



Welcome to the NSC Newsletter Autumn 2018

It seems to have been an incredibly busy summer packed with meetings and conferences, two of which are featured in this issue.

After months of meticulous planning, the Young Scientists' NanoSafety Forum took place on 10th-11th September in the beautiful, historic location of Valletta, Malta. Supported by the ACEnano project, it proved to be a highly popular, informal, relaxed yet productive two days that reflected the motivation and enthusiasm of the participants. The event report that kicks off this issue is complemented by videos on the [NSC YouTube Channel](#) in which attendees introduce themselves and their research, and talk about the benefits of the forum:

Day one: <https://tinyurl.com/YSN2018DayOne>

Day two: <https://tinyurl.com/YSN2018DayTwo>

The video production was supported by the NanoReg2 and caLIBRAte projects.

Your suggestions for an island location for the 2020 event are welcome. Bora-Bora, Hawaii and the Maldives can be considered only if there are related projects.

The second major event of the summer reported here is the joint OECD/NanoReg2/GRACIOUS workshop, which provided a platform for stakeholders to bring their expertise to the design of a science-based framework for effective Grouping and Read Across of nanomaterials. The NanoReg2 and GRACIOUS projects finalised concepts and practical roadmaps to support producers, governments, regulatory agencies and standardisation bodies for safe and innovative nanomaterials.

In the 'new projects' section, this issue introduces SMARTFAN 'Smart by Design and Intelligent by Architecture for turbine blade fan and structural components systems'. Its development of "Smart and green" composites that will be recyclable and reusable is a hot topic in light of the recent UN announcement.

And finally, in our regular Project News section, we have the latest updates from a number of key NSC projects and initiatives. If your project update isn't there, make sure its included in our winter edition and keep your news coming.

Once again, on behalf of the NSC Dissemination Working Group, we hope you enjoy this issue and thank you all for your continued support and submissions.

Kind regards
Lesley Tobin
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The Young Scientists' Nanoforum 2018 —Valletta, Malta

Following on from the first two biennial meetings, which took place in Sicily and Sweden, the 3rd NanoSafety Forum for Young Scientists took place in Valletta, Malta, on 10th-11th September 2018, under the aegis of the EU NanoSafety Cluster and the Horizon 2020 ACEnano.

The aim of the Young Scientists' Nanoforum is to provide a unique opportunity for young (students, post docs and others) and senior scientists working in EU-funded, national and industrial nanosafety projects to network, promote cross-project collaboration, exchange scientific knowledge and learn from each other.

This year the event was attended by around 80 participants from Europe and beyond, representing a wide range of research projects and topics, including nanomaterials characterisation, environmental fate, screening technologies for nanosafety, human health and standardisation, risk assessment, data management and modelling. Over two days the attendees engaged in peer-to-peer sharing of all aspects of current nanosafety research and practice through 32 oral presentations, poster presentations, informal networking and discussions.

Day one opened with an introduction and welcome from Professor Iseult Lynch, University of Birmingham, followed by a Keynote talk delivered by experienced expert Dr Mark Miller from the University of Edinburgh. The day's proceedings were structured along the following key themes:

- Understanding the toxicity mechanisms associated with nanomaterial hazard
- Human health and nanomaterials
- Physicochemical, structural and computational characterisation of nanomaterials (including safer-by-design)
- Alternative biological systems for nanomaterial hazard assessment (both in vitro and in silico)
- Risk assessment and standardisation of nanomaterials

The day was rounded off with a Conference Dinner on the beautiful Valletta Waterfront.

Day two welcomed keynote speaker and expert Dr Susana Loureiro, University of Aveiro, and provided a platform for young scientists to showcase their research in the following areas:

- Relationship of nanomaterials' physicochemical properties and toxicity
- Data modelling, handling and management
- Nanomaterials in the environment

The day culminated in with awards being presented to the best oral and poster presentations:

Best Poster Awards:

Emily Guggenheim – University of Birmingham

Microscopy methods for assessing the biological uptake and effects of ENP

Michelle Hesler – Fraunhofer IBMT

Advanced in vitro cell culture module for long-term cultivation and toxicity screening of nanomaterials

Best Oral Presentation Award

Fatima Nasser – University of Birmingham

Assessing current regulatory methods for nanomaterial toxicity testing with Daphnia magna: updating traditional methods for novel materials to accurately determine risk

Watch the videos and see photos of the event on YouTube:

Video Day one: <https://tinyurl.com/YSN2018DayOne>

Video Day two: <https://tinyurl.com/YSN2018DayTwo>

NSC YouTube Channel: <https://tinyurl.com/NSC-youtubechannel>





Images from the Young Scientists' Nanoforum 2018

The participants



The participants



NanoFASE Project Team



ACENano Project Team



Images from the Young Scientists' Nanoforum 2018

Keynote talk:
Dr Mark Miller
University of Edinburgh



Poster sessions, networking and discussions, question time and peer-to-peer engagement



Keynote talk:
Dr Susana Loureiro
University of Aveiro



Awards for best oral and poster presentations

All attendees were invited to vote for the best oral and poster presentations. The awards were announced and presented to the winners by organisers Dr Sophie Briffa and Professor Iseult Lynch



Best Poster Award

- **Emily Guggenheim – University of Birmingham**

Microscopy methods for assessing the biological uptake and effects of ENP

- **Michelle Hesler – Fraunhofer IBMT**

Advanced in vitro cell culture module for long-term cultivation and toxicity screening of nanomaterials



Best Oral Presentation Award

- **Fatima Nasser – University of Birmingham**

Assessing current regulatory methods for nanomaterial toxicity testing with Daphnia magna: updating traditional methods for novel materials to accurately determine risk



The organising committee

Introducing SMARTFAN

Smart by Design and Intelligent by Architecture for turbine blade fan and structural components systems



<http://www.smartfan-project.eu/>
charitidis@chemeng.ntua.gr

The EU funded H2020 Research and Innovation action SMARTFAN started at the beginning of January 2018. SMARTFAN aims at the development of “smart” material and product architectures with integrated functionalities that will interact with their environment and react to stimuli by employing bio-mimetic, self-sensing, actuating and damage-repairing technologies. “Smart and green” composites that will be recyclable and reusable will be developed within the project, applying system design strategies, in order to develop Carbon Fibre Reinforced Polymers (CFRPs) as bulk materials with self-sensing characteristics.

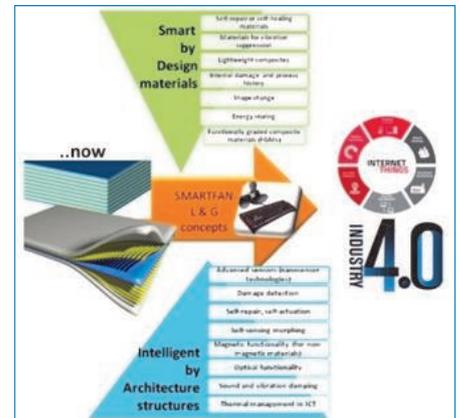
Coordinated by the National Technical University of Athens, SMARTFAN has a runtime of 4 years, and its consortium consists of 18 partners, with a total budget of almost 8.000.000 €.



SMARTFAN Objectives

Development of smart materials, applied on intelligent structures, is based on bio-inspired engineering and the use of low- and high-grade carbon fibres (CF), CFRPs and nano-/micro- composites with special physico-chemical properties. Special functions of the smart materials include:

- CFs for reinforcement of the structure and creation of conductivity gradients,
- Carbon Nano Tubes (CNTs) and Carbon Nano Fibres (CNFs) for sensing,
- Micro-hollow particles for self-healing,
- Electro-magnetic nanoparticles that enable field detection and shielding,
- Colouring agents for marking cracks and defects,
- Intelligent communication through Internet of Things (IoT).



SMARTFAN overall strategy in Nanosafety

Since nanomaterials (carbon based, microcapsules, metal oxides, etc.) are being used in intelligent structure applications, their safety aspects are considered within SMARTFAN project, for a safe handling and operation. Thus, in all stages of the project, decisions influencing exposure and environmental impacts will be addressed, considering safe-by design approaches, based on European regulations and standards. Results from the identification of safety issues, hazard assessment and exposure measurements will be drawn together to identify common and bespoke findings from across individual partners’ sites and activities, to promote the development of industry-focussed guidance on the safe production and handling of the nanoparticles, nano-containing intermediates and products developed, as well as any necessary control measures to minimise the risk to human health amongst workers, researchers, end-users and the environment.

/cntd...

...cntd/ Introducing SMARTFAN

The first valuable inputs from the partners were collected and a draft of the safety recommendation has already been prepared as a follow-up, corresponding with deliverable deadlines in the project.

Recent events where SMARTFAN participated:



SMARTFAN's Technical Meeting, September 5th 2018, Brussels (UoB premises).



SMARTFAN at NanoInnovation 2018: September 13th 2018, Rome.



Contract Agreement: 760779

Website: <http://www.smartfan-project.eu/>

Coordinator: Professor Costas Charitidis
School of Chemical Engineering, NTUA
Heron Polytechniou 9, 15780 Athens, Greece
charitidis@chemeng.ntua.gr

News from NanoFASE

Centralizing and integrating data with the NIKC database - Joint NanoFASE, NanoCommons and ACENano meeting with CIENT; pilot deposits of NanoFASE mesocosm data.



Representatives from the NanoSafety Cluster projects [NanoFASE](#), [Gracious](#), [NanoCommons](#) and [ACEnano](#) recently met those from the [CEINT NanoInformatics Knowledge Commons \(NIKC\)](#) initiative. The NIKC is a custom cyberinfrastructure consisting of a data repository and associated analytical tools developed to visualize and interrogate integrated datasets.

