



## News

### DK: Financial support for research into alternatives to animal experiments

The Danish organisation Forsøgsdyrenes Værn and the Danish foundation Alternativfondet announce financial support for research into the development of alternatives to animal experiments. To qualify for support it is not enough that your research is carried out without use of animals. Your research must also be able to make a real contribution to the replacement of animal experiments with other methods. Scientists from all EU countries may apply. Applications may be submitted at any time.

*Funding:* available in total 1 million Danish kroner.

For more information, including application form, go to <http://www.forsogedyrenes-vaern.dk> and click on the menu item "Forskningsstøtte".

Bente Lakjer  
Director  
Forsøgsdyrenes Værn  
Copenhagen, Denmark

### EU: EU-ToxRisk to start in 2016

In a large (€30 million) H2020-supported collaborative project, academia joins forces with small and medium-sized enterprises (SMEs), large industry, contract research organisations (CROs) and regulatory bodies to achieve a paradigm shift in toxicology towards a more efficient and animal-free chemical safety assessment.

An international consortium of 39 partner organisations will be funded by the European Commission to work on the integration of new concepts for regulatory chemical safety assessment. These new concepts involve cutting-edge human-relevant *in vitro* non-animal methods and *in silico* computational technologies to translate molecular mechanistic understanding of toxicity into safety testing strategies. The ultimate goal is to deliver reliable, animal-free hazard and risk assessment of chemicals.

Coordinated by Bob van de Water, Professor of Toxicology at Leiden University (The Netherlands), EU-ToxRisk intends to become the European flagship for animal-free chemical safety assessment. The project will integrate advancements in

cell biology, *omics* technologies, systems biology and computational modelling to define the complex chains of events that link chemical exposure to toxic outcome. The consortium will provide proof of concept for a new mechanism-based chemical safety testing strategy with a focus on repeated-dose systemic toxicity as well as developmental and reproductive toxicity. Importantly, novel mechanism-based test methods will be integrated in fit-for-purpose testing batteries that are in line with the regulatory framework and will meet industrial implementation. EU-ToxRisk will develop new quantitative risk assessment approaches based on understanding of so-called "Adverse Outcome Pathways" incorporating all mechanistic toxicity data available in the public domain. It will also achieve a rapid improvement of so-called "read across" approaches as the most important data-gap filling and hence animal-saving alternative method at present. Thus, the project strives towards faster safety evaluation of the many chemicals used by industry and society.

The University of Konstanz is involved as a partner to study the potential impact of chemicals on the human nervous system and on pre-natal development. For this, functional tests will be combined with modern approaches to evaluate gene expression data of cells under chemical stress. The University will also work on the integration of multiple data sets and computer prediction models to provide better risk predictions.

Dr Susanne Hougaard Bennekou from the Danish Environmental Protection Agency explained: "Safety evaluation is largely based on animal testing. This is the best we have today. However, there are widely recognized limitations, these being that the sensitivity and specificity of animal-based safety testing could lead to wrong predictions of chemical-induced human adversities. Whilst false-negative results compromise human safety, false-positive animal tests and use of unnecessarily large safety factors may lead to the loss of beneficial and safe chemicals and drugs." Professor Marcel Leist, head of the Center for Alternatives to Animal Testing in Europe (CAAT-Europe) in Konstanz, Germany, added: "Ethical issues related to the use of experimental animals as well as economic considerations (high costs, time delay by testing) demand a paradigm shift, away from 'black box' animal testing towards a toxicological assessment based on responses observed in human cells and a comprehensive mechanistic understanding of cause-consequence relationships of adverse chemical effects."

EU-ToxRisk builds on testing strategies and knowledge developed in previous national and European projects, including the SEURAT-1 programme, a cluster of seven projects in the



field of animal-free safety assessment: 2010-2015 (<http://www.seurat-1.eu>). The EU-ToxRisk consortium includes many of Europe's leading toxicologists and experts in related fields such as cell and developmental biology, genomics, computational biology, cheminformatics, bioinformatics, biostatistics, regulatory sciences, as well as management and dissemination, from a range of organisational backgrounds and covering several industry sectors. This breadth of expertise will allow EU-ToxRisk to develop efficient and innovative safety testing strategies, covering the whole range of stakeholders, to ensure fit-for-purpose solutions, practical routine applicability and quick uptake of results. EU-ToxRisk will establish strong ties with the European Union Reference Laboratory for alternatives to animal testing (EURL-ECVAM), hosted by the Joint Research Centre (JRC), Institute for Health and Consumer Protection, to establish novel alternative testing strategies that are fit for regulatory purposes. In addition, the project will strongly collaborate with ongoing safety and risk assessment initiatives across the globe, including the Tox21 initiative in the United States.

Dr Rob Taalman, Science and Research Director at Cosmetics Europe, the Brussels-based Personal Care Association, which co-funded the SEURAT-1 cluster with the European Commission, said: "We are thrilled to be part of this strategic EU project. This joint action restates our long-held commitment to be at the forefront of research into alternatives to animal testing. For more than 20 years, the industry has been pushing the boundaries of cutting-edge science to develop technologies that would feed into novel, sustainable safety testing strategies in line with the European regulatory framework. Since the ban on animal testing within the cosmetics industry, there is the wish and the scientific capabilities to improve safety assessment approaches based on alternatives."

