8 – 11 SEPTEMBER 2019
FINLANDIA HALL
HELSINKI, FINLAND

PROGRAMME

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Welcome Address

We are delighted to welcome all of our delegates to the EUROTOX 2019 Congress hosted by the Finnish Society of Toxicology (FST) which was established in 1979. EUROTOX 2019 is the 55th EUROTOX Congress, and takes place in Finlandia Hall in the heart of Helsinki, the capital of Finland, from September 8th to 11th.

EUROTOX, the Federation of European Societies of Toxicology, was established in 1989 by merging the European Society of Toxicology (EST) and the Federation of European Societies of Toxicology. EST dates back to 1961 when it was established in the aftermath of the thalidomide disaster. Altogether, EUROTOX has over 6000 members through its European member societies as well as a number of individual members who belong to EUROTOX directly.

The annual EUROTOX Congress is one of the premier toxicological gatherings world-wide, and certainly the most important one in Europe. The Congress offers a unique opportunity to meet colleagues and friends, and network professionally with scientists and clinicians from Europe and beyond. The Congress is typically attended by large numbers of toxicologists from all parts of the world.

The congress offers on Sunday, September 8th, six cutting-edge continuing education courses on topics "development and assessment of adverse outcome pathways", "mechanistically-driven tools for risk assessment", "evidence-based assessment in toxicology", "real-world safety assessment for data-poor products", "dietary exposure assessment", and "safe exposure levels for occupational toxicology, application to pharmaceutical".

The traditional opening ceremony will be followed by our first keynote speaker, Professor Markku Kulmala, discussing atmospheric pollution. There are several further keynote presentations throughout the congress by eminent, internationally recognized scientists, on issues from systems toxicology in hazard assessment to "Toxicology in the era of exposure".

The programme also includes the traditional, well-known SOT (Society of Toxicology, USA) – EUROTOX debate on "Classification of substances as endocrine disruptors has a public health benefit". Dr Paul Foster (SOT) and Professor Martin van den Berg (EUROTOX) will debate this important topic. This debate has received much attention since its beginning in 1994 because it highlights increasing international collaboration, and reflections of views between two large toxicological communities in Europe and North America. The full congress offers a total of 31 symposia and workshops on a broad range of issues across the whole field of toxicology.

The theme of the congress is “Toxicology – Science Providing Solutions”. Here EUROTOX wants to emphasize the importance of societal innovations in addition to crucial toxicological discoveries. In today's world, for a scientific discipline such as toxicology, it is important to have an impact that enables improving the safety and prosperity in society. Hence, in addition to science, it is important that toxicology can make a contribution to chemical safety, circular economy, sustainability, and air quality. These issues are crucial also for having societal
acceptance and justify continuous support for toxicology by society. This is especially important now, when research resources are decreasing and opportunities for research are becoming limited.

In addition to invited talks, delegates from all around the world have submitted more than 800 abstracts to be included in the programme. The poster presentations are crucial for the success of the congress, and provide an excellent platform to have vivid scientific discussions on a multitude of important and timely toxicological topics. The commercial exhibition provides an excellent opportunity for a dialogue with industry representatives regarding new methods and devices crucial for toxicological research.

Careful preparation has been vital in organizing this congress. The International Scientific Programme Committee, chaired by the President of EUROTOX, Professor Heather Wallace from the UK has led the preparation of the programme of the congress together with the Local Organizing Committee, chaired by Professor Kai Savolainen. The programme is based on a large number of excellent proposals for continuing education courses, keynote talks, debates, symposia and workshops, from Europe and beyond, of which those which were considered to be of the highest quality and most timely were chosen for the programme.

There are also social events during the congress. After the opening ceremony, there will be a welcome reception in Finlandia Hall for all the delegates. On Monday evening delegates are invited to attend a reception hosted by Helsinki City at the historic City Hall at the Helsinki harbor. The gala dinner will be in Clarion hotel next to the old shipyards in downtown Helsinki on Tuesday evening. For the more enthusiastic delegates, a morning run is offered for those willing to see the vivid Helsinki in the early morning during the congress.

We are proud to welcome all the delegates to the EUROTOX 2019 congress in Helsinki to enjoy the exciting congress programme, and to join the active and fruitful scientific discussions. In addition to the science, we also invite the delegates to enjoy the local hospitality when in Finland.

Welcome to EUROTOX 2019.
Committees

EUROTOX EXECUTIVE COMMITTEE

PRESIDENT
Heather Wallace, UK

PRESIDENT ELECT
Félix Carvalho, Portugal

SECRETARY-GENERAL
Martin Wilks, Switzerland

PAST PRESIDENT
Mümtaz İşcan, Turkey

TREASURER
Thomas Weiser, Switzerland

MEMBER
Emanuela Corsini, Italy

MEMBER
Vesna Matovic, Serbia

MEMBER
Mattias Öberg, Sweden

MEMBER
Hilmi Orhan, Turkey

EUROTOX 2019 SCIENTIFIC PROGRAMME COMMITTEE (SPC)

Heather Wallace, Chair

Aristidis Tsatsakis, EUROTOX Executive Committee Member

Thomas Weiser, EUROTOX Executive Committee Member

2019 LOC SCIENTIFIC PROGRAMME COMMITTEE:

Kai Savolainen, 2019 Congress President

David Bell, Local SPC Chair

CHAIRS OF THE EUROTOX SPECIALITY SECTIONS:

Georges Kass, ERASS Risk Assessment

Hilmi Orhan, Molecular Toxicology

Marc Pallardy, Immunotoxicology & Chemical Allergy (ITCASS)

Jan Vondracek, Carcinogenesis

Eva Bonefeld-Jørgensen, EUROTOX 2020 Copenhagen congress delegate
**EUROTOX 2019 LOCAL ORGANIZING COMMITTEE (LOC)**

Kai Savolainen, EUROTOX 2019 Congress President, FST, Finland  
David Bell, ECHA, Finland  
Tarja Kohila, Finland  
Juha Laakso, Finnish Safety and Chemicals Agency, Tukes, Finland  
Jyrki Liesivuori, University of Turku, Finland  
Kirsi Myöhänen, ECHA, Finland  
Greta Waissi, Nordic BioTech Group, Finland

**STUDENT VOLUNTEERS**

Maria Ahonen  
Laura Auvinen  
Mariia Bogacheva  
Suchetana De  
Rami El Dairi  
Manar Elmadani  
Brittany Ford  
Henriikka Hakomäki  
Helmi Hallapää  
Kadri Hendrikson  
Ahsan Javed  
Rabia Jehangir  
Ilona Juvenen  
Jannika Kärnä  
Emilia Kontio  
Saana Lamminjoki  
Ashenafi Legehar  
Veera Leino  
Sanna Lensus  
Samuel Mesihäät  
Ali Mustafa Mohammed  
Minna Sivonen  
Jonna Weishell
Sponsors

All sponsor profiles can be found among the company profiles starting on page 153.

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ECVAM Skin Irritation, Validated Assay - OECD TG 459
ECVAM Pre-Validated and OECD Accepted Phototoxicity Assay
Cosmetics Europe Validation Project on Genotoxicity Assays
German Skin Penetration Validation Study for Surfactants and Formulations
Imitation Potency of Extracts from Medical Devices Study (ISO 10993-16)

EpiOcular™
ECVAM/Cosmetics Europe Eye Irritation, Validated Assay - OECD TG 492
US EPA Accepted for Antimicrobial Products with Cleaning Claims (AMPCs)
COLAGET/IVS Eye Irritation Validation Study
Cornea Eye Project on Eye Irritation Testing Strategies

EpiVaginal™
NIH Funded HIV Research
CONRAD Microbicides Study

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EpiCornea™
Drug Delivery, Infection, Inflammation, Ophthalmic Product Testing...

EpiOral™ and EpiGingival™
Microbial Oral and Oral microtus and Buccal Drug Delivery, Gum Disease, Oral Cancer, Smoking Tobacco Effects, Oral Epithelial Proliferation, Antimicrobial Barrier Function...

EpiAirway™
Drug Delivery, Respiratory Infection and Toxicology, Tobacco Smoke Toxicology, Nano-particle Toxicology, Gene Expression Analysis, RNAi/RNA Therapeutic Drug...

EpiIntestinal™
Intestinal Toxicity, Drug Delivery, Inflammation, Fibrosis, Infection, Epithelial Restitution...

MelanoDerm™
Skin Lightening, Darkening, Skin Pigmentation Mucorad, Keratinocyte-Melanocyte Interactions...

Psoriasis™
Anti-Psoriasis Drug Screening, Basic Psoriasis Research...

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Femmine Product Irritation, Microbicide Testing, Immuno-competent, HIV-1 Infection Sexually Transmitted infection, Inflammation, Vaginal Drug Delivery...

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Web: www.mattek.com

MatTek Corporation
200 Hornet Avenue, Ashland, MA 01721, USA
Phone: +1-508-881-6771
Fax: +1-508-879-1932
E-mail: information@mattek.com
Web: www.mattek.com
INFORMATION
Awards

The Congress Organizers are delighted to announce four best presentation awards at EUROTOX 2019:

- EUROTOX Gerhard Zbinden Early Career Award
- ECETOC Christa Hennes Early Career Award
- ESTIV award
- ECOPA Award

These awards will be presented at the Closing Ceremony on-site (Finlandia Hall, 11 September 2019, 14h00-14h30).

Badges

Congress badges need to be picked-up on-site at the registration desk upon arrival. All delegates and accompanying persons must wear the congress’ identification badge visibly at any time on-site at the venue. Entrance to the session rooms as well as to the poster and exhibition area will only be permitted to persons wearing the congress badge. Re-printing lost or forgotten congress badges results in a fee of 20.00 €.

Certificate of Attendance

Certificates of attendance will be sent to every fully registered delegate via email at the end of the last congress day.

Climate and Clothing

Following a mild summer, autumn reaches Helsinki early in September, with average daily temperatures around 10°C. A beautiful and brisk season, the average high during this month is 14°C, while the lows dip down to 6°C. September ties with November for the second rainiest month, receiving an average of 80 mm of rain, and typically seeing 15 rainy days throughout the month.

Coffee Breaks and Lunches

During all morning and afternoon breaks, coffee, tea and refreshments will be served. During all lunch breaks, a basic lunch buffet and refreshments will be provided. Kindly note that food and drinks will only be served to all fully registered congress delegates and exhibitors. On Sunday and Wednesday there are no official congress lunch breaks. Special requests such as dietary requirements can be communicated to the congress organization.

Sunday, 8 September 2019: Coffee and Lunch Breaks are offered for registered CEC attendees in front of the CEC rooms.

Monday, 9 September & Tuesday, 10 September 2019: Coffee and lunch breaks are offered to registered congress attendees in the Exhibition Area (foyers on the 1st and 2nd floor of Finlandia Hall).

Wednesday, 11 September 2019: A morning coffee break will be offered to registered congress attendees at the same place.

Congress App

The EUROTOX 2019 congress app let delegates easily follow up on the congress, the scientific programme, speakers, exhibitors and sponsors list etc. Since this is a web-based congress app, there is no download or login needed. Just scan the QR code and you have all information at a glance.

QR Code
Congress Secretariat
K.I.T. Group GmbH Dresden
Bautzner Str. 117–119
01099 Dresden, Germany
Phone: +49 351 65573138
Phone on-site: +49 176 22307078
Email: info@eurotox-congress.com

Copy Shops
If you need to print out something on-site in Helsinki (e.g. your poster), please consult a copy shop nearby, e.g.

Kuvatehdas Citycenter
Citycenter Asematunneli, Kaivokatu 8, 00100 Helsinki, about 1 km from the congress centre
www.kuvatehdas.fi/en/home/
phone: +358 9 68 11 640
open from Monday to Friday from 8h00–20h00, on Saturday from 10h00–19h00 and on Sunday from 12h00–18h00

AlePrint Oy
Lönnrotinkatu 16, 00120 Helsinki, about 1,5 km from the congress centre Finlandia Hall
www.ale-print.com/eng
phone: +358 46 9237565
usually open 9h00–17h00, closed on Saturdays and Sundays

Credit Cards
Usually, all important international credit cards – Master Card (Euro Card), VISA and American Express – are accepted, especially in hotels, shopping centres or petrol stations. However, we recommend asking before paying by credit card. Drawing cash from your foreign account is possible at any ATM (called “Otto”) in Helsinki.

Currency & Banks
As Finland is a member of the European Monetary Union, the official currency is Euro (€). Most banks are open Monday to Friday from 09h00 until 16h30. Foreign currency and travellers’ cheques can be changed in all of these banks or special exchange offices. Therefore, you just need to show a valid ID.

Electricity
In Finland the power plugs and sockets are of type F. The standard voltage is 230 V and the standard frequency is 50 Hz. Delegates are advised to check for the potential need of adapters and voltage converters.

Exhibition Area
The exhibition area is positioned centrally, in the foyers on the 1st and 2nd floor in Finlandia Hall and hosts parts of the poster area as well as the coffee and lunch breaks.

Exhibition Opening Hours
- Sunday, 8 September: 16h00 – 21h00
- Monday, 9 September: 09h00 – 16h30
- Tuesday, 10 September: 09h00 – 16h30
- Wednesday, 11 September: 09h00 – 12h00

Language
Official languages in Finland are Finnish and Swedish. The executive language of the congress is English. Kindly note that there will be no translation during any session.
Local Time

The standard time zone in Helsinki is Eastern European Summer Time (EEST). In summer, Finland is three hours ahead of Greenwich Mean Time, GMT.

Mobile Phones

Participants are kindly advised to deactivate their mobile phones inside the congress halls during all sessions and presentations.

Parking

Q Park Finlandia with 650 parking spaces is the closest car park and is situated approx. 100 m from Finlandia Hall. It is accessible 24H and has two electric charging points.

Poster Viewings / E-Poster Areas

All posters (incl. e-posters) will be displayed in the exhibition area of the congress centre Finlandia Hall (on the 1st and 2nd floor; e-poster terminals can be found on the ground floor as well):

- **Poster Viewing 1:** Monday, 9 September during the official congress breaks
  - All posters with topic numbers starting with P01 to P07
  - 1st Floor: P01, P02, P03, P06, P07
  - 2nd Floor: P04, P05

- **Poster Viewing 2:** Tuesday, 10 September during the official congress breaks
  - All posters with topic numbers starting with P08 to P24
  - 1st Floor: P12, P13, P15, P16, P17, P18, P19, P22, P24
  - 2nd Floor: P08, P11

Public Transport

The congress organisers are pleased to announce that delegates who do not live in Helsinki will receive a free public transportation ticket. The ticket will be handed out upon registration.

More information about public transportation in Helsinki can be found online: www.hsl.fi/en

Registration Desk / Opening Hours

For receiving your congress material or for registering on-site, please contact the organizers at the registration desk. It will operate daily as follows:

- Sunday, 8 September: 08h00 – 21h00
- Monday, 9 September: 08h00 – 18h00
- Tuesday, 10 September: 08h00 – 18h00
- Wednesday, 11 September: 07h30 – 14h00

Registration on-site

On-site registrations are possible. However, interested delegates should be aware that the accommodation and the possibility of attending the Congress Dinner/Social events is limited/subject to availability.

**Registration type** (Fees applying from 16 August 2019)

<table>
<thead>
<tr>
<th>Category</th>
<th>Fee</th>
</tr>
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<tbody>
<tr>
<td>Members*</td>
<td>790.00 €</td>
</tr>
<tr>
<td>Non-Members**</td>
<td>890.00 €</td>
</tr>
<tr>
<td>Early Career, Members**</td>
<td>550.00 €</td>
</tr>
<tr>
<td>Early Career, Non-Members**</td>
<td>600.00 €</td>
</tr>
<tr>
<td>Students***</td>
<td>350.00 €</td>
</tr>
<tr>
<td>Accompanying Persons</td>
<td>140.00 €</td>
</tr>
<tr>
<td>CEC, Standard Registration Fee</td>
<td>280.00 €</td>
</tr>
<tr>
<td>CEC, Students Fee</td>
<td>180.00 €</td>
</tr>
<tr>
<td>Congress Dinner Ticket</td>
<td>booked up</td>
</tr>
</tbody>
</table>

* Members of the national societies of EUROTOX, EUROTOX individual and corporate members, SETAC members

** Applicants should be under the age of 35 as of 31 December 2019 and recommended by his/ her supervisor. They should have their ID and the recommendation letter ready for the on-site registration.

*** All full-time students are entitled to register at the student rate (until the age of 30). They should have their ID and a proof of matriculation ready for the onsite registration.
Safety

Helsinki is an overall safe city but as a top touristic destination, of course there is a pickpocket risk (train stations and subway). A few simple precautions will minimize the chances of being pickpocketed. So people should take care of their belongings at any time and they should avoid very crowded areas.

It is not allowed to bring weapons, knives and other dangerous items to the congress centre Finlandia Hall.

Smoking Policy

EUROTOX 2019 is a non-smoking congress. It is prohibited to smoke anywhere inside the congress centre. In general, it is prohibited to smoke in public buildings (including restaurants and bars) in Helsinki. However, several restaurants, bars and hotels offer special areas/rooms for smokers.

Speaker Preview Room / Media Check

The media check ("Aino Lounge") is located in Finlandia Hall, on the 1st floor, near to the registration desk.

Opening hours:

- **Sunday, 8 September:** 08h00 – 19h30
- **Monday, 9 September:** 08h00 – 18h00
- **Tuesday, 10 September:** 08h00 – 18h00
- **Wednesday, 11 September:** 07h30 – 14h00

Special Needs

Delegates and accompanying persons with special needs are invited to advise the congress organization concerning any special requirements. The congress venue is equipped with all necessary facilities for persons with special needs.

Taxi

There are plenty of fast and reliable taxi services in and around Helsinki. They are available 24 hours a day and are very efficient, especially regarding airport transfers. A normal taxi transfer from the airport to the city centre should cost between 40.00 to 50.00 € and takes between 30 and 40 minutes. Licensed taxis can be recognized by the yellow sign on the roof. Delegates are advised to avoid unlicensed taxis!

- **Taksi-Helsinki** +358 (0)100 0700
- **Airport Taxi Yellow Line** +358 (0)600 555 555
- **Kovanen Taxi** +358 (0)200 6060
- **LähiTaksi** +358 (0)100 7300

Telephone

The dial in code for Finland is +385.

Venue

Finlandia Hall
Mannerheimgintie 13e
00100 Helsinki, Finland
www.finlandiatalo.fi/en

WI-FI

Wireless LAN Access is available at Finlandia Hall for free for all congress delegates.

Network:    FinlandiaHallSecure
Password:   FinlandiaHallSecure
Social Events

The events below are arranged in chronological order.

Welcome Reception

On the first evening of the congress, all delegates are kindly invited to join the welcome reception which will take place directly after the opening ceremony at the congress venue, in the exhibition area. It states the perfect opportunity to get in first contact with colleagues and/or business partners in a relaxed atmosphere while enjoying local snacks and drinks.

DATE: Sunday, 8 September 2019
TIME: 19h00–21h00
VENUE: Finlandia Hall, Exhibition Area (1st and 2nd floor)
ADDRESS: Mannerheimintie 13e, 00100 Helsinki

PRICE: Attendance is free of charge for all fully registered congress delegates, accompanying persons, exhibitors and sponsors. Additional tickets for guests can be purchased on request at the registration desk on-site.

Photo: Rauno Traskelin
City Hall Reception

sponsored by the City of Helsinki

The LOC is delighted to announce the invitation of the City of Helsinki to a reception at the City Hall. The City Hall is one of the city’s landmarks and is located in the Kruununhaka quarter which has been – since the 20th century – the shopping and business centre, as well as the centre of the social life of the city. All delegates are invited to discover a piece of this urban culture of Helsinki while some snacks and drinks will be served.

DATE: Monday, 9 September 2019
TIME: 19h00–21h00
VENUE: City Hall
ADDRESS: Pohjoisesplanadi 11–13, 00170 Helsinki

PRICE:
Attendance is free of charge for all fully registered congress delegates, accompanying persons, exhibitors and sponsors.
Morning Run

Wake up early and discover the park around Finlandia Hall by joining the morning run on Monday and Tuesday. Local EUROTOX delegates will make sure no one gets lost in the park. Attendance is free of charge.

DATE: Monday, 9 September 2019 and Tuesday, 10 September 2019
TIME: from 07h00
MEETING POINT: Finlandia Hall, exit to park
ADDRESS: Mannerheimintie 13e, 00100 Helsinki

AstraZeneca Educational Reception

[invitation only]

DATE: Tuesday, 10 September 2019
TIME: 17h30–19h30
VENUE: Crowne Plaza Hotel Helsinki
ADDRESS: Mannerheimintie 50, 00260 Helsinki
Congress Dinner

[booked up]

The congress dinner on Tuesday evening is a well-known EUROTOX tradition and again this year the dinner marks one of the highlights during EUROTOX 2019, offering an exceptional evening including culinary delights, cultural and musical entertainment.

The congress dinner will take place at the Clarion Hotel Helsinki, an exciting place with a stunning view over the harbor. The hotel was opened in 2016 and includes the old warehouse designed by Lars Sonck in the 1930s that has been transformed into a modern event venue. During this evening, attendees can discover another part of Helsinki from the bird’s eye view. After having enjoyed finest Finnish cuisine, delegates may continue networking with colleagues and friends and celebrate to entertainment and music.

DATE:            Tuesday, 10 September 2019
TIME:            19h30 until midnight
VENUE:           Clarion Hotel Helsinki
ADDRESS:         Tyynenmerenkatu 2, 00220 Helsinki
SHUTTLE:         Bus shuttles to the venue will be provided. Detailed information will be available on-site.
PRICE:           booked up
PLEASE NOTE:     Entrance to the congress dinner will only be permitted for delegates with a valid ticket.
# Business and Side Meetings

## Sunday, 8 September 2019

<table>
<thead>
<tr>
<th>Location</th>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurora Hall</td>
<td>09h00–12h30</td>
<td>EUROTOX Executive Committee Meeting (EC19-2)</td>
</tr>
<tr>
<td>Veranda 4</td>
<td>16h00–17h00</td>
<td>Study of the AOP Framework – Focus Group (Part I)</td>
</tr>
</tbody>
</table>

## Monday, 9 September 2019

<table>
<thead>
<tr>
<th>Location</th>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>VIP Room</td>
<td>08h00–09h00</td>
<td>Education SubCommittee</td>
</tr>
<tr>
<td>Artist Room 5</td>
<td>08h00–09h00</td>
<td>Registration SubCommittee</td>
</tr>
<tr>
<td>Artist Room 4</td>
<td>08h00–09h00</td>
<td>Communication SubCommittee</td>
</tr>
<tr>
<td>Artist Room 1</td>
<td>08h00–09h00</td>
<td>Corporate Programme</td>
</tr>
<tr>
<td>Aurora Hall</td>
<td>09h00–12h00</td>
<td>IUTOX Meeting</td>
</tr>
<tr>
<td>Terrace Hall</td>
<td>11h00–11h30</td>
<td>Exhibitors &amp; Sponsors Meeting</td>
</tr>
<tr>
<td>Aurora Hall</td>
<td>12h30–13h30</td>
<td>EUROTOX Individual Members Delegate</td>
</tr>
<tr>
<td>Artist Room 4</td>
<td>12h30–13h30</td>
<td>Joint Education and Registration Meeting</td>
</tr>
<tr>
<td>VIP Room</td>
<td>12h30–13h30</td>
<td>2020 SPC Meeting</td>
</tr>
<tr>
<td>Terrace Hall</td>
<td>17h00–18h00</td>
<td>Carcinogenesis Specialty Section*</td>
</tr>
<tr>
<td>Vernada 1</td>
<td>17h00–18h00</td>
<td>ERAS Risk Assessment Specialty Section*</td>
</tr>
<tr>
<td>Veranda 2</td>
<td>17h00–18h00</td>
<td>ITCASS Immunotoxicology Specialty Section*</td>
</tr>
<tr>
<td>Veranda 3</td>
<td>17h00–18h00</td>
<td>Molecular Toxicology Speciality Section*</td>
</tr>
<tr>
<td>Veranda 4</td>
<td>17h00–18h00</td>
<td>* In vitro and in silico toxicology Specialty Section of EUROTOX (In2TOX SS)*</td>
</tr>
</tbody>
</table>

* Open for all delegates. The Specialty Section Meetings will be accompanied by a cheese & wine reception.
Tuesday, 10 September 2019

<table>
<thead>
<tr>
<th>Location</th>
<th>Time</th>
<th>Event Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aurora Hall</td>
<td>12h30–13h30</td>
<td>Business Council Luncheon</td>
</tr>
<tr>
<td>Aurora Hall</td>
<td>13h30–16h30</td>
<td>Business Council Meeting (BCM19)</td>
</tr>
<tr>
<td>Aurora Hall</td>
<td>16h30–17h00</td>
<td>EUROTOX Executive Committee Meeting (EC19-3)</td>
</tr>
<tr>
<td>Aurora Hall</td>
<td>17h00–17h30</td>
<td>Award Evaluation Meeting</td>
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<tr>
<td>Terrace Hall</td>
<td>17h00–19h00</td>
<td>MN-AM (Molecular Networks and Altamira) COSMOS DB ToxGPS Reception: Toxicity data and workflows to improve safety and risk assessment</td>
</tr>
<tr>
<td>Veranda 1</td>
<td>17h15–18h15</td>
<td>Study of the AOP Framework – Focus Group (Part II)</td>
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Wednesday, 11 September 2019

No business meetings scheduled.

Epicurus stands for solid reasoning and evidence-based decision making. We are an independent research company with an expertise in human population research, systematic reviews, critical appraisal, and meta-analyses. We endeavour to provide scientific evidence-reports to our clients.

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## Programme at a Glance

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<td>16h00–21h00</td>
<td>Exhibition</td>
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<td><strong>09h30–16h00</strong></td>
<td>Terrace Hall</td>
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<tr>
<td></td>
<td>Satellite Meeting by ECETOC</td>
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<td></td>
<td>Hazard Identification, Classification and Risk Assessment of Carcinogens: Too Much or Too Little?</td>
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<tr>
<td><strong>10h30–16h00</strong></td>
<td>Continuing Education Courses (CEC)</td>
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<td>including welcome coffee &amp; lunch and afternoon coffee break</td>
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<tr>
<td><strong>10h30–16h00</strong></td>
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<td></td>
<td>CEC01 Development and evaluation of AOPs</td>
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<td><strong>10h30–16h00</strong></td>
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<td></td>
<td>CEC02 Application and integration of increasingly mechanistically driven tools for risk assessment</td>
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<tr>
<td></td>
<td>CEC03 The pre-specified protocol part of evidence-based assessment in toxicology</td>
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<tr>
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<td>Opening Ceremony</td>
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<tr>
<td></td>
<td>including Keynote Lecture 1: Atmospheric aerosols: from molecular clustering to regional air quality and global climate</td>
</tr>
<tr>
<td></td>
<td>(Markku Kulmala, University of Helsinki, Finland)</td>
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<td>and EUROTOX Merit Award</td>
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<tr>
<td><strong>19h00–21h00</strong></td>
<td>Welcome Reception</td>
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<td>in the exhibition area (p. 14)</td>
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Sunday, 8 September 2019

16h00 – 21h00  Exhibition

Terrace Hall
Satellite Meeting by ECETOC
Hazard Identification, Classification and Risk Assessment of Carcinogens: Too Much or Too Little?

Continuing Education Courses (CEC)
including welcome coffee & lunch and afternoon coffee break

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<td>Real world safety assessments for data-poor products: How to approach data gaps</td>
<td>Dietary exposure assessment (p. 36)</td>
<td>Determining safe exposure limits in occupational toxicology, application to pharmaceuticals (p. 37)</td>
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Opening of the exhibition

Finlandia Hall
Opening Ceremony
including Keynote Lecture 1:
Atmospheric aerosols: from molecular clustering to regional air quality and global climate (Markku Kulmala, University of Helsinki, Finland) and EUROTOX Merit Award (p. 38)

Welcome Reception in the exhibition area (p. 14)
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<td>09h00–10h00</td>
<td><strong>Finlandia Hall</strong>&lt;br&gt;<strong>Keynote Lecture 2</strong>&lt;br&gt;Systems toxicology: a key towards reliable hazard prediction (Harri Alenius, Karolinska Institutet, Sweden) (p. 40)</td>
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<td><strong>Finlandia Hall</strong>&lt;br&gt;<strong>EUROTOX–SOT Debate</strong>&lt;br&gt;Classification of substances as endocrine disruptors has a public health benefit&lt;br&gt;EUROTOX speaker: Martin van den Berg, Utrecht University, Netherlands&lt;br&gt;SOT speaker: Paul Foster, NIEHS, Research Triangle Park, US (p. 47)</td>
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<td>(Harri Alenius, Karolinska Institutet, Sweden) (p. 40)</td>
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<td><em>by WuXi AppTec</em></td>
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<td>09h00–10h00</td>
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|           | Helsinki Hall Session 12<br>Implications of biodistribution of inhaled nanoparticles: effects in organs other than the lung (p. 60)  
|           | Finlandia Hall Session 13<br>Knowledge-based computational approaches in predictive toxicology (p. 61)  |
| 12h30–13h30| Lunch Break, Exhibition & Poster Viewing 2 (p. 115)                  |
| 13h30–14h30| Finlandia Hall<br>HESI CITE Lecture<br>Toxicology in the era of the exposome (Robert Barouki, Paris Descartes University, France) (p. 66) |
| 14h30–15h00| Coffee Break, Exhibition & Poster Viewing 2 (p. 115)                 |
| 15h00–17h00| Veranda 2 Session 16<br>Chemical risk assessment using human *in vitro*, *ex vivo*, *in silico* and biomonitoring data (p. 67)  
|           | Veranda 1 Session 17<br>Experimental comprehensive toxicological studies simulating real-life exposures: Long-term combined exposures on multi endpoints (p. 68)  
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| 19h30–00h00| Congress Dinner at Clarion Hotel (p. 17)                             |</p>
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<td>drug discovery. Trends in investigative toxicology</td>
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<td>Promotion of safe nanotechnology through global networking</td>
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<td>Understanding fundamental quantitative principles is a prerequisite for improving toxicological science and risk assessment (Wout Slob, National Institute of Public Health and the Environment, Netherlands) (p. 72)</td>
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<td></td>
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<td>Toxic epidemics: why should we still be worried in 2019? (p. 76)</td>
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<tr>
<td>09h00–12h00</td>
<td>Veranda 2</td>
<td><strong>Session 23</strong></td>
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<td></td>
<td>Optimization of existing and construction of new testing strategies for skin sensitization potency (p. 75)</td>
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<tr>
<td>11h30–12h00</td>
<td>Veranda 4</td>
<td><strong>Session 29</strong></td>
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<td>Species specific gastrointestinal (GI) toxicity in rabbits – what does it mean for prenatal developmental toxicity (PNDT) studies and their regulatory use? (p. 77)</td>
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<td>Coffee break &amp; Exhibition</td>
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<tr>
<td>14h00–14h30</td>
<td>Finlandia Hall</td>
<td><strong>Session 27</strong></td>
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<td>Neurotoxicity in the scientific and regulatory outlook (p. 80)</td>
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<td>Veranda 1</td>
<td><strong>Session 28</strong></td>
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<td>Hepatotoxicity: mechanisms, new insight into liver function, and possibilities of in vitro prediction (p. 81)</td>
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<td>14h00–14h30</td>
<td>Helsinki Hall</td>
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<td>Substances of Unknown or Variable composition, Complex reaction products or Biological materials (UVCBs); new challenges in their toxicological evaluation and risk management in REACH (p. 82)</td>
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<td></td>
<td>Finlandia Hall</td>
<td><strong>Closing ceremony and awards presentation</strong> (p. 83)</td>
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</table>
ToxMinds are specialised in ensuring product safety and compliance.

We are passionate about toxicology and how emerging developments can be utilised to provide our customers with a competitive advantage in the marketplace.

INDUSTRIES FOR WHICH WE WORK

- Chemicals
- Biocides
- Cosmetic & consumer products
- Pharma
- Green biotechnology

SERVICES WE PROVIDE

- Chemical and product safety
- Regulatory strategy and compliance
- Product stewardship
- QSAR modelling
- Endocrine disruption
- New risk assessment methodologies

www.toxminds.com
DETAILED PROGRAMME

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www.toxminds.com
Sunday, 8 September 2019

08h00 – 21h00 Congress registration
16h00 – 21h00 Exhibition

09h30 – 16h00 Terrace Hall
Satellite Meeting by ECETOC
“Hazard Identification, Classification and Risk Assessment of Carcinogens: Too Much or Too Little?”

10h00 – 16h00 Continuing Education Courses (CEC)
including welcome coffee & lunch and afternoon coffee break
<table>
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<tr>
<th>Time</th>
<th>Event</th>
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<tr>
<td>10h00–16h00</td>
<td>Development and evaluation of AOPs</td>
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<td>Chairs: Sharon Munn, Italy</td>
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<td></td>
<td>The Adverse Outcome Pathway provides a construct for assembling mechanistic information at different levels of biological organization in a form designed to support regulatory decision making. The Organisation for Economic Co-operation and Development (OECD) launched a programme to support the development, documentation and assessment of AOPs in 2012, with subsequent development of a handbook to guide users in the description and evaluation of AOPs in an official knowledgebase. This course builds on a training programme developed by members of the OECD Extended Advisory Group on the basic principles of AOP development and best practices of documentation and assessment for regulatory application as outlined in the OECD AOP handbook. Following this course, participants will be familiar with the core principles of AOP development and documentation in the Wiki module of the AOP Knowledgebase and associated assessment for specified regulatory application, based on established best practices from Mode of Action analysis. To reinforce the concepts, there will be a live demo where illustrating development and entry of an AOP into the AOP-Wiki. Potential applications of AOPs will be illustrated through example case studies, including the development of integrated testing and assessment strategies for skin sensitization and the consideration of biological plausibility of observed associations in epidemiological studies.</td>
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<th>Time</th>
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<tr>
<td>10h00–10h30</td>
<td>Welcome coffee</td>
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<tr>
<td>10h30–10h40</td>
<td>Welcome and introduction to the course</td>
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<td></td>
<td>Sharon Munn, European Commission, DG JRC, Ispra, Italy</td>
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<tr>
<td>10h40–11h20</td>
<td>AOP background and principles</td>
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<td>Sharon Munn, European Commission, DG JRC, Ispra, Italy</td>
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<tr>
<td>11h20–12h00</td>
<td>Weight of evidence/confidence evaluation for AOPs</td>
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<td>Bette Meek, University of Ottawa, Ottawa, Canada</td>
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<tr>
<td>12h00–13h00</td>
<td>Lunch</td>
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<tr>
<td>13h00–13h30</td>
<td>AOP wiki and live demonstration</td>
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<td>Clemens Wittwehr, European Commission, DG JRC, Ispra, Italy</td>
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<tr>
<td>13h30–14h20</td>
<td>Application of AOPs to consider biological plausibility of associations observed in epidemiological studies: exposure to pesticides and Parkinson’s disease</td>
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<td>Andrea Terron, European Food Safety Authority, Parma, Italy</td>
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<td>14h20–14h50</td>
<td>Coffee break</td>
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<td>14h50–15h40</td>
<td>Application of AOPs for the development of Defined Approaches (DA) and Integrated Approaches to Testing and Assessment (IATA)</td>
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<td>Gavin Maxwell, Unilever, Bedford, UK</td>
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<tr>
<td>15h40–16h00</td>
<td>Review, questions and evaluation</td>
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<td>All speakers</td>
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<td>Time</td>
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<td>10h00–16h00</td>
<td>Helsinki Hall</td>
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<td><strong>CEC02</strong></td>
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<td></td>
<td><strong>Application and integration of increasingly mechanistically driven tools for risk assessment</strong></td>
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<td>Chairs: Richard Brown, Switzerland</td>
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<td>This advanced-level course will provide participants with a roadmap and tools to characterize increasingly mechanistically and more predictive approaches to hazard characterization and risk assessment. The interrelationships between recently developed international tools and guidance and their implementation in tiered assessment strategies based on objectives outlined in problem formulation will be illustrated through description and application of practical tools and case studies. These include uncertainty analysis, a mode of action/human relevance framework, chemical-specific adjustment factors and tiered, increasingly mechanistically informed approaches to considering combined exposures to multiple chemicals.</td>
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<tr>
<td>10h00–10h30</td>
<td>Welcome coffee</td>
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<tr>
<td>10h30–11h15</td>
<td>CEC02-01 Overview of WHO/IPCS chemical risk assessment methodology tools</td>
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<td>Richard Brown, WHO, Geneva, Switzerland</td>
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<td>11h15–12h00</td>
<td>CEC02-02 WHO/IPCS mode of action / human relevance framework: principles and application in risk assessment</td>
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<td>George Fotakis, European Chemicals Agency (ECHA), Helsinki, Finland</td>
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<tr>
<td>12h00–13h00</td>
<td>Lunch</td>
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<tr>
<td>13h00–13h45</td>
<td>CEC02-03 Application and utility of chemical-specific adjustment factors in risk assessment</td>
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<td>Virunya Bhat, WHO Collaborating Centre on Water and Indoor Air Quality and Food Safety at NSF International, Winchester, US</td>
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<tr>
<td>13h45–14h30</td>
<td>CEC02-04 Expressing uncertainty in hazard characterization and exposure assessment of substances: Principles and practice using APROBA-Plus</td>
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<td>Bas Bokkers, RIVM, Bilthoven, Netherlands</td>
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<td>14h30–15h00</td>
<td>Coffee break</td>
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<tr>
<td>15h00–15h45</td>
<td>CEC02-05 Combined exposures to multiple chemicals – tiered integration of tools</td>
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<td>Bette Meek, University of Ottawa, Ottawa, Canada</td>
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<tr>
<td>15h45–16h00</td>
<td>Wrap up, discussion and questions</td>
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<td>All speaker</td>
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**CEC03**

**The pre-specified protocol part of evidence-based assessment in toxicology**

*Chairs: George Kass, Italy | Jan Vondráček, Czech Republic*

Evidence-based assessments have been used for two decades now in clinical medicine by the Cochrane organisation (http://www.cochrane.org). The methods developed to support decisions about health and health care informed by high-quality, relevant and up-to-date synthesized research evidence are now introduced in toxicology. Several groups (Evidence-Based Toxicology Collaboration at Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA) and also authorities (e.g. EFSA, 2015) promote methods for evidence use in scientific assessments to improve quality, transparency, objectivity, consistency and reproducibility of the assessments underlying regulatory decisions.

