



as a sensitizer (OECD 442C = positive, OECD 442D = negative, OECD 442E = positive). Nonetheless, GARDskin Dose-response test and Quantitative Risk Assessment 2, allowed the definition of a safe dose. We demonstrated that, by combining NAMs with OECD tests, we improve toxicity prediction and enable the use of new ingredients in cosmetic formulations.

**Presentation:** Oral

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## On the wild side: Strategies for advancing the 3Rs education of wildlife researchers

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While the 3Rs principles are widely recognized as fundamental guidelines for ensuring ethical and humane treatment of animals in research and teaching, they are still not ubiquitously embraced across all disciplines of life sciences. A case in point is research on free-living animals, which often involves techniques and approaches that are detrimental to animal welfare. And yet, the application of the 3Rs principles in wildlife research has significantly lagged behind that of research on laboratory animal models. Recent studies suggested that awareness among wildlife researchers about the existence of the 3Rs principles is less than 50% and it is, therefore, essential to provide wildlife researchers with adequate training. Since wildlife research differs significantly from research on laboratory animal models, the 3Rs strategies that are established and effective in laboratory settings need to be adjusted to this discipline. However, the availability of 3Rs courses and teaching resources specific to research on free-living animals has been limited. This presentation will introduce several educational resources that we developed, including an informational website, instructional videos, guidelines, and a course curriculum suitable for undergraduate degrees in wildlife biology, ecology, or species conservation. We will also provide some insights and practical guidance for educators, researchers, and policymakers interested in promoting responsible animal use in wildlife research.

**Presentation:** Oral

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## Transforming students' minds and hearts through teaching innovative, humane science and bioethics

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Major deficiencies in scientific rigor of animal experiments have become increasingly apparent, ultimately limiting both the reproducibility and the translatability of animal experiments to human settings. Taking into consideration insurmountable interspecies differences, solely refining animal studies will not be sufficient to advance human healthcare. Consequently, Kathrin Herrmann developed a research and educational program at the Johns Hopkins Center for Alternatives to Animal Testing (CAAT) that critically appraises current animal use practices in science and scrutinizes both animal and non-animal models regarding their quality and validity with the goal being improvement of science in general. At JHU, Kathrin has been teaching a course on humane science that covers how to thoroughly search the scientific literature on human-relevant research methods and how to apply innovative, cutting-edge animal-free approaches in science. In addition, she offers a course addressing bioethics and particularly animal ethics issues in science. These courses are rounded out by a monthly, free of charge webinar series for early career and established biomedical scientists on the latest developments in scientific methods as well as by workshops, tailored to the needs of scientists working or wanting to work with animal-free New Approach Methodologies (NAMs). Besides teaching the latest scientific advancements, these courses and training modules help participants to improve their critical thinking skills and thus have the potential to open hearts and minds and to reconsider existing belief systems. All these things are a prerequisite for accelerating the transition towards humane and human-relevant research practices and therefore to better healthcare for all.

**Presentation:** Oral