



## Program

Version February 8, 2017

### Sunday, March 12<sup>th</sup>

*From 15:00*                      *Registration*

*16:00 – 17:00*                      *Welcome drink*

#### **The big picture**

17:00 - 17:10                      **Bernd Nowack**

Opening

17:10 – 17.35                      **Mark Wiesner**

Quantifying physical-chemical interactions to predict behavior at the nano/bio interface

17:35 – 18:00                      **Ralf Kaegi**

Engineered nanoparticles in natural and technical systems: A matter of concern?

18:00 – 18:30                      **Pedro Alvarez – Keynote Lecture**

Nanotechnology-Enabled Water Treatment (NEWT): a vision to enable decentralized water treatment and address growing challenges of the energy-water nexus

*19:00*                                      *Dinner*

## Monday, March 13<sup>th</sup>

### Sources, release and flows

Chair J. Rose

- 8:30 – 9:00                    **Wendel Wohlleben – Keynote Lecture**  
Release of nanomaterials from products
- 9:00 – 9:15                    **Veronique Adam**  
Flows of engineered nanomaterials through waste treatment to the environment
- 9:15 – 9:45                    **Arturo Keller – Keynote Lecture**  
Assessing the risk of engineered nanomaterials in the environment with nanoFate
- 9:45 – 10:00                   **Alejandro Caballero**  
Environmental concentrations of nanomaterials released from four applications during their life cycle: do they influence the entire system?
- 10:00 – 10:30                   *Coffee break*

### Sources, release and flows

Chair W. Wohlleben

- 10:30 - 10:45                   **Camilla Delpivo**  
Experimental life-cycle simulations of nano-enabled products and characterization of transformed and released materials
- 10:45 – 11:15                   **Jerome Rose – Keynote Lecture**  
Release of nanomaterials from products
- 11:15 – 11:30                   **Delphine Boutry**  
NPS release study turned towards the safer by design approach
- 11:30 – 12:00                   **Phil Demokritou – Keynote Lecture**  
Nano-waste: Environmental Health and Safety (EHS) implications during thermal decomposition of nano-enabled thermoplastics
- 12:15 - 13:45                   *Lunch*
- 14:00 – 16:00                   Poster session
- 16:00 – 16:30                   *Coffee break*
- 16:30 – 16:45                   **Chiara Cometta and Lorenzo Sonognini**  
Welcome address from CSF and Monte Verità

## **Analysis**

Chair J. Ranville

16:45 – 17:15

**Frank Von der Kammer – Keynote Lecture**

Analysis of nanomaterials in the environment

17:15 – 17:30

**Florian Meier**

Asymmetrical flow field-flow fractionation hyphenated with ICP-MS – A promising tool for trace analysis of engineered silver nanomaterials in environmental samples

17:30 – 17:45

**Florian Weigl**

Preconcentration and quantitative characterization of rhodium nanoparticles

17:45 – 18:00

**John Parsons**

Analysis of fullerenes in urban and industrial soils using an UHPLC-QTOF MS method

18:00 – 18:30

**James Ranville – Keynote Lecture**

Nanometrology for examining nanomaterials released from products undergoing weathering

19:00

*Dinner*

## Tuesday, March 14<sup>th</sup>

### Fate modeling

Chair J. Lead

8:30 – 9:00

**Claus Svendsen – Keynote Lecture**

What is the meaning of pristine nanoparticles, their lifecycle and fate? An overview and forward look

9:00 – 9:15

**Stephen Lofts**

Approaches to modelling environmental fate of manufactured nanomaterials: a review and forward look

9:15 – 9:30

**Rute Ferreira Domingos**

A kinetic environmental fate model for the risk assessment of engineered nanomaterials

9:30 – 9:45

**Peyman Babakhan**

A tale of two assumptions: equilibrium and kinetic assumptions for modelling the deposition of nanoparticles in porous media

9:45 – 10:00

**Serge Stoll**

Investigation of nanoparticle heteroagglomeration by computer modeling

10:00 – 10:30

*Coffee break*

### Fate in water

Chair C. Svendsen

10:30 – 10:45

**Jeff Nason**

“Patchy” particles: the role of surface heterogeneity in controlling nanoparticle aggregation

10:45 – 11:00

**Jonathan Bridge**

Early and later stages of aggregation of colloid and nanoparticles: measurement and modelling

11:00 – 11:30

**Jamie Lead – Keynote Lecture**

Fate and effects of nanoparticles in aquatic systems - role of transformations on transport, dose and uptake

11:30 – 11:45

**Emel Topuz**

Silver nanoparticle interactions with aquatic environmental relevant constituents determine their environmental fate?

