Corners

Lena Smirnova appointed Assistant Professor for Developmental and Reproductive Toxicology

We are proud to announce that CAAT's Lena Smirnova has accepted the offer for an Assistant Professorship for Developmental and Reproductive Toxicology within the Johns Hopkins University Department of Environmental Health & Engineering.

Made possible by an anonymous donor to CAAT, an independent search committee interviewed eight candidates, and ultimately suggested Dr Smirnova. Through this position, CAAT's research and outreach will be greatly amplified.

Thomas Hartung and Lena Smirnova join Wendy Klag Center to receive NIH Autism Center of Excellence Grant

Researchers at the Johns Hopkins Bloomberg School of Public Health have been awarded a $11.7 million, five-year Autism Center of Excellence grant from the National Institutes of Health. The Bloomberg School-based Autism Center of Excellence will lead a global network of research projects studying how the interplay of genetics and environmental factors might increase the likelihood of autism, including co-occurring health conditions.

Under the auspices of the ACE award, Smirnova and Hartung will lead research on gene-environment interactions using three-dimensional brain organoids complementing the epidemiologic research. Brain organoids are produced using human stem cell cultures and mimic the developing human brain.

Thomas Hartung appointed expert for the German PARC National Hub

The German PARC National Hub Contact Point is coordinated by the German Federal Institute for Risk Assessment. PARC is the European Partnership for the Assessment of Risk from Chemicals, whose aim is to improve knowledge about chemical substances in order to better protect human health and the environment. The program has a total funding volume of €400 million for the next seven years.

https://www.bfr.bund.de/en/press_information/2022/18/_parc_eu_research_partnership_on_chemical_risk_assessment_launches-297593.html

CAAT joins with MPS opinion leaders to support FDA Modernization Act featured in ABC 7 News

Along with academic and industry leaders, CAAT has teamed up in an open letter to support the FDA Modernization Act. This legislative proposal suggests giving more consideration to new approach methods. Find the open letter here: https://drive.google.com/file/d/1BfmIs2ctXGxDlMacW_i628mexGT5coEX/view

Thomas Hartung was recently interviewed by WJLA 7 News I-Team on the topic of alternatives to animal testing, including the FDA Modernization Act. The FDA Modernization Act, which will allow the FDA to grant private companies the opportunity to use non-animal testing methods for new drugs by eliminating the requirement for animal testing, has been covered in an article from ABC 7 News by Scott Taylor. https://wjla.com/features/i-team/capitol-hill-lawmakers-congress-beagles-cumberland-envigo-facility-rescued-animals-experiments-usda-regulations-fda-modernization-act-photos-change-law-medical-vaccines-illness-treatment

On 29 September, the Senate unanimously voted to pass the bipartisan legislation authored by Senators Cory Booker (D-NJ) and Rand Paul (R-KY) that would end an outdated FDA mandate that required experimental drugs to be tested on animals before they could be used on humans in clinical trials.

Frontiers in AI with Hartung as Field Chief Editor thriving

Thomas Hartung serves since its start in 2018 as the Field Chief Editor for *Frontiers in Artificial Intelligence* for a major publisher of science, technology, and medicine research. The journal publishes cutting-edge, disruptive research on the revolutionary technological advances in artificial intelligence, according to its website https://www.frontiersin.org/journals/artificial-intelligence. The peer-reviewed journal has published more than 600 articles so far and has a CiteScore of 2.2. The journal seeks to create a platform of exchange for the practical application of AI in everyday life. It is one of 169 journals published by Frontiers, which is the 3rd most cited and 6th largest publisher.

MPS at EuroScience Open Forum results in article in the *Financial Times*

Thomas Hartung was one of three presenters briefing the press on microphysiological systems at the July 13-16 EuroScience Open Forum in the Netherlands city of Leiden. These disruptive technologies shape the way biomedical research is advancing. Johns Hopkins University, via its emerging MPS Center and its existing Center for Alternatives to Animal Testing, is driving this change. The Financial Times recently published an article discussing the emerging field of "organoid intelligence", featuring CAAT's Thomas Hartung. Access the article here: https://www.ft.com/content/7c35e08a-4931-4401-b27e-acabf974bff8

Hartung and Herrmann Participate on Expert Panel Discussion on the Future of Research and Testing in the European Union & Beyond

The 12th webinar in the 3Rs training series took place virtually on August 25, 2022. A panel discussion with experts about the future of science in the EU and beyond was the highlight of the event. Panelists were Prof. Thomas Hartung (Johns Hopkins Center for Alternatives to Animal Testing), Dr Lindsay Marshall (Humane Society of the United States), Dr Gavin Maxwell (Unilever) and Prof. Merel Ritskes-Hoitinga (Utrecht University). The panel was moderated by Dr Kathrin Herrmann (Animal Protection Commissioner of Berlin & Johns Hopkins Center for Alternatives to Animal Testing).