Discussions focussed on demonstrating the capacity for global data entry to NIKC and the next steps towards the expansion of datasets within the NIKC to include exposure related studies, and specifically exposure across the nano-enabled product value chain.

Work has already begun on depositing NanoFASE mesocosm generated datasets into the NIKC as a pilot project with a view to expanding these efforts to other studies carried out as part of NanoFASE. These efforts are being accelerated through the development of data templates and curation of datasets in collaboration with the NanoCommons project.

NanoFASE at ICEEN 2018

The NanoFASE project played a prominent role at the [13th International Conference on the Environmental Effects of Nanoparticles and Nanomaterials \(ICEENN 2018\)](#), Duke University, North Carolina) which was organised by the Center for the Environmental Implications of NanoTechnology (CIENT).

Claus Svendsen (NERC), coordinator for the NanoFASE project and keynote speaker at ICEENN 2018, comments that

“ICEENN 2018 was a great opportunity to present the latest results from NanoFASE studies and engage with the latest developments in European and North American academic communities. It was encouraging to see that the analytical techniques and modelling approaches developed and used in NanoFASE fit well with the current thinking of our peers.”

Claus' keynote addressed how to ensure that papers and data produced from studies are directly useful in regulatory assessments. NanoFASE's Véronique Adam (EMPA) and Geert Cornelis (SLU) also gave platform presentations. Vicenç Pomar Portillo (LEITAT), Amaia Etxabe Green, Elma Lahive and Jessica Adams (all NERC) presented posters covering studies on nanomaterial release products, plants uptake and determination of attachment rate in soils.

Details at NanoFASE Events: <http://www.nanofase.eu/events/list/3>

Upcoming Industry Consultation – Join the NanoFASE Webinar to shape the Exposure Assessment Framework, November 21, 2018 (2 hours)

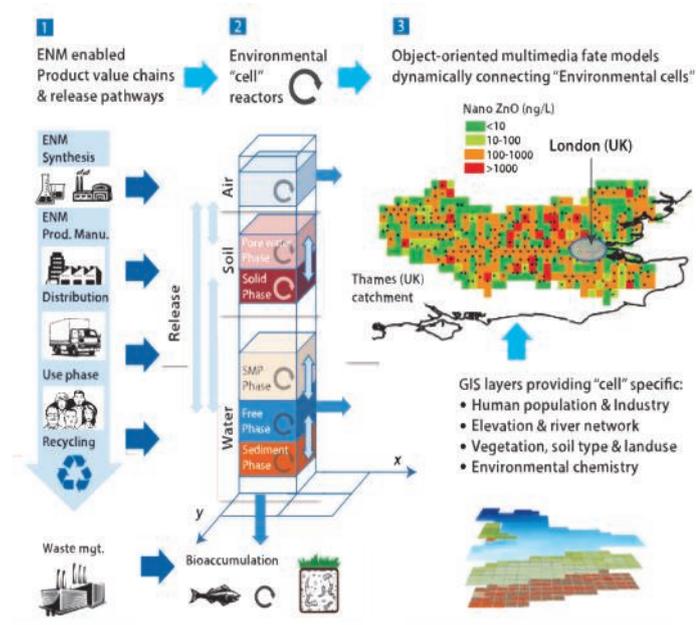
The NanoFASE project invites Industry stakeholders to a webinar to help shape and improve our CLICKABLE FRAMEWORK.

This online tool is one way we are delivering the NanoFASE Integrated Exposure Assessment Framework (protocols, parameter values, guidance, etc.) that:

- Allows all stakeholders to assess the environmental fate of nano releases from industrial nano-enabled products,
- Is acceptable in regulatory registrations and can be integrated into the EUSES model for REACH assessment,
- Allows industry a cost-effective product-to-market process, and
- Delivers the understanding at all levels to support dialogue with public and consumers.

...cntd/ News from NanoFASE

"Do you want to learn more about concepts and approaches underpinning the NanoFASE Exposure Assessment Framework and help make it more applicable for you and your industrial colleagues?"



NanoFASE Exposure Assessment Framework

Attend the 2-hour consultation taking place on **21 November 2018 from 14:30 to 16:30 CET**, where stakeholders can learn about concepts and approaches underpinning our "Exposure Assessment Framework" and help us tailor it to be even more suited to your specific needs in the Industrial sector.

More information on the topics covered and full program available [here](#).

REGISTER NOW

NanoFASE says "Meet us here"

EU-US CoRs meeting 11-12 September, Washington, USA

Innovative industries for smart growth 30-31 October, Vienna, Austria.

NanoSAFE2018 5-9 November, Grenoble, France.

8th NRW Nano Conference 21-22 November, Dortmund, Germany

Check out the new NanoFASE publications

Wang, Z., M. Vijver and W. Peijnenburg (2018). "Multiscale coupling strategy for nano ecotoxicology prediction." *Environ Sci Technol* (52): 7598-7600.

Drobne, D., S. Novak, I. Talaber, I. Lynch and A. J. Kokalj (2018). "The biological fate of silver nanoparticles from a methodological perspective." *Materials (Basel)* 11(6): E957.

Handy, R. D., J. Ahtiainen, J. M. Navas, G. Goss, Bleeker, E. A. J. and F. von der Kammer (2018), "Proposal for a tiered dietary bioaccumulation testing strategy for engineered nanomaterials using fish." *Environmental Science: Nano*, Doi: 10.1039/C7EN01139C.

Oriekhova, O., and S. Stoll (2018). "Heteroaggregation of CeO₂ nanoparticles in presence of alginate and iron oxide." *Science of The Total Environment* 648: 1171-1178.

Adam, V., A. Caballero-Guzman, and B. Nowack (2018). "Considering the forms of released engineered nanomaterials in probabilistic material flow analysis." *Environ Poll* 243 (Pt A): 17-27.

Spotlight on HISENTS

Building a high throughput *on-line* multimodule toxicity sensor

<https://hisents.eu>

Co-ordinator: Professor Andrew Nelson;

Deputy: Karen Steenson,

Support officer: Edward Yorke.

Email: hisents@leeds.ac.uk

Currently there is a dearth of rapid high throughput *in vitro* solutions for replacing *in vivo* toxicity testing which itself has ethical issues and which has an equivocal scientific basis. HISENTS was configured to develop such a solution. HISENTS emerged from a long standing sensor development using a biomembrane-like sensor element on chip within flow cell module to screen both compounds and nanomaterials (NM) and environmental matrices for toxicity. HISENTS represents an extension of this technology to include tissues of successive biological complexity on chip within a modular style of platform. The vision was that the final design would resemble an experimental mimic of a mammalian organism (see Fig. 1) with the simplest modules containing biomembrane, DNA, mi-RNA to more complex modules containing single cells and tissues of liver, lung, placenta and others respectively as sensor elements.

This prototype is being underwritten by a physiologically based pharmacokinetic (PBPK) simulation which is exactly aligned to the experimental platform. Five of the eleven partners (see Fig. 2 below) from across Europe and Israel in this ambitious € 6.4 million project are each developing their own respective cell/tissue modules.

The remaining partners are devoting themselves to NM synthesis, instrumentation and PBPK modelling. The aim is to integrate these modules into a single screen of NM toxicity which has added value to toxicity sensing as a whole.

Currently HISENTS is running at the peak of its activity and the results are exceeding all expectations. The biomembrane toxicity sensing platform has been automated and rationalised (Fig. 3) and is now operating at TRL4. The HISENTS philosophy is that this platform has been used to inspire the development of the more complex platforms in the project.

Flow modules at four other labs have been configured each with different cell and tissue sensing elements (Figs 4 and 5) and the instrumentation for driving and interrogating these modules is being developed by one of the partners.

Generally both electrochemical and optical techniques for assessing NM induced damage to the sensor element in flow are being innovated. We shall be displaying a HISENTS screening demonstrator together with its aligned PBPK model on a shared NIA stand at the the Industrial Technologies exhibition in Vienna on October 30/31 and we encourage as many NSC members as possible to come and look at our novel technologies.

We are of course always looking for more projects with whom we can collaborate since in innovation unity is strength.

HISENTS

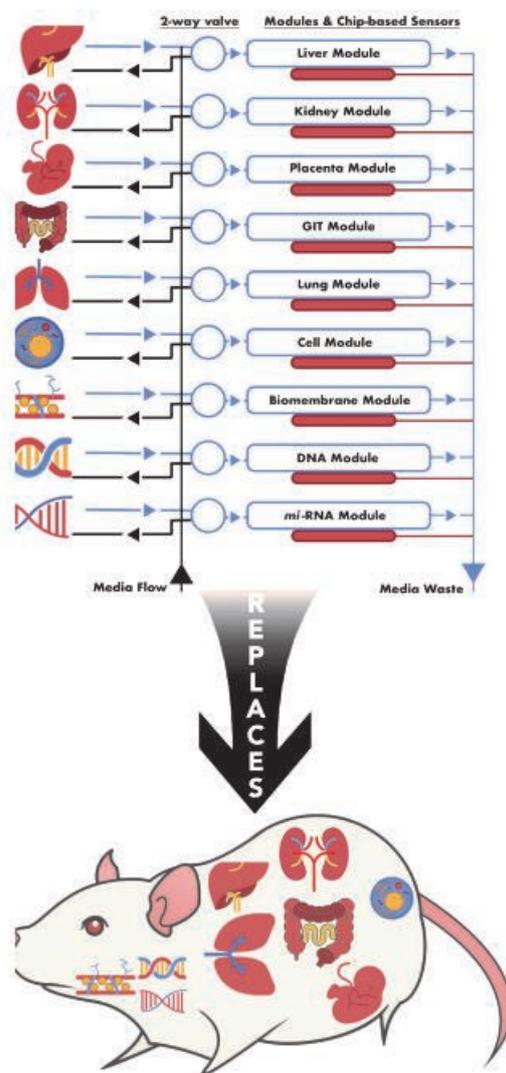


Fig. 1. The HISENTS experimental platform



Fig.2. HISENTS consortium

Fundamentally HISENTS is an innovation programme with a highly focused outcome of an integrated sensing platform. As a result implicit in the project is a need to connect with end users both in government and industry. Because of this a Stakeholder Workshop was held recently. This event was very well attended with participants from regulatory agencies, SMEs and government monitoring organisations.

