



Welcome to the 18th NanoSafety Cluster Newsletter.

Thank you everyone who contributed to this issue. This issue kicks off with a summary from the [NSC \(nano\)TiO₂ safety communication task force](#) of the findings in its report and the role of scientists in such communication. Following this, our newsletter celebrates International [Women in Science Day](#) with a special feature on the Patrols Project and the women who drive it, as well as those supported by it. PATROLS also features on [p4](#) with a summary of a highly successful year and an announcement of its forthcoming webinar: [“Introduction to advanced ecotoxicity testing of nanomaterials – the PATROLS approach”](#). The NIA contributes further with details of its [9th Annual Symposium](#), which is open to NSC Stakeholders and will focus four of the flagship projects including [Gov4Nano](#), [Gracious](#), [PATROLS](#), and [SmartNanoTox](#). The Project News section also covers recent meetings held by NanoCommons and RiskGONE in Reykjavik, Iceland ([p5](#) & [p6](#)).

Save the date: 19th February – this is when you can take part in the [Gracious webinar](#) and find out the background and purpose of the Gracious Grouping Framework and how you can apply it to your needs. We then move onto [OpenRiskNet](#) which is currently undergoing the stages for deploying and integrating its services in the EOSC-hub technical infrastructure. The [Pandora Project](#) then features with an invitation to contribute to a special issue of the Nanomaterials Journal, which is open to colleagues outside of the project. You may also wish to contribute to another special issue [“Nanoparticle-Macrophage Interactions: Implications for Nanosafety and Nanomedicine”](#).

In other news, The German Environment Agency (UBA) and the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety (BMU) invite you to take part [in a survey on advanced materials](#). Meanwhile, [the Biorima project forum](#) is increasing in activity and welcomes stakeholders to engage and discuss methods, materials and especially the integrated risk management framework (IRM). Then, in a crucial development, the NIA shines a spotlight on the [increasing use of the term ‘Nanoplastics’](#), which is well worth a read.

Further on you’ll find out about a number of jobs and opportunities, including [Open access to JRC Research Infrastructures](#) for Training and Capacity Building before we reach our [Events section](#). First and foremost, we provide the registration link for the forthcoming [Nanosafety Training School - From Basic Science to Risk Governance](#), Interprofessional Education Training School & Young Scientist Forum 2020 to be held on 22nd - 27th March 2020, Venice, Italy. Don’t miss the deadline on 20th February. More details of key events being hosted throughout the year are listed – so have your calendars ready.

Finally, check out the final page [with ways of engaging with the NSC](#) including twitter, LinkedIn, etc.

Once again, we very much hope you enjoy this issue and we look forward to receiving your updates for the next one when Spring has sprung and the storms are over for a while!

Kind regards
Lesley Tobin
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The next issue....

If you’d like to contribute to the next newsletter, the deadline for the Spring 2020 issue is April 17th

Your news can either be sent via this [form](#) or you can send them directly in an email to me. Word or pdf formats are great. Images are wonderful 😊



Brief report of the NSC (nano) TiO₂ Safety Communication Task Force

Prof. Damjana Drobne

Bionano Team, University of Ljubljana

The goal of the **(nano)TiO₂ safety communication task force** of the EU NanoSafety Cluster (NSC) was to provide scientific input to the ongoing discussions on the safety classification of titanium dioxide. The TF on TiO₂ safety communication ran from January 2018 to January 2019. The TF members communicated via mail, Skype and face-to-face at different scientific meetings. They collected information regarding TiO₂ classification itself and information on TiO₂ hazard potential from available scientific literature.

All contributors agreed that the issue of “TiO₂ safety communication” is a very complex issue which has more dimensions. Some contributors concluded that communication of science to non-scientists should be responsibility of scientists. It is not sufficient to rely on science journalism to be responsible for the understanding of science.

In the future, *convergence and networking*, pragmatic consensus-based minimum standards and communication technique could enable translating scientific findings into society. There is never only one or a few scientific paper enough to communicate scientific findings. The core issue is in explain-ing facts and findings to prevent from being misunderstood and this has to be done by the scientific community and not left to non-scientists.

Some members of the TF group will continue working on the issue of nano risk communication in the ongoing H2020 Nano risk governance projects Gov4Nano, NANORIGO and RiskGONE.

The message the Task Force members would like to give is that scientists should not interfere with regulatory decision-making at any stage. What they should do is communicate science. Moreover, scientists should establish standards for science communication and this could be one of future challenges for the NSC. Some of us continue this task in the ongoing nano-risk governance projects.

The (nano)TiO₂ Safety Communication Task Force

The Task Force the “(nano) TiO₂ safety communication” was initiated by Damjana Drobne ([University of Ljubljana, Slovenia](#)) and aims to adequately and accurately cover the scientific findings regarding TiO₂ and TiO₂ nano safety and to provide independent and transparent scientific opinion and advice to stakeholders. The selection criteria for available studies will be applied to find the best available *in vivo* and *in vitro* evidence; the latter might serve to understand underlying mechanisms.

The deliverables will include a report to be published in a scientific journal on recent evidence on genotoxicity, mutagenicity and carcinogenicity of TiO₂ considering inhalation, as well as oral and dermal route of exposure. Information will be collected from NSC/ EU funded projects as well as from recent publications in the scientific literature and recent publically available reports. An opinion on the CLH for TiO₂ dossier to ECHA, EFSA, NIA, CEPE, TDMA will also be delivered and (generic) guidelines for nano-safety state of the art to be used by regulators (REACH and CLH regulation). The Task Force will also try to propose a scheme for communicating scientific evidence regarding nanomaterial safety findings in the most efficient and transparent way.

- The work of this task force was featured in March 2018 in an [article](#) written by science editor, of [Chemical Watch: Global Risk & Regulation News](#), Andrew Turley on “*Poorly soluble, low toxicity particles facing review*”.
- The Task Force launched in January 2018 and further details can be found [here](#).
- To get involved with this TF please contact Damjana Drobne (damjana.drobne@bf.uni-lj.si) directly.

Current NanoSafety Cluster Task Forces

- [Nano-Definition of Safe by Design](#)
- [\(nano\) TiO₂ Safety Communication](#)
- [Publicly Accessible Exposure Database](#)
- [Creating a Sustainable Model for NSC Knowledge Resources](#)



PATROLS project celebrates International Women in Science Day

The PATROLS project celebrated the International Day of Women and Girls in Science, with a look at the scientists that drive the project. PATROLS brings strong representation of women within its delivery, including the coordinator, Professor Shareen Doak and 6 of the 8 Work Package leaders.

The project is also supporting women through its Early Career Research Network, Chaired by Drs Samantha Llewellyn & Angela Kampfer, with awards including ISAM Young Researcher award to Dr Hana Barosova (Adolphe Merkle Institute) and Best Oral Presentation Award at the Nanosafety Cluster Annual Conference 2019 to Dr Kirsty Meldrum (Swansea University).