Smirnova, Sillé and Hartung speak at Women in Alternatives Summer Meeting

Lena Smirnova spoke on "Addressing autism with new approach methodologies", Fenna Sillé spoke about "A path forward: Current and future perspectives on developmental immunotoxicity testing", and Thomas Hartung spoke about the importance of female representation at the field with a talk entitled "Animal tests are from Mars, new approaches come from Venus". The Women in Alternatives Summer Meeting took place on September 8 and was organized by the Universita degli Studi di Milano.

Talking3RScience webinar

Organized by CAAT-Europe, this webinar held a discussion on replacement of fetal bovine serum for cell cultures on August 25, 2022. The webinar, "Expert Panel Discussion on the Future of Research and Testing in the European Union & Beyond" featured panelists Thomas Hartung, Gavin Maxwell, and Merel Ritskes-Hoitinga. You can now access all previous Talking3RScience webinars via the 3R Network Baden-Württemberg's YouTube channel (https://www.youtube.com/channel/UCAThSu12DaRY7IuPK4c--6Q/featured).

Fenna Sillé and Thomas Hartung at the XVIth International Congress of Toxicology

Thomas Hartung participated in the EUROTOX - SOT Debate at the ICT 2022 Conference on September 19, 2022. The debate focused on the question, "Is there a role for artificial intelligence (AI) and machine learning (ML) in risk decisions?" Hartung debated on behalf of EUROTOX, while Craig Rowlands (UL LLC, USA) debated on behalf of SOT. Fenna Sillé presented as well on the topic of "Future perspectives of alternatives to developmental immunotoxicity testing".

Hartung was Keynote at Biointerfaces International Conference

Thomas Hartung delivered the keynote address at the Biointerfaces International Conference held September 13-15 in Zurich, Switzerland. This year, the BIC offered a program with a special focus on microphysiological systems, *de novo* tissues, and organoids. His presentation was entitled "21st century cell culture for 21st century research". He also spoke at the preceding satellite seminar.

OpenTox2022 Virtual Conference

Thomas Hartung presented at the OpenTox2022 Virtual Conference on the topic "Toward probabilistic risk assessment – the ONTOX project" on September 13.

Can Artificial Intelligence Replace Animal Testing?

Hartung was recently interviewed on The Why to discuss the use of artificial intelligence technology in place of animal testing. Watch the interview here: https://video.snapstream.net/Play/4OcpYM68I-amrt1F5nwZ9Ti?accessToken=lx934ipg0y7m

Successful alternatives to animal testing webinar

Thomas Hartung presented at the Elsevier Life Science Webinar on September 28. The webinar focused on the history of animal testing mandates, the reasons why regulations are changing, and successful alternative methods that support the 3Rs.

CAAT's work with mini brains is being highlighted in the news

The CAAT team's research into mini brains is getting noticed around the world. Check out these recent articles from Italy, South Africa, Mexico, and the United States:

- Helmeted "mini brains" could shed light on the origin of many mental disorders (Infinity News, Italy) https://infinitynews.it/2022/08/24/mini-cervelli-disturbi-mentali-32329
- Spot the braincell! (Gadget, South Africa) https://gadget.co.za/spot-the-braincell/
- Mini Brains and Mini Caps (list23, USA) https://list23.com/1024445-mini-brains-and-mini-caps/
- Helmeted "mini brains" could shed light on the origin of many mental disorders (La Primerisima, Mexico) https://laprimerisima.com.mx/nacional/minicerebros-con-casco-podrian-aclarar-el-origen-de-muchos-trastornos-mentales/

Upcoming Events

India-EMBO Lecture Course

Thomas Hartung will speak on the topic "Brain organoids to study neurological diseases" at the India-EMBO Lecture Course in Hyderabad, India. The lecture course, to be held October 31-November 4, 2022, will give an overview of the current research on how human model systems, such as MPS, are being used to understand human disease and development.

