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ALTEX

ALTERNATIVES TO ANIMAL EXPERIMENTATION

Food for thought ...
Thomas Hartung
Making big sense from big data in toxicology by read-across

Research Article Series
Thomas Luechtefeld, Alexandra Maertens, Daniel P. Russo, Costanza Rovida, Hao Zhu and Thomas Hartung

Global analysis of publicly available safety data for 9,801 substances registered under REACH from 2008-2014

Analysis of public oral toxicity data from REACH registrations 2008-2014

Analysis of Draize eye irritation testing and its prediction by mining publicly available 2008-2014 REACH data

Analysis of publically available skin sensitization data from REACH registrations 2008-2014

t4 report
Nicholas Ball, Mark T. D. Cronin, Jie Shen et al.
Toward Good Read-Across Practice (GRAP) guidance

t4 report
Hao Zhu, Mounir Bouhifd, Elizabeth Donley et al.
Supporting read-across using biological data

Workshop reports
Meeting report
Calendar
Corners
News

Springer Spektrum

Dear readers,

The manuscripts in this issue of ALTEX have already raised much interest in the international press and have greatly increased traffic on our website.

They are introduced by a Food for Thought … contribution by Thomas Hartung, which explains the potential and challenges of "big data," i.e., databases that are so large that they can only be analyzed by computer but that can give novel insights into patterns and relationships of properties or mechanisms.

Thomas Luechtefeld and colleagues from CAAT, CAAT-Europe and Rutgers University analyzed the publicly available parts of the REACH dossiers and asked what we can learn about toxicity testing from this treasure trove of information on chemicals. The results, which form four manuscripts published back-to-back, show us the big picture of our chemical universe – How can we calculate and visualize similarity? What is the prevalence of certain hazards? How does a change in test guideline affect the outcome? How reproducible are the tests we currently use? And how should we be measuring new tests against these? How do predictive models designed on a smaller chemical database perform on a large database? And what combinations of descriptors are good hazard predictors?

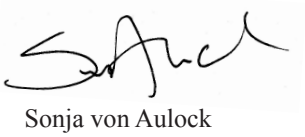
The ECHA database, among others, now offers the data volume necessary for good read-across studies, i.e., predicting a hazard for a test substance based on known activity of similar substances instead of performing the respective animal test. However, this is not a straightforward exercise. The t[4] report by Ball et al. lays out the state of the art of Good Read-Across Practice, including available tools and guidance documents, and analyses the instances where read-across studies were rejected by ECHA to demonstrate the requirements and potential pitfalls of this approach. This manuscript is complemented by a second t[4] report by Zhu and colleagues, which introduces case studies that demonstrate how biological data can complement chemical and structural data to improve read-across studies.

Very fittingly, considering that one paper by Luechtefeld et al. demonstrates how low the reproducibility of the Draize test is, ECHA has announced that it will publish new advice on the use of the new OECD test guidelines related to serious eye damage/eye irritation and skin corrosion/irritation and that these will fully replace *in vivo* studies alone or in combination. Similarly, the FDA has announced that the Draize test is no longer recommended for topical drug evaluation.

Apart from calls for grant and prize applications and information on other topical developments, the News also covers the start of the EU-ToxRisk project and the NC3Rs-funded welfare assessment resource. While the Hamner Institutes for Health Sciences in Research Triangle Park have closed, it is good to hear that the Mahatma-Gandhi-Doerenkamp-Center (MGDC) will continue as the National Center for Alternatives to Animal Experiments (NCAAE) in India. Please also note that abstract submission for the Linz Congress is now open.

Jan van der Valk contributes a touching appreciation of Frauke Ohl, who sadly passed away in January.

Hoping you enjoy this issue of ALTEX,



Sonja von Aulock
Editor in chief, ALTEX

LINZ 2016

20th European Congress on Alternatives to Animal Testing

EUSAAT 2016

17th Annual Congress of EUSAAT

1991-2016
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Linz Congresses

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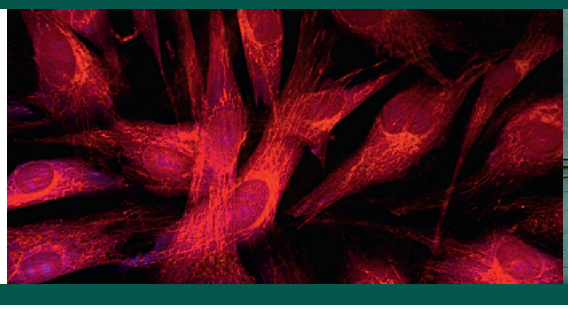
European Society for Alternatives to Animal Testing

The European 3Rs Society

www.eusaat-congress.eu

24 – 27 August 2016 – University of Linz, Austria



Call for papers

Topics/tentative sessions

- 25th Anniversary of 3R Congresses on Alternatives in Linz: MEGAT & EUSAAT
- Global Cooperation on Implementing the 3Rs
- Ethical and Legal Issues
- Implementing EU Dir 63/2010
- Novel Approaches in Efficacy and Safety Testing – Human 3D Models & Multi-Organ-Chips
- Stem Cells & Reproductive Toxicity (including mEST & hEST)
- Refinement & Welfare: Culture of Care, Best Practice Approaches, Avoidance of Severe Suffering
- Replacement: New Approaches
- Predictive Toxicology: QSAR & Read Across
- Specific Endpoints of Toxicity I: oral & repeated-dose Toxicity, Inhalation Toxicity
- Specific Endpoints of Toxicity II: Sensitization, Nano-toxicology & Bio-barriers
- Efficacy and Safety Testing of Drugs, Biologicals and Vaccines
- Disease Models in vitro versus in vivo
- Advanced GMO models – CRISPR/cas in vitro versus in vivo
- 3Rs in Education and Academia
- „Young Scientists" session
- Free communications

Deadlines for the submission of abstracts:

for oral presentations: 31 May 2016
for posters: 31 May 2016

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Exhibition – EUSAAT 2016 / Linz 2016

We invite you to present your company or institution at the EUSAAT 2016 / Linz 2016 congress. For further information and registration for the exhibition, please visit the congress website **www.eusaat-congress.eu**

Congress fees

before 25 July 2016 - early bird fees

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general registration fee:	EUR 270.–
students:	EUR 95.–

after 25 July 2016

members of EUSAAT:	EUR 217.–
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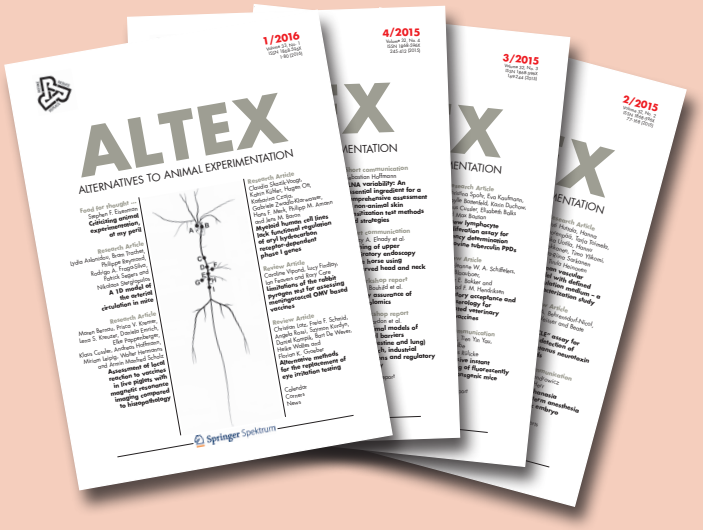

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