Overall, EU-ToxRisk intends to evolve a new era for European safety sciences. At the end of the project the novel risk assessment strategies should find wide application in various regulatory contexts, across industry sectors, and for different population groups, such as patients, workers, consumers, and the society at large. Altogether, EU-ToxRisk expects to have a strong impact on the future regulatory chemical safety and risk assessment in Europe as well as the rest of world.

The EU-ToxRisk project will kick-off in January 2016 in Leiden, The Netherlands, and will run for six years.

### **Project Partners**

#### *Universities*

- Leiden University, The Netherlands
- Leiden University Medical Centre, The Netherlands
- Konstanz University, Germany
- Katholieke Universiteit Leuven, Belgium
- Maastricht University, The Netherlands
- Medical University of Innsbruck, Austria
- Ruprecht-Karls-Universität Heidelberg, Germany
- University of Copenhagen, Denmark
- Universitat Pompeu Fabra, Spain
- University of Vienna, Austria

#### *Research institutions*

- Center for Alternatives to Animal Testing in the Johns Hopkins Bloomberg School of Public Health, United States of America
- EMBL/European Bioinformatics Institute, United Kingdom
- Forschungsgesellschaft für Arbeitsphysiologie und Arbeitsschutz (IFADO), Germany
- Fraunhofer Society – Fraunhofer ITEM, Germany
- Fundación para la Investigación del Hospital Universitario La Fe de la Comunidad Valenciana, Spain
- Institut National de l'Environnement et des Risques, France
- Istituto di Ricerche Farmacologiche Mario Negri, Italy
- Karolinska Institutet/Swedish Toxicology Sciences Research Center, Sweden
- TNO, The Netherlands

#### *Large industry*

- BASF, Germany
- Cosmetics Europe, Belgium
- F. Hoffmann – La Roche, Switzerland
- L'Oréal, France
- Simcyp, a Certara company, United Kingdom
- Steinbeis CAAT-Europe at the University of Konstanz, Germany
- Unilever, Safety and Environmental Assurance Centre, United Kingdom

#### *SMEs (small/medium enterprises)*

- ARTTIC, France
- BioDetectionSystems, The Netherlands
- BioTalentum, Hungary
- Cyprotex Discovery Ltd, United Kingdom
- Douglas Connect, Switzerland
- InSphero AG, Switzerland
- Lhasa Limited, United Kingdom
- Open PHACTS Foundation, United Kingdom
- TissUse, Germany

#### *Regulatory bodies*

- Federal Institute for Occupational Safety and Health, Germany
- Istituto Superiore di Sanità, Italy
- The Danish Environmental Protection Agency, Denmark

#### *Research funder*

- National Centre for the Replacement, Refinement & Reduction of Animals in Research, United Kingdom

For further information on EU-ToxRisk and the project partners see: <http://www.eu-toxrisk.eu>

For more information on the H2020 programme, visit: <http://ec.europa.eu/programmes/horizon2020/>

EU-ToxRisk press release  
October 12, 2015



## EU: DB-ALM provides non-guideline *in vitro* test methods in OECD compliant format

The JRC's European Union Reference Laboratory for Alternative Methods to Animal Testing (EURL ECVAM) has adapted the format of DB-ALM, its unique public database on alternative methods, to fully comply with the OECD guidance for describing non-guideline *in vitro* test methods.

JRC/EURL ECVAM scientists were important contributors to the formulation of Guidance Document No. 211 which was released by the OECD last December 2014. The guidance was motivated by a growing awareness within the scientific and regulatory communities that data derived from *in vitro* methods (e.g. mechanistic information) can have considerable value in supporting chemical safety assessment, even in cases where the *in vitro* method is not included within an OECD Test Guideline or has not been formally validated, provided the method is properly described in terms of its scientific/technical basis and its reliability and relevance.

Making such method descriptions readily available via the widely accessed DB-ALM (over 4400 registered users from 82 countries) will encourage their uptake and use in a variety of sectors for multiple applications, such as chemical toxicity screening or within integrated approaches to chemical safety assessment. The data generated by end-users may also aid the retrospective validation of methods intended for more routine regulatory use which may eventually be incorporated into future OECD Test Guidelines. DB-ALM already contains over 300 entries for alternative methods at all stages of development and with various levels of detail (summary descriptions or detailed protocols). It covers mainly *in vitro* methods, but also includes non-experimental approaches.

Website: <http://ecvam-dbalm.jrc.ec.europ.eu>

DB ALM Newsletter  
August 20, 2015

## EU: ECHA responds to PETA's petition to avoid animal tests

People for the Ethical Treatment of Animals, PETA, presented a petition to ECHA in 2012 urging ECHA to do more to ensure that testing on animals was a last resort under the EU's legislation on chemicals. In December 2014 the European Ombudsman Emily O'Reilly informed PETA that she agreed with them and proposed a friendly solution (see *ALTEX* 32, 71-72). She has since closed the complaint after its proposed solution was accepted by ECHA.

In its response of June 2015, ECHA now explains what it does to avoid unnecessary animal testing.

The letter states that regarding "the numbers of animals likely to be used for REACH induced testing ...the evidence suggests the number will be a great deal lower than originally estimated."