The 7th Asian Congress on Environmental Mutagens (ACEM) / The 19th Chinese Environmental Mutagen Society Meeting (CEMS)

ACEM/CEMS 2022 will be held November 4 to 7 in Qingdao, China. The meeting will be hosted by the Asian Association of Environmental Mutagen Societies (AAEMS) and the Chinese Environment Mutagen Society (CEMS). The theme of the ACEM/CEMS 2022 is "The impact of global change on Asian environment and genomic health". Thomas Hartung will be speaking on the topic of "How AI can beat animal testing at finding toxic chemicals as potential carcinogen".

Recent Events

3Rs Training Webinar: Interactive 3Rs Self-Assessment Tools

The 13th webinar in the 3Rs training series, organized by the Animal Protection Commissioner of Berlin and the Johns Hopkins Center for Alternatives to Animal Testing (CAAT), in collaboration with the Veterinary Chamber of Berlin, took place on August 31, 2022. Jessica Eddy from UK's National Centre for the Replacement, Refinement and Reduction of Animals in Research (NC3Rs) gave a presentation on two 3Rs self-assessment tools, one for research groups and the other for research institutions, which help to obtain an impartial evaluation of their 3Rs activities.

EBTC Monthly Webinar: New developments in mechanism-driven chemical assessment

The surge in development of new, non-animal toxicological test methods is being driven in part by a fast-evolving understanding of the biological pathways by which exposures cause adverse health outcomes. The event took a closer look at "New developments in mechanism-driven chemical assessment".

This 1-hour webinar was held on August 30, 2022, featured three speakers and provided an opportunity to discuss the topic. Speakers were Xabier Arzuaga (US EPA, USA), TJ Bozada (ToxTrack, USA), and Sebastian Hoffmann (EBTC, USA).

Green Toxicology Webinar

CAAT hosted a webinar in honor of the publication of Alexandra Maerten's new book, *Green Toxicology: Making Chemicals Benign by Design* on September 9. Alexandra Maertens was joined by Peter Fantke (Technical University of Denmark) and Jakub Kostal (The George Washington University) to discuss the role of green toxicology in the green chemistry ecosystem and within the broader goal of sustainability. This was followed by a presentation by one of the fathers of green chemistry, John C. Warner (Warner Babcock Institute for Green Chemistry), on "Green Chemistry: The Missing Elements" as departmental grand round presentation.

New Publications

Huang, Q., Tang, B., Romero, J. C. et al. (2022). Shell microelectrode arrays (MEAs) for brain organoids. *Sci Adv 8*, eabq5031. doi:10.1126/sciadv.abq5031

Cruelty Free INTERNATIONAL
Ending animal experiments worldwide

European Citizens' Initiative closes with over 1.4 million signatures

A European Citizens' Initiative (ECI), which was launched by Cruelty Free International in collaboration with cruelty free brands including Dove and The Body Shop and over 100 animal protection organisations across Europe, closed on August 31 with over 1.4 million signatures.

The ECI calls on the European Commission to strengthen and protect the ban on cosmetics animal testing, transform EU chemicals regulation, and commit to a phase out of all animal testing in the EU.

All signatures will now be submitted to each member state for verification, after which the Commission will carefully examine the ECI and meet with the organisers to discuss the issues.

This will be followed by a hearing in the European Parliament, a possible vote and, within six months, a formal response from the Commission, explaining what actions it proposes.

EU Commission publishes 2019 animal testing statistics

On July 15, 2022, the European Commission published a new report detailing the number of animal experiments conducted in 2019, including a summary of the number of experiments conducted in each member state.

The 2019 figures show that the total number of uses of animals in experiments was 10.5 million. This represents a decrease of 1% since 2018.

The United Kingdom still features in the reports as it was still in the EU in 2019 and remains the country with the highest number of animal experiments in Europe (2.3 million in 2019), followed by Germany (2.2 million), and France (1.9 million).

House 2023 funding bill promotes non-animal research and encourages homing of animals used in NIH laboratories

In late July the U.S. House Committee on Appropriations approved the fiscal year 2023 Labor Health and Human Services Funding Bill with language aimed at maximizing the use of humane non-animal research methods in National Institutes of Health (NIH) funded research and encouraging the release of dogs, cats, and rabbits for adoption from NIH-funded laboratories.

The wording is inspired by the Humane and Existing Alternatives in Research and Testing Sciences (HEARTS) Act and the Companion Animal Release from Experiments (CARE) act, which Cruelty Free International has been supporting for several years.

An agreed House and Senate version of the bill must be negotiated and agreed before a final bill is sent to the President for signature.

