Nanosafety at NanoLund

Coordinated by:

Christina Isaxon and Mikael Ekvall

LUND UNIVERSITY

NANOLUND

A GREAT PLACE TO DO NANOSCIENCE

From work place exposures to physiological effects

From molecular mechanisms to effects on living organisms

From mode of action to environmental and societal impact

Risk

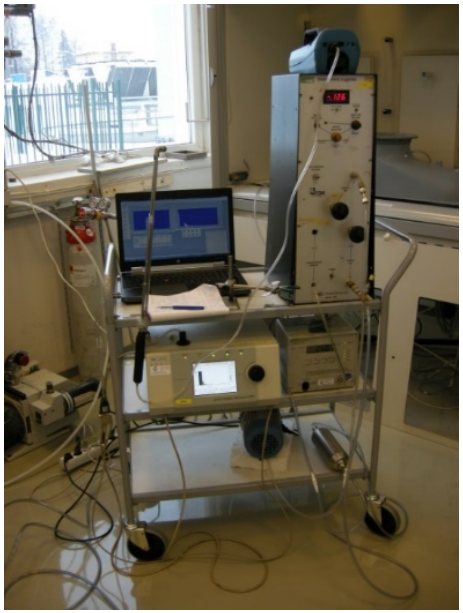
Exposure

Toxicity

Nanosafety at NanoLund – focus areas

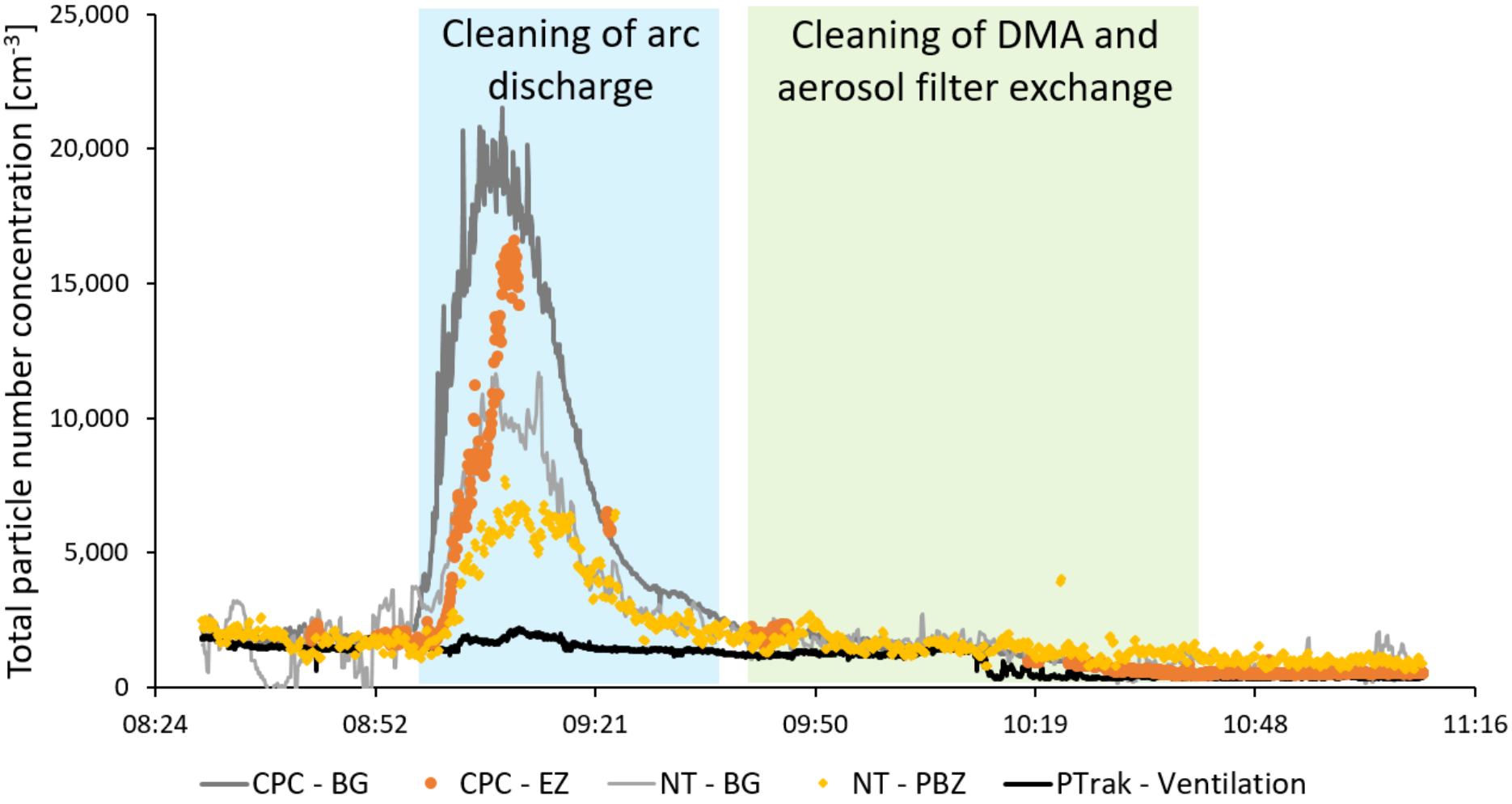
1. Conduct and disseminate internationally leading research to understand the fundamental connections between particle properties and human and environmental toxicology.
2. To generate new and transfer existing knowledge on safe handling of nano materials, throughout the life-cycle, to the industrial network.
3. To be a proactive part in the societal debate regarding safe production, use, and disposal of new nanomaterials.
4. To support all nano related activities/research within Lund University from a safety perspective.

