



## Welcome to the NSC Newsletter—Spring 2020

We very much hope that this issue finds you all safe, well and resilient. With a nod to the elephant in the room, it has to be said that these have been a challenging and strange few months. However, the nano community is contributing to the growing body of knowledge about COVID-19 and supporting the EC’s endeavours to overcome it. NSC activities have continued regardless, and lockdown constraints across the globe have meant that many of these activities have taken place online with individuals ‘Going to Meetings’ and ‘Zooming’ in and out of webinars, as reflected in this issue’s contents.

Our Newsletter opens with an [NSC Coordination Team update](#) from [Éva Valsami-Jones](#) (NSC Coordinator), and an announcement that Iseult Lynch is standing down from the team after almost 4 years of being a key member making significant contributions. Thank you Iseult for all your wonderful support. Meanwhile, Working Group A have a new Chair and Co-Chair ([p4](#)) as Martin Himly and Stella Stoycheva pick up the baton. Following a Spotlight feature on the 8th EU-Korea Nano Workshop, we have two ‘meaty’ articles from [NanoCommons](#) and [NanoRIGO](#). The NanoCommons Hackathon enabled more than 50 participants to find out how to enrich their own (published) data by uploading to an online repository. Meanwhile, NanoRIGO tackled the complex range of issues underlying the Risk Governance Framework and successfully integrated [the mentimeter tool](#) in the proceedings. Also in the project news section, we find out more about activities and developments in the [RiskGONE](#), [GRACIOUS](#) and [NanoSolveIT](#) projects. The ‘new kid on the block’ in this issue is [NanoHarmony](#), which is holding an [introductory webinar](#), where you can find out more.

In Jobs and Opportunities, JRC is announcing exciting [Contract Agent positions](#) at its Ispra base.

Our Newsletter closes with some [key events](#) both online and—hopefully—live. In the first of these, on May 27th, EVO NANO is holding an online International Workshop on [Cancer, Evolution, Alife](#), which promises to be a unique event.

We very much hope you find this issue of interest, and look forward to your comments and contributions for the next one. Meanwhile, stay safe and be well.

Kind regards,  
Lesley ([news@nanosafetycluster.eu](mailto:news@nanosafetycluster.eu))



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### The next issue....

If you’d like to contribute to the next newsletter, the **deadline for the Summer 2020 issue is July 17th (ish)**

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 😊



## Update from the NanoSafety Cluster Coordination Team – April 2020

First and foremost, we hope you are all healthy and safe and have found a way to cope with the challenges we all face in the midst of this pandemic.

The Coordination team consists of [Éva Valsami-Jones](#) (overall NSC coordinator and lead for **scientific** engagement), [Flemming Cassee](#) (lead for **regulatory** engagement) and [Andreas Falk](#) (lead for **industrial** engagement) supported by Anastasios (Tassos) Papadiamantis ([NanoCommons](#)) in organisation and website development and Cristian Rocca ([ACEnano](#)) in minute taking and team management. All play an important role in supporting the NSC's internationalisation strategy.

Here we want to cordially say **thank you** to **Iseult Lynch** who just stepped down, for her great ideas, support and activities during the past years, as she has been one of the coordination team members since 2017.

The NanoSafety Cluster Coordination Team remains committed to ensuring that the nanosafety community's interest are our priority. To demonstrate this, and as part of our ongoing efforts to enhance communications within the NSC, we write a small update of our activities in most newsletters, recapping on important recent developments and giving some signposting to forthcoming events and plans.

### Overall Coordination

Inevitably the current quarter has been dominated by the impact of COVID-19 on our personal and professional lives, but regardless, we have also continued our high level activities in the interest of nanosafety. As a focal point recently, we have been engaging in “horizon scanning” the developments around the new framework programme, Horizon Europe. With that in mind, we will be soon calling on the NSC's Steering Group to participate in an update of the cluster's Research Roadmap, [Nanosafety in Europe 2015 - 2025](#), with a view to bring it up to date and to address novel challenges that have emerged since 2015.

Although travel has not been possible in the last few months, and uncertainty remains over the immediate future, we have been busy behind the scenes supporting the organisers of [NanoSafe 2020](#) and planning to build the cluster's annual meeting around it, whether virtual or actual (save the date: NSC-meetings during NanoSafe-Conference, November 16<sup>th</sup>–20<sup>th</sup>, Grenoble). With the central theme of the meeting being Safe-by-Design, the NSC's newly started family of projects emerging from call NMBP-15 themed around SbD, are planning to have a major presence there and the coordination team has been supporting them in their preparations.

Now, of course, is a good opportunity for on-line meetings and other remote activities and we would like to invite participation to the first of a series of webinars to emerge in the next few months. In this first webinar, we will open discussion around the outcomes of the recently completed Task Force on the (Nano)-TiO<sub>2</sub> Safety. The webinar will take place on May 26<sup>th</sup>, at 2pm CET.

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*cntd/...* Update from the NanoSafety Cluster Coordination Team – April 2020

## Individual team member activities

**Flemming** has been busy supporting the Malta initiative, and planning a webinar around recent evidence on carbon nanotube toxicity – watch this space for an update soon.

**Andreas** has recently coordinated an opinion piece on “Safe and sustainable by design for Advanced Materials” to which many of you contributed and has been ensuring plans for the next EU-Asia dialogue meeting (4th EU-Asia Dialogue on Nanosafety, October 7th, 2020, Vienna) stay on course.

**Éva** has, amongst other activities, been supporting the clustering of new NMBP-15 projects and worrying about pandemics sufficiently to participate in the EUvsVirus hackathon, helping a broad range of teams to solve problems such as the choice of an appropriate nanomaterial to use in an antiviral face mask, the environmental implications of the pandemic and how to make on-line meetings better. Her participation won her a badge!



In the next newsletter, we will include further updates on the roadmap, webinars and plans for the autumn. In the meantime, please get involved in Task Forces, Working Groups and, if you wish to communicate with us, please email directly: [ct@nanosafetycluster.eu](mailto:ct@nanosafetycluster.eu).

Most importantly, stay healthy and safe!

Éva Valsami-Jones on behalf of the NSC Coordination team

## New Chair and Co-Chair for NanoSafety Cluster Working Group A: Communication, Training and Education

The NanoSafety Cluster are delighted to announce the appointments of a new Chair and Co-Chair for Working Group A: Communication, Training and Education. These profiles tell you more about them and their respective backgrounds.



### Martin Himly, Chair of Working Group A

Martin Himly (ORCID: 0000-0001-5416-085X) studied Chemistry/Biotechnology at the University of Graz (Austria) and received his PhD in 2001. He performed research abroad at The Scripps Research Institute, La Jolla, CA, USA in the field of oncology and virology. He has a strong background in recombinant allergen diagnostics/vaccines, standardization of allergen therapeutics (Biological Standardization Program BSP090, EDQM, Strasbourg, FR), characterization of protein pharmaceuticals, biochemistry, and immunology. He joined the Bio-Nano Group of Albert Duschl in 2012 and has a vivid interest in applying realistic advanced cellular co-culture models investigating immune mechanisms of nanomaterials, bio-nano conjugates, and nanomedical candidates. He has been involved in a number of FP7 and H2020 projects in nanosafety (NanoTOES, NanoValid, NanoEIS, PANDORA, HUMUNITY, EC4SafeNano, NanoCommons, NanoRigo) and coordinated the educational Sparkling Science project “Nan-O-Style” ([www.uni-salzburg.at/nan-o-style](http://www.uni-salzburg.at/nan-o-style)). Martin Himly holds an Associate Professor position in Biochemistry and Immunology at the Department of Biosciences of the Paris Lodron University of Salzburg (PLUS) and is member of the Allergy-Cancer-BioNano Research Center (ACBN) and the Doctoral School DSP Biomolecules of PLUS.



### Stella Stoycheva, Co-Chair of Working Group A

Stella Stoycheva is a social scientist with expertise in stakeholder engagement, training and dissemination activities for publicly funded projects and business sustainability. She holds a PhD in Management and is the Lead of Sustainability at Yordas Group, UK. She has been involved in a number of FP7, Horizon2020 and Life projects focusing on nanosafety (SUN, NanoMONITOR, NanoExplore, GRACIOUS, NanoUptake, Gov4Nano). She is a current active member of the NSC Dissemination Group and a co-chair of the NSC WGA Communication, Training and Education.

## 8th EU-Korea NanoWorkshop

25th of November 2019, Brussels, Belgium

The European Commission, Directorate-General for Research & Innovation, together with the Korean Convergence Technology Division, R&D Policy Bureau, Ministry of Science and ICT, organized the 8th EU-Korea NanoWorkshop on November 25th 2019 in Brussels. The workshop was structured around two sessions: (i) “Nanosafety” and (ii) “Characterisation of Nanomaterials”. Both sessions included presentations from Korean and EU NanoSafetyCluster representatives. The “Nanosafety” session was co-chaired by Blanca Suarez Merino (TEMAS) and Tae Geol Lee (KRISS), the “Characterisation of Nanomaterials”-session by Costas Charitidis (NTUA) and Si-Young Choi (POSTECH).