Professor Shareen Doak, Swansea University (UK)

Shareen Doak is Professor of Genotoxicology and Cancer in Swansea University Medical School and leads the *In Vitro* Toxicology Group. Shareen is a UK and EUROTOX Registered Toxicologist, an invited Fellow of the Royal Society of Biology (FRSB), an elected Fellow of the Learned Society of Wales (FLSW) and Editor-in-Chief of the *Mutagenesis* Journal.



Professor Barbara Rothen-Rutishauser, Adolphe Merkle Institute, University of Fribourg (CH)

As Professor of BioNanomaterials, Barbara is an expert in the field of cell-nanoparticle interactions in the lung, with a special focus on 3D lung cell models and various microscopy techniques such as laser scanning and transmission electron microscopy. She published > 270 peer-reviewed papers and is an associate editor of the journal "Particle and Fibre Toxicology". Barbara is the Faculty Delegate for the Advancement of Young Researchers and Women within the NCCR Bio-Inspired Stimuli-Responsive Materials and the recipient for the 2019 Materials Today Agents of Change Award with two colleagues.



Professor Vicki Stone, University of Heriot-Watt (UK)

Vicki is Director of the Institute of Biological Chemistry, Biophysics and Bioengineering and an elected Fellow of the Royal Society of Edinburgh, the Royal Society of Chemistry and the Royal Society of Edinburgh, as well as an Honorary Principal Scientist at the Institute of Occupational Medicine. She has published over 130 publications on particle toxicology and was recently recognised by Thomson Reuters as one of the top 1% of all researchers in the world for the most cited publications in the field of Pharmacology and Toxicology ([see page 7](#))



Professor Martina Vijver, Leiden University (NL)

As Professor at the Institute of Environmental Sciences, Martina's research field is in Ecotoxicology. Obtaining realistic predictions and measurements of how existing and emerging nanomaterials & chemicals potentially affect our natural environment and the organisms living therein is essential to provide the necessary tools to assess and mitigate ecosystem threats. With more than 137 peer-reviewed publications, she is (co-) founder of the *Researchers in Science for Equality* network, a platform for female scientists at the Faculty of Science.



Dr Anna Costa, CNRS (IT)

Since 2008, Anna has been a researcher at the ISTECCNR Faenza (Institute of Science & Technology for Ceramics, former IRTEC) with a permanent position, Materials and Processing for Energy Applications Group. Her focus is on research and development of innovative processes for the synthesis and functionalization of ceramic nano powders; synthesis and characterization of colloidal systems applied to surface functionalization (coating, core-shell structures, granulation), to casting processes and pre-sintering treatments



Dr Claire Skentelbery, Nanotechnology Industries Association (BE)

Claire has worked within international science and industrial associations since her PhD in biochemistry. She was part of the founding team behind the Council of European BioRegions (CEBR), becoming Network Manager and moving CEBR from Cambridge UK to Brussels, and was also Secretary General of the European Biotechnology Network. She became Director General of the Nanotechnology Industries Association in January 2017.

PATROLS Project Celebrates 2019 Achievements



Project News | Winter 2019

The [PATROLS](#) project (Physiologically Anchored Tools for Realistic nanOMaterial hazard aSsessment) celebrated its achievements in 2019 with its [winter 2019 newsletter](#) dedicated to latest developments.

[PATROLS](#) aims to change the way we think about and test engineered nanomaterials to ensure they are safe and fit for purpose. [PATROLS](#) is developing an enhanced suite of robust, reproducible and transferable *in vitro* tests, which will offer improved prediction of the long-term nanomaterial hazard effects in humans and the environment. These next-generation test systems will be fit for purpose to better support regulatory risk decision making and reduce the reliance on animal testing.

In 2019, [PATROLS](#) delivered reports in effects of repeated dose inhalation studies, SOPs for advanced lung model long-term culture conditions and exposure protocols and advanced long-term exposure ecotoxicity bioassays for a variety of species across a food chain. For gastrointestinal tract (GIT) and liver models, development and application of simulant fluids representing biological compartments that nanomaterials traverse in a sequential manner (following oral or inhalation exposure) has been established, while the algal testing platform LEVITATT (LED Vertical Illumination Table for Algal Toxicity Tests) is ready for first round robin tests.

A lung fibrosis model is under development, an inflamed model of the gastrointestinal tract has been established and characterised and models representative of mild and severe steatotic disease are under evaluation. Interestingly, when the microbiome is taken into consideration, microbes on zebrafish larvae have been found to protect against the impacts of nanomaterial exposure.

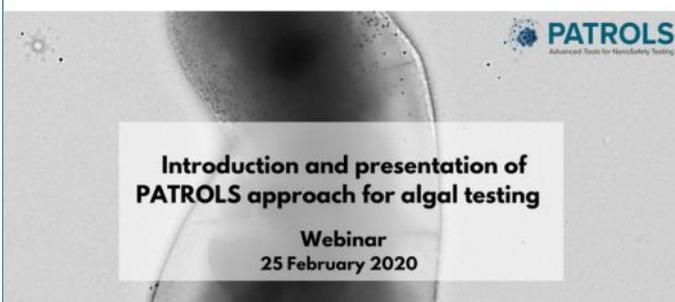
The [newsletter](#) includes highlights from the very successful stakeholder workshop at the OECD, as well as four peer reviewed publications that covering novel methods and advances in 3D tissue development.

Get involved in 2020

[PATROLS](#) will be hosting a webinar on the 25th of February under the title: "Introduction to advanced ecotoxicity testing of nanomaterials – the PATROLS approach". The main focus of the presentation will be to introduce and present our approach for algal testing using our newly developed test setup (LED Vertical Illumination Table for Algal Toxicity Tests – LEVITATT) and the second half will be a QA session with regards to the upcoming ring test of the mentioned test setup.

[Register for the webinar](#)

[Download the Winter newsletter](#)



Project News | Winter 2019

Physiologically Anchored Tools for Realistic nanOMaterial hazard aSsessment

[PATROLS](#) is an international project combining a team of academics, industrial scientists, government officials and risk assessors to deliver advanced and realistic tools and methods for nanomaterial safety assessment.

[PATROLS](#) will provide an innovative and effective set of laboratory techniques and computational tools to more reliably predict potential human and environmental hazards resulting from engineered nanomaterial (ENM) exposures. These tools will minimise the necessity of animal testing and will support future categorisation of ENMs in order to support safety frameworks.



Nanosafety and risk governance projects to be showcased at NIA Annual Symposium, Brussels

Dr Claire Skentelbery
Director General
Nanotechnology Industries Association

As part of its mission to support commercial development of nanomaterials, the Nanotechnology Industries Association (NIA) will showcase the flagship projects from H2020 in nanosafety and risk governance.

Within its 'Projects Corner', NIA Members will display latest outcomes from projects, with a particular focus in 2020 on four of the flagship projects intended to support nanomaterials development.

These include:

Gov4Nano: Part of the drive to enhance risk governance within nanomaterials for greater consumer and business confidence, Gov4Nano will host a validation exercise for industrial stakeholders.