One of the cornerstones of evidence-based assessments is the pre-specified protocol detailing the different steps to be taken in the assessment. The methods have to be given in such a detail that the review could be independently replicated. How to establish a protocol is not yet widely known among toxicologists and standardised protocols are not yet available for studies which are non-interventional animal studies. This CEC will present the different steps for drawing up a protocol and experts will explain which steps have to be taken and which tools are available. Some existing examples will be presented as case studies.

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<th>Time</th>
<th>Session</th>
<th>Speaker/Institution</th>
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<tr>
<td>10h00-16h00</td>
<td>Welcome coffee</td>
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<tr>
<td>10h30-10h40 CEC03-01</td>
<td>Introduction</td>
<td>Georges Kass, EFSA, Parma, Italy</td>
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<tr>
<td>10h40-11h05 CEC03-02</td>
<td>Scoping, literature search strategy, inclusion and exclusion</td>
<td>Rex FitzGerald, University of Basel, SCAHT, Basel, Switzerland</td>
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<tr>
<td>11h05-11h30 CEC03-03</td>
<td>Assessing internal validity</td>
<td>Annika Hanberg, Karolinka Institutet, Stockholm, Sweden</td>
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<tr>
<td>11h30-12h00</td>
<td>Break out: Hands on: Assessing of the validity of a study</td>
<td>All</td>
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<td>12h00-13h00</td>
<td>Lunch</td>
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<td>13h00-14h00</td>
<td>Break out continuation</td>
<td>All</td>
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<td>14h00-14h30</td>
<td>Presenting and discussion of the results of the assessment of validity</td>
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<td>14h30-14h50</td>
<td>Coffee break</td>
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<tr>
<td>14h50-15h10 CEC03-05</td>
<td>Aspects of weight of evidence</td>
<td>Detlef Wölfle, Hamburg, Germany</td>
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<tr>
<td>15h10-15h30 CEC03-04</td>
<td>Summarizing and synthesizing the evidence</td>
<td>Ursula Gundert-Remy, Charité – Universitätsmedizin Berlin, Berlin, Germany</td>
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<tr>
<td>15h30-16h00</td>
<td>General discussion</td>
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Real world safety assessments for data-poor products: How to approach data gaps

Supported by ILSI Europe

Chairs: Heli Miriam Hollnagel, Switzerland | Mattias Öberg, Sweden

Toxicology textbooks and guidelines typically teach safety assessment based on data-rich examples. But when evaluating environmental materials or real-world products, typically data are lacking for one or several substances. The CEC intends to provide an overview of current non-animal methods to deal with data gaps in hazard and exposure assessment. As a starting point, typical samples from e.g. the food contact area will be introduced, so that course participants become aware of the analytical and safety assessment challenges posed by reactants, products, impurities, contaminants and non-intentionally added substances. Once a given component is identified but toxicity data were lacking, the structure could be submitted to a variety of computational structure-activity relationship methods - provided that the structure is within the chemical domain. Different models will be discussed, including how to deal with conflicting results. Another useful approach is to search for similar substances with toxicity data - manually or by tools such as the OECD toolbox. If similar structures with hazard data are available, an assessment of the suitability of those data for read-across to the target substances has to follow. If no relevant read-across information was discovered, the Thresholds of Toxicological Concern concept might be applicable. The course will introduce the concept, including its boundaries. In cases where the substance to be assessed is available in sufficient quantities, in vitro assays are available for a range of endpoints. An overview will be provided to indicate which assays may be suitable for screening aspects versus in a regulatory context, and also for which areas of toxicology in vitro assays are currently lacking. Based on the context of sampling, and the analytical information, the assessor will have some information at hand on potential exposure, but it may be necessary for risk assessment to obtain further information, e.g. on how frequently different groups of the population use a product such as a mouthwash or a food such as sour cream, and in which quantities. Sources of exposure information will be reviewed to provide the attendees with an overview of available tools.

Introduction to the CEC

Heli Miriam Hollnagel, Dow Europe, Horgen, Switzerland

Properties of typical products requiring safety assessments: Focus on non-intentionally added substances (NIAS)

Thomas Gude, SQTS, Dietikon, Switzerland

The use of Quantitative Structure-Activity Relationships (QSAR) and grouping approaches including read-across and category formation to fill data gaps

Mark Cronin, John Moores University, Liverpool, UK

Discussion

Lunch
13h00–13h30  CEC04-03  Thresholds of toxicological concern (TTC)
Heli Miriam Hollnagel, Dow Europe, Horgen, Switzerland

13h30–14h00  CEC04-04  Role of bioassays to support the application of the threshold of toxicological concern to prioritize unidentified chemicals in food contact materials
Manfred Tacker, University of Applied Sciences Vienna, Vienna, Austria

14h00–14h30  CEC04-05  Data sources for exposure assessment
Tatsiana Dudzina, ExxonMobil Biomedical Science Inc., Machelen, Belgium

14h30–15h00  Coffee break

15h00–15h30  Example case studies
All speakers

15h30–16h00  Conclusion
Dietary exposure assessment

Supported by the Finnish Food Safety Authority

Chairs: Tero Hirvonen, Finland | Juha Laakso, Finland

The course deals with three components of dietary exposure assessment: food consumption, concentration in foods and statistical methods which combines food consumption data and food concentration data.

Diet is a major source of chemicals in general population. When assessing the risk caused to a consumer, exposure assessment is in crucial role. There are diverse ways to conduct exposure assessment, which may give very different results according to data and assumptions used. A tiered approach starting from simple deterministic models and ending up to probabilistic models can be utilized. Food consumption data can also be varied, composed of data collected as several days’ food records or 24-h recalls, or one can use model diets or food balance sheets. Sometimes even biomonitoring data may be exploited.

Concentrations of chemicals of interest in food can also consist of data of different qualities: maximum permissible levels, survey data (from industry), measured concentrations from random or targeted sampling, or total diet study.

Training for dietary exposure assessment is hard to find. In this CEC, different types of concentration and food consumption data, and two probabilistic models for exposure assessment are presented.

The course is targeted to people who are not familiar with dietary exposure assessment. No statistical expertise is needed to follow this course.

10h00–10h30 Welcome coffee

10h30–10h40 Introduction

Tero Hirvonen, Finnish Food Authority, Helsinki, Finland
Juha Laakso, Finnish Safety and Chemicals Agency, Tukes, Helsinki, Finland

10h40–11h20 CEC05-01 Dietary exposure assessment: an overview

Davide Arcella, European Food Safety Authority (EFSA), Parma, Italy

11h20–12h00 CEC05-02 Food chemical concentration information

Stefan Voorspoels, VITO NV, Mol, Belgium

12h00–13h00 Lunch break

13h00–13h40 CEC05-03 Food consumption data

Liisa Valsta, National Institute for Health and Welfare, Helsinki, Finland

13h40–14h20 CEC05-04 Total diet studies: benefits and challenges

Véronique Sirot, French Agency for Food, Environmental and Occupational Health & Safety (Anses), Maisons Alfort, France

14h20–15h00 Coffee break

15h00–15h30 CEC05-05 Dietary exposure modelling to chemicals

Polly Boon, RIVM, Bilthoven, Netherlands

15h30–16h00 CEC05-06 Statistical modelling: BIKE Modell

Jukka Ranta, Finnish Food Authority, Helsinki, Finland
Determined safe exposure limits in occupational toxicology, application to pharmaceuticals

Chairs: Nancy Claude, France | Jyrki Liesivuori, Finland

The implementation of the EMA “guideline on setting health based exposure limits (HBEPLLs) for use in risk identification in manufacture of different medicinal products” in 2015 has been a great challenge for the pharmaceutical industry. As a corollary, it has harmonized the calculation of the exposure control limits for the protection of workers and of all people who may be incidentally in contact with a drug.

Key HBEPLLs (Health Based Exposure Limits) are the Acceptable/Permitted Daily Exposure (ADE/PDE) value and the Occupational Exposure Limit (OEL). These values are a substance-specific dose that is unlikely to cause an adverse health event or undesirable physiological effect if an individual is exposed at or below this dose during lifetime. ADE/PDEs are now being introduced as a measure of safe residual contamination of “multi-product” manufacturing equipment. Therefore, they have become the object of new regulatory scrutiny. The lack of substance-specific data often requires relying on experience-based assumptions for ADE/PDE setting.

This continuing education course will introduce in this topic, discuss different approaches, and provide guidance for other toxicologists in charge of HBEPLL setting. Case studies, coming from different pharmaceutical companies will be presented.

10h00–10h30 Welcome coffee

10h30–10h40 Introduction
Nancy Claude, Servier Group, Suresnes, France

10h40–11h20 CEC06-01 Key elements of reliable risk assessment of chemicals
Corrado Galli, University of Milano, Milan, Italy

11h20–12h00 CEC06-02 Regulatory perspective on application of health based exposure limits (HBEPLL) in drug manufacturing
Daniel Roth, Swissmedic, Bern, Switzerland

12h00–13h00 Lunch

13h00–13h40 CEC06-03 Derivation of acceptable daily exposures (ADE) or Occupational exposure limits (OEL) – An industry approach
Thomas Pfister, Hoffmann-La Roche, Basel, Switzerland

13h40–14h20 CEC06-04 Overcoming data gaps: Generic versus substance-specific approaches in health based exposure limit (HBEPLL) setting
Ester Lovsin Barle, Takeda, Zurich, Switzerland

14h20–15h00 Coffee break

15h00–15h30 CEC06-05 Case study, special end points, route to route extrapolation
Camille Jandard, Sisheido, Ormes, France

15h30–16h00 CEC06-06 ECHA’s experiences with OELs
Stella Jones, European Chemicals Agency, Helsinki, Finland
17h00–19h00 Finlandia Hall

**Opening Ceremony**

17h00-17h10

Welcome by Kai Savolainen
President of the EUROTOX 2019 Congress, Finland

17h10–17h30

Musical entertainment by Ida Elina, Finnish Kantele Musician

17h30–17h40

Opening of the congress
Heather Wallace, President of EUROTOX

17h40–17h55

EUROTOX Merit Award
presented by Heather Wallace, President of EUROTOX

18h00–19h00

**Keynote Lecture K01**

*Supported by Elsevier*

Chair: Kai Savolainen, President of the EUROTOX 2019 Congress, Finland

Atmospheric aerosols: from molecular clustering to regional air quality and global climate
Markku Kulmala
University of Helsinki, Finland

19h00–21h00

Welcome Reception (Exhibition area, 1st and 2nd floor)
Interested in collaborating with EFSA?
See our open call for scientific and technical support in the area of toxicology/novel foods:
Or discover our vacancies at careers.efsa.europa.eu

Meet EFSA at Euretox 2019

Thanks to the expertise of our network of scientists and staff and to the quality of our data and methodologies, we provide high-quality scientific advice in the field of toxicology and related areas.

Discover more about our work and talk to our scientists!

- **8 SEPT**
  - CONTINUING EDUCATION COURSE 1 - DEVELOPMENT AND EVALUATION OF ADVERSE OUTCOME PATHWAYS
  - 10:30-16:00

- **8 SEPT**
  - CONTINUING EDUCATION COURSE 3 - THE PRE-SPECIFIED PROTOCOL PART OF EVIDENCE-BASED ASSESSMENT IN TOXICOLOGY
  - 10:30-16:00

- **8 SEPT**
  - CONTINUING EDUCATION COURSE 5 - DIETARY EXPOSURE ASSESSMENT
  - 10:30-16:00

- **11 SEPT**
  - SESSION 22 - ADVANCING TOXICOLOGICAL EVALUATIONS IN RESOLVING CURRENT POLICY CONTROVERSIES IN GMO PRODUCTS
  - 09:30-11:30

- **11 SEPT**
  - SESSION 27 - NEUROTOXICITY IN THE SCIENTIFIC AND REGULATORY OUTLOOK
  - 12:00-14:00

Interested in collaborating with EFSA?
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Or discover our vacancies at careers.efsa.europa.eu

Register your profile - Sign up for job alerts
Monday, 9 September 2019

08h00–18h00  Congress registration
09h00–16h30  Exhibition

09h00–10h00  Finlandia Hall
K02  

**Keynote Lecture K02**
Chair: Jyrki Liesivuori, Finland

*Systems toxicology: a key towards reliable hazard prediction*
*Harri Alenius, Karolinska Institutet, Stockholm, Sweden*

10h00–10h30  

**Coffee Break, Exhibition & Poster Viewing 1 (p. 87)**
The gut microbiome is receiving increasing attention from toxicologists due to accumulating evidence of the importance of the microbiome for host health. The current knowledge regarding its metabolic capacity and functionality is rather limited, despite increasing evidence clearly indicating that this has been underestimated thus far. Moreover, the composition of the gut microbiome in humans and (laboratory) animals differs significantly, and it is not known to which extent this also affects the metabolism of chemicals in the intestinal tract and affects susceptibility for adverse effects of toxicants. Knowledge concerning the metabolic capacity as well as the metabolic output of the gut microbiome is essential for toxicological investigations, yet this generally remains overlooked. The first talk in this workshop will address the role of the microbiome regarding liver diseases, as various liver disorders such as the non-alcoholic liver disease have been associated with an altered microbiome. In the second talk the development of a novel in vitro model system to study interactions between foodborne xenobiotics and the intestinal microbiome will be proposed for toxicity testing, followed by a concept to assess risks associated with microbiome changes via the investigation of the microbiome’s functionality. The last talk will address the endogenous and xenobiotic metabolism and the carcinogenic potential of the microbiome, and environmental and host factors shaping the acquisition and composition of the gut microbiome. This workshop will bring together two disciplines and link current knowledge on the gut microbiome with recent developments in toxicology, highlighting the unique roles of the microbiome for host health.

**S01-01** Determining the role of the gut microbiota in the toxicity of foodborne chemicals *in vitro*  
Karsten Beekmann, Wageningen University of Research, Wageningen, Netherlands

**S01-02** Metabolomic applications to decipher gut microbial metabolic influence in health and disease  
François-Pierre Martin, Nestlé Institute of Health Sciences, Lausanne, Switzerland

**S01-03** Influence of the microbiome on metabolite patterns – an inter-omic approach  
Christina Behr, BASF & Wageningen University of Research, Ludwigshafen & Wageningen, Germany & Netherlands

**S01-04** How drugs interact with our bugs  
Kiran Patil, EMBL, Heidelberg, Germany
10h30–12h30

**Session 02**

**Veranda 4**

**Fetus – the most sensitive individual**

Chairs: Kirsi Vähäkangas, Finland | Hilmi Orhan, Turkey

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<th><strong>Fetal exposure to toxic compounds</strong></th>
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<tr>
<td></td>
<td>Kirsi Vähäkangas, University of Eastern Finland, Kuopio, Finland</td>
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<th>S02-02</th>
<th><strong>Environment and male reproductive health: testicular dysgenesis syndrome and germ cell cancer</strong></th>
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<td>Niels Skakkebaek, Rigshospitalet, Copenhagen, Denmark</td>
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<th>S02-03</th>
<th><strong>Epigenetics in fetal susceptibility to toxicity</strong></th>
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<td>Juliette Legler, Utrecht Institute for Pharmaceutical Sciences (UIPS), Utrecht, Netherlands</td>
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<th><strong>Towards a mechanistic approach in toxicology: Retinoic acid balance disturbance leading to neural tube closure defects</strong></th>
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<td>Aldert Piersma, RIVM, Bilthoven, Netherlands</td>
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10h30–12h30

**Session 03**

**Veranda 2**

**The exposome – understanding the role of environmental exposure in human health and disease**

Chairs: Angela Mally, Germany | Thomas Weiser, Switzerland

It is widely recognized that both genetic factors and environmental exposure to a wide range of chemicals throughout an individual’s lifetime – collectively referred to as the exposome – contribute to human disease. However, our understanding of the temporal and spatial exposure–disease relationship is still rather limited. In contrast to targeted, hypothesis-driven approaches to studying specific exposure–disease relationships, the exposome concept takes advantage of recent advances in the development of high-content -omics technologies to provide global quantitative data of exposure and associated biological response. This workshop will provide an overview of recent activities and advances in the field of exposomics, including i) application of exposomics to systematic evaluation of exposure to common air pollutants and water contaminants and association with human health effects, ii) the utility of high resolution mass spectrometry-based global exposure metabolomics and bioinformatics approaches to overcome methodological challenges of current exposome research, and iii) the link between the Human Early-Life Exposome and childhood disease in Europe. With a focus on children’s health, the final speaker will present a framework for practical application of the exposome to risk assessment and regulation.

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<th>S03-01</th>
<th><strong>EXPOsOMICS: Novel approach to the assessment of exposure to high priority environmental pollutants</strong></th>
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<td>Oliver Robinson, Imperial College London, London, UK</td>
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<th>S03-02</th>
<th><strong>Chemical exposure metabolomics</strong></th>
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<td>Benedikt Warth, University of Vienna, Vienna, Austria</td>
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<th>S03-03</th>
<th><strong>Challenges and promises of the Exposome concept for environmental health research</strong></th>
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<td>Rémy Slama, INSERM, Grenoble, France</td>
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<th>S03-04</th>
<th><strong>Developing the regulatory utility of the exposome</strong></th>
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<td>Elaine Faustman, University of Washington, Seattle, US</td>
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**Panel discussion with all speakers**
How innate immune cells recognize toxicants

Chairs: François Huaux, Belgium | Marc Pallardy, France

The innate immune system integrates a distinct set of receptors serving as sensors for monitoring signs of perturbations in cytoplasmic homeostasis, debris from dying cells and perturbation of the cell environment caused by inflammation or infection. The major progress achieved in recent years in this domain indicate that innate receptors and cells additionally categorize xenobiotics, alert immune network and engage crescendo tissue responses for xenobiotic clearance and homeostasis restoration.

In this session, participants will be informed on how innate immunity can sense chemical substances or inhaled particles and orchestrate specific tissue responses. A portfolio of the major effectors of this recognition system will be depicted, in particular inflammasome machinery, scavenger receptors, toll-like receptor and Ah receptor. These presentations will be given in the context of chemical-induced pathogenic effects.

The consideration that innate receptors specifically sense xenobiotics and their effects on cell homeostasis provides a unique opportunity to open new frontiers in toxicology and discover new key biomarkers and/or therapeutic targets in toxicant-related diseases. This new concept could also be integrated in toxicology for selecting the most appropriate and predictive immunotoxicity tests, for integration in AOPs with the goal of improving existing regulatory guidelines and minimizing the risk of adverse effects of new substances.

S04-01 Innate cells sense toxicants as microorganisms
François Huaux, Université catholique de Louvain, Brussels, Belgium

S04-02 Inflammasomes in inflammatory pathology
Mohamed Lamkanfi, Ghent University, Ghent, Belgium

S04-03 Metal-induced immunotoxicity: ionic metals, innate immune receptors and skin allergy
Marc Pallardy, Université de Paris-Sud, Châtenay-Malabry, France

S04-04 Characterization of inflammatory responses and redistribution of MWCNT following aerosol exposure in B6C3F1 mice
Andrij Holian, University of Montana, Missoula, US

S04-05 Revisiting the paradigm of silica pathogenicity: molecular description of the toxicity-relevant surface features
Francesco Turci, University of Torino, Torino, Italy
New tools and application in reg. risk assessment – moving toward mechanistic risk assessment

Supported by EU-ToxRisk Project

Chairs: Bob van de Water, Netherlands | Eva Cecilie Bonefeld-Jørgensen, Denmark

To date, safety assessment is based on the evaluation of adverse outcomes in in vivo animal studies. Thresholds are derived by extrapolating the no observed adverse effect level (NOEL) of the in vivo study to the human situation. The EU-ToxRisk project, the European flagship of alternative method development, aims to develop new approach methodologies (NAMs), e.g., human in vitro or in silico models, that can be used for hazard characterization with regard to the endpoints reprotoxicity, neuronal toxicity and chronic toxicity after repeated exposure. In this workshop, we will provide an in-depth overview of the development of in vitro and in silico approaches. The workshop will focus on those tools, that we think are key in the development of integrated approaches to testing and assessment (IATA). Marcel Leist will start with an overview on the development of in vitro tests, their quality assurance and the outcome of a cross system testing with 19 compounds within the different in vitro models in the EU-ToxRisk project. These in vitro assays include high throughput reporter gene assays, 2D and 3D in vitro models for liver, kidney and lung as well as assays for neuronal toxicity such as neurite outgrowth. The IATA comprises different in vitro models, which provide multiple pieces of evidence and differ with regard to their uncertainty. Ulf Norinder will present the integration of several in vitro outcomes based on Dempster-Shafer theory and illustrate its usefulness to support decision making and threshold derivation by using selected the read-across case studies of the EU-ToxRisk project. The dose levels measured in vitro need to be converted into "human equivalent doses". The next talk by Ciaran Fisher will give an overview on new tools to define i) the intracellular concentrations in vitro and ii) IVIVE PBTK models that allow to estimate the concentration of compounds in human plasma and tissues.

NAMs have the potential to provide a deeper understanding of key and intermediate steps leading to a certain apical finding, a concept known as adverse outcome pathways (AOP). Frederic Bois will present the qualitative and quantitative AOPs developed in EU-ToxRisk. Finally, Sylvia Escher will illustrate the applicability of NAMs in regulatory risk assessment by using different read-across case studies. We believe that the development of new tools, that provide a better understanding of mechanism will enable the development of new mechanism-based chemical safety testing strategies. We further see a need to start early a discussion on the limitations and advances of such approaches with the scientific and regulatory community to substantiate and support a paradigm shift in regulatory risk assessment practice.

S05-01 Development of in vitro tests – quality assurance and cross system testing
Tanja Waldmann, University of Konstanz, Konstanz, Germany

S05-02 Modeling the impact of several in vitro systems in a read-across approach – applicability of the Dempster-Shafer Theory
Ulf Norinder, Karolinska Institutet, Södertälje, Sweden

S05-03 Incorporating QIVIVE and PBTK into toxicity testing and assessment
Ciaran Fisher, Certara UK Limited - Simcyp Division, QSTS, Sheffield, UK

S05-04 Development of qualitative and quantitative AOPs and their integration into risk assessment
Frédéric Bois, Certara UK Limited - Simcyp Division, Sheffield, UK
**SOC I**

**Short Oral Communications I – Biotransformation: State-of-the-art**

Chairs: Martin Wilks, Switzerland | Tarja Kohila, Finland

**OP01-01**

Human gut microbial glycerol dehydratase function: impact on chemical metabolism and toxicological relevance

S. Sturla¹, J. Zhang¹, K. Hurley¹, M. T. Empl², M. Schneider³, G. Breves², P. Steinberg³, C. Schwab³, C. Lacroix¹

¹ ETH Zurich, Health Sciences and Technology, Zurich, Switzerland
² Fraunhofer Institute for Toxicology and Experimental Medicine ITEM, Hannover, Germany
³ Max Rubner-Institut, Karlsruhe, Germany

**OP01-02**

Mechanistic understanding of DILI using Metabolomics in vitro

S. Sperber¹, M. Köhne¹, B. Birk¹, V. Haake², T. Walk², H. Kamp¹, B. van Ravenzwaay¹

¹ BASF SE, Experimental Toxicology and Ecology, Ludwigshafen, Germany
² Metanomics GmbH, Berlin, Germany

**OP01-03**

Importance of non-mitochondrial pathways in drug-induced hepatic steatosis: investigations with 12 stavotic drugs in HepaRG cells

J. Allard¹, S. Bucher³, P.-J. Ferron², K. Begriche³, P. Loyer¹, B. Fromenty¹

¹ INSERM, NUMECAN, Rennes, France
² HCS Pharma, Loos, France

**OP01-04**

In vitro hepatic sulfation kinetics of selected bisphenols

D. Gramec Škledar, M. Durcik, T. Tomašič, J. Trontelj, L. Peterlin Mašič

University of Ljubljana, Faculty of pharmacy, Ljubljana, Slovenia

**OP01-05**

New insights into Montelukast metabolism – possible implications to the drug’s adverse effects

C. F. Marques², G. C. Justino¹, C. A. Gomes³, M. M. Marques¹

¹ Centro de Química Estrutural, Instituto Superior Técnico, Lisbon, Portugal
² Coimbra Institute for Clinical and Biomedical Research, Faculty of Medicine, University of Coimbra, Coimbra, Portugal

**OP01-06**

Metabolism plays an important role in the in vitro hepatotoxicity of butylone, buphedrone, and 3,4-dimethylmetcathinone (3,4-DMMC)

R. R. Bravo, H. F. Carmo, J. P. Silva, F. D. Carvalho, M. D. L. Bastos, D. C. Dias da Silva

UCIBIO, RÉQUIMTE, FFUP, Department of Biological Sciences, Porto, Portugal

**OP01-07**

Characterization of GCDC transport by human hepatic uptake transporters for in vitro testing purposes

B. Tóth, V. Velky, Z. Timár, N. Szili, E. Kis, Z. Gáborik, P. Krajcsi

SOLVO Biotechnology, Budapest, Hungary

**OP01-08**

Hepatotoxic fungicides affect molecular targets associated with the AOPs for cholestasis and steatosis in vitro

C. Knebel, E. Zahn¹, S. Rieke¹, K. Brown¹, C. Kneuer¹, A. Braeuning¹, P. Marx-Stoelting¹

¹ German Federal Institute for Risk Assessment, Pesticides Safety, Berlin, Germany
² German Federal Institute for Risk Assessment, Food Safety, Berlin, Germany
12h30–13h30

Lunch Break, Exhibition & Poster Viewing 1 (p. 87)

12h30–13h30
Terrace Hall

**Industry Session by WuXi AppTec**

**Drug Development: From IND Enabling Studies to Document Preparation and Submission**

During this session, IND-enabling studies and timing, as well as documentation and submission requirements will be reviewed and discussed. Timing is very important during your IND planning and submission. We will discuss all the services needed for an IND, such as toxicology, DMPK, pharmacology, CMC, bioanalytical and analytical services. What comes after the studies are completed will be discussed as well: document preparation and submission. Timelines, filing, having an integrated platform, flexible collaboration, and high quality are all very important when completing your IND submission. Attend our session and learn from the best.

Speaker: Sue McPherson, WuXi AppTec, Laboratory Testing Division, US

12h30–13h30
Veranda 1

**Industry Session by Charles River**

**Our EOGRTS experience – regulatory & practical considerations**
Chair: Manon Beekhuijzen, Netherlands

The Extended One-Generation Reproductive Toxicity Study (OECD TG 443, EOGRTS) is being conducted routinely in laboratories in Europe and North America. In the past few years, Charles River Laboratories has conducted close to 30 such studies. Under REACH, the information requirements for reproductive toxicity has been amended since 20 February 2015, by replacing the two-generation-toxicity test with the EOGRT. TG 443 provides a detailed description of the operational conduct of an EOGRTS and is aimed at understanding the reproductive, neuro- and immunotoxicity of test chemicals. Regulatory aspects of the design and triggered decisions on an EOGRTS are described in OECD Guidance Document 117. However, the internal triggers do not apply for testing chemicals under REACH and for classification according to CLP. This session will begin with an introduction to Charles River Laboratories, the history and design of the EOGRTS, and our experience conducting these studies for clients across Europe and North America, for submission to various health authorities, including ECHA and the US EPA. The second presentation will cover nuances of study conduct and execution, selection of routes of administration, and the challenges of each cohort and the F2 extension, including interpretation, reliability and reproducibility of these studies. The last presentation will cover specific regulatory aspects of study design and decisions regarding inclusion of each cohort and/or the F2 extension. Specific case studies will be included in each session. The session will conclude with a discussion and Q&A session to allow audience participation and sharing of experiences and ideas surrounding the logistics of study design and conduct.

Speakers: Manon Beekhuijzen, Pragati S. Coder, Sylvia Pelgrom, Charles River, US
12h30–13h30  Veranda 3

**IND 03**

**Industry Session by ERBC**

Determining the key aspects of translational safety pharmacology and toxicology to support progression to clinical trials

- Case studies on animal models selection for non-clinical testing
- Arrhythmic risk assessment: new biomarkers for an improved translation from preclinical species to human

Speakers: Isabella Andreini, ERBC, Italy; Pascal Champeroux, ERBC, France; Serena Cinelli, ERBC, Italy; Silvana Venturella, ERBC, Italy

13h30–14h30  Finlandia Hall

**EUROTOX–SOT Debate**

Classification of substances as endocrine disruptors has a public health benefit

Chairs: Félix Carvalho, Portugal | George Daston, US

EUROTOX speaker: Martin van den Berg, Utrecht University, Netherlands
SOT speaker: Paul Foster, NIEHS (Retired), Research Triangle Park, NC, US

14h30–15h00

**Coffee Break, Exhibition & Poster Viewing 1 (p. 87)**
Informative Example

**Developments in the use of systematic review in chemical risk assessment**

**Chairs:** Richard Brown, Switzerland | Martin Wilks, Switzerland

Systematic review is the application of a defined process intended to identify the best available scientific data for objective decision-making. The use of systematic review methodologies in chemical risk assessment has been gaining increasing amounts of attention in recent years. A number of tools and methods have been developed to assist the process for both public health and environmental purposes, but practical experience with applying systematic review in risk assessment programmes has shown that there can be significant challenges. This session will provide examples, case studies, and share experiences in the development and use of systematic review methods in different situations and illustrate the critical role of “problem formulation” (“asking the right question”). The session will start with an overview of the essential systematic review principles and methods for use in chemical risk assessment. This will be followed by a presentation dedicated to the topic of problem formulation, the issues to be considered to determine in what circumstances a full systematic review is appropriate and feasible, and how the research question has to be tailored to the context of the review being undertaken. Case examples will be presented from national programmes and from international organisations, illustrating how systematic review methods have been put into practice in different real-life contexts, and addressing examples of data review where Systematic Review is indicated and where alternative methods are appropriate and essential. These will include both use in hazard-based classification schemes and use in ongoing, exposure-based quantitative risk assessment activities, covering both large, resource-intensive reviews and more rapid reviews undertaken for emergency response and alternative purposes. Presenters will also describe guidance which has been published and tools that are available to aid decision-making based on the outputs from systematic review methodologies.

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**S06-01 Principles of systematic approaches for chemical risk assessment**

Annika Hanberg, Karolinska Institute, Stockholm, Sweden

**S06-02 Getting the balance right between objectives and resources for a systematic review – the importance of problem formulation**

Martin Wilks, University of Basel, Basel, Switzerland

**S06-03 Systematic review in the regulatory food safety area – experiences from a JECFA evaluation**

Lianne de Wit-Bos, RIVM, Bilthoven, Netherlands

**S06-04 Use of systematic review methods by national programs – examples from the USA**

Brandiese Beverly, US Government (NIEHS), Research Triangle Park, US
Engineered nanomaterials are being developed at an increasing rate with numerous new materials being placed on the market every year. For this reason, it is important to speed up hazard assessment of nanomaterials, in support of risk assessment and regulation. The implementation of new test paradigms that make use of mechanism-based in vitro assays promises to speed up hazard assessment and may also provide a basis for structure-activity relations for nanomaterials. Systems biology approaches, combining so-called omics methodologies with detailed computational analysis of the data, may shed light on the underlying toxicity pathways and the mode-of-action of nanomaterials. Moreover, omics data may inform the development of adverse outcome pathways (AOP) that enable the representation of mechanistic toxicity data in support of risk assessment. New approaches for hazard assessment of nanomaterials have been developed not least in the frame of the recent EU-funded projects, FP7-NANOMILE and FP7-NANOSOLUTIONS. The present session provides an overview of the state-of-the-art of new and emerging approaches in hazard assessment of nanomaterials including high-content/high-throughput screening, systems toxicology approaches, and development of adverse outcome pathways.

**S07-01** Hazard assessment of engineered nanomaterials: setting the scene
Bengt Fadeel, Karolinska Institutet, Stockholm, Sweden

**S07-02** High-throughput /content - screening of nanomaterials as a versatile tool for hazard assessment
Carsten Weiss, Karlsruhe Institute of Technology, Eggenstein-Leopoldshafen, Germany

**S07-03** Systems biology approaches for nanomaterial hazard classification
Dario Greco, University of Tampere, Tampere, Finland

**S07-04** Systems toxicology to support development of adverse outcome pathways
Roland Grafström, Karolinska Institute, Stockholm, Sweden
Human adaptation to environmental pollution: dose-response relationship revisited

Chairs: Pavel Rossner, Czech Republic | Heather Wallace, UK

The linear dose-response relationship, either threshold or non-threshold, is a generally accepted concept used in toxicology to evaluate biological effects of chemical or physical stressors. This concept assumes that negative effects associated with exposure to toxic compounds or radiation increase linearly with increasing dose. However, results of numerous studies in various organisms, including bacteria, plants and animals, suggest that biological systems may adapt to adverse effects of the environment. This adaptation may be manifested by hormesis, characterized by beneficiary effects of low doses of stressors followed by negative response at higher levels. In some cases, repeated exposure to low levels of toxicants may protect the organism against negative effects of higher doses. This phenomenon is called adaptive response. Although most of the data on adaptation has been obtained in model systems, results of some studies indicate that this type of response occurs also in humans exposed to radiation or environmental pollutants, thus suggesting that the adaptation could be a general biological phenomenon. Regardless of this, the concept of human adaptation is considered controversial by many scientists, and its mechanisms remain poorly understood. This symposium aims to address some important aspects of human adaptation to environmental pollutants. In the introductory presentation, Prof. Edward J. Calabrese will outline the general concept of hormesis and adaptive response in various biological systems. In the following talk, Prof. Aalt Bast will discuss possibilities to use biomarkers to follow the process of adaptive responses and to show the value in human health. Possible molecular mechanisms of adaptation will be discussed in the next two presentations. Dr. Pavel Rossner will discuss available data from human studies indicating induction of adaptation in various human populations exposed to high levels of air pollutants and radiation and will present the concept of epigenetic memory. Prof. Alberto Izzotti will conclude the symposium by presenting the data on reversible adaptive alterations of microRNA expression induced by environmental carcinogens exposure. The symposium intends to spark discussion between advocates of traditional linear dose-response toxicological concept and proponents of non-linear biphasic dose-response effects.

S08-01 Hormesis and hormetins for healthy ageing and longevity
Suresh Rattan, Aarhus University, Aarhus, Denmark

S08-02 Biomarkers of adaptive responses in human health
Aalt Bast, Maastricht University, Maastricht, Netherlands

S08-03 Clues to adaptation of the human population to the environment: lessons from Czech biomonitoring studies
Pavel Rossner, Institute of Experimental Medicine, Prague, Czech Republic

S08-04 The role of microRNA in adaptive response to environmental carcinogens
Alberto Izzotti, University of Genoa, Genoa, Italy
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Areas of expertise & contact information

- General & mechanism-based risk assessment (Ian Cotgreave; ian.cotgreave@ri.se)
- In vivo studies (Björn Platzack; bjorn.platzack@ri.se)
- Pathology & clinical pathology (Susanne von Mentzer Andersson; susanne.vonmentzer-andersson@ri.se)
- In vitro expertise (Karin Cederbrant; karin.cederbrant@ri.se)
- Bioanalysis (Johan Lindberg; johan.lindberg@ri.se)
- Discovery safety process (Björn Glinghammar; bjorn.glinghammar@ri.se)
- ADME (Anna-Karin Sternbeck; annakarin.sternbeck@ri.se)
- General toxicology and education (Charlotte Nilsson; charlotte.nilsson@ri.se)
Application of new approach methods and development of integrated approaches to testing and assessment – moving toward mechanistic risk assessment

Supported by EU-ToxRisk Project
Chairs: Hennicke Kamp, Germany | Emanuela Corsini, Italy

A paradigm shift is ongoing in human risk assessment, away from the traditional in vivo animal studies towards new approach methodologies (NAMs). NAMs include different approaches such as in vitro, ex vivo or omic technologies; in silico and toxicokinetic modelling. Currently, hazard assessment and point of departure definition are based on the observed apical findings at certain dose levels in animal studies. These apical findings do not usually give a mechanistic understanding. NAMs have the potential to provide a deeper understanding of key and intermediate steps leading to a certain apical finding, a concept known as adverse outcome pathways (AOP). The integration of NAM data into a risk assessment strategy, however, is challenging, in particular for complex endpoints such as repeated dose or reproductive toxicity (DART). Integrated approaches to testing and assessment are e.g. developed in the EUTOXISK project, as single in vitro models will not be able to replace in vivo animal testing. EU Tox Risk started in 2016 and is the European flagship of alternative method development.

