NanoSafety Cluster Newsletter Extra

www.nanosafetycluster.eu Summer 2019 Newsletter Extra

Following on from our latest issue, this Newsletter Extra brings you **special updates** from the **NanoSolveIT** and **RiskGONE** projects as well as a report from the **PANDORA** initiative on their final workshop. To conclude, **CEA** announce a **Post Doc opportunity** working on **Serenade** (Safe by design functional coating for interior and exterior with enhance radiation efficiency: a way to save building energy) in Grenoble.

NanoSolveIT project: making rapid and collaborative progress via joint meetings and events

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RiskGONE management office and NanoSolveIT dissemination group

NanoSolveIT is an EU H2020 project funded under the NMBP-14 call, aimed at developing a ground-breaking *in silico* Integrated Approach to Testing and Assessment (IATA) for the environmental health and safety of Nanomaterials (NM), implemented as a decision support system packaged both as a standalone software and a Cloud platform.

The project started in January 2019, and has immediately initiated its activities towards the achievement of its goals. The NanoSolveIT kick-off meeting was held in Athens in February 2019. On this occasion the partners came together for the first time and discussed the planning of future work for the project implementation. After 6 months of work, the consortium gathered again in Limassol, Cyprus, to discuss the project advancements, agree next steps, and continue to ensure alignment of project activities with the overall goals and the evolving scientific landscape.

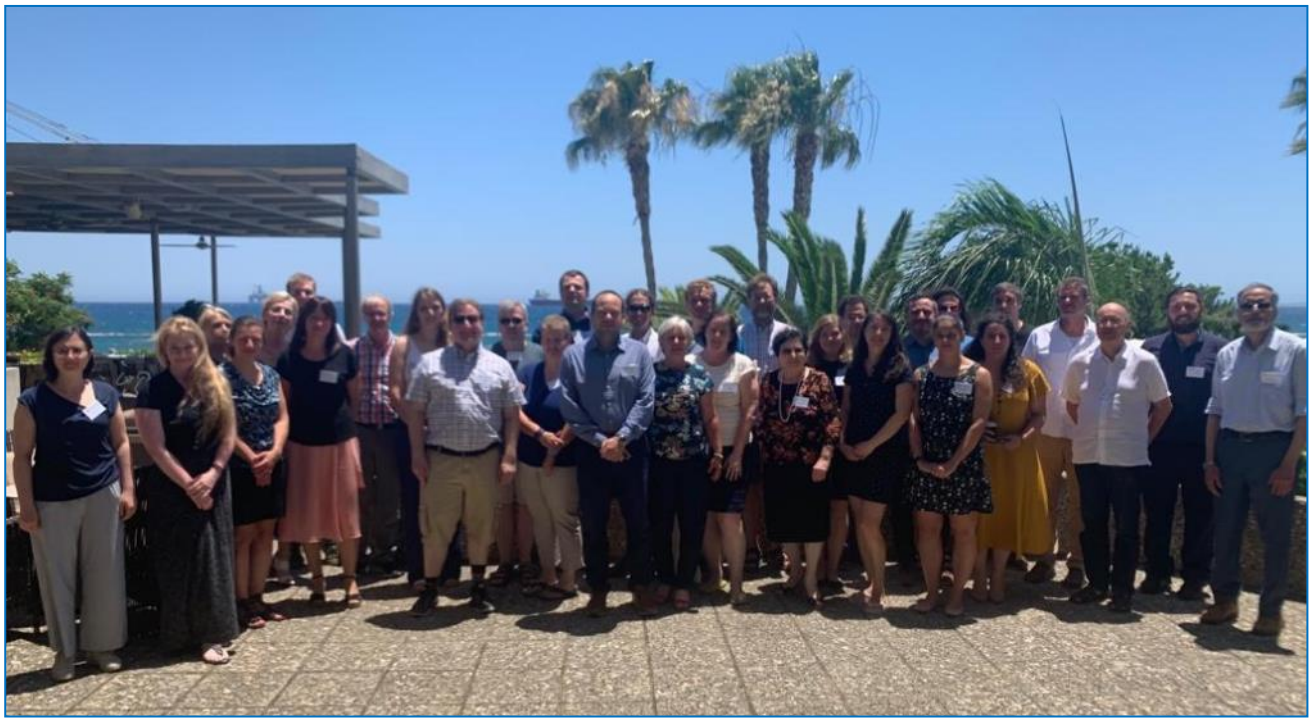

Image: NanoSolveIT partners at the month 6 meeting in Cyprus

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/cntd...NanoSolveIT project: making rapid and collaborative progress