Rescued beagles attend event at the US Capitol to promote the CARE Act

On September 23, beagles released from the Envigo breeding and research facility in Virginia visited Capitol Hill for an event hosted by Cruelty Free International in coordination with Congressman Tony Cárdenas, sponsor of the CARE Act.

The CARE Act, which was introduced to the U.S. House of Representatives in October 2021, will require facilities that use dogs, cats and rabbits for research purposes and receive funding from the NIH to develop and implement adoption policies for these animals when they are no longer used. These facilities would also be required to publish records on the number of dogs, cats, and rabbits used in research, the number of animals released for adoption, and the number of animals destroyed.

All seven beagles in attendance at the Capitol "meet and greet" to promote the CARE Act were homed by the Virginia-based Homeward Trails Animal Rescue after being removed from Envigo, which was shut down earlier this year following a string of animal welfare act violations. In total, 4,000 beagles were rescued from this facility.

New York cruelty free cosmetic legislation passes both chambers

The New York Cruelty Free Cosmetics Act, a bill introduced by Assemblymember Linda B. Rosenthal and State Senator Alessandra Biaggi to prohibit the sale in the State of New York of any cosmetic product that has been newly tested on animals, successfully passed the floor of the New York State Assembly and Senate and now awaits final consideration by Governor Kathy Hochul before becoming law.

If signed, New York will become the 10th state to pass cruelty free cosmetics legislation and will be joined by Louisiana in enacting the new law in 2023. State cruelty free cosmetics laws in California, Nevada, and Illinois came into effect in 2020 and new laws in Hawaii, Maryland, Maine, Virginia, and New Jersey came into effect in 2021.

US FDA funding bill removes cosmetics language that put state cruelty free cosmetics laws at risk

In June of this year, Cruelty Free International sounded the alarm that US state cruelty free cosmetics laws were at risk from a sweeping clause tucked into the cosmetics provisions of the Senate's FDA Safety and Landmark Advancements (FDASLA) Act that could have declared them invalid without replacing them with equivalent restrictions.

Cruelty Free International encouraged the committee to amend the bill to either include nationwide cosmetic animal testing restrictions, consistent with state-level cosmetics laws and the bipartisan Humane Cosmetics Act, or revise the problematic pre-emption clause to preserve the state laws.

In late September, the U.S. Senate Committee on Health, Education, Labour, and Pensions (HELP) agreed a version of the FDASLA that stripped out all cosmetics related language.

As a result, state-level cruelty free cosmetics laws are preserved, but the opportunity to pass a nationwide humane cosmetics law in this bill has been eliminated.

UK High Court permits application for review of cosmetics testing policy

The UK's High Court has given Cruelty Free International permission to apply for a review of the Home Office's policy on animal testing.

Testing cosmetics and their ingredients on animals has been banned in the UK since 1998 – the first ever ban on the practice – but in an August 2021 letter, the Home Office admitted that it has changed its policy to allow animal testing for cosmetic ingredients in the UK under industrial chemicals legislation.

The Judicial Review – which decides the lawfulness of a public body's actions – has been brought for two reasons. Firstly, to confirm that the law does ban cosmetics testing on animals and therefore that no licences for this type of testing should be issued. Secondly, to confirm that the Home Office must assess the usefulness of the product or ingredient when deciding whether to grant a licence for animal tests that assess its safety.

This application for a Judicial Review follows Cruelty Free International's letter to the Home Office, co-signed by more than 80 companies, which voiced concerns that ingredients in beauty products would have to be tested on animals in the UK.

California bill on modernising aquatic toxicity testing requirements is signed into law

Earlier this year, Cruelty Free International scientists were invited to provide information on existing and emerging humane alternatives to "fish kill tests" – used to determine whether waste is toxic to the aquatic environment – for a bill in California.

The bill, which was introduced by Assemblymember Dr Bill Quirk and sponsored by the National Stewardship Action Council (a recycling advocacy group), requires the Department of Toxic Substances Control (DTSC) to evaluate alternative test methods and give companies the option to identify hazardous waste without using live vertebrate fish.

The bill successfully passed both chambers and was signed into law by Governor Gavin Newsom.