In this session, we will provide an in-depth overview of the use of NAMs and their integration into risk assessment. We start with the introduction of the read-across-concept and the resulting case studies in the EUTOXISK project. Further we will show how these data are later on integrated into an IATA. Thereafter, we will go into detail and illustrate the main findings and learnings from read-across case studies that include structurally similar compounds and aim to predict DART effects. This will be followed by a lecture about read-across case studies, in which structurally diverse compounds are tested that share a AOP. NAMs can also be used to predict a hazard without surrounding compounds with in vivo data. This situation is called ab initio case study and has also been addressed in EU Tox Risk. We believe that learnings from the reported proof of concept read across approaches and case studies will help to develop new mechanism-based chemical safety testing strategies. We further see a need to start early a discussion on the limitations and advances of such approaches with the scientific community to substantiate and support a paradigm shift in regulatory risk assessment practice.

S09-01 Read-across concept in EU-ToxRisk and integration of new approach methods into risk assessment – example branched carboxylic acids
Sylvia Escher, Fraunhofer ITEM, Hanover, Germany

S09-02 Integration of new approach methods in a structure based read-across for DART effects
Dinant Kroese, TNO, Zeist, Netherlands

S09-03 Learnings from EU-ToxRisk read-across case studies: application of new approach methods
Bob van de Water, Leiden University, Leiden, Netherlands

S09-04 Ab initio- prediction of liver toxicity by in vitro systems and spatio-temporal modelling
Jan Hengstler, IFADO, Dortmund, Germany
Session 10

The process of ageing and its modulation: telomeres as biomarkers in in vitro and in vivo studies

Chairs: Aristidis M. Tsatsakis, Greece | Hilmi Orhan, Turkey

Aging is a complex senescence process that follows maturation, and is characterized by time-related functional decline due to genetic, biochemical, physiological and anatomical degeneration in tissues and organ systems. Loss of genome integrity is a key feature in senescence and the consequent development of aging-related diseases and cancer. Telomeres are repetitive tandem DNA sequences that cap chromosomal ends, protecting the integrity of information-carrying DNA. However, telomere length decreases with aging (and therefore its protective activity), as a result of repeated cell replication or environmental factors, namely those involving inflammation and oxidative stress. Consequently, shorter telomeres have been linked with shorter lifespan, and telomere length has been suggested as a biomarker of aging. Additionally, the genetics of telomeres, including TERT gene which encodes telomerase, is highly involved in many neoplasia including differentiated thyroid cancer. This workshop will provide a discussion on the environmental factors that may influence telomere dynamics, including obesity-related chronic low-grade inflammation and leptin resistance, and substance abuse, as well its consequences, with focus on thyroid neoplasia. It will be also highlighted the use of metabolomics as an important clinical and research tool in the development of biomarkers of senescence, in which the usefulness of telomere length measurement is becoming recognized.

S10-01 Clinical aspects of precision medicine using as biomarkers telomere length, fatty acids and organic acids
Dimitris Tsoukalas, E.I.Nu.M., Athens, Greece

S10-02 Low grade chronic inflammation and telomere shortening: immunosenescence process in human
Ayse Basak Engin, Gazi University, Ankara, Turkey

S10-03 Live fast, die young mode: influence of substance abuse on telomeres and telomerase
Félix Carvalho, University of Porto, Porto, Portugal

S10-04 Telomeres biology involvement in thyroid neoplasia: from aging clock to aggressive cancers
Corin Badiu, The Romanian Society of Psychoneuroendocrinology, Bucharest, Romania
**SOC II**

**15h00–17h00**

**Short Oral Communications II – Nanotoxicology**

**Veranda 3**

**Chairs:** Jan Vondráček, Czech Republic | Eva Cecilie Bonefeld-Jørgensen, Denmark

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**OP02-01**

Gene expression profiling of an *ex vivo* human placenta perfusion model following exposure to engineered nanomaterials

S. Chortarea1, M. Pius1, V. Fortino1, L. Saarimäki2, P. Wick1, D. Greco3, T. Buerki-Thurnherr1

1 Empa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for Materials-Biology Interactions, St. Gallen, Switzerland
2 University of Eastern Finland, Institute of Biomedicine, Joensuu, Finland
3 University of Tampere, Institute of Biomedical Technology, Tampere, Finland

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**OP02-02**

Grouping of representative nanomaterials is efficiently executed by combining high-throughput-generated biological data with physicochemical data

P. Nymark1, 2, V. Hongisto3, P. J. Kohonen1, 2, A. Haase3, K. A. Jensen4, R. C. Grafström1, 2

1 Karolinska Institutet, Institute of Environmental Medicine, Stockholm, Sweden
2 Misvik Biology, Division of Toxicology, Turku, Finland
3 German Federal Institute for Risk Assessment (BfR), Department of Chemical and Product Safety, Berlin, Germany
4 National Research Centre for the Working Environment, Copenhagen, Denmark

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**OP02-03**

Pulmonary pro-inflammatory effects of alumina nanoparticles and hydrogen chloride gas mixtures on rats after single and repeated inhalations

A. Bourgois1, 2, D. Saurat1, A. Boyard1, N. Guitard1, S. De Araujo1, S. Renault4, F. Fargeau5, C. Frederic5, S. Dekali1

1 French Armed Forces Biomedical Research Institute (IRBA), Département EBR, Unité des Risques Technologiques Emergents, Brétigny-sur-Orge, France
2 Université Paris Diderot, Sorbonne Paris Cité, Paris, France
3 French Armed Forces Biomedical Research Institute (IRBA), Département EBR, Unité de Radiobiologie, Brétigny-sur-Orge, France
4 French Armed Forces Biomedical Research Institute (IRBA), Département Services, Unité Imagerie, Brétigny-sur-Orge, France
5 French Armed Forces Biomedical Research Institute (IRBA), Département Services, Unité Analyses Biologiques, Brétigny-sur-Orge, France

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**OP02-04**

Lung toxicity of industrial particles

B. Trouiller

INERIS, Experimental Toxicology Unit, Vernueil-en-Halatte, France

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**OP02-05**

Silica nanoparticles induce the blood hypercoagulable state via miR-451/IL6R signaling pathway

L. Feng, M. Yang, P. Huang, J. Duan, Z. Sun

Capital Medical University, Department of Toxicology and Sanitary Chemistry, School of Public Health, Beijing, China
OP02-06  
**Food-grade TiO2 (E171) nanoparticles cross the human placental barrier: an ex vivo study on isolated and perfused placentae**

A. Guillard¹, E. Gaultier¹, C. Cartier¹, L. Devoille², J. Noireaux², L. Chevalier³, C. Oster², F. Grandin¹, C. Coméra¹, A. Cazanave¹, A. De Place⁴, M. Morin⁵, C. Vayssiére⁴, S. Gambier¹, N. Feltin², F. De La Farge¹, V. Gayrard¹, V. Bach⁶, K. Chardon⁶, P. Fisicaro⁶, N. Picard-Hagen¹, E. Houdeau¹

¹ Toxalim UMR1331 (Research Centre in Food Toxicology), INRA/ENVT, Toulouse, France  
² Laboratoire National de métrologie et d’Essai, Paris, France  
³ Group Physic of Materials, UMR6634, CNRS, Rouen, France  
⁴ Toulouse University Hospital, Toulouse, France  
⁵ Luxembourg Institute of Science and Technology, Environmental Health Group, Belvaux, Luxembourg  
⁶ Péritox UMR-I01 (Perinatality and Toxic Risk), Jules Verne University, Amiens, France

OP02-07  
**Long-term effects of inhaled nanoparticles in rats – Ceriumdioxide and Bariumsulfate**

R. Landsiedel¹, L. Ma-Hock¹, K. Wiench¹, S. Groeters¹, B. van Ravenzwaay¹, H. Ernst², D. Schaudien²

¹ BASF SE, Ludwigshafen am Rhein, Germany  
² Fraunhofer-Institut für Toxikologie und Experimentelle Medizin ITEM, Hannover, Germany

OP02-08  
**Environmental risks associated with nanoscale zerovalent iron-based nanomaterials during remediation applications**

J. Semerad¹ ², A. Sevcu³, J. Filip³, T. Cajthaml² ²

¹ Czech Academy of Sciences, Institute of Microbiology, Prague, Czech Republic  
² Charles University, Faculty of Science, Institute for Environmental Studies, Prague, Czech Republic  
³ Technical University of Liberec, Liberec, Czech Republic  
⁴ Palacký University, Regional Centre of Advanced Technologies and Materials, Olomouc, Czech Republic
17h00–18h00

**Specialty Section Meetings**
Open to all delegates. The Specialty Section Meetings will be accompanied by a cheese & wine reception.

*Carcinogenesis Specialty Section*
Terrace Hall

*ERAS Risk Assessment Specialty Section*
Veranda 1

*ITCASS Immunotoxicology Specialty Section*
Veranda 2

*Molecular Toxicology Speciality Section*
Veranda 3

*In vitro and in silico toxicology Specialty Section of EUROTOX (In2TOX SS)*
Veranda 4

19h00–21h00

**City Hall Reception**

*sponsored by the City of Helsinki (p. 15)*
Tuesday, 10 September 2019

08h00–18h00
Congress registration
09h00–16h30
Exhibition

09h00–10h00
Finlandia Hall
SOT

SOT Merit Award Lecture
Chairs: George Daston, SOT Vice President | Heather Wallace, EUROTOX President

Bis-Indoles as receptor ligands and novel anticancer agents
Stephen Safe, Texas A&M University, US

10h00–10h30
Coffee Break, Exhibition & Poster Viewing 2 (p. 115)
**10h30–12h30**

Veranda 2

**Session 11**

**Challenges of non-animal approaches for food safety: from inception to application**

*Supported by ILSI Europe*

**Chairs:** Alan Boobis, UK | Vesna Matović, Serbia

Substantial advances are being made in the development of non-animal methods to assess the toxicity and beneficial effects. The developed methods range from computational approaches such as QSARs through cell-based high throughput systems, high content analysis using omics or imaging and organotypic models, including organs-on-a-chip. This workshop focuses on the food sector (food and food ingredients) and recent advances in the application in safety assessment for this industry sector. In this workshop, the application of such methods and frameworks for example Adverse Outcome Pathways for food safety assessment will be discussed as general concepts but also showing case studies. In contrast to many industrial chemicals, the absence of any biological effect of such a product would be counter-productive because certain activity could be beneficial. Hence, distinguishing between adverse, non-adverse and beneficial signals in the outputs needs special attention and translation. Given the diversity and number of approaches being developed, conventional validation procedures are not feasible, as progress would supersede validation. Regulatory perspectives will be given as well.

**S11-01 High throughput screening in the risk and benefit assessment of food ingredients**

Ans Punt, RIKILT Wageningen University and Research, Wageningen, Netherlands

**S11-02 Adverse outcome pathways and beyond**

Mathieu Vinken, Vrije Universiteit Brussel, Brussels, Belgium

**S11-03 Strategies for avoiding animal testing in food safety and efficacy evaluation: challenges and opportunities**

Bob van de Water, Leiden University, Netherlands

**S11-04 Regulatory perspective on non-animal approaches to assess foods and food ingredients**

Katrin Schutte, European Commission – DG Environment, Brussels, Belgium
Implications of biodistribution of inhaled nanoparticles: effects in organs other than the lung

Inhalation of engineered nanoparticles will typically result in deposition of particles at the port of entry, the lungs, and, if the deposition is high enough, in induction of inflammation. During the early years of nanotoxicology, focus was mainly on the lungs and effects induced herein. For a long time, the potential for particles to translocate from the respiratory tract to the systemic circulation was believed to be negligible. During the most recent years it has become clear, that particles may indeed traverse the lung/blood barrier, and furthermore, that the effects induced by inhaled particles may not be limited to the lungs. Inhalation of particles may indeed lead to effects in other organ systems, such as the central nervous and the male and female reproductive systems. Also the feto-placental unit has been shown to be sensitive to particles when inhaled during pregnancy, and effects may be mediated via insults to the placenta. In this workshop, we aim to present and review the latest scientific findings on effects of airborne particles in organ systems other than the lungs, based on studies on exposure to particles in the environment (i.e., diesel engine exhaust) as well as to engineered nanoparticles. Findings in animal studies will be described relative to relevant findings in epidemiological studies. Alternative in vitro experimental models to reduce animal studies will be also presented. In addition, recommendations will be provided on how to deal with nano-sized particles in regulatory toxicology.

S12-01 The lung as a barrier to inhaled particles: dosimetry and biodistribution
Flemming Cassee, National Institute for Public Health and the Environment, Bilthoven, Netherlands

S12-02 Effects of particles on the central nervous system
Roel Schins, IUF - Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany

S12-03 Effects of particles on the placenta: studies on in vivo and in vitro models
Luisa Campagnolo, University of Rome, Rome, Italy

S12-04 Effects of nanoparticles on male and female fertility
Karin Sørig Hougaard, Danish Nanosafety Centre, Copenhagen, Denmark
Knowledge-based computational approaches in predictive toxicology

Supported by EU-H2020

Chairs: Ferran Sanz, Spain | Mumtaz Işcan, Turkey

Computational methods constitute a key component of modern toxicological studies. Among the diverse computational approaches, knowledge-based methods estimate the toxicity of query compounds based on their similarity with other compounds of known properties, thus allowing the exploitation of valuable pre-existing knowledge for the assessment of the properties of new compounds. This similarity can be based on physico-chemical or structural properties, but it also can incorporate in vitro experimental data (biological similarity) to improve its accuracy. The computational methods have the advantage of being fast and cheap as they do not use physical compound samples or imply the use of consumables. However, they must not be considered methods to be applied isolated from the experimental world. Much to the contrary, their potential can be better exploited when combined with experimental methods. In this workshop we present recent advances in the application of knowledge-based methodologies in the EU-funded projects EU-ToxRisk (http://www.eu-toxrisk.eu/) and IMI eTRANSAFE (http://etransafe.eu/). In particular, the EU-ToxRisk project aims at developing an integrated strategy to assess the safety of new compounds based on a combination of evidence obtained from a combination of in vitro experiments and in silico tools. Furthermore, powerful computational tools are required to compile all the evidence and collate them into an integrated result that includes not only the expected property of the compounds but also the uncertainty of this estimation.

The presentations will show how we are applying state-of-the-art, knowledge-based prediction methods and what is their potential of application within integrated risk assessment protocols. Also, we will show newly developed predictive methodologies, better adapted to address the specific needs of industrial toxicological assessment.

S13-01 The power of workflows – toxicological read across using integrated life science data
Gerard F. Ecker, University of Vienna, Vienna, Austria

S13-02 Different KNIME workflows for read-across and successive use for weight-of-evidence strategy
Emilio Benfenati, Istituto di Ricerche Farmacologiche Mario Negri, Milan, Italy

S13-03 Predicting with confidence: Toxicological in silico model building and prediction using conformal prediction
Ulf Norinder, Karolinska Institutet, Södertälje, Sweden

S13-04 Small is beautiful: application of local models in toxicology
Manuel Pastor, University Pompeu Fabra, Barcelona, Spain
Session 14

Understanding the interindividual variability in toxicity involving the psychotropic drugs

Chairs: Bruno Mégarbane, France | Félix Carvalho, Portugal

Incidence of poisonings involving the most common psychotropic drugs is increasing in the emergency department. Induced toxicity appears highly susceptible to interindividual variability. Recent studies based on clinical cohorts, animal models and in vitro molecular investigations allowed new insights in the understanding of such variability. Drug-drug interactions, gene polymorphism and repeated treatment-induced alterations in receptor expression, drug metabolism and drug distribution in the brain have been shown to modify the resulting toxicity. This workshop will review the different mechanisms of variability involved in the expression of toxicity of the most common psychotropic drugs including ethanol and lithium (developed in deep as illustrations) and analyse their expected consequences on poisoning presentation and management in humans.

S14-01 Psychotropic drug poisonings admitted to the emergency department: epidemiology and mortality
Pieter de Paepe, Ghent University Hospital, Ghent, Belgium

S14-02 Drug-induced toxicity at therapeutic doses versus acute overdose – physiopathological differences
Florian Eyer, Technical University of Munich, Munich, Germany

S14-03 Inter-individual ethanol toxicokinetic differences and effect variations
Ana Ferrer-Dufol, Clinic University Hospital, Saragossa, Spain

S14-04 Lithium-induced toxicity: determinants of inter-individual variability and decision of extracorporeal toxin removal in poisoning
Bruno Mégarbane, Paris-Diderot University, Paris, France
Investigative Toxicology Leaders Forum (ITLF): Scientific advancements and case studies for the optimization of drug discovery –trends in investigative toxicology

Chairs: Teija Oinonen, Finland | Thomas Weiser, Switzerland

Investigative Toxicology in pharmaceutical industry complements regulatory toxicology to de-risk early drug candidates, to reduce safety-related attrition and to provide mechanistic elucidation for toxicological observations. The discipline of Investigative Toxicology can be divided into two approaches. 1) In early phases of drug discovery, investigative toxicology helps in selecting the most promising and safe drug candidates and deselecting the most toxic ones 2) In the pre-clinical and clinical development phases the purpose of investigative toxicology is to provide mechanistic safety data that enables risk assessment, management and mitigation.

The Investigative Toxicology Leaders Forum (ITLF) is an informal group of 17 investigative toxicology leaders from European-based pharma companies. ILTF’s mission is to exchange and share pre-competitive knowledge among the companies and to interact with experts from academia and regulatory bodies in the field of Investigative Toxicology. The third symposium presented by the ITL forum at Eurotox will provide an overview on recent scientific advancements in the field of Investigative Toxicology complemented with selected case studies illustrating how new technologies have successfully been applied.

The symposium will present how progress in preclinical safety data sharing among pharmaceutical companies will enhance the analysis of translatability of animal results to clinical data and eventually lead to an improved extrapolation of toxicity results to the human situation (IMI project: eTRANSAFE). New modeling approaches will be presented, which lead to quantitative risk assessment based on in vitro data enhancing earlier decision making. The value of “Organs-on-a-chip” will be demonstrated for a newly developed 3-D eye model to assess retinal toxicity (Crack-it Challenge). New in vitro assays for the assessment of Antibody-Drug Conjugates (ADCs) toxicity in early development phases will be presented.

The second part of the symposium will focus on drug induced liver impairment (DILI) starting with a review from IMI’s MIP-DILI project which developed novel mechanistic insights and an improved panel of in vitro tests for use in investigative toxicology. Key results of the project will be presented followed by three case studies which illustrate how mechanistic analyses contribute to the elucidation of liver toxicity of different origins.

**S15-01**  Olson revisited – Translational Analysis of Safety Data (IMI eTRANSAFE)
François Pognan, Novartis Pharma AG, Basel, Switzerland

**S15-02**  Application of *in vitro* pharmacokinetic simulations using "microformulator" technology for quantified risk assessments
Clay Scott, AstraZeneca, Waltham, US

**S15-03**  Retinal-3D: Development of 3D eye models for early assessment of retinal toxicity. A CRACK-IT Challenge
Philip Hewitt, Merck KgaA/ERT, Darmstadt, Germany

**S15-04**  Development of *in vitro* systems for ADC toxicity
Terry van Vleet, AbbVie, North Chicago, US
12h30–13h30

Lunch Break, Exhibition & Poster Viewing 2 (p. 115)

12h30–13h30 Terrace Hall

IND 04

Industry Session by Citoxlab, A Charles River Company

How to navigate and interpret EC regulations on endocrine disruption testing using available guidance and testing platforms

Weight of evidence brought by OECD level 3 test methods using in vitro aquatic embryos

To specifically reveal endocrine disrupting activity, it is essential to use tests which reproduce vertebrate physiology in its complexity. The association of embryo-larval developmental stages of fish or amphibians with the use of genetic markers is a highly advantageous ethical alternative. Several models, specific for the estrogen, androgen, and thyroid axes, have been validated in recent years. As explained in the OECD guidance document 150, these assays are performed applying an in vitro mode of exposure using whole embryonic organisms and provide non-mammalian data which are informative for human hazard assessment. The ECHA/EFSA guidance document recommends implementation of these tests in assessment strategies as "this will reduce the uncertainty linked to the extrapolation of mechanistic information from mammalian to other vertebrate species and from cells to whole organisms."

Combining smart study design in regulatory toxicology with targeted investigations to determine endocrine disruption potential and human relevance

During each program of regulatory safety testing, a chemical is subject to a large number of rodent toxicology tests, of which most are supported by OECD testing guidelines that specify the study design and the objectives of the tests. Recently, many of the OECD test guidelines for repeat administration and reproductive or multigeneration toxicity potential have been updated in order to allow for identification of endocrine disruption potential. Although these guideline modifications do help facilitate the compliance with EC regulation on endocrine disruption testing, there remains a lot of confusion concerning which tests to use either at early stages of safety testing or as follow-up investigations following indications of potential endocrine disrupting effects observed in required studies. This presentation will provide an overview of the 2018 EC regulation laying out the scientific criteria for determination of endocrine disrupting properties and several case examples will be provided to demonstrate how to navigate the available testing platforms in order to generate the most relevant data for human health assessments.

Speakers: Gregory Lemkine, WatchFrog, France; Pramila Singh, Citoxlab, A Charles River Company, France
Industry Session by Instem

Leveraging the combined power of technology, expertise and regulatory standards for safer outcomes

The deployment of powerful automated technologies to enhance both production and analytical processes does not today eliminate the need for skilled human intervention. The manual and labor-intensive nature of this work leads to questions of productivity and quality that need to be explored together with the potential for further optimization as new techniques and tools arise.

In this session, we will draw upon our experience with the nonclinical SEND standard and the curation and analysis of unstructured public and private scientific source materials for regulatory and decision-making purposes, specifically in support of Target Safety Assessments.

We will explore the opportunities and barriers to leveraging public and private data sources for commercial advantage in drug R&D. Consideration will also be given to the conflicting concerns of "open" access to historical regulatory data for investigational purposes and the potential that new analyses could uncover new information with commercial consequences for marketed or close-to-market products.

The purpose of this presentation is to reflect on the use of artificial and augmented intelligence technologies to support the continuous exploration of safety topics from structured and unstructured, public and private sources of data, that are relevant to candidate and potential new pharmaceutical drugs.

The conclusions are based on empirical evidence drawn from the practical experience of delivering regulatory and research services to drug development organizations around the world.

Speakers: Paul Bradley, Instem, UK; Marc Ellison, Instem, UK
12h30–13h30 Veranda 1
IND 06

**Industry Session by Syngene International Ltd.**

**Data to decisions: Combining bioinformatics with *in vitro* screens in early drug discovery**

A target suitable for drug development needs to have several characteristics. It should not merely affect the disease process but should also be druggable, safe, and suitable across a large fraction of the patient population. In certain cases, one may want to modulate not just a single target but multiple ones using different therapeutic modalities, thus allowing one to address the disease process comprehensively. To make sure that our therapeutic strategy considers all these factors right at the start we create target dossiers – a comprehensive 360° view of the target and its role in the disease.

Our target dossiers integrate function, sequence (DNA & protein), structure, mutations, genomic rearrangements, biological pathways/network and phenotypic data to clearly elucidate the role of a target protein in a disease, its clinical relevance, the modulation strategy and the validation plan. They include a comprehensive target safety assessment that delineates target vulnerabilities, unintended response upon modulation and lists out potential organ specific adverse events allowing the therapeutic team to develop a clear risk mitigation strategy.

As we move forward in projects we rely on screening for toxicity and safety at every step in the process. It is known that many compounds fail at late stage due to organ toxicity. We mitigate this risk by applying stage specific screens that encompass in silico, in vitro and in vivo methods. We have developed computational models that use a combination of structural modelling and artificial intelligence methods to flag cardio-, nephro- and liver toxicity using them to drive molecule design at the hit to lead stage. At later stages, potent compounds flagged for toxicity can then be further tested by in vitro tox screens. All the data generated by the in vitro methods is used as part of the AI platform for lead optimization. During the lead optimization stage, if discovery toxicity studies in rodents produce unexpected toxicity, our patented mechanistic tox platform – Heptox™ aids in ranking compounds in order of their tox impact, predicts toxicity upon in vivo exposure and identifies that key mechanisms that drive the tox process. Thus, we are able to generate a SAR that can used to optimize molecules further.

In this manner, we combine informatics and experiments in a “virtuous” cycle that leads to better predictability and more targeted experimentation, eventually speeding up the drug discovery process.

Speakers: tba.

13h30–14h30 Finlandia Hall

**HESI CITE Lecture**

Chair: Tim Gant, UK

**Toxicology in the era of the exposome**

Robert Barouki, Paris Descartes University, France

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14h30–15h00

**Coffee Break, Exhibition & Poster Viewing 2 (p. 115)**
Novel and sustainable approaches are needed to improve the quality and efficiency of risk assessment of chemicals. The majority of chemicals in current use have not been risk assessed in depth for important adverse effects. This is due to a large data gap regarding hazards and exposure to many chemicals, a lack in knowledge that can be largely attributed to the many resources that are required to perform traditional toxicity testing. In this symposium, we will focus on the possibilities of developing a novel, sustainable and cost-effective strategy for risk assessment of chemicals, foremost targeting repeated dose toxicities such as developmental and reproductive toxicity. The animal-free approach will use human cell-based technologies and computational modelling approaches, accounting for absorption, distribution, metabolism and excretion as well as the use of human biomonitoring and ex vivo effect data. Defined panels of in vitro tests will be coupled with physiologically-based kinetic (PBK) modelling to predict exposure or with human biomonitoring data for risk assessment. We want to present cases where a first proof of principle has been developed indicating that this may be a viable approach. The outcomes can be used to prioritize chemicals for in vivo testing and eventually for risk assessment in the future. Ultimately, a successful outcome will significantly contribute towards a more sustainable way of risk assessing and regulating chemicals, as well as improved prevention of human diseases.

**S16-01** Chemical risk assessment: How well do human *in vitro* and *in silico* data predict the *in vivo* situation?

**S16-02** PBK modeling for chemical risk assessment: *in vitro* biomarkers for developmental toxicity and their extrapolation to the *in vivo* situation
Yvonne Rietjens, Wageningen University, Wageningen, Netherlands

**S16-03** Quantitative *in vitro to in vivo* extrapolation (IVIVE) predict adverse male reproductive health disorders caused by pesticides
Anne Marie Vinggaard, Technical University of Denmark, National Food Institute, Kgs. Lyngby, Denmark

**S16-04** Human biomonitoring and combined serum mixture effects in pregnant women: biomarkers of impact on fetal growth
Eva Bonefeld-Jørgensen, Aarhus University, Aarhus, Denmark
15h00–17h00

Session 17

Veranda 1

**Experimental comprehensive toxicological studies simulating real-life exposures: Long-term combined exposures on multi endpoints**

Chairs: Aristidis M. Tsatsakis, Greece | Juha Laakso, Finland

**S17-01**

**Experimental designs and protocols for long-term combined exposure studies from methodology to application: problems and solutions**

Anca O. Docea, University of Medicine and Pharmacy of Craiova, Craiova, Romania

**S17-02**

**A mixture of routinely encountered xenobiotics induces both redox adaptations and perturbations in blood and tissues of rats after an 18-month exposure regimen: the dose and time issue**

Dimitrios Kouretas, University of Thessaly, Larissa, Greece

**S17-03**

**Comparative evaluation and challenges in translating endpoints from experimental studies to human epidemiological observations**

Antonio Hernández, University of Granada School of Medicine, Granada, Spain

**S17-04**

**The concept of RLRS for toxicology safety evaluations in our modern world**

Aristidis M. Tsatsakis, University of Crete, Heraklion, Greece

15h00–17h00

Session 18

Finlandia Hall

**Biomarkers in predictive toxicology and risk assessment**

Chairs: Eugenia Dogliotti, Italy | Mathieu Vinken, Belgium

**S18-01**

**The exposome in practice**

Oliver Robinson, Imperial College London, London, UK

**S18-02**

**The potential of microfluidic systems in the identification of new biomarkers: Highlight on a Perfused Proximal Tubule model**

Henriette Lanz, Mimetas BV, Leiden, Netherlands

**S18-03**

**Lessons learnt from ‘omics’ technologies in vivo in the last decades**

Heidrun Ellinger-Ziegelbauer, Bayer AG, Wuppertal, Germany

**S18-04**

**Use of biomarkers in the assessment of risk from environmental contamination by perfluorinated compounds: strengths and weaknesses**

Tony Fletcher, Public Health England, Chilton, UK
15h00–17h00 Helsinki Hall

Session 19

**Endocrine disruption: identification of root causes**

*Supported by ECETOC*

*Chairs: Bennard van Ravenzwaay, Germany | Kirsi Myöhänen, Finland*

Endocrine disruption has been a topic for the past 20 years and remains a disputed area in science. What has happened in the past, how did new regulations come about? The first speaker will provide a perspective and an overview of current regulations, with particular attention to the new EU guidance and definitions. As many pathways can result in organ and reproductive toxicity, which evidence is needed to conclude that a chemical is causing adverse effects based on an endocrine mediated mechanism? How can such information be used in conjunction with other effects? The second speaker will address these topics and present a step wise approach for the identification of chemicals causing hormonal imbalance and provide a concept on how to use this information in a weight of evidence-based approach. Dose-response relationship and the effects of combined exposure to ED chemicals is one of the most intensely debated topics. However, very few robust studies are available. The third presenter will show the results of single and combined exposure to three anti-androgens in a 1-generation experimental design in rats. Moreover, results from in vitro studies with combined exposure to combinations of oestrogens and anti-androgens will be presented. Finally, the reported increase of potentially ED related diseases in humans will be reviewed from an epidemiological point of view, with special emphasis on changes in the population over the last 80 years.

**S19-01**

**ED identification in the EU and the use of weight of evidence**

John Doe, Parker Doe Partnership, Congleton, UK

**S19-02**

**Dose-response relationship of single and combined exposure to ED chemicals in vitro & in vivo**

Steffen Schneider, BASF, Ludwigshafen, Germany

**S19-03**

**Application of the EU criteria and guidance to identify endocrine disruptors: scientific perspectives**

Helen McGarry, Health & Safety Executive, Liverpool, UK

**S19-04**

**The real causes of changes in trends of "Endocrine Related Diseases": an epidemiological perspective**

Gerard Swaen, Maastricht University, Netherlands
Investigative Toxicology Leaders Forum (ITLF): Scientific advancements and case studies for the optimization of drug discovery – DILI case studies

Chairs: Philip Hewitt, Germany | Marc Pallardy, France

Investigative Toxicology in pharmaceutical industry complements regulatory toxicology to de-risk early drug candidates, to reduce safety-related attrition and to provide mechanistic elucidation for toxicological observations. The discipline of Investigative Toxicology can be divided into two approaches. 1) In early phases of drug discovery, investigative toxicology helps in selecting the most promising and safe drug candidates and deselection of the most toxic ones 2) In the pre-clinical and clinical development phases the purpose of investigative toxicology is to provide mechanistic safety data that enables risk assessment, management and mitigation.

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S20-01 DILI revisited – key results from the innovative medicines initiative MIP-DILI project
Philip Hewitt, Merck KGaA, Darmstadt, Germany

S20-02 Prevention and reversion of ALT increase by bile acid sequestration in dog treated with FGF401, a selective FGFR4 inhibitor
Heiko Schadt, Novartis Institutes for Biomedical Research, Basel, Switzerland

S20-03 Elucidating the role of mitochondrial dysfunction in drug-induced intrahepatic cholestasis
Sophie Penman, University of Liverpool, Liverpool, UK

S20-04 Liver mitochondrial toxicity in the context of hypoxia
Katie O’Brien, University of Cambridge, Cambridge, UK
Promotion of safe nanotechnology through global networking

Sponsored by EC4SafeNano (EU H2020-project No 723623) / INERIS

Chairs: Anna-Kaisa Viitanen, Finland | Hannu Norppa, Finland

15h00–15h05
Welcome
Anna-Kaisa Viitanen, Finnish Institute of Occupational Health, Finland

15h05–15h30
EC4SafeNano – European Centre for Safe Nanotechnology
Iseult Lynch, University of Birmingham, UK

15h30–15h50
USA towards safe nanotechnology
Sally Tinkle, Science and Technology Policy Institute, US

15h50–16h10
Safe nanotechnology – Actions in South-America
Ricardo Azevedo, University of Brasilia, Brazil

16h10–16h30
OECD: Paving the way for safer nanomaterials – a European perspective
Juan Riego Sintes, European Commission, Joint Research Centre, Italy

16h30–16h55
Open discussion with all speakers
Moderated by Kai Savolainen, FST, Finland

16h55–17h00
Closing remarks

19h30–00h00
Congress Dinner at Clarion Hotel (p. 17)
Wednesday, 11 September 2019

08h00–13h00  Congress Registration
09h00–12h00  Exhibition

08h30–09h30  Finlandia Hall

Bo Holmstedt Memorial Fund Lecture
Chairs: Herman Autrup, Denmark | Heather Wallace, UK

Understanding fundamental quantitative principles is a prerequisite for improving toxicological science and risk assessment

Wout Slob, National Institute of Public Health and the Environment, Bilthoven, Netherlands
Blood-brain barrier (BBB) is a highly selective semi-permeable membrane that consists of complex cellular systems. BBB on one hand, protects the delicate physiological homeostasis of the brain; on the other hand, comprises an obstacle for efficient pharmacotherapy of the central nervous system (CNS). In this respect, development of unique nanoformulations such as nanocarriers with different sizes, shapes, and surface charges, and modification of these particles with functional groups to enhance their penetration and targeting capabilities is an area of interest. However, they can be seen as friend or foe as their safe use is vital to prevent their uncontrolled accumulation in the brain.

This symposium will therefore aim to provide information on understanding nanosystems’ deleterious mechanisms on neurons, to consider the complexity of interactions with the biological system, especially the BBB, the extracellular matrix (ECM) and the immune system and present examples and propose solutions on how to determine the opposing effects of nanoformulations on the brain.

This symposium will address the transport mechanisms of nanoparticle-based drug delivery systems across the BBB and the interaction of the nanoparticles with the ECM under pathological conditions. Although in healthy state the brain is an immune privileged organ, in case of brain damage and disease, or when the BBB is disrupted, nanoformulations may be involved in inflammatory reactions and further aggravate the situation. Thus, we will elucidate the mechanisms of neuronal damage caused by nanoparticles due to the generation of reactive oxygen species. The Inhibition of glutamate reuptake and glutamine synthase activity and enhancement of spontaneous glutamate release from neurons due to metal toxicity leads to mitochondrial dysfunction and neuronal damage. Furthermore, these undesirable effects of nanosystems become more complicated when taking into account their multiple systemic interactions with blood components and the reticuloendothelial system, in vivo analysis of the nanoformulations’ behavior is essential to acquire meaningful results. Hence we will present results from “individual profiling” of different nanosystems regarding their distribution in vivo and how they affects brain tissue under normal and pathological conditions.

**S21-01** Cargo-influenced distribution of polymeric nanoparticles at biological barriers
Petra Henrich-Noack, University Hospital Muenster, Muenster, Germany

**S21-02** Extracellular matrix and nanoparticles interaction – breaching new barriers?
Dragana Nikitovic, University of Crete, Heraklion, Greece

**S21-03** New nanosized macro-molecular system and their interaction with biopolymers and living objects
Mikhail Shtilman, D.I. Mendeleyev University of Chemical Technology of Russian, Moscow, Russia

**S21-04** Bio-inspired nanoparticles in neuroscience
Monica Neagu, "Victor Babes" National Institute of Pathology, Bucharest, Romania
Advancing toxicological evaluations in resolving current policy controversies in GMO products

Chairs: Michael Antoniou, UK | Aristidis Tsatsakis, Greece

The amount of uncertainty and unpredictability of risks associated with GM crops developed through modern biotechnological techniques or conventional mutation breeding or hybridization is variable but exists. It is important to examine the variable potential risk of GM crops within the context of wider knowledge and on a case-to-case basis. An increasing interest can be noted among the researchers and policy makers in exploring unintended effects of transgenes associated with gene flow, flow of naked DNA, weediness and chemical toxicity. The current state of knowledge shows that GM crops can have damaging impacts on the environment such as modification in crop pervasiveness or invasiveness, the emergence of herbicide and insecticide tolerance, transgene stacking and disturbed biodiversity, but these impacts require a more in-depth view and critical research in order to generate further facts. Various scientific efforts around the globe are concerned with scientifically-assessed direct hazardous impacts of GM food and feed on fauna and flora. Improved experimental techniques with long duration studies are currently been conducted in leading labs working on GMO risk assessments. This symposium will present preliminary results of studies targeted to discover risks associated with GM crops (food and feed). Improved strategies adopted by these studies including state-of-the-art ‘omics' technologies will represent a proof-of-concept that could improve GMO safety evaluations, thereby aligning GMO assessments with current efforts using more mechanism-based testing strategies such as adverse outcome pathway (AOP)-based approaches. The need for up-to-date, valid and harmonized methods will focus the attention of policy makers, regulatory authorities, governments and will help to evaluate the possible long term unexplored effects, risks and damages to environment, ecosystems, biodiversity, and health prior to the release of any GM crop, food or feed.

S22-01 Integrating multiple ‘omics’ analysis to study the effects of herbicide-tolerant crops
Robin Mesnage, King’s College London, London, UK

S22-02 Adverse outcome pathways (AOPs) and challenges in chronic studies with GMOs
Martin Wilks, University of Basel, Basel, Switzerland

S22-03 Is the success of genetically modified food and feed at nature’s cost: highlighting the potential risks of GMOs
Marina Goumenou, University of Crete, Heraklion, Greece

S22-04 Scientific challenges for GMO regulation in Europe – the EFSA GMO Panel Chair’s perspective
Hanspeter Naegeli, University of Zurich, Zurich, Switzerland
Optimization of existing and construction of new testing strategies for skin sensitization potency

Chairs: Dirk Petersohn, Germany | Emanuela Corsini, Italy

Skin sensitization is one of the key adverse effects to be addressed in the human hazard characterisation and risk assessment of chemicals in various legislations. Alternative methods to address this endpoint have been developed since many years and different testing strategies are already in place. However, important aspects still need to be addressed, such as the potency estimation of a skin sensitizer and the applicability domain of the assays and strategies, in particular when challenging substances are tested.