The general consensus at this workshop was that the final HISENTS technology would have a definite application in the rapid screening of NM at the point of synthesis. In addition there is a need for such a screening platform in environmental applications and discussions are already underway with government agencies to further develop it in this direction at project end.

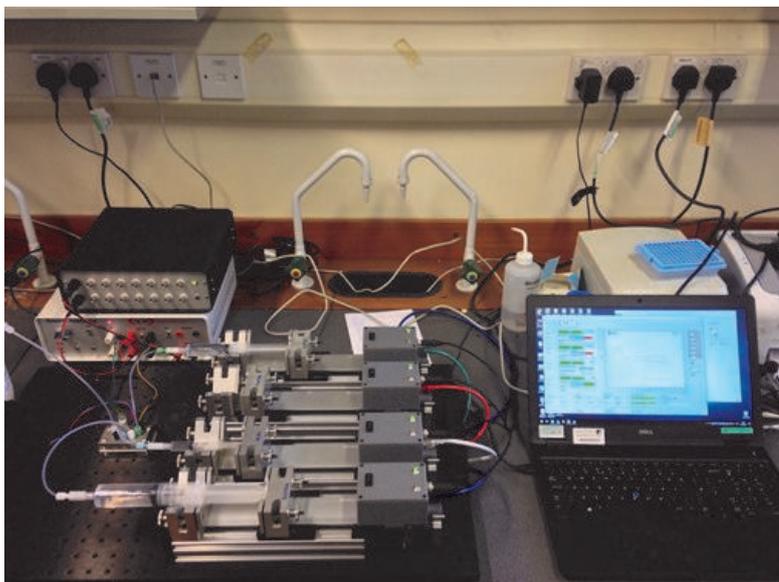


Fig. 3. The HISENTS biomembrane

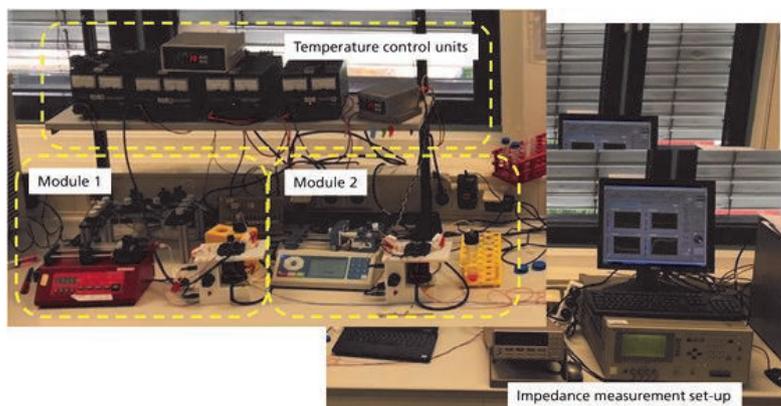


Fig. 4. Two tissue on chip based modules respectively integrated into flow system and interrogation unit

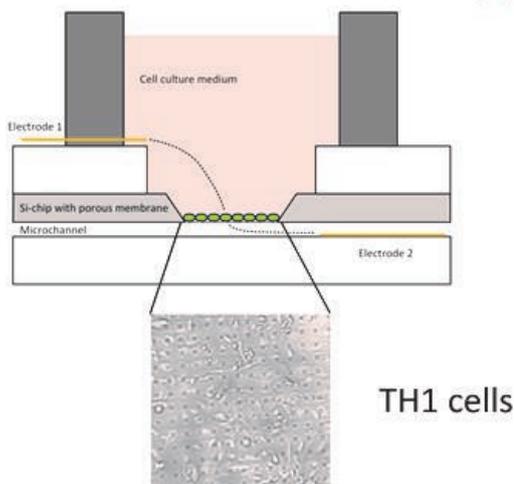


Fig 5. Kidney on chip with optical, above, and impedance interrogation, below the chip

MODCOMP: Release and Exposure Assessment

Modified cost effective fibre based structures with improved multi-functionality and performance.

<http://modcomp-project.eu/>
charitidis@chemeng.ntua.gr



In September 2018, the first deliverable related with Release and Exposure Assessment, led by the National Technical University of Athens (NTUA) and the Innovation in Research and Engineering Solutions (IRES) company, was successfully accomplished in MODCOMP project. The purpose of this deliverable was to provide a summary and critical evaluation of the research in relation to carbon nanotubes (CNTs) toxicity, exposure and release from composites. Using appropriate software, a qualitative and quantitative exposure assessment of exposure to CNTs was performed, on a small-scale research laboratory basis. Due to that fact that safe by design always includes a compromise between functionality and safety, residual health risks cannot be excluded. Thus, in this deliverable, the residual health risk is assessed by performing in vitro toxicity tests on the final formulations (and/or its components, i.e. carbon nanotubes, carbon fibres) as well as exposure measurements on the final applications of the fibrous materials and composites, through simulations.

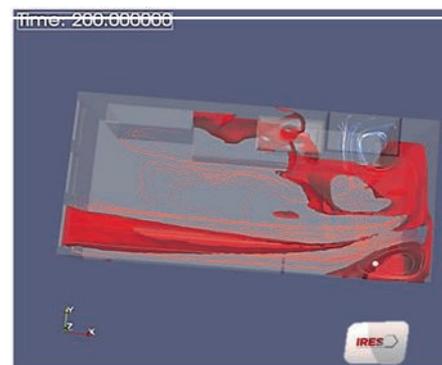
The activities undertaken will allow the development of best practice risk management to minimise and control and health risks to researchers, manufacturers and end-users involved with the project. In order to assess the potential for release and exposure from key exposure scenarios, a programme of workplace measurements (supported with laboratory-based characterisation) was conducted to identify, characterise and quantify releases in the production and processing activities that may present an exposure risk. This information is invaluable in identifying realistic exposures to respirable and dermal contact materials during scenario-specific activities. Informed decisions can then be made on the real risks presented in a given context.

The deliverable was a collaborative work between NTUA and IRES. The toxicity tests were carried out in NTUA, while the exposure assessment was led by IRES.

Composite manufactures, i.e. Instituto Nacional de Engenharia Mecanica e Gestao Industrial (INEGI) and Swerea Sicomp (SICOMP) prepared the materials for the toxicity assessment (composites containing carbon-based nanomaterials). The Welding Institute (TWI) contributed to the release assessment of the nanomaterials from the composites through characterisations.

Exposure Assessment

In the scenario presented in this study, airborne dust is generated during the handling of CNT powder by a mechanical stimulus. Such an event can be caused from an unintentional spillage of the CNT powder. This accident can happen during the extraction of the produced CNTs from a CVD reactor, while manually transporting the powder or during weighing. Based on the production capabilities of a small-scale research lab producing CNTs by CVD, a typical production batch of CNTs can be defined as 15g. In the figure can be observed that parts of the aerosol can reach various areas of the lab. Airborne CNT nanoparticles may therefore be expected to land on lab equipment and workbenches, desks and on the CVD reactor. Thus, subsequent occupational exposure can be assumed, due to the lack of knowledge of the presence of CNTs.



Contour of the 0.5 mg/m³ concentration via ParaView Software

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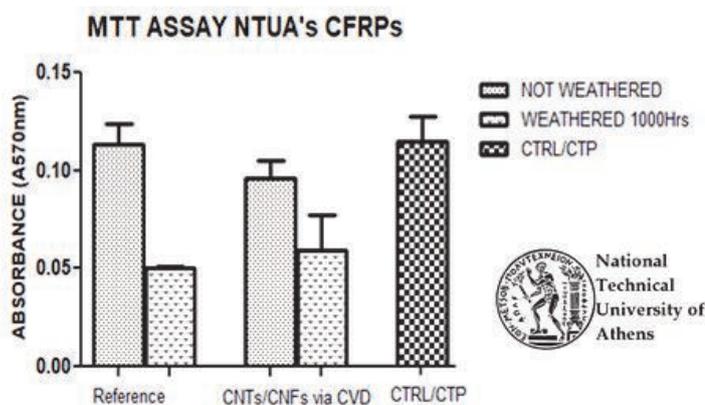


...Cntd/ News from MODCOMP

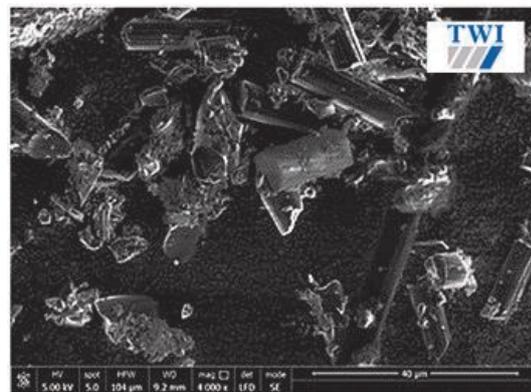
Also, deposited quantities of CNTs can be expected to become airborne again, under the influence of low velocity air flows. Dermal exposure can also occur, during the handling of exposed surfaces and equipment without the use of gloves. This information can be of significant use, concerning safety during the cleaning procedures of such a lab and containment after accidents like the one presented in this scenario.

