



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**

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Year 1: 2012 - 2013 (**TD1105**)



Igor Atanasov

Ministry of Environment and Physical Planning  
Republic of Macedonia



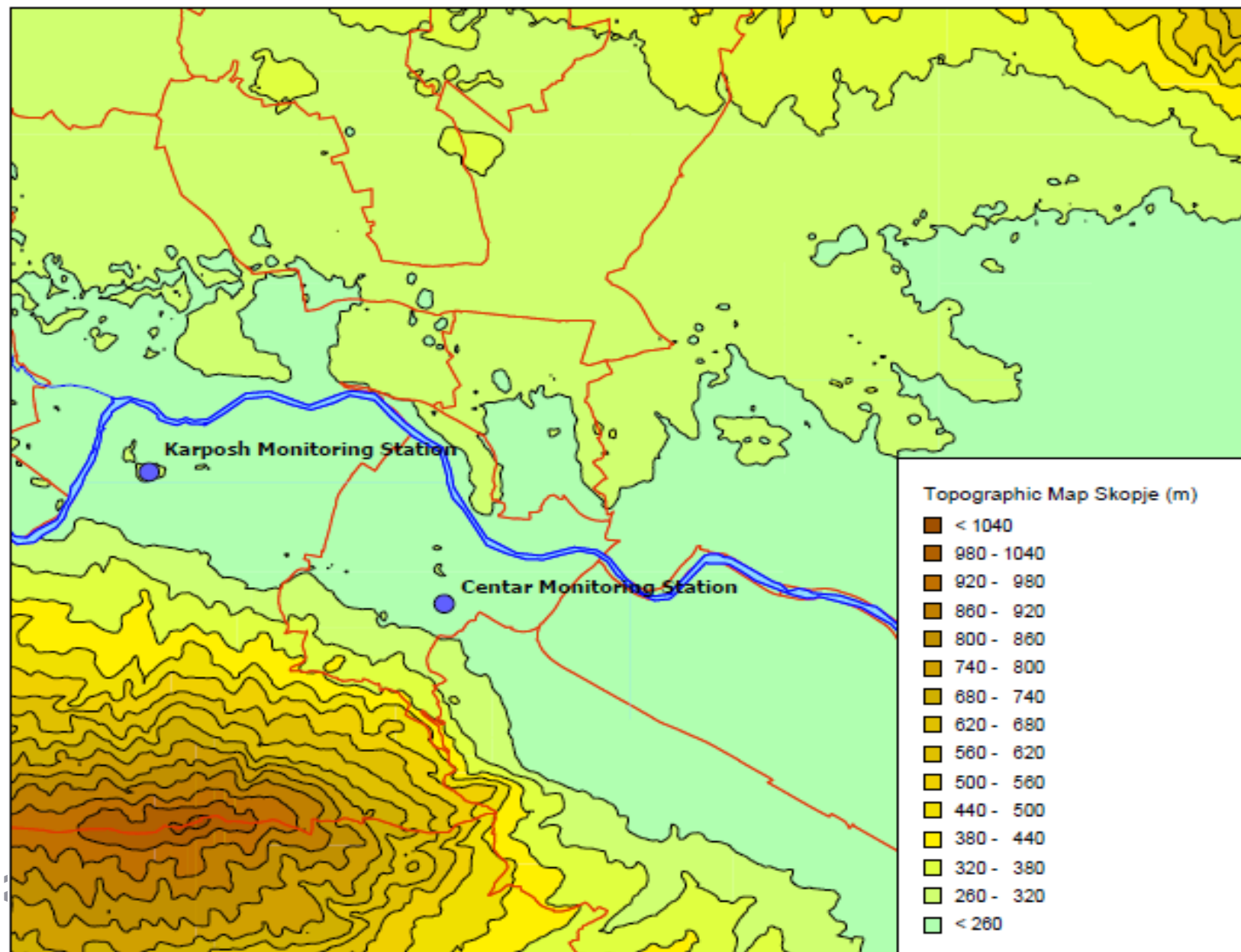
# Air Quality research activities in the Republic of Macedonia



# Expertise of the Trainee related to the Action

- Maintenance and service of the equipment from National Automatic Monitoring System for Ambient Air Quality;
- Calibration of the referent laboratory instruments and stations instruments with primary static volumetric injection system, secondary dynamic dilution system, UV photometric calibration system, Gas Transfer Standards and Field calibration;
- Performing uncertainty data analysis;
- Performing air quality assessment (especially in reference to PM10 and PM2.5).

