

Institute for Aerosol and Sensor Technology

Our Institute

The Institute for Aerosol and Sensor Technology was founded in spring 2000. Our main activities include education, applied research and development, and consulting services.

We see ourselves as a partner for the industry in small and long-term projects. The project can be partially supported by governmental funds, like the Swiss CTI program.

Research on Combustion Generated Nanoparticles

Our current activities in the field include:

- Development of methods for particle characterization
- Investigation of particle emissions from combustion processes
- Systems for field measurement of vehicle emissions
- Emission Measurements
- Measurement of atmospheric aerosols and low particle concentrations

As part of our research projects, we have developed, among other things, a high precision electrical current measurement technique capable of measuring currents in the femto-ampere range; this technique is a key element of our particle-measurement devices.

Selected Projects

Diffusion Size Classifier

We have developed a compact battery operated sensor for monitoring particle number concentration and mean diameter. This is worldwide the smallest measurement device of its kind.



Electrical Diffusion Battery

By request of the Swiss agency SUVA (for occupational disease prevention), we developed a portable particle size distribution measurement device for monitoring the exposure to particles at workplaces.



Wood burning

Wood burning is one of the main contributors to ambient particle matter pollution. Together with several partners, we work towards the development of new measurement techniques for monitoring and type approval testing as well as methods for reducing the emissions (e.g. through the use of electrostatic precipitators).



Taylor made solutions

We develop client-specific devices and measurement systems. Among others, a sample-collector for electron microscope probes that resists corrosive atmospheres (like a volcanic region), thermodesorbers to identify the volatile fraction of aerosols and a device to identify the ammonium fraction in particulate matter.