Nanosafety research areas, examples:



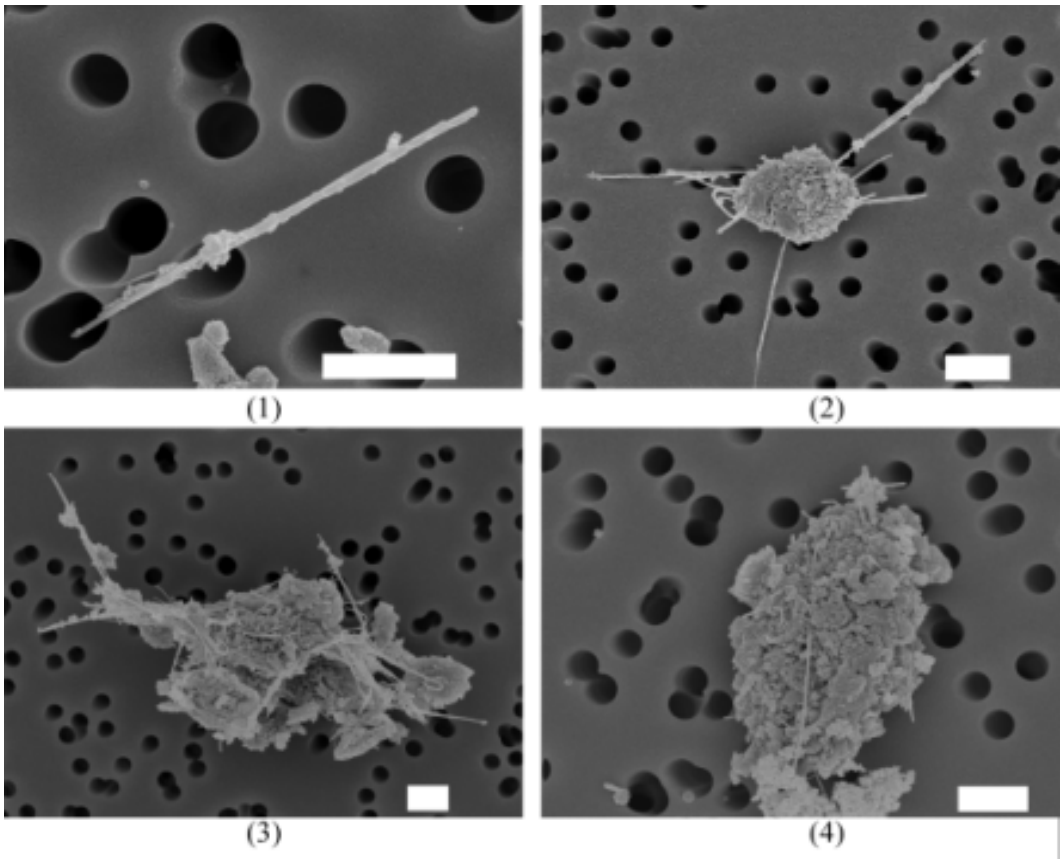
Advanced instruments and analysis methods

