

ANNUAL MEETING and THIRD SCIENTIFIC COURSE

October 22nd-25th, 2018 - Eberhard Karls Universität Tübingen, Germany

THIRD SCIENTIFIC COURSE “THE IMMUNE SYSTEM OF PLANTS”

MONDAY, OCTOBER 22nd

- 10.00-10.30 *Arrival and registration*
- 10.30-12.30 **Plant cell death analysis
ROS burst**
- 12.30-13.30 *Lunch*
- 13.30-14.30 **Introduction to the plant immune system**
- 14.30-15.30 **Cell death and fungi**
- 15.30-16.00 *Coffee break*
- 16.00-18.00 **Infection experiments**

TUESDAY, OCTOBER 23rd

- 09.00-10.30 **Infection monitoring in plants**
- 10.30-11.00 *Coffee break*
- 11.00-12.30 **ROS burst continued**
- 12.30-13.30 *Lunch*
- 13.30-15.30 **Cell death continued**
- 15.30-16.00 *Coffee break*
- 16.00-17.30 **Data analysis**

MEETING VENUE

Eberhard Karls Universität Tübingen ZMBP - Room 6R01
Auf der Morgenstelle 32, 72076 Tübingen, Germany
<https://uni-tuebingen.de>



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ANNUAL MEETING

DAY 1 - WEDNESDAY, OCTOBER 24th

Workshop on Risk Assessment (09.00-16.30)

Chairs: Elmer Swart, Claus Svendsen - Natural Environment Research Council, UK

09.00-09.05

Introduction

Diana Boraschi - Consiglio Nazionale delle Ricerche, Italy

09.05-09.45

Challenges, uncertainties and artefacts in nanomaterial testing

Richard Handy - University of Plymouth, UK

09.45-10.15

REACH for nano

Kathrin Schwirn - Umweltbundesamt, Germany (via GoTo)

10.15-10.45

Coffee break

10.45-11.25

Considering the use of Read-Across for nanomaterials in a REACH context

Kai Benjamin Paul - Blue Frog Scientific Limited, UK

11.25-12.05

Only evaluated results are good results - the DaNa literature criteria checklist

Katja Nau - Karlsruher Institut für Technologie, Germany

12.05-13.30

Lunch

13.30-13.40

Introduction and start of the hands-on session

Richard Handy - University of Plymouth, UK

13.40-14.40

Hands-on session in groups (part 1)

Using the datasets provided and the templates for REACH dossiers, the groups will work on developing example dossiers, including justifications for where data is not available/required, and for where read-across may be appropriate

Chairs: Richard Handy - University of Plymouth, UK

Claus Svendsen - Natural Environment Research Council, UK

14.40-15.20

Risk Assessment issues arising from whole organism toxicology and a comparative zoology perspective

Richard Handy - University of Plymouth, UK

15.20-16.10

Hands-on session in groups (part 2) - feedback and discussion

Chairs: Richard Handy - University of Plymouth, UK

Claus Svendsen - Natural Environment Research Council, UK

16.10-16.30

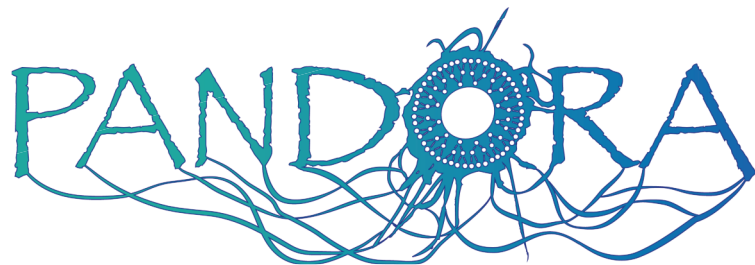
Coffee break

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- 16.30-17.00 **Data, databases, anticipating new audiences**
Frederick Klässig - Pennsylvania Bio Nano Systems, USA - via GoTo
- 17.00-17.30 **Management issues**
Paola Cesaroni - ALTA Ricerca e Sviluppo in Biotecnologie Srlu, Italy
- 17.30-18.30 **Supervisory Board Meeting**
Beneficiaries, Partner Organisation and one fellows' representative
- 20.00 *Networking dinner* at Die Wurstküche, Am Lustnauer Tor 8, 72074 Tübingen

