



## Workshop 3.2

# Establishing the 3Rs principle around the world

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### Lecture

## Establishing the 3Rs principle around the world: A plea for international standards

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Even the best national 3Rs implementation standards have little impact on other countries. In contrast, the international standards have substantial effects through empowering animal advocates in public and legislative debates. While the rhetoric of national pride acts *against* adopting even best foreign standards, it usually works (with a partial exception for the superpowers) *for* compliance with internationally sanctioned rules.

A good example of an international standard in action is the Guidelines for Euthanasia of Experimental Animals (Close et al., 1996, 1997) adopted as the European standard by the EC. Such international standards are badly needed in other areas, such as the use of animals in education; application of humane endpoints beyond those in safety evaluation, which are covered by the OECD's (2000) document; individual marking (tagging)

of laboratory and wild animals; and, first and foremost, ranking of experimental procedures in terms of harms to animals. The importance of an internationally accepted harm scale is hard to overestimate as it would permit differentiation of the acceptability of generic procedures depending on their harm grade (e.g. to accept only lowest grade procedures in education).

With many countries worldwide having little if any regulations of animal research and testing, any reasonable standard adopted by an international committee is better than none, both in terms of its immediate effects when used by animal protectionists, and as a draft for future improvements. Hence a plea to use international gatherings, such as the World Congress on Alternatives, to at least initiate work on the many missing 3Rs implementation standards.



## Lecture

# NIEHS: Program in alternative test method research, development and validation

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NIEHS, RTP, NC, USA

The NIEHS has developed several programs to promote basic research and to translate these discoveries into alternative test methods by promoting their development, validation and acceptance by regulatory agencies.

The NIEHS Division of Extramural Research and Training (DERT) supports investigator-initiated basic research that can lead to the development of alternative test methods as well as the actual development of alternative toxicity tests via its grants program. It also supports the development and prevalidation of alternative toxicity tests via its small business innovation research (SBIR) grants and contracts and its small business technology transfer (STTR) program that specifically stimulates coordination between university researchers and small businesses.

The NTP works to develop more efficient mechanism-based testing strategies such as genetically engineered models and the implementation of microchip based gene expression technolo-

gies for use in improving *in vivo* assays and development of *in vitro* assays. It also supports workshops to promote the development of alternative toxicity tests.

The NTP Interagency Center for the Evaluation of Alternative Test Methods (NICEATM), in co-ordination with the Interagency Coordinating Committee for the Validation of Alternative Test Methods (ICCVAM), co-ordinates and directs the independent validation studies necessary to evaluate the scientific validity of alternative test methods for their proposed regulatory application. ICCVAM then forwards the NICEATM validation recommendations to the appropriate federal agencies for consideration of acceptance and incorporation in test guidelines, regulations and policies.

DERT, the NTP and NICEATM have resources available to both fund and promote their particular aspects of the NIEHS alternative test development and validation program.

## Lecture

# The Netherlands Centre for Alternatives to Animal Use (NCA)

*Coenraad Hendriksen*

National Centre for Alternatives, AL Bilthoven, The Netherlands

The Netherlands Centre for Alternatives to Animal Use (NCA), established in 1994, is the central point in the Netherlands for co-ordinating research and disseminating information on alternatives to animal experiments. The centre is part of the Department for Animals, Science and Society of the Faculty of Veterinary Medicine within the Utrecht University.

The NCA collaborates closely with the Dutch Alternatives to Animal Experiments Platform (Dutch Platform) and the Programme Committee Alternatives to Animal Experimentation of the Netherlands Organisation for Health Research and Development (ZonMw). The aim of the NCA is defined as: "To stimulate the development, validation and application of alternatives to animal experiments in the Netherlands."

The focus of interest is diverse. First, NCA supports ZonMw in a number of activities, such as the publication of a newsletter

and the management of an online data base of 3Rs studies performed in the Netherlands and by having a website ([www.nca-nl.org](http://www.nca-nl.org)). NCA also participates in training courses on Laboratory Animal Science. Additionally, NCA performs own research projects in the area of the development and validation of 3Rs approaches in the quality control of immunobiologicals, the use of human tissue, the implementation of humane endpoints in animal experimentation and the application of new technologies such as genomics. Finally, NCA co-ordinates the activities of the European Resource Centre for Alternatives to animal use in higher education ([www.eurca.org](http://www.eurca.org)), in collaboration with the University of Edinburgh.



## Poster

# The FRAME Reduction Steering Committee

*Michelle Hudson*

Fund for the Replacement of Animals in Medical Experiments, Nottingham, UK

The FRAME Reduction Committee was established in 1998 and has recently been reorganised into the FRAME Reduction Steering Committee and a number of working parties. Members of the Committee are representatives from industry and academia, with expertise in statistics, experimental design, animal welfare and alternatives research. The Committee's main objective is to reduce the number of animals used in research, education and testing without compromising the quality of research or hindering scientific progress.