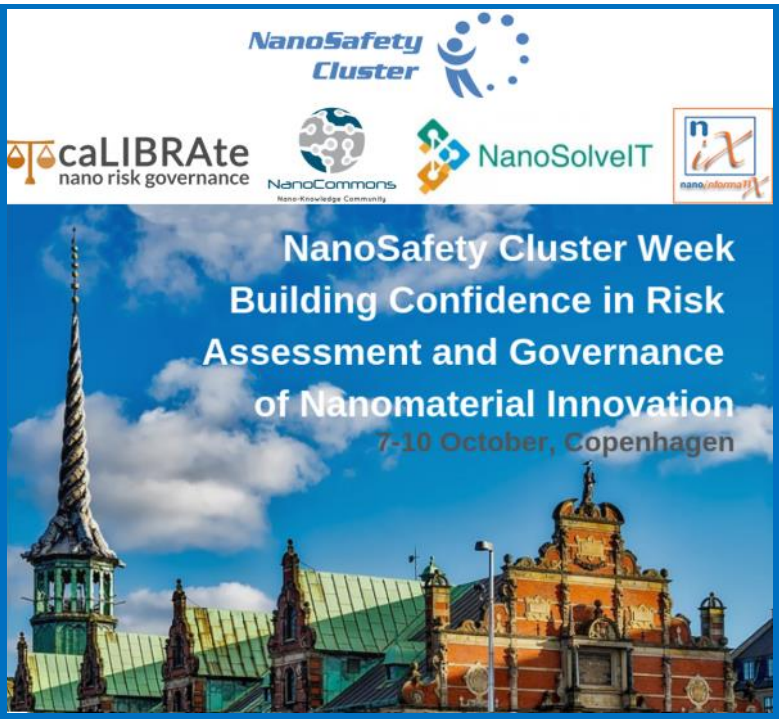
In line with the strategy for cooperation in research and innovation, the consortium is closely collaborating with other EU H2020 projects working on nanosafety, looking for possible synergies. A successful start for future collaboration was soon found with several projects such as NanoCommons, aiming at developing a nanosafety knowledge infrastructure; and RiskGONE, working on risk governance of nanotechnology. A strong collaboration with the European Union Observatory for Nanomaterials has also been initiated and will continue to develop as the project evolves.

Joint events have been organized with these projects. The first NanoSolveIT face-to-face meeting in Athens was organised back-to-back with a joint NanoCommons-NanoSolveIT meeting to maximize synergies among the two projects, both of which have strong modelling and tool development components. During the NanoSolveIT six-month consortium meeting in Limassol, Cyprus, an open workshop was organised together with NanoCommons and RiskGONE and other NMBP13 and NMBP14 projects, to discuss common subjects such as adverse outcome pathways (AOPs), making datasets re-usable, modelling approaches, data management and FAIRness (Findable Accessible Interoperable and Reusable), and risk assessment of nanomaterials. These joint meetings provided an occasion for valuable discussions among the projects, aiming at joining efforts to elevate impact from the projects and reduce unnecessary duplication of effort.

In the first six-month period, the NanoSolveIT consortium has been working on various project aspects including the curation of available data on nanomaterials characterization and adverse effects, and the integration of these data within the NanoSolveIT Knowledge Infrastructure, linked to the NanoCommons expansion of the eNanoMapper ontology. NanoSolveIT is also working to identify nanomaterials fingerprints that will help to build innovative *in silico* approaches and tools to afford predictive models for nanomaterial specific functionalities, exposure and hazard. The models will be integrated within the NanoSolveIT IATA approach that will be made available via a Cloud platform as well as on stand-alone software.

