

**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 t⁴ 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 t⁴ 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 Oehl, who sadly passed away in January.

Hoping you enjoy this issue of ALTEX,

Sonja von Aulock
Editor in chief, ALTEX