



## Computational Fluid Dynamics

Exposure to hazardous air contaminants affects an estimated 35 million United States workers. **Computational Fluid Dynamics** provides a practical, efficient, and cost effective means of investigating air contaminant exposure and evaluating prevention strategies. The technique can supplement traditional methods such as air sampling and basic ventilation calculations.

The National Institute for Occupational Safety and Health is currently leading **Computational Fluid Dynamics** research in the following areas:

- Investigating aircraft cabin disease transmission through the prediction of aerosol dispersion
- Evaluating the effectiveness of certain engineering controls in construction, manufacturing and transportation industries
- Understanding the behavior of air flows inside sampling and measurement devices to improve exposure assessment accuracy
- Detecting and analyzing chemical and biological threats

Using **Computational Fluid Dynamics**, researchers and occupational health and safety professionals can identify exposure regions, devise methods for preventing exposure, and improve exposure assessment accuracy.



DHHS (NIOSH) Publication No. 2012-175

### Partner With Us

To learn more about Computational Fluid Dynamics or to become a partner, contact the NIOSH Engineering Controls Program at 513-841-4221 or refer to [www.cdc.gov/niosh/topics/engcontrols](http://www.cdc.gov/niosh/topics/engcontrols) for more information.