Within just the first 6 months of the start of the project there have been two face-to-face meetings, and monthly Work Package teleconferences: the consortium is now well-established and motivated towards reaching its goals. If you want more information about the NanoSolveIT project and to keep updated on its developments and progress, follow us on our website https://nanosolveit.eu/ or on Twitter @NanoSolveIT.

You can also meet us in person by joining the **"Building confidence in risk assessment and governance of nanomaterials innovation"** conference within the NanoSafety Cluster Week 2019, taking place in Copenhagen between October 8-9, 2019. Abstracts can be submitted until 31st July 2019 for oral presentations and until 15th September for poster presentations.



RiskGONE project moves forward after successful start-up phase

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Coordinator of EU H2020 RiskGONE

Following the two first consortium meetings, considerable progress has already been made. Project partners are now well set to move forward in the development of tools for risk assessment of nanomaterials and their integration into the work of a Risk Governance Council (RGC).

After the start of the project in January 2019, the RiskGONE partners first gathered back on 13-14 February 2019 in Oslo at the home of coordinator NILU (Norsk Institutt for Luftforskning) for the project Kick Off Meeting. This was an occasion for all project partners to meet in person for the first time, and to discuss together science and the management of the project. Concomitantly, an International Workshop on Risk Governance of Nanotechnology was held, enabling the partners to engage in knowledge exchange on nanomaterials with international experts external to the project, and to get in contact with the two other EU H2020 projects within the NMBP-13 call, NANORIGO and Gov4Nano.

The NMBP-13 projects share the aim to develop tools and a framework to govern the risks associated with the use of nanomaterials. They decided to work together towards the establishment of a single RGC, thereby allowing for synergies, efficient use of resources, and more impactful results over the course of the project and beyond! In the last months, the NMBP-13 cluster already had two face-to-face meetings: a core WP leaders of all three consortia meeting in Amsterdam in June, and a working group meeting on stakeholders engagement in Brussels in May. Since then, more working groups have been created, tasked to coordinate different aspects of the three projects, such as RGC, Framework and tools and Data management groups and are now active with continuous consultations.

More recently, on 4th and 5th July 2019, the second face-to-face RiskGONE meeting was hosted in Limassol, Cyprus, by the project partner NovaMechanics. This was another crucial moment which allowed the consortium to take stock of progress achieved and lessons learned for each work package, and to align on upcoming activities.

The meeting was also combined with meetings of two other ongoing EU H2020 projects - NanoCommons and NanoSolveIT - working on the nanosafety knowledge infrastructure and nanoinformatics respectively. Joint sessions on Datasets & Modelling and risk assessment of nanomaterials allowed for valuable exchange among experts of the three projects on how the FAIR (Findable Accessible Interoperable and Reusable) framework for Data Management can contribute to greater collaboration towards improved Risk Governance.

During the project meeting, advancements in the development of a risk governance framework for the safety of nanomaterials were presented, alongside discussions on the nature and structure of the RGC. Opinions of the RiskGONE External Advisory Board about the needs of the RGC were also reviewed, as well as the possible tools to be developed for the council.

The RiskGONEpartners will build on the momentum created by the fruitful discussions during the M6 meeting to continue to develop the risk governance framework, as well as the structure of the RGC, in partnership with NANORIGO and Gov4Nano. Many RiskGONE partners also plan to attend the upcoming EU NanoSafety Cluster Week 2019 this October in Copenhagen, and will officially convene again for the next consortium meeting in February!

In the meantime, stay tuned for more updates by subscribing to our newsletter via our website www.riskgone.eu, and if you are an expert in the field and interested in participating as a stakeholder in the project, please register your interest via the member area login page of the website.

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/cntd... RiskGONE project moves forward after successful start-up phase

About the Project

RiskGONE is an EU H2020 project aiming at providing solid procedures for science-based risk governance of nanomaterials, based on a clear understanding of risks and risk management practices.

