

The Second Phase of the Swedish Nanomaterial Safety Research Program Has Been Launched

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Following the completion of the first phase of the Swedish nanosafety research program, called Mistra Environmental Nanosafety, the second phase of the program has been launched at Lund University. In this phase, researchers study the effects of nanoparticles on the environment and examine the environmental risks associated with nanomaterials. Finally, recommendations and advice will be developed to increase the factor of safety in using nanomaterials.

Phase one of the research programme was recently completed. In phase two, the programme will build on, and develop, the research which was identified as especially interesting during the first four-year period. The programme also moves to Lund University in the south of [Sweden](#).

"There is a good set up to have the programme here in Lund. We have done a lot research on nano, and there is an internal work environment here that encourages collaboration. We also have access to infrastructure such as [MAX IV](#), and [ESS](#) and can collaborate with our colleagues in [NanoLund](#)", says Tommy Cedervall, Director of the programme, and researcher at Biochemistry and Structural Biology at Lund University.

In phase two, researchers will examine the effects of transformed nanoparticles on the environment. Materials in nanosize may have different characteristics than the same material in bulk (larger size), for example they may become more reactive. Depending on what environment they are in, for example blood or water, the engineered nanoparticles may react with different substances in their environment. The researchers therefore want to test how different nanoparticles transforms in contact with the ecological systems they finally end up in: what material attributes do they get, and what are the subsequent effects on aquatic organisms? Based on how the nanoparticles are behaving, the researchers will decide what materials they want to focus on, and then test how those particles impact cells or animal systems.

"When nanoparticles are tested from a safety perspective it's new [newly produced] nanoparticles that are being tested. What we want to do is to instead examine effects from transformed nanoparticles. It's really important because today we know way too little about the risks to human and environments from using nanomaterials", says Tommy Cedervall.

Researchers in the programme will also work with developing new recommendations and advice relating to risk assessments within nanosafety, which will highlight the importance of taking into consideration the eventual effects from transformed nanoparticles. They will also work with the question of how an innovative research and development environment can be maintained.

"These are the two areas we see as promising to develop during this next four-year phase. The use of nanomaterials are increasing, and we have to make sure that the research on risks is one step ahead", says Tommy Cedervall.



Kick Off Phase Two

Phase two of the programme was launched on the 9th of May. Present at the kick off were representatives from Lund University, participating universities, industry partners, Lund municipality, and the [Mistra programme](#) STEPS, Sustainable Plastics and Transition Pathways, which is also led by Lund University.



"It was a good day, especially the workshop at the end. We focused on how we can tie the whole programme together, and how we want to work within the various work packages. We have an entire package which focuses solely on management, communication and collaboration, which I think is good", says Lennart Gisselsson, coordinator for the programme.

The programme gathers researchers from Lund University, Chalmers University of Technology, University of Gothenburg, Karolinska Institute, Royal Institute of Technology, and the Technical University of [Denmark](#). Principal investigators are: Tommy Cedervall, Zareen Abbas, Sverker Alänge, Rickard Arvidsson, Bengt Fadeel, Steffen Foss Hansen, Julián Gallego, Lars-Anders Hansson, Christoph Langhammer, Inger Odnevall Wallinder, Jenny Rissler and Joachim Sturve. Four industry partners are part of the programme: Höganäs AB, Nouryon, SYSAV and Tetra Pak. It is funded by Mistra Stiftelsen för miljöstrategisk forskning at 50 million SEK for phase two.

Read the [original article](#) on SweNanoSafe.