This session provides an overview of the continuing collaborative work focused on 1) the optimization of existing and construction of new testing strategies for sensitization potency allowing risk assessment and 2) assessment of their use in "real life" examples from the cosmetics industry.

Firstly, the presented projects will be put into perspective for the development of performance-based test guideline for skin sensitization. The definition of performance criteria for the regulatory use of non-animal test methods and strategies will be discussed. Second, a project mapping the chemical reactivity of skin sensitizers (incl. oxidative hairdyes) in a human epidermis model using HRMAS NMR spectroscopy will be presented. The method allows to characterize and quantify adducts formed in human skin, compare the reactivity of different sensitizers and overcome solubility/metabolic activation limitations of assays using model-peptides in solution. Toxfinder will present the optimization and blinded evaluation of a new defined approach for sensitization potency using human data as a reference. The approach integrates in silico, in chemico and in vitro cell data and discriminates five potency categories. Lastly, we will present the activities on the identification of optimized defined approaches for predicting skin sensitization potency and their use for safety assessment via case studies. Moreover, we will present "real life" examples of application of defined approaches for risk assessment purposes of cosmetics ingredients.

S23-01 Development of a guideline on defined approaches for skin sensitisation
Silvia Casati, European Commission, Ispra, Italy

S23-02 Chemical mapping of skin sensitizers in a reconstructed human epidermis model using HRMAS NMR spectroscopy
Jean-Pierre Lepoittevin, University of Strasbourg, Strasbourg, France

S23-03 A defined approach for skin sensitization potency integrating in silico, in chemico and in vitro cell data
Isabel Ferreira, University of Coimbra, Coimbra, Portugal

S23-04 Practical application of existing and new testing strategies/defined approaches for risk assessment of cosmetic compounds
Dirk Petersohn, Henkel AG & Co KGaA, Düsseldorf, Germany
Toxicants still represent a major threat to human health worldwide, with onset of outbreaks and epidemics. Consistently, since ten years, misuse and abuse of opioid analgesics have become the first cause of toxic death in the US and in several European countries, due to increasing prescriptions and insufficient awareness about the risk of addiction in the patients treated for chronic pain. More recently, this epidemic was considered responsible, at least in part, for the resurgence of heroin-related fatalities. In parallel, during the last ten years, hundreds of new psychoactive substances, including synthetic cannabinoids, cathinones and hallucinogens, have spread exponentially on the recreational market. They are now responsible for about 15% of the emergency department admissions of drug users, with the report of new acute toxic features and the emergence of serious dangers related to the compulsive use of these drugs and the multiplication of risky sexual behaviors. The anticholinesterase pesticides still represent an offending source of toxicity worldwide with millions of intoxicated patients and thousands of fatalities. Recent researches allowed a better understanding of the various involved mechanisms of toxicity, the relative dangers of the different compounds and the contribution of the solvents to the toxicity. These findings are expected to better guide health authorities’ efforts to limit the threatening toxicity of pesticides. Finally, although less at risk in the developed countries, toxic alcohols including methanol and diethylene glycol are important causes of accidental mass poisonings and disabilities in the developing countries, causing important issues for the diagnosis and management of possible resulting massive influx of critical care poisoned patients. This symposium will bring a multifaceted insight in the epidemiology of these massive poisonings, the reasons for expanding threats, the most recently assessed mechanisms of involved toxicity and the requirements for epidemics management and prevention.
Session 29

Species specific gastrointestinal (GI) toxicity in rabbits – what does it mean for prenatal developmental toxicity (PNDT) studies and their regulatory use?

Chairs: Jarlath Hynes, Netherlands | Kirsi Myöhänen, Finland

Testing for prenatal developmental toxicity (PNDT) is a requirement under several regulations such as the REACH Regulation, the Biocidal Products Regulations (BPR) and the Regulation for the placing of plant protection products on the market (PPP). The preferred species are the rat and the rabbit and testing in two species is often required. However, rabbits are known to be susceptible to gastrointestinal (GI) imbalances. For example, antibiotics and poorly absorbed materials often disturb the gut microflora and/or cause diarrhoea and reduced food consumption, which can result in abortion, foetal resorption and maternal death. The results of rabbit PNDT studies showing GI imbalances may be of limited regulatory use. Hence, alternative testing should be considered.

The first presentation of this session will provide the background on the physiology of the highly specific rabbit GI and will illustrate several problems that are arising for a Contract Research Organisation (CRO) when testing rabbits. The second presentation will address the limitations in the use of rabbit PNDT studies showing GI toxicity for plant-protection products (PPPs) from an industrial point of view. In the third presentation, the use of rabbits for pharmaceuticals will be high-lighted. Since rabbit is not a suitable species to test several antibiotics by the oral route, alternative modes of investigation and alternative species are available. The use of mouse and especially of mini-pigs as alternative species will be presented together with the latest development on study designs for testing mini-pigs. In the last presentation, the results of a scientific project will be presented by ECHA (European Chemicals Agency), in which results of 185 rabbit PNDT studies were analysed and a survey was performed among stakeholders that are performing and evaluating rabbit PNDT studies. Based on the results of the project, further needs will be high-lighted.

529-01 Gastrointestinal (GI) toxicity in rabbits – mechanisms and relevance for human
Manon Beekhuijzen, Charles River Laboratories, Den Bosch, Netherlands

529-02 Rabbit PNDT studies: What are the regulatory consequences for plant protection products?
Mary Moxon, MMTGS Limited, Congleton, United Kingdom

529-03 Alternative species and methods for embryo-fetal developmental toxicity studies for pharmaceuticals
Céline Pique, Charles River Laboratories, Lyon, France

529-04 Regulatory considerations for the evaluation of rabbit PNDT studies submitted under REACH and/or BPR
Ulrike Reuter, European Chemicals Agency, Helsinki, Finland

11h30–12h00

Coffee Break & Exhibition
Detection, assessment, management and communication of risk in mass human toxic exposures

Chairs: Paul Dragan, UK | Mumtaz İşcan, Turkey

Mass human poisoning can occur due to a variety of very different exposure sources. It is a significant challenge for public health care systems not only because of the pressure caused by the number of people affected directly by the toxic insult, the need to undertake a rapid risk assessment and deploy resources to deal with the incident, but also by the alarm created amongst the general population. The aim of this symposium is to analyse potential strategies to prevent and detect mass poisoning in different scenarios, consider which of these strategies are most effective, compare risk assessment approaches and discuss the most appropriate mechanisms to communicate these in a reliable and effective manner in the context of a mass poisoning outbreak. The chosen examples come from different situations such as war, environmental contamination, illegal adulteration or unsafe occupational activities from throughout the world which will facilitate discussion of the issues related to mass poisoning relevant to practitioners, researchers and policy makers multiple facets and throughout the multidisciplinary spectrum.

S25-01 Warfare scenarios involving chemicals
Horst Thiermann, Bundeswehr Institute of Pharmacology and Toxicology, Munich, Germany

S25-02 Environmental contamination by organochlorine residues: Lindane manufacture residues
Ana Ferrer Dufol, Clinic University Hospital, Saragossa, Spain

S25-03 Outbreaks by contaminated food and beverages
Sergey Zacharov, Charles University, Prague, Czech Republic

S25-04 Risk communication in mass poisoning situations: “What do we do? Where do we go?”
Charles McKay, American College of Medical Toxicology, Phoenix, US
Suitability of non-animal approaches in different industries: One size fits all?

Supported by ILSI Europe

Chairs: Phillip Bellion, Switzerland | Greta Waissi, Finland

There is increasing opposition among the public to the use of animals in product development. As a consequence, regulators are calling for alternative approaches for safety assessment. In response the agrochemical, cosmetic, chemical, pharmaceutical and food companies are all exploring the development of non-animal methods for this purpose. This has been fuelled by rapid advances in scientific knowledge (e.g. genomics) and technology (e.g. informatics, computational toxicology, stem cell research), together with an urgent need for improved reproducibility and translational value, causing a shift in approach towards the use of toxicity pathways and mechanistic data. There are differences in the objectives and approaches used by the different industry sectors. Hence, establishing robust quality science to support safety decisions as well as regulatory frameworks is required to accommodate these approaches. Therefore, sharing approaches across the scientific and regulatory communities is necessary to move this area forward.

S26-01 Non-animal testing approaches in the risk assessment of food and cosmetic ingredients in Europe
Phillip Bellion, DSM Nutritional Products, Kaiseraugst, Switzerland

S26-02 Hurdles to the regulatory use of alternative methods for chemicals and 12 proposals to overcome them
Robert Landsiedel, BASF SE, Ludwigshafen, Germany

S26-03 Alternative approaches in the early phases of pre-clinical toxicology. What is really used in the pharmaceutical industry?
Thomas Steger-Hartmann, Bayer AG, Berlin, Germany

S26-04 Establishing scientific credibility/validity of new approaches for different decision making contexts
Joao Barroso, European Commission Joint Research Centre (JRC), Ispra, Italy

Panel discussion with all speakers
What can be leveraged across sectors and what not?
Several chemicals, including pesticides, can directly affect the nervous tissue as their mechanism of toxicity. In several different cases, the nervous system is affected by toxic mechanisms which can concomitantly affect other targets in the body. Such toxicities could result in both short term as well as chronic effects. Furthermore, additional concern is due on whether in utero and/or early childhood exposure could lead to developmental neurotoxicity effects. Identification and characterization of chemically induced neurotoxicity and developmental neurotoxicity still remains a challenge. Though epidemiological studies can show an association between chemical exposure (including pesticides) and central nervous system diseases, in vivo animal studies are not designed to specifically identify complex, often multifactorial, human diseases and identification of chemically related risk factors is challenging. A mechanistic shift and tools, such as the Adverse Outcome Pathway, able to contextualize the best available testing methods, is considered a suitable approach. In such a context, understanding which are the available methods, the predictive performance of the assays and the limitation of available in vivo studies is key for any progress aimed to identify relevant risk factors and consequently limit/control their exposure.

**S27-01**  
**Alternative neurotoxicity testing methods: performance characteristics and ability to predict chemical effects**  
Ellen Fritsche, IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany

**S27-02**  
**Exploring chemically induced neurotoxicity mode of action**  
Barbara Viviani, Università degli Studi di Milano, Milan, Italy

**S27-03**  
**Toward the regulatory application of DNT in vitro assays**  
Andrea Terron, European Food Safety Authority, Parma, Italy

**S27-04**  
**The use of zebrafish as an alternative model for behavioural testing**  
Hilda Witters, VITO, Mol, Belgium
**Hepatotoxicity: mechanisms, new insight into liver function, and possibilities of in vitro prediction**

Chairs: Jan Hengstler, Germany | Hilmi Orhan, Turkey

The past years have seen exciting developments in our understanding of liver physiology and organ toxicity. This has been paralleled by the establishment of improved in vitro and in silico systems to predict hepatotoxicity. For example, combined two-photon and Raman based microscopy allowed the direct observation of initial molecular and key events of hepatotoxicity that can be observed in intact livers. Examples are compound induced mitotoxicity, rupture of apical hepatocyte membranes, infiltration of immune cells and immune mediated secondary liver damage in vivo. Moreover, genome and metabolome-wide studies give an unbiased overview of involved pathways and adaptive mechanisms. Based on insight of the relevant in vivo mechanisms the speakers of this symposium developed in vitro techniques to predict specific in vivo relevant markers. This includes the development of reporter cell systems of stress pathways and modeling based on the imaging data from reporter constructs to derive the event relationships between stress pathways and adverse outcomes; the identification of test compound induced changes of the metabolome as well as transcriptome in vitro and in vivo; the identification of interindividual differences in susceptibility to hepatotoxic compounds by comparing primary human hepatocytes of large numbers of donors (n>50). Based on the concentration and time resolved analysis of more than 200 compounds in vitro and their comparison to the in vivo situation (including measured and modelled compound concentrations in human blood and at target cells of toxicity) a comprehensive overview of possibilities and limitations to predict in vivo toxicity has been obtained. Examples will be presented, illustrating that similar exposure of hepatocytes in vitro and in vivo does not necessarily mean identical toxicity. However, based on the knowledge of key mechanisms different in vivo and in the respective in vitro systems, such as differences in individual enzyme activities, dynamic pharmacodynamics models can nevertheless come to correct predictions. The symposium will also focus on current limitations of in vitro and in silico methods and the accuracy of predictions of human toxicity will be presented for large sets of validation of compounds that have been analysed in a blinded manner.

**S28-01** Insight into mechanisms of hepatotoxicity by two-photon microscopy and derivation of predictive in vitro/in silico systems  
Jan Hengstler, Leibniz Research Centre for Working Environment and Human Factors (IfADo), Dortmund, Germany

**S28-02** Computational modelling of the unfolded protein response upon chemical-induced cell injury  
Joost Beltman, Leiden University, Leiden, Netherlands

**S28-03** In vitro metabolome data and a comparison to the in vivo situation  
Hennicke Kamp, BASF SE, Ludwigshafen, Germany

**S28-04** Upregulation of glutathione in hepatocytes by the antibiotic Nitrofurantoin  
Stefan Schildknecht, University of Konstanz, Germany
Substances of Unknown or Variable composition, Complex reaction products or Biological materials (UVCBs); new challenges in their toxicological evaluation and risk management in REACH

Chairs: David Bell, Finland | Jyrki Liesivuori, Finland

Substances of Unknown or Variable composition, Complex reaction products or Biological materials present complex challenges for assessment, yet comprise 10-15% of substances registered under REACH. We describe some of the novel issues that are arising in assessing hazard, building read-across, classifying and regulating these substances. Novel and pragmatic approaches for dealing with these challenges are discussed.

S30-01 The chemical composition of UVCB substances. Challenges in characterisation.
Michal Skowron, European Chemicals Agency, Helsinki, Finland

S30-02 Assessment of the hazardous properties of UVCBs
Eric Stilgenbauer, European Chemicals Agency, Helsinki, Finland

S30-03 How to establish read-across within a category of UVCBs – an industrial perspective
Mike Penman, Penman Consulting bvba, Brussels, Belgium

S30-04 Regulatory Risk Management of UVCB substances- challenges and effective implementation
Chrystele Tissier, European Chemicals Agency, Helsinki, Finland
14h00–14h30  Finlandia Hall

**Closing Ceremony and Awards Presentation**

**Words of gratitude**
by Kai Savolainen, President of the EUROTOX 2019 Congress and Chair of the Local Organizing Committee

**Words of gratitude**
by Heather Wallace, President of EUROTOX

**Presentation of awards**

**EUROTOX Gerhard Zbinden Early Career Award**
presented by Heather Wallace, President of EUROTOX and Thomas Weiser, EUROTOX Treasurer

**ECETOC Christa Hennes Early Career Award**
presented by Heather Wallace, President of EUROTOX and Thomas Weiser, EUROTOX Treasurer

**ESTIV Best Poster Award**
presented by Mathieu Vinken, President of ESTIV

**ECOPA Award**
presented by Tuula Heinonen, ECOPA Vice-President, and Constanza Rovida, ECOPA Secretary

**Presentation of the President of the EUROTOX 2020 Congress and Chair of the Local Organising Committee**

**Closing words**
by Heather Wallace, President of EUROTOX
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POSTERS
Poster Viewings
Finlandia Hall, 1st and 2nd floor

Poster viewing 1  Mon, 9 September 2019

10h00–10h30
12h30–13h30
14h30–15h00

All posters with topic numbers starting with P01 to P07 will be presented.

1st Floor:  P01, P02, P03, P06, P07
2nd Floor:  P04, P05

Poster viewing 2  Tue, 10 September 2019

10h00–10h30
12h30–13h30
14h30–15h00

All posters with topic numbers starting with P08 to P24 will be presented.

1st Floor:  P12, P13, P15, P16, P17, P18, P19, P22, P24
2nd Floor:  P08, P11

Late posters will only be presented via the e-poster terminals.

Please note: Abstracts originally submitted for P09, P10, P14, P20, P21 and P23 have been merged to other topics, so no posters will be presented among these topics.

Main authors are indicated with an asterix (*) and presenting authors are underlined.
P01 – BIOMAKERS OF EFFECTS/EXPOSURE
1st Floor

P01-001
This poster has been withdrawn.

P01-002
Effect of L-Glutamic acid and N-acetyl cysteine on carbon tetrachloride-induced oxidative stress in rats
*N. Salyha

P01-003
Mother’s residency (urban vs. rural) significantly influences newborns’ sex hormone levels, IL-6 and micronucleus frequency

P01-004
Assessment of mitochondrial function in peripheral blood mononuclear cells and platelets as potential surrogates for systemic mitochondrial perturbation
*J. Armitage, D. Grimsditch, G. Brunori, S. Pearce, R. Buckley, A. Williams, J. Lyon, S. Gresham

P01-005
This poster has been withdrawn.

P01-006
Intra-erythrocyte chromium as an indicator of exposure to hexavalent chromium: in-vivo evaluation

P01-007
Cell-free, circulating microRNAs reflect air pollution-induced environmental health risks

P01-008
Alcohol induced changes in the serum and placental metabolome during pregnancy

P01-009
Predictive toxicogenomics space modeling serves effectively to sensitive biomarker-based read across from capturing toxic mode-of-action of lowest-observable effect levels
*P. J. Kohonen, P. Nymark, V. Hongisto, R. Grafström

P01-010
Assessing Aflatoxin B1 exposure in humans by measuring Aflatoxin M1 in urine
*R. Ortiz-Martinez, M. C. De Luna-Lopez, A. G. Valdivia-Flores, T. Quezada-Tristan

P01-011
Regioselective synthesis of neoeriocitrin dihydrochalcone from naringin dihydrochalcone by Bacillus megaterium CYP102A1 and its effects on human cytochrome P450 activities
*H. T. H. Nguyen, C.-H. Yun

P01-012
Results from the Norwegian human biomonitoring study in the EuroMix project: Exposure to the pesticides boscalid and imazalil from the diet in Norway
*H. Dirven, F. Sonnet, A. K. Sakhi, C. Thomsen, T. Husøy
P01-013
Dietary exposure to phthalates in the European population from infants to the elderly
*C. Cascio, K. Volk, L. Castle, C. Tlustos, F. Poças, D. Arcella

P01-014
Hallmarks of ageing are interconnected in placental tissue and influenced by particulate air pollution exposure during pregnancy

P01-015
Selection process of relevant quantity data for the safety assessment of cosmetic products

P01-016
Effects of sterigmatocystin on antioxidative enzymes and expression of Hsps in male Wistar rats

P01-017
Combinatorial effects of pesticides on toxicologically relevant liver proteins in HepaRG cells
*F. F. Schmidt, A. Steinhilber, A. Mentz, J. Kalinowski, D. Lichtenstein, P. Marx-Stoelting, A. Braeuning, A. Lampen, T. Joos, O. Pötz

P01-018
GvHD: non-clinical findings in the development of CAR-T cells projects
G. Di Gallo, M. Magistrelli, G. Pennella, L. Mancini, M. Russo, E. Giannotti, *C. I. Bernardi

P01-019
Diesel exhaust particle-altered inflammatory gene expression in alveolar macrophage cells relevant for lung toxicity
D. I. Kim, *M.-K. Song, H.-S. Yang, K. Lee

P01-020
Multiplex miRNA profiling for biomarker discovery and verification studies using the FirePlex® platform
*M. Tackett, B. Heinrich, I. Diwan, G. Tejada, C. Rafferty, E. Atabakhsh, D. Pregibon

P01-021
Exposure of pregnant women to body moisturizer and anti-stretchmark care

P01-022
Optimization of a 5-Fluorouracil-induced intestinal injury model in mice to construct a multi-scale predictive model of drug-induced intestinal toxicity

P01-023
A randomised, controlled study to evaluate the effects of switching from cigarette smoking to using a Tobacco Heating Product on Biomarkers of Exposure to cigarette smoke toxicants in healthy subjects
*N. Gale, M. McEwan, G. Hardie, J. Ebajemite, O. M. Camacho, F. Lowe, C. J. Proctor
P01-024
Changes in the mouse fecal microbiome upon cigarette smoke exposure and effect reversal upon switching to a potential RRP or cessation

P01-025
Prediction of interethnic differences in acetylcholinesterase inhibition upon chlorpyrifos exposure
*S. Zhao, L. Kamelia, R. Boonpawa, S. Wesseling, B. Spenkelink, I. M. C. M. Rietjens

P01-026
Association between heavy metals in umbilical cord serum and DNA methylation of cord tissues in human

P01-027
This poster has been withdrawn.

P01-028
Chromosome damage in humans: from a group level indicator of genotoxic effects and cancer risk to an individual biomarker

P01-029
Updating strategies for nonnegative matrix factorization to integrate cross omics layers
*T. Kuijpers, J. C. S. Kleinjans, D. Jennen

P01-030
Using human biomonitoring for the risk assessment of polycyclic aromatic hydrocarbons in occupational exposures
*S. Viegas, B. C. Gomes, H. Louro, M. J. Silva, A. S. Joksić, T. Santonen

P01-031
Toxicity assessment caused by the insecticide methamidophos in bullfrog’s tadpoles
*L. I. Paulin, A. C. Razo, R. D. C. Guzmán, N. I. Romero, SECRETARÍA DE INVESTIGACIÓN Y POSGRADO (SIP20170116)

P01-032
Regucalcin expression profiles in formalin-fixed paraffin-embedded (FFPE) samples: histological and molecular assessments for detection of sex steroid illicit administration
A. Benedetto, E. Biasibetti, C. Beltramo, S. Peletto, E. Bozzetta, *M. Pezzolato

P01-033
Comparison of the tyrosinaemic potential from exposure to HPPD inhibitors of herbicidal & medicinal use
*M. Provan, J. Botham, P. Botham, M. Frericks, J.-C. Garcín, G. Semino-Beninel, J. Zimmermann

P01-034
Exploring the effect of anticancer drugs doxorubicin and mitoxantrone on cardiac mitochondrial plasticity using a proteomic approach
*S. R. Brandão, A. R. Mendes, F. D. Carvalho, M. D. L. Bastos, R. Ferreira, V. M. Costa

P01-035
Perfluorinated compounds in women of reproductive age exposed to contaminated drinking water in the Veneto Region, Italy
*A. Abballe, A. M. Ingelido, E. Dellatte, N. Iacovella, V. Marra, S. Valentini, E. De Felip
**P01-036**
Development of a dietary-PTU model of gradual thyroid disruption (hypothyroidism) in the mouse

L. Claustre, C. Vigué, C. Layssol, A. Bury, L. Mialon, N. Bourgès-Abella, *M. Kolf-Clauw*

**P01-037**
Activation of keratinocytes in response to multi-exposure of a cosmetic sensitizer in a reconstructed epidermis


**P01-038**
Roles of Nrf2 protein in environmental chemicals' toxicity: toxicogenomics data mining


**P01-039**
BMD Analysis of *in vitro* and *in vivo* whole transcriptome TempO-Seq dose response data

M. Raghunathan, *M. Babic, J. Yeakley, B. Seligmann*

**P01-040**
Development, testing, parameterisation and calibration of a human PBPK model for the plasticiser, Hexamoll® DINCH using in silico, in vitro and human bio-monitoring data

*G. Loizou, K. McNally*

**P01-041**
Identification of urinary metabolites of Diethylamino Hydroxybenzoyl Hexyl Benzotate (Uvinil A plus) using microsomes and electrochemistry – application in exposure assessment study following dermal application

*P. A. Dąbrowska, B. Wielgomas*

**P01-042**
This poster has been withdrawn.

**P01-043**
Prenatal exposure to parabens and triclosan and assessment of possible health impacts

V. Karzi, I. Katsikantami, M. Tzatzarakis, E. Vakonaki, *E. Jatrou, A. Stavroulaki, P. Kezonaki, S. Sifakis, A. Rizos, A. Tsatsakis*

**P01-044**
Assessment of drinking water chlorination by-products in view of multiroute exposure

*A. Drazdova, V. Girina, V. Buraya, A. Firago*

**P01-045**
Risk assessment of traditional alcoholic beverages


**P01-046**
Biodistribution of the new psychoactive stimulant 3,4-dimethylmethcathinone (3,4-DMMC) in Wistar rats assessed by gas chromatography-mass spectrometry (GC-MS)

*D. Rouxinol, D. C. Dias da Silva, C. Teixeira, A. C. Faria, J. P. Silva, F. D. Carvalho, M. D. L. Bastos, H. F. Carmo*
P01-047
Effect of polystyrene nanoplastics on the polychaete *Hediste diversicolor*: a multibiomarker approach
* M. S. S. L. Silva, M. Oliveira, P. Valente, D. López, E. Figueira, M. Martins, A. Pires

P01-048
Biomarkers of exposure to estrogen-derived reactive metabolites: mass spectrometry-based methodologies to identify protein covalent adducts
C. Charneira, S. A. Pereira, * A. M. M. Antunes

P01-049
DNA methylation patterns associated with seric metals concentration. Accessing effects of pollutants on human epigenetic modifications.

P01-050
Biomonitoring of phthalate metabolites in urine from pregnant women in Crete, Greece
I. Katsikantami, V. Karzi, M. Tzatzarakis, S. Sifakis, P. Xezonaki, A. Rizos, *A. Tsatsakis

P01-051
Selective citation in scientific literature on the human health effects of bisphenol A
M. Urlings, B. Duyx, G. Swaen, L. Bouter, *M. Zeegers

P01-052
This poster has been withdrawn.

P02 - CLINICAL TOXICOLOGY
1st Floor

P02-001
Target safety assessments: Evaluation of the toxicological risk of targeting FRS (Phenylalanyl-tRNA Synthetase) in the treatment of malaria
J. Barber, D. Baud, P. Willis, C. Sadler, * R. Roberts

P02-002
Blood level measurement of urea and creatinine in methamphetamine abuser patients
* A. Ebadollahinatanzi, G. Arabrahmatipour

P02-003
Determination of the most susceptibility of bacteria to antimicrobial agents in endophthalmitis
* G. Arabrahmatipour, A. Ebadollahinatanzi

P02-004
Predicting the need for hospitalization of intoxicated patients: a pilot study
* C. C. Hunault, L. Hondebrink, S. J. Rietjens, D. Dekker, I. de Vries, D. W. de Lange

P02-005
The carbonylation pattern in type 2 diabetes using capillary electrophoresis
* C. Purdel, I. Dima-Adam, G. Moldoveanu, D. Margina

P02-006
Spectrum of acute drug toxicity during the most popular house and techno party in the world
* K. Slankamenac, D. Müller, A. Herzog, H. Kupferschmidt, A. von Eckardstein, D. Keller
P02-007  
Prevalence of clinical intoxications: a study of drug intoxications profile in an emergency department of a Portuguese hospital  
P. Ferreira, C. Fonseca, E. Gallardo. *A. R. T. S. Araujo

P02-008  
Nutritional modulation of environmental toxicity and implications in inflammatory diseases  
*B. Hennig, M. Petriello

P02-009  
Toxicity / adverse effect predictions based on computational toxicology techniques and large-scale databases  
*Y. Uesawa, *Y. Uesawa

P02-010  
Transcriptomic approach to improve the understanding of 5-fluorouracil (5-FU) induced intestinal toxicity in vitro and in vivo  

P02-011  
Metabolomics evaluation of urine from PCa patients by GC-MS and NMR spectroscopy  
*A. R. Lima, J. Pinto, C. Jerónimo, R. Henrique, M. D. L. Bastos, M. Carvalho, P. Guedes de Pinho

P02-012  
The role of exosomes from human MSC 3D cultures in wound healing  

P02-013  
Manganese in the diets of infants and young children: A review of manganese in the diets of infants and children by the UK Committee on Toxicity.  
*F. Hill, B. Doerr, R. Acheampong, J. Shavila, D. Gott, On behalf of the Food Standards Agency (FSA, Chemical Risk Assessment Unit) and the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment (COT)

P02-014  
Poisons and poisonings by snakes of medical importance in Angola  
*P. R. Oliveira, M. D. L. Bastos, D. V. Tambourgi

P02-015  
A fatal case related to heroin injection  
*C. Jing, Z. Y. Feng, W. R. Hua, W. A. Hua, Z. Bo, L. J. Yi

P02-016  
Olanzapine induced hepatotoxicity is investigated by individual susceptibility and metabolomics  
*B. Karahalil, A. Elkama, M. Ak, E. Nemutlu, N. İlik

P02-017  
This poster has been withdrawn.

P02-018  
This poster has been withdrawn.

P02-019  
Screening and regulatory approaches to risk assess in vitro chemical mediated changes in thyroid function  
*M. Princivalle
P02-020
Using of liquid mass spectrometry for detecting testosterone in blood plasma
*T. Yevtushenko, M. Prodanchuk, A. Grinko, V. Mikhailov, N. Shepelskaya, Y. Kolyanchuk, O. Kravchuk

P02-021
Development of a new chromatographic screening method for the determination triazole metabolites in rat urine using High-resolution Hybrid LC-Orbitrap.
*P. Aleinov, M. Prodanchuk, O. Kravchuk, A. Grinko, O. Kuznecova

P02-022
Activation of xenobiotic-sensing nuclear receptor PXR increases blood pressure and stimulates plasma renin activity
*F. Hassani-Nezhad-Gashti, J. Hakkola, J. Hukkanen

P02-023
This poster has been withdrawn.

P02-024
Severity use of drugs of abuse and cell aging

P02-025
This poster has been withdrawn.

P02-026
Detection of colchicine from biological samples of two death by QuEChERs-UP-LC-MS/MS
*H. Jian, W. Fanglin, L. Yujing, R. Xinxin, Z. Shihao

P02-027
Xanthones as potential P-glycoprotein modulators at the intestinal barrier: in vitro and ex vivo studies

P02-028
Poisons centre enquiries relating to synthetic cannabinoids receptor agonists (SCRAs) in the UK, 2009-2018.
*I. M. Al-Banaa, A. Blain, S. Rushton, S. Thomas

P02-029
P-glycoprotein modulation by xanthonic derivatives: a strategy to fight Alzheimer’s disease
*E. Gil-Martins, D. J. Barbosa, E. Sousa, D. Resende, F. Remião, R. Silva

P02-030
This poster has been withdrawn.
P03-001
Increased consumption of seaweed in human nutrition: a new source of exposure for toxic element?


P03-002
Plant Protection Products: an ecotoxicological assessment of active substances and associated metabolites

*A. Domingues, S. Sousa, B. Calçada

P03-003
Embryotoxicity of selected organic UV filters on zebrafish (Danio rerio)

*J. Blahova, L. Plhalova, J. Cahova, C. Cicilova, C. Faggio, Z. Svobodova

P03-004
POPs in muscles of farmed deer


P03-005
Study of the impact of gold nanoparticles on representative of aquatic ecosystem

*D. Hlávková, P. Palíková, H. Čaloudová, B. Havelková, M. Beklová

P03-006
Reproductive and developmental toxicity of tebuconazole to Caenorhabditis elegans

Q. Lu, Y. Bu, *R. Liu

P03-007
Comparison of the ecotoxicological effects of PPCPs on Artemia franciscana and Aliivibrio fischeri in automated and manual systems

*G. Mascilongo, S. Bodini, F. Di Giacinto, M. Berti, E. Moscetta, D. Žeža, P. Moscetta, N. Ferri

P03-008
A novel sensor for behavioural toxicity testing with freshwater and marine bivalves: preliminary results

*F. Di Giacinto, L. Carbone, G. Mascilongo, M. Berti, N. Ferri

P03-009
Perchlorate toxicity in organisms from different trophic levels

*R. L. Acevedo Barrios, C. Sabater Marco, J. Olivero Verbel

P03-010
A combined in vitro/risk assessment approach to identifying aquatic environmental risks of cosmetic products: a case study of UV filters


P03-011
Effect of the electrochemical advanced oxidation process on the ecotoxicity of a solution composed of norfloxacin in presence of sodium sulphate

*M. T. Montañés, M. García-Gabaldón, L. Roca-Pérez, J. J. Giner-Sanz, J. Mora, V. Pérez-Herranz

P03-012
Evaluation of the toxic effects of livestock drinking water by in vitro studies

*F. Pennisi, D. R. Francese, M. Pezzolato, K. Varello, D. Sulla, M. Prearo, M. Messina, M. C. Abete, D. Meloni, E. Bozzetta
P03-013
Assessing the impact of the lead waste on environmental objects
*V. Ioda, O. Boris, T. Gomolko

P03-014
Ecological risk assessment of pesticides in groundwater in Saiss plain of Morocco

P03-015
Comparing approaches to acute fish toxicity testing across sectors and regions to identify opportunities to advance the 3Rs
*N. Gellaty, N. Burden, F. Sewell

P03-016
Pharma pollution as a selective pressure
*M. Rodda, E. Gillio Tos, L. Brunasso Cattarello, V. Bortolot, A. Conto

P04 - ENVIRONMENTAL TOXICOLOGY
2nd Floor

P04-001
This poster has been withdrawn.

