Description of the K-puszta field station, Hungary

1. Institutions in charge of the field station

The K-puszta field station is run in co-operation of the Hungarian Meteorological Service and the Air Chemistry Group of the Hungarian Academy of Sciences at University of Veszprém (ACUV). The Hungarian Meteorological Service performs the measurement of gaseous components and the analysis of precipitation, furthermore provides data for EMEP and GAW. The Air Chemistry Group of the Hungarian Academy of Sciences at University of Veszprém carries out the sampling and analysis of atmospheric aerosol.

2. Research interest

The Air Chemistry Group of the Hungarian Academy of Sciences at University of Veszprém and its predecessor has long been involved in aerosol research. The primary focus of their research is currently on the

- source apportionment of organic aerosol
- estimation of the role of organic constituents both in direct and indirect aerosol forcing.

In order to achieve these objectives a number of activities are going on in the group: they collect Hi-Vol aerosol samples on filters, and they have an electrical low pressure impactor to obtain a real-time number size distribution of aerosol and also to study the size distribution of carbonaceous aerosol constituents. They have used up-to-date techniques (pyrolysis-gas chromatography-mass spectrometry, liquid chromatography-mass spectrometry, UV-VIS, fluorescence spectrometry, FTIR spectroscopy, elemental analysis, total organic carbon analysis, capillary electrophoresis, size exclusion chromatography, vapour pressure osmometry, tensiometry, voltammetry, etc.) to characterise the chemical properties of organic matter and its water-soluble fraction in fine aerosol collected under rural conditions and at European background sites.

Their most important recent achievements were the confirmation of the predominance of humic-like matter in continental aerosol; the development of an analytical methodology for the preparative isolation of humic-like substances; the study of the structure, functionality, average molecular weight and surface tension effect of the isolated organic matter; the experimental determination of organic matter/organic carbon mass ratio; a hypothesis for the possible sources of humic matter in continental fine aerosol; the study of the size distribution of carbonaceous aerosol particles; the relation between the size and chemical composition of aerosol particles and their optical properties; and the application of osmometry to assess the role of organic aerosol components on cloud formation using Köhler theory.

3. Description of the K-puszta station

a. **Geographical and meteorological information**
   Since the station is an established EMEP and GAW sampling site, detailed geographical and meteorological information can be found at
   http://www.nilu.no/projects/ccc/sitedescriptions/hu/index.html

1. The K-puszta station

2. The surrounding vegetation

b. **Instrumentation**
In addition to the monitoring activities described at http://www.nilu.no/projects/ccc/sitedescriptions/hu/index.html the following instrumentation is available at the station: a HI-VOL aerosol sampler equipped with an Andersen-type impactor, a Decati 13 stage Electrical Low Pressure Impactor (ELPI), a 3-stage cascade impactor, an 8-stage Berner-type impactor (intermittently), a TSI 3010 Compact Condensation Particle Counter, a wet-only sampler and a Particle Soot Absorption Photometer (PSAP)

c. **Data availability**
We have an open data availability policy, monitoring data are freely available from the EMEP web site at http://www.nilu.no/projects/ccc/ while aerosol chemistry data are available on request.

d. **Website**
Detailed description of the sampling site can be read at
http://www.nilu.no/projects/ccc/sitedescriptions/hu/index.html

e. **Access to the facility**
The field station is easily accessible by car and the nearest village (ca. 3 km) can also be reached by public transport. Accommodation can be solved in the nearby town (ca. 15 km). Technical assistance can be given by the members of the Air Chemistry Group of the Hungarian Academy of Sciences.

f. **Field campaigns**
In addition to the continuous measurements we carry out 1-4 weeks long field campaigns in different seasons.

g. **Networks**
K-puszta is part of the EMEP and GAW network

h. **Field of co-operation**
We are open to any suggestion for co-operation, nevertheless we are especially interested in source apportionment of organic aerosol and the estimation of the role of organic constituents both in direct and indirect aerosol

forcing.

i. **Fee for using the facility**
Accommodation cost in the nearby town has to be paid, ACUV will help in the organization.

j. **Contact information**

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