



# Accelerating nanotech innovations through a safer-by-design approach

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**2 - 10 May 2019**

European Scientific Institute, Archamps,  
France (Greater Geneva)

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



# The problem...

Engineered nanomaterials are today found in **more than 1800 commercially available products**.

With their unique properties and potential to significantly reduce dependence on extractable raw materials, **nanomaterials can potentially bring enormous benefits both to industry and society as a whole**.

Nanotechnology is a multi-billion \$ enterprise worldwide that may exceed the impact of the first industrial revolution and is projected to become a \$1 trillion market within a few years.



Philippe Sabatier,  
UNIVERSITÉ GRENOBLE-ALPES,  
School coordinator

“What do we know about the risks associated with extensive use of nanoscale particles and devices?”

## The short answer is “Not enough!”

- Ever-increasing time lag between the emergence of nano-products and the generation and analysis of environmental health and safety data by regulatory agencies.
- Standard animal testing methods (as for pharmaceuticals) are inadequate
  - Too many substances to test
  - Serious practical and ethical constraints: cost, time, animal welfare issues
  - Long-term exposure is perhaps the most important risk



## The solution...

### → YOU!

... the upcoming generation of highly trained material scientists, life scientists, entrepreneurs, industrialists and regulators

- accustomed to working in a pluridisciplinary and international environment
- implement a “safer-by-design” approach to nanomaterial life-cycle assessment
- rooted in an ever-evolving digital environment

**SaferNanoDesign offers a unique and transformational opportunity to broaden skills-sets in a range of fields including advanced research strategies, innovation & sustainable business planning, ethics and regulatory affairs.**



Alejandra  
Fernandez Alvarez,  
MSC, UNIVERSIDAD  
POLITÈCNICA  
DE MADRID

“ SaferNanoDesign 2018 was an intensive experience where I learned both theoretically and practically from great professionals.

An awesome international atmosphere and an incredible team of people! ”



# The team...



**Aristedes Senra**  
(UPM, Madrid)

**David Munos  
Rojas**  
(INP, Grenoble)

**Fabienne Bornard**  
(Université Grenoble-Alpes)

**Laurent Charlet**  
(Université Grenoble-Alpes)

**Ana Elena Pradas de Real**  
(INIA, Madrid)

**Benjamin Gilbert**  
(LBNL, Berkeley)

**Ilise Feitshans**  
(ESI)

**Egon  
Willighagen**  
(BIGCAT, Maastricht)

**Mark  
Hoover**  
(NIOSH)

**Hristo  
Aladjov**  
(OECD)

**Olivier Loget**  
(Capeval Pharma)

**Celina Vaquero Moralejo**  
(Tecnalia)

**Shuji  
Tsuruoka**  
(Shinsu  
University)

**Nikolai Kochev**  
(Plovdiv University)

A group of expert speakers and tutors drawn from a rich international ecosystem of academia, research and industry



# The programme...

The Safer Nanomaterials summer school is an accelerated-learning programme proposed by EIT Raw Materials partner institutions and the European Scientific Institute.

Industrial and entrepreneurial case studies

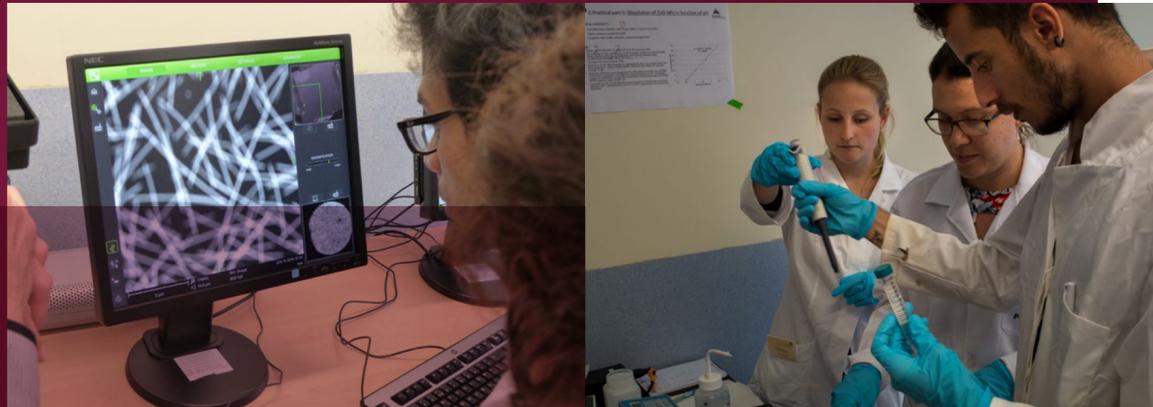
Core presentations on nanodesign, life cycle

Workshop, lab and computer practicals

Multidisciplinary group-work on innovation projects

Project pitches to a panel of experts from industry, academia, start-ups and business incubators.

You will come out the other end armed with a comprehensive toolkit for implementing safer nanomaterials innovation.



# Your profile

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

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

## OPEN AND CRITICAL THINKING

A closed mind is the antithesis of innovation

## CAPACITY FOR CALCULATED RISK

seizing new opportunities is inseparable from taking risks

## FOCUS ON COMMUNITY

individual ideas become breakthrough innovations thanks to a great team



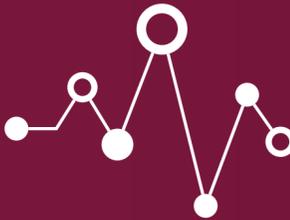
Curiosity never killed the cat (ask Schrödinger !)

Success = preparation + opportunity.



The team is more important than the idea.





**SAFER  
NANOMATERIALS**  
bioHealth Computing School

# Join us to build a safer and sustainable nanoworld

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Deadline for applications: 15 March 2019

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