Mapping of 3R activities at UZH

Dear colleagues,

This year, the Swiss 3R Competence Centre (3RCC) was founded with the aim to promote the principles of the 3Rs (Replace, Reduce, Refine) and facilitate their implementation in life science research through high quality research, targeted education, and professional communication. Among its activities, the 3RCC aims at identifying 3R research projects that aim to develop or improve methods to replace, reduce or refine the use of animals. Furthermore, the 3RCC is interested in identifying 3R activities undertaken to implement existing replacement, reduction, and refinement methods to ongoing research. If your laboratory is involved on 3R research projects and/or activities, please list the research projects and activities that are ongoing in your laboratory, that have been completed within the last five years and/or are foreseen to be undertaken.

Below you can find operational definitions of the 3Rs, illustrated by examples. If your laboratory is involved on 3R research projects and/or activities, please let us know. As a follow-up we intend to send to the research groups identified to be active on the 3Rs a survey on 3Rs and alternative methods which aims at identifying the current gaps and opportunities for the development, use and implementation of 3R and alternative methods.

Thank you for collaboration.
Best regards,
Paulin Jirkof (3R coordinator UZH)

Please, send your response to paulin.jirkof@uzh.ch by 14th of July.

Replacement: methods, which permit a given purpose to be achieved without conducting experiments or other scientific procedures on animals. It can represent full or partial replacement methodologies, based on i) use of non-animal approaches including testing strategy, human data, in vitro methods, in silico and computational methods, physicochemical properties and non-testing data, or on ii) use of animals that, based on current scientific evidence, are not considered capable of experiencing suffering. This includes the use of most invertebrates (except Cephalopods and Decapods) and immature forms of vertebrates (embryonic and foetal forms of mammals, birds and reptiles before the last third of gestation or incubation, fish and amphibians before they can feed independently). Furthermore, it also includes the use of primary cells, tissues, or organs taken from animals killed solely for this purpose.

Reduction: methods for obtaining comparable levels of information from the use of fewer animals in scientific procedures, or for obtaining more information from the same number of animals. It includes. This includes careful design and analysis of animal-based experiments so that fewer animals can be used, such as optimization of breeding programmes, experimental designs, statistical analyses, as well as longitudinal instead of cross-sectional measurements (if balanced against any additional suffering caused by repeated measurements), sharing of animals and animal material (organs, tissues, cells), and measures to reduce unexplained variation in the data (if balanced against any additional loss of external validity).

Refinement: methods which alleviate or minimise potential pain, suffering and distress, and which enhance animal well-being. Refinement applies to all aspects of animal care and use, including housing conditions, handling methods, anaesthesia and analgesia, habituation to procedures, execution of procedures, monitoring of health and well-being, humane endpoints, and euthanasia. Refinement also includes the development of better (i.e. more accurate, reliable, sensitive) tools to assess suffering and well-being.