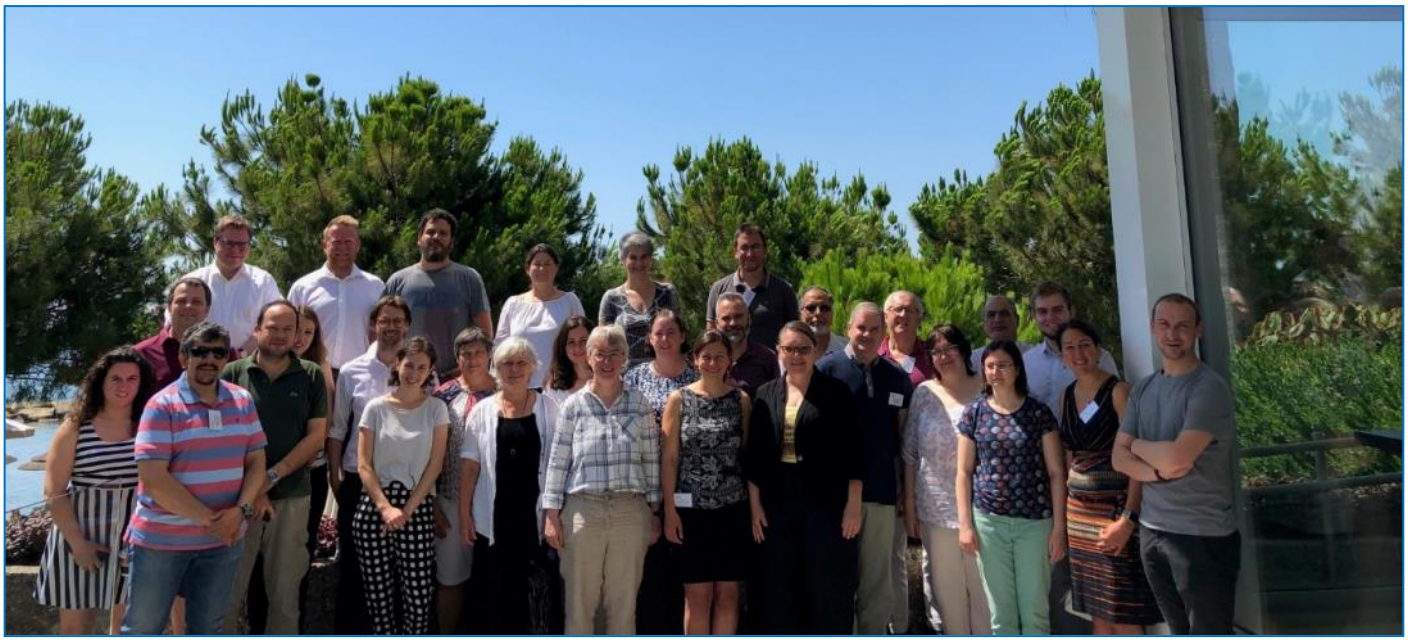

Image: RiskGONE partners

What is RiskGONE

RiskGONE (Science-based Risk Governance of Nano-Technology) is an EU H2020 project aiming at providing solid procedures for consistent risk governance of engineered nanomaterials.

The project began on 1st January 2019 and will end on 28 February 2023. In that time the project partners will develop new tools or modify existing ones 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 a European Risk Governance Council (ERGC), a group of individuals with different areas of expertise on nanomaterials tasked to provide governance decisions on the safety of the specific materials. A risk governance framework, made up of the tools and the ERGC, will be developed to address nanomaterial safety governance in a coherent and scientifically robust way. The project has a budget of € 5 Million.

Why RiskGONE?

Engineered nanomaterials (ENMs) are used in a wide range of products and can provide novel or improved functions, potentially improving the quality of products in terms of human welfare and environmental protection.

However, there is still limited knowledge about the hazards and risks connected to nanomaterials. This knowledge and its use in safety governance decisions, will help to better ensure that the potential risks to human and environmental health can be addressed.

The governance framework to be developed includes engagement with different stakeholders, to inform and interact with in order to develop better mutual understanding with the aim of achieving good governance of nanomaterials. Stakeholders include the general public, academia, regulators, civil society and companies. This calls for a flexible and robust public policy framework that can balance between uncertainty, benefits, hazards and risks. Such a framework needs to be based on scientific evidence, and stakeholder concerns and needs, to support a full understanding of risks as well as of the assessment and management of risks within a wider societal context.