The following topics were presented:

- Nanomaterials definition under the EU and other sectors; need for a harmonised definition
- Methodologies briefly discussed including outcomes from EU projects, OECD and standards (ISO)
- in vitro experimentation, artefacts and the need to perform physico-chemical characterisation to allow for correlation of toxicological outcomes
- Data harmonisation, good quality data and FAIR principles
- Risk assessment approaches regarding nanomaterials
- Societal perception
- Needs for Governance due to the cross-cutting nature of nanotechnologies

Furthermore, an open session took place to discuss collaboration opportunities between Korea and European researchers. Amongst other topics, “nanoplastics”, reference materials, nanomaterial-mixtures and/or complex materials as well as nanomaterial release were the focus of discussions. Minimal requirements for industry were viewed as necessary for future nano-enabled innovation. Once more, the urgent need to call for a dedicated open innovation test bed (OITB) on nanosafety - complementary to the already funded characterisation, medical technologies/IVD, and materials-focused OITBs - arose from the discussions. It was also mentioned that international dialogue-formats might be connected with each other, i.e. with the 4<sup>th</sup> EU-Asia Dialogue on NanoSafety, which at the time was scheduled for June 15<sup>th</sup> 2020 in Vienna (hosted by the Austrian Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology); it has seen been moved (due to COVID-19 situation) to the 7<sup>th</sup> of October 2020.





## NanoCommons Hackathon Report: “Annotating Your Experimental Data Workshop”

Beatriz Alfaro Serrano (BNN) and Martin Himly (PLUS)

On **Tuesday, April 28<sup>th</sup> 2020**, the EU H2020 [NanoCommons](#) project offered an *online workshop* on data annotation which was run by Egon Willighagen from Maastricht University, NL (<http://orcid.org/0000-0001-7542-0286>, Twitter: @egonwillighagen).

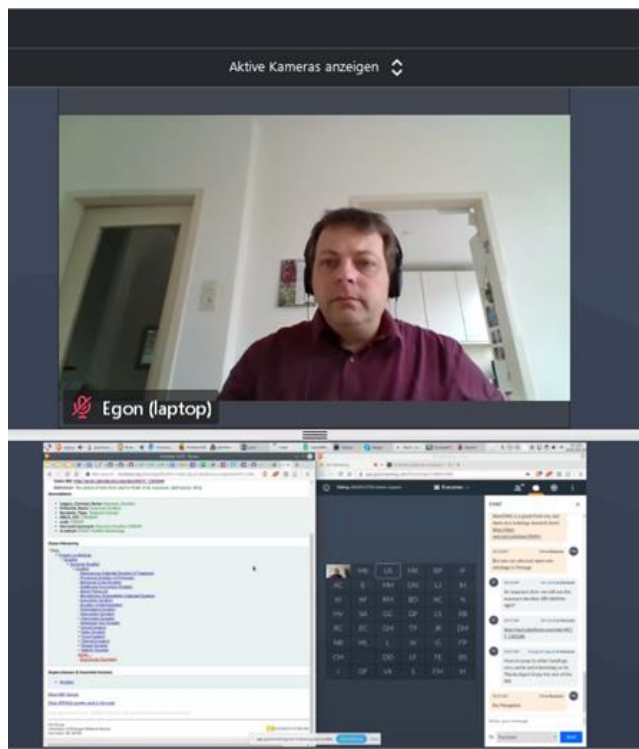


Image: The NanoCommons FAIR data expert Egon Willighagen in his digital cockpit during the data annotation workshop

Under the title “Annotating Your Experimental Data Workshop” more than 50 registered participants learnt how to enrich their own (published) data by uploading to an online repository and thus enlarged the impact of their research. As can be seen in the figures below, participants were from a large number of different countries across Europe (and one person from Brazil) and included mostly early-stage researchers generating nanosafety data in the lab.

During the workshop, different issues were addressed, pursuing the aim to guide the participants through the process of learning how to annotate their own data in thus increasing data FAIRness in nanosciences.

During the morning session, and right after a short introduction to the NanoCommons project, the participants learnt to annotate a demo spreadsheet containing physicochemical characterization and bioassay data with ontology terms. After that, they were asked to translate what they did in the first session to annotate their own data spreadsheet with ontology terms.

The afternoon session began with a webinar about the importance of the FAIR principles, and the participants learnt how to make their own research “Findable”, uploading their (already published) datasets/articles in Figshare or Zenodo, under the guidance of Egon Willighagen, followed by the kick-off to large-scale data upload to online repositories in order to increase the database-annotated, and thus FAIRified data sets.



Image: Word cloud created by the participants reflecting their demographic profile

Egon Willighagen prepared a well-structured, interactive workshop including live polls; and there was enough time for Q&A of the participants.

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## Cntd/... NanoCommons Hackathon-Report: “Annotating Your Experimental Data Workshop”

Several EU NanoSafety Cluster projects were represented by the participants spanning the NMBP-13 risk governance, the NMBP-14 nanoinformatics and the NMBP-15 safe-by-design projects, but also students from Marie Curie ITN and EID projects were there.

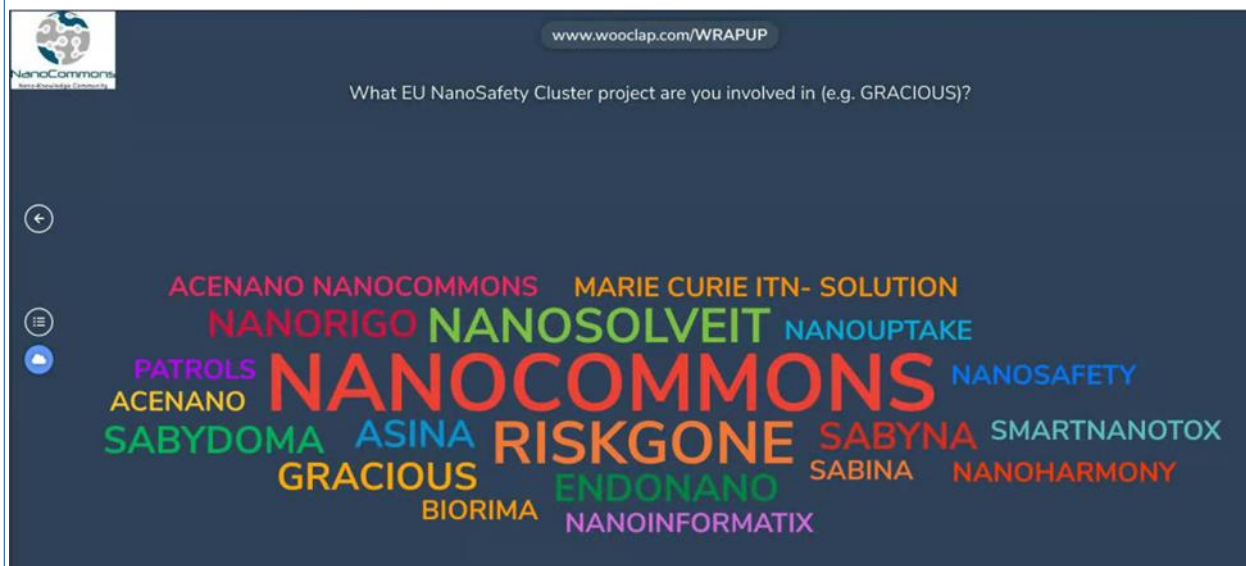


Image: Word cloud of the EU NanoSafety Cluster projects where the participants are currently involved in.