It continues to give an outline of what is being done as a follow up of the Ombudsman's conclusion:

- "We are identifying appropriate dossiers for compliance check to verify why animal tests were conducted while non-animal methods seemed possible. On the basis of our first experiences of doing this, we will decide whether compliance check proves to be an effective way of checking that animal testing is conducted only as a last resort.
- We are continuing to inform Member States of possible breaches of the registrants' obligations to consider alternatives before conducting tests on animals. We aim to publish our preliminary findings on this matter in the summer but it is the Member States' responsibility to follow up on these possible breaches.
- We continue to inform registrants of their legal obligation to consider the use of alternatives to testing on animals and plan to improve our guidance on this."

Full text: [http://echa.europa.eu/documents/10162/21901849/reply\\_letter\\_peta\\_petition.pdf](http://echa.europa.eu/documents/10162/21901849/reply_letter_peta_petition.pdf)

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## EU: EURL ECVAM Status Report 2015 published

The Status Report published by EURL ECVAM (the European Union Reference Laboratory for Alternatives to Animal Testing) provides an update on the development, validation and regulatory acceptance of alternative methods/approaches and their dissemination since the last report prepared in June 2014.

The report describes primarily, but not exclusively, the activities that EURL ECVAM has undertaken or has been involved in since the publication of the last report in June 2014. It includes updates on research and development, validation studies, peer reviews, EURL ECVAM recommendations and activities to promote the regulatory acceptance and use of alternative methods and approaches.

Details on a range of projects aimed at finding 3Rs (Replacement, Reduction and Refinement) solutions for human health-(related) and environmental effects, which have yielded important milestones in the development, validation and regulatory acceptance of alternative approaches, are also included. In addition to this, the ongoing work to disseminate knowledge on the 3Rs and to engage stakeholders and reinforce collaborations between all the key actors in the field of alternative approaches is described.

The report provides a comprehensive view of the wide-ranging work carried out by EURL ECVAM and its partners in facilitating regulatory acceptance and global uptake and use of alternative methods and approaches.

Full report: <http://bit.ly/1OFUHkm>

EURL-ECVAM press release  
October 14, 2015



## EU: Patent on genetically modified rats and mice revoked

The European Patent Office (EPO) revoked the patent EP1409646 held by Altor BioScience. After the US company withdrew its controversial claims on genetically engineered chimpanzees, the EPO in July also revoked a changed version of the patent claiming genetically engineered rats and mice as inventions. The decision was made on the basis that there were flaws in the technical quality of the patent. Thirteen organizations from Germany, Switzerland and the UK had jointly filed a protest against the patent.

Recently, the Australian company Bionomics announced that it would voluntarily give up its patent on genetically modified animals including chimpanzees after protests were filed. However, the company Intrexon successfully defended its two European patents on transgenic chimpanzees and other mammals in Den Haag on September 29.

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## GER: Berlin 3Rs prize awarded for work published in ALTEX

On October 20, 2015 Berlin's third research prize to promote research methods to replace or complement animal experiments (*3. Berliner Forschungspreis zur Förderung der Erforschung von Ersatz- und Ergänzungsmethoden für Tierversuche*) was awarded to Prof. Dr Gerhard Püschel of the University of Potsdam, Institute of Nutritional Science, Department of Nutritional Biochemistry, Nuthetal, Germany for his work described in the current issue of ALTEX "Botulinum Neurotoxin Dose-Dependently Inhibits Release of Neurosecretory Vesicle-Targeted Luciferase from Neuronal Cells" coauthored by Andrea Pathe-Neuschäfer-Rube, Frank Neuschäfer-Rube and Lara Genz.

On the same occasion Prof. Dr Christa Thöne-Reineke of the Institute of Animal Welfare, Animal Behavior and Laboratory Animal Science, Center for Veterinary Public Health at the Free University Berlin was awarded the first Berlin prize to promote research methods to replace or complement animal experiments in education for the lecture series "Alternatives to animal experiments in research, education and teaching" which she designed together with Dr Vivian Kral and Prof. Dr Monika Schäfer-Korting.

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## GER: CERST to receive €200,000 per year for five years

The ministry of science of the state of North Rhine-Westphalia declared it will finance CERST, the Center for Replacement of Animal Testing at the Leibniz Research Institute for Environmental Medicine (IUF) in Düsseldorf, Germany with

€200,000 in 2015 and plans to contribute the same amount annually until 2019. It sees this move as an important contribution to reduce animal experiments. Prof. Dr Ellen Fritsche, who is also a board member of ALTEX Edition, is head of CERST. The current project aims to develop a method to determine how drugs or chemicals influence the development of unborn and small children using induced pluripotent stem cells instead of animal experiments. The cells are harvested from human skin cells.

Press release of the Ministry of Science, NRW  
October 11, 2015  
<http://www.wissenschaft.nrw.de/>

## GER: German Animal Welfare Research Award goes to DZF chair in Konstanz

The 34<sup>th</sup> Animal Welfare Research Award of the German Federal Ministry of Agriculture goes to the research group of the Doerenkamp-Zbinden Chair of in-vitro toxicology and biomedicine at the University of Konstanz, Germany. The prize of €15,000 was awarded by the Federal Minister of Agriculture, Christian Schmidt, to Marcel Leist and Stefan Schildknecht for the achievements of their team in developing an *in vitro* method to study neurodegenerative diseases such as Parkinson's and Alzheimer's disease. The three-dimensional model based on nerve cells of human and murine origin was developed in collaboration with PhD student Liudmila Efreanova. It can be used both in basic research as well as for testing drugs. The method has enormous potential to reduce and replace animal models in the research of neurodegenerative diseases.