Toxicity Assessment

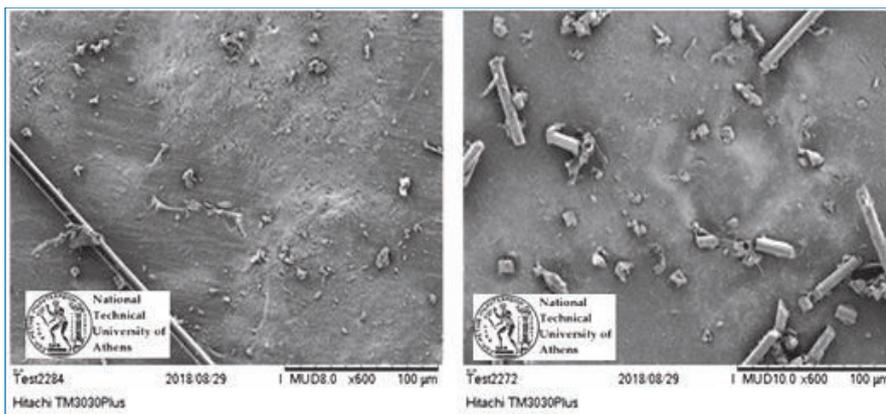
The aim of this study is the evaluation of the potential cytotoxicity of CNT released from polymer composites. The cell culture investigation has been performed by applying the instructions and protocols reported in the ISO 10993-5 in NTUA. In the case of NTUA's composites, in which CNT/CNF via CVD have been grown on the carbon fibre fabric, the weathering process negatively affects the cell viability both in the reference sample and the modified CFRP. Cell viability is also negatively affected by the presence of CNTs in both cases.



Graphic representation of the MTT assay of the NTUAs CFRPs reinforced with MWCNTs and control sample, after 24h of culture with A549 cells. (Credit: NTUA)



SEM analysis of cut composite (NTUA's specimen) modified with CNT/CNF (Credit : TWI)



SEM micrographs : Composites surface with CNT/CNF non weathered (left) and weathered (right). Cells observation on the surface of the composites.

(Credit: NTUA)



Contract Agreement: 685844
Website: <http://modcomp-project.eu/>

Coordinator: Professor Costas Charitidis

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Joint OECD/NanoReg2/GRACIOUS workshop:

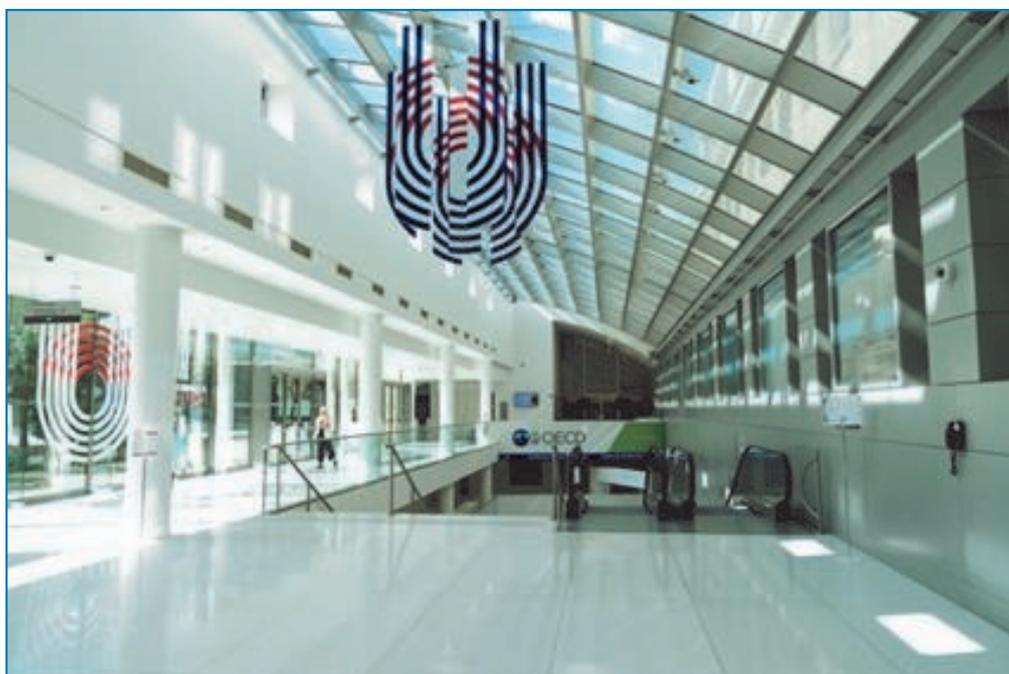
Nanotechnology experts from across the globe join forces to advance nanomaterials safety assessment



Advancing nanomaterials safety testing was the mission of two European Union-funded Horizon2020 NSC projects, NanoReg2 and GRACIOUS. They brought together 120 nanotechnology specialists from Europe, North America and Asia at the Organisation for Economic Co-operation and Development (OECD) in Paris on September 12-13. Experts from research, industry, regulation and policy worked to improve how safety information can be more effectively obtained, supporting faster growth in nanomaterials development.

Many variations of a single solid 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.

Clustering nanomaterials with similar characteristics (Grouping) and predicting the behaviour of new nanomaterials within each group (Read Across) is the widely recognised solution. It would reduce testing within regulatory requirements without compromising safety standards. This allows efficient development of safe and novel nanomaterials, based on increased understanding of their behaviour and possible impact on humans and the environment.



The joint OECD/NanoReg2/GRACIOUS workshop was an effective platform for stakeholders to bring their expertise to the design of a science-based framework for effective Grouping and Read Across of nanomaterials. NanoReg2 and GRACIOUS will finalise concepts and practical roadmaps to support producers, governments, regulatory agencies and standardisation bodies for safe and innovative nanomaterials.

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...contd/ [Joint OECD/NanoReg2/GRACIOUS workshop](#):

The GRACIOUS Project Coordinator, Professor Vicki Stone explains the expected impact of the workshop:

“The combined contributions of representatives of industry, regulators, policy makers and academics provided a real opportunity to generate a grouping framework that can benefit all stakeholders.”

The NanoReg2 Project Coordinator, Dr Emeric Frejafon added that *“This was an opportunity to create a global critical mass of opinion so we can support nanomaterial development and safety assessment worldwide.”*

The GRACIOUS and NanoReg2 projects build on outcomes of earlier projects, reflecting over a decade of significant research investment by the European Commission. Over €250 million has been dedicated to the development of safe nanomaterials in the FP7 and H2020 programmes.



Full agenda and slides from the meeting can be found on the project websites [here](#) and [here](#) plus options for follow up activities and full reporting.

NanoReg2 aims to couple Safe by Design to the regulatory process, demonstrating new principles and ideas based on data from industry value chain implementation studies.

Project Duration: 42 months, starting Sept 2015

Consortium: The NR2 consortium consists of 36 partners across Europe including representatives from academia, industry, policy makers and regulators.

Total Budget: 12 Million EUR

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

Project Duration: 42 months, starting January 2018

Consortium: The GRACIOUS consortium consists of 23 partners spanning Europe and the USA, including representatives from academia, industry, policy makers and regulators.

Press Contacts:

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Nanoreg2:

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Nanotechnology Industries Association
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Development of a real-time information and monitoring system to support the risk assessment of nanomaterial under REACH



nanoMONITOR

www.lifenanomonitor.eu

NanoMONITOR showcases its great achievements during NANOTECHNOLOGY 2018!

ABOUT THE PROJECT:

The LIFE+ project NanoMONITOR addresses the challenge of supporting the risk assessment of nanomaterials under REACH by development of a real-time information and monitoring system, consisting of two integrated elements:

- a software application to capture, store, exchange and manage the data on the concentration of engineered nanomaterials, and
- a new low-cost monitoring station prototype to support the outdoor and indoor monitoring of airborne nanopollutants.

DISSEMINATION AND NETWORKING ACTIVITIES:

NanoMONITOR attended a series of high impact events at which the project recent progress was showcased. On 13-15 March 2018 project partners presented the NanoMONITOR Monitoring Station Prototype during the Imaginenano 2018 conference in Bilbao, Spain. Relevant stakeholders were invited to use the NanoMONITOR Monitoring Station in their own facilities to obtain robust data on the concentration of engineered nanomaterials (ENMs).

**For more information about the Monitoring Stations [click here](#).
To express your interest please [fill in the form](#).**

On 5 July 2018 the NanoMONITOR team organized its Third Stakeholders' Day in Thessaloniki, Greece as a special session in the framework of the Nanotechnology 2018: International Conference on Nanosciences & Nanotechnologies.

The workshop brought together delegates from across Europe and the world to discuss the use of measured data on the concentration of ENMs to support risk assessment, the implementation of safe exposure scenarios and to present the latest regulatory developments affecting nanomaterials in the EU and worldwide, including guidance on the best tools available to meet these obligations.

During the workshop the new NanoMONITOR station was introduced and the initial results from its use in the Valencia region presented along with the new NanoMONITOR Guidance on the sampling methods and analytical techniques for the measurement and monitoring of engineered nanomaterials in the environment produced by the project, describing how industry, governments and regulators should undertake a monitoring and sampling strategies and how this can be used to meet existing and new regulatory obligations.



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...cntd/ NanoMONITOR

On 7 the July the NanoMONITOR team organized a Training Session on the use of the tools developed under the LIFE project NanoMONITOR to support the characterization of the potential exposure to nanomaterials in workplaces and urban environments within the Nanotechnology 2018:12th International Summer Schools on Nanosciences & Nanotechnologies. Later that week the NanoMONITOR 3rd Monitoring station was set up in Thessaloniki.

UPCOMING EVENTS

NanoMONITOR is organizing its 4th Stakeholders' Day: **Safe Nanotechnology – Risk management, exposure and regulatory challenges** in Lancaster, UK on 25 September 2018.



