

**European Network on New Sensing Technologies for Air Pollution
Control and Environmental Sustainability - *EuNetAir*
COST Action TD1105**

Focus Group Meeting on

Data Analysis of Aveiro Air Quality Sensors Intercomparison

**WHO Collaborating Centre (CC) for Air Quality Management and Air
Pollution Control - Federal Environment Agency (FEA)
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Notes on Aveiro data processing and modelling



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Outline

- Who we are?
- What we can do?
- What we can't do
- What we need to know?

Who we are?

- Institute of Computer Science, ASCR
 - Vera Kurkova, Roman Neruda, Petra Vidnerova
- Charles University, Dept. of informatics
 - Martin Pilat
- Neural networks, deep learning, evolutionary algorithms, hybrid models, meta-learning
- Java/JADE, Python

What we can do?

- Supervised learning models
 - Regression
 - Classification
- Unsupervised learning
 - Clustering
 - Preprocessing
- More complex models
 - Ensembles ...
 - Meta-learning – method/parameter recommendation

What we can't do

- Sophisticated spatial models
- Really Big data
- Out-of-the-box polished software

What we need to know?

- The (polished?) data
- The questions
 - *Preprocessing*: normalizations, detrending ...
 - *Beyond correlation*: understanding the data by means of unsupervised methods
 - *Non-linear modeling*: understanding/functional modeling of the complex relations of data
 - *Predictions*
- Feedback for answers