rena Jones, Shao Lin, Chris Pantea, P. Steven Porter, S.T. Rao

14:00-14:20 **7.4** Impact of the NO_x SIP Call on Respiratory Hospitalizations in New York State

Rena Jones, Shao Lin, Christian Pantea, Valerie C. Garcia, S.T. Rao, Syni-An Hwang, Nancy Kim

14:20-14:40 **7.5** Spatial mapping of air quality trends in Europe

Bruce Denby, Ingrid Sundvor

14:40-15:00 **7.6** A high resolution study of Atmospheric dispersion over a coastal urban area with complex terrain

Nitsa Haikin, Isaac Mahrer, Pinhas Alpert

END OF CONFERENCE

Posters

TOPIC 1: LOCAL AND URBAN SCALE MODELLING

P 1.1 Comparing Models/Methods for Estimating Multi-pollutant Fine-scale Air Quality Concentrations

Karen Wesson, Sharon Phillips, Kirk Baker, Uarporn Nopmongcol, Camalier Louise, Madeleine Strum, James Thurman, Greg Yarwood, Tanarit Sakulyanontvittaya, Darrell Ensley, Brian Timin, Roger Brode, Tyler Fox

P 1.2 PM₁₀ dispersion in a vicinity of motorways running through areas with different configuration of buildings

Jiri Pospisil

P 1.3 Results of a sub-grid scale model of emission variability on a real world case study

Stefano Galmarini, Jean Francois Vinuesa

- P 1.4** Exhaust Dispersion Modeling, Wind Tunnel vs CFD a Hybrid Approach
Alexy Kolesnikov
- P 1.5** MM5CALPUFF: Direct Coupling of the PSU/NCAR MM5 Model to the CALPUFF Modeling System
Bret Anderson, Roger Brode
- P 1.6** Air pollution modelling at urban scale: the application of SIRANE to Turin area
Valeria Garbero, Luigi Di Cosmo, Pietro Stefano Salizzoni, Lionel Soulhac
- P 1.7** Radon: a natural tracer for boundary layer studies
Stefano Galmarini, Jean Francois Vinuesa
- P 1.8** Towards an improved characterization of dispersion near major roadways
Thomas Pierce
- P 1.9** Evaluation of RAMS boundary-layer simulation over Sofia (Bulgaria)
Ekaterina Batchvarova, Enrico Pisoni, Giovanna Finzi
- P 1.10** Estimation of emission sources for PM2.5 and PM10 by major chemical components in Gangwha of Korea
Mijn Ahn, Kweon Jung, Soomi Eo, Minyoung Kim
- P 1.11** Dispersion of Emissions from Aircraft in Takeoff: Modelling
Angus Graham, Michael Bennett, Simon Christie
- P 1.12** An updated method for estimating of surface-layer scaling parameters from routine ground-based meteorological data
Marko Kaasik
- P 1.13** Nitrogen Oxides in Polluted Cities: Our Enemy or Friend of Convenience?
Daniel Q. Tong, Nicholas Z Muller, Yongtao Hu, Robert O Mendelsohn

TOPIC 2: REGIONAL AND INTERCONTINENTAL MODELING

- P 2.1** Utilizing backward sensitivity analysis for evaluation and improvement of cap-and-trade programs
Amir Hakami