The target audience of the data annotation workshop was early-stage researchers and no prior bioinformatics knowledge was required. As we can see in the figure below, mostly PhD students within their theses and postdoctoral fellows attended the online course

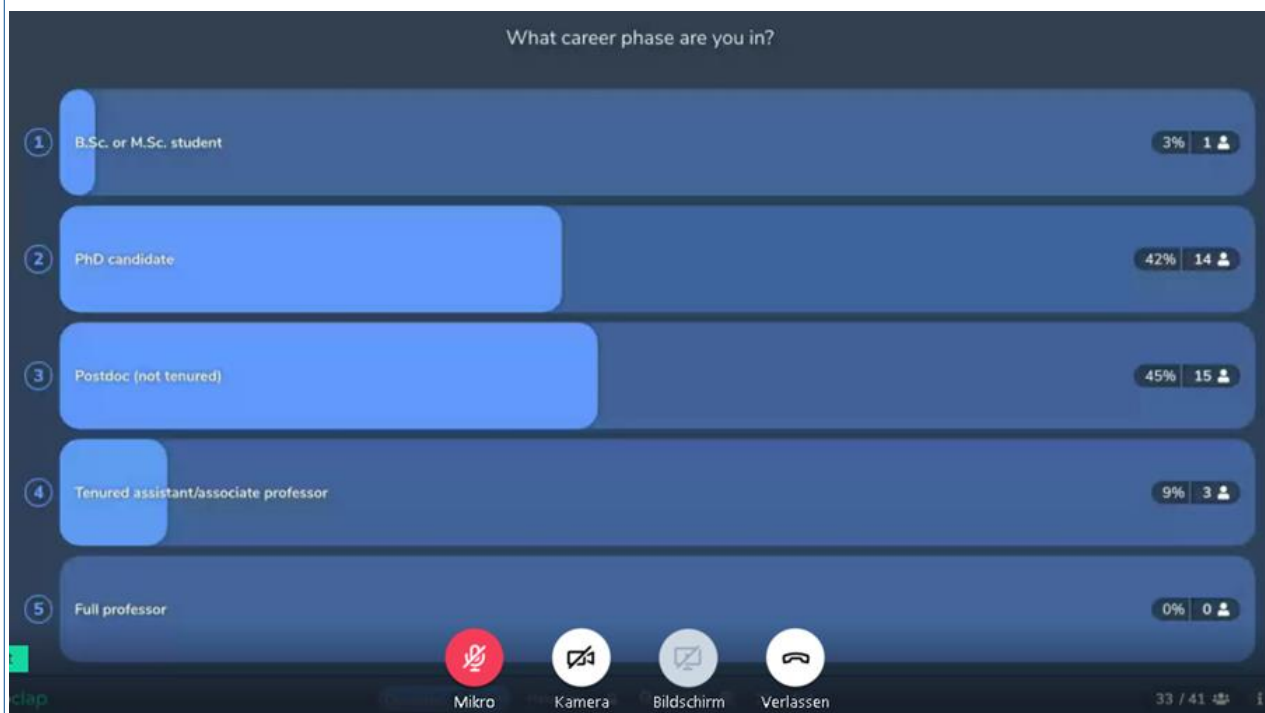


Image: Most participants were currently in the stage of conducting their PhD theses or during their postdoctoral phase in research

## Cntd/... NanoCommons Hackathon-Report: “Annotating Your Experimental Data Workshop”

The research topics covered by the participants’ projects were highly scattered across the entire field of nanosafety research including ecotoxicological workflows, nanomaterial physicochemical characterization, human toxicology, immune function and beyond, overall being centered around *Nanotoxicology*, and to some extent *Biomaterials* and *Nanoinformatics*.



Image: Word cloud created by the participants reflecting their research topics

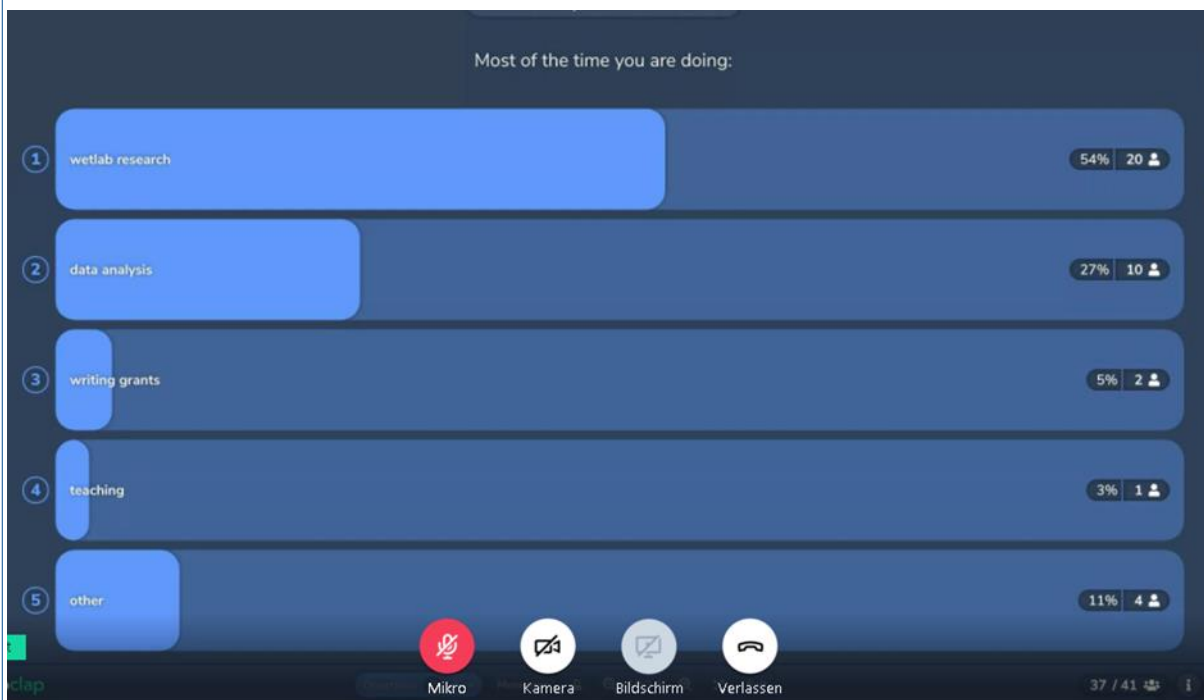


Image: Main activities of the participants, during their daily professional lives

Expectations of the participants were mainly on learning how to make their data FAIR and thus to create a wider impact for their research in nanosciences. The nanomaterials that were covered in the data sets that the participants brought along or were interested to annotate to online repositories were highly diverse spanning the entire spectrum of nanomaterials.

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## NanoCommons Hackathon-Report: “Annotating Your Experimental Data Workshop”

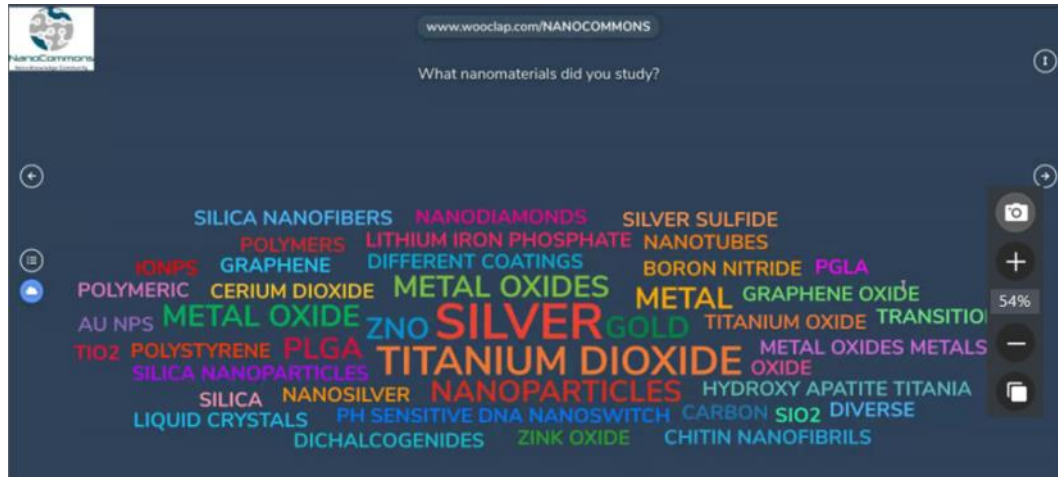


Image: Word cloud of different types of nanomaterials appearing in the experimental workflows of the participants of the NanoCommons data annotation workshop.

Thus, also the physicochemical parameters that data annotation has to be able to cope with did span quite a range of diverse dimensions.

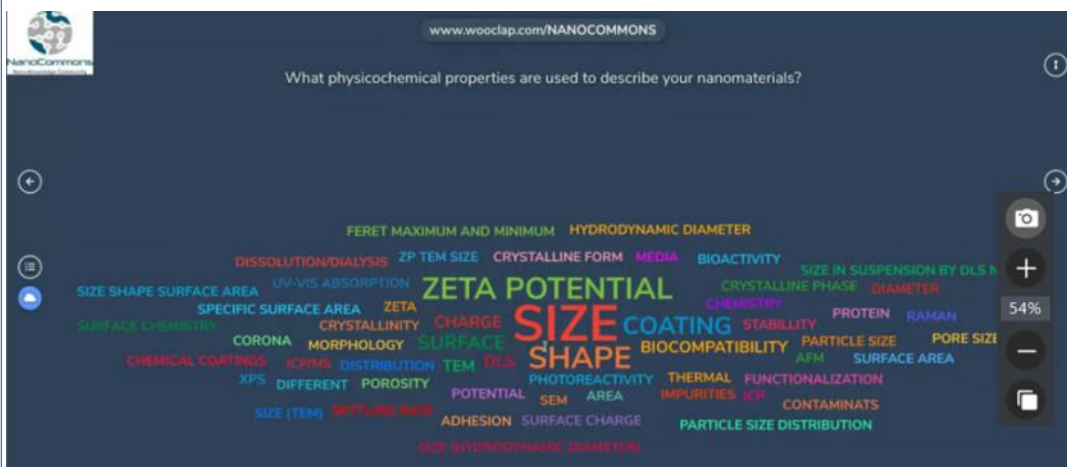


Image: Word cloud of different physicochemical parameters of nanomaterials appearing in the experimental workflows of the participants of the NanoCommons data annotation workshop

This heterogeneity of physicochemical parameters investigated resulted - quite understandably - in a large array of different measures.