The Committee facilitates the implementation of reduction initiatives by providing educational material, training aids and guidelines for journal editors. In addition, it aims to improve awareness of the potential ethical and scientific rewards that can be gained from implementing initiatives to reduce the number of

animals used in biomedical research, via a number of different worldwide forums.

The Committee's working parties work towards three specific goals, which together form the Reduction Initiative, namely implementing reduction, broadcasting the message, and assessing how successful reduction is.

Some of the Committee's recent initiatives are described and information about key resources given. The FRSC is the only group that has the sole commitment of reducing the number of animals used for experimental purposes. It provides invaluable and important information to researchers, the Government and other animal welfare organisations to expedite reduction initiatives where no alternatives are yet available.

## Poster

# Animal research, law and morality: Ethical assumptions and their relevance for defending the 3R

*Erwin Lengauer*

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In this paper I want to vindicate that the 3R is the major ethical justifiable concept to overcome the confrontation of two often used ethical positions. Anthropocentric libertarianism with the claim of nearly no animal research control/regulation and on the opposite side the animal rights/liberation movement with the claim of the immediate abolish of every animal exploitation. In a pluralistic society no such extreme positions can become the only way of legal enforcement of morality. In modern theories explaining the relation of law and morality it is often used the comparison of legal positivism and natural law. Ostensible legal positivists like Kelsen and Hart defend the separation of law and moral whereas natural law theorist like Fuller (The Morality of Law), Devlin (The Enforcement of Morals) and Finnis (Natural

Law and Natural Rights) defend a strong relation. But as I want to show that the concept of natural law/rights is not very helpful for bio/ethical considerations. Because the main problem is still unsolved, which position of natural law/rights is supported by morality: The libertarian or the animal rights? Then I want to use for defending 3R the analysis of J. Waldron from his famous anthology (The Theory of Rights) where he as editor resumes, that if metaethical cognitivism is untenable, then rationally resolvable disputes in bio/ethics become possible only between those who share certain fundamental values or principles in common. The 3R will be the justified starting point for the search of such values and principles.



## Poster

# The success of the concept of the 4<sup>th</sup> R: A new era in laboratory animal care

*Shiranee Pereira<sup>1</sup>, Massimo Tettamanti<sup>2</sup>, Cristina Del Tutto<sup>3</sup>, Giulio Schmidt<sup>3</sup>  
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**Introduction:** The concept of the 4th R rehabilitation of laboratory animals can be best described as a continuum of Three Rs credo, in keeping with the spirit and philosophy of the founders of this doctrine, Russel and Burch.

**Methods:** Borne from the philosophy and belief in Ahimsa, the concept of the 4th R is today defined and elaborated in the guidelines of the CPCSEA (Committee for the Purpose of Control and Supervision of Experiments on Animals) Govt. of India and is a new law proposal with the Govt. of Italy. In countries like Italy and Switzerland the concept of 4th R is grown out of several years of arduous effort of both scientific and animal welfare personnel.

**Results:** The CPCSEA guidelines state that personnel using experimental animals have a moral responsibility for the ani-

mals after their use and investigators are responsible for the aftercare and/or rehabilitation of animals post-experimentation. An ongoing project for the promulgation of a new legislation in Italy for laboratory animal care and use, includes the concept of the 4th R.

**Discussion:** The Government of India is now posed to implement and work out rehabilitation measures, working with funding agencies, scientific institutes and animal welfare organisations. The paper discusses the evolution and status of the concept of the 4th R in India, Italy and Switzerland, its legal status, the ethics and philosophy of the concept and practical implications in propounding the credo of 4Rs in the care and use of laboratory animal care and use.

## Lecture

# The status of the concept of the 3Rs in India

*Shiranee Pereira*

CIBA, ICAR, Chennai, India

In India the CPCSEA is a statutory body of the Government of India and draws its powers from Prevention of Cruelty to Animals Act 1960. The Act states that the “duty of the committee is to take all such measures as may be necessary to ensure that animals are not subject to unnecessary pain and suffering before, during and after the experiment” and “experiments on animals be avoided wherever it is possible to do so if other devices and the like may equally suffice”. This can be traced as the first legal indication of the concept of alternatives in India. The PCA Act 1960, was conceptualised by Rukmini Devi Arundale, theopist and philosopher, a contemporary to founders of the classical concept of the 3Rs – Russel and Burch.