P04-002
PM2.5 exposure impairs sperm quality through testicular damage dependent on NALP3 inflammasome in mouse
*R. Zhang

P04-003
A case report of unknowing ingestion of Brugmansia Suaveolens leaves presenting with delirium in Sri Lanka
*K. P. Jayawickreme, K. V. Janaka, S. Subasinghe

P04-004
Establishment of an animal model of allergic inflammation caused by atmospheric dust
*A. Onodera, M. Nagaoka, Y. Meguri, A. Takemura, Y. Kawai

P04-005
Biological response modulation of human reconstituted airway epithelium repeatedly exposed to PM_{0.3-2.5}
*S. Achard, E. Seurat, S. Achawi, A.-L. Schang, A. Verdin, F. Cazier, D. Courcot

P04-006
Toxicity of nonylphenol and nonylphenol ethoxylate in Caenorhabditis elegans
*A. C. De la parra Guerra, S. Stürzenbaum, J. Olivero Verbel
**P04-007**
The association of exposure to fine airborne particulate matter with cardiovascular diseases in Beirut Lebanon
*N. K. Zgheib, A. Imad, H. Ismaeel, K. Badr, N. Saliba, I. Lakkis*

**P04-008**
Environmental pollution: a 3D skin model to assess protective properties of cosmetic ingredients
F. Richard, T. Creusot, A. Josseaume, A. Thelu, L. Beaudequin, M. Floreani, S. Catoire, *H. Ficheux*

**P04-009**
Effect of ferulic acid on airway damage and the change of TGF-β1/Smads signaling pathway induced by atmospheric PM2.5 in asthmatic rats
*X. Zhao, Y. Wang, W. Lao, Y. Zhou*

**P04-010**
Modelling of uptake, depuration and bioconcentration of arsenic, zinc and copper mixtures in juvenile milkfish (*Chanos chanos*)
*M.-C. Lin, Y.-M. Yeh*

**P04-011**
This poster has been withdrawn.

**P04-012**
Mercury speciation of preserved historical sludge to estimate risks from sludge entrapped under the reclaimed area of Minamata Bay, Japan
*M. Sakamoto, T. Itai, K. Marumoto, A. Matsuyama*

**P04-013**
Toxicity of diuron metabolites in human cells
*A. M. Mohammed, M. Huovinen, K. Vähäkangas*

**P04-014**
Distribution of cyfluthrin in brain regions, induction of dopamine depletion and up-regulation of oxidative stress and inflammation markers
*I. Ares, J. L. Rodríguez, M. Martínez, B. Lopez-Torres, M. R. Martínez-Larrañaga, A. Anadón, M. A. Martínez*

**P04-015**
Effect of prenatal treatment with valproic acid on offspring investigated by phase contrast X-ray CT
*T. T. Lwin, A. Yoneyama, T. T. Win Shwe, H. Watanabe, K. Hyodo, T. Takeda*

**P04-016**
The toxic effects and underlying mechanisms of PM$_{2.5}$-induced cardiomyocytes apoptosis and cardiac dysfunction
X. Yang, M. Man, P. Huang, J. Duan, *Z. Sun*

**P04-017**
Cigarette smoke extract produces superoxide in aqueous media by reacting with bicarbonate
H. Jeong, J.-M. Park, Y.-S. Seo, S.-J. Choi, *M.-Y. Lee*

**P04-018**
Chemical characterization of industrial- and road traffic-influenced fine particles (PM$_{0.3-2.5}$) and impact on xenobiotic metabolizing enzymes gene expression in human reconstituted airway epithelium
*A. Verdin, S. Achard, G. Tremolet, E. Seurat, D. Dewaele, L. Courcot, D. Courcot, F. Cazier*
P04-019  Cord blood acrylamide levels and birth size, and interactions with genetic variants in acrylamide-metabolizing genes
*J. Hogervorst, T. Nawrot

P04-020  Health risks associated with cigarette sidestream smoke inhalation
*L.-A. Li, H.-J. Liu, H.-L. Lee

P04-021  Convolution neural networks for training the unbalanced toxicity assessment data and analyzing chemical functional group
*Y. O. Lee, Y. Kim

P04-022  Explanation of estrogenic activity in waste water treatment plant effluents
*T. Černá, J. Semerád, T. Cajthaml

P04-023  Analysis of the biological effects of Persistent Organic Pollutants (POPs) on human leukocyte cell lines and peripheral blood mononuclear cells
*S. M. Vidali, P. Georgiadis, D. Stefanos, D. Vlastos

P04-024  Assessment of Roundup® cardiotoxicity on guinea-pig isolated Langendorff perfused heart and human Induced Pluripotent Stem cells derived cardiomyocytes
*R. Printemps, S. Guilbot, H. Didier, M. Le Grand

P04-025  Toxicity and degradability of widely used personal care products
*L. Linhartová, K. Michalíková, M. Ezechiaš, T. Cajthaml

P04-026  The novel mathematical model for the quantitative analysis of antagonist-receptor interactions
*M. Ezechiaš, T. Cajthaml

P04-027  Cellular response and extracellular vesicles characterization of human macrophages exposed to PM$_{2.5}$
*P. Martin, A. Héliot, G. Trémolet, Y. Landkocz, D. Dewaele, F. Cazier, F. Ledoux, D. Courcot

P04-028  The influence of the Cucurbitaceae and their selected plant secondary metabolites on structurally related phenoxy acid herbicides removal and phytotoxicity mitigation
*E. Mierzejewska, W. Tóloczko, M. Tankiewicz, M. Urbaniak

P04-029  Toxic effects on Caenorhabditis elegans from sedimented dust in an urban area of northern Colombia
*J. A. Osorio Martinez, A. C. De la parra Guerra, M. Duran Izquierdo, J. de la Rosa, J. Olivero Verbel

P04-030  Toxicity of organic matter originated from Microcystis aeruginosa
*S. Šilhavecká, T. Cajthaml, J. Načeradská, M. Pivokonský

P04-031  Aromatase activity in the presence of penconazole and essential metals
*J. Jaklová Dyttrová, M. Jakl
P04-032  
Migration of pesticide of the derivative class of phenoxyacetic acids in soil-water system  
*V. N. Rakitskii, T. Sinitskaya, N. Fedorova, I. Gromova, L. Goryacheva*

P04-033  
Newborn telomere length and the prenatal exposome: findings from the ENVIRONAGE birth cohort  
*D. S. Martens, T. S. Nawrot*

P04-034  
Activation of NRF2 and AHR signaling pathways and autophagy by ambient fine and quasi-ultrafine particles in human bronchial epithelial BEAS-2B cells  

P04-035  
Total arsenic and arsenic speciation of cereals and seaweeds in South Korea  
*K.-W. Lee, S. Choi, M.-H. Kim*

P04-036  
A 28-day repeated oral dose toxicity study of 5-ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphinan-5-yl)methyl methyl methylphosphonate in mice  
*S. Takasu, M. Tohnai, Y. Ishii, A. Kijima, K. Ogawa, T. Umemura*

P04-037  
Pesticide residues in peppermint, chamomile and bladder herbal teas sold in Estonia  
*K. Eha, L. Parts*

P04-038  
The *Fusarium* mycotoxins effect on glutathione system in broiler chicken  
*S. Kulcsár, B. Kövesi, M. Mézes, K. M. Balogh, E. Zándoki*

P04-039  
Food levels of 9 bisphenol analogues in Catalonia (Spain): Comparing canned vs non-canned foodstuffs  
*J. L. Domingo, N. González, S. Cunha, C. Monteiro, J. O. Fernandes, M. Marqués, M. Nadal*

P04-040  
Levels of *Alternaria* toxins in feed for farm animals – a preliminary study  
*P. Jedziniak, L. Panasiuk*

P04-041  
Assessment of heart rate variability under exposure to GSM 900-MHz signal from mobile phone in healthy young people  
*B. Selmaoui, S. Andrinome, E. Stephan-Blanchard, F. Telliez*

P04-042  
Aluminum increases colorectal cancer cell metastasis through Smad2/3 signaling pathway  
*C. H. Jeong, H. C. Kwon, D. H. Kim, S. G. Han*

P04-043  
Developmental and toxicological joint effects of selected fungicide mixtures in zebrafish embryo  
*C. Venâncio, R. Vieira, S. M. Monteiro, L. Félix*

P04-044  
Used of *urtica dioica* and *capsicum frutescens* for pathogens' management  
*S. Benani, A. Menouni, A. Bouchelta*
P04-045
Copper exposure reduces the lifespan in *Caenorhabditis elegans*
Y. Zhang, C. Zhao, H. Zhang, Y. Pu, *L. Yin

P04-046
Mercury-induced cellular damage is associated with enhanced mitochondrial DNA damage, oxidative stress and mitochondrial dysfunction
*S. B. S. Rao, S. Das, M. B. Joshi

P04-047
This poster has been withdrawn.

P04-048
Lithium, selenium, cobalt and other elements in scalp hair from a group of young Spanish adults

P04-049
Effect of the bread-making process on mycotoxin levels

P04-050
Association between blood lead, high sensitivity C-reactive protein and metabolic syndrome
*W.-J. Choi

P04-051
Proposal of next-generation system in big data era based on chemical data science – integrated toxicity research support system adapted to the new era
*K. Yuta

P04-052
First detection of *Acanthamoeba* spp. and *Balamuthia mandrillaris* in different water ecosystems in Leicestershire (UK)
*U. Anjum, A. Magnet, M. C. Lobo-Bedmar, A. Peña-Fernández

P04-053
Exposure to TBBPA impedes vascular growth and disturbs metabolic pathways during early development in zebrafish
*Y. Wei, X. Zhong, J. Kang, J. Qiu, W. Ke

P04-054
Effect of DEHP and DBP on steroidogenesis of adrenal gland in male Wistar rats
*S. Ahmad, S. Raisuddin

P04-055
Heavy metal evaluation in rescue dogs
*M. M. Melo, S. E. M. T. Branco, A. G. Costa, M. R. Lempeck

P04-056
Evaluation of the effect of perfluorooctanesulfonate (PFOS) on DNA damage and highly reactive oxygen species generation in human peripheral blood mononuclear cells (*in vitro* study)
*K. J. Mokra, P. Sicińska, M. Jarosiewicz, B. Bukowska, J. Michałowicz

P04-057
Environmental factors related with chronic kidney disease of unknown origin (CKDu) of Centro America: relationship of 28 element profile concentrations in drinking water with the prevalence in communities of Nicaragua
P05 – GENOTOXICOLOGY AND CARCINOGENESIS
2nd Floor

P05-001
Genotoxicological studies of novel food sources: alkaline comet assay
*S. I. Shestakova

P05-002
Safety assessment of genetically modified soybean: potential genotoxicity
*N. V. Tyshko, S. Shestakova, E. Sadykova, N. Nikitin

P05-003
Influence of genotoxic arsene isomers on DNA strand break repair mechanisms
*L. Hermes, K. Lausen, S. Haupenthal, M. Esselen

P05-004
Comparative study of Salmonella typhimurium tester strains TA1537, TA97 and TA97a in mutagenicity evaluation of tobacco products
*Y. Sakai, T. Ishii, Y. Takahashi, T. Hashizume, T. Fukushima

P05-005
In situ detection of DNA double strand breaks by immunofluorescent γ-H2AX staining in mice exposed to multiwalled carbon nanotubes

P05-006
Value of cooperation of industry & regulatory agencies example: cancerogenicity
*G. H. Bode, S. Wagner

P05-007
Possible threshold setting for aniline toxicity with transgenic Big Blue® Fischer344 rats

P05-008
Exposure to dioxin modulated distinct responses of two subtypes of diffuse large B-cell lymphoma cells determined by computational prediction and gene expression profile
*C.-Y. C. Chuang, Y. Wang, C.-Y. Li, Y.-Y. Li, Y.-K. Chen

P05-009
Mutagenicity assessment of a battery of compounds using a miniaturized-Ames test

P05-010
Mode of action and human relevance for amisulbrom-induced rodent liver tumors
*S. Hayashi, K. Kusakari, M. Kimura, C. Hayakawa, Y. Kuroda, K. Takeuchi, S. Furukawa

P05-011
Triorganotin derivatives: time-dependent expression of vimentin, annexin A5 and selected nuclear receptors mRNA in MDA-MB-231 breast cancer cells

P05-012
Genotoxicity, homocysteine, dietary micro-nutrients and MTHFR gene polymorphisms in psoriatic patients treated by Goekerman regimen
P05-013
Genotoxic effects of different technical products of dimethoate
*N. A. Ilyushina, O. Egorova, G. Masaltsev, N. Averianova, V. Rakitskii

P05-014
Cylindrospermopsin induces genotoxic damage in rats by the comet and micronucleus tests

P05-015
Genotoxic and genoprotective effects induced by a stilbene extract in HepG2 cells
*C. Medrano Padial, M. Puerto, E. Cantos-Villar, T. Richard, A. M. Cameán-Fernández, S. Pichardo

P05-016
A proposed workflow, considering non-testing methods, to qualify non-genotoxic impurities
*M. Fuart Gatnik, S. Kovarich, L. Ceriani, R. Calabrese, L. Broccardo, L. Sartori

P05-017
Estragole DNA adduct formation in different liver cell models
*S. Yang, S. Wesseling, I. M. C. M. Rietjens

P05-018
This poster has been withdrawn.

P05-019
Rhus coriaria extract: protective effect against UVA irradiation in human dermal microvascular endothelial cells (HMEC-1)
*L. Marabini, G. Melzi, F. Lolli, S. Khalilpour, M. Marinovich

P05-020
UV-B damage: a potential molecular play of Vitis vinifera L. extract
F. Lolli, L. Marabini, G. Melzi, S. Piazza, *M. Marinovich

P05-021
Difenoconazole – liver tumour mode of action and human relevance assessment
R. A. Currie, *H. K. Bhandal, R. C. Peffer

P05-022
A novel extension of the ToxTracker genotoxicity assay identifies aneugenic and clastogenic properties of chemicals.
I. Brandsma, R. Derr, N. Moelijker, *G. Hendriks

P05-023
In vitro treatment of DMBA to murine mammary tissue-derived organoids induced adenocarcinomas/squamous cell carcinomas after their subcutaneous injection to nude mice
*T. Imai, R. Masui, R. Nakanishi, Y. Machida, M. Ochiai, M. Naruse

P05-024
Generating a historical control database for the comet assay of mouse testes
*M. Young, K. Pant, S. Bruce, R. Kulkarni, S. Springer, M. Klug Laforce

P05-025
Exosome-mediated horizontal gene transfer: a possible new risk for genome editing
*R. Ono, Y. Yasuhiko, K.-I. Aisaki, S. Kitajima, J. Kanno, Y. Hirabayashi
P05-026  Mixture effects on BP-dependent AhR activation, metabolite and DNA adduct formation  
*L. Gödtke, A. John, A. Braeuning, A. Seidel, A. Lampen, S. Hessel-Pras

P05-027  Preclinical safety assessment of aqueous fern extracts  
*L. Lauer, I. Zilkowski, J. Bertrams, C. Turek, M. B. Müller, N. Mörböt, P. Vögele, F. C. Stintzing

P05-028  Characterization of enzymes oxidizing the tyrosine kinase inhibitor vandetanib and elucidation of the high efficiency of cytochrome P450 3A4 to generate N-desmethylvandetanib  

P05-029  Migration and Invasion of human renal cancer cells are impaired upon treatment with thymoquinone  

P05-030  Uterine adenocarcinomas in isopyrazam-treated rats occur via a mode of action that has no relevance to humans  

P05-031  The study of the cytotoxicity of zoledronic acid in a chronic experiment  
*R. V. Bogdanov, V. Y. Afonin, P. N. Lepeshko, E. V. Chernyshova

P05-032  Improving the predictive performance of in silico aromatic amine mutagenicity alerts through the analysis of proprietary data.  
*R. E. Tennant

P05-033  Genotoxicity of synthetic pyrethroids in bone marrow of mice micronucleus test and fluctuation of Ames assay  
*O. Kravchuk, N. Nedopytanska, T. Tkachuk, V. Bubalo, O. Tkachuk, O. Zubko, O. Kostik

P05-034  DNA damage signaling and genotoxic effects induced by complex mixtures of PAHs generated by biomass burning air particulate matter in human lung cells  
*M. F. de Oliveira Galvão, I. Sadiktsis, S. R. Batistuzzo de Medeiros, K. Dreij

P05-035  Genotoxic safety evaluation of termite mushroom Termitomyces Albuminosus  
*J. H. Yoon, Y. S. Kim, E. A. Kwon, J. W. Yun, J. S. Park, B. C. Kang

P05-036  Development of a biomolecular data computing environment for computer predicted adverse outcome pathways: benzene as a case study  
S. Krishnan, M. van Stee, S. Ruiter, J. Westerhout, B. Schaddelee-Scholten, *R. Stierum

P05-037  Combined Pig-a, micronucleus and comet: an in vivo genotoxicity assessment of benzene and cyproterone acetate using a triple endpoint approach  
**P05-038**  
This poster has been withdrawn.

**P05-039**  
Use of (Q)SAR models to investigate potential CMR properties of e-liquid ingredients  
*D. Zarini, S. Zucchi, I. Trampolin, A. Orro, E. Ferri*

**P05-040**  
This poster has been withdrawn.

**P05-041**  
This poster has been withdrawn.

**P05-042**  
Evaluation of the MultiFlow platform to supplement the in vitro micronucleus test with genotoxic mode of action-based information  
*F. Van Goethem, K. De Vlieger, S. Bryce, J. Bemis, N. Hall, J. Van Gompel, S. Dertinger, A. De Smedt*

**P05-043**  
Validation of the *in vivo* comet assay in various organs of Wistar rats  
*C. Freitag, M. Eberl, H. Gehrke*

**P05-044**  
Applicability of *in-silico* tools to predict mutagenic activity of pesticides  
*F. Frenzel, K. Herrmann, A. Holzwarth, S. Rime, B. Fischer, P. Marx-Stoelting, C. Kneuer*

**P05-045**  
Expression of γ-glutamyltransferase in rats’ hepatocytes after carbendazim exposure  
*V. Lisovska, E. Bagley, N. Nedopytanska, O. Reshavska*

**P05-046**  
*In vivo* evaluation of glyphosate genotoxicity  
*V. Karzi, P. Stivaktakis, M. Tzatzarakis, E. Vakonaki, C. Chalkiadaki, A. Kalliantasi, P. Apalaki, M. Panagiotopoulou, I. Tsatsakis, I. Fragkiadoulaki, A. Tsatsakis*

**P05-047**  
Prognostic efficacy of cellular test-models in assessing the mutagenicity of chemicals  
*M. Anisovich, N. Dudchik, I. Ilyukova*
P06 – IN VITRO TESTING

1st Floor

P06-001
Cytoprotective autophagy protects cardiac cells from Dichlorvos-induced ER stress and necroptosis
*I. Ben Salem, M. Boussabbeh, J. Pires Da Silva, H. Bacha, S. Abid, C. Lemaire

P06-002
Dried blood spots combined to an UPLC-MS/MS method for the simultaneous determination of antihypertensive drugs in forensic toxicology
*Y. Zhang, J. Chang, X. Wu, L. Dong

P06-003
Assay of staphylococcal enterotoxin B by a QCM biosensor
*M. Pohanka

P06-004
Solid-phase microextraction as a universal tool for quantitative in vitro-to-in vivo extrapolation studies
*L. Henneberger, M. Mühlenbrink, B. Escher

P06-005
Generation of proliferating mouse hepatocytes (upcyte® mouse hepatocytes)
*N. Nagy, T. Evenburg, S. Rohrmoser, A. Noerenberg, T. Johannsen

P06-006
Analysis of hepatotoxic mixture effects of pesticides in vitro
*A. Braeuning, D. Lichtenstein, A. Mentz, F. Schmidt, J. Kalinowski, O. Pötz, A. Lampen

P06-007
Evaluation of primary human corneal epithelial cell lines from three different suppliers for use in in vitro mechanistic studies
*C. Taylor, M. Burman, M. Vidgeon-Hart, P. McGill

P06-008
In vitro assays in a high-throughput screening platform – strengths and challenges
*M. Xia

P06-009
Two read-across case studies using IATA approach focused on biological similarity
*M. OKamoto, S. Nakagawa, Y. Nukada, O. Morita

P06-010
Toxicological comparison of cigarette smoke and next generation product aerosol bubbled extracts using high content screening
*E. Treles Sticken, R. Wieczorek, L. M. Bode, L. Simms, M. Stevenson

P06-011
Evaluation of the biological effects of tobacco vapor and cigarette smoke using three-dimensional-reconstructed tissue from human airways
*T. Kuarchi, K. Yoshida, S. Ishikawa

P06-012
Assessment of skin sensitising potential of agrochemical formulations using OECD accepted in vitro test methods
J. Ball, H. Scott, E. Smith, S. Bennett, W. Masinja, C. Elliott, M. Tate, *M. Cumberbatch
**P06-013**
Application of adverse outcome pathways and quantitative in vitro-in vivo extrapolation (QIVIVE) modelling for risk assessment based on in vitro data

*A. Mally, B. Birk, S. Di Fiore, B. Ellinger, S. Jarzina, P. Reiser, F. Taverne, N. Kramer*

**P06-014**
The kinetic direct peptide reactivity assay (kDPRA): an in chemico method to characterize the skin sensitization potency of chemicals


**P06-015**
Improving the prediction of hepatotoxicity: impact of protein binding in the generation of in vivo relevant intracellular concentrations

*K. R. Brouwer, J. Jackson, R. St. Claire III, R. Laethem*

**P06-016**
Safety testing of cosmetics for eye irritation in vitro: evaluation of results from over 40 studies

*E. H. Theophilus, V. Rana, D. Mihai, N. Habeeb, T. Suwa, B. Yasso, B. Varsho, G. DeGeorge*

**P06-017**
Donor-to-donor variability of reconstructed human airway tissues in response to cigarette smoke

*S. Mori, K. Matsumura, K. Ishimori, S. Ishikawa, S. Ito*

**P06-018**
hTERT immortalized adult dermal melanocytes: an in vitro cell model for the study of skin pigmentation

J. L. Rodriguez, C. Zou, R. Menth, *M. Judge*

**P06-019**
Screening of the cytotoxic, genotoxic, apoptotic and cell cycle effects of *Rubus rosaefolius* (Rosaceae) leaf extract on human HepG2/C3A cells

*E. L. Maistro, A. P. Quadros, L. Almeida, I. Baraldi, R. Niero, M. Petreanu, M. Mantovani*

**P06-020**
The THP-1 toolbox: a new method that integrates the 4 key events of skin sensitization


**P06-021**
Application of the human cell line activation test to predict the skin sensitization potential of DDAC, PHMG, troclosan and propylene glycol

*S. Yang, R. Gautam, A. Maharjan, J. Jo, C. Kim, M. Acharya, H. Kim, Y. Heo*

**P06-022**
Investigation of the genotoxic potential of green smoothies in silico and in vitro

J. Reinhard, M. Frericks, T. Hofmann, M. Speitling, *B. van Ravenzwaay*

**P06-023**
Vascularised cardiac tissue model for the assessment of efficacy and cardio toxicity

*T. A. Tolvanen, M. Toivanen, T. Toimela, T. Heinonen*

**P06-024**
*In vitro* viability tests to evaluate Fe3O4 NPs cytotoxicity in human mesenchymal stem cells

U. De Simone, *F. Caloni, M. Roccio, A. Spinillo, M. A. Avanzini, T. Coccini*
P06-025
Contraction properties of human in vitro cardiac tissue model
*M. Toivanen, T. Tolvanen, J. Virtanen, S. Tuukkanen, I. Miinalainen, L. Eklund, T. Toimela, T. Heinonen

P06-026
Identifying and characterising stress pathways of concern for consumer safety risk assessments

P06-027
Three-dimensional in vitro co-culture model of adipocytes and endothelial cells using magnetic levitation: toxicological evaluation of caffeine
*P. S. Lopes, A. Ueoka, L. Fernandes, B. Sufi, W. Magalhães, N. Andreo-Filho, V. R. Leite-Silva

P06-028
Prediction of skin sensitization potency for risk assessment using noble biomarkers IL-1β and iNOS
*M. K. Kim, Y. C. Kwon, J. S. Kang, B. M. Lee

P06-029
Mechanism-based alternative method for developmental toxicity testing in zebrafish embryos
*R. Narumi, J. Tasaki, S. Liu, N. Ikeda, O. Morita

P06-030
Data sharing on the INTERVALS platform and meta-analysis of in vitro toxicology assessment of diverse e-liquid and heat-not-burn products
*S. Boue, A. Stan, J. Hoeng, M. Peitsch

P06-031
The molecular basis for a functional dermal barrier in two biotechnologically produced human skin equivalents: the Phenion® FT Skin model and the OS-REp model

P06-032
Using 3D human liver microtissues to model NASH progression in vitro for drug discovery and safety testing

P06-033
The mixture of persistent organic pollutants present in human follicular fluid stimulates the estradiol secretion by adult granulosa tumor spheroids via the classic and non-classic estrogen receptors
*A. Ptak, J. Gogola, M. Hoffmann, S. Nimpsz

P06-034
Characterization of a human proximal tubule epithelial cell/fibroblast transwell co-culture system
*F. Piossek, N. Schlichenmaier, S. Beneke, D. Dietrich

P06-035
Problem with incorrect classification of substances in terms of irritation or serious eye damage using Short Time Exposure test method
*D. Krakowian, A. Daniel-Wójcik, D. Gądarowska
P06-036
Integration of extracellular metabolomics and intracellular transcriptomics to unravel the mechanisms of 5-FU-induced gastrointestinal toxicity

P06-037
The role of bile salts in cholestatic injury and fibrosis using a human 3D in vitro model
*C. J. Messner, L. Mauch, L. Suter-Dick

P06-038
Effects of electrospun nanofiber curcumin on bisphenol A exposed Caco-2 cells
*Y. Turgut, B. Yurdakok-Dikmen, R. Uyar, M. Birer, F. Acarturk, A. Filazi

P06-039
In vitro modelling of the GFB – characterization of a podocyte/endothelial cell co-culture system
*N. Schlichenmaier, F. Piossek, S. Beneke, D. Dietrich

P06-040
The development of a generic physiologically based kinetic model to predict in vivo endocrine activity in rats based on in vitro bioassays
*M. Zhang, B. van Ravenzwaay, I. M. C. M. Rietjens

P06-041
Particles from different pyrotechnic smokes induced anti-oxidant and inflammatory responses in primary pulmonary cells after air-liquid interface exposure

P06-042
Optimization of spectrophotometric direct peptide reactivity assay for skin sensitization
*S.-A. Cho, B. H. Kim, S. An

P06-043
Toxicological risk assessment of pyrrolizidine alkaloids – investigations of the hepatotoxic and genotoxic potential
*L. Rutz, L. Gao, J.-H. Küpper, D. Schrenk

P06-044
Electrophysiological evaluation of LUH-MES cells as model of human dopaminergic neurons
*U. Kraushaar, D. Loser, T. Danker, C. Moeller, M. Leist

P06-045
New-tiered approach to in vitro predictive toxicity screening using retrospective analyses
*A. Marmugi, B. Kiehr, H. Ahrens, J.-C. Garcin, A. Becker

P06-046
Using the real architecture for 3D tissue (3D RAFT™) system as a versatile tool to build in vitro models relevant for toxicity testing

P06-047
Implementation of a mucus containing advanced in vitro model of the human intestinal barrier for a more predictive evaluation of food grade nanomaterials
*C. Hempt, C. Hirsch, P. Wick, T. Buerki-Thurnherr
**P06-048**
In vitro toxic assessment of pyrotechnic red signaling smoke particles
C. Corbière, M. Mekki, C. Rozay, F. Cazier, D. Dewaele, C. Logie, J.-M. Vaugeois, V. André, *C. Monteil*

**P06-049**
Quantification of seizurogenic activity with multiwell microelectrode array technology for proconvulsant risk assessment.
*K. Gkatzi*, D. Millard, H. Hayes, A. Nicolini, C. Arrowood, J. Ross

**P06-050**
Prediction of human cardiotoxicity of methadone by a combined in vitro – physiologically based kinetic (PBK) modelling-based reverse dosimetry approach
*M. Shi*, M. Strikwold, I. M. C. M. Rietjens, H. Bouwmeester

**P06-051**
This poster has been withdrawn.

**P06-052**
Hyperoxia reduces benzo[a]pyrene-induced toxicity by increasing the activation of Nrf2 in HaCat cell
*Y. C. Kwon*, M. K. Kim, J. S. Kang, B. M. Lee

**P06-053**
High content in vitro assessing of cardiotoxic risk and adjuvant chemotherapy effects in breast cancer
*E. Dragicevic*, K. Juhasz, O. Reinhardt, U. Thomas, S. Stölzl-Feix, F. Alves, N. Fertig

**P06-054**
In vitro skin sensitization testing of medical devices using GARD®

**P06-055**
Efficient transfection and sustained long term functionality of primary human hepatocytes

**P06-056**
Evaluation of an in vitro assay for skin sensitization of medical devices
*C. Pellevoisin*, F. Cottrez, J. Johansson, E. Pedersen, K. Coleman, H. Groux

**P06-057**
Study of the effect of quaternary ammoniums on dendritic cells in vitro
*M. Peyneau*, M. Zeller, M. Pallardy, S. Chollet-Martin, L. de Chaisemartin, S. Kerdine-Römer

**P06-058**
Human-based primary neural progenitor cells as a 3D in vitro model to investigate neurodevelopmental toxicity of Chinese herbal medicines
*J. Klose*, U. Hübenthal, J. Tigges, L. Li, C. C. Wang, E. Fritsche

**P06-059**
Comparison of the transport of sulfated and non-sulfated bile salts by rat and human Mrp2/MRP2 and Bsep/BSEP transporters

**P06-060**
ALT4EI: Evaluation of eye irritating potential of 59 chemicals using EpiOcular™ time-to-toxicity (EpiOcular ET-50) neat and dilution protocols
*S. Letasiova*, H. Kandarova, E. Adriaens, S. Verstraelen, Á. R. Van Rompay
P06-061
Mitochondrial impairment and oxidative stress play an important role in the toxicity of synthetic cathinones to dopaminergic SH-SY5Y cells

*J. Soares, V. M. Costa, H. Gaspar, S. Santos, M. D. L. Bastos, F. D. Carvalho, J. P. Capela

P06-062
Enantioselective absorption of cathinones by intestinal epithelial: studies in Caco-2 cells

*B. Silva, C. Fernandes, P. G. Pinho, F. Remião

P06-063
In vitro toxicity assessment of toxic cyano-bacteria as an emerging environmental risk in Europe

*V. B. Ilieva, T. P. Georgieva, M. S. Kondeva-Burdina, D. Aulani, V. Tzankova

P06-064
This poster has been withdrawn.

P06-065
Co-culture model Caco-2/HT29-MTX: a promising tool for toxicity investigation of phycotoxins on the intestinal barrier

*O. Reale, A. Huguet, V. Fessard

P06-066
Aerosol bubbled extracts of next generation products show significantly reduced toxicity compared to cigarettes in a series of in vitro assays

*L. D. Simms, R. Wieczorek, E. Trelles Sticken, J. Pani, L. M. Bode, G. Cava, M. Stevenson

P06-067
Development of an in vitro photosensitization assay using reconstituted 3D human epidermis and a genomic signature: the PhotoSENS-IS assay

*H. Groux, F. Cottrez, E. Boitel, B. van de Waart, W. Westerink

P06-068
Dosing considerations for in vitro inhalation testing of VOCs in air-lifted Interphase (ALI) cultures

*T. Hansen, D. Ritter, J. Knebel

P06-069
Differentiation and freeze-thawing of human iPS cell-derived brain microvascular endothelial cells

*M. Yamashita, H. Aoki, T. Hashita, T. Iwao, T. Matsunaga

P06-070
Development of in vitro cholestatic drug-induced liver injury evaluation system using HepG2-hNTCP-C4 cells with sandwich culture

*Y. Sakai, H. Okumura, T. Iwao, K. Watashi, K. Ito, T. Matsunaga

P06-071
Differentiation of human iPS cell-derived endothelial progenitor cells into brain microvascular endothelial cells

*H. Aoki, M. Yamashita, T. Hashita, T. Iwao, T. Matsunaga

P06-072
Effect of glyphosate at low concentrations on chromosome missegregation and aneuploidy induction in human peripheral blood lymphocytes in vitro

*V. Mužinić, D. Želježić
P06-073
Identification of key transcription factor networks mediating valproic acid-induced mitochondrial dysfunctioning in primary human hepatocytes

P06-074
Investigation into the cross-species sensitivity of erythrocytes in vitro to hydroxylamine-mediated stress and cytotoxicity.
*G. Sohanpal, P. K. Allen, J. D. Parry

P06-075
Induced pluripotent stem cell-derived human retinal model containing microglial cells as a platform for toxicology studies

P06-076
Simultaneous real-time monitoring of cytotoxicity and stress response pathway by means of dual color luciferase monitoring system
*Y. Nakajima, Y. Fujita, N. Oonishi, K. Tazumi, T. Iwaki, H. Abe

P06-077
Retinal organoids derived from human induced pluripotent stem cells as an in vitro model for toxicological studies for new retinal disease treatments
*B. Dorgau, M. Georgiou, V. Chichagova, G. Hilgen, E. Sernagor, M. Nicholds, L. Armstrong, M. Lako

P06-079
Co-exposure to preadipocytes and TCDD increase breast cancer cells aggressiveness and leads resistance to chemotherapy
M. Koual, C. Tomkiewicz, *X. D. Coumoul

P06-080
Response of MCF7 cells to vincristine in presence of BPA and DEHP
*R. Uyar, B. Yurdakok-Dikmen, Y. Turgut, A. Filazi

P06-081
Establishment of a human embryonic stem cell test with hiPSC derived cardiomyocytes for developmental toxicity testing
*S. Wuttke, D. Bartsch, J. Tigges, E. Fritsche

P06-082
Characterization of fresh hepatocytes isolated from TK-NOG chimeric mice with humanized livers
*H. Suemizu, Y. Higuchi, N. Yoneda, H. Yamazaki, S. Uehara

P06-083
MAKE people BETTER scientists in the lab: Altersed vision
*I. Prachkovski, N. Belot, F. Busquet

P06-084
A battery of animal-free in vitro assays for evaluating prenatal developmental toxicity potency of highly complex petroleum substances
*L. Kamelia, L. de Haan, H. B. Ketelslegers, I. M. C. M. Rietjens, P. J. Boogaard
**P06-085**  
Gaining insights into mechanism of mitochondrial toxicity using a comprehensive approach of in vitro assays  
*J. A. Eakins, Z. Zia, A. Lavado, C. Bauch, B. Park, P. Walker*

**P06-086**  
Evaluation of dermal absorption in micro-pig dermal tissue model for prediction of bifenthrin residues  

**P06-087**  
Tyrosine kinase inhibitor dasatinib as reversal agents for anthracycline resistance mediated by carbonyl reducing enzyme 1B10  
*N. Büüküm, V. Wsol, E. Novotna*

**P06-088**  
aProximate™ as a novel, predictive model of aminoglycoside-induced nephrotoxicity  

**P06-089**  
How to assess a phototoxicity risk related to topical exposure by using the in vitro SkinEthic RHE model  
*C. Videau, C. Grégoire, N. Alepée, S. Dreyfuss, N. Seyler*

**P06-090**  
Cyclophosphamide metabolites 4-hydroxycyclophosphamide and acrolein exert strenuous cardiotoxicity in AC16 human cardiomyocytes, at clinical relevant concentrations  
*F. Dionisio, M. Duarte-Araújo, M. D. L. Bastos, F. D. Carvalho, V. M. Costa*

**P06-091**  
A quantitative adverse outcome pathway for hepatic steatosis combined with in vitro kinetics using HepaRG cells  
E. Kasteel, S. Nijmeijer, *N. I. Kramer*

**P06-092**  
Long term in vitro hepatocyte toxicity screen of a panel of perfluoroalkyl substances using 3D culture system  
*Z. Guo, H. Iwai*

**P06-093**  
Studies of cadmium-induced cytotoxicity: from the perspective of oxidative stress, ER stress and autophagy  
*J. Choi, S.-M. Lee, H. J. Lee, J. D. Heo*

**P06-094**  
Online aerosol monitoring for in vitro toxicological studies using single-photoionization mass spectrometry  
C. Frege, S. Steiner, S. Ferreira, S. Majeed, F. Lucci, M. Asgari, J. Hoeng, S. Frentzel, *A. Kuczaj*

**P06-095**  
A cold-hearted guinea pig: cardiovascular toxicity elucidated using in vivo and ex vivo models  
*K. A. Rytved, M. D. Soerensen, K. Maansson, F. L. Egerod, P. Johnson, S. Eirefelt, A. Jessiman, K. Roepstorff*

**P06-096**  
Deep learning methods to translate gene expression changes induced in vitro in rat hepatocytes to human in vivo  
Advancing human relevant solutions in science – the Lush Prize in 2020 and beyond
*R. Ram

Role of GSH as first line of defense against oxidative stress-induced cytotoxicity in SH-SY5Y cells exposed to sterigmatocystin

Testing strategies for detection of endocrine disrupting potential
K. Rödig, *M. Dörkes, H. Gehrke

Extended solvent selection for in vitro sensitization testing using GARD®
*G. Grundström, O. Larne, U. Torstensdotter Mattson

Primary human hepatocytes production for pharmacology, toxicology and basic research: four years experience

Molecular docking and in vitro bioactivity of 5-fluoroindole derivatives on ER, aromatase and CYP1B1 activity in breast cancer cells
E. Ince, H. Fatullayev, A. Akdemir, S. Suzen, *H. Gurerg-Orhan

Pre-clinical assessment of a dual-temperature operated heated tobacco product
*G. Cava, G. O’Connell, J. Pani, O. Dethloff, R. Wieczorek, E. Trelles Sticken, J. Thompson

Comparison of in vitro and in vivo skin absorption rate of Spinosad product for veterinary use

The GARD assay: a new in vitro testing strategy for skin sensitization
*C. Steinert, V. Zuckerstaetter, H. Gehrke, E. Schmid

Development of an alternative method for the evaluation of the anti-pollution efficacy of cosmetic products using reconstructed human tissues
*A. Buzzella, U. Pianca, C. Angelinetta, E. Regola, O. Pastoris, R. Vicini

HPLC-MS/MS based DPRA passed OECD TG 442C requirements and extends the application domain of this assay to complex substances and mixtures
*C. Dini, A. Obry, E. Andres, A. Huyard, A. Hundt

Use of organotypic small intestinal tissue model for drug Induced gastrointestinal toxicity studies
*S. Ayehunie, Z. Stevens, T. Landry, J. Markus, A. Armento, M. Klausner, P. Hayden
P06-109
Glutamate in the apical side was absorbed and metabolized but not passed to the basolateral side in polarized monolayer culture of human epithelial cell line
*R. Sakai, Y. Ooba, Y. Kawamata, H. Nakamura, Y. Manabe, T. Narita, A. Watanabe

P06-110
U-SENS™: new perspective for the evaluation of chemicals interfering with FITC
*N. Ade, S. Teluob, A. Viricel, C. Piroird, A. Del Bufalo, N. Alepée

P06-111
Evaluation of renal and hepatic metabolism of short chain and long chain parabens in in vitro systems
*L. Capinha, F. Dohmen, S. Proenca, N. Kramer, J. Commandeur, P. Jennings

P06-112
Demonstration of hepatocyte-targeted siRNA transfection and gene silencing in the micro-patterned hepatocyte co-culture system (HEPATOPAC®)
*S. Heyward, M. Yang, J. Gaffney

P06-113
EU-ToxRisk knowledge infrastructure - effective sharing of data, results and knowledge
*T. Exner, A. Hersey, D. Bachler, M. Brajnik, L. Farcal, U. Sarkans, M. Pastor, B. Hardy

P06-114
The cytotoxic effect of irradiation on epidermal cells is only partially and temporary alleviated by sea buckthorn oil treatment

P06-115
Drug permeability and safety screening using a reproducible in vitro 3D-human small intestinal tissue model
*J. Markus, T. Landry, Z. Stevens, M. Klausner, P. Hayden, S. Ayehunie

P06-116
Method for assessment of intracellular level of cadmium and thallium

P06-117
Development of a novel human 3D in vitro model for evaluating new anti-fibrotic drugs
*A. Woodrooffe, C. S. Freathy, S. M. Maitland, K. L. Baggot, H. J. Loraine, P. R. Murdock

P06-118
Development of a subacute 28-day respiratory toxicity assay using an in vitro human airway model
G. R. Jackson, M. Debatis, M. Klausner, A. G. Maione, *P. Hayden

P06-119
This poster has been withdrawn.

P06-120
Mechanical strain mimicking breathing influences nanoparticle induced effects on A549 cells
*C. Schmitz, A. K. Kiemer, A. Kraegeloh

P06-121
The use of a 0.20μm particulate matter filter decreases cytotoxicity in lung epithelial cells following air-liquid interface exposure to motorcycle exhaust
*T. Yu, P. Bin, S. Admason
**P07-001**

Comparative evaluation of hemantane and diclofenac topical formulations on complete Freund’s adjuvant-induced inflammation in rats

*E. Ivanova, A. Matyushkin, T. Voronina, A. D. Durnev*

**P07-002**

Methotrexate-induced intestinal mucositis in the rat

*P. Guillaume, F. Tantot, L. Lecouflet, V. Castagné, S. Goineau*

**P07-003**

Dietary advanced glycation endproducts and glucocorticoid resistance, are the two linked?