11:45 – 12:00

**Urs Dippon**

Effect of natural organic matter and synthetic polymers on CeO<sub>2</sub>-nanoparticle colloidal stability and their transport in saturated porous media

12:15 - 13:45

*Lunch*

## **Fate**

Chair G. Lowry

- 14:00 – 14:15 **Olena Oriekhova**  
Heteroaggregation of CeO<sub>2</sub> nanoparticle in aquatic system: in presence of inorganic colloids and polysaccharide chains
- 14:15 – 14:45 **Enzo Lombi – Keynote Lecture**  
Fate of engineered nanoparticles inadvertently or intentionally released to the terrestrial environment
- 14:45 – 15:00 **Basilus Thalmann**  
Transformation rates of AgNP in urban (waste)waters
- 15:00 – 15:15 **Peter Vikesland**  
Controlled evaluation of nanomaterial transformations
- 15:15 – 15:30 **Alexander Gogos**  
Sulfidation kinetics of copper oxide nanoparticles
- 15:30 – 15:45 **Denise Mitrano**  
Mobility of metallic (nano)particles in leachates from landfills containing waste incineration residues
- 15:45 – 16:00 **Laura Degenkolb**  
Remobilization of differently aged Ag NP from sediments of an artificial riverbank filtration system
- 16:00 – 16:30 *Coffee break*

## **Fate in soils and mesocosms**

Chair E. Lombi

- 16:30 – 17:00 **Geert Cornelis – Keynote Lecture**  
Fate of engineered particles vs. colloids in soils
- 17:00 – 17:15 **Sondra Klitzke**  
The fate of synthetic Ag nanoparticles in soils
- 17:15 – 17:45 **Greg Lowry – Keynote Lecture**  
What large mesocosm experiments indicate about nanomaterial fate and effects in complex environmental systems
- 17:45 – 18:00 **Melanie Auffan**  
Aquatic indoor mesocosms: an integrated approach to assess the environmental risks of nanomaterials
- 18:00 – 18:15 **George Metreveli**  
A floodplain mesocosm study for the characterization of fate and effects of engineered nanoparticles in the aquatic-terrestrial transition zone
- 18:15 – 18:30 **Michael Henning**  
Release of radiolabelled multiwalled carbon nanotubes (14C - MWCNT) from nanocomposites in sediment-water systems and the uptake of released material by *Lumbriculus variegatus*
- 19:00 *Dinner*

## Wednesday, March 15<sup>th</sup>

### Nano-bio interactions

Chair E. Petersen

8:30 – 9:00

**Peter Gehr – Keynote Lecture**

What are the consequences when nanoparticles interact with biological systems?

9:00 – 9:15

**Angela Ivask**

Analysis of cellular binding and uptake of nanoparticles at the single cell level

9:15 – 9:30

**Bing Yan**

Modulation of nano-bio interactions using a systematic approach

9:30 – 10:00

**Kristin Schirmer – Keynote Lecture**

Ecotoxicological effects of nanomaterials in freshwater ecosystems

10:00 – 10:30

*Coffee break*

### Test systems and tools

Chair P. Gehr

10:30 – 11:00

**Elijah Petersen – Keynote Lecture**

Strategies to improve the reliability of nanoecotoxicity assays

11:00 – 11:20

**Janeck J. Scott-Fordsman**

Hazard assessment of NMs – multispecies test systems - high level testing of nanomaterial hazard

11:20 – 11:40

**Monica Amorim**

Hazard assessment of NMs – urgent need to integrate tools for long term assessment

11:40 – 12:00

**Nelson Marmioli**

Nuclear-mitochondrial interactions in the toxicity mechanisms of metal-containing nanoparticles in different organisms

12:00– 13:30

*Lunch*

From 13:45

*Excursion to the Castles of Bellinzona, followed by Conference Dinner at the Grotto Broggini in Losone*

**Thursday, March 16<sup>th</sup>**

**Ecotoxicology**

Chair K. Schirmer

- 8:30 – 9:00 **Steffen Foss Hansen – Keynote Lecture**  
A critical and in-depth analysis of the environmental aspect of the OECD SP dossiers
- 9:00 – 9:15 **Willie Peijnenburg**  
Are there significant acute ecotoxicological effects of nanoparticles?
- 9:15 – 9:30 **Vera Slavejkova**  
Towards more ecological relevance of nanotesting: Synergistic effects of copper oxide nanoparticles and light on green microalga
- 9:30 – 9:45 **Kerstin Hund-Rinke**  
Grouping of nanomaterials regarding ecotoxicological testing
- 9:45 – 10:00 **Laura Canesi**  
Nanoparticle-protein coronas in invertebrate species: implications in the environmental impact of nanoparticles
- 10:00 – 10:30 *Coffee break*

