Air pollution is the most important environmental factor contributing to morbidity and mortality world-wide. This is due to indoor pollution (mainly by the use of coal or biomass for domestic cooking and heating, especially in low-income countries) and to outdoor (or ambient) air pollution, caused by industry, traffic and other sources of fine particles and pollutant gases, such as sulphur dioxide, nitrogen oxides and ozone.

In this presentation, I shall give a brief historical introduction and describe the current state of ambient air pollution, and its monitoring, in Belgium, Europe and globally. Then, I shall address the health effects of exposure to air pollution: first the adverse effects of (peaks of) air pollution, and then the health impact of chronic (long-term) exposure to urban air pollution. Air pollution affects not only the respiratory tract, but also the cardiovascular system (contributing to heart disease) and, as indicated by recent studies, also neurological development in children and neurodegeneration in elderly. Finally, I shall discuss the public health relevance of air pollution.