EUSAAT

European Society for Alternatives to Animal Testing

The EUSAAT 2022 Congress – a celebration for the 3Rs community

After a three-year break, the 3Rs community was able to meet again at the largest 3Rs congress in Europe on September 26-28 in Linz, Austria. The new campus of the Medical Faculty of the Johannes Kepler University (JKU) Linz offered excellent conditions for the congress, which was perfectly supported by the JKU staff. The congress was planned and conducted as an in-person congress to stimulate personal exchange among participants. We were immensely pleased that this concept of the EUSAAT congresses proved successful according to the positive feedback from the participants. It was a great pleasure for us to welcome colleagues from the most diverse 3R-relevant fields. After 30 years of EUSAAT Congresses, this was the first that was not managed by a congress organizing company but by the EUSAAT Board in order to reduce expenses and keep the congress affordable for young scientists and students.

The EUSAAT 2022 Congress had over 260 participants from 30 countries; our participants from Japan, South Korea, and USA contributed significantly to the congress. We had 25 sessions (including the Horst Spielmann Session) with 131 lectures and two poster sessions with 79 posters. Young scientists were once again at the center of attention in the YOU – the Young Scientists in Action – events, and 31 Young Scientist Travel Awards (YSTA) were provided by six different sponsors. Details of the scientific program and further highlights are given below. The Abstract Book can be accessed at https://proceedings.altex.org/?2022-02

Memorandum of Understanding between EUSAAT and ESTIV

At the EUSAAT 2022 Congress, Winfried Neuhaus, President of the European Society for Alternatives to Animal Testing (EUSAAT), and Helena Kandarova, President of the European Society of Toxicology In Vitro, signed this memorandum of understanding to strengthen our two societies' friendship, capabilities, and interactions:

"The societies agree to mutually exchange information relevant to the missions of the societies and to foster an environment to expand the development, use and regulatory acceptance of predictive and human-relevant non-animal 3Rs approaches for toxicology.

The goal of this Memorandum of Understanding is to provide members of each society with a greater platform to develop and share their expertise in these technologies. The societies wish to promote information exchange between the organizations and their membership in many mutually beneficial ways.

This agreement sets the stage for continued and sustained engagement between the EUSAAT and ESTIV societies."

Keynote lectures

The talks of the keynote speakers spanned a wide range of topics in the 3Rs field from policy and education to basic and applied sciences including the COVID-19 pandemic.

Susanna Louhimies from the European Commission opened the EUSAAT 2022 Congress with her keynote lecture on "Directive 2010/63/EU – Accelerating the transition towards less animals and better science" and, in addition, she presented her views and experience in a lecture on "Education and training – an integral part of the Three Rs' toolbox". In the second keynote lecture, Prof. **Merel Ritskes-Hoitinga**, recently appointed Professor

for Evidence-Based Transition to Animal-free Innovations at the University Utrecht, presented a stimulating proposal "Evidence-based transition to animal-free innovations: let's make it happen!"; in a second talk she spoke about her recent experience from the COVID-19 pandemic entitled: "Never waste a good crisis: Case study revealed faster regulatory approval of COVID-19 vaccine with fewer animal studies and more alternatives. Let's continue this promising road." **Sasha Mendjan** from the IMBA in Vienna presented his work in the third keynote lecture "Cardioids unravel human heart development and defects".

The three keynote lectures were wonderful starting points for the general sessions and initiated inspiring discussions.

Horst Spielmann Session

A further highlight of the EUSAAT 2022 congress was the Horst Spielmann Session on September 27, 2022. The occasion was Horst Spielmann's 80th birthday and set the scene for learning about and celebrating his extensive scientific achievements and impact on the 3Rs field.

The session started with videos that four long time companions in the 3Rs field, who could not attend in person, had sent: Thomas Hartung from CAAT, Johns Hopkins University, Baltimore, USA; Franz Gruber from the Doerenkamp-Zbinden Foundation, Zurich, Switzerland; Hajime Kojima from JaCVAM, National Validation Center, Tokyo, Japan; and Lucia Lu Li from the Zhejiang University, Hangzhou, China.

Thereafter, Prof. Jürgen Hescheler, Prof. Ellen Fritsche, Dr Helena Kandarova and Prof. Malte Spielmann described how Horst Spielmann stimulated their scientific careers including some personal stories about collaborating with him. This session was a perfect mix of a summary of Prof. Horst Spielmann's achievements and the scientific ideas and insights behind them, and very personal stories and instructive life experiences from a long, successful life. The audience was given a very nice overview of how first successful *in vitro* toxicological assays were developed up to their adoption as an OECD guideline, how this work continues to be the basis of current developments, and how future new technological developments such as single cell RNA sequencing are to be expected to contribute to the 3Rs field and in particular to risk assessment without using experimental animals. Furthermore, the speakers provided the audience with valuable advice for professional as well as personal life. In summary, the session was characterized by respect, scientific excellence, humanity, and humor.