We are pleased that the efforts and achievements of the Doerenkamp-Zbinden Chair at the University of Konstanz have been recognized with such a prestigious award. The award ceremony took place on September 25, 2015 in Berlin, Germany.

DZF press release  
October, 2015

## GER: German center for the protection of experimental animals (Bf3R) opens

The *Deutsches Zentrum zum Schutz von Versuchstieren* (Bf3R) (German center for the protection of experimental animals) was opened by Federal Minister for Nutrition and Agriculture Christian Schmidt on September 25, 2015. It is part of the minister's initiative "*Eine Frage der Haltung.*" which opens new paths to animal welfare including the welfare of experimental animals.



The Center will be located at the Bundesinstitut für Risikobewertung (BfR) and will coordinate all activities aiming to reduce animal experiments to the essential minimum and to ensure the best possible protection of experimental animals. The center's work shall initiate international research activities and support scientific communication. The aims are to intensify research on alternative methods, to advise authorities and research institutes, to harmonize alternative methods on an international level, to support research on alternative methods and to inform the public and the scientific community. The center will receive €6,000,000 in 2015 for basic equipment and will then receive about €1,500,000 annually.

Website: [http://www.bfr.bund.de/de/deutsches\\_zentrum\\_zum\\_schutz\\_von\\_versuchstieren.html](http://www.bfr.bund.de/de/deutsches_zentrum_zum_schutz_von_versuchstieren.html)

## GER: Three 3R university chairs in Hesse to be filled

Hesse Minister for Science Boris Rhein declared on August 13, 2015 that the State of Hesse will establish two new 3R university chairs at the Goethe University in Frankfurt and the Justus-Liebig University in Giessen, respectively, and will finance them with €2 million over the next five years. The concepts of the chosen universities are complementary: The Goethe University in Frankfurt aims to develop cellular systems to test new active agents, i.e., to replace animal experiments in this field, at the faculty of pharmacy. The Justus-Liebig University currently has an empty chair for animal protection and ethology at its veterinary faculty that shall concentrate on refinement strategies. A further chair for the establishment of a junior group in 3R research shall be financed in Giessen for 5 years.

Adapted from  
Press release of the Hesse  
Ministry for Science and Art  
August 13, 2015

## INT: New OECD Test Guidelines available

In July, the Organisation for Economic Co-operation and Development (OECD) adopted four new test guidelines:

- Test No. 490: *In Vitro* Mammalian Cell Gene Mutation Tests Using the Thymidine Kinase Gene
- Test No. 491: Short Time Exposure *In Vitro* Test Method for Identifying i) Chemicals Inducing Serious Eye Damage and ii) Chemicals Not Requiring Classification for Eye Irritation or Serious Eye Damage
- Test No. 492: Reconstructed Human Cornea-like Epithelium (RhCE) Test Method for Identifying Chemicals Not Requiring Classification and Labelling for Eye Irritation or Serious Eye Damage

- Test No. 493: Performance-Based Test Guideline for Human Recombinant Estrogen Receptor (hrER) *In Vitro* Assays to Detect Chemicals with ER Binding Affinity

OECD also published updates of 11 previously adopted test guidelines for assessing a wide range of chemical hazards. Most of the new or updated test guidelines describe methods with the potential to reduce or replace animal use for chemical testing.

OECD test guidelines represent internationally agreed-upon testing methods used by government, industry, and independent laboratories to characterize potential chemical hazards.

Website: <http://bit.ly/1Fa8QOZ>

## INT: PISC funds design of an *in vitro* test to assess the inhalation toxicity of nanomaterials

PISC (PETA International Science Consortium Ltd.) is funding Professor Dr Barbara Rothen-Rutishauser of the Adolphe Merkle Institute at the University of Fribourg, Switzerland and Professor Dr Vicki Stone of the School of Life Sciences at Heriot-Watt University, Edinburgh, U.K. to jointly develop an *in vitro* test to assess the inhalation toxicity of nanomaterial. Professor Rothen-Rutishauser co-chairs the BioNanomaterials research group at the Adolphe Merkle Institute, where her research is focused on the study of nanomaterial-cell interactions in the lung using three-dimensional cell models. Professor Vicki Stone is the Director of the Nano Safety Research Group at Heriot-Watt University and the Director of Toxicology for SAFENANO. The Science Consortium is also funding MatTek Corporation for the development of a three-dimensional reconstructed primary human lung tissue model to be used in Professors Rothen-Rutishauser and Stone's work. MatTek Corporation has extensive expertise in manufacturing human cell-based, organotypic *in vitro* models for use in regulatory and basic research applications. The work at MatTek will be led by Dr Patrick Hayden, Vice President of Scientific Affairs, and Dr Anna Maione, head of MatTek's airway models research group. The total amount awarded for the projects is \$200,000.

Adapted from <http://www.piscLtd.org.uk/nanoworkshop/>

## INT: PISC Prize for AOP development in AOP Wiki announced

In recent years, non-animal testing strategies have been developed that are geared towards probing the specific mechanism of chemical toxicity. These testing strategies can be based on Adverse Outcome Pathways (AOPs), which are a conceptual framework describing a sequential chain of causally linked events at different levels of biological organization that lead to an adverse health or ecotoxicological effect.



