



NanoCompetence Graduate School

The graduate school [NanoCompetence](#) (NanoComp) started in 2015 and consists of an interdisciplinary team of seven work groups of the University of Bremen. The research objectives focus on the generation of knowledge relevant for future regulation of nanomaterials, including risk regulation and environmental impact and discharge evaluation. The graduates investigate metal oxide nanoparticles regarding their effects on various biotic and abiotic systems, e.g. glioma cells or pore water, or regarding the educational and philosophical aspects related.



[NanoCompetence](#)

Public Engagement

In addition to the knowledge generation NanoComp has the objective to find new forms of knowledge transfer and communication to inform societal actors about potentials and risks of nanomaterials. The website offers information about nanomaterials, the project research foci and their activities as well as publications and dissemination activities. At the Open Campus 2019 interested citizens could find comprehensive representations of the research topics. The final symposium will be at the public-related "Haus der Wissenschaft" in Bremen. The event focuses on dissemination to and discussion with an expert audience as well as the interested public and media.

The scholarships for the PhD students are funded by the Hans-Böckler-Foundation, which supports research linked to the world of work and students' support on behalf of the DGB (Confederation of German Trade Unions). Furthermore, the project is substantially supported by the VCI, the association of the Chemical Industry, the Bremen Senator for Science, Health and Consumer Protection as well as the University of Bremen. Therefore, communal politics, economy and scientific community are involved in this project. These groups need not only be informed about the outcome, but have to be considered in the research process to give in their specific perspectives.

An important role of the NanoComp project play lectures with external guests which are invited by the graduates. The lectures are announced through the website and are not only open for scientists but also for the public.

Open Access

The papers are published primarily in hybrid journals with the possibility of Open Access, few in exclusively Non-open Access journals and few in Open Access journals. This depends on the specificity of the topic and the corresponding journal fit. Scientists as well as interested citizen, therefore, have free access to most of the results.

Gender

The NanoComp team laid focus on the equity of both sexes: there are three female and four male Professors involved, all three female professors and four of the five male professors also have the function of supervising the PhD students. The project coordinator is male, six of the eight PhD students as well as eight of the eleven associates are female.



The requirements for the scholarships included beyond the scientific qualification of the applicants social or sociopolitical engagement – and thus encourage female scientists to apply for the graduate school. This strategy has been confirmed since most of the students selected – as mentioned above - are female.

The female professors may serve as role models for young female researchers.

Education

As one of the project objectives the exploration of new forms of communication lead to a model of risk literacy regarding nanomaterials as well as educational materials and strategies to allow knowledge accumulation, discussion and reflection on the topic with the goal of being able to decide responsibly as a citizen, a consumer or as political decision maker.

To achieve this objective, one PhD project focuses on the development of teaching materials on the projects' research findings, that contextualizes the scientific knowledge within the students' living environment while considering ecological, economic and social aspects. In this way the students may realize the connections of the topic to their lives as well as the complex problem structure and the difficulty to reach an informed and reasonable decision. The developed teaching units were investigated and have proven to facilitate the development of the necessary evaluation skills.

Ethics

As part of the project one research topic concentrates on the specific ethical aspects regarding nanomaterials, their research and application. The graduate student responsible investigates e.g. the precautionary principle from a philosophical perspective.

A symposium with the topic „Ethical aspects to get on with nanotechnology“ (Ethische Aspekte des Umgangs mit Nanotechnologien) with external experts has been organized by the graduate school.