Round Table Discussion: The rise and role of 3Rs centers in Europe

Moderator:
Winfried Neuhaus (EUSAAT-president, Vienna, Austria)
Panelists:
Arti Ahluwalia (Centro 3R, Pisa, Italy)
Tom Bengsten (Danish 3R centre, Glostrup, Denmark)
Stefan Hippenstiel (Charite3R & EC3R, Berlin, Germany)
Helena Kandarova (SNP 3Rs, Bratislava, Slovakia)
Susanna Louhimies (European Commission, Brussels, Belgium)
Adrian Smith (NORECOPA, Oslo, Norway)

After an introduction about the rise of 3Rs centers in Europe and the presentation of the results of a survey among the 3Rs centers about their main topics and interest in the specific Rs and an overview of 3Rs centers funding, Winfried Neuhaus invited the panelists to describe the focus of the 3Rs activities of their centers, their mission, their funding, and their collaborations with academia, regulatory, and government agencies. Questions about the center structure and situation in their respective country, the future roles of the 3Rs centers, the perspective and expectations from the European Commission, the role of the 3Rs center platform EU3Rnet and the COST Action IMPROVE were intensively discussed. The involvement of the audience led to a lively and exciting exchange of views. The main conclusions were that the 3Rs centers can complement and help existing initiatives in many areas. In education, dissemination and implementation, joint networking actions for common concerns with several different stakeholders could have a strong impact. Especially in awareness development, increased interaction with the social sciences and the use of their methods could have a strong impetus.

YOU – Young Scientists in Action Events

The YOU EUSAAT 2022 events were aimed at young and early career scientists (up to 35 yrs) that have already worked or plan to work in the field of the 3Rs. We wanted to encourage the dialogue of young scientists among themselves and with experienced mentors to establish new professional networks. The pre-registration meet-up and meet-the-mentors sessions provided the perfect atmosphere for lively discussions of scientific ideas and career experiences between mentors and young scientists. We appreciate that the following colleagues served as mentors in this session

- *Ellen Fritsche* (IUF – Leibniz Research Institute for Environmental Medicine, Düsseldorf, Germany)
- *Bettina Seeger* (University of Veterinary Medicine Hannover – TiHo, Germany)
- *Doris Wilflingseder* (Medizinische Universität Innsbruck, Austria)
- *Arti Devi Ahluwalia* (University of Pisa, Italy)
- *Sandra Coecke* (EURL-ECVAM, Ispra, Italy)
- *Horst Spielmann* (Freie Universität Berlin, Germany & EUSAAT)
- *Helena Kandarova* (Centre of Experimental Medicine, Slovak Academy of Science, Bratislava, Slovakia)
- *Christopher Faßbender* (PETA Science Consortium International e.V., Stuttgart, Germany)

The events were financially supported by AniMatch UG (haftungsbeschränkt) and EUSAAT. See also the link: https://eusaat.eu/news/you-young-scientists-in-action-at-eusaat-2022-congress/

ALTEX Prize 2022

The prize for the best article published in ALTEX in 2021 was awarded to Wanda van der Stel et al., Leiden University, The Netherlands for her article "New ap-

proach methods (NAMs) supporting read-across: Two neurotoxicity AOP-based IATA case studies" *ALTEX 38*, 615-635.

ALTEX Editor Sonja von Aulock, Kreuzlingen, Switzerland, introduced the winner and presented the award, which includes a personal prize of CHF 2,000 sponsored by the Doerenkamp-Zbinden Foundation, at the Gala Dinner.

Young Scientists Travel Awards

The EUSAAT Board is delighted that several sponsors provided funding for the 2022 EUSAAT Young Scientists Travel Awards Program (EUSAAT YSTA). The German Foundation SET was the main sponsor of the YSTA program, and additional prizes were funded by EPAA (European Partnership for Alternatives to Animal Experiments), *ecopa* (european consensus-platform for alternatives) and Animalfree Research.

We received over 60 applications by young colleagues for the YSTA funding. 23 recipients were from Europe and two were from Israel.