- P 2.2** Annual dynamics and statistical evaluation of an air quality forecasting system (Caliope) with high resolution for Europe
Pedro Jimenez-Guerrero, María Teresa Pay, Oriol Jorba, Matthias Piot, Jose M Baldasano
- P 2.3** Impact of vegetation along a highway on local air quality: a CFD simulation approach
Stijn Janssen, Bart De Maerschalck, Jean Vankerkom, Clemens Mensink, Aad van den Burg, Paul Fortuin
- P 2.4** Evaluation of Toxic Air Contaminants in the San Francisco Bay Area: Regional Emissions and Ambient Observations
Phillip Troy Martien
- P 2.5** Improvement of CMAQ for Agricultural Air Quality Applications: Fine Scale Simulation, Evaluation, and Policy Implications
Yang Zhang, Kristen M. Olsen, Xiao-Huan Liu
- P 2.6** Closing the Peroxy Acetyl (PA) Radical Budget: Observations of Acyl Peroxy Nitrates (PAN, PPN, and MPAN) During BEARPEX 2007
Brian Willard LaFranchi
- P 2.7** Modeling Chemically Reactive Air Toxics with CAMx
Chris Emery, Greg Yarwood
- P 2.8** Dispersion of radioactive debris from nuclear explosions in Novaya Zemlya in 1958. Results of the model simulations
Jerzy Bartrnicki, Jørgen Saltbones, Hilde Haakenstad, Bjørn Røsting
- P 2.9** Experimental determination of the partition coefficient for bifunctional carbonyls in the atmosphere and in smog chamber
Kazuhiko Sakamoto, Ricardo Ortiz Ramirez, Kenji Enya
- P 2.10** Chemical weather forecasting: acidification, ozone and aerosols
Joana Soares, Mikhail Sofiev, Marje Prank
- P 2.11** Regional high ozone concentrations linked to atmospheric circulations and extreme local emissions
Maria Rosa Soler, Raúl Arasa, Maite Merino, Miriam Olid
- P 2.12** Regional background fine particulate matter
Sergey Napelenok, Jeff Arnold

TOPIC 3: DATA ASSIMILATION AND AIR QUALITY FORECASTING

- P 3.1** NOx and Isoprene emission inversion using OMI observations
Amir Hakami, Farid Amid, Randall Martin, Qinbin Li, John H Seinfeld
- P 3.2** Daily Air Quality Predictions from the BlueSky Gateway
Neil Wheeler, Sean Raffuse, Dana Sullivan, Kenneth Craig, Stephen Reid, Robert Solomon, Tara Strand, Sim Larkin
- P 3.3** On integrated modelling of atmospheric composition and air pollution originating from different natural and anthropogenic sources
Mihail Sofiev, Pilvi Siljamo, Marje Prank, Joana Soares, Roman Vankevich, Milla Lanne, Jarkko Koskinen, Jaakko Kukkonen
- P 3.4** 4D-Var Data Assimilation for Multiscale Air Quality Forecasting over North America
Mehmet Talat Odman, Yongtao Hu, Armistead G. Russell, Farid Amid, Amir Hakami
- P 3.5** Design of air quality and accidental dispersion monitoring networks over France
Marc Bocquet, Lin Wu, Rachid Abida, Olivier Saunier
- P 3.6** Ozone forecasting in the Netherlands using assimilation of ground-based and satellite observations
Astrid Manders, Suzanne Calabretta-Jongen, Ferd Sauter, Henk Eskes, Martijn Schaap, Arjo Segers, Renske Timmermans, Hans Berkhout, Daan Swart
- P 3.7** Stochastic models and multivariate geospatial algorithms to forecast daily mean PM10 concentrations
Vikas Singh, Claudio Carnevale, Giovanna Finzi, Enrico pisoni, Maria Luisa Volta Mail
- P 3.8** A new operational modelling approach for atmospheric dispersion in industrial complex area
Florian Vendel, Lionel Soulhac, Ludovic Donnat, Olivier Duclaux, Cécile Puel
- P 3.9** Expanding NOAA-EPA's National Air Quality Forecast Capability Beyond Ozone: Recent Progress
Paula M Davidson, Jeff McQueen, Shobha Kondragunta, Rohit Mathur, Roland Draxler, Richard Wayland, Ivanka Stajne
- P 3.10** Analysis of NO2 concentration distributions over East Asia with a modeling system RAMS-CMAQ
Meigen Zhang
- P 3.11** Influence of chlorine emissions on ozone levels in the troposphere
Golam Sarwar, Rohit Mathur

TOPIC 4: MODEL ASSESSMENT AND VERIFICATION

P 4.1 Improving low-level wind field forecast over coastal regions with a mesoscale boundary layer model forced with local observations and regional operative forecasts, examples of lagrangian trajectories
Guillermo Jorge Berri

P 4.2 Multi-model versus EPS-based ensemble of atmospheric dispersion predictions: a quantitative assessment
Stefano Galmarini, Slawomir Potempski, Francois Bonnardot, Andrew Jones, Lennart Robertson