**Ecotoxicology**

Chair S. Foss Hansen

- 10:30 – 10:45 **Katre Juganson**  
Ag-ions play the main role in silver nanoparticles toxicity in the ciliate *Tetrahymena thermophila*
- 10:45 – 11:00 **Anastasia Georgantzopoulos**  
Fate, transformation and ecotoxicological effects of Ag and TiO<sub>2</sub> nanoparticles using a lab-scale wastewater treatment plant
- 11:00 – 11:15 **Daohui Lin**  
Joint toxicity and bioaccumulation of TiO<sub>2</sub> nanoparticles with organochlorine contaminants to algae
- 11:15 – 11:30 **Ilaria Corsi**  
Ecosafety of nanomaterials entering the marine environment
- 11:30 – 12:00 **Bernd Nowack– Keynote Lecture**  
Procedures for the production and use of released and aged nanomaterials for further testing
- 12:15 - 13:45 *Lunch*

## Effects soils and plants

Chair G. Sarret

- 14:00 – 14:30 **Geraldine Sarret – Keynote Lecture**  
Fate and impacts of silver nanoparticles in agricultural soils
- 14:30 – 14:45 **Jonathon Brame**  
Broaden the scope: applying nano risk guidelines, tools and lessons learned to advanced materials
- 14:45 – 15:00 **Yvonne Sakka**  
Influences on chronic silver and copper nanoparticle toxicity in water and soils
- 15:00 – 15:15 **Naif Ashri**  
Ecotoxicology of sediment-associated single and multi walled carbon nanotube in marine sediment dwelling cockles
- 15:15 – 15:30 **Nubia Zuverza-Mena**  
Accumulation and toxicity of engineered nanoparticles in plants: Nano-specific physiological and molecular response
- 15:30 – 16:00 **Christine Hendren – Keynote Lecture**  
Nanoinformatics and the nanomaterial research community: Where we are, where do we go from here, and how do we go there together?
- 16:00 – 16:30 *Coffee break*

## Risk modeling

Chair C. Hendren

- 16:30 – 17:00 **Amy Dale – Keynote Lecture**  
Golden hammers and golden rules: Addressing the hidden influences behind nanoparticle risk assessments and fate model design
- 17:00 – 17:15 **Yan Wang**  
Environmental risk assessment of nano materials: nano silicon dioxide and nano iron oxides
- 17:15 – 17:30 **Henning Wigger**  
Next steps in environmental risk assessment of engineered nanomaterials considering material-specific properties
- 17:30 – 17:50 **Beatrice Salieri**  
Impact assessment of releases of engineered nanomaterial within the LCA methodology: state of the art and next research steps
- 17:50 – 18:10 **Joris Quik**  
The next step in incorporating more in silico methods for environmental risk assessment of nanoparticles



18:10 – 18:30

**Fadri Gottschalk**

Major accidents and incidents with emerging materials: risk probabilities for the case of engineered nanoparticles embedded in a comparative and critical evaluation of analogies and prognosis on the power of nuclear energy approaches

19:00

*Dinner*

## Friday, March 17<sup>th</sup>

### Regulation

Chair B. Sokull-Kluettgen

8:30 – 9:00

**Phil Sayre – Keynote Lecture**

Progress on regulation of nanomaterials: Is there anything novel, from a regulatory science perspective?

9:00 – 9:20

**Antonia Praetorius**

Do we have the analytical tools to enforce nanomaterial-specific regulations for food, cosmetics and biocides?

9:20 – 9:40

**Danail Hristozov**

Ecological risk along the life-cycle of nano-enabled products

9:40 – 10:00

**Thomas Bucheli**

What is special about nanopesticides and nanofertilisers compared to conventional agrochemicals?

10:00 – 10:30

*Coffee break*

### Regulation and safe by design

Chair P. Sayre

10:30 – 11:00

**Birgit Sokull-Kluettgen – Keynote Lecture**

Towards regulation of nanomaterials

11:00 – 11:20

**Vicenç Pomar Portillo**

Implementation of Safe by design strategies in GUIDEnano textile case study

11:20 – 11:40

**Davide Gardini**

From design to properties evolution of nanomaterials in a Safer-by-Design framework

11:40 – 11:50

*CSF Award Ceremony*

11:50 – 12:00

**Bernd Nowack**

Closing remarks

12:00

*Lunch and departure*