



# 1<sup>st</sup> WORLD SCIENTIFIC CONFERENCE

## PETrA 2011

(Pollution and Environment - Treatment of Air),

### Program

## 17.-20. 5. 2011

National House of Vinohrady,  
namesti Miru 9, Prague 2,  
Czech Republic, Europe

- Legislation
- Emissions and technologies for their elimination
- Sustainable transport
- Greenhouse gas emissions
- Imission, dispersion studies
- Odorous substances and technologies for their elimination
- Emissions, imission and health
- Analytical methods of the determination of air pollutants

# MAY 18<sup>TH</sup> – HALL A

- 9:10–9:20 **CONFERENCE OPENING**
- 9:30–10:00 Introductory speech by delegates of the Czech Ministry of the Environment and Czech Ministry of Industry and Trade
- 10:00–10:15 The Directive about industrial emissions and protection air  
*Ladislav Novák, Ladislav Špaček  
Association of Chemical Industry of the Czech Republic (SCHP ČR),  
Czech Republic*
- 10:20–10:35 Industrial Emissions Directive (IED) impact assessment using microsimulation tool e-Academia  
*Ondřej Vojáček, Jiřina Jílková, Ladislav Sobotka, Tomáš Smejkal  
Academic Network for Economic and Environmental Policy, Czech Republic*
- 10:40–11:00 *Coffee Break*
- 11:00–11:15 Flexibility in the European Legal Framework on Air Pollution  
*Mireille Bogaart  
Amsterdam Centre for Environmental Law and Sustainability, Netherlands*
- 11:20–11:35 Evaluation of smog warning systems operation after the legislation modification  
*Jan Macoun  
Czech Hydrometeorological Institute,  
Czech Republic*
- 11:40–11:55 Carbon Dioxide and Ammonia Production in Chicken Broiler Housing  
*Štefan Mihina, Monika Knižatová, Jan Brouček  
Slovak University of Agriculture, Nitra,  
Animal Production Research Centre, Nitra,  
Slovakia*
- 12:00–13:30 *Lunch*
- 13:35–13:50 Spunlacs Filtermedia-A proven technology that offers superior performance  
*Vincent Lorentz  
Norafin Industries GmbH, Germany*
- 13:55–14:10 Emission reduction from disintegrated wood drying in agglomerated wood based panels industry  
*Juraj Ladomersky, Petr Vosahlo  
Technical University in Zvolen, Slovakia  
Kronospan, Czech Republic*
- 14:15–14:30 Cryogenic technology of volatile organic compounds emissions decreasing and recovery – development and current application  
*Antonín Kroupa, Friedhelm Herzog  
Messer Technogas s.r.o, Czech Republic  
Messer Group GmbH, Germany*
- 14:35–14:50 Comparison of Odour Control Technologies  
*Karel Plotěný, Milan Uher  
ASIO, spol. s r.o., Czech Republic*
- 14:50–15:10 *Coffee Break*
- 15:15–15:30 Biooxidative Filters for Mitigation of Landfill Gases and Odour  
*František Straka  
Institute for Research and Use of Fuels,  
Czech Republic*
- 15:35–15:50 Development of sulfur-free odorant  
*J. Th. Müller  
Symrise AG, Germany*
- 15:55–16:10 Study of the pollutants dispersion emitted by road traffic in the city of Salamanca  
*M. Gómez, D. Hidalgo, E. Sastre, R. Irusta  
CARTIF Centro Tecnológico,  
University of Valladolid, Spain*
- 16:15–16:30 Tools for sustainable transport in terms of air quality  
*Jiří Jedlička, Ivo Dostál, Libor Špička  
Transport Research Centre (CDV),  
Czech Republic*
- 16:35–16:50 *Coffee Break*
- 16:55–17:10 The balance of greenhouse gases in the production of biodiesel  
*Karel Hendrych,  
Preol,a.s., Czech Republic*
- 17:15–17:30 CuFe<sub>2</sub>O<sub>4</sub> catalyzed SiC WFF as MW susceptible catalytic trap for Diesel soot abatement  
*V. Palma, P. Ciambelli, E. Meloni  
Università degli Studi di Salerno, Italy*
- 17:35–17:50 Pilot project „Electromobility“  
*Tomáš Chmelík  
ČEZ a.s, Czech Republic*