Gracious: Listen to Professor Vicki Stone presenting the framework for grouping nanomaterials for risk assessment, read-across and join the exhibition stand to join and test the framework.

PATROLS: As PATROLS advances 3D tissue models and methods for chronic exposure to nanomaterials, join Professor Shareen Doak to share the latest scientific developments.

SmartNanoTox: As the project comes to an end, discover advances in main respiratory toxicity pathways for nanomaterials and their mechanistic key events related to interactions at bionano interface from SNT's post-uptake nanoparticle characterisation and molecular modelling.

NanoSafety Cluster Stakeholders are welcome to attend the NIA Symposium, as part of NIA's mission to support the commercial development of nanomaterials.

Visit the webpage [HERE](#) and join us in Brussels on March 18th for industrial advances and networking for nanomaterials.



NanoCommons General Assembly

The Month 24 NanoCommons General Assembly (GA) took place during the first week of February 2020 Reykjavik, Iceland. During the meeting on the 5th February, the NanoCommons partners discussed the current project advancements following a successful period 1 review, and set the targets for year 3.

The NanoCommons GA was preceded by a workshop on 2 - 3 Feb 2020, organised jointly with the NanoSolveIT and RiskGONE projects on the development of InChiKey identifiers for nano. The workshop was also attended by nanosafety researchers and regulators from both the EU and the Americas (U.S.A., Brazil).

Following this, on the 6th February a joint meeting of the [NanoCommons](#), [NanoSolveIT](#) and [RiskGONE](#) projects was held so that the 3 projects could test the advancement of their ongoing joint actions and plan further collaborations to advance safe nanotechnology. See [the next page](#) for details of RiskGONE developments.

RiskGONE—1st Year Project Meeting

The first week of February saw the RiskGONE project hold a successful meeting in Reykjavik, Iceland. Looking back at the project's first year, partners came together to advance in their efforts to provide solid procedures for science-based risk governance of nanomaterials. The meeting also served to harmonise the ongoing activities with H2020 projects NANORIGO and Gov4Nano, which, together with RiskGONE, are working to build a robust, long-term RiskGovernance Framework and Council to guide the safe and transparent governance of EngineeredNanomaterials (ENMs).

Through characterisation of ENMs and human and eco-toxicological hazardassessment, RiskGONE aims to develop tools to identify with better certainty the environmental and human health impacts of a number of nanomaterials. These tools and the results of tests using them will then be integrated into the work of the European Risk Governance Council.

Would you like to know more? Keep an eye on the [website](#) for more news items and relevant resources and [sign up to the newsletter](#).

Searching for answers? The [RiskGONE public forum](#) is open for all of you and enables you to ask questions and engage with other interested stakeholders:





The GRACIOUS Framework Webinar - Grouping, Read Across and Classification of Nanomaterials and Nanoforms

Horizon 2020 GRACIOUS Webinar

19th February 2020 - 19th February 2020

Start: 10:00 GMT | End: 11:00 GMT

About:

Many variations of a single substance can exist, with differences in size, morphology and surface characteristics. Depending on the size, some variations have to be reported and regulated as nanomaterials. Financial and ethical considerations mean that safety testing of each variation for their potential adverse effects is virtually impossible. For these reasons, improved ways to obtain safety information are needed for a successful and sustainable nanomaterials sector.

The Horizon2020 project GRACIOUS develops a highly innovative science-based framework to enable practical application of Grouping, leading to Read Across and classification of nanomaterials and nanoforms.

Want to learn more on how to do grouping? Join us for this informative webinar.

In this webinar you will learn and discuss:

- The background and purpose of grouping of nanomaterials/nanoforms
- The GRACIOUS grouping Framework
- How it can be applied for your current needs

Presenter:

Dr. Vicki Stone, HWU (see below)

Who should attend?:

- Regulatory compliance officers for manufacturers and importers of powders
- Formulators and product manufacturers of nano-enabled products
- Industry and Academia representatives in nanotechnology
- National and regional regulators
- Policy makers, NGOs, Standardisation bodies

Registration:

To join the webinar please sign up via the following link:

<https://attendee.gotowebinar.com/register/417377216575765003?source=Gracious+Website>

Dr. Vicki Stone

Vicki Stone is Director of the Institute of Biological Chemistry, Biophysics and Bioengineering at Heriot-Watt University, Edinburgh, UK. Vicki is also an Honorary Principal Scientist at the Institute of Occupational Medicine. Vicki is a fellow of the Royal Society of Chemistry, the Royal Society of Biology and the Royal Society of Edinburgh. She was the holder of the Royal Society of Chemistries Toxicology Award (2015-16) and the Editor-in-chief of the journal Nanotoxicology (<http://informahealthcare.com/nan>) for 6 years (2006-2011). Vicki has also published over 165 publications pertaining to particle toxicology over the last 25 years. Between 2015 and 2018 Vicki was recognised by Clarivate Analytics (formerly Thomson Reuters) as one of the top 1% of all researchers in the world for the most cited publications in the field of Pharmacology and Toxicology. Vicki is currently involved in three new large EU funded projects: [PATROLS](#), [BIORIMA](#) and [GRACIOUS](#).



GRACIOUS (for which Vicki is coordinator) will generate a framework for streamlining the risk assessment by facilitating grouping and read-across of nanomaterials. **PATROLS** will generate advanced alternative models for assessing the hazards of nanomaterials to humans and other species. **BIORIMA** will generate a risk assessment framework for nanomedicines. Other current funding includes UK Research Councils (BBSRC and NC3Rs) and industry (Byk/Altana).

Successful evaluation for OpenRiskNet e-Infrastructure



The OpenRiskNet e-infrastructure has been successfully evaluated for the technical feasibility and impact within the EOSC Early Adopter Programme

The project submitted by OpenRiskNet to the [EOSC Early Adopter Programme](#) underwent an evaluation for technical feasibility and EOSC impact and is now entering the final stages of the review process.

The next phase foresees the preparation of a technical plan to deploy and integrate OpenRiskNet services in the EOSC-hub technical infrastructure. The EOSC-hub is going to assign a responsible person that will assist the project in this work. Also, the providers that will supply the resource capacity and services requested will be identified, as well as establishing efficient and prompt communication channels between the parties involved.

About OpenRiskNet: Open e-Infrastructure to Support Data Sharing, Knowledge Integration and in silico Analysis and Modelling in Predictive Toxicology and Risk Assessment

OpenRiskNet is a 3-year project with the main objective to develop an open e-Infrastructure providing resources and services to a variety of communities requiring risk assessment, including chemicals, cosmetic ingredients, therapeutic agents and nanomaterials. OpenRiskNet is working with a network of partners, organized within an Associated Partners Programme.

The main concepts of the OpenRiskNet infrastructure are virtual research environments (VRE) integrating data, analysis, modelling and simulation services for all areas of risk assessment, which can be deployed to workstations as well as public and in-house cloud infrastructures.