Nanosafety research areas, examples: Emission and exposure assessments

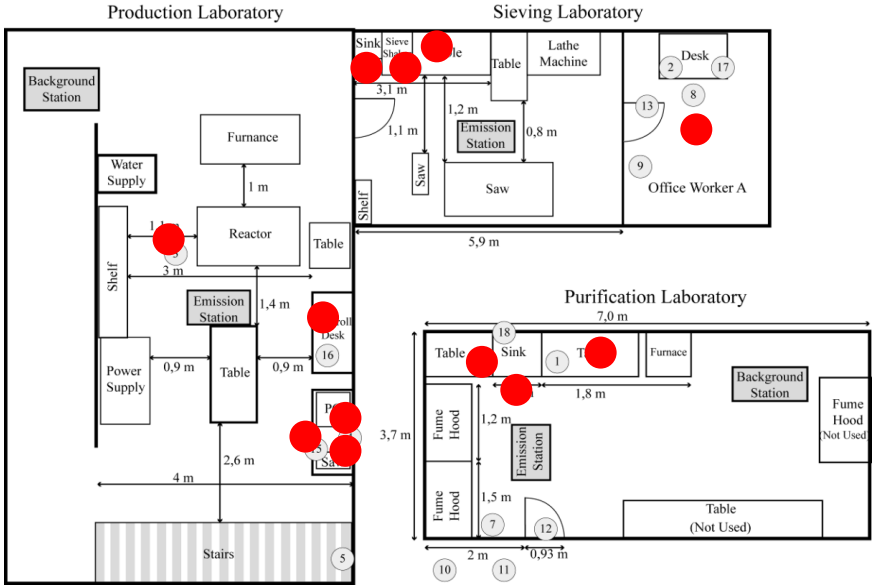


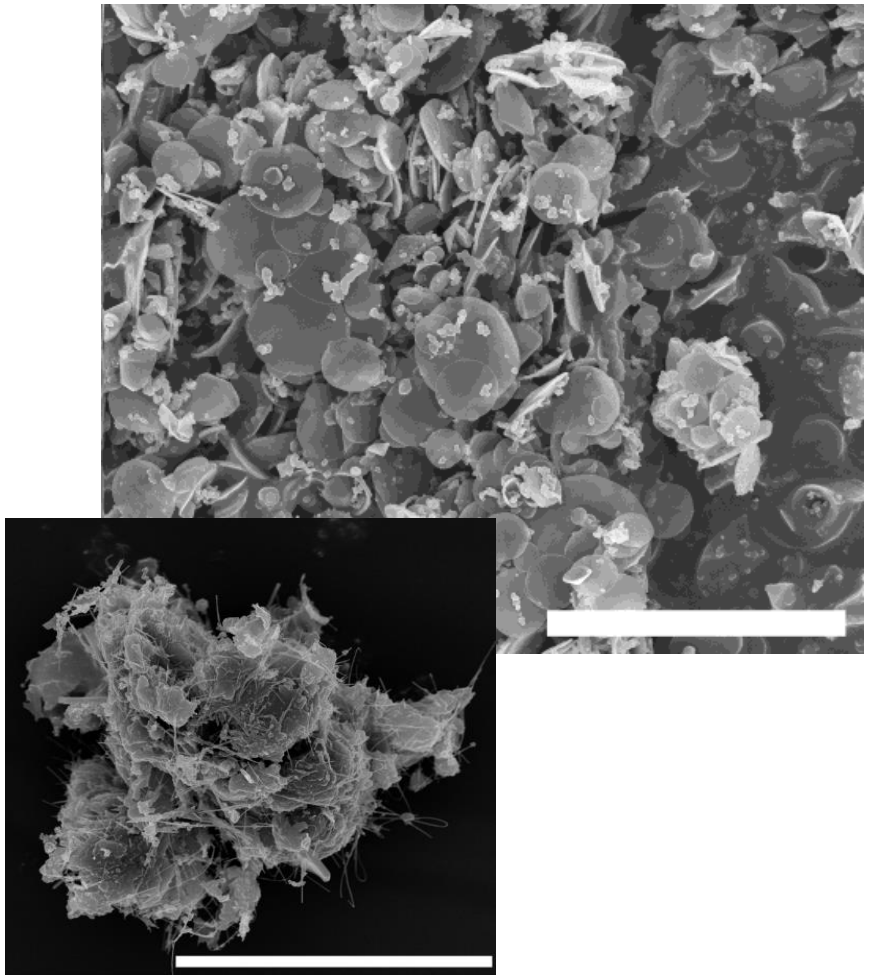
Isaxon et al. 2019. Annals of Work Exposures and Health.