## MAY 18<sup>TH</sup> - HALL B

- 10:00–10:15 National Inventory System for Greenhouse Gas Emissions and Removals in the Czech Republic: Status and Prospects  
*Pavel Fott, Dušan Vácha*  
Czech Hydrometeorological Institute, Czech Republic
- 10:20–10:35 Forest and forestry activities in the Czech National Inventory of Greenhouse Gas Emissions and Removals  
*Emil Cienciala, Jan Apltauer*  
IFER - Institute of Forest Ecosystem Research, Czech Republic
- 10:40–11:00 *Coffee Break*
- 11:00–11:15 <sup>222</sup>Rn, CO<sub>2</sub> and CH<sub>4</sub> concentrations and emissions in the atmospheric surface layer over Russia from TROICA observations  
*E. V. Berezina*  
Russian Academy of Sciences, Russia
- 11:20–11:35 Implementation of The Low Carbon Cities Model, a Basis for Sustainable City Development Construction  
*Łukasz Szafata, Magdalena Fortuna, Jerzy Zwoździak,*  
Wrocław University of Technology, Poland
- 11:40–11:55 Inventory of F gases based on company certification  
*Peter Tomlein, Michal Tomlein, Matuš Tomlein*  
Slovak Association of refrigeration and air conditioning engineers  
Slovak University of Technology in Bratislava, Slovakia
- 12:00–13:30 *Lunch*
- 13:35–13:50 Production of greenhouse gases in the landfill of biodegradable municipal waste  
*Petr Buryan*  
Institute of Chemical Technology, Prague (ICT), Czech Republic
- 13:55–14:10 Ozone concentration simulations considering light intensity of BVOC emissions  
*Akira Kondo, Sho Hashimoto, Hikari Shimadera, Yoshio Inoue*  
Osaka University, Japan
- 14:15–14:30 Models use to solve air pollution problems of car traffic  
*J. Mačala, K. Kozlová, J. Kodymová, V. Carach*  
Technical University of Ostrava, Czech Republic  
Východoslovenské stavebné hmoty, Slovakia
- 14:35–14:50 Urban Air Quality Assessment: High Resolution Numerical Simulation With WRF- LES/CAMx  
*E. Sá, H. Martins, A. Carvalho, A. I. Miranda, C. Borrego*  
University of Aveiro, Portugal
- 14:50–15:10 *Coffee Break*
- 15:15–15:30 Physical modelling of pollution dispersion in complex terrain situation  
*Klára Jurčáková, Zbyněk Jaňour, Radka Kellnerová, Libor Kukačka*  
Academy of Sciences of the Czech Republic
- 15:35–15:50 LES Modelling of Radioactive Air Pollution in the Urban Environment  
*Vladimír Fuka, Josef Brechler, Jan Bednář*  
Charles University in Prague  
Czech Republic
- 15:55–16:10 Nesting of Data Assimilation Cycles into the Recursive Model Predictions  
*Petr Pecha, Petr Kuča*  
Academy of Sciences of the Czech Republic  
National Radiation Protection Institute, Czech Republic
- 16:15–16:30 Dispersion Modelling and Genetic Algorithm Application for Emissions Abatement Measures Optimization  
*Josef Keder*  
Czech Hydrometeorological Institute, Czech Republic
- 16:35–16:50 *Coffee Break*
- 16:55–17:10 Validation of dispersion model of RTARC-DSS based on 'kit' field experiments  
*Juraj Ďúran, VUJE a.s., Slovakia*
- 17:15–17:30 Modelling of deposition velocities and deposition fluxes of particles for different categories of surfaces in urbanized area  
*Miloš Zapletal, Bohumil Kotlík*  
Silesian University in Opava, Ekotoxa, s.r.o.  
National Institute of Public Health, Czech Republic

17:35–17:50 Air quality mapping over Czech Republic and Europe

*Jan Horálek, Markéta Coňková  
Czech Hydrometeorological Institute,  
Czech Republic*