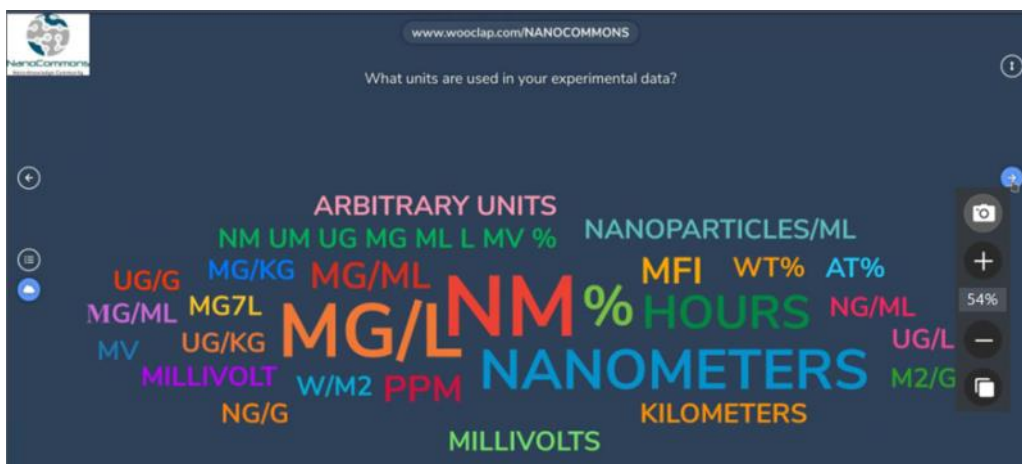


Image: Word cloud of dimensions of nanomaterials appearing in the experimental workflows of the participants of the NanoCommons data annotation workshop

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## Cntd/... NanoCommons Hackathon-Report: "Annotating Your Experimental Data Workshop"

Moreover, a similar heterogeneous picture could be seen when looking into the different cellular systems or organisms that were used for characterising the bio-effects of the nanomaterials.

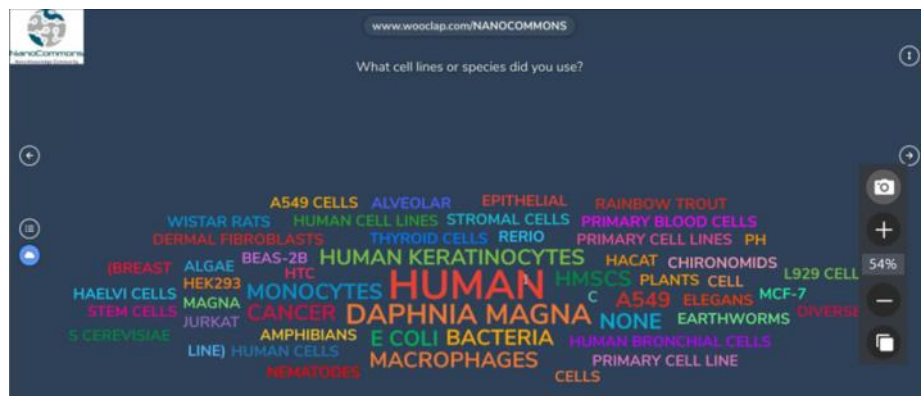


Image: Word cloud of *in vitro* cellular systems or organisms used by and other terms that came to mind of the participants of the NanoCommons data annotation workshop.

As a side incentive, the participants of the workshop had the possibility of winning the 1st EU Nanosafety Data Curation Prize, organized by NanoCommons. The two webinars of the workshop, i.e. "Spreadsheets in nanosafety research" and "FAIR starts with findable: data sets and nanomaterials", have been recorded and can be viewed, together with the instructions for the hackathon and additional materials, at the NanoCommons [NanoCommons e-infrastructure webspace](#). All slides are open and available also in [Zenodo](#). More training sessions will be offered in near future by the NanoCommons initiative, which is carried along by the EU NanoSafety Cluster - Work Group A on Communication, Training and Education. Please, register [here](#) to get/stay informed on the ongoing and future trend in nanosciences, which is determined to create a FAIR data realm in the field of nanosciences and beyond including the research in nanomedicine, microplastics, novel, or advanced materials, etc. This intention was also reflected by the participants' associations with the content of the workshop upon completion. According to this poll, we hope to face a great future of FAIR data in nanosciences.



Image: Word cloud of the participants' first associations to the workshop's content upon its completion

The NanoCommons team will be happy to answer any questions and to guide you in your requests! Please approach us by email to [helpdesk@nanocommons.eu](mailto:helpdesk@nanocommons.eu). Do not forget, you can also apply for Transnational Access (running in times like this of course remotely) to our offered spectrum of services on experimental workflows, data processing and analysis, prediction and data storage.

**Beatriz Alfaro Serrano** (BNN, Graz, AT, [beatriz.alfaro@bnn.at](mailto:beatriz.alfaro@bnn.at)) leads the NanoCommons work package on *Integration & Sustainability*. **Martin Himly** (PLUS, Salzburg, AT, [martin.himly@sbg.ac.at](mailto:martin.himly@sbg.ac.at); <http://orcid.org/0000-0001-5416-085X>) takes care of all *Training* issues within NanoCommons and is the new chair of the *EU NanoSafety Cluster - Work Group A on Communication, Training, and Education*.

# About NanoCommons



## The European Nanotechnology Community Informatics Platform: Bridging data and disciplinary gaps for industry and regulators

NanoCommons is establishing a single integrated resource for nanoinformatics data in which different stakeholders (e.g. scientists, regulators, NGOs, industries, etc.) can have confidence that it is both up-to-date and self-consistent.

### We Develop, You Access



#### Experimental Workflows Design & Implementation

Automated data acquisition, online lab-books, data curation templates, nanoinformatics implementation.



#### Data Processing & Analysis

From data cleansing, mining and analysis to modelling and from ISA-TAB tools to ontologies.



#### Data Visualisation & Predictive Toxicity

Omics, QSARs, modelling and risk assessment tools.



#### Data Storage & Online Accessibility

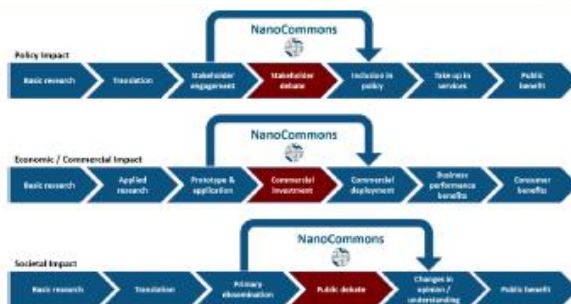
Data repositories, storage, online access

The next managed call for User access to our expanding catalogue will be launched October 2019, for funded access to nanoinformatics tools and expert support during 2020.

### NanoCommons Core Values

- Integrity:** We believe in building trust, strong personal relationships and long-term collaborations to support sustainability of nanosafety knowledge and resources.
- Quality:** We are dedicated to continuously expanding the state of the art and improving high quality tools and services for data production, acquisition and analysis.
- Innovation:** We strive to identify, develop and implement the tools which will help all aspects of research and contribute to solving the problems of the nanosafety community.
- FAIR Data:** NanoCommons is committed to FAIR data principles and aims to promote cross-field (academia, industry, regulatory) collaboration and voluntary knowledge exchange.

### The NanoCommons Consortium



Key policy, economic and societal tipping points resulting from NanoCommons activities

NanoCommons is delivering a step-change for the emerging nanosafety informatics community by revolutionising data capture, management & sharing, thereby removing barriers to modelling, regulation and industry processes such as safety-by-design for nanomaterials.

NanoCommons will achieve this through:

1. Integration of disparate datasets, tools and modelling approaches from across the 60+ projects related to nanosafety-funded across FP6, FP7 and H2020 (**Networking Activities**),
2. Development of an integrated KnowledgeBase to facilitate development and application of regulatory tools such as QSARs, grouping and read-across (**Joint Research Activities**); and
3. Support to Users (academia, industry, regulators etc.) via funded access to knowledge management and nanosafety informatics tools and expertise (**Transnational Access**).