Workshop background: Exposure to both naturally occurring and anthropomorphic particulates affects everyone, with some exposures linked to serious health hazards in both humans and the environment. As the uses of ENMs increase in both volume and breadth, it is important to have the technology available to measure exposure to nanomaterials in the workplace and the environment. These will allow the identification and tracking of emerging risks, support the development of robust exposure modelling tools and allow users to prove compliance with regulatory obligations. It is the goal of the NanoMONITOR project to develop a robust sampling and analysing station that will allow the real-time measurement of nanomaterials. NanoMONITOR provides scientific based solutions to support the risk assessment of nanomaterials on a regulatory basis, including critical issues such as environmental, occupational and consumer exposure to ENMs, environmental release and fate in the life cycle and product value chains, and human health impacts of ENMs.

The workshop will introduce the exposure and risks arising from exposure to particulates including nanomaterials. It will then discuss the current status of the NanoMONITOR project allowing delegates to have the opportunity to test and provide feed-back on the prototype and the data acquisition software. Finally, attendees will learn about the latest regulatory developments affecting nanomaterials in the EU and worldwide, including guidance the best tools available to meet these obligations.

Special Training Session: A special Training session on the use of the tools developed under the LIFE project NanoMONITOR to support the characterization of the potential exposure to nanomaterials in workplaces and urban environments will be held within the workshop.

Join via Live Webinar: You can join the event via a conference call! To join the meeting please sign up before 20 September via the following link: <https://register.gotowebinar.com/register/6970754579284165891>.

You will receive a joining link an hour before the meeting start via email. Start: 09:30 BST | End: 16:30 BST

Attendance to the workshop and the webinar is free of charge. Due to space limitations registration will be on a first-come, first-served basis. Hurry and save your seats!

Full list of NanoMONITOR previous and upcoming events can be found here:

<http://www.lifenanomonitor.eu/en/events/>

NANOMONITOR MONITORING STATION DEVELOPMENTS

As of July 2018, NanoMONITOR has delivered 3 fully operative Monitoring Stations. The first Monitoring Station Prototype has been installed in one of the existing stations of the air quality network of the city of Valencia and it is already generating data on the concentration of nanomaterials in areas with high traffic density.



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The second station was installed in a commercial area located outside the city. The third station was installed in Thessaloniki, Greece. All stations are generating new data on the concentration of nanomaterials in city roads and highways of prime importance, to study potential effects on human health and the environment. A fourth station will be installed in Lancaster, UK in September 2018.

NANOMONITOR WEBPORTAL DEVELOPMENTS:

The NanoMONITOR Web Portal and the Administration Web console were launched and made publicly available at the beginning of 2018. Since then the demo version of the Web Portal has been presented and discussed during the consortium project meeting in Athens in October 2016, the 1st NanoMONITOR Stakeholders' Day, held on 4 April in Valencia, Spain and during the 2nd NanoMONITOR Stakeholders' Day, held on 24 October in Lancaster, UK and the 3rd NanoMONITOR Stakeholders' Day, held on 5th July 2018 in Thessaloniki. Based on the discussions and the feedback received from relevant stakeholders, the platform will be further refined to ensure its user-friendliness and to meet its intended users' requirements.

You can explore the the NanoMONITOR Webportal here: <http://www.lifenanomonitor.eu/en/applications/>

UPCOMING ACTIVITIES

Technical activities: Implementation phase is about to start: five companies producing and/or using ENMs were selected to test the NanoMONITOR monitoring station at industrial sites

- Large sets of data on the concentration of ENMs in sub-urban areas and subway systems are coming soon
- One new location to monitor the concentration of ENMs on the environment in Lancaster (UK)
- Satellite stations to be tested by stakeholders available by October 2018
- Up to 3 scientific publications on the concentration of ENMs in workplaces, urban areas and subway systems expected

To access the NanoMONITOR Guidance on the sampling methods and analytical techniques for the measurement and monitoring of engineered nanomaterials in the environment [click here](#).

Dissemination activities:

- NanoMONITOR 4th Stakeholders' day to be held in Lancaster (UK)
- Presence in relevant dissemination events in Europe
- Online Webinars in Autumn 2018
- NanoMONITOR Final dissemination event on 22 November 2018 in Valencia (Spain)

Project Partners:

ITENE (Packaging, Transport & Logistics Research Centre), Spain

AXON Enviro-Group Ltd., Greece

The Mediterranean Center for Environmental Studies (CEAM), Spain

Yordas Group (formerly The REACH Centre), UK

**Contact details**

Project Coordination: ITENE Packaging, Transport & Logistics Research Centre
C/ Albert Einstein, 1 Paterna, Valencia, Spain
Email: cfito@itene.com

Dissemination: Yordas Group (Formerly the REACH Centre)
Lancaster Environment Centre, Lancaster University Lancaster, LA1 4YQ UK

OpenRiskNet e-infrastructure available to end-users

Lucian Farcã
 Douglas Connect
lucian.farcã@douglasconnect.com
<https://openrisknet.org/>

OpenRiskNet

RISK ASSESSMENT E-INFRASTRUCTURE

The e-infrastructure project OpenRiskNet developing a platform providing data and modelling tools for predictive toxicology and risk assessment, is entering its second stage, in which the platform is made accessible to everyone. In the first phase, we developed advanced concepts and implemented these into the first version of the platform including building and deploying of virtual research environments (VREs) and integrating the first services for different task in risk assessment accessible by everyone for testing. The platform includes harmonised and partly semantically annotated data and modelling services, corresponding training material as well as seven risk assessment case studies, which are used to evaluate and optimize the infrastructure.

Current implementations and tools integrated

The reference environment is available at <https://home.prod.openrisknet.org/> There is a continuously updated list of integrated services and example workflows, which show how to combine services to fully exploit the benefits of the harmonisation and interoperability concepts.

Besides this reference instance, OpenRiskNet provides resources to enable users to instantiate their own virtual infrastructures populated with the applications and middleware making up the VRE on public or private cloud resources, as well as in-house server/workstations.

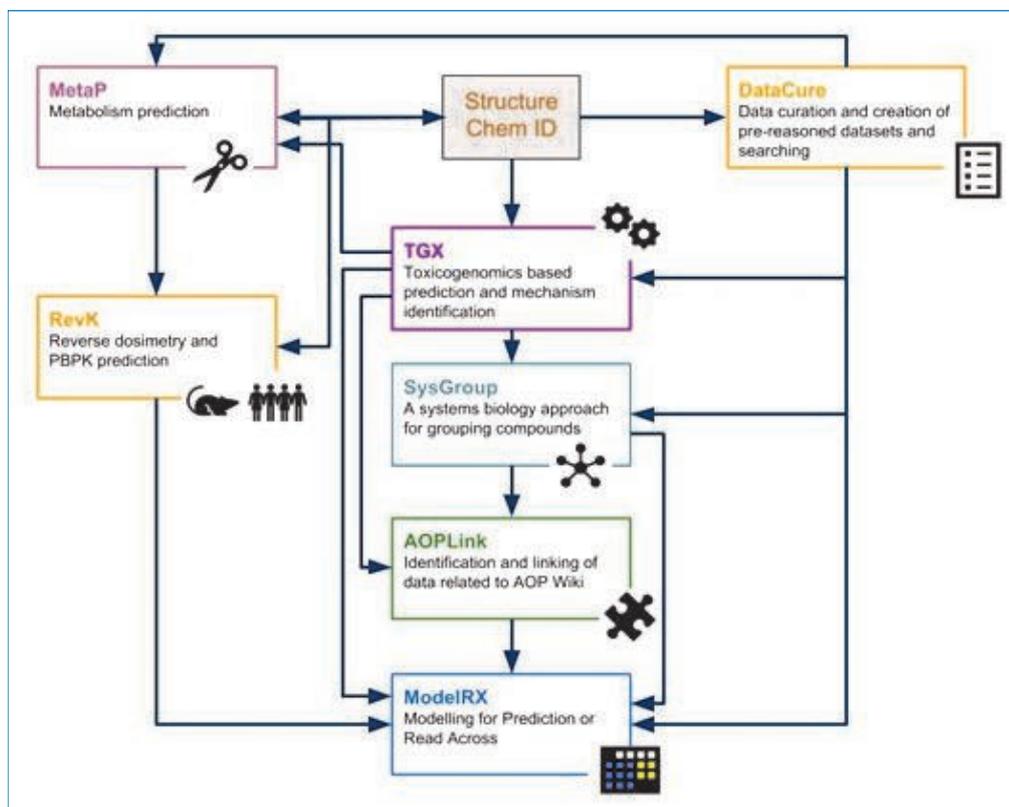


Fig. Case studies defined within the OpenRiskNet projects and their mutual relationships within the context of a risk assessment framework.

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The currently available services and tools include:

- **OpenRiskNet and Third-Party Workflow Managers and Scripting Tools:** Squonk Computational Notebook, Jupyter Notebooks
- **Graphical User Interface Access to OpenRiskNet Applications:** Lazar Toxicity Predictions, Jaqpot Modeling and Analysis Services
- **OpenRiskNet Data Sources:** Nanomaterial database (eNanoMapper), Data Explorer serving ToxCast, ToxRefDB and TG-Gates data
- **Example Workflows based on OpenRiskNet Tools:** Jupyter Notebook: Access TG-Gates data for selected compounds, select differentially expressed genes and identifier relevant pathways
- **API Definitions for OpenRiskNet Applications and Data:** Model Generation (Lazar Toxicity Predictions, JGU WEKA REST Service, Jaqpot Modeling and Analysis Services), Trained Models (LogP Predictor, Metabolic Site Predictor) and Helper Tools (Chemical ID Converter Service), Data and Knowledge Sources (BridgeDb identifier mapping service, eNanoMapper database, ToxCast, ToxRefDB)

The OpenRiskNet e-infrastructure aims to support many aspects of risk assessment by allowing the integration of toxicology-related data sources, for the implementation and execution of processing and analysis pipelines and for the execution of modelling workflows

Associated Partner Programme and the Implementation Challenge

The infrastructure can only be as good as the services it provides. Therefore, OpenRiskNet is working with an steadily increasing network of partners, organised within an Associated Partners Programme. On one hand, this allows for direct testing and getting early feedback on the developed concepts and the usability of the infrastructure and, on the other hand, only in this way all important areas, data sources and software tools can be covered by integrating services from these partners.