- Feel free to test out one or multiple of the available services. The list of available services is constantly updated.
- Have a look at the [currently available services](#).
- Use the [reference environment](#) or learn how to set up [your own VRE](#).
- To get familiar with the OpenRiskNet concept before you start using the services, consult the [case studies](#) that are used to test the usability of the integrated tools, services and data.
- You will need to login to access some of the services. Please check the [login instructions](#) for details.

For more information visit: <https://openrisknet.org/>

Email: openrisknet@edelweissconnect.com

About the EOSC Early Adopter Programme

EOSC offers a broad spectrum of services and technologies for the research data management lifecycle, and scientific outputs like data, publications and software of pan-European relevance. The combined use of these technologies and resources can allow scientific communities to address complex scientific challenges.

The services and resources in scope for the programme are those currently provided by the [EOSC-hub project](#) and its partners, namely [OCRE](#), [OpenAIRE](#) and [GÉANT](#).

For more information, see: <https://eosc-hub.eu/eosc-early-adopter-programme>



Outcomes of the EU Project PANDORA—Nanomaterials Journal Special Issue

A special issue of *Nanomaterials* (ISSN 2079-4991).
Deadline for manuscript submissions: 31 May 2020.

Prof. Diana Boraschi
Guest Editor
d.boraschi@ibp.cnr.it



We would like to take the occasion of the conclusion of the EU project PANDORA to summarise what we have learned regarding the interaction of engineered nanomaterials with the defensive systems of living organisms.



nanomaterials

PANDORA had the ambition of looking for common mechanisms of recognition and reaction, based on the high evolutionary conservation of innate immune mechanisms from plants to human beings. Whether nanomaterials could pose threats to the organisms' integrity or whether immune defensive mechanisms can successfully deal with them are questions to which we have tried to respond. The PANDORA partners will provide their conclusions and opinions, based on the data they have generated, on the consequences of the interaction between nanomaterials and the innate immune system in their specific models' organisms, spanning *A. thaliana*, terrestrial isopods, earthworms, mussels, sea urchins, and humans. Other colleagues, outside PANDORA, are warmly invited to contribute their view and help in completing the picture.

Manuscript Submission Information

Manuscripts should be submitted online at www.mdpi.com by [registering](#) and [logging in to this website](#). Once you are registered, [click here to go to the submission form](#). Manuscripts can be submitted until the deadline. All papers will be peer-reviewed. Accepted papers will be published continuously in the journal (as soon as accepted) and will be listed together on the special issue website. Research articles, review articles as well as short communications are invited. For planned papers, a title and short abstract (about 100 words) can be sent to the Editorial Office for announcement on this website.

Submitted manuscripts should not have been published previously, nor be under consideration for publication elsewhere (except conference proceedings papers). All manuscripts are thoroughly refereed through a single-blind peer-review process. A guide for authors and other relevant information for submission of manuscripts is available on the [Instructions for Authors](#) page. *Nanomaterials* is an international peer-reviewed open access monthly journal published by MDPI.

Please visit the [Instructions for Authors](#) page before submitting a manuscript. The [Article Processing Charge \(APC\)](#) for publication in this [open access](#) journal is 2000 CHF (Swiss Francs). Submitted papers should be well formatted and use good English. Authors may use MDPI's [English editing service](#) prior to publication or during author revisions.

For more information, go to: https://www.mdpi.com/journal/nanomaterials/special_issues/Immune_PANDORA





Invitation to take part in an online survey on advanced materials

In the context of the German research project “[Advanced Materials – Thematic Conferences: Assessment of the needs to act on chemical safety](#)” on behalf of the German Environment Agency and funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety - on advanced materials, we invite experts from academia, industries, authorities and civil society organisations to respond to an online survey on advanced materials.

The aims of the survey are to:

- obtain feedback on the project’s approach of clustering advanced materials, which aims to structure a potential monitoring of market developments, assessing benefits and potential risks as well as checking potential regulatory action needs,
- obtain feedback on how the “relevance” of advanced materials could be identified on a screening level and
- collect input to describe and characterise specific types of advanced materials as well as identify application areas such as the energy sector, mobility or health

The individual responses to the survey will not be published but will be integrated into the project results (report, factsheets on specific advanced materials).

The survey is divided into a general part and specific questions on individual types of advanced materials. The latter are targeted to the expertise specified by the responders.

The survey can be accessed via this [link](#) and remains open until March 6, 2020. You are invited to forward this information within your networks.



The BIORIMA Forum

The BIORIMA Forum can now be accessed directly from the BIORIMA website and at www.biorima-forum.eu. This forum is a discussion platform for relevant stakeholders and end-users to reach out to the project, to directly contact the expert, and to share and discuss your views and requirements relating to the development, evaluation, regulation and marketing of NBMs as used in medical devices (MD) and advanced therapeutic medicinal products (ATMP).



The Forum is established to allow stakeholders and project partners to post topics and questions, to communicate with each other, and to discuss methods, materials and especially the integrated risk management framework (IRM) developed within BIORIMA, to get valuable feedback and input from relevant industries, regulators, scientists etc., outside the project.

The BIORIMA Forum will enable you to:

- Share your views and experiences.
- discuss the most effective strategies for risk assessment and management of NBMs used in MDs and ATMPs
- establish the experiences, needs and priorities of stakeholders in this field and how BIORIMA can contribute and benefit from this.
- Discussion boards are open for the following topics (or threads):
 - Research on hazard, exposure and fate of NBM
 - Manufacturers of NBM
 - Users of NBM in MD and AMTP
 - Regulation of NBM used in MD and AMTP
 - News and events
 - Training

Please register for the forum [here](#):

If you would like to open up additional discussion boards, please contact [Lesley Tobin](#).

Invitation to Contribute a Paper

Nanoparticle-Macrophage Interactions: Implications for Nanosafety and Nanomedicine

Fernando Torres Andon

fernando.torres.andon@usc.es

*Center for Research in Molecular Medicine & Chronic Diseases (CiMUS),
Universidade de Santiago de Compostela, Spain*



Dr. Fernando Torres Andón and Dra. Olesja Bondarenko, as Guest Editors of the Special Issue “Nanoparticle-Macrophage Interactions: Implications for Nanosafety and Nanomedicine” in */Nanomaterials/* (IF 4.304). We encourage you to contribute a paper on any aspect of your research related to the themes of this Special Issue, which include, but are not limited to, the following:

- nanomaterials
- macrophages
- immunotoxicity
- cytotoxicity
- surface functionalization
- macrophage–nanoparticle interaction

Nanoparticles (NPs) offer unique physicochemical properties useful for biomedical applications, e.g., as antibacterials, vaccine adjuvants, and bioimaging and/or antitumoral agents. Medical use of NPs commonly implies their injection into the bloodstream, but other routes have been explored, such as the subcutaneous, oral, intranasal, inhalation or transdermal administration. Once in the body, NPs are inevitably recognized by the immune system. Macrophages are a major class of phagocytic innate immune cells, specializing in the neutralization and/or uptake of foreign material (including NPs) and consequent mounting of an immunological response. The mechanisms implicated in the uptake of NPs by macrophages determine the lifetime of NPs in relevant biological fluids or tissues, which has consequences for their nanosafety and biomedical applications. Various safe-by-design strategies, such as pegylation and other surface functionalizations of NPs, have been implemented to manipulate the recognition of NPs by monocytes/macrophages and, thus, their immunotoxicological properties. Of note, NPs have been also designed on purpose to target macrophages with the aim to trigger or to inhibit immune responses, for example, killing or reprogramming the tumor associated macrophages

The aim of the current Special Issue is to cover recent advancements in our understanding of NP-macrophage interactions using *in vitro*, *in vivo*, and *in silico* approaches, novel strategies to control the toxicological and immunological profile of NPs, and innovative ways to modulate the delivery of NPs towards macrophages for safety and medical purposes.