Nanosafety research areas, examples: Faith of airborne NPs



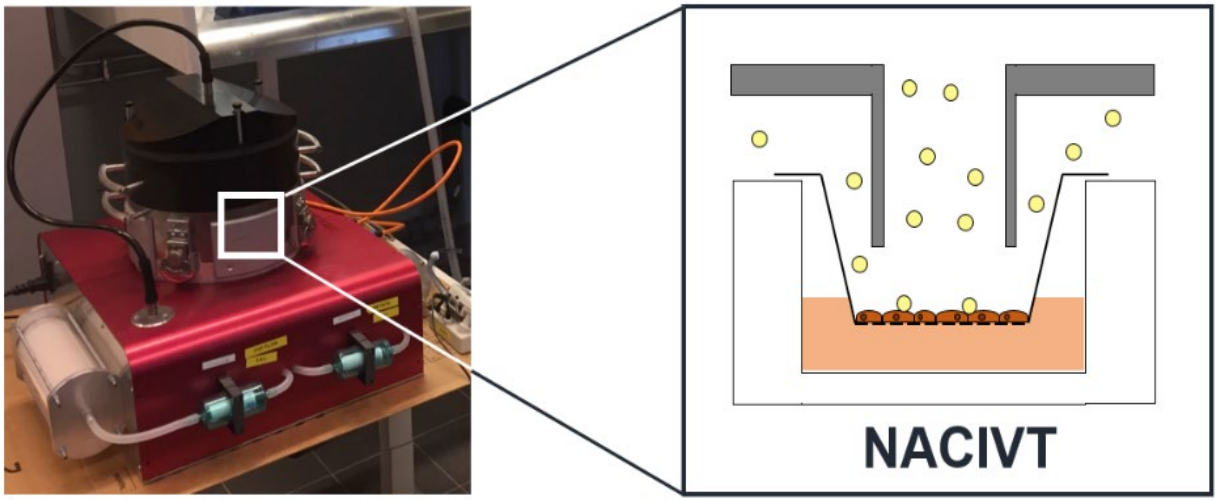
Nanosafety research areas, examples: Surface contamination





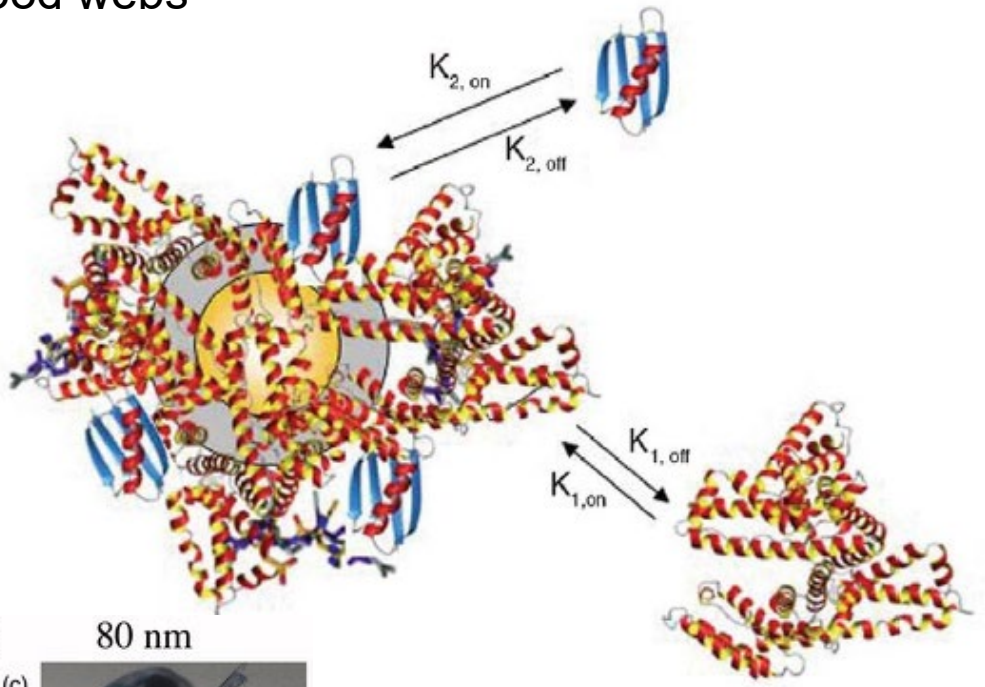
Hedmer, Isaxon et al. Ann Occup Hyg 2015

