



**COST ACTION 633**

**Particulate Matter:  
Properties Related to Health Effects**

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**Chair MC COST 633**

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## Background

- Atmospheric particles major components of air pollution
- Epidemiological studies: indication of increased morbidity and mortality even at relatively low PM concentrations.
- Research activities and monitoring programs focused on PM.
- Epidemiological and toxicological studies focused on different health endpoints and high risk groups
- Most of these studies independent (PM or health)
- Multidisciplinary expert group

# COST 633 Signatories

- Austria
- Belgium
- Czech Republic
- Denmark (2004)
- Finland
- France
- Germany
- Greece
- Hungary
- Italy
- Lithuania
- Netherlands (2003)
- Norway
- Poland (2004)
- Portugal (2003)
- Slovenia
- Spain
- Sweden (2005)
- Switzerland
- United Kingdom (20)
- (Turkey left 2003)

# Main objective of COST 633

looking for heterogeneities in Europe from  
the point of view of:

- chemical and physical properties of PM
- particle sources
- influence of PM on health

- Increase the information on particulate matter (PM) characteristics throughout Europe
- Investigate regional differences in the PM system
- Investigate regional differences in health effects of PM throughout Europe
- Improve basis for setting environmental standards and cost effective abatement strategies

# Tasks of COST 633

- Review existing data and methods (PM, health)
- Identify methodological gaps, regions without prior studies
- Identify target component classes and emission sources
- Consolidate and expand emission inventories
- Further develop source apportionment and integrated assessment models
- Propose future research activities.

# Current situation of COST 633

- Official start: October 14, 2002
- Difficulties in funding of all COST actions → delay of 1.5 years
- First MC meeting of active stage: May 2004, Ispra
- Meeting of MC and WG chairs Munich, September 2004
- Next MC and WG meeting: Brussels, November 2004

# Working Groups

- WG1 Air Quality and Instrumentation  
Jean-Philippe Putaud, JRC Ispra, I  
Axel Berner, ÖAW, A
- WG2 Health Related Issues of Particles  
Raimo Salonen, NPFI, Fin  
Wolfgang Kreyling, GSF, D
- WG 3 Modelling  
Thomas Kuhlbusch, IUTA, D  
Markus Amann, IIASA, A



# WG 1 (Air quality)

- Collect existing data from different countries → regional differences of PM in Europe
- Assess and review available techniques (analysis, sampling, validation) with respect to needs of health related studies (→ WG2)
- Estimate contribution of traffic emissions to PM (→ WG3)

## WG 2 (Health)

- Collect existing epidemiological data associated with ambient air PM (considering regional, seasonal and source related aspects)
- Review of existing studies on toxicology
- Assess the role of human exposure to ambient air PM in the observed heterogeneities in health effects
- Give recommendations for human risk assessment and management

## WG 3 (Modelling)

- Compile results of PM10, PM2.5, and PM1 measurements
- Consolidate and expand emission inventories (including gases)
- Evaluate source apportionment methods and models used in EU
- Integrated assessment models (for cost effectiveness of control measures)

# Planned results

Identification of “interesting regions” in Europe (Aerosols / Epidemiology)

Preparation for joint PM and health studies in these regions

Improve basis for setting standards and implementing cost effective abatement measures in Europe



# Mission of COST

Strengthen Europe in scientific and technical research for peaceful purposes through the support of cooperation and interaction between European Researchers

# Participants in COST

- 34 European countries (+ Israel)
- International Organisations and Research Institutions of non-COST member states
- European Commission

# Characteristics of COST

- Formation of networks and coordination of research
- Pan-European
- Bottom-up
- A la Carte
- Multidisciplinary
- National funding / national responsibility



# Advantages of COST

- Fosters S&T Co-operation across Europe by creating lasting networks of scientists & researchers
- Promotes cooperation within EU, between the EU and Candidate Countries (particularly those in the Framework Programme) and with Europe's neighbours
- Explores new areas of co-operative research endeavour