/Nanomaterials/ (ISSN 2079-4991; CODEN: NANOKO) is an international, open access journal published monthly online by MDPI. It has the characteristics of high visibility and rapid publication.

- Open Access— free and unlimited access for readers;
- High visibility—Indexed by the Science Citation Index Expanded (Web of Science), Scopus, Chemical Abstracts, Inspec, and Polymer Library; citations are available in PubMed, and full texts are archived in PubMed Central;
- Rapid publication—manuscripts are peer-reviewed, and a first decision is provided to authors approximately 14 days after submission; acceptance to publication is undertaken in 4.95 days.

https://www.mdpi.com/journal/nanomaterials/special_issues/nanomedicine_nanosafety

If you are interested in this project, please do not hesitate to contact us:

fernando.torres.andon@usc.es or

olesja.bondarenko@kbfi.ee or

the Editorial office at kacie.zhang@mdpi.com.



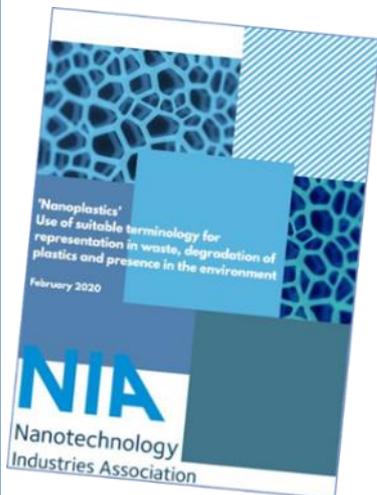
'Nanoplastics' terminology in focus

Position Paper from the Nanotechnology Industries Association (NIA)

Dr Claire Skentelbery

Director General

Nanotechnology Industries Association



The Nanotechnology Industries Association (NIA) brings a spotlight to increasing use of the term 'Nanoplastics' in reporting of plastics, primarily within an environmental context, reflecting increasing concern on the use and inappropriate disposal of plastics.

'Nanoplastics' is often used by public authorities and the media, with a potentially negative impact on the perception of nanomaterials, which have little or no connection to the plastics being referenced.

In a [position paper](#) developed and published with its Members across research and industry, NIA urges caution and clarity when referring to plastics as small particles or fragments. The term 'Nanoplastics' is non-specific and ambiguous and therefore qualifiers should be considered for accurate presentation to all audiences.

Such qualifiers should include material origins as appropriate, such as:

- Incidental 'nanoplastics' – which originate through degradation or wear of plastic materials from an original larger material
- Manufactured 'nanoplastics' – which are intentionally produced at the nanoscale to allow for specific nanoscale characteristics

To NIA's current knowledge, there are very few intentionally produced 'nanoplastics', with use largely restricted to scientific research within laboratories, and NIA encourages responsible use of the term in all usage.

Dr Claire Skentelbery, Director General of NIA commented "The NIA urges public authorities and other communicators to take care when using the term 'nanoplastic'. For scientific accuracy and responsible dissemination, it should be used with qualifiers so that all stakeholders understand the origin of such materials".

[DOWNLOAD THE FULL POSITION PAPER HERE](#)

For further information, please contact NIA through office@nanotechia.org

New DaNa 2.0 article : Nanomaterials in Food

Food may contain additives based on nanomaterials. These food additives alter various properties such as appearance, taste or shelf life. They are also used to encapsulate trace substances, which increases the stability of the coated compounds.



Which nanomaterials are currently found in food? What is the legal framework for the use of nanomaterials? Are there health concerns regarding added nanoparticles?

These questions are answered in the new DaNa article "[Nanomaterials in Food](#)" in the cross-cutting section.

Visit the project website at <https://nanoobject.info/en/>

PhD candidate in Toxicology

Risk Assessment of the food additive E171, titanium dioxide

Maastricht University

Deadline: 1st March 2020

Job description

The PhD candidate will be involved in a number of studies that aim to evaluate the safety of the food additive E171 (titanium dioxide or TiO₂), which is present in many different food products. In view of its chemical nature, TiO₂ was initially considered to be inert in humans and allowed as food additive on the European market. However, occupational studies demonstrated that inhalation of titanium dioxide was linked to increased lung cancer risk in exposed workers, which prompted the International Agency for Research on Cancer (IARC) to classify inhalable powder forms of titanium dioxide as possibly carcinogenic to humans. These findings initiated new studies on potential health risks after oral intake of TiO₂. Various animal models have shown that E171 is capable to stimulate tumour formation in the colon after chemical induction in mice. Additionally, in vitro studies with human colon cells have demonstrated that particularly nano- and micro-sized titanium dioxide particles can induce cellular and genetic damage and trigger molecular processes that raise concern about human safety. Exposure estimates show that consumers in Europe are exposed at similar levels that induce toxic effects in in vitro studies and in test animals.

The main objective of the PhD project is to establish if the same molecular mechanisms that are induced in animal studies are also induced in humans. This requires a human dietary intervention study for which the protocol is already established and approved by the ethics review committee of the Maastricht UMC+. In addition, the PhD candidate will set up an in vitro study with human colon organoids, to evaluate gene expression responses in a relevant human model, and to obtain more insight in relevant dose ranges that may induce harmful effects. Furthermore, the kinetics of TiO₂ micro- and nanoparticles will be studied, focusing on the relevance of different colonic cell types.

We are looking for an enthusiastic PhD-candidate with the following required and preferred qualifications:

Required:

- Relevant Biology, Biomedical Sciences or equivalent MSc;
- Excellent organizational skills and the ability to work with human volunteers in the setting of a human dietary intervention study.
- Interest in the assessment of food safety;
- Excellent communication skills and fluency in English;
- A project and result-oriented way of working with a planned and pro-active approach;
- Ability to work independent, but also to collaborate with different parties in the project;

Preferred:

- Experience in molecular biological techniques, including cell culturing techniques and gene-expression analysis using high-throughput techniques;
- Experience with gene expression data analysis;
- Advanced skills in bio-statistics and -informatics.