As part of a collaborative effort between the European Commission's Joint Research Centre, the US Environmental Protection Agency, and the Organisation for Economic Co-operation and Development, an AOP Wiki (<https://aopkb.org/>) has been created to provide an interactive and virtual platform for AOP development and to promote international consensus on the developed AOPs. Working with the organizers of the AOP Wiki, the PETA International Science Consortium Ltd. (PISC) is launching a data challenge to encourage new contributors to add to existing entries in the AOP Wiki using available data.

Only new contributors to the AOP Wiki are eligible to win; new contributors are defined as those who have made no contributions to the AOP Wiki before September 15, 2015. First, second, and third prize winners will be awarded €4,000, €2,000, and €1,000, respectively.

Deadline: March 15, 2016

Full information: <http://www.piscLtd.org.uk/aop-prize/>

Contact: Katherine Groff at [KatherineG@PISCLtd.org.uk](mailto:KatherineG@PISCLtd.org.uk)

## NLD: Two revamped 3Rs websites launched

The 3Rs-Centre Utrecht Life Sciences has launched two completely renewed websites contributing to reduce the number of laboratory animals and to refine animal experiments. Both websites contribute to the legal obligation of researchers to replace, reduce and refine animal experiments (the 3R's, also called "alternatives to animal experimentation"). They are essential tools for researchers and save time-consuming searches.

The Interspecies Database and the Humane Endpoints website are part of the recently started 3Rs-Database program of the 3Rs-Centre Utrecht Life Sciences (ULS). In this way, the program offers accessible information and helps in the reduction and refinement of animal experiments, an obligation for researchers according to the European Directive 2010/63/EU. Above this, it helps the Animal Welfare Bodies and Competent Authorities in project evaluation.

Both websites have undergone a substantial makeover and have a new look-and-feel. Above all, they are more user friendly.

The Interspecies Database (<http://www.interspeciesinfo.com>) provides insight into physiological, anatomical and biochemical parameters of different animal species and humans. Data can be compared in a user-friendly way. By using the database, researchers can design animal experiments smarter in terms of choice of an animal model, which better approaches the human situation. This saves not only time and money, but especially laboratory animals. Above all, this improves the scientific research quality. Users of the database have reported a reduction in animal use, on average 20% on a yearly basis. Some users have indicated a reduction of 40% in animal use. The website has been initiated by the Dutch Institute for Public Health and the Environment, which is responsible for the database content.

The Humane Endpoints website (<http://www.humane-end>

points.info) gives insight into the recognition and application of humane endpoints in rodents. The website contributes to refinement, the prevention of unnecessary suffering in laboratory animals, by offering information, videos and photographs of rodent species. In addition, the website provides free training modules (only accessible after registration). The website is successfully used in the compulsory laboratory animal science course at Utrecht University, but also in other laboratory animal science courses worldwide.

Both information sources were originally established with support from the government and other funders, but lacked continuous financial support. The 3Rs-Centre ULS has therefore adopted the sites for continuation in a public-private partnership. The aim is to expand the 3Rs-database program with other 3Rs information sources, for example with a database on laboratory animal replacement methods.

The mission of the 3Rs- Centre ULS is to stimulate the development, acceptance and implementation of replacement, reduction and refinement methods (3Rs) within the Utrecht Life Sciences (ULS), an open innovation network in the Netherlands, which unites Utrecht University, the University Medical Center Utrecht, government and business. The Centre communicates about the 3R's and builds and maintains a network of 3Rs experts within and outside the ULS. The Centre is part of the department of Animals in Science and Society, faculty of Veterinary Medicine, Utrecht University.

More information: contact Jan van der Valk: [j.vandervalk@uu.nl](mailto:j.vandervalk@uu.nl)

University of Utrecht press release  
September 14, 2015

## SUI: Swiss Federal Council proposes establishment of competence center

In July the Swiss Federal Council discussed a report on animal experiments in Switzerland, which proposes how research on alternative methods can be increased and the number of animals used in experiments as well as the burden on the animals decreased. The Council determined that the establishment of a national competence center be considered. This shall support 3Rs research and implement its results in cooperation with industry and academia. The report also recommends examining improving the education of students and researchers. The number of animals used for experimental purposes shall further be decreased by implementing modern laboratory methods through which more information of equal quality can be gained from fewer animals.

The report also referred to the future of the 3R Research Foundation. The foundation, established 1987, supports research in the field of alternatives to animal experiments by financing research projects. However, its funds are limited. The report indicated that the 3R Research Foundation can continue to make a valuable contribution to research on alternative methods.



The Federal Food Safety and Veterinary Office and the State Secretariat for Education, Research and Innovation will cooperate to find solutions for the implementation of these measures within the available budgets. The report fulfils a postulate of the national assembly's commission for science, education and culture (12.3660 WBK-N).

Animal experiments have been strictly regulated in Switzerland since 1991. They are only admissible if they can be justified by predominant interests and if no alternative methods are available. This led to a large reduction of animal experiments. Almost 2 million animals were used in 1983; this fell to about 570,000 animals in 2000. Since then the number of animals used for scientific purposes has increased to about 600,000 owing to the increasing use of genetically modified animals in basic research.

Adapted from Swiss  
Federal Council  
press release  
July 1, 2015

## SUI: In memory of Irène Hagmann

On July 30 Irène Hagmann, cofounder of the Foundation Animalfree Research and the Journal ALTEX, passed away at the age of 90. With her, the animal protection movement and the 3R community have lost an important personality, who did not seek recognition for herself but who achieved much for experimental animals.

