

Integrated approach for exposure and health effects monitoring of engineered nanomaterials in workplaces and urban areas

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The project NanoExplore uses an integrated approach containing biomonitoring studies and the characterisation of exposure levels of engineered nanomaterials (ENM) in indoor workplaces and urban areas. Data of ENMs concentrations, measured by a wireless sensor network, appropriate biomarkers and a web-based data management tool will help to minimise possible effects of ENMs to human health.

Status quo:

- The survey, of companies to attend further studies for the measurement of ENMs exposure, is still open and will be further distributed. For wider participation, it had been translated into different languages and the consortium has discussed further channels for distribution. Several collaborations and/or direct contacts have been made for receiving a higher response rate
- Information regarding a critical evaluation of current data on biological effects and existing biomarkers of nanomaterial exposure was exchanged between the project partners
- The group is working on the selection for candidate biomarkers and on the development of a protocol for practical use of biomarkers
- Different non-invasive methods regarding the measurement of local and systemic effect biomarkers have been selected: exhaled breath condensate and exhaled air, urinary spot samples and brushing of the buccal epithelium. This selection will allow an assessment of acute as well as chronic effects
- Review of existing epidemiological studies for nanomaterials on

NEXT EVENTS

28-30 August, 2019

11th International Symposium on Biological Monitoring in Occupational and Environmental Health (ISBM-11), Leuven, Belgium

7-10 October 2019

NanoSafety Cluster Week
Copenhagen, Denmark

RELEVANT NEWS

The 2nd partners' meeting of the project took place on 8 April 2019 in Athens, Greece. The participants discussed the progress so far, next steps and also presented the project to the external monitoring team.

behalf of the study design

- Discussions on the organization of the biomonitoring studies
- Pilot study in a factory close to Turin where TiO₂ is used for paints and varnishes
- Investigation of particle number concentration and particle size in various electronic components for allowing to detect trace amount of ultrafine and nanosized particles
- Preparation of the “Report on the functionalities and system requirements of the NanoEXPLORE integrated system”
- Test of a program for data management

Take our short survey

Take our short 10-minute survey to help us identify most commonly used engineered nanomaterials (ENMs), exposure routes and release factors as well as conditions facilitating or hindering companies' participation in research on nanomaterials.

Your views are essential and important; it will help shape the future of research in nanomaterials safe use.

[Click here](#) to start the survey.

Project Partners:



UNIVERSITÀ
DEGLI STUDI
DI TORINO



PAST EVENTS

4 April 2019

Presentation about the NanoExplore project on the annual meeting of the Nanomaterial team of FEDERCHIMA, Italy

10 April 2019

Life and Cities, Athens, Greece



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