*T. van der Lugt, A. R. Weseler, M. F. Vrolijk, A. Opperhuizen, A. Bast*

**P07-004**

Immunomodulatory effects of *Alternaria alternata* mycotoxins: down-streaming effects from the cell membrane

*G. Del Favero, R. M. Mayer, J. Hohenbichler, D. Marko*

**P07-007**

*Sanguisorba minor subsp. Balearica* inhibit production of cytokines in a chronic model of inflammation induced by complete Freund’s adjuvant


**P07-008**

Manganese enhances microglial activation in the substantia nigra in response to systemic infection with H1N1 Influenza Virus

*C. M. Bantle, T. French, R. Smeyne, R. Tjalkens*

**P07-005**

This poster has been withdrawn.

**P07-006**

This poster has been withdrawn.
P08 – LIVER TOXICOLOGY
2nd Floor

P08-001
This poster has been withdrawn.

P08-002
Connexin hemichannels and pannexin channels as drug targets in liver toxicity and disease
*M. Vinken, B. Cogliati

P08-003
Fine and ultrafine particles issued from oil fuels and second-generation biofuels combustion: a comparative study of the physico-chemical and in vitro toxicological characteristics

P08-004
How similar among different toxicogenomics study designs for liver?
*W. Tong

P08-005
Characterization of a human liver spheroid model comprised of HepaRG™ and hepatic stellate cells
*D. Bovard, E. Guedj, A. Sewer, A. Iskandar, K. Luetich, S. Frentzel, J. Hoeng

P08-006
Correlation between cytochrome P450 enzyme induction and up-regulation of oxidative stress mediators by the pyrethroid insecticide lambda-cyhalothrin in rat liver
M. A. Martínez, I. Ares, J. L. Rodríguez, M. Martínez, B. Lopez-Torres, A. Anadón, *M. R. Martínez-Larrañaga

P08-007
Effects of 2-mercaptobenzimidazole and its methyl derivatives on liver drug-metabolizing enzyme system after repeated oral administration in rats

P08-008
Dosing corrected for species differences in toxicokinetics using PBPK modelling predicts equivalent reactive metabolite burden following acetaminophen overdose
*D. Reddyhoff, R. Sison-Young, L. Livoti, G. Vermeil De Conchard, Y. Parmentier, R. J. Weaver, K. Park, C. Fisher, L. Gardner, I. Copple

P08-009
Comparable findings in the rat liver with a long-acting glucagon receptor agonist, SAR438544, and an 8-hour infusion of glucagon
*A. Bube, C. Hunger, L. Müller, S. Nellen, S. Ramusovic, A. Dudda, T. Klüner

P08-010
Relation between DMSO application and selected cytochromes P450 in developing liver
L. Luptakova, S. Dvorcakova, *E. Petrovová

P08-011
Disruption of liver gene expression and ultrasonic vocalization of infant mouse offspring perinatally exposed to 2,3,7,8-tetrabromodibenzofuran
*E. Kimura, G. Suzuki, N. Uramaru, F. Maekawa

P08-012
Assessment of drug hepatotoxicity in 3D InSight™ Liver Microtissues with expanded panel of cytotoxicity markers (AST, LDH and ATP).
A. Pajak, R. Class, B. Twomey, A. Kiessling, *A. Gerecka, M. Kijanska
**P08-013**
The method of spheroid formation for 3D cultures of primary hepatocytes influences hepatocellular functions and hepatotoxicity
J. Moer, D. Runge, *A. Ullrich

**P08-014**
Development and characterisation of 3D liver models to investigate drug toxicity
*M. F. Kaluthantrige Don, K. O’Holleran, A. West, M. Huch*

**P08-015**
Hepatic IGF signalling is dysregulated by *in utero* exposure to maternal smoking

**P08-016**
Grayscale differential box counting as a measure of complexity of liver texture in common carp (*Cyprinus carpio*) sub-chronically exposed to perfluorooctanoic acid (PFOA)
*M. Manera, B. Sayyaf Dezfuli, G. Castaldelli, C. Martino, L. Giari*

**P08-017**
Pluripotent stem cells differentiation towards definitive endoderm
*M. Bogacheva*

**P08-018**
Versatile pro-fluorescent and fluorescent coumarin derivatives as substrates for different types of xenobiotic metabolizing enzymes
*R. O. Juvonen, J. Huuskonen, O. Pentikäinen, M. Finel, H. Raunio*

**P08-019**
CYP1A2 enzyme activity and protein abundance in normal and diseased pediatric livers
*M. Czerwinski, B. Ewy, A. Kats, M. Pritchard, S. Tague, B. Ogilvie*

**P08-020**
Extracellular vesicles are involved in polycyclic aromatic hydrocarbon hepatotoxicity
*N. van Meteren, D. Gobart, I. Gallais, E. Le Ferrec, D. Lagadic-Gossmann, O. Sergent*

**P08-021**
A new strategy for exploring the role of hyperthermia in MDMA-induced toxicity in primary mouse hepatic cells using GC-MS-based metabolomics
*A. M. Araújo, M. Enea, E. Fernandes, M. D. L. Bastos, F. D. Carvalho, P. Guedes de Pinho, M. Carvalho*

**P08-022**
Proteomic analysis reveals perfluoro-(3,5,7,9-tetraoxadecanoic) acid (PFOA-4DA) induced hepatotoxicity via activation of PPARs on male mice
*J. Dai, H. Guo, N. Sheng*

**P08-023**
Study of long term culture condition of hepatocytes for chronic toxicity test

**P08-024**
CYP-dependent destruction of hepatic sinusoidal endothelial cells and induction of cholestasis by the hepatotoxic pyrrolizidine alkaloid senecione
*S. Hessel-Pras, A. Braeuning, A. Adawy, G. Guenther, A.-M. Enge, J. Ebmeyer, C. J. Henderson, J. G. Hengstler, A. Lampen, R. Reif*
P08-025
Special aspects of the hepatotoxic action of tetrachloromethane in rats of different ages
*T. A. Sinitskaya, V. N. Rakitskii, S. V. Skupnevskii

P08-026
Human non-parenchymal cells protect against acetaminophen hepatotoxicity in a co-culture spheroid model
*C. C. Bell, L. C. Andersson, R. Sargeant, J. W. Dear, D. P. Williams, M. Söderberg

P08-027
A retrospective analysis of hepatocyte hypertrophy in repeated dose rat studies
*L. Pan, T. Zhou, J. Zhao, S. McPherson

P08-028
Development of high-throughput assays for the screening of drug-induced mitotoxicity (Glu/Gal assay) and membrane potential integrity (Mito-ID assay): workflow and software for efficient end-to-end accurate data delivery.
*K. G. de Waepenaert, B. Van Dijck, D. Peeters, N. Mesens

P08-029
Effects of antipsychotic drugs on mitochondrial bioenergetics in vitro
*A. Rosell-Hidalgo, A. L. Moore, T. Ghafourian

P08-030
PXR activation dissociates hepatosteatosis from insulin resistance in obese mice
*O. Kummu, M. Karpale, J. Rysä, J. Hukkanen, J. Hakkola

P08-031
Effects of α-amanitin in HepG2 cells are not prevented by drugs used in Amanita phalloides intoxications
*D. F. Rodrigues, V. M. Costa, M. D. L. Bastos, *F. D. Carvalho

P08-032
Computable biological network models for mechanistic 21st century toxicology
*M. Talikka, E. Scotti, H. Yepiskoposyan, J. Szostak, M. C. Peitsch, J. Hoeng

P08-033
Comparison of 2D and 3D cell-based models using human chemical derived hepatic progenitors to predict drug-induced liver injury

P08-034
Transcriptomic profiling of compound treated human liver spheroids to investigate the underlying mechanisms of drug induced liver injury observed in the clinic
*M. Steemans, A. De Bondt, F. Van Goethem, J. Van Houdt, L. Lammens, H. Goehlmann, A. De Smedt, M. Otieno

P08-035
(S-) Metolachlor – human relevance framework assessment of liver tumour induction in female rats
*D. E. Cowie, L. Brierley, R. A. Currie, R. Green

P08-036
An optimized process for medium chain fatty acid profiling or quantitation in complex matrices using derivatization and LC-MSMS analysis
*E. Andres, P. Pujuguet, A. Obry, A. Huyard, S. Shakir, A. Montjardet, C. Dini
**P08-037**
Rifampicin induces the bone form of alkaline phosphatase (ALP) in humans

*H. N. Abdelfattah, P. Lehenkari, J. Hukkanen, J. Hakkola

**P08-038**
Study of the hepatic metabolic effects induced by PFOA exposure using a multiplatform metabolomics approach


**P08-039**
What can an animal tell the toxicologist? Concordance of toxic effects to liver and kidney between rats and humans.

*W. Zobl, F. Moradi Afrapoli, S. E. Escher

**P08-040**
Development of MS-based immunoassays for quantification of drug-induced liver injury candidate biomarkers across species


**P08-041**
Changes in bile acid profiles induced by cholestatic drugs in HepaRG hepatocytes cultured in bile acid-enriched medium

*A. Guillouzo, A. Burban, A. Sharanek, L. Humbert, E. Gauliard, C. Guguen-Guillouzo, D. Rainteau

**P11-001**
Lipidomic analysis of PLHC-1 topminnow liver cells exposed to bisphenol F and bisphenol A diglycidyl ether

*C. Porte, E. Pérez-Albaladejo, A. Solis, I. Bani

**P11-002**
Cadmium telluride quantum dots induced the histopathological changes of livers and kidneys in mice via elevating hydroxyl radicals and decreasing antioxidant capacities

*P. Huang, J. Wang, M. Yang, J. Li

**P11-003**
*In vivo* toxicological evaluation of natural repellent in nanotechnological matrix


**P11-004**
Evaluation of the effect of cellulose nanofibers on skin irritation using a 3D *in vitro* reconstructed human epidermis model

*K. Fujita, S. Obara, J. Maru, S. Endoh, Y. Kitano

**P11-005**
Amorphous silica nanoparticles trigger human dendritic cell maturation in vitro and provoke CD4 + T Cell proliferation

A. Feray, M. Hullo, N. Szely, F.-X. Legrand, E. Brun, E. Guillet, S. Barillet, *M. Pallardy, A. Biola-Vidamment

**P11-006**
Evaluation of DNA damage in the rat lung after inhalation exposure to TiO$_2$ and SiO$_2$ nanoparticles

**P11-007**
Co-delivery of pemetrexed and quercetin with multi-walled carbon nanotubes displayed synergic effects in pancreatic cancer cells

*M. Balas, M. A. Badea, D. Ionita, M. Prodana, A. Dinischiotu*

**P11-008**
Therapeutic effects of oxidized single-walled carbon nanotubes loaded with cisplatin on breast cancer multicellular tumor spheroids

*M. A. Badea, M. Balas, M. Prodana, D. Ionita, A. Dinischiotu*

**P11-009**
Silica nanoparticles induce inflammatory response by interfering with cell autophagy

*M. Yang, J. Duan, P. Huang, Z. Sun*

**P11-010**
*In vitro* toxicity of model ZnO-Ag nanoparticles in human lymphocytes and hemocytes of mussel *Mytilus galloprovincialis*

*I. Efthymiou, G. Kalamaras, K. Koukouvini, E. Mouzourakis, Y. Georgiou, S. Daillianis, Y. Deligiannakis, D. Vlastos*

**P11-011**
Biological effects of molybdenum(IV) sulfide in the form of nano- and microparticles after intratracheal instillation in rat


**P11-012**
Assessment of reactive oxygen species in tobacco (*Nicotiana tabacum* L.) seedlings exposed to silver nanoparticles

*A.-M. Domijan, R. Biba, S. Babić, P. Cvjetko, M. Tkalec, B. Balen*

**P11-013**
Mechanism of toxicity of amorphous silica nanoparticles in lung epithelial cells and macrophages

*S. Diabaté, S. Fritsch-Decker, C. Marquardt, R. Leibe, C. Weiss*

**P11-014**
Effects of silver nanoparticles and silver nitrate on photosynthesis and photosynthesis-related proteins in tobacco (*Nicotiana tabacum*) – a comparative study

M. Tkalec, P. Peharec-Štefanič, R. Biba, P. Cvjetko, S. Šikić, *B. Balen*

**P11-015**
Surface modification of halloysite nanotubes increases surface area and airway toxicity in mice


**P11-016**
Surface chemistry can drive the safer applications of cadmium-based quantum dots related to sex-specific neurodevelopmental adverse outcomes

D. Leme, Y. Suh, S. Hong, T. Workman, M. Smith, W. Griffith, *E. M. Faustman*

**P11-017**
Cobalt-impregnated tungsten nanoparticles and cobalt ions trigger toxicity in differentiating neuronal cells: potential link to parkinsonian neurodegeneration

*G. S. Gupta, A. Gliga, J. Hedberg, A. Serra, D. Greco, I. O. Wallinder, B. Fadeel*

**P11-018**
This poster has been withdrawn
**P11-019**

This poster has been withdrawn.

**P11-020**

Neuro- & biochemical- toxicity of silver nanoparticles and silver nitrate in soil to *Aporrectodea caliginosa* earthworms

*R. Gooneratne, N. Saleeb, A. Laschín, B. Robinson, J. Cavanagh, J. Ross*

**P11-021**

TiO$_2$ NM 105 response obtained on three different rat models, *vitro*, ALI, and *vivo*.


**P11-022**

High-throughput hazard-based scoring, ranking and grouping of engineered nanomaterials

*V. Hongisto, P. Nymark, P. J. Kohonen, J. Hattara, R. Grafström*

**P11-023**

Orally administered SiO$_2$ nanoparticles differing in their specific surface area did not induce local or systemic toxicity


**P11-024**

Impact of silver nanoparticles on physiological parameters of tobacco seedlings


**P11-025**

A metabolomic study of the effect of gold nanostars vs gold nanospheres in Wistar rats after a single-dose intravenous administration.

*M. Enea, A. M. Araújo, P. Guedes de Pinho, E. Pereira, M. D. L. Bastos, H. F. Carmo*

**P11-026**

Effects of titanium dioxide nanoparticles on T98G human glioblastoma cells

E. Fuster, H. Candela, J. Estévez, E. Vilanova, *M. A. Sogorb*

**P11-027**

Precision-cut liver slices as a promising *ex vivo* model for nanosafety studies

*R. Bartucci, C. Åberg, Y. L. Boersma, P. Olinga, A. Salvati*

**P11-028**

Effect of carbon nanotubes on pulmonary surfactant

*D. Kondej, T. R. Sosnowski*

**P11-029**

Effect of surface charge on the genotoxic potential of nanomaterials: hazard classification

*G. Vales, S. Suhonen, K. Silvola, J. Catalán, K. Savolainen, H. Norppa*

**P11-030**

Bioavailability improvement of a monoamine oxidase-B inhibitor using PEGylated PCL-based nanoparticles

M. Pinto, C. Fernandes, E. Gil-Martins, R. Silva, S. Benfeito, F. Cagide, F. Borges, *F. Remião*

**P11-031**

Effects of double-walled carbon nanotubes on the early phase of respiratory syncytial virus infection in mice

*W. Watanabe, A. Miyauchi, T. Akashi, A. Hirose, H. Yoshida, M. Kurokawa*

**P11-032**

Tissue distribution of silver chalcogenide quantum dots in mouse model

**P11-033**
Discovery of an inhibitor of multiwall carbon nanotubes-stimulated IL-1β secretion via inflammasome activation

**P11-034**
Toxicity assessment of engineered and airborne ceramic nanoparticles on a human 3D bronchial epithelium

**P11-035**
Agglomeration state of titanium-di-oxide (TiO₂) nanomaterials influences the toxicity/biological responses in human bronchial epithelial cells at the air-liquid interface

**P11-036**
Clearance of multi-walled carbon nanotubes in rat lungs after intratracheal instillation: a comparison of different instillation devices

**P11-037**
Prospects for the use of alternative methods for testing the safety of nanomaterials in the Republic of Belarus
*S. Sychyk*

**P11-038**
Skin irritation potential of graphene based materials
*M. Pelin, M. Garrido, C. Martín, S. Sosa, L. Fusco, E. Vázquez, M. Prato, A. Tubaro*

**P11-039**
Assessment of potential toxicity of new synthesized nanofibers in pulmonary cells in vitro
*J. Bacova, P. Majtnerova, L. Hromadko, J. M. Macak, T. Rousar*

**P11-040**
Evaluation of the impact of TiO₂ and SiO₂ nanofibers on the neuronal cells
*J. Handl, J. Capek, J. Bacova, L. Hromadko, J. M. Macak, T. Rousar*

**P11-041**
Multiparametric platform for safety testing of nanoparticles based on a 3D liver tissue model
*J. Fleddermann, J. Susewind, S. Kiefer, A. Kraegeloh*

**P11-042**
The ecotoxicity of zinc oxide nanoparticles in sunscreen formulations
Q. Chang, C. Fu, J. Duan, M. Sun, Z. Xie, M. Yang, M. Wu, *X. Deng*

**P11-043**
This poster has been withdrawn.

**P11-044**
*In vitro* cytotoxicity and genotoxicity evaluation of five different nanoframes of manganese iron oxide

**P11-045**
Toxicological evaluation of textiles coated with antibacterial metal oxide nanoparticles by 2D and 3D *in vitro* skin model
*R. D. Bengalli, A. Colantuoni, P. Mantecca, L. Fiandra*
P11-046
Neuro-inflammation after inhalation exposure to aerosol mixtures of alumina nanoparticles / hydrogen chloride gas in rats
*S. Dekali, D. Saurat, A. Boyard, S. De Araujo, C. Frédéric, A. Bourgois, S. François

P11-047
*In vitro* effects of ZnO and CuO NPs in mixture with DEP: different nano-bio-interactions affect viability and colony forming efficiency of A549 cells
*A. Zerboni, T. Catelani, P. Mantecca

P11-048
Oxidative stress in microbes after exposure to iron nanoparticles: analysis of aldehydes as oxidative damage products of lipids and proteins
*T. Cajthaml, J. Seméra, J. Filip

P11-049
Antimicrobial properties and cytotoxicity of polymeric nanocomposites in TK6 lymphoblastoid cells

P11-050
Improved aerosol generation method and newly designed whole body rodent inhalation apparatus for the testing of nanomaterials
*J. Kanno, Y. Taquahashi, A. Hirose

P12 – NEUROTOXICOLOGY
1st Floor

P12-001
This poster has been withdrawn.

P12-002
Identifying cobalt neurotoxicity targets *in vivo* through RNA-Seq
*S. Gómez-Arnaiz, R. Tate, S. Laovitthayanggoon, C. Henderson, M. H. Grant

P12-003
Exposure to flame retardant tris (2-butoxyethyl) phosphate induces memory deficit and neuroinflammatory responses in a mouse model of allergic asthma
*T.-T. Win-Shwe, R. Yanagisawa, E. Koike, H. Takano

P12-004
Brain-derived Neurotrophic Factor Protects against Acrylamide-induced Neuronal and Synaptic Injury via the TrkB-MAPK-Erk1/2 Pathway
*X. Chen, J. Xiao, P. Cao, Z. Li, Y. Zhang, W. Cai, W. Gao, B. Li

P12-005
Gene expression changes induced by Type II piretroids exposure in human neuroblastoma SH-SY5Y cells
*A. Anadón, I. Ares, J. L. Rodríguez, M. Martínez, B. López-Torres, M. R. Martínez-Larrañaga, M. A. Martínez

P12-006
Neurotoxicity assessment of silver nanoparticle using human iPS cells
*Y. Kanda, S. Yamada
**P12-007**
Pin1 is inactivated by environmental pollutant cobalt and contributes to neurodegenerative damage

**P12-008**
Novel mitochondrial targets of PM exposure in human olfactory mucosa cells

**P12-009**
Glutathione depletion and p38 activation trigger production of pro-inflammatory cytokines in microglia exposed to mercury (II)
*V. Branco*, R. Guerreiro, T. Eanes, T. Caetano, C. Carvalho

**P12-010**
This poster has been withdrawn.

**P12-011**
Analysis of brain transcriptome in MPTP-lesioned adult zebrafish: insights into innate immune-related genes
*B. Chen*, J.-P. Zhang

**P12-012**
Phenyl valerate esterase activity of human acetylcholinesterase
*J. Estévez*, M. Terol, M. A. Sogorb, E. Vílanova

**P12-013**
Comparison between the cytotoxic effects of pure cylindrospermopsin and containing and non-containing cylindrospermopsin-extracts in the neuronal SH-SY5Y cell line

**P12-014**
This poster has been withdrawn.

**P12-015**
Behavioral effects of cypermethrin, lambdacyhalothrin, and betacyfluthrin
*M. Konopelko*, B. Nieradko-Iwanicka

**P12-016**
Integration of PBPK with ROS SB model for PFOS induced neurotoxicity
*D. Deepika*, R. P. Sharma, M. Schuhmacher, V. Kumar

**P12-017**
Fusarium mycotoxins alter neuronal network activity in surviving rat brain slices
*V. Bódi*, V. Csikós, P. Varró, A. Dobolyi, I. Világi

**P12-018**
Effect of *Fusarium* mycotoxins on behavior and neuronal network activity after sub-chronic exposure in rat
*P. Varró*, V. Bódi, V. Csikós, M. Pethő, T. Hajnik, I. Sebestyén, A. Dobolyi, I. Világi
P12-019
Deoxynivalenol affects neuronal activity and impairs motivational behavior in mothers
*V. Csikós, P. Varró, L. Barcsai, V. Bódi, I. Világi, A. Dobolyi

P12-020
Screening of various neural induced hiPSCs (hiNPCs) for the use in (developmental) neurotoxicity assays
*J. Hartmann, M. Pahl, J. Klose, L. Nimtz, U. Hübenthal, J. Tigges, E. Fritsche

P12-021
Biocompatibility evaluation of medical devices coming into contact with brain tissue
*S. Schmid, D. Bouard, A.-L. Leoni, K. Weber

P12-022
Quantitative evaluation of the key events relationships (KERs) resulting in impairment of learning and memory abilities (OECD AOP13) to support regulatory decision-making

P12-023
Could ochratoxin A be a possible etiological factor of Parkinson’s disease?
*A. Vettorazzi, M. Izco, A. Lopez de Cerain, L. Alvarez-Erviti

P12-024
This poster has been withdrawn.

P12-025
Establishment of in vitro assays for regulatory developmental neurotoxicity testing
*K. Bartmann, S. Masjosthusmann, L.-C. Stürzl, T. Waldmann, M. Leist, E. Fritsche

P12-026
Synthetic cannabinoids 5F-PB22 and THJ-2201 promote in vitro CB1 receptor-dependent neuronal differentiation at in vivo-relevant concentrations
J. Alexandre, R. Malheiro, D. C. Dias da Silva, H. F. Carmo, F. D. Carvalho, *J. P. Silva

P12-027
Neurotoxicity evaluation of acute pesticide exposure on Human progenitor neural stem cells

P12-028
The increase in lipid peroxidation in the rat brain after acute exposure to Pb and/or Cd

P12-029
Feasibility studies for prediction models analysing concentration response data from high content image analyses
*H. E. Keßel, S. Masjosthusmann, N. Förster, A. Mosig, E. Fritsche

P12-030
Repeated intravenous administrations of macrocyclic gadolinium based contrast agents in rats: evaluation of gadolinium retention in different organs
*S. Bussi, A. Coppo, R. Celeste, A. Fanizzi, A. Fringuello Mingo, C. Botteron, F. Maisano, F. Tedoldi, M. A. Kirchin

P12-031
Effect of uranium on multipotency of neural stem cells in a primary neurosphere culture model
A. Becquet, C. Gloaguen, K. Tack, *C. Ibanez
P12-032
Doxorubicin and mitoxantrone effects on the brain of differently aged mice: an in vivo chemobrain study
*A. Dias-Carvalho*, A. Reis-Mendes, M. Duarte-Araújo, R. Guedes, S. Gonçalves-Monteiro, F. D. Carvalho, M. D. L. Bastos, J. P. Capela, V. M. Costa

P12-033
The unfinished symphony: neurotoxicity potential and mitochondrial-mediated mechanisms of synthetic cathinones in dopaminergic human neuronal SH-SY5Y cells
*H. S. Leong*, M. Philp, M. Simone, P. K. Witting, S. Fu

P13-001
Are PON and GST polymorphisms associated with advanced oxidation protein products in pesticide-exposed subjects?
*C. Fenga*, M. Teodoro, G. Briguglio, I. Polito, F. Giambò, D. Caccamo, C. Costa

P13-002
Low-dose exposure to lead and neurobehavioral effects
*C. Costa*, E. Micali, M. Teodoro, G. Briguglio, I. Polito, G. Nutile, A. Alibrandi, C. Fenga

P13-003
Glucocorticoids: different approaches in PDE and OEL evaluation, but similar values
*E. Gillio Tos*, M. D. Rodda, L. Brunasso Cattarello, V. Bortolot, A. Conto

P13-004
The effects of umbilical cord Mesenchymal stem cells on the pulmonary fibrosis in silicosis rats
*Y. Sha*, Y. Xie, Z. Li

P13-005
Use of the local lymph node assay: 5-bromo-2-deoxyuridine flow cytometry method to predict the skin sensitization potential of PHMG, PGH, TRICLOSAN and mixtures of these compounds with the excipient propylene glycol
*H. Kim*, R. Gautam, S. Joo, S. Yang, M. Acharya, A. Maharjan, J. Jo, C. Kim, Y. Heo
P13-006  Occupational lung cancer risk caused by CrVI assessed using human biomonitoring data
*S. Mahiout, M. Kiilunen, T. Santonen

P13-007  Safety assessment of copper nanoparticles developed for printable electronics

P13-008  Two years of DNA damage monitoring in males and females occupationally exposed to nanoparticles

P13-009  Influence of genetic variance on biomarker levels after occupational exposure to 1,6-hexamethylene diisocyanate (HDI) monomer and HDI isocyanurate

P13-010  Case report of the rapid successful treatment of methemoglobinemia caused by occupational exposure to aniline
*S. Sarmanaev, N. Bondarenko, I. Kryijevskikh, I. Akhmetov, R. Tuktarova

P13-011  Risk assessment for an aniline derivative ortho-toluidine by using human biomonitoring data and bioequivalent method in the HBM4EU project
*P. Huuskonen, B. Schaddelee-Scholten, H. Buist, J. Westerhout, T. Santonen

P13-012  Occupational exposure to monoclonal antibodies in Portuguese health units: are there reasons for concern?
*A. M. Costa-Veiga, S. Viegas

P13-013  Evaluation of inflammatory biomarkers in agate grinding workers in Iran
*E. Rafiei manesh, M. Soukhtanloo, H. Esmaily, F. Ahmadi

P13-014  Experimental study of toxicity and derive occupational exposure limit to 6-chlorohexan-1-ol
*V. M. Vasilkevich, S. Sychik, E. Fedorenko, A. Drozdova

P13-015  This poster has been withdrawn.

P13-016  The genetics of occupational asthma development among workers exposed to diisocyanates: a systematic review with meta-analysis
L. W. Taylor, E. J. Price, C. Poole, *L. A. Nylander-French

P13-017  Health risk associated with delta-aminolevulinic acid dehydratase (ALAD) gene polymorphism (rs1800435C/G) in Bulgarian workers from battery recycling industry

P13-018  Serum metabolomics of occupational noise exposure workers in China
J. Ji, L. Miao, L. Wan, R. Sun, J. Zhang, L. Yin, *Y. Pu
P13-019
2,4-Dimethylaniline may contribute to the occurrence of bladder cancer among workers in a chemical factory
*R. Wang, T. Toyooka, Y. Qi, Y. Yanagiba, M. Suda

P13-020
Frequency of GSTP1 and GSTM1 null genotype in batik textile worker in Yogyakarta, Indonesia
*D. A. A. Nugranahingsih, P. Hastuti, S. Hartini

P13-021
CamkII Beta might protect the toxicity induced by benzene in G6PD deficient cells

P13-022
Risk assessment of occupational exposure to DINP, DIDP and DPHP in plastics sector
*T. M. Santonen, S. Mahiout, S. P. Porras

P15 - PULMONARY TOXICOLOGY
1st Floor

P15-001
Comparative assessment of reconstituted human airway epithelium 3D models derived from large and small airway epithelial cells exposed to whole cigarette smoke
*K. Matsumura, T. Kurachi, S. Ishikawa, S. Ito

P15-002
Effect of cigarette smoke extract on the functional expression of P-glycoprotein in human lung-derived A549/P-gp cells
*M. Takano, S. Higa, Y. Furuichi, R. Yumoto

P15-003
Dose-dependent cytotoxicity assessment of nitrogen dioxide following pure or compounded exposures through the air liquid interface: in vitro
*P. Bin, T. Yu, S. X.-F. Adamson

P15-004
Expression of receptors for adhesion molecules in monocytes exposed to urban particulate matter is independent of size and composition of the particles
*E. Alfaro-Moreno, R. Quintana-Belmares, A. Montiel-Davalos, A. Gustafsson, J. Miranda, R. Lopez-Marure, I. Rosas-Perez

P15-005
E-cigarettes induce lower biological responses than conventional cigarettes: a comparison of in vitro toxicity following repeated whole aerosol exposure to human bronchial tissue for 4 weeks
*L. Czekala, R. Wieczorek, E. Trelles Sticken, L. Simms, L. M. Bode, M. Stevenson
P15-006
Toxicity of combustion-derived particles emitted from different biomass sources in human bronchial epithelial cells
*S. Marchetti, J. A. Holme, P. Mantecca, A. Colombo, J. Øvrevik, S. Mollerup

P15-007
The pulmonary damages induced by polyhexamethylene guanidine phosphate (PHMG-p) are irreversible
*H.-S. Yang, M. Kang, K. Lee

P15-008
increased throughput and cryopreservation of precision-cut lung slices extend the utility of human-relevant, 3-dimensional pulmonary test systems
*B. Gilbert, P. Desai, K. Amin, D. Sheehan, N. Castro, H. Behrsing

P15-009
Excipients for orally inhaled drug products – how can cell culture models facilitate drug development and replace animal experiments?

P15-010
Study on the test of the inhalation exposure of sodium dichloroisocyanurate (NaDCC) aerosols for the inhalation toxicity testing

P15-011
Functionalization of carbon nanotubes change their toxicity mechanisms induced in alveolar macrophages
*S. Nahle, R. Safar, Z. Manel Doumandji, J. Ghanbaja, B. Rihn, O. Joubert, L. Ferrari

P15-012
Comparison of toxicity of Oligo(2-(2-ethoxyethoxyethyl)guanidinium chloride and Polyhexamethylene-guanidine phosphate in mice
*J. Song, M. Yang, J.-H. Hwang, S.-C. Han, K. Lee

P15-013
Optimization and validation of VITRO-CELL® 24/48 in vitro inhalation exposure system ready for testing petroleum-derived substances

P15-014
AhR knockout alters formation of prostaglandins in a human model of alveolar epithelial type II cells

P15-015
Safety assessment of compounds – an in chemico/in vitro test strategy for inhalable substances from chemical, consumer goods and pharmaceutical industry

P15-016
Cadmium and lead mixture and lung cancer development: toxicogenomic data mining approach

P15-017
This poster has been withdrawn.
P15-018
Development of immunocompetent human airway epithelial models with macrophages for inhalation toxicity evaluation of airborne substances

X.-Y. Huang, B. Boda, I. Fureraj, I. Larafa, C. Mas, S. Huang, S. Constant

P15-019
Cytotoxic effect of real-time gasoline engine emissions exposure on BEAS-2B cells and MucilAir™

T. Cervena, V. Beranek, M. Vojtisek, P. Rossner

P16 - REGULATORY TOXICOLOGY
1st Floor

P16-001
Efficient creation of electronic SEND datasets between CRO – establishment of the global SEND alliance (G-SEND)

T. Anzai, S. Horikawa, M. Wasko

P16-002
Promoting the uptake of alternatives to animal testing through the development of eLearning tools

E. Hill, J. van Luijk, R. de Vries, A. Ulrey, K. Tsaloun, R. Pearse, C. Eskes, M. Ritskes-Hoitinga

P16-003
Toxicological assessment of flavored e-liquids in Sprague-Dawley rats in an OECD sub-chronic inhalation study complemented by systems toxicology endpoints


P16-004
Aluminium salts in vaccines: from ancient concepts to current knowledge


P16-005
180-day toxicological research of GM soybean line MON87701×MON89788: the results of morphological examination

N. S. Nikitin

P16-006
This poster has been withdrawn.
P16-007
Results of preclinical and clinical safety studies of the novel adenoviral gene therapy
*N. V. Eremina, *N. V. Eremina, V. Kazey, V. Kazey, A. Zhanataev, A. Zhanataev, A. D. Durnev, A. D. Durnev

P16-008
R-ODAF: an omics data analysis framework for regulatory application
*M. Verheijen, W. Tong, L. Shi, T. Gant, B. Seligman, F. Caiment

P16-009
A systematic review of the monocyte activation test: How much proof is good enough?
*J. Hochmuth, A. Ménache

P16-010
Cannabinoid toxicity: computational assessment of (eco)toxic effects
*K. Venko, M. Novič

P16-011
Assessment of endocrine disruption potential of ozone using the ECHA/EFSA guidance document on identifying endocrine-disrupting chemicals: experiences gained and challenges faced

P16-012
Food derived from genetically modified animals: formation of safety assessment system and new approaches to toxicological research
*V. A. Tutelyan, N. Tyshko, E. Sadykova

P16-013
Risk for human health from five phthalates used in plastic food contact materials (FCM): a cumulative risk assessment by the European Food Safety Authority (EFSA)

P16-014
Benchmark dose uncertainty as a possible indicator of the biological relevance of toxicological endpoint
M. Zinovieva, P. Zhminko, N. Nedyopytanska, *M. Prodanchuk

P16-015
Sources of uncertainty in the threshold of toxicological concern approach

P16-016
Similarity assessment of peroxisome proliferators based on intracellular metabolomics in HepG2 cells
*H. G. Kamp, S. Sperber, B. Birk, V. Haake, T. Walk, B. van Ravenzwaay

P16-017
Impurities in cosmetic products: which are the most common, and how to assess them in a cosmetic safety report?
A. Chelle, A. Perdriat-Loucano, *V. Levelut, A. Nalin

P16-018
Read-across approach using molecular descriptors for the prediction of rat repeated-dose toxicity
**P16-019**
Investigating human cytochrome P450-related variability using PBK models for chemical risk assessment


**P16-020**
Assessment of the specificity of tyrosine kinase inhibitors in relation to their cardiovascular toxicity, cutaneous toxicity and hepatotoxicity in cancer treatment

*P. Nortier, M. Burbank, G. Guyader*

**P16-021**
"Hypoallergenic" cosmetic products: regulatory review and scientific approach – a practical case

V. Levelut, *A. Nalin, A. Nanu, C. Lidon*

**P16-022**
EFSA safety assessment of food additives: data and methodology used for the assessment of dietary exposure for different European countries and population groups


**P16-023**
Hierarchical Bayesian meta-analysis of human variability in PON1 metabolism for the refinement of uncertainty factors in chemical risk assessment


**P16-024**
Non-dietary risk assessment of secondary metabolites of micro-organisms in plant protection products

*W. Pfau, E. Hinarejos Esteve, I. Aragao, M. Borja*

**P16-025**
Assessment of bisphenol AF as an endocrine disruptor

*L. Escrivá, A. Hanberg, J. Zilliacus, A. Beronius*

**P16-026**
The use of *in silico* models for the prediction of mutagenicity

*R. Middlemiss, I. Crooks, J. Lopez-Belmonte, L. Nielson, C. Meredith*

**P16-027**
Six-month repeated dose toxicity of subcutaneously administered BM41, a novel allergen immunotherapy candidate, in Wistar rats

*P. P. Chrusciel, U.-M. Jaakkola, L. Linko, L. Aglas, F. Ferreira-Briza, F. Stolz, L. Jongejan, R. van Ree, E. Yatkin*

**P16-028**
Nonclinical development of products intended for treatment of damaged skin

*J. Løgsted, T. Starostka, A. Makin*

**P16-029**
Critical review of the human database used for performance evaluation of defined approaches to skin sensitisation testing


**P16-030**
The use of dosimetric modeling in the derivation of acute inhalable DNELs for nickel metal and nickel compounds

*M. Taylor, S. Seilkop, A. Oller*
P16-031
Proposal for a selection of priority biocide mixtures in consumer products: screening the potential synergistic toxicity on pulmonary fibrosis

*J. Kim, Y. Lee, Y.-Y. Lim, H. Keum, H. Kim, S.-I. Shin

P16-032
Computational toxicology @ German Toxicology Society

*J. vom Brocke, M. Frericks, S. E. Escher, L. T. Anger, German Toxicology Society

P16-033
Assessment of priority tobacco additives per the requirements of the EU Tobacco Products Directive (2014/40/EU)


P16-034
Read-across approach, based on a combined use of five in silico tools, predicts practically identical true compound toxicity

*S. Heinz, A. Granitzny, A. Mol, S. Nakagawa, A. Fuchs, R. Fautz

P16-035
A QSAR and read-across methodology for genotoxicity endpoints to support registration of agrochemicals in Europe

*L. Brierley, E. Booth, E. Lessmann, K. Bridgwood, D. Parr-Dobrzanski

P16-036
Incorporation of rabbit suitability as a test species in a Framework to evaluate an adequate adaption for PNDT 2nd species information requirement under REACH

*N. Synhaeve, J. E. Foreman

P16-037
Applying pathway-oriented thinking to problem formulation for planning a systematic review: a case study with aluminium-containing antiperspirants and female breast cancer risk

*N. Roth, M. F. Wilks

P16-038
How to develop the best strategy to meet the reproductive toxicity information requirements within the EU REACH regulation

*S. Bergeret, M. Bilau, S. Jacobs

P16-039
Assessment strategy for the identification of endocrine disruptors under the biocidal products and plant protection products regulations


P16-041
A review of the toxicological information available for dicyclopentadiene (DCPD) pertinent to its assessment to potentially cause endocrine disruption

*T. Petry, N. Aygun Kocabas, B. Mani, E. Rushton, M. Rooseboom, N. Synhaeve, G. Martin

P16-042
Can diet-induced obesity and food restriction separate body weight-related from drug-related findings in rats following treatment with an anti-obesity compound?