The programme is open for application to any organisation such as a university, institute, consortium, non-governmental organisation (NGO), small or medium sized enterprises (SME) and large commercial companies. Benefits are extended technical and partly financial support (in form of the implementation challenge with deadlines in September and December 2018 as well as April 2019) on how to integrate services into the infrastructure and premium user support on how to use the services. Associated partners are also involve in the work on the case studies and in this way can directly influence further development of the infrastructure and the prioritisation of features.

The e-infrastructure is developed by the OpenRiskNet project (<https://openrisknet.org/>) and its associated partners and is funded by the European Commission within Horizon 2020 EINFRA-22-2016 Programme (Project No. 731075).

Useful links

- Main website: <https://openrisknet.org/>
- E-infrastructure: <https://home.prod.openrisknet.org/>
- Associated Partner Programme and Implementation Challenge: <https://openrisknet.org/associated-partner-programme/>

Release of ACEnano Knowledge Warehouse



Data collection, methods optimisation and knowledge sharing

<http://www.acenano-project.eu/>

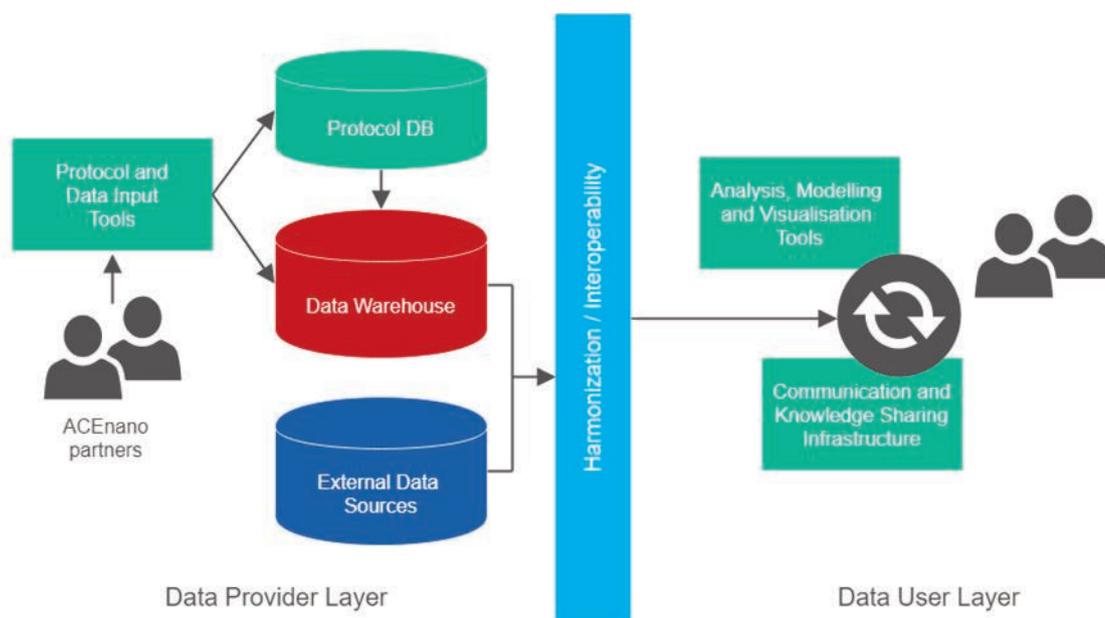
Lucian Farcas

Douglas Connect

lucian.farcas@douglasconnect.com

Data collection, methods optimisation and knowledge sharing The ACEnano knowledge warehouse (KW) supports the activities related to data collection and method optimisation in ACEnano (Horizon 2020 Project no. 720952) and aims to further disseminate this knowledge to the nanosafety community in a re-usable format. Overall, ACEnano aims to introduce confidence, adaptability and clarity into nanomaterial risk assessment by developing a widely implementable and robust tiered approach to nanomaterials physicochemical characterisation.

The KW includes multiple instances (protocols, data and dissemination) to optimally accommodate the requirements of the different data types (e.g. raw, processed data and protocols). The protocols database facilitates the addition, sharing and comparing of methods in a questionnaire-like format that guides the user through the documentation process from sample identification and description to the preparation, measurement and data processing. Storing protocols in a structured way rather than in an open text format allows for an easier comparison of the experimental design and how these affect the final results. Further, the data warehouse offers long-term storage of the results that are directly linked to the methods applied. Therefore, the ACEnano KW provides a central place to access harmonised and standardised methods applied for physicochemical characterisation of nanomaterials, supporting the implementation of Findable, Accessible, Interoperable and Reusable (FAIR) data principles, the reproducibility and documentation process towards the goal of generating reference resources for nanomaterials risk assessment.



These tasks are done in the context of WP4 of ACEnano (Linking ontology and methodology), lead by Douglas Connect GmbH (DC, Switzerland). The work is performed in close collaboration with the Swedish University of Agricultural Sciences (SLU, Sweden) and benefits from active contribution and feedback from ACEnano partners and laboratories performing measurements on the physicochemical properties of nanomaterials.

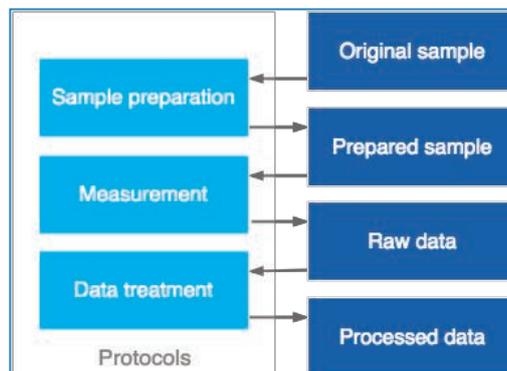
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Support to the implementation FAIR data principles

The functionalities of the KW supports the implementation of Findable, Accessible, Interoperable and Reusable (FAIR) data principles, the reproducibility and documentation process towards the goal of generating reference resources for nanomaterials risk assessment.

The **protocols** section facilitates access and sharing of methodology applied in nanosafety, starting with nanomaterials characterisation protocols developed or optimised within the ACEnano project. The experimental datasets of nanomaterials characterisation is stored together with relevant metadata pertaining to sample preparation, the measurement, and the data treatment. The resulting measured value and its metadata will give as complete information as possible so that possibilities of future use of the measured value is maximised.



The **data warehouse** is offering long-term storage in a reusable format of data produced by the ACEnano project or provided by the nanosafety community.

The **dissemination** section supports the collection of publications and events related to the project and facilitates sharing of information between ACEnano partners as well as further dissemination in the scientific community and the general public.

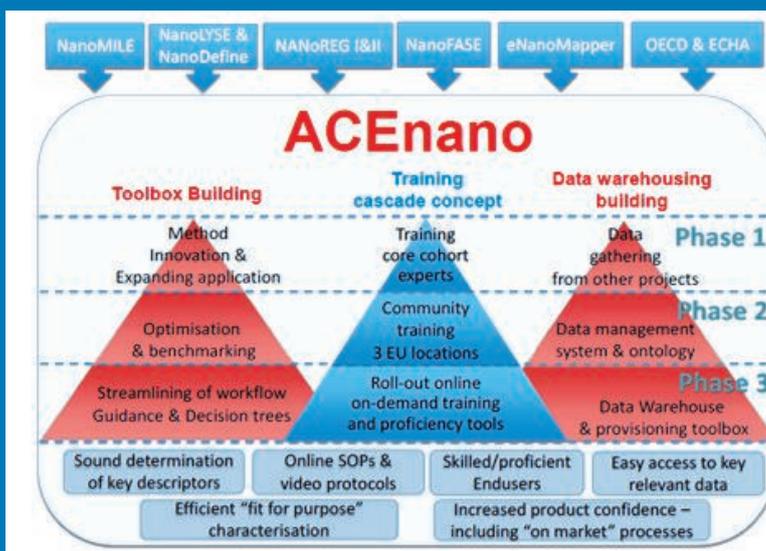
The ACEnano Knowledge Warehouse address is <https://acenano.douglasconnect.com/> (currently the access is enabled to ACEnano partners only, but a public instance is planned to be released also in the near future).

ACEnano in a nutshell

ACEnano will introduce confidence, adaptability and clarity into nanomaterial risk assessment by developing a widely implementable and robust tiered approach to nanomaterials physicochemical characterisation that will simplify and facilitate contextual (hazard or exposure) description and its transcription into a reliable nanomaterials grouping framework.

This will be achieved by the creation of a “conceptual toolbox” including a tiered approach to cost efficient nanomaterials analysis that will facilitate decision-making in choice of techniques and SOPs, linked to a characterisation ontology framework for grouping and risk assessment.

ACEnano will initiate activities to support data collection, management, interpretation and delivery to a data warehouse for safe use & storage. It will thus underpin the future of nanomaterial quality control, labelling and anti-counterfeiting.