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ANNUAL MEETING DAY 2 - THURSDAY, OCTOBER 25th

Update of the PANDORA projects (09.00-14.00)

Session 1: Nanoparticles vs. innate immune cells: a complicated matter

Chairs: Francesco Barbero - Fundació Institut Català de Nanociència i Nanotecnologia, Spain
Craig Mayall - Univerza v Ljubljani, Slovenia

- 09.00-09.15 **Monocyte and macrophage exposure to nanoparticles: the potential for modulation of innate immune memory**
Benjamin Swartzwelter - Consiglio Nazionale delle Ricerche, Italy
- 09.15-09.30 **Are gold nanoparticles anti-inflammatory?**
Sara Michelini - Paris Lodron Universität Salzburg, Austria
- 09.30-09.45 **Cryopreservation of human innate immune cells: new formats for nanosafety tests**
Alessandra Prinelli - AvantiCell Science Ltd, UK
- 09.45-10.00 **General discussion - Complementary mechanisms of immune defence as initiated by dendritic cells and monocytes**

Session 2: Big tools for tiny questions: -omics approaches in nano-research

Chairs: Andi Alijagic - Consiglio Nazionale delle Ricerche, Italy
Sara Michelini - Paris Lodron Universität Salzburg, Austria
Natividad Isabel Navarro Pacheco - Mikrobiologický ústav, Czech Republic

- 10.00-10.15 **How nanoparticles affect plants**
Eleonora Ferrari - Eberhard Karls Universität Tübingen, Germany
- 10:15-10.30 **Using recent genomic and transcriptomic tools to observe the interaction between nanoparticles and the isopod/earthworm immune system**
Szabolcs Hernadi - Cardiff University, UK
- 10.30-10.45 **The impact of copper oxide and silver nanoparticles on the microbiome of earthworms**
Elmer Swart - Natural Environment Research Council, UK
- 10.45-11.00 **General discussion - Common pathways in nano-toxicity and the potential of -omic approaches in nano-research**
- 11.00-11.20 *Coffee break*



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Session 3: From the sea to the land: conserved immune reactivity toward nanoparticles

Chairs: Elmer Swart - Natural Environment Research Council, UK

Alessandra Prinelli - AvantiCell Science Ltd, UK

- 11.20-11.35 **Measuring *Porcellio scaber*'s immune response via direct, indirect and genomic methods**
Craig Mayall - Univerza v Ljubljani, Slovenia
- 11.35-11.50 **Interactions of nanoparticles with the marine mussel *Mytilus galloprovincialis***
Manon Auguste - Università degli Studi di Genova, Italy
- 11.50-12.05 **Sea urchin immunity traces nanoparticles: from extracellular milieu to intracellular regulome**
Andi Alijagic - Consiglio Nazionale delle Ricerche, Italy
- 12.05-12.20 **Earthworm immunity behaviour toward nanoparticles: a intracellular view**
Natividad Isabel Navarro Pacheco - Mikrobiologický ústav, Czech Republic
- 12.20-12.35 **General discussion - Common mechanisms of nanoparticle-induced immune system activation and toxicity of nanoparticles to invertebrate models**
- 12.35-13.30 *Lunch*

Session 4: Nanoparticle modulation of innate immunity in diverse models of host response: a general overview

Chairs: Benjamin Jay Swartzwelter - Consiglio Nazionale delle Ricerche, Italy

Manon Auguste - Università degli Studi di Genova, Italy

- 13.30-13.45 **Physico-chemical characterization of metal nanoparticles: from the synthesis to the interaction with the immune system**
Francesco Barbero - Fundació Institut Català de Nanociència i Nanotecnologia, Spain
- 13.45-14.00 **General discussion - Use of nanoparticles for the different models, comparison between models, suitable nanoparticles to test**
- 14.00-15.30 **Reflecting on the origins, objectives and future of "Excellence" in Research**
Victor Franco Puentes - Fundació Institut Català de Nanociència i Nanotecnologia, Spain
Ignasi Gispert Pi - Applied Nanoparticles SL, Spain
- 15.30 *End of meeting*

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