**P16-043**  
Tobacco and tobacco products test results before and after the implementation of the 2014/40 EU tobacco directive  
*I. Vidic Strac, N. Dimitrov, B. Damianic, D. Brlek Gorski, B. Vučić, L. Hrnjkaš*

**P16-044**  
Systematic evaluation of *in vitro* data for hazard and risk assessment – development of the SciRAP tool  
*A. Beronius, J. Ziliacus*

**P16-045**  
EDC-MixRisk: novel whole mixture approach to improve risk assessment of EDC-mixtures  
*E. P. Drakvik, J. Rüegg, A. Bergman, On behalf of the EDC-MixRisk Consortium*

**P16-046**  
Feasibility study for the applicability of the ECHA/EFSA guidance for the identification of endocrine disruptors – the example of α - cypermethrin  
*C. Rovida, F. Panza, M. Locatelli*

**P16-047**  
SweNanoSafe – a national platform promoting safe handling of nanomaterials  

**P16-048**  
Impact of the new ERA guidance on the conduction of pharmacokinetic ant toxicity studies  
*R. A. Wess*

**P16-049**  
Hazard assessment of hydrazine, a possible migration contaminant from drinking water apparatus  
*M. Matsumoto, T. Igarashi, K. Inoue, T. Yamada, A. Hirose*

**P16-050**  
What is the risk of drinking water downstream from sites polluted with polycyclic aromatic hydrocarbons (PAHs)? Comparative toxicity of oxygenated polycyclic aromatic compounds (O-PACs) to associated PAHs.  
*M. Bisson, E. Granier, J. Michel*

**P16-051**  
The role of chemical analysis in supporting the European Union's ban on characterising flavors in tobacco products  

**P16-052**  
Analysis of level 1 and 2 of the OECD guidance document 150 for evaluating chemicals for endocrine disruption and applicability in the EU  
*F. Panza, F. Panza, C. Rovida, C. Rovida, M. Locatelli, M. Locatelli*

**P16-053**  
Comparison of single, paired and group housing effects on cardiovascular parameters and body temperature in telemetered cynomolgus monkeys  
*P. Singh, A. I. El Amrani, S. Loriot, F. El Amrani-Callens, M. E. Duclos, R. Forster*
P16-054
In silico acute toxicity protocols and models

P16-055
New TTC database compilation to support thresholds of toxicological concern in the risk assessment of antimicrobials beyond Cramer classes
*A. Mostrag, C. Yang, M. Cheeseman, J. Rathman, N. Skoullis, V. Vitcheva, M. T. Cronin

P16-056
Tyrosinaemia: factors affecting production & excretion of HPPA during inhibition of HPPD
*C. Strupp, M. Provan, J. Botham, G. Semino-Beninel, J. Zimmermann, P. Botham, M. Frericks, J.-C. Garcin

P16-057
GHS "Serious Eye Damage" mixture classification: predictive capacity of the calculation method versus test data
*D. Byrne, R. Scazzola, P. Botham, P. Todd, G. Boeije

P16-058
This poster has been withdrawn.

P16-059
Analysis of mycotoxins and toxic elements in laboratory animals feed
*L. Radko, L. Panasiuk, M. Durkalec, P. Jedzianak, A. Nawrocka, S. Stypuła-Trębas, A. Posyniak

P16-060
Comparison of two commercially available systems proposed for oral administration of capsules in rats
*G. Chevalier, D. Papineau, A. Cirio, Y. Lambert, G. Repérant, P. Singh

P16-061
Intravitreal drugs: how define safety limits for high concern impurities
*C. Landolfi, E. Fabris, C. Bartella, L. Durando

P16-062
Novel methods for estimating NOAEL confidence bounds and optimising similarity measures for read-across workflows

P16-063
Predictive capacity of the iSafeRat EICM: eye irritation/corrosion prediction model (QSAR)
*C. Charmeau-Genevois, M. Delannoy, J. M. Arbona, M. Duplaa, P. Thomas

P16-064
Identification and quantification of fragrance allergens in aromas for e-cigarettes
*A. Pawelec, B. Wielgomas

P16-065
CLARITY-BPA study: analysis for non-monotonic dose-responses
*C. Beevers, M. Badding, L. Barraj, A. Williams, C. Scrafford, R. Reiss

P16-066
Prediction of adverse effects in preclinical subchronic studies by analysis of adverse effects from shorter-term studies using e.g. the RepDose database
*F. Moradi Afrapoli, M. Wehr, A. Bitsch, S. E. Escher

P16-067
This poster has been withdrawn.
**P16-068**
Towards an automated workflow for adverse outcome pathway hypothesis: the use case of non-genotoxic-induced hepatocellular carcinoma

*T. Doktorova, T. Exner, B. Hardy, T. Mohoric, N. Oki

**P16-069**
A new *in silico* method to predict with high probability the absence of potential for endocrine disruption

*P. Thomas, C. Charmeau-Genevois, F. J. Bauer

**P16-070**
This poster has been withdrawn.

**P16-071**
Can the battery of *in vitro* and *in silico* methods resolve current deadlocks with skin sensitisation?

*A. Sharma, F. Sahigara, C. Chesne, F. J. Bauer, P. Thomas, C. C. Genevois

**P16-072**
Benchmark dose modeling for hematologic effects of occupational benzene exposure

*C. M. North, M. Rooseboom, A. Dalzell

**P16-073**
Evaluation of sexual maturity in the RasH2 mouse model

*G. Quesseveur, E. Drevon-Gaillot, H. Voute, M. Aujoulat, M. Sillon

**P16-074**
EuroMix handbook for mixture risk assessment

*J. Ziliacus, A. Beronius, A. Hanberg, M. Luijten, H. van der Voet, J. van Klaveren

**P16-075**
Role of kinetically derived maximum dose (KMD) in top-dose selection for chronic repeated dose toxicity studies

*J. Domoradzki, M. Corvaro, C. Terry
**P17 - RENAL TOXICOLOGY**

1st Floor

**P17-001**
The effect of subacute poisoning with fenproporphan on TNF alpha and interleukin 1 beta in mice kidneys

*B. Nieradko-Iwanicka, M. Jaremek*

**P17-002**
This poster has been withdrawn.

**P17-003**
Protective effects of *Dendropanax Mor bifera* against cisplatin-induced nephrotoxicity without blocking chemotherapeutic efficacy in animal models

*J. H. Park, J. S. Kim, J. S. Lim, J. Y. Son, K. S. Kim, H. S. Kim, J. H. Kwak*

**P17-004**
A mechanistic model incorporating IVIVE to quantify a proposed AOP on the nephrotoxicity of NSAIDs

*J. Pletz, T. Allen, J. Madden, M. T. Cronin, S. Webb*

**P17-005**
Overexpression of organic anion transporters in HEK293 reveals high affinity for aristolochic acid 1

*H. Bastek, G. Mucic, T. Zubel, A. Mangerich, S. Beneke, D. Dietrich*

**P17-006**
Protective effect of SIRT-1 inhibitor, EX527, against high fat diet-induced nephrotoxicity

*A. Kundu, J. H. Park, J. S. Kim, J. S. Lim, H. S. Kim*

**P17-007**
Applying immunoaffinity-proteomics to validate and identify drug-induced kidney injury biomarkers in *Cynomolgus* monkey's urine

*W. Naboulsi, H. Planatscher, J.-C. Gautier, X. Zhou, T. Joos, O. Pötz*

**P17-008**
Intravenous glutamine infusion is not toxic in partially nephrectomized rats


**P17-009**
Nephrotoxicity of uranium after low-dose chronic exposure of Nrf2 KO mice


**P17-010**
Generation and characterisation of induced pluripotent stem cells- derived renal proximal tubular-like cells

V. Chandrasekaran, R. Gupta, F. Caiment, J. C. S. Kleinjans, P. Jennings, *A. Wilmes*

**P17-011**
Investigation on chemical induced mitochondrial toxicity in human proximal tubular epithelial cells

*G. Carta, P. Jennings*
**P18-001**
GM stack soybean
MON87701×MON89788 reproduction toxicity investigation
*E. A. Baranov, S. Shestakova, E. Sadykova, N. Tyshko*

**P18-002**
Two-generation reproduction toxicity studies of novel food sources: chronobiologic features
*E. O. Sadykova*

**P18-003**
This poster has been withdrawn.

**P18-004**
This poster has been withdrawn.

**P18-005**
This poster has been withdrawn.

**P18-006**
Validation of a novel human stem cell-based gene expression assay for *in vitro* DART assessment
*I. Brandsma, P. Racz, T. Zwetsloot, S. Hartvelt, G. Hendriks*

**P18-007**
Copper nanoparticles alter cell viability and steroidogenic activity of gonadal cells
*S. Scsukova, A. Bujnakova Mlynarcikova, F. Alonso, A. Sirotkin*

**P18-008**
Molecular mechanisms behind blood vessel formation in human *in vitro* cellular vasculogenesis and angiogenesis model and their connection with teratogenesis
*T. Heinonen*

**P18-009**
Hazard identification of pesticide reproductive toxicity – different methodological approaches
N. Shepelska, *Y. Kolianchuk, M. Prodanchuk*

**P18-010**
Irreversibility of non-monotonic and monotonic dose-response curves of pesticide lambda-cyhalothrin antiandrogenic effect
N. Shepelska, Y. Kolianchuk, *I. Rashkivska, M. Prodanchuk*

**P18-011**
Optimising the design of minipig embryofetal studies
*A. Makin, J. Løgsted, S. Ellemann-Laursen*

**P18-012**
The effects of perfluorooctanoic acid (PFOA) on fetal and adult rat testis
*A. Eggert*

**P18-013**
Activation of sigma-1, MT$_1$, and MT$_2$ receptors prevents pre- and postnatal disturbances in rat offspring induced by cigarette smoke and ethanol exposure
*A. S. Solomina, E. D. Shreder, L. G. Kolik, A. D. Durnev*
P18-014
Recent findings on reproductive, developmental and systemic toxicity of propyl para-ben show no evidence of endocrine activity
*S. Fayyaz, R. Kreiling

P18-015
Safeguarding food safety: Rapid screening of phosphodiesterase 5 (PDE5) inhibitors as adulterants in selected food matrices using enzyme assay
*A. Y. Mohd Yusop, L. Xiao, S. Fu

P18-016
Comparative evaluation of bisphenol A analogues in silico
*M. Vasilyeva, S. Sychyk, I. Ilyukova

P18-017
Embryotoxicity of sodium valproate is correlated to the dysregulation of autophagy
*Y. Ma, J. Zhang

P18-018
Extended one-generation reproductive toxicity of thiamethoxam in rats
*V. Malashetty, U. Bhatnagar, N. Rajesh, M. S. Mulla

P18-019
Assessment of a framework to identify analogues for read-across: case study
*A. Y. Caballero, C. Toma, D. Gadaleta, Y. Perez, E. Benfenati

P18-020
Extended one generation reproductive toxicity study- EORGT (OECD 443): How to successfully integrate additional parameters to meet specific regulatory and scientific requirements

P18-021
Effects of paroxetine on biochemical parameters and reproductive function in male rats
*R. Mosbah, A. Chettoum

P18-022
Teratological evaluation of artichokeleaf extract in rats

P18-023
Effect of selective serotonin reuptake inhibitors on the serotonin system and junc-tional protein in human placenta
*L. Ok, A.-A. Hudon Thibeault, C. Vaillancourt
**P19-001**
The toxicity of triptolide and mechanism involved

*Z. Huang, F. Shen, J. Li, J. Zhou, W. Wang, Y. Cheng

**P19-002**
‘Notch or Not’ – mystery of an unexpected gastrointestinal toxicity of a gamma secretase modulator

*G. Schmitt, S. Badillo, T. Bergauer, C. Bertinetti, M. Odin, S. Roberts, I. Wells, E. Wolz

**P19-003**
Exposure to an aerosol generated by a novel electronic cigarette using MESH™ technology causes lower biological alterations than cigarette smoke on buccal organotypic epithelial cultures


**P19-004**
Predicting systemic concentrations following topical application using physiologically based kinetic modelling

*I. Sorrell, H. Li, R. Cubberley, R. Pendlington, B. Nicol, D. Sheffield, J. Pickles

**P19-005**
Risk assessment of methanol in consumer products

*J. S. Kang, Y. C. Kwon, M. K. Kim, B. M. Lee

**P19-006**
Next generation risk assessment of coumarin in personal care products


**P19-007**
Development of in vitro hepatotoxicity assessment system to predict the toxicological potential of cosmetic raw materials

*S. Sekine, T. Nukaga, M. Kawaguchi, A. Takemura, T. Susukida, S. Oeda, M. Hirota, H. Kouzuki, K. Ito

**P19-008**
This poster has been withdrawn.

**P19-009**
The UK Committee on Toxicity: Review of chemicals in the diets of infants and children aged 0 to 5 years

*B. Doerr, C. Tsoulli, D. Hedley, F. Hill, R. Acheampong, J. Shavila, D. Gott. On behalf of the Food Standards Agency (FSA, Chemical Risk Assessment Unit) and the Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment (COT)

**P19-010**
Estimation of acceptable ranges of hematological parameters in Wistar rats for a better understanding of adverse and non-adverse effects of test substances in toxicity studies


**P19-011**
Rat myocardium contractility changes associated with a subchronic lead intoxication

**P19-012**
Prediction of endocrine disruption via QSAR modeling of androgen, estrogen, and aryl hydrocarbon receptor binding
*M. Girireddy, S. Chakravarti, R. Saiakhov

**P19-013**
Biological safety evaluation of Ti-Nb-Zr dental implant fixture in rabbits

**P19-014**
CeleScreen: innovative method of assessing toxicity in whole organism

**P19-015**
Acute and 90 day sub chronic oral toxicity study of herbal medicine containing *Abri folium*, *Licorice*, *Thymi herba*, *Chrysanthemi flos*, and *Imperatae rhizoma* in rats
*E. N. Sholikhah, M. Mustofa, F. S. Yuliani, S. Purwono, S. Widyarini, S. Sugiyono, N. Ngatidjan, -

**P19-016**
To the mechanism of combined action of the plant growth regulator of 2,6-dimethylpyridine-N-oxide (Ivin) and pesticides
*O. Vasetskga, M. Prodanchuk, O. Kravchuk, O. Zubko, P. Zhminko

**P19-017**
Gaining insight into toxicity predicting machine learning algorithms

**P19-018**
A case study to leverage public resources to improve in silico chemical safety assessment

**P19-019**
In silico prediction of respiratory complex I inhibitors
*T. Ghafourian, T. Powell, A. Rosell-Hidalgo

**P19-020**
Modelling of compounds interaction with P-glycoprotein: an in silico aproach towards identification of safer chemicals
*L. Mora Lagares, M. Novič, N. Minovski

**P19-021**
Administration of 3,4-dimethylmethcathinone (3,4-DMMC) and methylone increases the release of antidiuretic hormone in female Wistar rats
*A. C. Faria, H. F. Carmo, C. Teixeira, D. Rouxinol, J. P. Silva, M. D. L. Bastos, F. D. Carvalho, *D. C. Dias da Silva

**P19-022**
Administration of 3,4-dimethylmethcathinone (3,4-DMMC) and methylone to Wistar rats disturbs the energetic and antioxidrant homeostasis in liver, brain, kidney and heart.
*C. T. Teixeira, H. F. Carmo, D. Rouxinol, A. C. Faria, J. P. Silva, F. D. Carvalho, M. D. L. Bastos, D. D. D. Silva
P22 – TOXICOLOGY OF THE IMMUNE SYSTEM
1st Floor

P22-001
Development of a zebrafish larvae screening assay to identify compounds with immunotoxicity and anti-inflammatory activity
I. Iturria, O. Jaka, C. Martí, A. Muriana, *M. J. Mazón

P22-002
Predicting the impact of immune interventions by a systems biology approach

P22-003
Developing a strategy for assessment of protein allergenicity using proteomic and bioinformatic (AllerCatPro) analyses
*N. L. Krutz, C. Ryan, J. Winget, D. McMillan, S. Maurer-Stroh, I. Kimber, F. Gerberick

P22-004
Chronic oral exposure to the food additive silicon dioxide (E551) induces food intolerance in mice
*N. M. Breyner, P. A. Leitao, C. Cartier, E. Gaultier, A. Guillard, B. Lamas, E. Houdeau

P22-005
Probabilistic prediction of human skin sensitiser potency for use in next generation risk assessment (NGRA)

P22-006
Effects of trichloroethylene exposure on the expression of genes involved in TAP-dependent antigen presentation pathway

P22-007
Common indoor air contaminating mycotoxin enniatin B potentiates proinflammatory repertoire of macrophages by microbial structural fragments
*V. S. Lämsä, M. Viliksela, M. Korkalainen

P22-008
Skin sensitisation potential: addressing concomitantly several events of the AOP using a 3D keratinocyte / THP-1 co-culture

P22-009
The emerging mycotoxin alternariol modulates the immune response of gastrointestinal cells in vitro
*D. Marko, E. Cenk, C. Schmutz

P22-010
Pathway regulation of glyphosate, the co-formulant POEA and herbicide products in a dendritic cell model

P22-011
TDAR and splenic lymphocyte subpopulation analysis in extended one-generation reproductive toxicity studies (OECD 443)
P22-012
Validation of three flow cytometry panels for blood cell subpopulation analyses in Göttingen Minipigs

*M. Carrière, M. L. Hamel, T. Rubic-Schneider, P. Schiønning, H. Duelund Pedersen, R. Forster, P. Ancian

P22-013
Assessment of alternative assay formats for assessment of the potential to initiate a cytokine storm response

C. Cooper, *J. R. Munday

P22-014
Skin immune system in the juvenile Göttingen Minipig

*L. Allais, E. Brisebard, N. Ravas

P24-001
Molecular targets of aflatoxin B1 in human primary trophoblasts

*R. El Dairi, *R. El Dairi, P. Huuskonen, P. Huuskonen, M. Pasanen, M. Pasanen, J. Rysä, J. Rysä

P24-002
Determination of barium in barium chloride poisoning samples by microwave digestion-inductively coupled plasma mass spectrometry

*Y. Luan, F. Wang, J. Huang, Y. Dong, Q. Jie

P24-003
Cultivation and attachment of hRPTEC/TERT1 cells on silk fibroin membranes

*G. Mucić, S. Beneke, D. Dietrich

P24-004
Hepatocyte-like cells in microfluidic devices: a new platform for disease modelling, drug screening and toxicology


P24-005
An in vitro-in silico strategy to predict gut microbial metabolism of the isoflavone daidzein and resulting plasma concentrations of its metabolite S-equol

*Q. Wang, B. Spenkelink, R. Boonpawa, I. M. C. M. Rietjens, K. Beekmann
P24-006
High-throughput platform for rapid TEER measurement of organ-on-a-chip endothelial and epithelial tubules

*W. Strijker, A. Nicolas, E. Naumovska, S. J. Trietsch, T. Hankemeier, P. Vulto, J. Joore

P24-007
The in vitro study of the metabolism of zearalenone (ZEN) by intestinal microbiota from three species

*D. M. Mendez-Catala, B. Spenkelink, I. M. C. M. Rietjens, K. Beekmann

P24-008
A comparative study on risk characterization methods for combined inhalation exposures to biocide mixtures in consumer products

*S. Shin, Y. Lim, H. Kim, J. Kim

P24-009
In vitro fermentation of pleurotus ostreatus and ganoderma lucidum by human gut microbiota: cytotoxic, genotoxic and metabolomic analysis of the products

*P. Georgiadis, P. Christodoulou, E. Lianou, A. Boulaka, E. Mitsou, M. Vlissopoulos, G. I. Zervakis, A. D. Karagouni, A. Kyriacou, M. Zervou, V. Pletsa

P24-011
Candida albicans increases inflammatory responses through ER stress in human colorectal epithelial cells


P24-012
The risk management strategy in chemicals risk area of Thailand

*N. Sripaung

P24-013
Microbial biotransformation of azo dyes to carcinogenic aromatic amines

*M. Olejnik, K. Pietruk, M. Skarżyńska, M. Słomiany-Szwarc, E. Iwan, D. Wasyl, M. Piątkowska

P24-014
Smoked meat products: assessment of hormonal activity using estrogen receptor transactivation assay and immature hamster uterotrophic responses

*S. Stypuła-Trebas, L. Radko, T. Kiljanek, M. Goliszek, P. Jedziniak, A. Posyniak

P24-015
AOP-based experimental models to evaluate effects of azole mixtures

*A. Moretto, M. Battistoni, F. Di Renzo, F. Metruccio, L. Palazzolo, I. Eberini, E. Menegola

P24-016
Microbiome modification as possible way to reduce toxic load in agriculture (on the example of cereal spiked crops treatments)

P24-017
Establishment of a multi-organ-chip based identification platform for endocrine disruptors


P24-018
Streptococcus pneumoniae inhibits Pseudomonas aeruginosa growth on nasal human epithelium in vitro

*S. Constant, C. Bertinetti, O. Verbeke, M. Caul-Futy, L. Wiszniewski, S. Huang

P24-019
High-throughput teratogenicity screening validation in zebrafish embryos


P24-020
Development of a rodent liver-thyroid-2-organ-chip for thyroid toxicity testing

*D. Boehm, J. Kühnlenz, M. Raschke, S. Bauer, G. M. Schmuck, R. Bars, U. Marx, T. Steger-Hartmann

P24-021
Risk assessment of EDCs in Europe based on human biomonitoring data

*D. Sarigiannis, S. Karakitsios, A. Gottl, V. Kumar, M. Schuhmacher, C. Brochot, A. Crepet, M. Martin Scheringer, E. Dominguez, J. Bessems, K. Baken, M. Horvat, J. Tratnik

LATE POSTERS

All late posters may only be presented via the e-poster terminals.

P-Late-01
Prediction of non-genotoxic carcinogenic potential of agrochemicals


P-Late-02
Cosmetic Safety Assessment : in silico contribution in practice

*A. Detroyer, F. Gautier, G. Ouedraogo, J. Eilstein, C. Piroird, F. Tourneix

P-Late-03
Arsenic exposure in relation to diet and geography in adults higher than 50 years from Northern Ireland

*N. V. de Moraes, M. P. Carey, C. E. Neville, F. Kee, I. Young, J. Woodside, A. Meharg

P-Late-04
Copy number variants in silver nanoparticles-primed hyperactive rats

*M. Ishido

P-Late-05
This poster has been withdrawn.

P-Late-06
Dietary exposure of Finnish children and adults to inorganic arsenic

*J. Suomi, L. Valsta, S. Niinistö, S. Virtanen, P. Tuominen
P-Late-07
Validation and use of in vitro 3D Skin genotoxicity assays in a tiered strategy to support the safety assessment of cosmetic ingredients
*G. Ouedraogo, R. Fautz, K. Reisinger, S. Hoffmann, N. Hewitt, J. Kenny, M. Delagrange, B. Desprez, S. Pfuhler

P-Late-08
A novel cell-based high-throughput screening assay to identify and characterize potential (anti-)estrogenic substances
*S. Klutzny, M. Kornhuber, S. Dunst, G. Schönfelder, M. Oelgeschläger

P-Late-09
A new functional assay to identify chemicals with estrogenic potential
*M. Kornhuber, S. Dunst, S. Klutzny, M. Oelgeschläger, G. Schönfelder

P-Late-10
Characterizing the low dose effects of methylmercury in early developmental stages using cultured human embryonic stem cells
*B. Li, X. Jin, L. H. Chan

P-Late-11
Are Generic PBK Models the Panacea for QIVIVE?
S. Fragki, *A. Piersma, J. Westerhout, A. Kienhuis, N. Kramer, M. Zeilmaker

P-Late-12
Effect of a high-fat diet on factors related to energy balance and inflammation in AH receptor-deficient rats
*R. Pohjanvirta, I. Karppinen, S. Galbán Velázquez, J. Esteban, H. Häkansson

P-Late-13
Can inducing Phase II metabolism in the liver perturb thyroid homeostasis enough to cause adverse foetal neurodevelopment?
*T. Allen, R. Currie, L. Dyson, S. Webb

P-Late-14
Assessing safety concern of food contact chemicals in absence of toxicological data
*S. Manganelli, B. Schilter, G. Scholz, E. Benfenati, E. Lo Piparo

P-Late-15
Genomics analysis reveals the molecular mechanisms underlying the hepatotoxicity associated with oral azole drugs

P-Late-16
Development of three dimensional bio-mimetic hepatic zonation system

P-Late-17
Cross-species comparison of CAR-mediated procarcinogenic key events in a 3D liver microtissue model
*S. Plummer, B. Cassidy, S. Wallace, G. Ball, J. Wright, D. Cowie

P-Late-18
Absence of Mutagenic and Clastogenic Effects of Decolorized Aloe Vera Whole Leaf Juice Concentrate in Mammalian Cells by the L5178Y/TK+/- Mouse Lymphoma Assay
*T. Hu, M. Lloyd, P. Cox, Q. Gao, G. Pearce, V. Frankos
P-Late-19
Mechanistic studies in cadmium-induced carcinogenesis using the Cell Transformation Assay.
*M. Oldani, M. E. Forcella, A. M. Villa, P. Melchioretto, C. Urani, P. Fusi*

P-Late-20
Evaluation of the toxic effects of aluminum containing nanomaterials in vitro and in vivo.
*K. Hogeveen, A. - C. Boisson, P. Jalili, B. Krause, P. Laux, V. Fessard*

P-Late-21
Is the current Biocidal Regulation in Europe protective enough with human health and the environment? An evaluation case of wood preservatives.
*D. Weronski*

P-Late-22
A 3D-tetraculture system at the air-liquid interface as valuable tool for hazard assessment of respiratory irritants and sensitizers

P-Late-23
Assessing the suitability of advanced 3D in vitro hepatic spheroid models as potential in vivo substitute models for acute and long-term engineered nanomaterial genotoxicity and hazard assessment.
*S. V. Llewellyn, U. - K. Shah, S. J. Evans, G. J. Jenkins, M. J. Clift, S. H. Doak, Research funded by EU Horizon 2020 project PATROLS (EU Grant Agreement #: 760813).*

P-Late-24
In vitro-in silico-based prediction of peroxisome proliferator-activated receptor γ (PPARγ) activation by bixin and crocetin in humans
*S. Suparmi, L. de Haan, A. Spenkelink, J. Louisse, K. Beekmann, I. Rietjens*

P-Late-25
Use of generic reference values for estimation of the sensitization/hypersensitivity potential of substances extracted from medical devices
*A. M. Deters, A. Raemisch, S. Dorn*

P-Late-26
Impedance spectroscopy as a method to discriminate between all GHS categories for eye irritation in vitro
*C. Lotz, L. Kieswetter, J. Hansmann, H. Walles, F. Groeber-Becker*

P-Late-27
Toxicological approach in the safety assessment of novel foods in the European Union (EU)
*P. A. Colombo, R. Ackerl, W. Gelbmann, A. Germini, A. Rossi, E. Turfa, E. Ververis*

P-Late-28
Assay-Ready Use of KeratinoSens® Cells in Skin Sensitization
*L. Focke, V. De Boor, O. Wehmeier*

P-Late-29
A two-year carcinogenicity study of the new opioid receptor antagonist ondelo-pran in rats
**P-Late-30**
Assessing reactive oxygen species produced by nanomaterials and their consequences for cells: contribution to a testing strategy for grouping approaches
*A. Giusti, M. Boyles, F. Murphy, J. Keller, N. R. Jacobsen, H. Braakhuis, A. Haase, V. Stone, W. Wohlleben*

**P-Late-31**
The development of an *inhouse* reconstructed human epidermis (RhE) and performance as a skin irritation model.
V. C. Gagosian, A. C. Schwarzer, M. A. Silva, E.S. Trindade, D. M. Leme, *C. Pestana*

**P-Late-32**
Immune response of the sea urchin *Paracentrotus lividus* to contaminated marine sediments
*A. Milito, C. Murano, I. Castellano, G. Romano, A. Palumbo*

**P-Late-33**
Comparison of suspension method vs. sandwich culture method for the generation of human alveolar lung organoids
*S. Choi, E. - M. Kim*

**P-Late-34**
Testicular toxicity of nanosilver and extrapolation to non-nano forms of silver
*D. Andrew, A. Lardas*

**P-Late-35**
Toxicity Assessment of graphene oxide in zebrafish as a model organism
*M. Bangeppagari, S. J. Lee*

**P-Late-36**
Establishment of a tolerable daily intake (TDI) for hydroxyanthracene derivatives (HAD) in Aloe vera by benchmark dose modelling (BMD)
J. Hu, *V. Frankos, T. Smillie*

**P-Late-37**
Comparison of negative control historic data of the Bacterial Reverse Mutation Test (Ames Test): Implications in assays acceptance and results evaluation.
*B. Brito Palma, C. Pires, J. P. Costa, I. Sardo, D. Palma, C. Martins*

**P-Late-38**
Investigation into the effects of metabolism on the cytotoxicity of a subset of cosmetically-relevant compounds using an animal-product-free assay

**P-Late-39**
Development of a 3D Genotoxicity Model for Assessment of Cosmetic Formulations

**P-Late-40**
Association of blood lead and mercury with thyroid function in Korean National Health and Nutrition Examination Survey 2013
*T. Kim*
With more than 25 years of expertise in the organisation of conferences and strategic alliances, we are now based in Germany with Europe at our feet and operational offices worldwide. Over 2,500 congresses, organised across 5 continents, from 50 to 28,000 participants!

We can be everywhere for you!

www.kit-group.org
Exhibitor Booth Map
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Exhibitor & Sponsor Profiles

**BOOTH NO. 14**

**11th World Congress on Alternatives and Animal Use in the Life Sciences**

WC11 stands for “11th World Congress on Alternatives and Animal Use in the Life Sciences 2020”. The WC11 congress will be held at the MECC Maastricht in the Netherlands from 23-27 August 2020.

[www.wc11maastricht.org](http://www.wc11maastricht.org)

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**BOOTH NO. 52**

**ACCELERATE S.r.l.**

With Accelerate, experience results. Company (founded before 2013)

Built on decades as part of the international pharmaceutical industry, Accelerate offers complete preclinical support from candidate selection to final drug registration

**Services:**

- Attrition Reducing Technologies (ART)
- Toxicology Screening
- IND Enabling Packages
- Safety Pharmacology
- Chronic Toxicology
- Development and Reproductive Toxicology (DART)
- Clinical Bioanalysis & Pharmacokinetics
- PK/PK Modeling
- Medical Devices
- Translational Sciences
- Isotope Chemistry /Drug Disposition
- Metabolite Profiling and Identification
- Regulatory Consultancy and Documentation
- Oncology and Cell Therapies
- Accelerate is part of Safety Alliance

[https://www.accelera.org](http://https://www.accelera.org)
ACS Publications

ACS Publications, a division of the American Chemical Society, is a nonprofit scholarly publisher of over 50 peer-reviewed journals and a range of e-books at the interface of chemistry and related sciences, including physics and biology, which are consistently ranked among the most cited, most trusted, and most read in scientific literature. The Division offers high quality, rapid time to publication, a range of channels to access the publisher’s cutting-edge digital platform, and a comprehensive program of Open Access initiatives. ACS Publications also publishes Chemical & Engineering News—a news magazine covering science and technology, business and industry, government and policy, education, and employment aspects of the chemistry field.

https://pubs.acs.org

Admescope

Admescope is a preclinical contract research organisation (CRO) providing tailor-made ADME-Tox services for drug discovery and development companies. The service offering is widely spread over the whole ADME-Tox area covering studies both for small molecules and biologics with top-notch expertise in in vitro & in vivo drug metabolism; including metabolite profiling & identification, drug-drug interactions and quantitative bioanalysis. Our toxicology portfolio covers several in vitro assays for screening of cytotoxicity, genotoxicity, and cardiotoxicity, as well as assays to evaluate the mechanistic issues related to toxicity. We also provide assays for reactive metabolite screening and evaluation of reactivity of acyl-glucuronide metabolites.

https://www.admescope.com

AnaPath

AnaPath is one of Europe’s largest pre-clinical CROs specialized in histotechnology and pathology. We serve CROs, pharma, biotech and chemical companies as well as academia and the medtech industry with GLP-compliant services. Our core business in toxicological pathology is complemented with molecular pathology (IHC; FISH; TCR Studies), fetal pathology, histopathology for endocrine disruptor studies in fish and frog, hard material processing, advanced microscopy (e.g. TEM, EDX, LCM) and digital pathology. Our board-certified pathologists also give expert advice and conduct peer reviews.

With our network, the so-called Safety Alliance Partners, we can organize and conduct full pre-clinical packages.

www.anapath.ch

Applied BioPhysics, Inc.

Applied BioPhysics manufactures Electric Cell-Substrate Impedance Sensing (ECIS) instruments. ECIS™ (Electric Cell-Based Impedance Sensing) is a real-time, impedance-based method to study the behavior of cells grown in tissue culture. Assays include TEER, migration, proliferation, signal transduction, cell differentiation, cell toxicity, as well as cell behavior under dynamic flow conditions. The measurement is continuous and label free.

www.biophysics.com
Axion BioSystems

Axion BioSystems Maestro multi-well micro-electrode array (MEA) platform allows you to “explore life’s circuitry.” Record networks of electrically active cells (neurons, cardiac, and muscle cells) in a multi-well plate label free in real-time. Over minutes or months, gain unprecedented access to electrical network function from cultured cell populations. Perfect for characterizing the behavior of diseased cells, screening for drugs to treat that disease and examining potential toxic effects of drug candidates, Maestro is an easy-to-use, compact analysis system suitable for any lab.

https://www.axionbiosystems.com/

Biobide

Compacted company description: Biobide is a Contract Research Organization with more than 14 years of experience offering Zebrafish Toxicity and Efficacy screening assays as well as disease modelling to Pharmaceutical, Biotech, Chemical, Tobacco and Cosmetic companies. All the know-how acquired during these years allows us to predict toxicities in a cost-time effective manner, such as acute toxicity, developmental toxicity, cardiotoxicity, hepatotoxicity, ototoxicity, neurotoxicity, immunotoxicity or ecotoxicity in discovery process. We are experts developing tailor-made studies based on our client's requirements: validation of diverse targets, models generation and toxicity/efficacy studies in different therapeutic areas (CNS, immune system, cancer, orphan diseases, etc.).

https://biobide.com/

BioIVT

BioIVT is the leading provider of high-quality, hepatic products and in vitro research services to inform R&D decisions and develop data for regulatory submissions. We set the standard for hepatocytes, microsomes and other hepatic products and offer innovative brands including TRANSPORTER CERTIFIED™ and LIVERPOOL® human hepatocytes, long-term HEPATOPAC® cultures.

www.bioivt.com

BioSpyder Technologies, Inc.

BioSpyder Technologies has developed a novel product for targeted sequencing called TempO-Seq®, a gene expression profiling tool designed to monitor hundreds to thousands of genes at once in high throughput. TempO-Seq can analyze expression in samples with thousands of cells or from single cells without pre-amplification, maximizing utilization of precious or limited samples. Sample barcoding, together with sequencing short fragments of each gene, enables pooling up to 6,144 samples in one sequencing run. Assay content is flexible and customizable delivering unprecedented accuracy and sensitivity with simplified data analysis that eliminates the need for bioinformatics. TempO-Seq assays deliver an easy to use solution for customers doing expression profiling for any species.

https://biospyder.com/
Cambridge Environmental Assessments

Founded in 2001, Cambridge Environmental Assessments (CEA) provides specialist safety risk assessment and regulatory expertise for chemicals and product registrations across Europe encompassing agrochemicals, biocides, veterinary and human pharmaceuticals, food ingredients and general chemicals. Our team of 30 consultants includes experts in environmental fate and behaviour, exposure modelling, ecotoxicology and toxicology. We also offer higher-tier aquatic toxicity testing and bespoke higher-tier environmental field fate experiments. Our regulatory affairs team can guide you through the chemical regulatory process, providing support in identifying and interpreting regulations and building submission dossiers applicable to your specific industrial area. We specialise in compliance under REACH, CLP/GHS and Biocides Product Regulation. Our consultants also have experience in other areas including the Seveso and EU Cosmetics Directive, Food additives and Novel Foods legislation.

www.cea.adas.co.uk

Charles River

Whether you are developing human or veterinary pharmaceuticals, agrochemicals, industrial chemicals, or biocides, Charles River can accelerate your journey to market with cost-effective, tailored solutions that satisfy global regulatory requirements. Our extensive network of facilities, scientific advisors, and technical teams continues to grow, allowing us to offer unparalleled depth in laboratory science, safety assessment, and regulatory guidance – delivered when and where you need it. This year, we are excited to welcome our colleagues from Citoxlabs, whose expertise furthers our capability to execute both stand-alone studies and complete programs accurately and efficiently.

www.criver.com

Chemical Watch

Chemical Watch provides independent intelligence and insight for product safety professionals managing chemicals. We help businesses across value chains stay ahead of the dynamic chemicals management agenda by providing access to in-depth knowledge, tools and a network of experts. We empower our members to transform product safety management and unlock the full value of regulatory compliance within their business.

chemicalwatch.com
BOOTH NO. 18
CHEMSAFE SRL

Chemsafe is an International Regulatory Affairs Company hosting 24 people in 4 Business Units: CHEMICALS, AGRO/BIOCIDES, PHARMA and MEDICAL DEVICES. They are all experts in the scientific/regulatory areas (chemists, industrial chemists, biologists, biotechnologists, risk assessors, biomedical engineers).