Irène Hagmann was a pioneer of research- and dialogue-based animal protection. She already actively promoted the protection of experimental animals in the seventies – at that time a great rarity. She soon realized that with regard to animal experiments it was not sufficient just to say NO! and to protest loudly. The relationship between animal protection and research was highly polarized and the fronts were hardened. A productive cooperation between animal protection and research was needed. Not least because only scientific research would be able to develop convincing alternatives to animal experiments.

In 1976, with hardly any money but with pluck, political instinct and diplomatic dexterity, Irène Hagmann and Susi Goll, who died in 2009, established the foundation “*Fonds für versuchstierfreie Forschung* (FFVFF)” for which they were to work for more than three decades. These two exceptional women, both not scientists themselves, began by seeking a renowned and cooperative scientific representative who would carry their ideas to the scientific community. They found Prof. Gerhard Zbinden, a leading toxicologist. Their next initiative within the foundation was to provide financial support to scientists who were interested in alternative methods by funding their replacement projects. To ensure that alternative methods were not only developed but were also publicized and applied widely, the young foundation boldly set up the scientific journal ALTEX in 1984.

The foundation FFVFF changed its name to Animalfree Research in 2007 and is now 39 years old. An impressive age for such a small, donation-based foundation. Since 2006 ALTEX is published by the independent society ALTEX Edition and holds its own in the competitive field of knowledge transfer. The long-standing work of the initiators Irène Hagmann and Susi Goll has proven sustainable thanks to their prudent, pragmatic and also venturesome approach. Charm and humor also played their part. Especially Irène Hagmann had a gift for reaching out to very different people and infusing them with enthusiasm. She was always inquisitive, open-minded and critical. The Grande Dame will remain a role model for today's and tomorrow's animal protectionists.

Claudia Mertens

## TUN: Emerging interest in the 3Rs in Tunisia

The 3Rs concept (Replacement, Reduction and Refinement) of Russel and Burch represents the basis of an ethical approach to animal experimentation. Ethics is a voluntary and evolving multi-field reflection. Scientists like Avicenna (980-1036) and Averroes (1126-1198) already approached the concept of ethics in the Arab-Muslim civilization in the 10th century. Avicenna said, “Every animal's soul seems unique, indivisible and the higher we go in the scale of animate beings, the more complex the soul becomes, featuring different levels related to new faculties...” (Mazliak, 2004).

Islam's principles are in harmony with the 3Rs precepts of Russel and Burch. However, in some Arab countries like in Tunisia there are no specific laws governing animal use for scientific purposes. Many initiatives promoting an ethical approach were recently launched in Tunisia. Four main events were the accession of Tunisia to ICLAS (International Council for Laboratory Animal Science) in 1998, the creation of ATSAL (Tunisian Association for Laboratory and Animal Science) in 2007, the first step towards disseminating alternatives (i.e. replacement) in 2012 and, recently, the implementation of an ethics committee at the Pasteur Institute of Tunis (IPT).

The goal of ICLAS is to promote and coordinate the development of laboratory animal science throughout the world, especially in developing countries. ICLAS uses the National School of Veterinary Medicine of Sidi Thabet as a platform to disseminate laboratory animal science. The Tunisian National ICLAS Representative is Pr. O. Souilem. Several international training programs were organized in Tunisia by ICLAS for North and West African scientists.

The ATSAL gathers scientists who are interested in animal welfare and in the good practice of animal use for scientific purposes. The goal of ATSAL is to promote the 3Rs concept across Tunisia. ATSAL has several activities, such as the organization of an annual practical training on laboratory animals in conformity with the rules of ethics and good animal experimentation practices (i.e. reduction and refinement), the organization



of a round table and a seminar on a national level. All these activities are open to the Tunisian scientific community and there are also participants from North and West Africa. Three associations promoting the 3Rs are established in North Africa: ATSAAL (Tunisia, 2007), AMSAL (Moroccan Association for Laboratory and Animal Science, created in 2009) and AASEA (Algerian Association for Animal Experiment Science, created in 2015).

To our knowledge, few alternative test methods for replacement have been developed or transferred and no validated test is available today in Tunisia. Two introductory conferences on alternatives were held by ATSAAL in 2012 and 2013 at its annual practical training. These led to ATSAAL (in collaboration with the High Institute of Applied Biological Sciences of Tunis (ISS-BAT)) organizing the first Tunisian scientific day on alternative methods in 2014. This scientific day represented a first attempt to initiate discussions, to map existing activities and to create a Tunisian scientific network of people working in the field of laboratory animal science who wish to use alternative methods in Tunisia. Furthermore, the Internet exposure of the event resulted in an international collaboration between ATSAAL and CAAT-Europe, which led to the first training on alternatives to animal experimentation in Tunisia in February 2015 (M'Barek et al., 2015). A new practical training course on the use of zebrafish for scientific purposes was held in June 2015 and was opened to North African scientists especially from Algeria, Morocco and Mauritania.

The consultative ethics committee on animal experiments was created and chaired by Prof. S. Boubaker and Dr Z. Belasfar. It works with the Committee of Bio-medical Ethics of IPT.

In conclusion, there is a serious eagerness within the Tunisian scientific community to implement the 3Rs; all initiatives on 3Rs in Tunisia have fostered considerable interest. Perspectives in alternatives to animal testing in Tunisia have taken shape thanks to the successful collaboration with different international partners and doors are now open to install simple and low-cost validated alternative methods. In this context, we may assume that the perspectives of 3Rs in Tunisia, especially in alternatives, are multiple and very promising. Nevertheless, there is no denying that fully implementing the third "R" of replacement will be a difficult task. What needs to be done first is to change our attitude toward animals to foster awareness about animal welfare even before a specific law on the use of laboratory animals is established in Tunisia.