P 4.3 Meteorological modelling in various environments with the use of perturbational downscaling
Guy Schayes, Eugene Genikhovich

P 4.4 Open-source tools for analysing air pollution measurement and model output data
David Carlin Carslaw

P 4.5 Uncertainty propagation and sensitivity analysis for CFD simulations of dispersion of an accidental release on a nuclear power plant
Emmanuel Demail, Bertrand C Carissimo

P 4.6 Assessment of CALPUFF for modelling winter-time PM10 in Christchurch NZ
Vicky Lucas

P 4.7 Weighing model contributions in ensemble dispersion modeling
Stefano Galmarini, Slawomir Potempski, Angelo Riccio, Giulio Giunta

P 4.8 Radioactive pollutant dispersion in the atmosphere from the Angra I nuclear power plant
Daniela Buske, Davidson Martins Moreira, Marco Tullio Vilhena, Pedro M. M. Soares

P 4.9 The spatial resolution needed from models and satellite-based measurements to accurately predict NO_x emissions
Lukas C Valin, Ashley R Russell, Simon A Schmutz, Pascal M Tay, Ronald C Cohen

P 4.10 Model Performance Analysis of Annual Meteorology for Air Quality Modeling using Mesoscale Model 5 (MM5)
Kemal Gurer, Dazhong Yin, Bruce Jackson, Ajith Kaduwela

P 4.11 EVALUATION OF WRF/CHEM FOR TWO EPISODES WITH HIGH AND MEDIUM PHOTOCHEMICAL ACTIVITY IN NORTHWESTERN CONTINENTAL EUROPE
Saskia Buchholz, Klaus Görden, Thomas Udelhoven, Günther Heinemann, Laurent Pfister Mail

P 4.12 Modelling of heavy metals over the United Kingdom
Stephen Hallsworth

P 4.13 Application of spectrum analysis and wavelet filters in an evaluation of photochemical model performance
Steven Porter, Kristen Foley, Edith L Gého, Gilliland Alice, Christian Hogrefe, S. T. Rao Mail

P 4.14 Satellite based investigations of day-of-week variation in NO_x emissions
Ashley Ray Russell, Lukas Valin, Simon Schmutz, Pascal Tay, Ron Cohen

P 4.15 Influence of Concentration-Response Temporal Metrics on Control Strategy Optimization
Daniel S Cohan, Antara Digar, Michelle Bell

TOPIC 5: AEROSOLS IN THE ATMOSPHERE

P 5.1 Impact of Saharan dust on precipitation chemistry in Croatia
Kornelija Spoler Canic

P 5.2 A multiphase chemistry model to study biophysicochemical processes in clouds
Laurent Deguillaume

P 5.3 Planning of experimental campaigns to estimate atmospheric particles emission from diffuse sources using an inverse modelling technique.
Begona Acena

P 5.4 Coupled time-integration of chemical and aerosol dynamical processes by using multirate implicit-explicit schemes
Ralf Wolke, Martin Schlegel, Elmar Filaus, Oswald Knoth, Eberhard Renner

P 5.5 Measurement of water-soluble organic acids in gaseous and particulate phases at roadside and suburban sites
Bao Linfa

TOPIC 6: INTERACTIONS BETWEEN AIR QUALITY AND CLIMATE CHANGE

P 6.1 Regional climate change impacts on air quality in high resolution
Tomas Halenka, Peter Huszar, Michal Belda

TOPIC 7:

AIR QUALITY AND HUMAN HEALTH

P 7.1 Distribution and transformation of polyaromatic hydrocarbons in areas of Baku city
Mammad Javans Maharramov

P 7.2 The Influence of Chemistry-Transport Model Scale and Resolution on Population Exposure due to Aircraft Emissions from Three Airports in the United States
Saravanan Arunachalam, Hsiao-Hsien Leon Hsu, Jonathan I Levy, Binyu Wang, Neil Davis, Bok Haeng Baek

P 7.3 Temporal trends of PCDDs/Fs in ambient air in Seoul, Korea
Yong suk Choi, Min young Kim, Seok won Eom, Seoung gu Ahn