NanoCommons nanosafety tools survey



This project has received funding from the EU H2020 Programme: grant agreement n° 731032

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## NanoRIGO Webinar Stimulates Understanding of Underlying Issues of the Risk Governance Framework



[Lesley Tobin](#)

Under the aegis of the NanoRIGO Project (T3.1, T3.3. and T3.4), two webinars have taken place with almost 50 participants attending and openly discussing essential conceptual issues surrounding the development of a science-based, transdisciplinary nano risk governance framework.

The first of these webinars: *'Everything you always wanted to know about RG&F but were afraid to ask'*, addressed the following fundamental questions:

- RGF as a process – how does it work?
- Who are the users of the RGF?
- How does the integration of existing models work?
- How does the collaboration with other projects work?

Following presentations from Marie-Valentine Florin, EPFL (WPL4) on the purpose of Risk Governance and Piet Sellke (Dialogik) on how the Framework works, the webinar explored the integration of nano and risk governance within the project itself. An ensuing dynamic discussion led by Arto Säämänen, FIOH) (WPL3) has continued on the project forum. The webinar ended with an evaluation of the proceedings, led by Kees Le Blansch (BKLB).

The second webinar, organised by WP3 partners on 23<sup>rd</sup> April, explored RGF issues in greater depth, tackling the complex question: *'How (on earth) to integrate 'other issues' alongside risks in the Risk Governance Framework'*: these 'other issues' being Ethical, Social, Environmental, Economic, Legal, and Regulatory.

One factor that made this webinar particularly successful was the preparatory information sent to participants beforehand, in which it was acknowledged that “The RGF should address these wider issues alongside risk if it is to engender trust among citizens and stakeholders”. In sum, combining the identification and assessment of quantifiable risks with the assessment of these non-quantifiable broader concerns is imperative. The question is *how*. This sparked interest from the outset.

The webinar began with a warm welcome from Arto Säämänen (FIOH), leader of WP3. This was followed by an introduction delivered by Daan Schuurbijs (DPF), in which he addressed the question of ‘Why?’ – Why integrate other issues alongside risks in the RGF? He discussed how the very notion of RG should be broadened: RA is only part of RG and other concerns shape, inhibit and promote it. These should be addressed to engender public confidence. In raising the next question: ‘What?’, Daan summarised these concerns as Ethical, Social, Environmental, Economic, Legal, and Regulatory. This led to the final ‘million-dollar’ question: How? While the webinar did not seek to provide an immediate

answer, presentations delivered by the expert speakers would enhance a mutual understanding.

At this point, a second factor contributing to the webinar’s success was introduced – the mentimeter. This instant voting tool enabled all participants to provide input on key questions so that opinions could be immediately gauged and measured. Early on, the participants used the mentimeter to respond to the question: ‘How important do you feel it is that the NRGF also addresses other concerns?’. Results are shown in figure 1.



Figure 1.

[Contd/...](#)

### Cntd/... NanoRIGO Webinar Stimulates Understanding of Underlying Issues of the Risk Governance Framework

Looking for models, tools and indicators that we could use in the face of this challenge, Kees Le Blansch then took to the floor with an overview of Risk Governance of Biotechnology, making specific reference to GMOs and drawing analogies applicable to the NRGF. With the caveat that RG of biotechnology is not a best practice case, Kees stated that it has a strong legal basis in the EU. In a wide-ranging and highly informative presentation, Kees cherry-picked six ways in which 'other concerns' are incorporated in the design of the BRGF and introduced them as potential models for NanoRIGO:

1. 'Broad public debate' on GMOs
2. Expert advice board
3. EU mandatory labelling of GMO's
4. 'Blocking minorities' prevent EU authorisation of GMOs
5. Allow EU Member States to ban specific GMOs from their territory
6. Test of ethical justifiability of GMOs before risk assessment (Norwegian model)

During the subsequent discussion among participants, Rudolf Reuther (ENAS), WPL8, observed that we are shifting from safety to governance and we have to integrate all the other concerns and aspects that are a departure from our involvement in the technical risk assessment. With participants having agreed that other concerns must be integrated, they were invited to submit their opinion on how these concerns can be gathered and included (see Figure 2). Voting overwhelmingly in favour of drawing on prior socio-ethical assessment, broad public debate and expert advisory boards were also considered valuable tools.

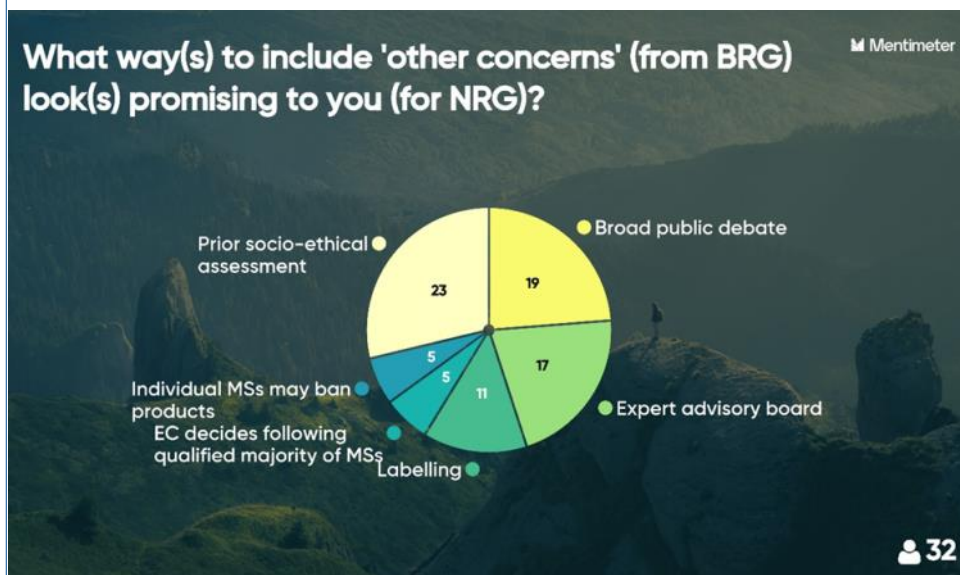


Figure 2.

Next, Bernd Giese (BOKU) comprehensively addressed ways in which potential socio-economic impacts can be considered in Multiple Criteria Decision Analysis (MCDA). He explained how the criteria for assessment belong to three categories:

- Human Risk + Environmental Risk (Prospective Early Risk Screening Tool - PERST, WP 2.2)
- Environmental impact (criteria derived from LCA)
- Socio-economic impact

This was followed by a description of how indicators can be deduced from societal aspects that include economic growth, resilience of society and the economy, sustainable development, and equity/equality. Janeck Scott-Fordsmand (AU), the NanoRIGO Project Coordinator, asked whether establishing indicators entailed defining what a good indicator is rather than choosing the indicators, and whether there is a boundary between choosing good indicators and those that should be included. Is it a more hierarchical issue?

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### Cntd/... NanoRIGO Webinar Stimulates Understanding of Underlying Issues of the Risk Governance Framework

Bernd explained that the MCDA method lends itself to a broad variety of indicators that can be numbered, and other scales - such as performance - can be considered for comparison. It was agreed that co-variation and co-integration is a topic for later discussion. Rudolf Reuther commented that inevitably, socially beneficial innovation may also have less beneficial side effects and whether the MCDA can help avoid this vicious circle. Bernd clarified this issue by saying that the MCDA can only give a rather limited perspective, depending on the user (ie whether the producer or user of the technology) and their different perspectives. Asked by Rudolf whether we can call this multi-stakeholder as well as multi-criteria, Bernd replied that this might imply that many stakeholders can use it at the same time, but only if it is organised this way. We can draw on a balanced input from different stakeholders.

In the final presentation, Pieter van Broekhuizen (BKLb) reduced 'ELSEA' to 'ESA' and delivered a practical approach for deliberating ethical and social aspects in nano. Presenting the Dutch 3-step procedure for occupational exposure limit settings for high risk substances, Pieter explained how this lends itself to the qualitative approach required of ethical and social aspects with stakeholder representation differentiated in three steps:

- regulatory authorities
- scientific experts
- societal stakeholders

Pieter described how this possible approach for operationalising ESA for nano risk governance would also require two distinct committees: a Nano Expert Committee (NEC), and an Ethical and Social Aspects Committee (ESAC)

Gerard Vales Segura (FIOH) questioned the implications of the nm itself and whether the ESA should be considered differently if it were a novel application. Pieter responded that an assessment of the novel nm would be made all along the lifecycle and for this reason he felt that the model should be used for existing innovations, for nano-enabled products as well as for process-generated nms. This might be a role for the nano expert commission. Paula Silva (Quercus) asked how nms would be prioritised at entry point of the public political debate, to which Pieter responded that all stakeholders' concerns should be referred to the nano expert commission.

The floor was returned to Kees, who then addressed the webinar participants with a summary of three different potential approaches to ESA presented earlier: COGEM - Netherlands Commission on Genetic Modification; ESAC; and the 'Norwegian model'. Participants were asked to vote for the approach that they found more interesting (see figure 3).

