



European Network on New Sensing Technologies for Air Pollution  
Control and Environmental Sustainability - *EuNetAir*

COST Action TD1105

**1<sup>ST</sup> TRAINING SCHOOL**

**Universitat de Barcelona, Spain, 13 - 15 June 2013**

**organized by UB, MIND-IN2UB - Dept. of Electronics and CSIC-IDAEA**

Action Start date: 01/07/2012 - Action End date: 30/06/2016

Year 1: 2012 - 2013 (*Ongoing Action*)

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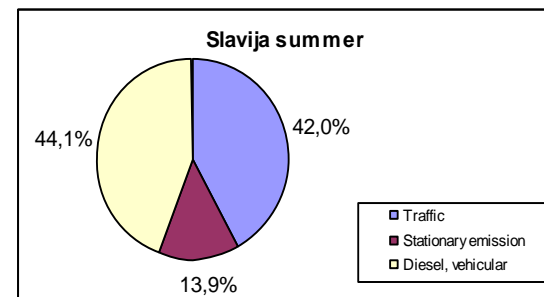
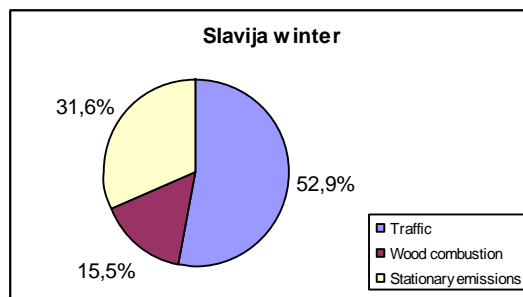
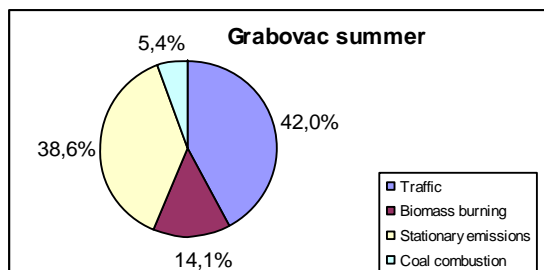
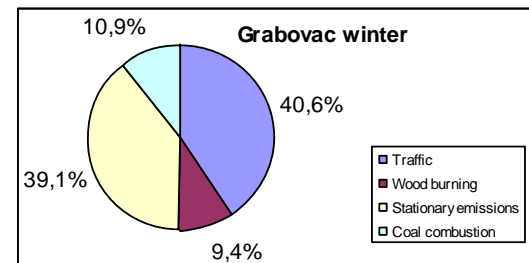
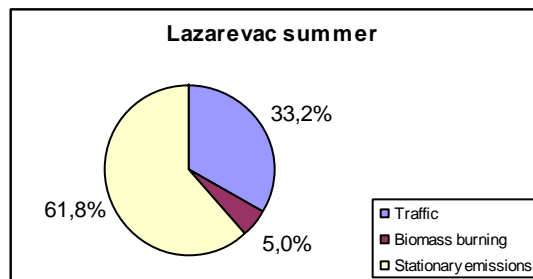
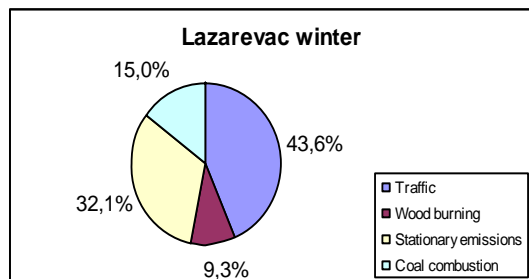
# Expertise

- **Laboratory for human ecology and ecotoxicology of IPHB-main activity-determination of trace organic pollutants in environmental media: air, water, soli, sediment..**
- **Air pollution monitoring in urban areas (8 automatic and 18 semiautomatic station, monitoring network of IPHB)**
- **Mass concentration of PM<sub>10</sub> and chemical analysis**
- **Air pollution modeling (PM<sub>10</sub>, metals, ions, PAHs, OC, EC)-potential emission sources identified by source apportionment – PMF**
- **Indoor air pollution–data analysis and source apportionment**

# Current research activities


- **Center for Hygiene and Human Ecology of IPHB-determines a large number of inorganic and organic compounds in samples of air, water, soil, sediments-trace analysis**
- **Laboratory for air examination:**
  - **environmental measurements and protocols**
  - **assessment of air-quality modeling with data assimilation from monitoring network**
  - **harmonization of air quality measurements**

- Ongoing research topics:
- overview of the results achieved in the nationally funded project-Air Quality Control Program in Belgrade
- results of monitoring networks for air quality testing, evaluation, analysis and studies in the field of air quality monitoring and assessment results the risk of air pollution on human health
- data analysis and applying of PMF receptor modeling on data base with PAHs:



# Achieved results and future activities

- Institute of Public Health of Belgrade (IPHB) has been monitoring air for past 30 years in the Belgrade urban area.
- Current measurements and site locations are in accordance with Act on the Conditions for Monitoring and Demand of Air Quality (“Official Herald RS”, nos 11/2010 and 75/2010), which complies with the EU Directive 2008/50.
- Since 1993, the members of our Laboratory have participated very successfully in activities related to Interlaboratory comparison for inorganic gasses, organised by WHO and JRC.
- Members of our staff have participated in activities related to meetings of AQUILA group organised by JRC since 2007.
- Network and laboratory measurements/activities are accredited in accordance with ISO 17 025 since 2002.
- In framework of WeBIOPATR project (2006-2009) for the first time in Serbia we analyzed chemical composition of  $PM_{2.5}$  and  $PM_1$  and applied receptor modeling

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- In future..
  - Calibration laboratory for low concentration gases (to our knowledge, unique and completely functional in Serbia) is equipped with instruments for calibration of automatic monitors, which are used for ambient air monitoring.
  - IPH calibration laboratory has Primary Reference Materials for SO<sub>2</sub>, NO and CO purchased from VSL.
  - These are primary reference materials and Institute of Public Health of Belgrade is the only facility in Serbia that has them.
  - We also have portable calibration units for SO<sub>2</sub>/ NO<sub>x</sub>/CO, ozone and BTEX, calibrated in the reference laboratory in Czech Hydro meteorological Institute and traceable to primary reference material (primary reference photometer for ozone).
  - Calibration laboratory is *in the process of accreditation*, in accordance with ISO 17 043.

# CONCLUSIONS

- Laboratory for air quality of IPHB is equipped with highly sophisticated equipment and highly educated staff with experience
- participate in many national and international project in area of air examination but...
- NRL for air quality does not established in Serbia and
- exchange of knowledge and experiences with EU expert is very important for valid data base in Serbia
- Data base of IPHB is huge but not enough use for predict potential emission sources-improve air quality modelling