17:55–18:10 Method of calculation and climatologic analysis of atmospheric characteristics determining the transfer and atmospheric pollution

*A. Mhanna, A. S. Gavrilov  
Russian State Hydrometeorological  
University, Russia*

13:35–14:50 **Meeting room**

Workshop – Traffic pollution: the RESCATAME project“  
*Supervisor Dr. M<sup>a</sup> Dolores Hidalgo-Barrio,  
CARTIF Centro Tecnológico, Spain*

## MAY 19<sup>TH</sup> – HALL A

9:00–9:15 Concentration fluctuations measured in wind tunnel experiments and the statistical analysis for assessing the nuisance from odour

*H. Smethurst, A. Robins  
Health Protection Agency,  
University of Surrey, UK*

9:20–9:35 Development of an online system for direct measurement of odorants based on quantum cascade laser technology

*Ch.-Y. Chan, L.-L. Fei, P. Wu, J. Tsun, T. Li  
Sun Yat-Sen University, China  
J&V Technology Development Company  
Limited, Hong Kong*

9:40–9:55 Simultaneous chemical and sensory analysis of odor

*J. Koziel, L. Cai, S. Hoff, S. Zhang  
Iowa State University, Department of  
Agricultural and Biosystems Engineering,  
Fudan University, USA*

10:00–10:15 Hedonic influence of volatile organic compounds emitted by finished surface of furniture parts

*Daniela Tesařová, Petr Čech, Pavel Kindl,  
Mendel University in Brno,  
Czech Republic*

10:20–10:35 Olfactory impact assessment of the selected tannery using telephone survey, dynamic olfactometry and indicator model

*I. Sówka, A. Nych, M. Janiec, P. Zwoździak,  
J. Zwoździak, M. Skrętownicz  
Wrocław University of Technology, Poland*

10:40–11:00 *Coffee Break*

11:00–11:15 The New VDI Guideline 3885/1 for OEC Measurement and why we might need Electronic Noses

*F.-B. Frechen, S. M. Giebel  
University of Kassel, Germany*

11:20–11:35 Odour Emissions in Czech Republic – comparison of the data measured in 2006 and 2009

*Petra Auterská  
Odour s.r.o., Czech Republic*

11:40–11:55 Czech Ministry of Environment's attitude toward the issue of emission measurement of odour – Discussion

*Vladimír Bureš  
TESO Technické služby ochrany ovzduší  
Praha, a.s., Czech Republic*

12:00–13:30 *Lunch*

13:35–13:50 Turning odour complaints into a valuable resource

*Knut Wiik, Aage Grimsland  
Purenviro as, Norway*

13:55–14:10 Numerical predictive evaluation of odour dispersion, case study:piggery (livestock farming)

*N. Pettarin, S. Rivilli, R. Snidar  
LOD S.r.l. (Laboratorio Olfattometria  
Dinamica), Italy*

14:15–14:30 Analytical and Sensory Determination of Industrial Odorous Exhausts for the Evaluation of Adsorptive Treatment

*Tim Täffner, Mirko Schlegelmilch, Kim Karen Kleeberg, Bernd Niemeyer  
Helmut - Schmidt - University,  
Hamburg University of Technology  
ODOCON GbR, Germany*

14:35–14:50 Impact-based Odor Control Technology for Rural Citizens in Agricultural Communities

*Steven Hoff, PE, Lun Tong, Jacek Koziel,  
Lingshuang Cai  
Iowa State University, USA*

- 14:50 – 15:10 *Cofee Break*
- 15:15 – 15:30 Innovative but proven Odour Control by Cold Plasma  
*P. Leenders, Aerox B.V., Netherlands*
- 15:35 – 15:50 Treatment of foul gas by a wet photocatalytic scrubbing process for odour control  
*L. Ding, T. Liu, X. Li  
The Hong Kong Polytechnic University, Hong Kong, China*
- 15:55 – 16:10 Appliances creating water mist enriched with odour eliminating agents  
*Aleš Chytil, TechniFog s.r.o., Czech Republic*
- 16:15 – 16:30 Active Biofilter  
*Václav Holuša  
AGRO-EKO spol. s r.o., Czech Republic*
- 16:35 – 16:50 *Cofee Break*
- 16:55 – 17:50 Workshop – Stop Dust  
*Supervisor L. Paroha  
Ascend s.r.o, Czech Republic*