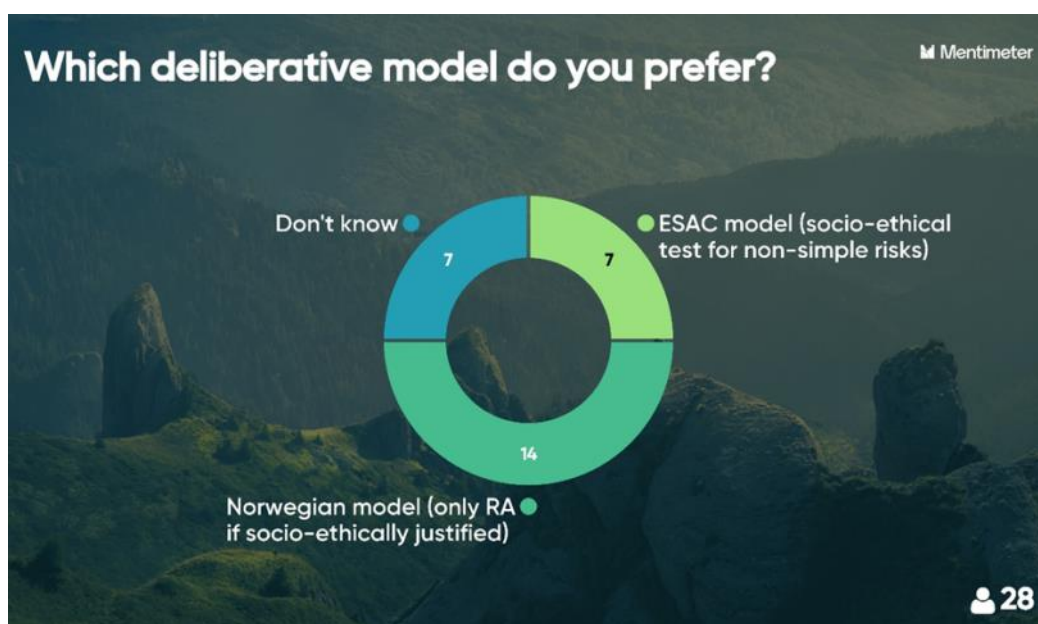


Figure 3.

Cntd/...

### Cntd/... NanoRIGO Webinar Stimulates Understanding of Underlying Issues of the Risk Governance Framework

Finally, in the webinar's concluding discussion, Bernd added that the MCDA is open to different kinds of users and it can be more focused. Daan proposed making a selection in the beginning according to the preference of the user, without over-limiting the perspective to the exclusion of other aspects. Martin Mullins (TGO) referred back to Rudolf Reuther's point about the shift to governance and stated that might be why the Norwegian model trumps the ESAC model since it posits a hierarchy from safety that moves down to the ethical. Pieter suggested reducing the number of topics for the Ethical Social Committee: first steps are risk and hazard and safety; then ethical and social aspects.

A suggestion was made to organise additional, follow-up webinars for WP1 and WP2 on how to practically and comprehensibly (for all users) integrate their approaches and tools into the framework. This was particularly well received by Damjana Drobne (UL), leader of WP1.

As the webinar drew to a close, Daan thanked everyone for attending and engaging. All participants agreed that the mentimeter had been a highly effective engagement tool and discussions would continue on the project forum.



**NanoRIGO** is a project funded by the Horizon 2020 Research and Innovation programme of the European Union. It is a collaboration between 27 partners and a coordinator from 14 different European countries and a global advisory board.

NANORIGO (**NANO**technology **Ri**sks **GO**vernance) started on 1st January 2019. Coordinated by Aarhus University and involving 28 other partners from across Europe, this 50 month, €4.7 million project will develop and implement a transparent, transdisciplinary and active Risk Governance Framework (RGF) and establish the basis of a related Council (RGC) for manufactured nanomaterials and nano-enabled products. The RGF will be developed through engagement with stakeholders across research, industry, regulation and civil society, and will be based on high-quality scientific data and tools for the physicochemical characterization of nanomaterials, and the assessment of exposure, hazard and risk for humans and the environment.

The NANORIGO consortium will work closely with the two other risk governance projects funded under the same NMBP-13-2018 call: **RiskGONE** and **Gov4Nano**, that are addressing the same goal, to ultimately ensure a sustainable and equitable RGF and RGC developed for nanotechnology in Europe.

[www.nanorigo.eu](http://www.nanorigo.eu)

## RiskGONE Project Delivers First Introductory Webinar

The RiskGONE Project held its first introductory webinar to bring together the expertise of leading RiskGONE project partners in order to explain how they are going about their mission to improve risk governance of engineered nanomaterials and how interested stakeholders can get involved. The Project recorded the webinar so that you can access it anytime.



Click on the links below to watch the webinar sections of your interest

- [Introduction & Project Overview](#)

This section of the first webinar organised by RiskGONE starts with an introduction to the questions tackled by the speakers and goes on to present the EU Horizon2020 project working to improve risk governance of engineered nanomaterials in Europe and beyond.

- [Risk Governance Council & Framework](#)

This second part of the webinar sheds light on the Risk Governance Council that RiskGONE is establishing in cooperation with two other EU H2020 projects Gov4Nano and NANORIGO. It explains the Risk Governance Framework that will lay the ground for the work of the Risk Governance Council and shows how Risk Assessment, Risk Perception and Risk Communication will be tackled as interlinked elements of Risk Management. This section answers how the risk governance framework will shape decision making and how the activities of the Risk Governance Council will bring together a range of stakeholders, skills and processes in order to bring about improved risk governance for engineered nanomaterials.

- [Development of Testing Methods for Nanomaterials](#)

This section of the RiskGONE webinar looks into how the project establishes the scientific ground for the development of testing methods for engineered nanomaterials. The three work packages tasked with this objective are presented which focus on physico-chemical characterization, human toxicity and eco-toxicity respectively.

- [Communication & Stakeholder Involvement](#)

In this last section of the RiskGONE webinar you can find out all about Risk Communication and Dissemination as an integral part of the Risk Governance Framework. This is also your chance to explore the many ways you can get involved directly and have your say in improving risk governance of engineered nanomaterials in Europe and beyond.

### Stay up to date and get involved in RiskGONE

You can stay up to date with RiskGONE activities for risk governance of nanomaterials by [signing up to the newsletter](#). Alternatively, start a conversation on the [public forum](#) where you can raise questions and discuss nanomaterials (basics and beyond!) with other interested forum users.

### Stakeholder Group

RiskGONE also invite representatives of organisations to become part of our community for Risk Governance for Engineered Nanomaterials, which is being developed with two other EU projects, [Gov4Nano](#) and [NANORIGO](#) funded through the EU Horizon 2020 NMBP-13 call. Being part of this community will involve regular calls for feedback and interaction with the project, therefore please only join if you will indeed contribute to the work of the projects on behalf of your stakeholder group or organisation.

Like the RiskGONE project, the Project collaboration aims to help build a robust, long-term Risk Governance Framework and Council to guide the safe and transparent governance of engineered nanomaterials. You can sign up [here](#) to have your voice heard and get involved in shaping a novel European governance system for nanotechnology. Do not hesitate to contact us at [riskgone@nilu.no](mailto:riskgone@nilu.no) should you have any questions.



## GRACIOUS Embarks on a Second Round of Stakeholder Consultations



The large diversity of nanomaterials (NMs) and nanoforms (NFs) used in nano-enabled products has made their case-by-case risk assessment demanding in terms of cost, time and animals. For supporting the risk assessment of those materials, GRACIOUS develops a highly innovative science-based framework to enable practical application of Grouping, leading to Read Across and classification of NMs and NFs.

During a live webinar on 19 February 2020 Dr. Vicki Stone explained how the Horizon2020 project GRACIOUS is addressing those challenges and demonstrated the most advanced version of the Framework reaching a large and diverse audience (spanning academia, industry, regulators and civil society).

The GRACIOUS Framework will:

- Help industry incorporate safety into innovation and development by quickly identifying higher and lower risk nanomaterial or nanoform options
- Provide scientific hypotheses, and the most relevant evidence to support the use of grouping and read-across in regulatory dossiers.

The conceptual GRACIOUS Framework will be used to develop an open access [technical blueprint](#). Instead of creating just another software tool, this technical blueprint will enable anyone to programme the GRACIOUS Framework into their own assessing tools.

A copy of the GRACIOUS webinar can be accessed [HERE](#).

### Stay tuned

In the next couple of months, GRACIOUS will continue the dialogue stakeholders via online consultations and interviews. Watch out the [stakeholder engagement space](#) at the [GRACIOUS website](#) for more information.