Some quick links to relevant news—courtesy of BREC Solutions



- [ECHA Article Addresses New REACH Information Requirements for Nanomaterials](#)
- [OECD Phys-Chem workshop jointly with NanoReg2 and Gracious EU projects on grouping and readacross](#)
- [OECD Publishes Case Study on Grouping and Read-Across for the Genotoxicity of Nano Titanium Dioxide](#)
- [NIOSH Sets Oct. 30 Meeting on Silver Nanomaterials Draft Document](#)
- [Nano in the Key Enabling Technologies \(KETs\) Observatory from the European Commission](#)
- [EUON publishes study on nanomaterial pigments](#)
- [WHO Publishes Safety Guidelines to Protect Workers from Exposure to Manufactured Nanomaterials](#)
- [Evaluation of four new studies on the potential toxicity of titanium dioxide used as a food additive \(E 171\)](#)

For more quick links and events, and to access industry relevant developments in nanotechnology: innovation, commercialisation, regulation and standards, visit <http://www.brec-solutions.com/news.html> or subscribe for free by following this link: <https://lnkd.in/epvWuDH>



Jobs and Opportunities

EC JRC is offering positions in nano areas:



Extended deadline for a vacancy for **Contract Agent** at [JRC: Recruitment of auxiliary contract staff](#), 'Health, Consumers and Reference Materials', Ispra site, within the JRC Exploratory Research Project **MIMO** - Microplastics in Micro-Organisms.

New Deadline: 19 October 2018.

5-month **Traineeship** on 'Regulatory science framework for nano(bio)material-based health products' published at [JRC: Recruitment of trainees](#), 'Health, Consumers and Reference materials', Ispra site

Deadline: 24 October 2018



2018 IEEE 13th Nano Materials & Devices Conference (NMDC 2018) 14-17 October 2018, Portland, Oregon, USA

The 2018 IEEE 13th Nano Materials & Devices Conference (NMDC 2018) will be held in Portland, Oregon, USA on 14-17 October, 2018 at the Embassy Suites Downtown hotel. NMDC is an annual conference sponsored by the IEEE Nanotechnology Council (NTC).

NMDC aims to develop critical assessment of existing work and future directions in nanotechnology research including nanomaterials and fabrications, nanoelectronics, nanophotonics, devices, and integration.

This conference will bring together key researchers from every sector in the nanotechnology research field, with a special focus on materials and devices.

This year, NMDC 2018 is soliciting papers and sessions on Materials and Devices for heterogeneous nano/biomedical systems in these areas:

- [Nanomaterials & nanodevices](#)
- [Properties, Fabrication and applications of nanomaterials, nanosensors and nanomagnetics](#)
- [Special Applications](#)
- [Nanotechnology, Nanostructures and Nanosystems](#)
- [Modeling and simulation of nano-materials, nanostructures and nanodevices](#)
- [Emerging topics related to nanomaterials, nanodevices and nanostructures](#)
- [Education in nanotechnology](#)

We sincerely look forward to your participation in NMDC2018!

<http://sites.ieee.org/nmdc/nmdc-2018/>



10th Anniversary International Conference on Nanomaterials - R&A

October 17-19 2018, Brno, Czech Rep.

Nanomaterials - preparation, properties, characterization. Applications of nanotechnologies in industry, environment, medicine and biotechnology. The influence of nanomaterials to environment, health; metrology and standardization of nanomaterials. The topic nanomaterials for medicine will be accentuated in the 10th NANOCON conference. The conference will be opened by the plenary session with the appearance of significant speakers focused on research and applications of nanomaterials. Conference abstracts will be accepted into five theme sessions.

Registration is open. Please register.

<https://www.nanocon.eu/en> | info@nanocon.cz



8th Annual Congress of Nano Science and Technology-2018 (Nano S&T-2018)

The Organizing Committee is pleased to announce Nano S&T-2018 will take place at Kongresshotel Potsdam am Templiner See during October 24-26, 2018 in the beautiful city of Potsdam, Germany. Themed "Shaping the Bright Future with Disruptive Innovation", it aims to take a leading vital role to bridge the gap between nano-chemistry and nano-engineering, attract hundreds of papers in this existing relatively new field of nano-engineering, as well as providing a forum for the exchange of information and ideas in virtually all areas nanomaterials research. All presenters are involved in the program to explore a multidisciplinary and up-to-date science of nano-fabrication, nanobiotechnology, nanoelectronics and Nanoenergy. Nano S&T-2018 promises to be one of the most exciting opportunities for those who are seeking to broaden their professional network!

Brief Congress Info:

Time: Oct. 24-26, 2018

Venue: Kongresshotel Potsdam am Templiner See, Germany

The Scientific Program Covers:

- Block 1: Breaking Research of Nano Science and Technology
- Block 2: New Nanomaterials
- Block 3: Nano-Fabrication, Characterization and Nanoengineering
- Block 4: Nanomedicine and Nanobiotechnology
- Block 5: Nanoelectronics, NanoOptics, NanoPhotonics and Nanomagnetism
- Block 6: Nanotech for Energy and Environment
- Block 7: Nanotech for Other Applications
- Block 8: Young Scientists Forum
- Block 9: Career & Business Development
- Block 10: Posters and Exhibition

Highlights

- Designing 30+ Sessions of Scientific Forums, Symposia, Roundtables, Dialogs, Workshops, and Training Courses
- Inviting Worldwide Distinguished Experts and Decision Makers in the Areas of Nano Science and Technology for the Grand Thought Collision from 50+ Countries
- Shooting for 300+ Oral Presentations and Hot Paper Briefing in Whole Spectrum of NanoFields
- Gathering 10+ Exhibitors in Cutting-edge Technologies and Novel Products
- Bringing in 10+ Professional Media Supporters



nanoSAFE 2018 Minatec, Grenoble, France, 5-9 November 2018

<http://www.nanosafe.org/>

The 6th International conference NanoSAFE program is available online

<p>Organization Committee</p> <p>Chair Simon Clavaguera Jean-François Damlencourt Frédéric Schuster François Tardif</p> <p>Co Chair Georgios Katalagarianakis (EC, BE)</p>	<p>Opening</p> <p>Patrick Boisseau (CEA, FR) Teresa Fernandes (Heriot-Watt U., UK) Alain Fontaine (Fondation Nanoscience, FR) Georgios Katalagarianakis (EC, BE) Ulla Birgitte Vogel (NRCWE, DK)</p>	<p>Call for papers</p> <p>Abstracts for oral or poster sessions have to be submitted online between April 30th, 2018 and June 30th, 2018 on our website : http://www.nanosafe.org Notification of acceptance: September 15th, 2018.</p> <p>Presentations are collected during the Conference and will be available on our website. Authors can submit papers which will be published in a special issue of an open access journal.</p>
<p>Local organizing Committee</p> <p>The Nanosafety Platform/CEA Stéphane Boivin Philippe Capron Philippe Charléty Patricia Chéry Simon Clavaguera Pascal Conche Samir Derrough Aymeric Sperandio</p> 	<p>Topics</p> <ol style="list-style-type: none"> Measurement and characterization of nano-objects Chairman: Daren Chen (VCU, USA) Exposure Chairman: Christof Asbach (IUTA, DE) Manufactured nano-objects Chairman: Wendel Wohlleben (BASF, DE) <ul style="list-style-type: none"> 3.1 Nano-objects release from nano-enabled products 3.2 Safe-by-Design nano-enabled products and processes 3.3 Pilot plant production / Industrial issues Risks Chairman: Keld Alstrup Jensen (NRCWE, DK) <ul style="list-style-type: none"> 4.1 Occupational risk assessment 4.2 Environmental risk assessment 4.3 Tools and commercial equipment 4.4 Risk management 4.5 Nano responsible development and sustainability Nano-objects and Health/Hazard Chairman: Claude Emond (U. Montreal, CA) <ul style="list-style-type: none"> 5.1 Toxicology 5.2 Environmental interactions of nanomaterials 5.3 Safe use of nano objects for medicine applications Regulation / Standardization Chairman: Anthony Bochon (ULB, BE) Urban particles Chairman: David Pui (U. Minnesota, USA) 	<p>Registration</p> <p>General information</p> <p>FULL RATE* Until October 15th, 2018: 630€ After October 15th, 2018: 780€</p> <p>STUDENTS AND NGO'S* Until October 15th, 2018: 320€ After October 15th, 2018: 420€</p> <p>*Cocktail, lunches & Gala diner included</p> <p>CONFERENCE LANGUAGE English</p> <p>Location</p>  <p>Maison MINATEC Parvis Louis Néel 38054 Grenoble Cedex 9 FRANCE</p>
<p>International Scientific Committee</p> <p>Christof Asbach (IUTA, DE) Anthony Bochon (ULB, BE) Jorge Boczkowski (INSERM, FR) Patrick Boisseau (CEA, FR) Jean-Yves Bottero (CNRS/CEREGE, FR) Marie Camière (CEA, FR) Daren Chen (VCU, USA) Raphael de Thoury (PARTICLEVER, FR) Eric Draï (INRS, FR) Claude Emond (U. Montreal, CA) Steffi Friedrichs (OCCO, FR) Benjamin Gilbert (Berkeley, USA) Michèle Guimon (INRS, FR) Peter Hoet (KUL, BE) Keld Alstrup Jensen (NRCWE, DK) Sophie Lanone (INSERM, FR) André Nel (UCLA, USA)</p> <p>Fabrice Nesslany (Institut Pasteur, FR) Bernad Nowak (EMPA, CH) David Pui (U. Minnesota, USA) Jérôme Rose (CNRS/CEREGE, FR) Myriam Ricaud (INRS, FR) Eva Valsami-Jones (U. Birmingham, UK) Ulla Birgitte Vogel (NRCWE, DK) Mark Wiesner (Duke U., USA) Wendel Wohlleben (BASF, DE)</p>	<p>Activities</p> <p>Invited Plenary Lectures Selected Oral Contributions (Best student presentation award) Poster Session (Best poster award) Speed Meeting Panel Discussions Exhibition of equipment and instruments Satellite meetings</p> <p>Information at nanosafe2018@insight-outside.fr www.nanosafe.org</p> <p> /NANOSAFE.ORG  @NANOSAFE2018</p>	

Participants can access the forms on the conference website <http://www.nanosafe.org> and will receive an early bird discount by registering before October 15th.