## MAY 19<sup>TH</sup> – HALL B

- 9:00 – 9:15 Ambient Air Quality in the Czech Republic  
*M. Coňková, J. Ostatnická  
Czech Hydrometeorological Institute, Czech Republic*
- 9:20 – 9:35 The Air Quality Effect of the Industrial Sources Emission Reduction in the Moravian-Silesian Region  
*Petr Jančík, Marek Bruščík, Irena Pavlíková, Jan Bítta, Zdeněk Sklenář  
VŠB - Technical University of Ostrava  
Regional office of the Moravian region, Czech Republic*
- 9:40 – 9:55 Ultrafine particles in the ambient urban air – special measurement in the air quality monitoring network of Saxony  
*Gunter Löschau  
Sächsisches Landesamt für Umwelt, Landwirtschaft und Geologie, Germany*
- 10:00 – 10:15 Forecast verification for multicategory discrete predictands related to the Common Air Quality Index  
*L. Corbet, O. Vlček  
Czech Hydrometeorological Institute, Czech Republic*

- 10:20 – 10:35 The Environment of Nature Reserves – Is It Really Clean?  
Kostomukhshsky State Nature Reserve (Karelia)  
*Anna A. Vinogradova, Yulia A. Ivanova  
Russian Academy of Sciences, Moscow  
M. V. Lomonosov Moscow State Academy of Fine Chemical Technology, Russia*
- 10:40 – 11:00 *Cofee Break*
- 11:00 – 11:15 Ship emissions impact on urban air quality in the Gulf of Finland - Experiences of Finnish-Russian cooperation  
*K. Lovén, D. Frank-Kamenetsky  
Finnish Meteorological Institute, Finland  
St. Petersburg City Administration, Russia*
- 11:20 – 11:35 Monitoring The Imissions of Particulate Matter Along The Roads  
*Daniela Durcanska  
University of Žilina, Slovakia*
- 11:40 – 11:55 Particulate matter in the Belgrade area: results of a monitoring excercise for source apportionment  
*A. Bartonova, M. Jovasevic-Stojanovic  
NILU - Norwegian Institute for Air Research, Norway  
Vinca Institute, Serbia*
- 12:00 – 13:30 *Lunch*
- 13:35 – 13:50 Is One Village Able to Produce as Many Dioxins as a Big Waste Incineration Plant?  
*J. Horák, F. Hopan, K. Krpec  
VŠB – Technical University of Ostrava, Czech Republic*
- 13:55 – 14:10 Climate change and respiratory health – issues and knowledge gaps  
*Alena Bartonova  
NILU Norwegian Institute for Air Research, Norway*
- 14:15 – 14:30 Toxic etiology of olfactory loss  
*J. Vodička, J. Šalandová, A. Pellant  
Pardubická krajská nemocnice, a.s.  
University of Pardubice  
Česká preventivní, s.r.o., Czech Republic*
- 14:35 – 14:50 Dioxin Emission as Main Hazard in Case of Waste Burning at dumps  
*A. V. Aleksandryan  
Ministry of Nature Protection of the Republic of Armenia, Armenia*

14:50–15:10 *Cofee Break*

15:15–15:30 Alum S. A. Tulcea and the environmental management of the risk

*Lidia Cristea*  
*Romanian University of Science and Arts,*  
*Romania*

15:35–15:50 Real time sampling of particulate matter smaller than 2.5 µm emitted by burning biomass from the Amazon forest

*M. A. Martins Costa, J. A. Carvalho Jr,*  
*E. Anselmo, T. G. Soares Neto, B. A. Lima,*  
*L. T. U. Kura, J. C. Santos, Rezende, R. V.*  
*Universidade Estadual Paulista - UNESP*  
*Instituto Nacional de Pesquisas Espaciais*  
*– INPE, Brasil*

15:55–16:10 Estimating hydrogen sulfide emission rates by combining experimental immission measurements and dispersion models at various wastewater treatment plants in the Valencian Community (Spain)

