Dear readers,

In a month's time we will be convening at the 9th World Congress on Alternatives and Animal Use in the Life Sciences in the beautiful city of Prague. More than 900 abstracts have been accepted from all over the world, about a third more than for WC8 in Montréal. This shows how the interest in human-relevant science and the 3Rs is gaining momentum.

This issue opens with an introduction to the concept and principles of Green Toxicology by Maertens et al. The approach of intentionally designing benign chemicals, testing them early in the development process with human-relevant methods (independent of whether these have been formally validated for safety testing), avoiding human exposure and ensuring sustainability of testing methods could improve the efficiency of substance development in industry, capitalize on the merits of alternative methods before formal validation is complete and downsize losses ensued by abandoning substances owing to toxicological concerns that are only discovered after large amounts of time and money have been invested in them.

Teunis and colleagues report on an international ring trial for the epidermal equivalent assay. This assay determines the potency of substances already classified as skin sensitizers by other *in vitro* assays. The authors were able to show good reproducibility between different labs and found a better correlation of their data with data from human tests than with data from the local lymph node assay performed in mice, once again demonstrating how species-specific difficulties may undermine the validation of new alternative methods if no human data is available to explain differences between the results in human tissue-based assays and animal experiments.

Fliedl et al. investigate the mechanism of cisplatin toxicity in kidney cells, especially regarding the involvement of the enzyme gamma-glutamyl transferase. They attempt to explain the discrepancy between animal experiments and other *in vitro* studies as well as different results among *in vitro* studies. The paper highlights challenges of *in vitro* assays, which can only model a small excerpt of the *in vivo* situation, but also shows the variety of tools that can be employed in these systems and how they can help to shed light on interindividual variability.

Following an article in the last issue of ALTEX on differences between rodents and humans and how these can confound the transferability of type 2 diabetes research in rodents to humans, Cavanaugh, Pippin and Barnard explore the differences between rodent models of Alzheimer disease and human pathology and the implications of these differences for the study of Alzheimer disease on different levels of complexity. They argue that it is necessary to turn to more human-relevant methods.

The zebrafish embryotoxicity test's ability to identify substances that influence the thyroid and thus may interfere with embryonic development is illustrated in detail in the article by Jomaa et al., which includes images of the developmental changes that can be observed and introduces a scoring system that can capture all relevant changes.

Last year, in ALTEX, a pair of articles by Hardy and colleagues called for a standardized vocabulary for toxicology to support the applications required by *in silico*, *in vitro* and *in vivo* toxicology methods and related analysis and reporting activities. In answer to this call, Ferrario, Brustio and Hartung present a glossary of reference terms for alternative methods and their validation as a t4 report in this issue. The glossary is now also available on Altweb in both English and Spanish and will be maintained and updated there.

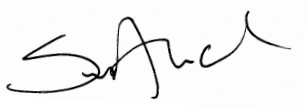
Pirone et al. report the launch of a software implementation of the integrated testing strategy for skin sensitization testing. The application is open source and both the data and the documented code are available at the National Toxicology Program's website.

In a t4 workshop report, Leist and coauthors have formulated a consensus report consolidating feedback on the "Roadmap for the development of alternative (non-animal) methods for systemic toxicity testing" (Basketter et al., 2012, ALTEX) from two workshops held in Brussels and Washington. The report defines strategies and specific approaches for the five areas of systemic toxicity testing.

Two workshop reports in this issue deal with developing alternative methods for regulation, one with a focus on contributions that industry and regulators can make (Ashton et al.), one focusing on developing microphysiological systems as tools for use in regulatory assessment (Andersen et al.). Caloni and colleagues summarize a workshop on new methodologies, Rahman et al. report on a workshop on alternatives in medical science education and MEP Jędrzejewska sums up a meeting held at the European Parliament on the future of animal experiments.

Watch out for the AGMs announced in the corners, some of which will be tied in to WC9. The news brings you up to date with international developments in the 3Rs field.

I look forward to meeting many authors, reviewers, members and sponsors in person in Prague this summer.



Sonja von Aulock
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Correction: In issue 2/14, p. 237, line 21, the news item should have read, "Mrs Maneka Gandhi (also Founder, People for Animals – PfA)". Chaitanya Koduri and Mohammad A. Akbarsha apologize for the error.