PANDORA—Probing safety of nano-objects by defining immune responses of environmental organisms

Annual Meeting and Final Workshop—Paris-Lodron Universität Salzburg - Austria

Diana Boraschi
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- 8th-10th July, 2019: **Third Course of Transferrable Skills Training: Communicating science, risk communication and strategies in case of crises**
- 11th-12th July 2019: **Interaction of the innate immune system with nanoparticles: perspectives for understanding environmental and human adaptation and health**

PANDORA is a European Training Network (ETN) funded in the framework of H2020 Marie Skłodowska- Curie ITN programme. The PANDORA network aims at the education and training of 11 early-stage PhD students to learn how to assess the impact of engineered nanoparticles (NP) on the immune and defensive responses of organisms in the environment.

Immunity is a major mechanism for the survival and fitness of all living organisms, thus immunosafety of engineered NP is a key element of environmental nanosafety. The highly conserved system of innate immunity/ stress response/inflammation is the focus of PANDORA, as this would allow us to identify common reactivity across immune defence evolution.

PANDORA tackles the issue of global immunological nanosafety by comparing the effects of a selected number of NP of wide application on the immune response of several environmental organisms, such as plants, worms, marine bivalves, echinoderms, as well as humans.

The team has assessed the capacity of selected nanoparticles to induce innate defence reactions in different model organisms. The fellows have classified the reactions and identified common pathways in these reactions that can predict risks to environmental and human health. Based on these findings, they are designing surface modifications to synthetic nanoparticles that may change their impact on innate immunity.

- Participants: Italy, Coordinator: Dr. Diana Boraschi, Consiglio Nazionale delle Ricerche, Napoli; Austria, Czechia, Germany, Slovenia, UK, Spain.
- This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 671881
- For more details see: https://www.pandora-h2020.eu

Post-doctoral position at CEA (Grenoble)

Safe by design functional coating for interior and exterior with enhance radiation efficiency: a way to save building energy

WARM-ECOPAINT

In recent years, interior design practice has seen a dramatic shift with design strategies that now focus on providing healthy and sustainable environments for individuals to live, work and play in. Customers are beginning to understand their impact on the environment. The customer awareness is even not limited to interiors design and can be included in the general concept of Net Zero Energy Buildings (NZEBs) concept.

Energy (heat) saving can be achieved by using a large range of materials used both inside and on the outer shell of buildings. Efficient heat insulator materials are developed to reduce mainly thermal conductivity of walls.

Thermal insulators generally aim at trapping air into the insulator. One of the drawbacks is the thickness of the overall insulator. Aerogels structure, exhibiting a porosity of more than 90% in volume are interesting alternatives.

The Post-doctoral fellow will develop, using a safer by design approach, functional coatings with enhanced thermal conductivity properties by the use of aerogels particles. The development of silica-based aerogel particles using a green elaboration process will be mainly focussed, either on in-house functional particles or on the functionalization of commercially available particles. The potentialities offered by biosourced aerogels will be also investigated. The work will consist in the elaboration of the particles and their formulation within the functional coating. Experimental approach will be guided by numerical computation of the coating properties. Effective properties of the coating will be compared to other commercially available solutions. The coating will be aged using climatic chamber reproducing the UV and moisture (condensation) effects.

The candidate must hold a PhD thesis preferably in material sciences. Experience in relation with the targeted field of activities will be appreciated. The Post Doctorate candidate must be highly dynamic, sociable, feel comfortable to speak and write in English, be very autonomous and strongly motivated by collaborative and collective works. The position is requested to perform the coating synthesis and the characterisation of the coating properties.

Details:

Location: CEA in Grenoble, France.
Duration of contract: 12 months
Starting date: November 2019
Contact: Olivier Renard (olivier.renard@cea.fr)

Applications must be submitted in English by email:

- **a Curriculum Vitae (2 pages max)**
- **a list of publications**
- **a cover letter (1 page)**

Closing date for applications: 30/09/2019

About the NanoSafety Cluster

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...

The deadline for news submissions for the Autumn 2019 issue is October 14th