*F. L. Colomer, H. E. Morató, E. M. Iglesias*  
*Entidad Pública de Saneamiento de Aguas*  
*Residuales de la Comunidad Valenciana*  
*(EPSAR)*  
*Instituto Universitario Centro de Estudios*  
*Ambientales del Mediterráneo CEAM-UMH*  
*(CEAM-UMH), Spain*

16:15–16:30 Introduction to Cluster Analysis for the Classification of Volatile Molecules Produced in Diverse Industries

*C. Vargás, S. Hubo, B. Ebeling, S. Peper,*  
*B. Niemeyer*  
*Helmut-Schmidt-University / University of*  
*the Federal Armed Forces Hamburg,*  
*Germany*

16:35–16:50 *Cofee Break*

16:55–17:10 Qualitative analysis of unusual procedures of carbon sequestration

*J. Ladomerský, E. Hroncová*  
*Technical University in Zvolen, Slovakia*

17:15–17:30 FTIR spectroscopy as a proven alternative standard method in stack testing

*K. Kertész*  
*PAMET Engineering Ltd. Pécs,*  
*Hungary*

## POSTERS

- 1 Can organic pollutants influence the productivity of plants?  
*Štěpán Zezulka, Marie Kummerová, Lucie Váňová,*  
*Masaryk University, Brno, Czech Republic*
- 2 Universal Selectively Sensitive Photodetectors for environment monitoring  
*David Khudaverdyan, Janna Dokholyan, Vladimir Arustamyam,*  
*Vazgen Meligyan, Suryk Khudaverdyan,*  
*State Engineering University of Armenia (SEUA), Synopsis, Armenia*
- 3 Development of BTEX air concentrations at selected locations in Zlín, Czech Republic in 2010-2011  
*Pavel Ujčík, Marie Dvořáčková, Jaroslav Šilhák,*  
*Tomas Bata University in Zlín, Czech Republic*
- 4 Trends in wet and dry atmospheric deposition of sulphur, nitrogen and hydrogen ions in the Czech republic  
*Jana Maznová, Iva Hůňová,*  
*Czech Hydrometeorological Institute, Czech Republic*
- 5 Capture of Carbon dioxide from industries flue gas and its Storage  
*Arash Esmaeili, Iman Boostani, Ofogh Novin Homa Company, Iran*
- 6 The quality of ambient air in Moravian-Silesian region  
*Helena Šebáková, Miroslava Rýparová,*  
*Regional Public Health Authority of Moravian – Silesian Region,*  
*Czech Republic*
- 7 Carbon dioxide Sequestration by Absorption in an Amine column  
*Arash Esmaeili, Omid Ghabouli, Iman Boostani,*  
*Ofogh Novin Homa Company, Research institute of oil industry, Iran*
- 8 Fixation of anthropogenic carbon dioxide in carbonates  
*Jerzy Badyga, Katarzyna Sokolnicka,*  
*Warsaw University of Technology, Poland*
- 9 Methodology and Monitoring of Soil Organic Filters Using Thermovision Methods  
*Lukáš Urban, Petr Marada, Jan Mareček,*  
*Mendel University in Brno, Czech Republic*
- 10 Formation and Elimination of Emissions of PCDD/F at combustion of waste plastic materials  
*Václav Veselý, Jiří Hanika, Jaromír Lederer, František Nečesaný,*  
*Jan Kukačka, Academy of Sciences of the Czech Republic,*  
*VUANCH, a.s., UNIPETROL RPA, s.r.o., Czech Republic*
- 11 Odour Emissions from WWTP Technology in CZ  
*Petra Auterská, Odour, s.r.o., Czech Republic*
- 12 Novel air filters with antibacterial activity  
*Gabriele Candiani, Barbara Del Curto, Alberto Cigada,*  
*Politecnico di Milano, Italy*
- 13 Indoor/outdoor air multi-element analysis and source characteristics in a school in the centre of a city  
*Anna Zwoździak, Izabela Sówka, Alicja Nych, Maria Skrętowicz,*  
*Jerzy Zwoździak, Anna De Maeyer- Worobiec, Barbara Krupińska,*  
*Wrocław University of Technology, INSTM, Poland*
- 14 airpointer® – A Novel System for Monitoring Air Quality  
*Traugott Kilgus, Stephan Pannek, Product Manager, recordum*  
*Messtechnik GmbH, Austria*
- 15 The suitability assessment of ordinary kriging in ArcGIS environment to interpolation of the odour intensity values in the area around the selected industrial plant  
*Izabela Sówka, Maria Skrętowicz, Alicja Nych, Paweł Zwoździak,*  
*Jerzy Zwoździak, Politechnika Wrocławska, Poland*