### Project Facts:

<b>Project Duration:</b>	42 months, starting January 2018
<b>Consortium:</b>	The GRACIOUS consortium consists of 23 partners spanning Europe and the USA, including representatives from academia, industry, policy makers and regulators.
<b>Total Budget:</b>	7.1 Million EUR total project volume

### Press Contact:

Stella Stoycheva  
Yordas Group  
[s.stoycheva@yordasgroup.com](mailto:s.stoycheva@yordasgroup.com)

Grouping and read-across for nanomaterials

**Using the Framework for Innovation**

- During innovation, **safe(r)-by-design** approaches help to avoid expensive, time consuming, unexpected problems with new **nano-enabled products**
- Grouping and Read-across can be used during the innovation process
  - E.g. aid prioritization of lower hazard candidate NFs while ensuring product functionality



**INNOVATION**  
Freerangestock.com

## NanoSolveIT H2020 Project Consortium Meeting 2020



The third consortium meeting and General Assembly (GA) of the EU Horizon 2020 research project NanoSolveIT (Innovative Nanoinformatics models and tools: towards a Solid, verified and Integrated Approach to Predictive (eco) Toxicology) was held in Reykjavik, Iceland on the 4th of February 2020, gathering more than 30 experts in the field of nanoinformatics to discuss the latest developments in the field of in silico modelling for the environmental health and safety of nanomaterials (ENM), summarise the current project progress and advances, and set the targets for year 2 of the project.

The NanoSolveIT GA was preceded by a workshop organised jointly with the NanoCommons, on the development of InChI identifiers for nanomaterials, that will be used for both scientific and regulatory purposes. The workshop lasted one and a half days and was attended by nanosafety researchers and regulators from both the EU and the Americas (U.S.A., Brazil).

Following the NanoSolveIT GA, a joint NanoSolveIT, NanoCommons and RiskGONE project meeting took place, with scientists from all three consortia discussing the latest activities of their ongoing joint actions and planning further collaborations to advance safe nanotechnology, focussed on areas of mutual activity such as development of Adverse Outcome Pathways (AOPs) and data sharing.

Important progress has been noted and fruitful discussions were held on several main topics of the research project, such as The NanoSolveIT knowledge base, ontologies, datasets and data gap filling approaches; Adverse Outcome Pathways (AOPs) and nanomaterials fingerprints; The NanoSolveIT Integrated Approach to Testing and Assessment (IATA); Nanoinformatics Models and the NanoSolveIT Cloud Platform

A NanoSolveIT review has just been published in Computational & Structural Biotechnology Journal ([link](#)), describing the state-of-the-art in computational modelling for nanomaterials and the vision of the consortium for development of innovative and integrated tools for in silico nanosafety assessment .

Contact: NovaMechanics Ltd Dr. Antreas AFANTITIS [afantitis@novamechanics.com](mailto:afantitis@novamechanics.com) [www.novamechanics.com](http://www.novamechanics.com)



Images: (Left) NanoSolveIT group photo and (Right) The three projects meeting session aligning joint research priorities across the projects



## Introducing the NanoHarmony project:

NanoHarmony



### Nano-enabled Test Guidelines and Guidance Documents

The NanoHarmony project, funded through Horizon 2020, has the mission to support the development of Test Guidelines (TG) and Guidance Documents (GD) for eight substances where nanomaterial-adapted test methods have been identified as an industrial priority. NanoHarmony will coordinate the collection and use of available data and information to support the finalisation of the test method development and to organise a sustainable network for the needed exchange, also for future regulatory development needs.

The three-year project started on April 1, 2020 and brings together 14 expert partners from 10 European Countries and will work alongside OECD and ECHA in accelerating the development of priority Test guidelines and Guidance Documents for nanomaterials.

NanoHarmony will develop scientifically reliable and regulatory relevant test methodologies specific for engineered nanomaterials (ENM). These will feed into 5 Test Guidelines and Guidance Documents in the field of human and eco-toxicity (bioaccumulation, toxicokinetics, intestinal fate etc.) and 3 TGs/GDs for physico-chemical characterization (solubility, surface chemistry and dustiness).

The project is coordinated by the Federal Institute of Occupational Safety and Health (BAuA) in Germany, through Professor Thomas Kuhlbusch and partners include RIVM (NL), Department of Health (UK), Luxembourg Institute of Science and Technology (LU), Nanotechnology Industries Association (BE), University of Plymouth (UK), NRCWE (DK), INERIS (FR), INIA (ES), Istituto Superiore di Sanità (IT), UKCEH (UK), University of Aveiro (PT), BASF (DE) and BfR (DE).

More information about the project can be found at [www.nanoharmony.eu](http://www.nanoharmony.eu), and all interested stakeholders are welcome to sign up for project notifications and register for the project's first open webinar in June.

*NanoHarmony has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 885931*

#### How to participate:

Open workshops, interviews and stakeholder engagement are core to NanoHarmony's activities to achieve the finalisation of test methods and framework development. By identifying gaps and obstacles, and developing an adequate framework for possible implementation, future needs for regulatory test methods will be identified and methods developed faster.

All interested stakeholders can follow NanoHarmony progress and be involved in project activities, including webinars and workshops. Visit '[Get Involved](#)' to sign up as a stakeholder and express an interest in contributing to project work.

The project is part of the '[Malta Initiative](#)', where 18 European countries, several Directorates-General of the European Commission, the European Chemicals Agency (ECHA), authorities, research institutions, NGOs, universities and industry work together on a voluntary and self-organised basis with the aim to make legislation enforceable, particularly within the chemicals sector.



## Contract Agent Opportunities at JRC Ispra

The European Commission's Joint Research Centre is offering two positions in Italy for Contract Agents to work within the JRC Centre for Advanced Studies (CAS) in support of the project “Towards a Technological Platform for NANOPLASTICS Detection”.



**Deadline for application: 18 May 2020**

- **Code: 2020-IPR-A5-FGIV-014428 - ISPRA**

**FG IV - Project Officer - Analytics Specialisation- CAS: Towards a Technological Platform for NANOPLASTICS Detection**

The current vacancy is in the Directorate for Strategy, Work Programme and Resources. With the JRC Strategy 2030, the JRC reinforces its commitment to scientific excellence. The creation of the Scientific Development Unit (SDU) is one of the instruments to underpin this strategy.

The JRC is offering a position for a contract agent to work within the JRC Centre for Advanced Studies (CAS) in support of the project “Towards a Technological Platform for NANOPLASTICS Detection”.

CAS provides an interdisciplinary and stimulating space where JRC scientists are encouraged to think beyond the conventional, look forward towards cutting-edge technology hand-in-hand with scientific excellence. The aim of this CAS project is to develop novel, cost-effective methods and strategies necessary to monitor and understand the distribution and effect of what is possibly one of the most widely spread industrial pollutants.

The scientific project officer, will work in a multidisciplinary team comprising of JRC staff and external specialists. She/he will be working on activities related to instrumental analytics and biomolecular engineering

- **Code: 2020-IPR-A5-FGIV-014448 - ISPRA**

**FG IV - Project Officer - Biomonitoring Specialisation - CAS: Towards a Technological Platform for NANOPLASTICS Detection**

The current vacancy is in the Directorate for Strategy, Work Programme and Resources. With the JRC Strategy 2030, the JRC reinforces its commitment to scientific excellence. The creation of the Scientific Development Unit (SDU) is one of the instruments to underpin this strategy.

The JRC is offering a position for a contract agent to work within the JRC Centre for Advanced Studies (CAS) in support of the project “Towards a Technological Platform for NANOPLASTICS Detection”.

CAS provides an interdisciplinary and stimulating space where JRC scientists are encouraged to think beyond the conventional, look forward towards cutting-edge technology hand-in-hand with scientific excellence. The aim of this CAS project is to develop novel, cost-effective methods and strategies necessary to monitor and understand the distribution and effect of what is possibly one of the most widely spread industrial pollutants.

The scientific project officer, will work in a multidisciplinary team comprising of JRC staff and external specialists. She/he will be involved in activities relating to the use of flora, fauna and micro-organisms for biomonitoring/bioaccumulation of nanoplastics in the environment.

**For more information or to apply, visit <https://recruitment.jrc.ec.europa.eu/?type=AX&site=IPR>**

**Further information:**

<https://ec.europa.eu/jrc/en>

<https://webgate.ec.europa.eu/connected/community/jrc/directorate-a/a5/centre-for-advanced-studies>

<https://ec.europa.eu/jrc/en/research-topic/nanotechnology>



## Cancer, Evolution, ALife – May 27th 2020

Due to the COVID-19 pandemic, EVO-NANO is taking the step towards teleconferencing and moving our workshop (intended for April 2020) to an online platform. We are aiming to produce a list of pre-recorded talks and present them on a single live day, the **27th of May**, using a Zoom teleconference to create a remote viewing experience.



