

## **Measurement and characterization of workers' exposure in nano-objects production processes**

An integrated and multi-technique approach will be presented to characterize airborne graphene flakes in a graphene processing and production research laboratory. The exposure measurement strategy was based on the multi metric tiered approach proposed by the Organization for Economic Cooperation and Development (OECD) by integrating high frequency real time measurements and personal samplings. The integration of real time measurements with microscopy and spectroscopy characterizations (SEM, TEM and Raman spectroscopy) allowed the identification of the airborne graphene flakes morphology, elemental composition and lattice parameter structure. The information so-obtained provides a valuable basis for improving risk management strategies in R&D.