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## TUR: Medical journal excludes animal experiments

In his latest editorial, the editor in chief of the Turkish Journal of Gastroenterology, Hakan Şentürk, explains his journal's policy not to publish articles that directly involve the use of animals, stating that this policy "embodies the high scientific and ethical standards that researchers expect from our journal." He goes on to challenge other scientific journals to limit submissions to studies with human-relevant approaches such as clinical, *in vitro*, *in silico* and other non-animal methods and to also become "cruelty-free."

The reasons for the journal's policy are given as follows, "Given the limitations of animal models, publishing animal studies would mislead the scientific community into futile research and give the general public false hope. This is unethical." Numerous supporting studies are quoted including data published by the U.S. Food and Drug Administration in 2004 showing a 92% failure rate of clinical trials following successful preclinical studies in animals as well as a Food for Thought contribution published in *ALTEX* (Hartung, 2013).

Şentürk, H. (2015). Moving beyond animal models. *Turk J Gastroenterol* 26; Editorial A-IX-X.

Hartung, T. (2013). Look Back in Anger – What Clinical Studies Tell Us About Preclinical Work. *ALTEX* 30, 275–91.

## TUR: Qualified ban on animal tests for cosmetics

The Turkish Cosmetics regulation adapted a new article that bans animal tests for cosmetic ingredients and products in case valid alternative methods accepted on EU or OECD level are available. Animal tests on end products are fully banned. The article will come into force in January 2016. The Turkish regulation differs from the EU Cosmetics Regulation 1223/2009 in that the EU Regulation bans animal experiments on cosmetics ingredients and products independent of whether valid alternative methods are available.

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## UK: Design award for organs-on-chips

The London Design Museum's "Design of the Year 2015" award will go to Don Inger and Dan Dongeun Huh at Harvard University's Wyss Institute. "This winning design is a great example of how design is a collaborative practice embracing expertise and know how across disciplines. Its selection as Design of the Year 2015 also signifies a desire to recognize and award design that can significantly impact society now and in the future," stated exhibition curator Gemma Curtin. Human Organs-on-Chips was nominated by Paola Antonelli, MoMA's Senior Curator of



Architecture & Design and Director of R&D, who called the project “the epitome of design innovation – elegantly beautiful form, arresting concept and pioneering application.”

Adapted from <https://designmuseum.org/exhibitions/designs-of-the-year-2015>

## UK: New London network for stem cell and *in vitro* scientists

The London *in vitro* cancer and stem cell models club is a new series of meetings aimed at bringing together researchers from both academia and industry who have an interest in *in vitro* experimental models. Speakers are encouraged to not just present their results, but also explain the techniques and models that underpin their research. It is hoped that the club will create a network of scientists with a shared interest in *in vitro* models and enable valuable contacts and collaborations to be formed.

The first meeting of the club was held on June 9 at Queen Mary University of London’s Blizard Institute in Whitechapel. Over 50 researchers attended and there were excellent talks from Dr Jurgen Groet of the Blizard Institute (QMUL), Professor Fran Balkwill of Barts Cancer Institute (also QMUL), and Dr Anthony Holmes from the NC3Rs. Dr Groet described his work modelling Down’s syndrome using iPS cells in 2D and 3D cell culture, and did a great job of demystifying iPS technology for the audience and highlighting its potential for disease modelling. Professor Balkwill described a large multi-disciplinary project aimed at building a 3D tumor microenvironment model of human ovarian cancer and gave a fascinating account of the various scientific disciplines, from engineers and materials scientists to cell biologists and pathologists, that need to come together to make such a project possible. Dr Holmes gave an overview of the NC3Rs funding schemes, with a particular focus on the opportunities available for partnering with industry to enable development of new technologies and facilitate their uptake. The meeting was followed by some great discussion over wine and nibbles.

The next meeting will be held in the autumn, and we’re keen to hear from researchers who would like join our network and particularly from those who might like to give a talk at a future meeting. We’re also keen for greater engagement from industry and to learn more about the challenges faced across the different sectors and how new experimental approaches could have impact.

Please get in touch with Adrian Biddle at [a.biddle@qmul.ac.uk](mailto:a.biddle@qmul.ac.uk). You can also follow us on Twitter @InvitroLondon.

posted by Anthony Holmes  
on Non-Animal Technologies  
Special Interest Group  
June 12, 2015

## UK: NC3Rs launches new web resources

The NC3Rs have launched new pages in their resource hubs:

- a new resource web page (<https://www.nc3rs.org.uk/pathways-based-approaches-resource-page>), and “Adverse Outcome Pathway (AOP) News”, a regular periodical for scientists across academia and industry, as well as risk assessors and regulators who are interested in the application of pathways-based approaches.
- Animals in chemical safety testing (<https://www.nc3rs.org.uk/animals-chemical-safety-testing>) and Animals in environmental safety testing (<https://www.nc3rs.org.uk/animals-environmental-safety-testing>). Each hub links to information, publications and guidance that has resulted from the various NC3Rs office-led projects supporting the application of the 3Rs in chemical development.
- a dogs housing and husbandry resource page (<https://www.nc3rs.org.uk/our-resources/housing-and-husbandry>) that provides advice on the housing of laboratory dogs, tools for their welfare assessment, and suggestions for refinement of procedures used in safety assessment studies.