EVO NANO

### Aim and scope

The International Workshop on Cancer, Evolution, ALife is a meeting organized by the EVO-NANO consortium, where scientists from many different backgrounds are united in their interest in interdisciplinary approaches towards origins and development of cancers, innovative ways of searching for cancer treatment such as nanomedicine, and the role of cancer in evolution of the species.

### Topics of Interest

Papers and presentations are sought in all areas that relate to search for cancer treatment using AI and evolutionary optimisation, automatic optimisation of treatments such as nanomedicine and immunotherapy, novel modelling techniques, molecular origin of cancer, the role of cancer in evolution of species, interpretation of cancer in terms of artificial life and artificial immune systems, swarm intelligence, cellular automata, computational systems biology, genetic networks, cellular computing, validation through *in vitro/vivo* tumour models and tumour-on-a-chip devices. Both theoretical and experimental papers are welcome.

Extended versions of selected papers from the workshop will appear in a special issue of the [Journal of Parallel, Emergent and Distributed Systems](#) and/or [BioSystems](#).

Please find more information here: <https://evonano.eu/2020-online-workshop/>

Any queries or comments can be directed to Andrew Adamatzky: [andrew.adamatzky@uwe.ac.uk](mailto:andrew.adamatzky@uwe.ac.uk)

## About EVO-NANO

### Goal

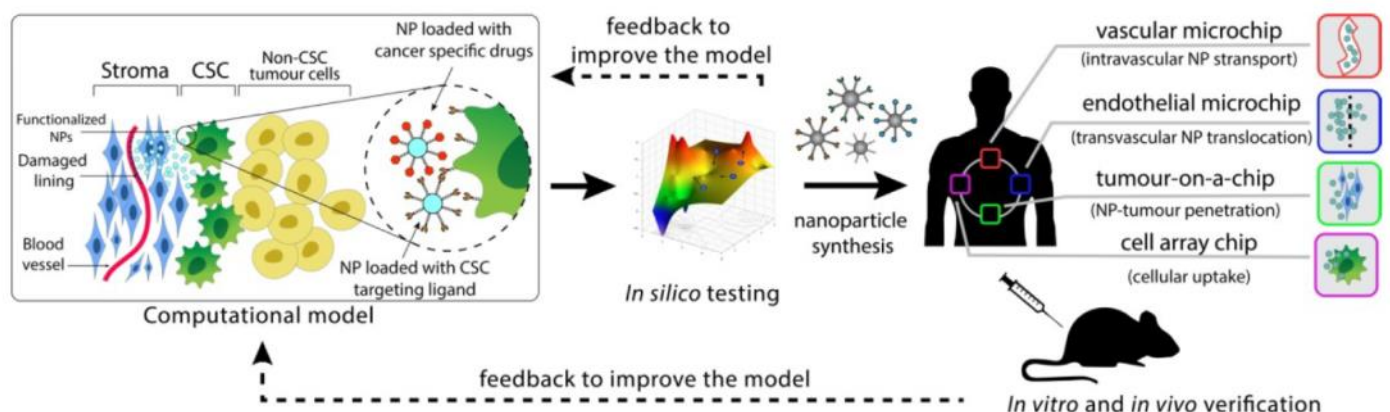
EVO-NANO will create an integrated platform for the artificial evolution and validation of novel strategies for treatment of cancer using nanoparticles (NPs). We expect our proposed framework to provide a full pipeline for the development of effective NP-based therapies that are safe, have optimal bio-distribution and delivery characteristics and can be personalised to specific patients and health risks.

### Scenario

We focus on designing nanoparticle-based strategies that specifically target cancer stem cells (CSC) of breast and colon origin, with the aim of improved NP bio-distribution, tumour penetration and cellular uptake in target tissues.

### Approach

EVO-NANO is organised around two main research hubs: *in silico* computational modelling (PFNS, UB, UWE and AAU) and *in vitro* and *in vivo* experimental work (IMDEA, VHIR and PCS). Partners with cross-disciplinary expertise collaborate across hubs to evolve, produce, and validate novel nanoparticle designs.



## Webinar—Introducing the NanoHarmony Project

7th July 2020 15:00 CEST

<https://nanoharmony.eu/events/>

Learn about the NanoHarmony project and its work to accelerate development of Test Guidelines and Guidance Documents **for nanomaterials**.



### Nanosafety 2020

<https://nanosafety2020.leibniz-nanosicherheit.de/>

The Nanosafety 2020 Conference 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



# 4th EU-Asia Dialogue on Nanosafety

## Asia Nano Forum and EU NanoSafety Cluster Event

### “From discussions to implementation”



BIO  
NANONET

7th October 2020, 10:00 – 18:00

Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology (Radetzkystraße 2, 1030 Vienna, room EA08, ground floor)

We are happy to confirm the new date of the 4<sup>th</sup> EU-Asia Dialogue on Nanosafety, Asia Nano Forum and EU NanoSafety Cluster Event, which takes place on 7<sup>th</sup> of October 2020, in Vienna, Austria.

This workshop is focused towards more synergy between Asian and European countries with respect to safe nanomaterials including standardization and test guideline development.

Two major themes will be addressed:

A) The Malta Initiative, activities to speed up the process of updated or developing OECD test guidelines and guidance documents by gathering and developing the essential information that is needed for this process<sup>1</sup>.

B) In addition, this workshop will be on developing a call-for-proposals in which collaboration between EU and Asian countries is enabled. The aim of the meeting is to publish a report (joint paper) about the needs & missing points & common interests EU-US / EU-Asia and which research needs shall be addressed.

This follows the three previous EU-Asia Dialogue Events and a successful meeting last year in Boston, USA: “EU-US PRIORITIES IN NANOSAFETY IDENTIFIED DURING THE BILAT US 4.0 EVENT “FOSTERING EU-US COOPERATION IN NANOSAFETY”. The report will be sent to the EC and MS (e.g. via the EU-NSC and the program committee) as well as to the Asian countries (via ANF), OECD and to the EU-US BILAT colleagues. This shall enable the mentioned stakeholders to step forward towards joint funding of the areas of interest (e.g. joint calls, bilateral agreements on research collaboration, etc.). The format of the meeting is a mix of introduction, overview presentations and breakout sessions.

**Registration is mandatory before September 21st 2020: Click [HERE](#) to register or for more information**

Looking forward to meeting you in Vienna on 7<sup>th</sup> of October!

**On behalf of the organization team:**

- Alexander Pogàny (Republic of Austria, Federal Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology) – [Alexander.Pogany@bmk.gv.at](mailto:Alexander.Pogany@bmk.gv.at)
- Andreas Falk (BioNanoNet Forschungsgesellschaft mbH, and EU-NanoSafetyCluster Coordination team) – [andreas.falk@bnn.at](mailto:andreas.falk@bnn.at)

<sup>1</sup>The Malta Initiative brings together a group of EU member states, the European Commission (notably the DG RTD, DG ENV, DG GROW and JRC), ECHA, industry and other institutions committed to this aim and welcomes additional international collaborators. In line also with existing procedures at the OECD, any country or organisation with expertise interested in working on adapting existing OECD TGs or developing new OECD TGs and/or GDs is welcome to become an active contributor to the “Malta Initiative”. See <https://www.nanosafetycluster.eu/international-cooperation/the-malta-initiative/>



Bundesministerium  
Klimaschutz, Umwelt,  
Energie, Mobilität,  
Innovation und Technologie



## NanoTox 2021—Registration open

### Edinburgh, UK : 20-22 April, 2021

The organisers of NanoTox 2021 are delighted to announce that registration is now open for the 3-day conference, taking place in Edinburgh, UK, and which will bring together over 400 delegates from Europe, the United States and Asia.

NanoTox 2021 is aimed at personnel from research and academic institutions as well as from industry, governmental agencies, and other relevant organisations interested in:

- Nanotechnology
- Hazard and risk assessment of nanomaterials and advanced materials, and their governance
- Alternative methods for nanomaterial hazard testing, release and exposure.
- Safe(r) by design (SbD) of nanomaterials and advanced materials.

The 2021 Conference is jointly organised by three leading EU Horizon 2020 Projects, focusing on development of novel tools for evaluating human and environmental hazard, and strategies for nanomaterial characterisation, classification, grouping and read-across for risk analysis – [BIORIMA](#), [PATROLS](#) and [GRACIOUS](#).

Abstract Submission will open on the 1st September 2020 and themes for poster and oral presentation include:

- Hazard Characterisation of Nanomaterials and Advanced Materials
- Alternative Methods for Nanomaterial Hazard Testing
- Release and Exposure to Nanomaterials and Advanced Materials
- Risk Assessment of Nanomaterials and Advanced Materials, and their Governance
- Safe(r) by Design (SbD) of Nanomaterials and Advanced Materials
- Open Topics

**Visit [nanotox2021.org](http://nanotox2021.org) to register as a delegate and find full information on speaker and poster presentation applications, plus opportunities for sponsorship and exhibition.**







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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