Best YSTA talks

In addition to the YSTAs, the best talks by the YSTA winners were selected and awarded prizes. These prizes were sponsored by the journal ATLA. Originally three prizes were planned, but as the evaluations of the prize committee were so close, EUSAAT decided to award an additional 3 prizes, so this time one 1st, two 2nd, and three 3rd best oral talk prizes were awarded. The YSTA best oral talk winners are Yuval Daskal, Eva Ingeborg Reihs, Julia Menon, Julia Kapr, Angelique Wolter, and Ermes Botte.

We would like to thank the YSTA best oral talk prize committee, which was composed of Anna Maria Bassi, David Pamies, Mieke Van Mulders, Anna Sebestyén, Györgyi Szabo, Gabriella Nicolini, Johannes Hackethal, and Bettina Seeger, who judged three categories and awarded points to each talk.

Sponsoring

We were extremely pleased to receive commitments from so many sponsors and supporters. From a political perspective, it is an excellent sign of awareness and relevance of our congress that three Austrian federal ministries again supported us as main sponsors, namely the Austrian Federal Ministry of Education, Science and Research, the Austrian Federal Ministry for Social Affairs, Health, Care and Consumer Protection and the Austrian Federal Ministry of Climate Action, Environment, Energy, Mobility, Innovation and Technology. Moreover, we received funding from the German SET Foundation and

the MatTek Company as additional main sponsors. In addition, Deutscher Tierschutzbund, ALTEX, ATLA, the RepRef Red society, LUSH Prize, Animalfree Research, InSphero, Linz Tourismus, PETA Science Consortium International, *ecopa*, the State of Upper Austria, EPAA, Pearl Bio System, Evercyte GmbH, metatissue, and Axion Biosystems supported the congress. We are also indebted to our exhibitors MatTek, Greiner Bio-One, IVTech, THP Medical Products, acCELLerate, Bio-Techne, Sarstedt, NAGI Bioscience, STEMCELL Technologies, Newcells, Cellink, In2sight, Alveolix, Proteintech, PHIO, DNTOX, RepRefRed, Med Uni Graz, and Med Uni Innsbruck, who provided funding and promoted 3Rs non-animal methods in the scientific sessions.

The two business lunches organized by RepRefRed and Bio-Techne were very successful and created an excellent atmosphere with dancing to music by the band "De Strawanza" on Tuesday (RepRefRed) and lively discussions about animal-free cell culture with panelists Jan van der Valk and Tilo Weber on Wednesday (Bio-Techne).

EU-COST Action "3Rs concepts to improve the quality of biomedical science (IMPROVE)" kick-off on October 21 in Brussels

Awareness of the existence of a reproducibility and predictability crisis in biomedical science has increased in recent years. The reproducibility crisis refers to the problem that researchers struggle to replicate or reproduce scientific studies. There have been many publications reviewing why preclinical research is irreproducible and lacks predictability, pointing to deficiencies in reporting and statistical practices. Confounding factors, which are part of the laboratory environment and will influence both the dependent and independent variables, continue to be identified, suggesting that our knowledge of their existence is far from complete. Better statistical methodology will play a central role in improving the reproducibility of science to produce robust and reproducible research. Another area of improvement is the development of novel methods to better define and assess replication success and improve predictability. Under this light, the development and introduction of new, powerful concepts for biomedical research is essential to reduce the production of non-reproducible and non-predictive data. This has immense scientific, economic, and social significance. In this context, we propose that the findings and concepts from the 3Rs field can greatly help to improve biomedical research on several levels.

Therefore, the main aim of the COST Action is to establish a network that will work to refine, harmonize, and promote 3Rs concepts, data, and documents, in order to improve the quality of biomedical science. The COST Action (CA21139) will start on October 21, 2022 with the kick-off meeting in Brussels.

COST Actions support the creation of networks and networking activities. These networks are generally open for everyone. There are several possibilities to contribute: Participation in the management committee (MC), in single working groups, or in specific activities of the Action. For the management committee up to two people nominated by the COST National Coordinators (CNC) can represent their country. To apply for the management committee, please contact your CNC (https://www.cost.eu/about/who-is-who/#tabs+Name:National%20Coordinators) Currently, MCs of 30 countries have been selected. Everyone can apply for participation in the working groups, which are Quality and Translatability of Science, Implementation, Dissemination, and Education. Establish an e-COST profile and then apply using https://e-services.cost.eu/user/login.

Please find more details on https://www.cost.eu/actions/CA21139/, where you can read the Memorandum of Understanding (MoU), which is basically the description of the content of the COST Action.

Everyone who would like to join is very much welcome!

