

## **Control banding and Risk Mapping approaches for the Occupational Safety and Health Practice**

Michael Riediker 1, 2

- 1) SAFENANO, IOM Singapore and 2) IST Lausanne

The management of nanomaterial-related risks in production of nanomaterial enabled products poses some special challenges, such as uncertainties related to human hazard data; challenges in exposure assessment; and insufficient communication of risk-relevant information within companies and along the value chain. Good management strategies are needed to identify adequate and cost effective solutions for such safety and health challenges. Control banding and risk mapping are established tools for addressing occupational safety and health challenges in companies with production facilities. However, they need to be adapted to the special challenges posed by nanomaterials. Control banding usually provides semi-qualitative risk estimates with associated predefined control strategies. Most nanomaterial-specific control banding tools are designed to provide a banding by requiring only a few easy to obtain parameters about the physico-chemical nature of the nanomaterial and the process characteristics. Risk mapping identifies the various elements in a company and along the value chain that need to be addressed for a complete risk management, such as product development and testing, workplace assessments, facility design, and training of staff. These elements then are mapped onto the business processes to integrate the health and safety approach into the corporate management and effective company policies. This talk will provide an overview on existing control banding and risk mapping approaches and how nanomaterial specific challenges can be successfully addressed.