For further information:

Apply here:

<https://www.academictransfer.com/en/289527/phd-candidate-in-toxicology-risk-assessment-of-the-food-additive-e171-titanium-dioxide/>

Contact:

Prof. Dr. Theo de Kok (t.dekok@maastrichtuniversity.nl); telephone: +31 43 3881091.



EU SCIENCE HUB

The European Commission's science and knowledge service

Open access to JRC Research Infrastructures for Training and Capacity Building for Enlargement and Integration Countries

The European Commission's Joint Research Centre has just published a call open to applicants from **Enlargement and Integration Countries** for [Training and Capacity Building](#) at the [JRC Nanobiotechnology Laboratory](#)

- **2020-1-TCB-NanoBiotech**
- Opening of the call: **2020-01-16**
- Closure of the call: **2020-03-16**

See: <https://ec.europa.eu/jrc/en/research-facility/open-access/training/2020-1-tcb-nanobiotech>

For the purpose of training and capacity building, The European Commission's Joint Research Centre (JRC) has opened its scientific laboratories and facilities to people working in academia and research organisations, small and medium enterprises (SMEs), and in general to the public and private sectors.

The JRC offers access to its non-nuclear facilities to researchers and scientists from countries associated to the [EU Research Programme Horizon 2020](#).

Offering access to visiting researchers is part of JRC's strategy to provide training and capacity building to countries from the enlargement and integration action of the JRC.

Scientists and technicians will have the opportunity to be trained in the following fields:

- chemistry;
- biosciences/life sciences;
- physical sciences;
- ICT;
- Foresight.

JRC Research Infrastructures are now opening access to the Nanobiotechnology Laboratory on a pilot basis .

Non-nuclear calls: Nanobiotechnology

**Nanobiotechnology laboratory Open
Ispra, Italy**

[The Nanobiotechnology Laboratory](#) features state-of-the-art equipped facilities designed to foster interdisciplinary studies. A special emphasis lies on characterisation of nanomaterials, nanotechnology-enabled health products, microplastics, advanced materials and their interactions with biological systems, as well as on the detection, identification and characterisation of nanomaterials and microplastics in complex matrices.

[Details of the call #2020-1-TCB-NanoBiotech](#)





Postdoctoral fellows and PhD students positions in computational biology

GrecoLab, Tampere University, Finland

The research group of Associate Professor Dario Greco at the Faculty of Medicine and Health Tehcnology and BioMediTech Institute at the Tampere University (Finland) focuses in advancing the fields of systems toxicology and predictive pharmacology using big data modelling and machine learning algorithms. We have a unique combination of expertise that spans systems biology, toxicology, cheminformatics and bioinformatics. Our vision is to push the state-of-the-art in predictive toxicology and pharmacology and subsequently address some of the major challenges arising in chemical safety assessment and drug development. We are seeking for highly motivated postdoctoral researcher and PhD student with a strong background in data mining, data modelling, biostatistics and machine learning.

The main tasks will include: integrating, analyzing and modelling large and diverse datasets comprising molecular descriptors and mechanism of action (OMICS data) of chemicals and nanomaterials; analyzing and modelling large OMICS data sets of molecular epidemiology; collaborating with other researchers in Finland and abroad.

The ideal candidates hold a M.Sc./Ph.D. in relevant disciplines with a strong publication record. Moreover she/he is an expert in at least one of the following: OMICS data analysis and integration, QSAR, read-across, statistical modelling, network inference.

Applications including i) a research statement, ii) a CV and iii) a cover letter including names of at least two referees, can be sent via email to dario.greco@tuni.fi.

GrecoLab is currently involved in the large collaborative projects:

EU H2020 NanoSolveIT (<http://www.nanosolveit.eu>)

EU H2020 NanoinformaTIX

EU IMI2 BIOMAP

EU FP7 NANOSOLUTIONS (<http://www.nanosolutionsfp7.com>)

EU H2020 LIFEPAATH (<https://www.lifepathproject.eu>)

EU H2020 CALIBRATE (<http://www.nanocalibrate.eu>)

Moreover, it receives funding from the Academy of Finland and Business Finland.

GrecoLab info:

<https://research.uta.fi/toxicology-and-pharmacology/>

<https://scholar.google.com/citations?user=gYQtSFkAAAAJ&hl=en>

https://www.researchgate.net/profile/Dario_Greco

Other Opportunities

Within the **Inv2Mac project** (*Potencial aprovechamiento de biomasa generada a partir de especies vegetales invasoras de la Macaronesia para uso industrial*, MAC/4.6d/229), supported by the Transnational Cooperation Programme Madeira-Azores-Canarias (MAC 2014-2020) towards Regional Development Fund (ERDF), the [Centro de Química da Madeira](#) (CQM), University of Madeira, Funchal, Madeira Island, Portugal, is offering a post-doc fellowship for scientific research and development. Follow [this link](#) for more information.

There is also an opportunity at the same centre for [a Postdoctoral researcher with experience in Chemical Synthesis and characterization of nanomaterials](#)

For more current posts, visit :

<https://www.nanowerk.com/nanocareer/homepage.php>

<https://www.nanopaprika.eu/>

Nanosafety Training School - From Basic Science to Risk Governance

Interprofessional Education Training School & Young Scientist Forum 2020

22nd - 27th March 2020, Venice, Italy

Register [here](#) before the deadline for registrations: 20th February 2020.

This year the Venice Nano Training School celebrates its 10th anniversary. The Training School, organised within the EU funded Horizon 2020 projects [BIORIMA](#), [GRACIOUS](#), [NanoInformaTIX](#), [PATROLS](#), [NanoRIGO](#), [RiskGone](#) and [Gov4Nano](#) will take place in [San Servolo](#) (Venice, Italy) on 22th – 27th March 2020.

The school will feature keynote speeches, hands-on sessions and a dedicated Young Scientist Forum Day (23th March) during which early career researchers (PhD students, PhD candidates and Post-Docs) will have the opportunity to present their work. The School week will include a variety of hands-on sessions aimed to transfer state-of-the-art knowledge on a variety of topics from key experts to the new generation of nano-environmental, health and safety, and biomedicine professionals, using interprofessional education.

Variety of networking activities (a welcome cocktail, social event and a social dinner) will enable plenty of time and opportunities for you to widen your network and foster academic exchange.

Become part of an interactive, exciting week and enrich your knowledge by developing multidisciplinary expertise

Who should attend?

- Early-stage researchers
- PhD students and Post-Docs
- Senior researchers
- Industry
- Governmental Agencies
- Medical Personnel
- Anyone interested in Safe Nanotechnology, Risk Assessment and Nano-Medicine

School Topics:

- Hazard to Human Health & Environment
- Fate & Exposure Assessment
- Nanomedicine: from the lab to the market
- Modelling
- Grouping & Read Across Approaches
- Risk Governance

School Location and times:

The training school will take place in San Servolo (Venice, Italy).

The School will start on 22nd March at 15.30 CET and will end on 27th March at 13.30 CET.

