STMS possibility for 1 PhD student or postdoctoral fellow (COST Action CA17136)

Title: Analysis of semi-volatile organic pollutants in the indoor environment.
Duration of STSM: 91 days (1 September to 30 November 2019).
Place of STSM: Aarhus University, Department of Environmental Science (ENVS), Frederiksborgvej 399, 4000 Roskilde (Denmark)
Host: Dr. Rossana Bossi and Dr. Katrin Vorkamp

Interested PhD students/postdoctoral fellows should contact Dr. Rossana Bossi (rbo@envs.au.dk) directly.

Short description: The present STSM is devoted to the chemical analysis of semi-volatile and non-volatile organic pollutants in the indoor environment, in the context of human exposure to these chemicals. The samples to be analyzed will include air samples obtained with active sampling (filters and/or XAD/PUF) or with passive samplers, and house dust. The samples can be collected by the student and taken with him/her to our laboratory. Otherwise, equipment for sample collection is also available at our laboratory.

The laboratory at AU-ENVS in Roskilde is equipped with state-of-the-art analytical instrumentation for analysis of organic compounds, both for target-quantitative analyses (GC-MS-MS, LC-MS-MS) and non-target analyses (LC-Orbitrap and GC-Orbitrap). Facilities and methods for sample extraction and clean-up are available. Analysis of volatile organic compounds (VOC) is also possible with off-line instrumentation (Thermal Desorption GC-MS) or on-line instrumentation (Proton Transfer Reaction-ToF-MS).

The analytical work will include the analysis of known target compounds, but a non-target screening of the sample extracts can also be carried out in order to provide new insight in new contaminants not usually included in indoor sample analysis.

Identified chemicals can be classified according to their health effects, e.g. endocrine disruption, neurotoxicity, carcinogenicity and allergy. A risk screening can be performed for a selection of the hazardous chemicals by compiling human toxicity values.