- 16 Measurement of volatile organic compounds in new car cabin by use of thermal desorption method  
*Krzysztof Brodzik, Joanna Faber, Damian Łomankiewicz, Anna Gołda-Kopek, BOSMAL Automotive Research and Development Institute Ltd., Polsko*
- 17 Validation of a method for determining of VOCs in air samples from new car cabin and car equipment using gas chromatography mass detector/flame ionisation/thermal desorption system  
*Joanna Faber, Anna Gołda-Kopek, Damian Łomankiewicz, Krzysztof Brodzik, BOSMAL Automotive Research and Development Institute Ltd., Poland*
- 18 Seasonal comparison of the outdoor and indoor air quality in the Wawel Royal Castle in Krakow, Poland  
*Barbara Krupińska, Anna Worobiec, Velibor Novaković, Larysa Darchuk, Lucyna Samek, Ewa Wilkojć, René Van Grieken, University of Antwerp, Belgium, AGH University of Science and Technology, Poland, Wawel Royal Castle, Poland*
- 19 AirMonTech  
*Ernie Weijers, ECN, Netherlands*
- 20 Transport of the air cleaning process loop CO<sub>2</sub> to water as absorbent in pilot-plant scrubber conditions  
*Josef Kalivoda, Tomáš Svěrák, Brno University of Technology, Czech Republic*
- 21 Air Quality Management System for Olomouc City  
*Irena Pavlíková, Jitka Pudelová, Petr Jančík, Jan Bitta, Pavel Platoš, VŠB - Technical University of Ostrava, Czech Republic*
- 22 Temperature influence on odour and ammonia emissions from pig and cow manure  
*Sven Nimmermark, Ngwa Martin Ngwabie, Knut-Håkan Jeppsson, Swedish University of Agricultural Sciences (SLU), Sweden*
- 23 Characterization of particulate matter in fractions PM<sub>1</sub>, PM<sub>2.5</sub> - case study in Craeybeckx traffic tunnel, Antwerp, Belgium  
*Anna Worobiec, Larysa Darchuk, Barbara Krupinska, Giuliana Gatto Rotondo, Heidi De Laet, Wilfried De Backer, René Van Grieken, University of Antwerp, Belgium*
- 24 Image analysis of corrosion coupons exposed to low-agresive environment.  
*Ivan Kudláček, Pavel Žák, Peter Korbel, Czech University of Technology in Prague, Czech Republic*
- 25 Determination of the concentration of BTEX and chlorinated hydrocarbons in landfill gas.  
*Marie Dvořáčková, Přemysl Moučka, Tomas Bata University in Zlín, Czech Republic*
- 26 Energetical optimization of production by means of exhalation treatment process integration  
*Peter Procházka, Lufttechnik Bayreuth GmbH & Co. KG, Germany*
- 27 The size distribution measurement of the dust particles  
*Jitka Škodová, Jaroslav Hofmann, The Institute of Chemical Technology, Prague (ICT), Czech Republic*
- 28 Sustainable Energy in Puebla State, México  
*Apolonio Juárez, Marco A. Herrera, Emma Juárez, Daniel Reyes, María de la Cruz Martínez, FCFM, FIQ - Benemérita Universidad Autónoma de Puebla, SSAOT- Gobierno del Estado de Puebla, Mexico*
- 29 Treatment of pollutant emissions in a biotrickling filter with a moving bed-pilot verification  
*Luboš Zápotocký, DEKONTA, a. s., Institute of Chemical Technology, Czech Republic*



## Sponsors

Diamond sponsor

**odour**

Silver sponsors



Sponsors



**ekologie**

Medial partners

