

SaferNanoDesign Summer School

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How can industrial innovation in nanotechnologies be reconciled with the legitimate concerns of citizens regarding environmental protection and public health?

After a highly successful launch in June 2016, the LabEx SERENADE is co-organizing the second edition of the SaferNanoDesign summer school: 13-19 June 2017 at the European Scientific Institute in Archamps Technopole (France), 15 minutes from Geneva.

An intensive one-week specialist school, SaferNanoDesign familiarizes early-stage researchers and postgraduate students with risk evaluation in a business context, using computational methods of modelling and simulation relevant to nanomaterials. Participants will be exposed to the analytical tools and methodologies required to meet the challenge of the ecodesign of nanomaterial-enabled technology.

SaferNanoDesign uses a dynamic, three-tier approach, involving: (1) Lectures and presentations, (2) Practical sessions involving complex problem solving around a specific case study, (3) Interdisciplinary group work on the development of an entrepreneurial innovation project. The programme is delivered by international experts universities, research centres, industry and regulatory bodies. The working language of the school is English.

At the end of SaferNanoDesign, students will have gained:

- An in-depth insight into the design of nanomaterials with specific and innovative industrial applications but safe for humans and the environment.
- Practical experience of exposure assessment and the development of predictive risk analysis based on modeling of the life cycle, from the production to the end of life, of nano enabled products in the environment.
- Theoretical and practical understanding of nanomaterial reactivity and transformation in the environment.
- Knowledge of the different types of assays available to assess the impact of nanomaterial exposure at different levels (environment, organism, cell, molecule ...).
- Knowledge of how to obtain and analyze "omics" data to perform gene ontology and pathway analysis. They will also become familiar with predictive toxicology via the adverse outcome pathways (AOP) and Effectopedia tool.
- An understanding of the challenges and opportunities of marketing nano-based products for an SME.
- The capacity to analyze in specific contexts how innovative strategies may lead to improved industrial performance and new business perspectives.

SaferNanoDesign is jointly organised by

- the LabEx SERENADE (A*MIDEX project, funded by the «Investissements d'Avenir», a French Government programme managed by the ANR - French National Research Agency),
- the Université Grenoble-Alpes and partner universities
- ESI (European Scientific Institute).