We look forward to seeing you in November for a new successful Nanosafe 2018 Conference !

On behalf of the Nanosafe 2018 Secretary,
nanosafe2018@insight-outside.fr

 /nanosafe.org  @NanoSafe2018

Simon Clavaguera, CEA: simon.clavaguera@cea.fr

nanoSAFE 2018 Minatec, Grenoble, France, 5-9 November 2018

Satellite sessions

EQUIPEX NanoID (10h-13h)



An open platform consisting of specific characterization equipment allowing the detection and identification of nanoparticles in complex matrices. Examples of the latest instrument developments and capabilities will be illustrated with various applications (nanomedicine, environment,...).

LABEX SERENADE (14h-17h)



The LABEX SERENADE proposes an integrated scientific and educational approach to develop new concepts and tools for the Safer Design of next generation Nanomaterials and manufacturing processes. The workshop will focus on the last results of the case studies developed in the project, with a specific focus on consumer and environmental exposure.

Labex SERENADE: <http://www.labex-serenade.fr>

Camille de Garidel-Thoron: cgaridel@cerege.fr

BACKGROUND AND GOALS

LabEx SERENADE stands for Laboratory of Excellence for Safe(r) Ecodesign Research and Education applied to NANomaterial DEVELOPMENT and it is a Safe by Design project.

Laboratories of Excellence are part of the french program "Investissements d'avenir". In 2012, 71 LabEx have been selected through 2 calls for projects addressed to higher education and research institutions. It gives a 8 years financial support to scientific initiatives like the Labex SERENADE.

SERENADE is a partnership between french and foreign academic institutions and also industrial companies. It is carried by the OSU Pythéas and especially by the CEREGE [1] "Nanomaterials, waste and pollutants" group, which studies nanotechnologies implications and applications as part of its research areas.

[1] CEREGE (Centre Européen de Recherche et d'Enseignement des Géosciences de l'Environnement) : a research unit under the tutorship of AMU, CNRS, IRD and Collège de France.

Training Workshops



European Centre for Risk Management and Safe Innovation in Nanomaterials & Nanotechnologies (EC4SafeNano) Workshop

Blueprint for Nanosafety Platform Development & Sustainability (BNP-DS)



EC4SafeNano

This is a EU-funded project for the development of a distributed Centre of European organizations offering services for Risk Management and Safe Innovation for Nanomaterials & Nanotechnologies (EC4SafeNano). The center will be structured as a hub-based network and will work with established platforms and centers of excellence for nanosafety across Europe and internationally.

The EC4SafeNano network members can:

- access resources to start a new or develop an existing nanosafety platform.
- exchange/interact with experts on one platform.
- consult on needs, resources and services.
- harmonize nanosafety related practices on EU-wide scale.
- have EU-wide acceptance of the study results in recognition with EC4SafeNano.
- access various workshops or activities organized by other network members.



BNP-DS workshop

- BNP-DS will focus on the production of a blueprint (a set of guidelines for do's and don'ts) for the development and sustainability of a nanosafety platform.
- It will be an interactive session between the representatives of various nanosafety platforms and other stake holders.
- It is a first step towards the development of EC4SafeNano network for nanosafety platforms.

Interested? Join us at the workshop...

On Monday, 5 November 2018 | At nanoSAFE 2018 Conference (5-9 Nov 2018)
From 13h to 15h | Maison MINATEC*, Parvis Louis Néel, 38054 Grenoble, FRANCE

For more information, please contact

<p>Project coordinator: Dr. Emeric Frejafon, INERIS (France) emerik.frejafon@ineris.fr, Tel: +33 (0) 3 44 55 63 13</p>	<p>Task leader: Dr. Neeraj Shandilya, TNO (The Netherlands) neeraj.shandilya@tno.nl, Tel: +31 (0) 8 88 66 37 56</p>
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The EC4SafeNano project receives 2.1M€ funding from the EU's H2020 research and innovation program under grant agreement No 733623.

The BNP-DS workshop will be organized on 5 November 2018 in Grenoble, France from 13h to 15h. It will be one of the satellite meetings of nanoSAFE 2018 conference. This workshop is being organized within the framework of EU H2020 funded project EC4SafeNano and is a first step towards the development of EU-wide network of nanosafety platforms.

During the workshop, there will be an interactive session between various stakeholders associated with the development and sustainability of various nanosafety platforms across EU. First of its kind, it will be an excellent opportunity for the stakeholders to come together on the same stage and discuss the critical elements in this regard as well as the challenges which are generally faced while enforcing nanosafety related practices in different EU countries relevant ecosystems.

<http://www.ec4safenano.eu>
Neeraj Shandilya
neeraj.shandilya@tno.nl

First BIORIMA Stakeholders' Workshop



Date: November 6th, 2018

Location: Valencia, Spain

Main Topic: **RISK MANAGEMENT OF NANO(BIO)MATERIALS USED IN MEDICAL DEVICES AND ADVANCED THERAPY MEDICINAL PRODUCTS**

Nanotechnology raises high expectations in healthcare applications such as nano-enabled Medical Devices (MDs) and Advanced Therapy Medicinal Products (ATMPs), in particular to rapidly advance the efficacy of imaging, diagnosis and therapy. Academic and industrial research in this field is continuously growing in relevance, but has been mainly focused on technological developments, while the safety aspects have received less attention.

Together with the increasing investments observed in this sector, there is also a growing need to develop an efficient approach for assessing and managing all the potential risks of nano(bio)materials (NBMs) along all stages of their life cycle, to ensure and improve their overall safety and promote the long-term sustainability of new products.

This workshop will provide a unique opportunity to share and discuss views and needs of stakeholders involved in the development, marketing, evaluation and regulation of new NBMs. The BIORIMA project is developing an overarching framework for risk assessment and management of NBMs used in MDs and ATMPs that is based on regulatory requirements, industrial needs and state-of-the-art scientific approaches and tools. The purpose of this workshop is to engage relevant stakeholders in an interdisciplinary dialogue to foster the development of such a framework and to integrate their perspectives and priorities, so that a shared vision on risk management of NBMs can be achieved and promoted.

The main topics of the workshop will in particular include risk-benefit analysis, occupational and environmental risk assessment and management, strategies for risk prevention, control and monitoring (incl. safer product and process design).

Key questions addressed:

Some of the key questions we will address are: What are the most effective strategies for risk assessment and management of NBMs used in MDs and ATMPs? What are the experience, needs and priorities of stakeholders in this field? How the future risk governance of NBMs should look like?

Stakeholders' groups:

Industry, regulatory bodies, research/academia, manufacturing and healthcare workers, civil society organizations and any other organization involved in research & development, production, marketing, use, inspection, insurance, communication and decision-making on nanobiomaterials.

The workshop agenda will be available soon on the BIORIMA website (www.biorima.eu) and you can access the Workshop's flyer [here](#).

Registration deadline: October 15th 2018

Registration is free but mandatory.

Send an eMail to: info@biorima.eu and indicate your name and affiliation

Towards Nanotech Safety

<http://conference.mistraenvironmentalnanosafety.org/>

Anna Wallin Adersjö

Chalmers University of Technology

adersjo@chalmers.se



Welcome to this **Mistra Environmental Nanosafety Conference in Gothenburg, 13-15 November 2018.**

We are organizing this conference to summarize and reflect on the results from our research program's first four years, and to discuss the generation of a sustainable risk management strategy for nanomaterials in the future. Our aim is to enable risk assessment strategies for nanomaterial's impact on the environment. Speakers include Professor Mark R Wiesner and Professor André Nel.

The conference will feature sessions with ground-breaking science that will challenge your understanding of environmental nanosafety

- Find out about the program here: <http://conference.mistraenvironmentalnanosafety.org/#program>
- See the list of speakers and topics here: <http://conference.mistraenvironmentalnanosafety.org/speakers>

Events—Training

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WANT TO ATTEND OUR TRAINING FOR FREE VIA ERASMUS+?**



EFMC is happy to announce additional locations for the training course "*Financial Management of Horizon 2020 Projects. Theoretical and Practical Approach*". Choose the language, location and register now!

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- NEW!** 17-19 October / **Coimbra, Portugal** / English / [Enrol](#)
- 7-9 November / **Brussels, Belgium** / English / [Enrol](#)
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- 5-7 December / **Berlin, Germany** / English / [Enrol](#)
- NEW!** 12-14 December / **Amsterdam, Netherlands** / English / [Enrol](#)
- 16-18 January / **Naples, Italy** / Italian / [Enrol](#)
- NEW!** 6-8 February / **Prague, Czech Republic** / English / [Enrol](#)

NEW! PARTICIPANT PORTAL TRAINING

The Participant Portal is the most important tool for finding information, preparing and submitting the proposal and managing the reporting of research & innovation projects under the EU Framework Programme. In this training you will learn how to use the tool effectively and efficiently.

- 25-26 October / **Brussels, Belgium** / English / [Enrol](#)
- 22-23 November / **Vienna, Austria** / English / [Enrol](#)



The EU NanoSafety Cluster 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. Cluster 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 Cluster activities whether or not you are a partner in formal European projects.

This site is your gateway to the [Cluster projects](#), as well as to [Working Groups](#) formed to address transversal concerns. The structure of the cluster can be found [here](#).

This included [Task forces](#) that work on a specific topic during a limit duration

Explore the menu, read our [Compendium](#), [subscribe](#) to our rich Newsletter, [keep up to date](#) with events, [submit](#) your own nano-EHS related news or invitations to meetings...



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 NSC Compendium

www.nanosafetycluster.eu