School Certificates:

Each participant will be given a certificate of attendance upon request.

Contacts:

- **Scientific enquiries:**
Danail Hristozov, GreenDecision (Italy) | danail.hristozov@greendecision.eu
Stella Stoycheva, Yordas Group (UK) | s.stoycheva@yordasgroup.com
Susanne Resch, BioNanoNet (Austria) | susanne.resch@bionanonet.at
- **Logistics, local support and administration:**
Chiara Mignani, GreenDecision (Italy) | management@greendecision.eu

Further information can be found [here](#)

Download the event flyer [here](#)



Cluster Nanotechnology NanoCarbon Annual Conference 2020

March, 3 – 4 in Würzburg, Germany

The Cluster Nanotechnology and the network NanoCarbon (www.nanocarbon.net) – managed by the cluster – invite the interested nanocarbon community to the 6th NanoCarbon Annual Conference to be held in Würzburg, Germany from March 3 – 4, 2020.

In the open network NanoCarbon, national and international players in the field of carbon nanomaterials (material and equipment manufacturers, research institutes and users in the industry) collaborate aiming at the development of innovative and marketable nanocarbon products.

The conference offers an ideal platform for exchanging results and ideas and for the stimulation of projects. The expert forum for technical innovative and commercial activities in the field of carbon nanomaterials (e.g. CNT, graphene and nano-diamond) in Germany and beyond addresses particularly delegates from industry who want to get informed on latest trends and technologies in the field of carbon nanomaterials and who are seeking for project partners. Last year, participants from 10 different countries discussed new applications and process technologies for carbon nanomaterials.

Further information/online registration: <http://carbon2020.nano.bayern>

Contact: Sonja Pfeuffer (Phone: +49 931 31 89372; Email: Sonja.Pfeuffer@nanoinitiative-bayern.de).



March 3 and 4, 2020
Balthasar-Neumann-Saal, Würzburg

Cluster
Nanotechnology

NETWORK
NANOCARBON

Workshop on Safe and Sustainable Smart Nanomaterials

The European Commission's Joint Research Centre (JRC) and the Directorate-General for Research and Innovation (RTD) will jointly organise a **Workshop on Safe and Sustainable Smart Nanomaterials** in Ispra (Italy).

The workshop is focused on smart (responsive, multi-functional) nanomaterials, as such or embedded in products, which are developed for application in industrial sectors such as agriculture, food, packaging and cosmetics.

In general, the workshop aims at facilitating the exchange of information on functionality, safety, sustainability and legislative aspects of smart nanomaterials among developers, scientists and regulators.

The workshop will take place on **24 and 25 March 2020, from 8:30 to 17:30**

It is structured in three sessions of presentations, each followed by a dedicated breakout session:

- **Session 1 "Designing smart nanomaterials"** will be entirely dedicated to developers.
- **Session 2 "Safety and sustainability aspects"** will give the floor to experts on assessing safety and sustainability of nanotechnology, to illustrate and discuss challenges with smart nanomaterials.
- In **Session 3 "Regulatory preparedness"**, regulators will present the legislative context and some initiatives concerning smart nanomaterials.

For more details and the workshop programme please click [here](#).



Nano Singapore 2020

International Conference and Exhibition

20 Apr - 22 Apr 2020 | Singapore



Singapore has a prosperous, market-based economy. The country has the fifth busiest ports in the world and prides itself on being corruption-free. The GDP of Singapore was US\$314.9 billion in 2011. Singapore has a small land area and a highly educated population. This, combined with their lack of natural resources, means that they should continue to innovate and focus on knowledge-related activities to remain competitive. Their RIE (Research, Innovation and Enterprise) plans intend to establish Singapore as one of the most research-intensive, innovative and entrepreneurial economies in the world.

With this level of commitment to science and technology, there is little doubt that nanotechnology will also benefit. Singapore is committed to the commercialization of research outcomes which should see technologies being developed through research. With strong support from government and industry, Singapore will continue to be a vibrant environment for research and nanotechnology.

It is in this context that we are launching this first edition of Nano Singapore 2020 conference and exhibition as a unique platform that will bring annually together leading scientists, researchers, engineers, practitioners, technology developers, industrials and policy makers. It will offer them the opportunity to exchange information on their latest research progress and innovation, network, find new partners, understand the current state of the art in nanotechnology and discuss directions for future research within the international nanotechnology community.

By welcoming worldwide contributions, this new conference will give attendees a unique overview of the global research efforts in the area of nanoscience and nanotechnology and enrich the discussion and networking.

Nano Singapore 2020 includes:

- Plenary sessions
- Oral and poster presentations sessions
- Focused sessions & workshops
- Industrial session
- International Exhibition
- Networking sessions

The conference will cover a broad range of topics on current research in Nanoscience and Nanotechnology including (but not limited to):

Advanced Nanomaterials

- Nanomaterials Fabrication and Tools
- Modelling and simulations at the nanoscale
- NanoMetrology/ Characterization at the nanoscale
- Graphene & 2D materials
- Nanoscale Electronics/NanoPhotonics
- Nanotech for Energy and Environment
- Nanotech in Life Sciences and Medicine
- Nanotechnology safety/ Nanotoxicity
- Nano Applications

Upcoming deadlines

Conference Registration: 12 Mar. 2020

Proceedings and journal papers submission: 22 May 2020

For more information, visit: <https://www.setcor.org/conferences/Nano-Singapore>

Accelerating Nanotech Innovations through a Safer-by-Design Approach

4 - 9 May 2020

European Scientific Institute, Archamps
France (Greater Geneva)



For more information:

<https://www.biohealth-computing.eu/wp-content/uploads/2020/02/Safer-Nanomaterials-2020.pdf>

The poster features the event title in large bold letters, the dates '4 - 9 May 2020', and the location 'European Scientific Institute, Archamps, France (Greater Geneva)'. It includes logos for 'SAFER NANOMATERIALS', 'bioHealth Computing Schools', 'eit RawMaterials', and the European Union flag. A teal box in the top right corner says 'We are recruiting!'. At the bottom, logos for UGA, Grenoble INP, POLITÉCNICA, tecnalia, and esi are displayed.

Your profile

⊕ You are a Master or PhD student in medical or life science, biotechnology, engineering, materials, data science, business, human and social science.

The success of the school depends on the quality of the participants. Over and above your specialist skills, you will bring the following qualities :

OPEN AND CRITICAL THINKING

A closed mind is the antithesis of innovation

CAPACITY FOR CALCULATED RISK

seizing new opportunities is inseparable from taking risks

FOCUS ON COMMUNITY

individual ideas become breakthrough innovations thanks to a great team



Nanotech France 2020

Wednesday 24 June 2020 - 08:00— Friday 26 June 2020 - 17.00

Nanotech France 2020, the 6th edition of the international conference and exhibition, brings together leading scientists, researchers, engineers, practitioners, technology developers and policy makers in nanotechnology to exchange information on their latest research progress and innovation.