# Air quality monitoring system



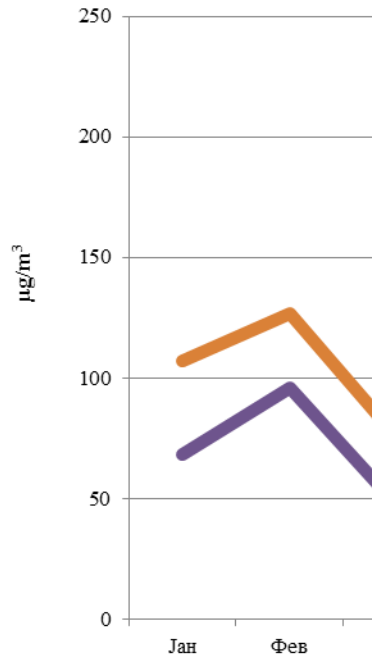


# Current research activities of the Trainee

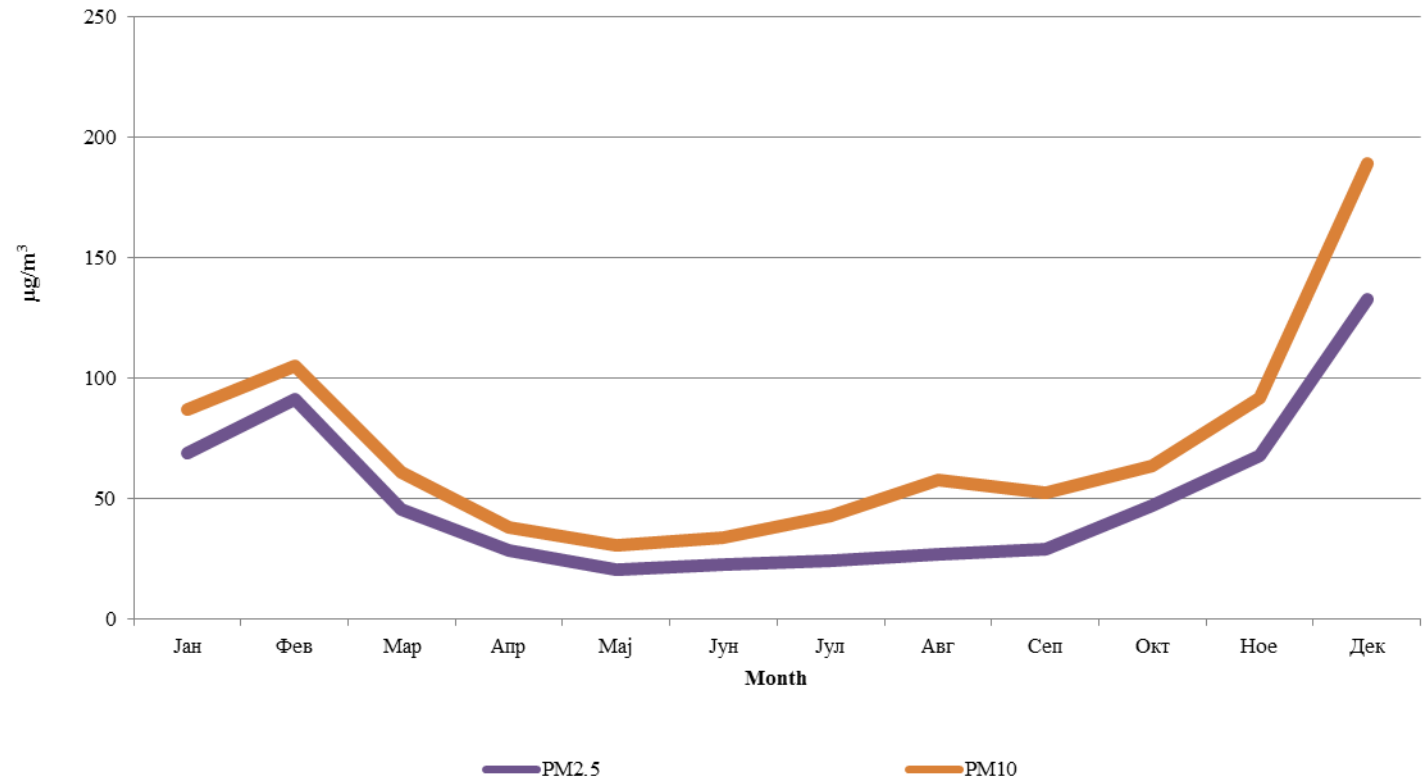
- Current research topics at the Trainee organization / Problem statement:
  - High levels of PM10 and PM2.5 (winter period)
  - Monitoring of PM2.5 and PM10
  - Data processing and analysis
  - Uncertainty analysis of NO, CO, O3, SO2, PM10 data

# Achieved results

Yearly distribution of concentration of PM2.5 and PM10 at the measuring point Centar



Yearly distribution of concentration of PM2.5 and PM10 at the measuring point Karposh



# Future activities

## Source apportionment studies of PM10 in city of Skopje

SOURCES	TRACERS
Vehicular source (traffic)	Zn, Cu, Ba, Carbon (EC, OC), Fe
Oil combustion and Industrial emissions	Ni, V, $SO_4^{2-}$
Biomass Burning	B(a)P, k
Secondary particulate (warning: there is no source associated)	$SO_4^{2-}$ , $NO_3^-$ , $NH_4^+$ ,



# CONCLUSIONS

- The main problem for the air pollution are PM10 and PM2.5 (more than 200 days with exceedances)
- Severe air pollution episodes in the winter period
- No available budget for additional research activities and we don't have any low-cost sensor
- Financial technical support from COST organization is welcomed