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An overview of the EU-project AeroBactics:

Assessment of the quantity, identity, viability, origin and dispersion of airborne micro-organisms for application in crisis management tools

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Sensor systems for bioterror detection require quantitative input about the natural background of micro-organisms and environmental pathogenic traits, in order to distinguish natural occurrences from real attacks. However, knowledge of numbers, species, viability and pathogenicity of airborne micro-organisms is extremely scarce, and models to predict background fluctuations are inadequate. Recent studies indicate that significant concentrations of viable micro-organisms are routinely transported by dust and marine aerosols over intercontinental distances [Prospero et al., 2005; Brown and Hovmøller, 2002]. Comprehensive knowledge about the characteristics controlling the process of long-range transport of viable micro-organisms is needed in order to understand and subsequently model the aerial dispersion with a sufficient degree of detail necessary for assessing the risks associated with airborne micro-organisms.

The AeroBactics project is designed to close these gaps of knowledge. The project started in March 2007 and an overview of the research ideas and methods will be given in the poster:

- Data will be gathered by sampling and analysing representative sections of the atmosphere, as well as soils and plants. Both natural events and intentional re-

leases of micro-organisms will be utilised experimentally.

- The atmospheric transport model DEHM covering the Northern Hemisphere, will be developed to include emission, transport and deposition of micro-organisms. As a first step the emission of micro-organisms will be assumed to come from anthropogenic sources (the use of pesticides in Canada) and natural sources (uplift of dust from dry areas and sea spray).
- To describe the dispersion of micro-organisms from malicious events on shorter range, the developed emission and dispersion parameterisations will be implemented in an existing accidental release model (DREAM).