You can also directly contact the main proposer Winfried Neuhaus via: winfried.neuhaus@ait.ac.at

First Austrian professor for 3Rs and NAMs appointed

The Danube Private University (DPU) Krems has established the first professorship in Austria for alternatives to animal experimentation. With the appointment of Winfried Neuhaus, Principal Scientist at the Austrian Institute of Technology, as university professor for 3Rs and New Approach Methodologies (NAMs), the Danube Private University Krems is a pioneer in the area of alternatives to animal testing in Austria.

"With this new professorship, political and social developments are taken into account, and a strong new impetus is given to deal with the topic of 3Rs and new approach methodologies. 3Rs stands for replace, reduce and refine animal testing and describes replacement methods to animal testing, how to reduce the number of animal tests, and how animal testing can be refined, whereby obtaining better scientific data and animal welfare go hand in hand in scientific work and experimental design," explains DPU Director Robert Wagner.

Winfried Neuhaus is the current president of EUSAAT and serves as coordinator of the European 3R Centers network EU3Rnet. Out of this network, the recently funded EU network COST Action project IMPROVE "3Rs concepts to improve the quality of biomedical science" has developed.

"I think it's wonderful that the DPU is giving me the opportunity to represent this subject in Austria for the first time as part of a professorship. Europe is certainly the international pioneer in the field of 3Rs, and now Austria is also moving into the academic field with specially created professorships. In Germany and the Netherlands, this development has also gained momentum, as shown, e.g., by the recent appointment of Prof. Merel Ritskes-Hoitinga for Evidence-Based Transition to Animal-free Innovations in Utrecht", explained Winfried Neuhaus.

To read the complete press release (in German), please follow this link: https://www.ots.at/presseaussendung/OTS_20221003_OTS0022

Lush Prize 2022 Conference

The Lush Prize 2022 Conference returns across two days of online discussion on Wednesday 9th and Thursday 10th November.

In this tenth year anniversary of Lush Prize, we will be exploring what progress has been made during the past decade to end the use of animals in research and testing.

Experts will exchange ideas and stimulate discussion on the roadmap of progress towards a future without animal testing. Sessions will cover the regulatory environment, public awareness and investigations, scientific advances and what we need to do to "bring down the curtain" on animal testing.

Speakers include Thomas Hartung and Merel Ritskes-Hoitinga.

As always, there will be opportunities for live Q&A as well as "fireside chat" interviews.

The free conference will be held online and is open to all.

For more details and to register, go to: https://lushprize.org/2022-prize/2022-conference/

News and events

The second issue of the RISK-HUNT*3R* newsletter is available to all interested followers via the project website (https://www.risk-hunt3r.eu/wp-content/uploads/RH3R_newsletter_issue2_FV.pdf). The short and informative articles describe challenges in reporting uncertainties for chemical risk assessment and give an insight into the application of the quantitative AOP framework. Developing intuitive communication channels will allow RISK-HUNT*3R* to describe the science-based approach developed by the project and to promote a general mindset towards increasing confidence in non-animal safety assessment.

The RISK-HUNT*3R* project has almost completed its presidency period of the ASPIS cluster and is ready to pass the baton. ASPIS is a "science for societal change initiative", funded by the European Commission's research and innovation programme. It assembles three projects, RISK-HUNT*3R*, ONTOX, and PrecisionTox, to better assess the hazards of chemicals to human health and the environment without animal testing (https://aspis-cluster.eu).

At the 2nd ASPIS cluster symposium, taking place November 24-25, 2022, in Sitges (Spain), the cluster will report on the highlights of this first phase. The PrecisionTox project will take the ASPIS lead to address ongoing and new challenges.

The symposium aims to showcase the joint efforts of its three projects. On the first day, the main focus will be on the collaborative framework developed by the initiative to implement non-animal-based technologies in risk assessment. On the second day, the talks will address the work done within the different working groups. They will particularly highlight the biomolecular, cellular, and computational-based technologies driving the ASPIS initiative. Various applications of new approach methodologies (NAMs) will be presented, including discovering adverse outcome pathways (AOP) and their quantification, improved grouping of chemicals, as well as detecting and characterizing hazards.

The event aims to increase confidence in using NAMs and promote their application for effective risk management. International speakers have been invited to report on global initiatives aligning with the cluster. Finally, the symposium will also serve as a valuable occasion to train the cluster's early-career researchers and to showcase their research.

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Giorgia Pallocca and Marcel Leist