NC3Rs October 2015 Newsletter

## UK: NC3Rs designs mouse and rat grimace scale posters

Effective alleviation of pain in laboratory animals depends on the ability to recognize pain and assess its severity. Traditional methods of pain assessment based on monitoring of behavior and clinical signs (e.g. weight loss) are time consuming and can have other limitations (e.g. the signs observed may not be specific to pain).

Research by Dr Jeffrey Mogil and colleagues, McGill University, has demonstrated that changes in facial expression provide a reliable and rapid means of assessing pain in mice and rats. ‘Grimace scales’ have been developed for these species, based on changes in a number of ‘facial action units’, such as narrowing of the eyes (orbital tightening) or changes in the position and shape of the whiskers.

With funding from the NC3Rs, Dr Matthew Leach, Newcastle University, has demonstrated that these facial action units increase in intensity in response to post-procedural pain, and could therefore be used as part of a clinical assessment. Dr Leach has also developed a grimace scale for rabbits.

Where grimace scales are being used to assess pain in real time at the cage/pen side, each animal should be observed for a short period of time to avoid scoring brief changes in facial expression that are unrelated to the animal’s welfare. They should only be used with awake animals.

The NC3Rs has produced A3-sized posters of the mouse and rat grimace scales for display in animal facility rooms and cor-



ridors, to help raise awareness about the scales and familiarize staff with the specific facial action units. A poster on the rabbit grimace scale is under development.

To request copies of the posters, please email: [enquiries@nc3rs.org.uk](mailto:enquiries@nc3rs.org.uk) (provide a full postal address).

NC3Rs September newsletter

## UK: International 3Rs Prize announced for 2015

The 2015 NC3Rs Prize is now open for applications. The international award highlights an outstanding original contribution to scientific and technological advances in the 3Rs in medical, biological or veterinary sciences published within the last three years. The prize holder will receive a grant of £18,000 and a personal award of £2,000.

Applications close at 4pm, November 19, 2015

More information: <http://bit.ly/1GQCq7>

## UKR: Four universities introduce alternatives to animal experiments in education

The German-based society “Doctors against animal experiments” reports that it was able to supply four Ukrainian university institutes, two each in Kiev and Rivne, with non-animal teaching equipment despite the political unrest in the first half of 2015. They estimate that this project, which is financed by donations, saves 50,000 animals per year in university education. The teaching equipment includes laptops, beamers, computer programs, films and models. The heads of the institutes signed contracts agreeing to give up animal experiments in education permanently. Since the start of the project in 2008 such contracts have been signed by 46 institutes in 16 Ukrainian towns. First agreements have also been signed in Kyrgyzstan and Uzbekistan. The society reports that teachers and students in the Ukraine are more open to modern non-animal teaching materials than in Germany. The equipment costs about €2000 per institute.

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## USA: USDA publishes 2014 Animal Use Statistics

The number of animals (covered by the Animal Welfare Act) used in research fell 6.4% from 891,161 (2013) to 834,453 (2014). These statistics do not include all animals as most mice, rats and fish are not covered by the Animal Welfare Act – though

they are still covered by other regulations that protect animal welfare. Also not included are the 166,274 animals which were kept in research facilities in 2014 but were not involved in any research studies.

53% of research is on guinea pigs, hamsters and rabbits, while 10% is on dogs or cats and 7% on non-human primates.

In the UK, where mice, rats, fish and birds are counted in the annual statistics, over 97% of research is on rodents, birds and fish. Across the EU, which measures animal use slightly differently, 93% of research is on species that would not be counted under the US Animal Welfare Act. If similar patterns to Europe are true in the US, the total number of animals used including mice, rats, fish and birds could be around 12 million.

Regarding the species used for research in the US, there was a drop in almost every common laboratory species, including an 11% drop for guinea pigs, hamsters and rabbits each, 12% for dogs, 13% for cats, 18% for pigs and 10% for non-human primates. The only increase was in the category “all other animals”, however this was as high as 25%.

There has been a downward trend in the number of animals used since the early 1990s with a 61% drop in numbers between 1992 and 2014. It is likely that, similar to the UK, a move towards using more genetically altered mice and fish has reduced the numbers of other AWA-covered animals used.

Rises and falls in the number of animals used reflects many factors including the level of biomedical activity in a country, trending areas of research, changes to legislations at home and abroad, outsourcing research to and from other countries, and new technologies (which may either replace animal studies or create reasons for new animal experiments).

Full statistics: <http://1.usa.gov/1MsCiG1>

Adapted from post on  
Speaking of Research  
July 9, 2015

## USA: USDA issues guidance for reducing animal use for vaccine testing

The U.S. Department of Agriculture (USDA) Center for Veterinary Biologics (CVB) recently issued CVB Notice 15-13, Option to Remove Back-titration Hamsters from In Vivo Potency Tests for *Leptospira* Serogroups Canicola and Icterohaemorrhagiae. The notice describes an exemption from the titration requirement in vaccination-challenge potency assays for *Leptospira* Serogroups Canicola and Icterohaemorrhagiae. Removal of the back-titration hamsters could reduce animal use by 50% for potency testing on these two fractions. The policy is effective Oct. 8.

Full notice: <http://1.usa.gov/1jRmq4r>