The Breeding of and Experiments on Animals (Control and Supervision) Rules 1998 further reiterates the concept of alternatives. The CPCSEA, proactively works to propagate the concept of the 3Rs and an independent expert committee has been constituted to suggest and implement alternatives in research, education and drug testing. There have been profound changes made in education, in the use of equines in the production of immunobiologicals, manufacture of tissue culture vaccines etc. The CPCSEA in 2004, further recognised the concept of the 4th R rehabilitation of laboratory animals as a national policy which states that personnel using experimental animals have a moral responsibility towards these animals after their use.



## Lecture

# Increasing use of alternative methods in Latin America and the Caribbean

*Luis U. Perez and Gisela A. Murillo*

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A project to promote awareness and acceptance of the Three Rs principle of Russell and Burch in Latin America and the Caribbean was initiated in 1998 under the leadership of the Centre for Toxicology and Biomedicine (TOXIMED) in Santiago de Cuba. Information about alternatives has thereby been provided to about two hundred and fifty academic and research institutions from many countries of that region. As a main part of the initiative, short courses, lecture series and practical trainings have been delivered to hundreds of attendees from those sectors. In seven years many scientists and educators have been persuaded of the advantages of using alternatives

and they have started to include them in their laboratories and classrooms. Nevertheless, this is so in a reduced group of countries yet. Papers referring to reduction, refinement and/or replacement are being increasingly published in scientific Latin American journals. Furthermore, there is almost no scientific event on laboratory animals or related fields that does not include at least a session about alternatives. The goal of this paper is to present the achievements with the incorporation of the Three Rs principle in the daily work of some Latin American and Caribbean institutions.

## Lecture

# The 3Rs in Brazil

*Ekaterina Rivera*

Federal University of Goi as, Brazil

Brazil is a young and continental country and, for this latter reason, you can find different economical, social, cultural and educational statuses throughout its extension. The same principle applies to the scientific field, where you have areas of excellence in some regions and, in others, little knowledge of many subjects.

In relation to the 3Rs we had been working trying to reach the whole country. This strategic plan consists in:

1. Using educational programs in universities and research institutes where animals are used;

2. Holding discussions in Brazilian regulatory agencies (more specifically, Environmental and Health), showing the need of international harmonisation in required tests with animals;
3. Implementing Ethical Committees on Animal Use and their importance on guiding researchers and teachers on the application of the 3Rs.

It has been continuous and hard work, but it was worth doing. The results will be presented and they are so encouraging that keep us stimulated to continue this work and we can see forward on a promising future.



## Poster

# Diffusion of the 3Rs principle in Latin America

*María P. Vinardell*

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The knowledge of the 3Rs principle in different countries of the Latin America area is still very limited, depending on the area we consider, and makes necessary its diffusion. In order to introduce this concept, we have organised in the last seven years several courses of alternative methods in different countries such as Cuba, Chile, Argentina and Brazil and in faculties of Pharmacy and Medicine. Our common language, facilitates the diffusion, understanding, and discussion of the real situation of their institutions. The people attendant these courses were in all the cases professionals in the research and education area and in all the cases were very receptive and, were prepared to diffuse these ideas to their colleagues.

After an introduction on the history of the 3Rs we focused the course in the most relevant alternative methods of Toxicology *in vitro* with theoretical and practical classes.

Other important part of the course, especially for teachers was the introduction of the different alternatives in education and the manner to look for information of new alternatives and their advantages in front of the traditional practices with animals. Finally, we presented the more relevant webs to find information on the 3Rs principle all around the world.

This kind of courses constitutes an excellent manner to approach people to the 3Rs principle and facilitates their diffusion, especially when the attendants are educators who will give information to students and futures professionals.

## Poster

# Consensus platforms as a tool to reach harmonisation within an expanding Europe

*Robert Vincent*

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In biomedical research test animals are frequently used in lab experiments. Since 1980 the use of these animals decreased and got partly replaced by alternative methods. Subsequently the EU stimulated this trend by introducing art 23 of Directive 86/609/EEC where the Commission and Member States have to make efforts to develop and validate alternative methods in order to use fewer experimental animals and apply less painful procedures. In order to join forces in this process "ecopa" (European consensus-platform for alternatives) was founded. Ecopa is composed of several national platforms. A consensus platform is officially formed when the four major stakeholders – governmental institutions, animal welfare, academia and industry – are united. Within this context a project was started with the purpose

to create consensus on the 3R strategy and a meeting was organised between all stakeholders of the national platforms. The aim of this meeting was to achieve consensus concerning the interpretation and ethical implication of: 1) pain and suffering in relation to research aims and 2) the (un-)equality of certain species (e.g. the tendency to designate a special status to primates), in relation to the concept of replacement. These topics were discussed last June in Ljubljana (Slovenia) by means of a tailor-made consensus methodology. This approach disclosed a spectrum of professional and cultural values that are relevant in accomplishing harmonisation within an expanding Europe. The results of the meeting will be presented and discussed.