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Editorial

Eugenia Kypriotis

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Open Schools Journal for Open Science

Special Issue Articles from the

1st International Open NanoScience Congress



1. Preface to the special issue

This is an issue of the Open Schools Journal for Open Science created to support the 1st International Open NanoScience Congress that took place on the 26th February 2019, in Salzburg, Austria, addressing the general public. Amongst the topics covered during the Congress were nanotechnology, nanobiology, nanomedicine and nanoeducation. This special issue records some special research work created from the school students', cases of pre-scientific and diploma theses, laboratory internships and joint research events. You will find 10 posters (in German) accompanied by explanatory abstracts (in English) and 2 articles (in English).

Have a look at the welcome note from the programme committee of the conference.

Have a good read!

Eugenia Kypriotis

Journal Manager

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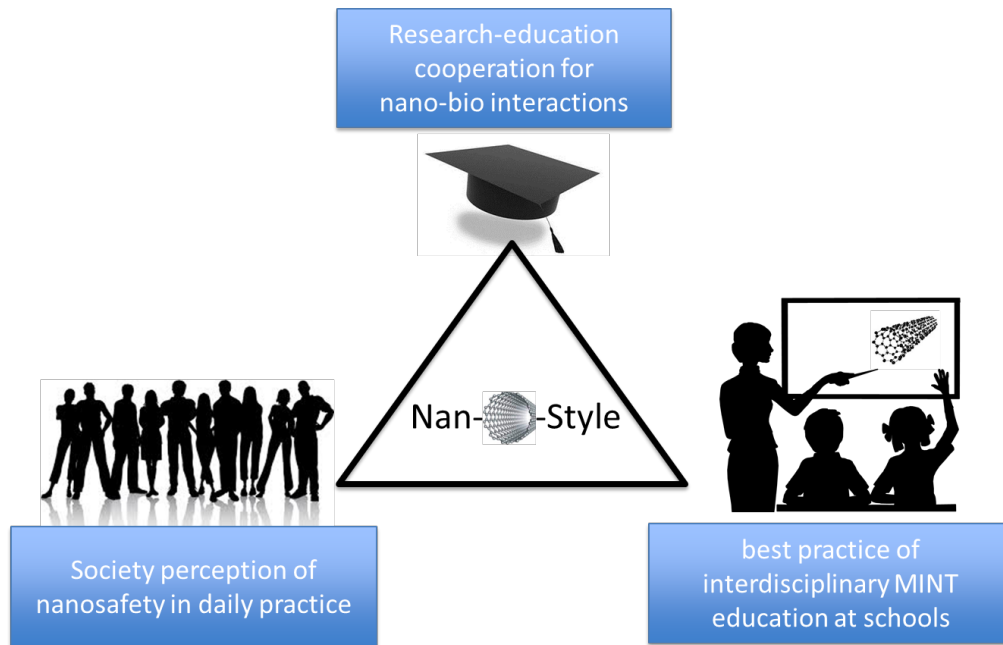
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2. Welcome Note from the Conference Organisers

Nan-O-Style

Nanotechnology ↔ modern Lifestyle

Stefanie Ess, Isabella Anna Joubert, Reinhard Nestelbacher, Mark Geppert, and Martin Himly
Dept. Biosciences, Paris Lodron University of Salzburg, Austria



Nan-O-Style was an interdisciplinary research project (SPA 06/270 funded by the Austrian Ministry for Education, Science, and Research, BMBWF), which investigated the interactions between nanomaterials (NMs) in consumer products with substances from daily life with a special focus on modern lifestyle products (MLPs) used by adolescents. The project therefore collaborated with school students at the age of 15-18 y.

The **scientific aims** of the project were:

- Investigation of modern lifestyle habits by adolescents and the associated new possibilities of combined exposure to NMs and MLPs;
- Determination of the NM-MLP interactions by *Nanoparticle Tracking Analysis* (NTA) and the resulting biological effects in cell culture models;
- Generation of knowledge and attitudes towards nanotechnology from adolescents, adults and employees in small and medium enterprises (SMEs) working in the field.

The **educational aims** of the project were:

- Development of an individually adapted communication style with the adolescents;
- A digital *collaborative learning system* and the compilation of an *education initiative* about nanotechnology including teaching resources (*Nanobox*);
- Initiation of a number of international *peer-teaching* events;
- Development of a joint nanotechnology education initiative with Austrian schools;
- A *Citizen Science* approach to promote nanotechnology perception within the Austrian society.

In order to achieve a high variety of perspectives, students from different types of Austrian higher schools (technical/scientific vs. economic vs. artistic) worked in close contact with the scientists from academia. On top of the competences, which were acquired within Nan-O-Style, the school students developed new models for interdisciplinary teaching in mathematical/scientific/technical (MINT) subjects and applied them as *best practice examples*. This work was performed collaboratively within an active network which was established between academic scientists, school students and educational institutions. The project furthermore focused on integration of schools with a background in economics or fashion which typically have a higher share of girls. A number of projects on nanotechnological, nanobiological, nanomedical or nanoeducational topics were carried out and specific training internships dedicated to female students were performed. Nan-O-Style was an internationally well-connected project having established a number of peer teaching sessions which were conducted in collaboration with the schools network of ORT Moshinsky R&D, Tel Aviv, Israel.

On 26 February 2019 the 1st International Open NanoScience Congress (www.uni-salzburg.at/ONSC) was organized where >450 people of the general Austrian public attended. Internationally renowned nanosafety and nanoeducation experts gave plenary talks. Early-stage and experienced researchers reported on their projects in nanosciences and –technology. School students presented their work in a chaired poster session or at booths in the nano-exhibition. This special issue compiles some selected work originating from the school students' pre-scientific and diploma theses, laboratory internships at PLUS, and joint research events of PLUS scientists, the Sciencetainment network and Nan-O-Style partner schools.

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