Air dispersion models for odor assessment

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Unpleasant odors are, well, unpleasant. Sometimes, we have to endure the stench but legislation is beginning to recognize that people have a right to not be exposed when they are avoidable. This might apply in the context of the environment local to an industrial plant, water and sewage treatment works, refuse sites and other areas, including the workplace,

shopping centers, and places of entertainment.

Maurizio Onofrio, Roberta Spataro, and Serena Botta of the Department of Environment, Land and Infrastructure Engineering (DIATI) at the Politecnico di Torino in Turin, Italy, have looked at the impact of odor in the *International Journal of Environment and Pollution*. The team points out that the type of odorant, human perception and sensitivity, as well as air dispersal, all affect how the issue of unpleasant odors might be addressed.

The team has specifically examined air dispersion models applied to odor impact assessment. They analyzed 69 case studies published over the last decade or so and applied Gaussian modeling to examine and validate the experimental data. Their results show that the models are reliable but can be affected by critical issues, such as particular climate conditions, duration of averaging times and position of important receptors. However, if these factors are known and correctly managed, the models can be extremely useful.