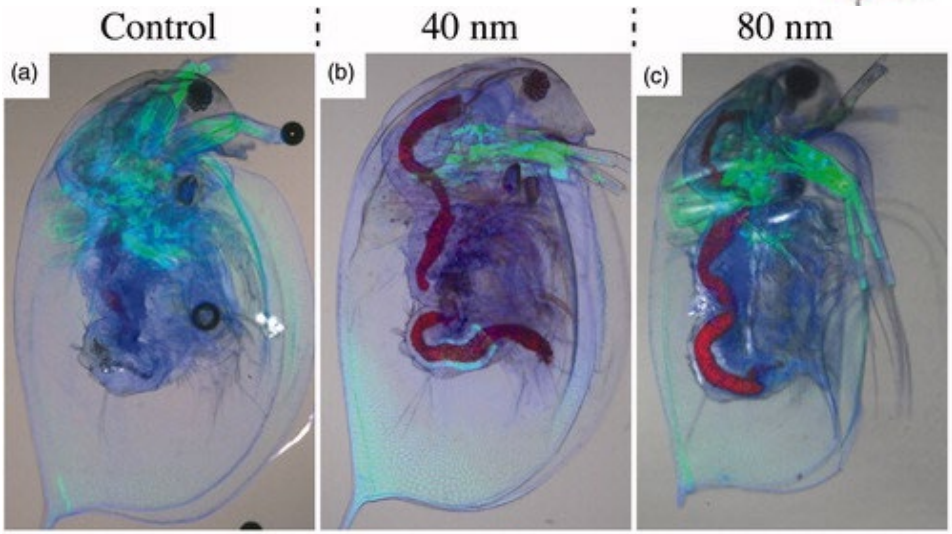
Nanosafety research areas, examples: Cell system for realistic airborne exposure



Lovén et al. Working manuscript 2020

Nanosafety research areas, examples:
Corona formation, transport in food webs



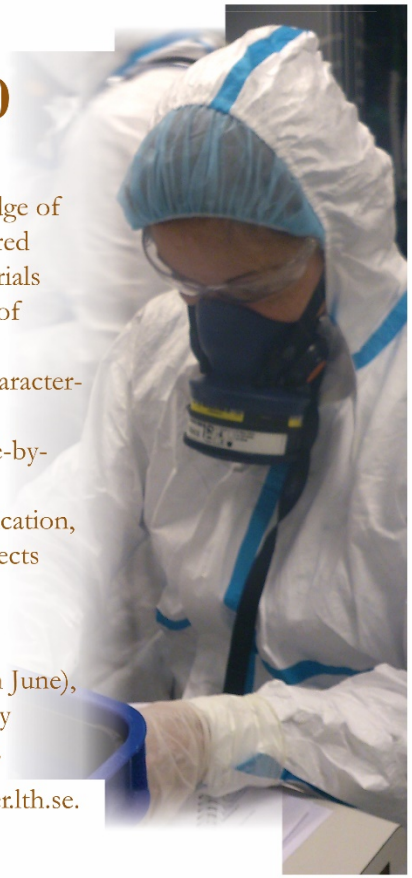


Mattsson et al. 2016 Nanotoxicology

LUND UNIVERSITY | NANOLUND
NANOTECHNOLOGY FOR THE FUTURE

Nanosafety PhD course

MAM030F
Spring 2020



The aim of the course is to mediate knowledge of safe manufacturing and handling of engineered nanoparticles and of nanomaterials i.e. materials containing nanoparticles, in the perspective of human health and of environment.
Aspects such as safety, important particle characteristics, exposure- and emission assessment, nanotoxicology, precautionary principle, safe-by-design, human-technology interaction, risk assessment, risk management, risk communication, life cycle analysis, legislation, and ethical aspects will be covered.

MAM030F is a 5 ECT course given during two weeks (21rd – 24th April, and 8th – 11th June), with the possibility to follow up the course by doing a project valid for 2.5 additional ECTs.

Course syllabus can be found at www.fukurser.lth.se.

Information and registration:
christina.isaxon@design.lth.se

LUND UNIVERSITY | NANOLUND
AT THE FOREFRONT OF NANOSCIENCE

Nanosafety at NanoLund – strategic aims

- To be the go to place for Scandinavian industry regarding any nanosafety related issues
- Conduct and disseminate internationally leading research to understand the fundamental connections between particle properties and human and environmental toxicology in order to enable the implementation of Safe-by-Design.
- Develop state of the art toxicological test protocols for more health- and environmentally relevant exposure scenarios including e.g. various types of corona formation, particle aggregation states and potential cocktail effects adapted to the generally low volume availability of nanomaterials.
- To be a proactive part in the societal debate regarding the safe production and use of new nanomaterials.
- To generate new and transfer existing knowledge on safe handling of nano materials, throughout the life-cycle, to PhD students, the NanoLund research community and the industrial network by e. g. PhD courses and mentorships, and by commissioned education.