Activities to the Chemical Industry

- REACH (Strategies and Technical dossier)
- Biocide substances and products (strategies/technical dossier)
- Agrochemical substances and products (strategies/technical dossier)
- Cosmetic products (testing profile/PIF)
- Medical Devices (testing profile/technical file)
- Food Enzymes (EFSA dossier)
- Safety Data Sheet preparation (Europe/USA) -CLP/GHS classification for mixtures
- Risk Assessment (human health and environment)
- Consortia and Task Forces technical and administrative management
- "in silico" evaluation and assessment
- FOOD/FEED scientific/regulatory evaluation

www.chemsafe-consulting.com

BOOTH NO. 8+9+10 / PLATINUM SPONSOR
Citoxlab, A Charles River Company

Whether you are developing human or veterinary pharmaceuticals, agrochemicals, industrial chemicals, or biocides, Charles River can accelerate your journey to market with cost-effective, tailored solutions that satisfy global regulatory requirements. Our extensive network of facilities, scientific advisors, and technical teams continues to grow, allowing us to offer unparalleled depth in laboratory science, safety assessment, and regulatory guidance – delivered when and where you need it. This year, we are excited to welcome our colleagues from Citoxlabs, whose expertise furthers our capability to execute both stand-alone studies and complete programs accurately and efficiently.

www.criver.com

BOOTH NO. 67
CN Bio Innovations Ltd.

Our perfusion platform turns 2D culture into 3D tissues!
CN Bio Innovations develop human organ-on-chip and microfluidics technologies which enable the formation of miniature models of human organs in the lab. Our platform recreates the physiological and mechanical micro-environment of organs as well as permitting long-term culture of primary human cells, iPSC and cell lines. We provide products and services to the biotechnology industry and have used our proprietary organ-on-chip models in drug discovery and drug safety programs with over 25 pharmaceutical companies.

www.cn-bio.com
**BOOTH NO. 1**

**Concept Life Sciences**

Concept Life Sciences is a leading provider of integrated drug discovery, development and analytical services across multiple industries including pharmaceutical, biotechnology, agrochemicals, petrochemicals, chemicals, cosmetics and more. With an extensive track record in toxicology Concept delivers design, performance and interpretation of non-clinical investigative, mechanistic and exploratory toxicology programmes providing critical support when issues arise in the development of compounds. These programmes help to identify the toxicology mode of action / adverse outcome pathway affected by the compound in question. Additionally Concept can support bioanalysis of products from initial assay development and through GLP non-clinical and GCP clinical development.

www.conceptlifesciences.com

**BOOTH NO. 31 / SILVER SPONSOR**

**Covance, Inc.**

Covance Inc. is the world’s most comprehensive drug development company, dedicated to advancing healthcare and delivering Solutions Made Real® by providing high-quality nonclinical, clinical, commercialization and informatics services to pharmaceutical and biotechnology companies to help reduce the time and costs associated with drug development. Because of our broad experience and specialized expertise, we’re in a unique position to supply insights that go above and beyond testing. We have helped pharmaceutical and biotech companies develop each of the top 50 prescription drugs in the marketplace today.

We also offer laboratory testing services to the chemical, agrochemical and food industries and are a market leader in toxicology services, central laboratory services, discovery services and a top global provider of Phase III clinical trial management services. Together with our clients, we create solutions that transform potential into reality.

www.covance.com

**BOOTH NO. 62**

**Creatio – University of Barcelona**

Creatio is the production and validation center of advanced therapies of the University of Barcelona. Creatio has recently developed a new neurotoxicology and drug screening platform, Avantdrug. Avantdrug is focused on neuronal models obtained from human pluripotent stem cells for in vitro tests. We also offer in vivo services with animal models for neurodegenerative disorders. Avantdrug can develop projects and preclinical regulatory tests under ISO9001, GLP or GMP quality standards.

Creatio, through Avantdrug, offers developmental neurobiology assays, including neurite outgrowth, network evaluation and mature functionality by using high throughput and high cell content analyses. Avantdrug focuses drug screening approaches on in vitro human models for neurodegenerative disorders as well as on drug screening: neurodegenerative models, neural survival and maturation, and neuroinflammation analysis.

Creatio’s team has more than 25 years of experience working on neurodegenerative disorder.

http://www.ub.edu/creatio/#/home
Cyprotex

Cyprotex was founded in 1999 and specialises in in vitro and in silico ADME-Tox. The company has sites in the UK and the US. In 2016, Cyprotex was acquired by Evotec AG (www.evotec.com). As a whole, the Group offer integrated and stand-alone drug discovery capabilities as well as full CMC and IND-enabling services, allowing the company to provide expert support across the value chain from early discovery through to preclinical development and beyond.

www.cyprotex.com

ECETOC

ECETOC provides a collaborative space for top scientists from industry, academia and governments to develop and promote practical, trusted and sustainable solutions to scientific challenges which are valuable to industry, as well as to the regulatory community and society in general.

www.ecetoc.org

Edelweiss Connect GmbH

Edelweiss Connect provides the expertise and experience to initiate, coordinate and manage large collaborative research projects, with partners from industry and academia. Our goal is to incubate high impact products, services and startup companies at the forefront of innovation, with sustainability and responsibility.

Edelweiss Data™ is a unique platform for managing, harmonising and integrating data and is the powerful foundation for our future solution-based products and activities. In addition, we recently launched SaferSkin™, a cloud-based application for the integrated safety testing of the skin sensitisation potential of ingredients.

We connect people and data with integrated solutions for ingredient safety testing.

https://edelweissconnect.com

EC4SafeNano

The European Centre for Risk Management and Safe Innovation in Nanomaterials and Nanotechnologies, EC4SafeNano, is a 2016-2019 Coordination and Support Action, funded by the European Commission. EC4SafeNano aims to build an open collaborative network gathering expertise in risk management of nanotechnologies. EC4SafeNano is coordinated by INERIS, and operated together by major European risk institutes with the support of numerous associated partners, gathering all stakeholders involved in Nanomaterials and Nanotechnologies (regulators, industry, society, research, service providers etc.).

The project has received funding from the European Union’s Horizon 2020 research and innovation program under grant agreement No 723623

www.ec4safenano.eu
Ellegaard Göttingen Minipigs

Ellegaard Göttingen Minipigs is the breeder of Göttingen Minipigs founded on the idea of offering a well-defined non-rodent model with a high translational value. Göttingen Minipigs are bred in our AAALAC accredited barrier facility in Denmark focusing on our core values: Animal welfare, respect, collaboration and quality. We deliver animals to most of the world with dedicated partners supplying the markets in North America, Japan, Taiwan and South Korea, and our Göttingen Minipigs are also available to customers in India and China. Furthermore, we provide animals with e.g. permanent catheters, VAP ports, or telemetry devices plus surgically or diet induced disease models and provide exploratory pharmacology studies as well as “open lab” set-ups; all in addition to the collaborative development of transgenic Göttingen Minipigs.

www.minipigs.dk

Epicurus

Epicurus is a public-private partnership between Maastricht University and MetaAnalyses BVBA. We produce systematic reviews and meta-analyses with human populations for scientific publications and regulatory approval. Our clients include universities, public health regulators, non-governmental organizations, chemical and medicine companies and food industries (Info@epicurus-reviews.com).

www.epicurus-reviews.com

Epithelix

Epithelix is a Swiss biotech company specialized in tissue engineering. We are the leader for in vitro assessment of drug efficacy and toxicity on human respiratory tract. Epithelix provides worldwide unique and robust 3D in vitro human respiratory tissues (MucilAir™ and SmallAir™) which can be kept in culture for several months, allowing long-term and/or repeated testing in vitro. Several pathologies are available such as COPD, Asthma, Cystic fibrosis, etc...

Epithelix also offers a panel of innovative in vitro testing services tailored to meet the specific needs of its customers in chemical, cosmetic and pharmaceutical industry.

www.epithelix.com
The project “Nanoparticles for Brain Use, Diagnostic ad Ophthalmological Applications” (NABUCO) has been funded by the ERA. NET RUS PLUS initiative and brought together scientist from academic background and from applied science working in companies in Greece, Russia and Germany. Their complementary approaches, spanning from chemistry, nano-technology, toxicology, neurobiology to IT-based image analysis solutions, provide the opportunity to develop multi-modal nanoparticulate carrier systems for neuronal diagnostic and rescue, to prove the effectiveness in purpose-designed biological models and to assess their toxicological risk profile. (Grant RUSPLUS_INNO_169).

European Research Biology Center (ERBC) articulates the technical, scientific and regulatory expertise, know-how and track record required for non-clinical studies of any type of drug candidate, from preclinical proof-of-concept to market.

Offering a comprehensive range of experimental capabilities, preclinical models, regulatory pre-IND package and consultancy services, ERBC allows drug discovery and chemical industry professionals to de-risk innovation and enhance R&D productivity.

With highly qualified teams in France and Italy, ERBC is offering a customer-centric approach while committed in improving all aspects of non-clinical study design and conduct, combining the 3Rs and considering animal well-being as a priority.

https://www.eurofins.com/biopharma-services/
European Chemicals Agency

The European Chemicals Agency (ECHA) works for the safe use of chemicals. ECHA is the driving force among regulatory authorities in implementing the EU’s ground breaking chemicals legislation for the benefit of human health and the environment as well as for innovation and competitiveness.

We
· help companies to comply with the legislation,
· advance the safe use of chemicals,
· provide information on chemicals and
· address chemicals of concern.

We are a modern, science-driven organisation with ca. 600 staff members. ECHA was set up in 2007 and is located in Helsinki, Finland.

http://echa.europa.eu/

European Food Safety Authority (EFSA)

The European Food Safety Authority (EFSA) was set up in 2002 following a series of food crises with the aim to restore consumers’ confidence in the EU food safety system. EFSA provides scientific advice and communicates on potential risks along the entire food and feed chain. EFSA’s scientific remit covers consumers’ field-to-fork concerns to protect public, plant and animal health as well as the environment. EFSA evaluates the safety of substances intended to be used in the food and feed chain e.g. pesticides, GMOs, food ingredients and packaging, and gives scientific advice on animal welfare.

www.efsa.europa.eu/

Eurosaf is a specialized contract research organization (CRO) headquartered in Rennes, France with over 15 years serving the pharmaceutical, regulatory, cosmetic and chemical industries globally with expertise in toxicology and regulatory services. Eurosaf serves its customers for developing cosmetics and pharmaceuticals with 3 kinds of services: ADMET in vitro assays for discovery & development, consumer tests on volunteers, regulatory toxicology and in silico services of Homology modeling, Molecular Modeling (Toxicity Prediction), QSAR (Skin Sensitization) and PBPK for pharmacokinetics.

https://www.eurosafecro.com/en

EUToxRisk Project

EU-ToxRisk - An Integrated European ‘Flagship’ Programme Driving Mechanism-based Toxicity Testing and Risk Assessment for the 21st century – is a European research project aiming at a paradigm shift in toxicological testing towards human-relevant, animal-free, and mechanism-based hazard description and safety assessment. Involving 39 partners with an academic, regulatory and industrial background, EU-ToxRisk integrates advancements in cell biology, omics technologies, and computational modelling to define the complex chains of events linking chemical exposure to toxic outcome. EU-ToxRisk aims to strongly impact on the future regulatory chemical risk assessment for improving the protection of consumers’ health.

This project is funded by the EU-H2020 Research and Innovation programme (Grant Agreement no.681002).

http://www.eu-toxrisk.eu/
The Finnish Food Authority works for the good of humans, animals and plants, supports the vitality of the agricultural sector, and develops and maintains information system.

The Finnish Food Authority

- promotes, monitors and studies the safety and quality of food; the health and well-being of animals; plant health; fertiliser products, animal feeds and plant protection products that are used in agricultural and forestry production; and propagating materials i.e. seeds and planting materials.
- responsible for the use of the funds provided by the European Union’s agricultural guarantee and rural development funds in Finland, operates as the EU’s paying agency and monitors the implementation of EU and national grants – farming subsidies, project, entrepreneurship and structural subsidies as well as market subsidies.

www.ruokavirasto.fi/en/

**SPONSOR**

**Finnish Food Authority**

**BOOTH NO. 6**

**Henkel AG & Co. KGaA /Phenion**

Phenion – a Henkel brand – represents 15+ years of competence in skin physiology and in vitro research. Full-Thickness Skin Models, provided in different sizes, reflect pivotal features of human skin, allowing diverse research applications, e.g. regulatory accepted genotoxicity assays. The product portfolio is complemented with the AGED skin model, which mimics mature human skin, the Open Source Reconstructed Epidermis (OS-REp), a pure epidermal model, and with cryopreserved skin cells and corresponding culture media.

Henkel operates worldwide with leading innovations, brands and technologies in three business units: Adhesive Technologies, Beauty Care and Laundry & Home Care.

www.phenion.com

**BOOTH NO. 38**

**ibidi GmbH**

ibidi – cells in focus

ibidi’s position as a leader for functional cell-based assay technologies is based on more than 18 years of experience, a strong relationship to their customers, a spirit of innovation and a passion for quality and service.

The ibidi product portfolio provides the largest and most sophisticated selection of microscopy slides worldwide. Applications range from standard microscopy techniques to more advanced assays including migration and chemotaxis, cells culture under flow conditions, and angiogenesis. Moreover, ibidi has an extended expertise in solutions for stage top incubation, perfusion actuation, and image processing and analysis.

www.ibidi.com
ILSI Europe is a science driven non-profit organisation fostering collaboration among scientists from private and public sectors to provide evidence-based scientific solutions and pave the way forward in nutrition, food safety, consumer trust and sustainability. Supported by 53 member companies from the agro-food, cosmetic, packaging, and pharmaceutical sectors, as well as European Union-funded projects, ILSI Europe collaborates with a multidisciplinary network of 850 experts sharing their knowledge and perspectives in expert groups, conferences and resulting peer-reviewed publications to facilitate proactive practical solutions and innovation, address public health issues in a precompetitive way and deliver science of the highest quality and integrity.

https://ilsi.eu/

InSphero is the pioneer of industrial-grade, 3D-cell-based assay solutions and scaffold-free 3D organ-on-a-chip technology. Through partnerships, InSphero supports pharmaceutical and biotechnology researchers in successful decision-making by accurately rebuilding the human physiology in vitro. Its robust and precisely engineered suite of 3D InSight™ human tissue platforms are used by major pharmaceutical companies worldwide to increase efficiency in drug discovery and safety testing. The company specializes in liver toxicology, metabolic diseases (e.g., T1 & T2 diabetes and NAFLD & NASH liver disease), and oncology (with a focus on immuno-oncology and PDX models).

www.insphero.com

Visit Instem to learn more about our market leading software solutions and services: Submit™ for SEND – Meeting you at every stage of SEND Readiness, submit™ is the most widely adopted set of SEND software and out-sourced study services, deployed in 15 countries. Provantis® – The leading SaaS solution for preclinical study data management, serving single users to global multi-site organizations. KnowledgeScan™ Target Safety Assessment Service – Setting new standards in biological target profiling – a pioneering technology-enabled service delivering comprehensive, consistent, high quality TSAs. Genetox Solutions – helping clients to improve integration between data acquisition, auditing and reporting for regulatory genetox assays. Solutions include Comet Assay IV, Cyto Study Manager, Sorcerer Colony County and Ames Study Manager.

www.instem.com

The Institute of Industrial Organic Chemistry (IPO), Branch Pszczyna is a contract research organization with 70 years of tradition. As a GLP-certified Institute, it performs a wide variety of toxicological and ecotoxicological studies of plant protection products, pharmaceutical products, veterinary medicinal products, food and feed additives, industrial chemicals, biocides and industrial wastes. The Institute is the first in Poland to hold the Statement of GLP Compliance for all offered tests. The GLP Certificate guarantees that the studies are accepted worldwide, and their results are of great practical and scientific value.

www.ipo-pszczyna.pl
IIVS is a GLP-compliant Contract Research Organization focused on non-animal alternatives to toxicology and product safety testing. We work with industry (including chemical, pharmaceutical and personal care companies) as well as academic and government organizations to assist in the implementation of in vitro testing strategies that limit animal use. In addition, IIVS assists in the validation of New Approach Methodologies (NAMs) to traditional assays. As a non-profit entity, our laboratory activities and contributions fund our Education and Outreach programs, providing extensive training and active involvement in the advocacy and promotion of non-animal methods worldwide.

www.iivs.org

KREATiS

A real alternative to time-consuming and expensive experimental studies. Have the intrinsic properties of your substances accurately predicted by a team of expert modelers using high quality and reliable in silico methods.

https://kreatis.eu/

Lonza provides the pharma market with the tools that life-science researchers use to develop and test therapeutics, beginning with basic research stages on to the final product release. Lonza’s bioscience products and services range from cell culture and discovery technologies for research to quality control tests and software that ensures product quality. Lonza Bioscience Solutions serves research customers worldwide in pharmaceutical, biopharmaceutical, biotechnology and personal care companies. The company delivers physiologically relevant cell biology solutions and complete solutions for rapid microbiology.

www.lonza.com

www.lhasalimited.org
Marshall BioResources

Our mission is to be the premier source of animals and related services for biomedical and veterinary research. Our animal models include: conventionally raised and APD/SPF Marshall Beagles® and Cats, Influenza-free Marshall Ferrets®, Mongrels/Hounds, IFN knockout Mice (AG129 & A129), SPF Guinea Pigs, and Gottingen Minipigs® in North America.

www.marshallbio.com

MatTek IVLSL

MatTek is at the forefront of tissue engineering and is a world leader in the production of in vitro 3D reconstructed human tissue models for the regulatory toxicology. Our skin, ocular, mucosal and respiratory tissue models address toxicology and efficacy concerns throughout the cosmetics, chemical, pharmaceutical and household product industries. MatTek’s human cell derived 3D tissue models provided impressive results in number of international multi-laboratory validation studies. Our EpiDerm and EpiOcular models are validated by OECD as alternative to animal testing.

MatTek’s 3D tissue models are successfully used worldwide by leading testing laboratories, educational institutions and industrial corporations.

MN-AM, Molecular Networks & Altamira

MN-AM (Molecular Networks and Altamira, mn-am.com) offers innovative approaches to computational toxicology and chemical safety/risk assessment. The ChemTunes. ToxGPS® platform includes highly curated toxicity and safety databases and a suite of mechanistically-informed predictions for human health-related endpoints of regulatory importance. The overall prediction outcomes are obtained from a rigorous decision theory combining the results from statistical QSAR models and structural rules. The ToxGPS® Read-Across workflow leverages the underlying databases, prediction capabilities and weight of evidence tools to line up diverse evidence sources, both experimental and in silico, and assist users in reaching a decision for the read-across outcome.

https://www.mn-am.com

MultiCASE, Inc.

MultiCASE Inc. is a pioneer in developing software for assessing toxicological and pharmacological potential of chemicals and pharmaceuticals. Research and development is central to us in developing innovative QSAR methodologies and software solutions. The company has maintained strong academic ties in the areas of computational, medicinal, and environmental chemistry.

www.multicase.com
PDS Life Sciences

Ascentos – TranSEND – SEND Express

Software tools and services that help you move your science forward efficiently.

PDS’ Preclinical software is available on a subscription basis (SaaS) from our GLP-CERTIFIED hosting center. We are budget-friendly and you simply pay-as-you-go.

SEND Express is a turnkey solution for SEND dataset generation. We aggregate and harmonize your data from multiple organizations and file formats to produce one submission-ready SEND dataset. Further we provide QC and compliance checks on CRO or In-house generated SEND datasets and make them FDA submission ready.

We listen to your needs and offer solutions for you.

www.pdslifesciences.com

PhoenixBio – a Supplier & Service Provider of the PXB-Mouse®, the world’s most widely used humanized liver mouse model, and PXB-cells, hepatocytes freshly isolated from the PXB-Mouse®, provides comprehensive DMPK/Tox & safety results for drug development!

The PXB-Mouse® features a humanized liver consisting of up to 95% human hepatocytes, ensuring accurate and predictable translatability in pre-clinical development resulting in accelerated discovery pipelines.

PXB-cells® consist of up to 95% human hepatocytes and are available for shipment or in vitro study services. PXB-cells feature long-term culture periods, stable enzyme activity, study-to-study consistency, direct in vitro-to-in vivo comparison and can be supplied on-demand!

https://phoenixbio.co.jp/en/

PiaPro Oy

Our products are 1:1 sized fetus dolls feeling almost like human skin. The fetus dolls represent 8 different ages from the first and second trimester and are very effective in concretizing the fetus sensitivity to toxins.

The dolls are used in Finland mostly at Maternity Clinics, health schools (as midwife schools etc.) and different school levels for health and sexual educations.

The dolls are especially valid for parents using intoxicants to give the understanding that embryo look like human already at the age of 7 or 8 weeks, and all decisions mother makes effect to their child’s life.

www.pikkuiiset.fi

Porsolt, a long established, AAALAC accredited and fully GLP compliant, preclinical CRO, has been providing efficacy evaluation and safety pharmacology services for over 30 years, covering the drug development process from early screening thru regulatory submission.

Porsolt provides pathophysiological models in multiples species, and cell lines, customized procedures, and tailored solutions, including in vitro assays, drug formulation analysis and bioanalytical services, from high throughput screening, high content analysis, and high content histology platforms, to models for psychiatric and neurological disorders, pain, cardiac and vascular diseases, metabolic and eating disorders, dermatology and oncology.

www.porsolt.com
PRIMACYT Cell Culture Technology GmbH

PRIMACYT offers one of the world's most comprehensive portfolios of liver related products obtained from human and animal species like birds, fresh and seawater fish, rodents, and farm animals. We offer primary human and animal cells, liver subcellular fractions, ex vivo skin explants, and consumables for applications in environmental toxicology, preclinical testing and product development in human and animal health. Products are manufactured in accordance with OECD test guidelines.

We have a validated technology platform to assay drug transporter activities in stably transfected HEK293-cells and primary hepatocytes. We are GLP certified and serve as a reference laboratory for the EU.

www.primacyt.com and www.primacyt.services

Propath UK Ltd.

Propath is an award-winning provider of GLP/GCP compliant research services in molecular pathology and NanoString gene expression analysis. Our services include GLP/GCP histopathology, immunohistochemistry, biomarker method development, antibody tissue cross-reactivity assessment, ISH/FISH and digital pathology quantitative image analysis. With our NanoString gene expression platform, we offer comprehensive gene expression in pre-clinical and clinical samples, including archival FFPE sections. Precisely quantify up to 800 targets in a single sample with minimal sample input. A wide range of panels is available. Simply send us your samples and receive a detailed gene expression analysis within two weeks.

Please visit our website.
www.propath.co.uk

RCC Laboratories India Private Limited

RCC Laboratories India Private Limited (RCC) is a Contract Research Organization (CRO) certified by OECD GLP and accredited by AAALAC which is intended to cater to the regulatory testing needs of the companies of origin such as pharmaceuticals, agrochemicals, industrial chemicals, biotech, biosimilar, medical devices, cosmetics, stem cell, tobaccos, etc., offering Toxicology (in vivo & in vitro), Mutagenicity (in vivo & in vitro), Inhalation, Reproductive Toxicology, Carcinogenicity, Neurotoxicity, Ecotoxicology, Analytical Chemistry, E-Fate, Physical Chemical Properties both following national & international guidelines and protocols as per OECD Principles of GLP to fulfill the preclinical (non-clinical) requirements for global registration mandate.

www.rcclabs.com

RISE Research Institutes of Sweden

is Sweden's research institute and innovation partner. Through our international collaboration programmes with industry, academia and the public sector, we ensure the competitiveness of the Swedish business community on an international level and contribute to a sustainable society. Our 2,700 employees engage in and support all types of innovation processes. RISE is an independent, state-owned research institute, which offers unique expertise and over 100 testbeds and demonstration environments for future-proof technologies, products and services.

Chemical and Pharmaceutical Safety at RISE: We offer complete safety solutions for bringing new drugs and chemicals to the market.

www.ri.se
RMC “HOME OF PHARMACY” conducts preclinical studies of general, specific types of toxicity and biological evaluation of pharmaceuticals, microbiological evaluation of cosmetic products, food for animals, the antimicrobial activity of pharmaceutical and veterinary preparations for companies according to the requirements of international law. “RMC “HOME OF PHARMACY” certified by Certification Association “Russian Register” for compliance with the requirements of GOST 33044-2014 GLP in respect of pre-clinical studies of general and specific types of toxicity, research and development of new medicines. “RMC “HOME OF PHARMACY” has veterinary certificate № 247 0008843 to the keeping and breeding of laboratory animals.

http://doclinika.ru

Sanvitra GmbH
Sanvitra GmbH located in Leonberg, Germany is an official European distributor of Cellular Technology Limited (C.T.L.), headquartered in Cleveland, Ohio. C.T.L. is a global biotechnology company and the pioneer and industry leader in the development, use, and manufacture of standardized tools for specializing in cellular immune assays. Sanvitra GmbH focuses on the distribution of C.T.L.’s ePBMC® and Serum Free Media. With an extensive library (200 Donors) of human cryopreserved PBMC for the selection of individuals/groups with desired HLA-type and antigen-reactivity. Fully-functional, these cells are ideal as reference standards and for assay development, qualification, and validation.

https://sanvitra.com

SEKISUI XenoTech
SEKISUI XenoTech is a global CRO for ADME/DMPK/DDI testing and test systems. A comprehensive array of services including in silico, screening, in vitro and in vivo are employed, with specialties in Enzyme Inhibition and Induction, Drug Transporters, Metabolite ID and Metabolic Stability testing, as well as Radioisotope labeling and QWBA distribution studies. Along with an extensive selection of Hepatocytes and DMPK-focused test systems, we are your trusted partner to efficiently move your drug through development.

www.xenotech.com

Sanofi, Empowering Life

SenzaGen is an innovative biotech company that develops and sells in vitro testing methods for classification of skin and respiratory sensitizers. The tests replace animal testing by combining genomic data from a relevant human cell type with machine learning and artificial intelligence, providing robust predictions with high accuracy. Customers across industries have already experienced great value using the GARD technology platform, which has large potential within various toxicological applications and markets. The company combines technology expertise in immunology, genomics and machine learning. Sales are via partners, and via the headquarters in Sweden and the sales office in the USA.

Shanghai InnoStar Biotech Co., Ltd. (InnoStar) (National Shanghai Center for New Drug Safety Evaluation and Research) is one the first batch of GLP laboratories in China, which has been certified by Chinese NMPA(CFDA) in 2003/2006/2011/2015/2018, OECD in 2012/2015/2017/2019, FDA 2014/2018. Also, InnoStar was fully accredited by AAALAC in 2008 and re-accredited in 2010/2014/2017. InnoStar provides a range of research services for drug development, including nonclinical safety evaluation, nonclinical pharmacokinetics, bioanalysis, biomarker analysis, and consulting services for drug registration.

Shin Nippon Biomedical Laboratories, Ltd. (SNBL) is Japan’s oldest and largest pre-clinical CRO. SNBL is a full-service CRO that has specialized experience in DART studies as well as other safety toxicology studies. SNBL is a leader in the 3Rs in Asia. We provide safety testing as well as custom efficacy models using our wide variety of imaging modalities. We are ready to support your drug or medical device in our GLP facilities.
The Society of Toxicology (SOT) is a professional and scholarly organization of scientists from academic institutions, government, and industry who practice toxicology in more than 60 countries around the world. The Society's mission is to create a safer and healthier world by advancing the science and increasing the impact of toxicology. SOT collaborates formally and informally with other international scientific societies and public health-based organizations, such as EUROTOX, IUTOX, and the Japanese Society of Toxicology, among others, to help further this mission. The SOT 59th Annual Meeting and ToxExpo will be held March 15–19, 2020, in Anaheim, California.

http://www.toxicology.org

Sweco has a team of 31 toxicology and ecotoxicology specialists and lawyers around Europe specialized in the EU Chemicals legislation (REACH, BPR, CLP) and Food Safety (Prop. 65; Contact materials).

We are experienced in stakeholder communication, REACH registrations, Active Substance approvals, biocidal product authorisations, human health and environmental risk assessments, and compilation of safety data sheets, with a special expertise on new or existing substances of complex or variable composition, by-products and wastes.

Since 2008, Sweco has been managing several REACH and BPR consortia, four of which are active at the moment.

http://www.sweco.fi

Syngene International Ltd. (BSE: 539268, NSE: SYNGENE, ISIN: INE398R01022), is an innovation focused global discovery, development and manufacturing organization providing integrated scientific services to pharmaceutical, biotechnology, nutrition, animal health, consumer goods and specialty chemical industries around the world. Syngene’s clientele include world leaders such as Bristol-Myers Squibb, Baxter, Amgen, GSK, Merck KGaA and Herbalife. Syngene’s innovative culture is driven by the passion of its 3500 strong team of scientists who work with clients from around the world to solve their scientific problems, improve R&D productivity, accelerate time to market and lower innovation costs. For more details, visit www.syngeneintl.com

www.syngeneintl.com

www.solvobiotech.com
Sysmex Corporation is a world leader in clinical laboratory systems providing solutions for laboratory diagnostics, laboratory automation and clinical information systems. Everything we do is driven by our mission: Shaping the advancement of healthcare. Over the past half century, we have actively set new standards and driven innovation in haematology, haemostasis, urinalysis and oncology.

Now, animal haematology diagnostics has been taken to a new level. Building on the proven reputation of our globally renowned human haematology solutions and our experience and expertise in the field of veterinary haematology, we have brought a new high-end solution to this market with the XN-V Series.

https://www.sysmex-europe.com

TEAM mastery, born in 2008, provides a broad range of consultancy services in Chemical Regulatory Affairs, such as REACH, CLP, BPR, PPPs, medical device... Our commitment is to assist our customers along the supply chain with outstanding professional experience and help them in cost efficient implementation of European and global regulations.

Our mission is to provide innovative solutions through high quality services and support by our team of experts, including advanced strategies with in-vitro and in-silico methods for risk assessment. Our assistance ranges from the preparation of the entire dossier down to minor updates and general assistance to the customers.

www.team-mastery.eu

The Drug Development Team provides peer reviewed nonclinical services, providing tailored, creative and effective solutions. We offer a wide range of services that are needed to progress your drug products through all regulatory milestones and to market.

As a group, we are passionate about science, and bring together decades of drug discovery and development experience in pharmacology, toxicology and all types of regulatory interaction and documentation. We can provide you with a nonclinical project team, or help with specific aspects of research, due diligence, development, production, CMC related safety aspects and scientific writing.

www.d2team.eu
ToxMinds BVBA is a product safety and regulatory compliance consultancy serving clients from the chemical, consumer products, pharmaceutical and biotechnology industry sectors. Our team of (eco)toxicology and regulatory consultants is passionate about providing innovative, scientifically-sound but also pragmatic solutions to support our clients’ ongoing and new business initiatives. We have substantial project experience in the fields of endocrine disruption, QSAR modelling, and SAR-supported read across in a safety and regulatory context. We integrate information derived from in silico, in chemico, in vitro and in vivo approaches with exposure considerations in hazard and risk assessments to avoid animal testing where possible.

www.toxminds.com

Toxys is a Dutch biotech company with a focus on developing innovative in vitro, animal-free assays for the safety assessment of novel medicines, chemicals, cosmetics and food ingredients. We developed the Tox-Tracker® assay, a high throughput stem cell-based reporter assay for carcinogenicity hazard identification. Our pipeline is filled with innovative assays with Reprotracker as prime example. Reprotracker allows for reliable developmental toxicity hazard identification. Our assays provide mechanistic insight into the reactive properties of chemicals which can be particularly useful in Adverse Outcome Pathway approaches. Toxys is highly valued for its scientific expertise, high quality results and responsiveness.

www.toxys.com

Powered by the world's largest database of its kind, ToxPlanet's decision support solutions enable chemical safety professionals to make informed decisions about what matters most – human and environmental health. Our unique search interface saves researchers time, helps them to make better decisions by putting chemical hazard and toxicology literature at their fingertips, delivers content they expect to find, and delights them with the discovery of content they did not know existed.

www.toxplanet.com

TPL Path Labs offers services worldwide: support of preclinical and clinical studies under GLP and GCLP conditions. Experienced in tox-path studies, we provide bespoke services from necropsy to standard H&E, special histochemical stains as well as evaluation of results by board certified pathologists. Our professionals are proud to support your studies with digital image analysis using HALO® software. TPLs molecular department is specialised in performing TCR, (F)ISH, IHC studies, especially within the field of new biomarker validation. Our experts also offer nucleic acid extraction and PCR-based examination to assist your investigations. We are happy to discuss projects with you!

www.tpl-path-labs.com
**Vimta Labs Ltd**

As the premier toxicology research and testing facility in India, Vimta Labs has provided 35 years of service to the pharmaceutical, biotechnology, chemical and agrochemical industries. We partner with our clients to provide discovery, development, pre-clinical safety evaluations and risk assessments. We have multi-disciplinary teams in toxicology, pharmacology, DMPK, safety pharmacology, reproductive toxicology and bio-analysis. Vimta conducts all studies to GLP standards (FDA and OECD inspected) making it a "One-Stop-Shop" for research and development.

www.vimta.co

**Vitrocell Systems GmbH**

VITROCELL® is specialised in the development of advanced in vitro exposure systems. VITROCELL® realizes turnkey installations for in vitro inhalation toxicology where gases, environmental atmospheres, nanoparticles and complex mixtures are analyzed on lung cells at the air/liquid interface.

VITROCELL® in vitro Exposure Stations are designed for fully automated exposure of environmental pollutants to cells of the respiratory tract.

VITROCELL® Skin modules and the VITROCELL® Skin Autosampler are specially designed for the exposure of tissue.

The customers of VITROCELL Systems GmbH are leading research institutes, contract research organisations, regulatory authorities as well as the pharmaceutical and other industries throughout the world.

Name of contact: Tobias Krebs
Fabrik Sonntag 3 · 79183 Waldkirch / Germany
Phone: +49 (0) 7681 497 79 50
Email: info@vitrocell.com

http://www.vitrocell.com/

**Vivo Bio Tech Ltd.**

Vivo Bio Tech, is a Hyderabad, India based preclinical CRO offering OECD GLP toxicology (In vitro & In vivo), pharmacology and analytical services. The company’s state-of-the-art India’s largest standalone 125,000 Sq. ft. Preclinical Research Facility is OECD GLP certified, AAALACi accredited, ISO 9001:2015, CIBRC registered and DCA approved. The company is the pioneer and largest supplier of SPF lab animals in India and authorized breeder and distributor of Taconic Biosciences’ (USA) rodent models; Cyagen Biosciences (USA) custom rodent models and stem cell products; and authorized distributor of Special Diets Services (UK) lab animal diets in India. All preclinical studies conducted by Vivo Bio Tech use highest quality SPF lab animals.

http://www.vivobio.com/
**Vivotecnia**

Vivotecnia laboratories are GLP-certified preclinical facilities, specialized in conducting most of the in vivo toxicology studies required before human trials. Our typical customer are companies embarked on the development of new drugs, either NCE or NBE including advanced therapy products. Our services include, among others, short and long-term general toxicology studies, safety pharmacology, reproduction toxicology, carcinogenicity and genotoxicity. Working with a number of species from mice to non-human primates (NHP) and using a wide range of administration routes.

**Special highlights:**

- State of the art Non-Human-Primates facilities.
- Extensive experience with NBE and stem-cell based therapies.
- Multipurpose inhalation facilities.

[https://www.vivotecnia.com/](https://www.vivotecnia.com/)

**ZeClinics**

ZeClinics is a Biotech, Contract Research Organization (CRO) and early-phase biopharmaceutical (PHARMA) company using zebrafish for safety and efficacy screenings of novel chemical molecules and target genes. As leading CRISPR-licensed CRO using zebrafish as a model for drug discovery, its core competencies are CRISPR-mediated genetic disease models, Target validation, High Throughput Screening (HTS) of novel molecules, Toxicity and efficacy assays, as well as Translational neuroscience. The company is characterized for its expertise in genetic approaches and its flexibility to develop tailored solutions for the object of study.


**WuXi AppTec**

WuXi AppTec's Laboratory Testing Division is a comprehensive and integrated testing platform for drug and medical device development. A world-class CRO with operations in China and the US, the Laboratory Testing Division provides in vivo and in vitro assays from early screening through clinical sample analysis, and medical device testing from development through product lifecycle management. We operate with full transparency, providing the high-quality data you need to advance your project while meeting international standards for regulatory compliance and maintaining industry-leading turnaround times.

[https://labtesting.wuxiapptec.com/about-us/](https://labtesting.wuxiapptec.com/about-us/)
AUTHOR INDEX
## Index of speakers, main and presenting authors and chairs

### Abbreviations used

- **B**: Bo Holmstedt Memorial Fund Lecture
- **CEC**: Continuing Educational Course
- **D**: EUROTOX–SOT Debate
- **H**: HESI CITE Lecture
- **IND**: Industry Session
- **K**: Keynote Lecture
- **OP**: Oral Presentation (within the Short Oral Communications)
- **P**: Poster
- **P-Late**: Late Poster
- **SOC**: Short Oral Communications
- **SOT**: SOT Merit Award Lecture
- **SpS**: Sponsored Symposium

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THEME
Next Generation(s) Toxicology – Combined Efforts in Quest of Safer Chemicals and Medicines

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