Participants from the top international academic, government and private industry labs of different disciplines participate in Nanotech France 2020 to identify new technology trends, development tools, product opportunities, R&D collaborations, and commercialization partners. It is an excellent event for students to meet and discuss with lead researchers. The conference provides an unprecedented opportunity to discover innovation in the area of nanotechnology and new business opportunities. It is among the most important events in terms of international regulatory policies and it is open to the participation of private companies.

The conference covers all frontier topics in nanotechnology. The conference includes plenary lectures, Keynote lectures and invited talks by eminent personalities from around the world in addition to contributed papers both oral and poster presentations.

<https://www.setcor.org/conferences/Nanotech-France-2020>



16th International Conference on Nanosciences and Nanotechnologies

7-10 July

Thessaloniki, Greece



NN Conference is a world-class International event in Nanosciences and Nanotechnologies (N&N) that focuses on the latest advances on N&N and promotes profound scientific discussions between scientists, researchers from different disciplines and market leaders. Front-line experts from multidisciplinary research and application areas are encouraged to join this conference, to discuss the benefits of N&N in their R&D efforts, to advance the networking and collaborating between different academia, research and industry players in the field and to stimulate the exchange of educational concepts.

The NN20 conference will comprise associated Workshops and Special Events, covering the latest developments in the fields of Nanosciences & Nanotechnologies.

- [NANOELECTRONICS, PHOTONICS ,PLASMONICS & NANOENERGY](#)
- [NANOMATERIALS, NANOFABRICATION, NANOENGINEERING & NANOCONSTRUCTION](#)
- [NANOMEDICINE](#)
- [BIOSENSORS & BIOELECTRONICS](#)
- [GRAPHENE & RELATED MATERIALS](#)

The international Conference program is structured in plenary, keynote, invited, oral and visual presentations and covers the entire range of N&N research, technologies, and applications, focusing on the latest scientific, technological and market-related trends.

Do Not Miss the Events and Round Tables, covering the latest developments in the various nanotechnology-related fields, as well as EU funded Projects on Nanosciences and Nanotechnologies, plus this year's Special Workshops which will soon be announced!

For more information, go to: <https://www.nanotexnology.com/index.php/about-nn20>

9th NANO CONFERENCE

4th—6th October
Denver, Colorado



The 9th International Symposium will be a combined NANO CONFERENCE hosted by two collaborative parties, the Sustainable Nanotechnology Organization (SNO) and Nanotechnology, Occupational and Environmental Health (NanOEH) committees and will take place in Denver, Colorado (USA) at Sheraton Downtown Hotel on October 4 to 6, 2020.

SNO is a permanent non-profit corporation that provides the infrastructure to carry out its mission of research, education, and responsibility related to both sustainability and nanotechnology. The NanOEH committee focuses on a conference that serves the occupational and environmental health communities involved with nanotechnology. The 9th Nano Conference provides a synergy between SNO and the Committee to provide high quality professional presentations of interest to scientists and engineers focusing on the interaction between technical advances and societal, occupational and environmental impacts as well as sustainability in the field of nanotechnology research.

For more information, visit: <http://susnano.org/nanotech2020/nanotech-overview-2020.html>



Christiane Petzold

christiane.petzold@leibniz-inm.de / nanosafety@leibniz-inm.de

INM - Leibniz-Institute for New Materials

The conference Nanosafety 2020 will provide a highly interdisciplinary forum for sharing recent advances and discussing current challenges and potential of nanosafety among experts and newcomers in the field. It will gather leading scientists as well as partners from regulatory agencies and industry, to discuss nanosafety aspects in depth and from different viewpoints.

Main topics:

1. Development of safe nanomaterials
2. Toxicological aspects - from molecular mechanisms to prediction
3. Nanomaterials and the environment

Workshop topics:

1. Research data management
2. Translocation of engineered NPs from nose to brain - safe drug delivery via intranasal pathways

https://nanosafety2020.leibniz-nanosicherheit.de/wp-content/uploads/2019/12/cropped-Banner2_10x3.png

7th International Conference NANOSAFE 2020

November 16-20, 2020

Maison Minattec, Grenoble, France

Simon Clavaguera (CEA, FR)
nanosafe2020@cea.fr

Organized every two years since 2008, NANOSAFE Conference is intended for sharing latest research results on health and safety issues related to nanomaterials and beyond for a socially responsible approach.

This special edition will be organized in partnership with the [Labex SERENADE Opens in new tab](#) with the ambition to cover the newest findings concerning Safer- and Eco-Designed innovative nanomaterials.

Important dates:

01/04/2020, Conference opening registration
 10/04/2020, Opening call for abstracts
 12/06/2020, Abstract submission deadline
 01/09/2020, Notification by email of abstract acceptance
 02/10/2020, Early bird registration closing
 16-20/11/2020, NANOSAFE 2020 Conference

More information on our website: www.nanosafe.org



NanoTox2021 - Express your interest

H2020 projects [PATROLS](#), [BIORIMA](#) and [GRACIOUS](#) are joining efforts to organise the 10th International Conference on Nanotoxicology, NanoTox2021.

The conference will take place in Edinburgh on 20-22 April 2021.

You can express your interest and **find out more about the event** [HERE](#).



The **EU NanoSafety Cluster (NSC)** maximises the synergies between European-level projects addressing the safety of materials and technologies enabled by the use of nanoparticles. The studied aspects include **toxicology, ecotoxicology, exposure assessment, mechanisms of interaction, risk assessment and standardisation**.

The Cluster is an initiative of the European Commission Directorate-General for Research and Innovation (DG RTD), which sponsors these large projects. Overall, Europe targets safe and sustainable nanomaterials and nanotechnology innovations. NSC projects contribute to assuring environmental health and safety (EHS) of this Key Enabling Technology.

The Cluster also is an open platform for dialogue and exchange. Researchers, regulators, administrators, industry, civil society representatives—if you have an interest in EHS and nanotechnology, you are very welcome to participate in NSC activities whether or not you are a partner in formal European projects.

The [website](#) is your gateway to the NSC projects and a portal for the four main NSC pillars::

The [NSC Steering Group](#)

The [NSC Coordination Team](#)

The [NSC Dissemination Group](#)

The [NSC Working Groups](#)

The four pillars work together and independently to promote nanosafety research, public engagement, create strategic collaborations and enhancing synergies between the NSC, and beyond, projects and explore potential international opportunities. Besides the continuous work taking place within the NSC's bodies, two main NSC actions also exist:

The [NSC Task Forces](#)

The [NSC International Activities](#)

The whole NSC structure is supported during its day to day activities through the [Secretariat](#), who is responsible for arranging the SG and CT teleconferences and keep minutes, designing, developing and maintaining the website and assisting with NSC events and actions organisation and execution.

Do you have any...

- News
- Project updates
- Announcements
- Conferences
- Meetings
- Workshops
- Resources
- Jobs
- Opinions
- Publications
- Proposals
- New initiatives
- Anything else that you want the NanoSafety Community to know about?

For General Information:

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