FONDAZIONE GUIDO BERNARDINI
BETTER EDUCATION FOR BETTER SCIENCE

The implementation of the 3Rs in the experimental design
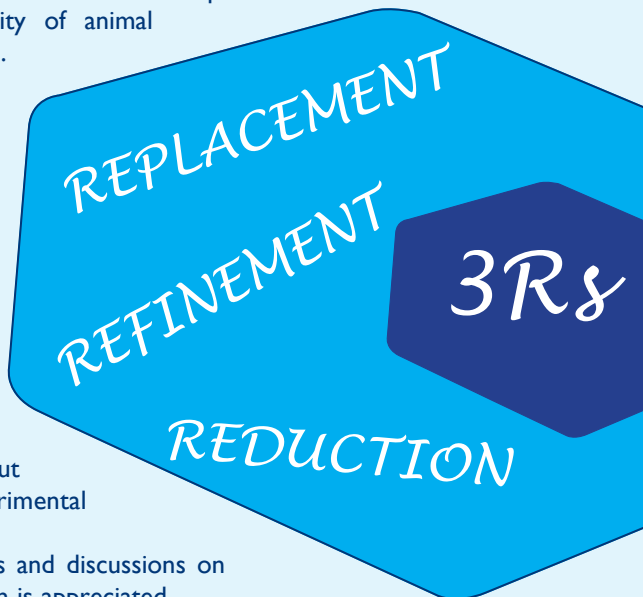## 23th to 24th of November 2017

To an increasing extent, the scientific literature is critical of the translatability of research results achieved with animal studies to humans, and of the reproducibility of research conducted with animals. More and more, that criticism now appears several times every quarter in the editorials, news and correspondence sections of leading scientific journals such as Nature and Science. Those contributions come up with multiple reasons and give extensive advice on what should be done to improve the translatability and reproducibility of animal experiments or how to replace them. This course addresses different proposed solution with regard to the potential of non-animal approaches. How to select the best animal model? How to design your experiment given your specific research question? The importance of tailoring husbandry and care to the experimental need also taking into account the quality of the animals: How does refinement affect your animals, hence your experimental outcomes? And last but not least, the reporting of experimental results.

This two-days course offers lectures and discussions on these topics. Your active participation is appreciated.

REPLACEMENT
REFINEMENT
REDUCTION
3Rs

RECIPIENTS
PhD students, postdocs, researchers, lab animal scientists, members of Animal welfare bodies, facility managers, and laboratory animal scientists.

Day 1	**Should I work with an animal model?**	Scientists' attitude towards the 3Rs
		Investigating alternatives to animal use: in vitro/in silico methods
	How should I select my animal model?	Criteria for selecting appropriate animal models: Scientific and ethical considerations
		Tools for selecting an animal model: Systematic reviews and meta-analysis of animal experiments
		What factors can affect reproducibility in animal experiments?
	The experimental design: how to formulate and test a proper hypothesis	Research Design
		Population definition
		Research problem and questions – Exercises
Day 2	**The experimental design: how to generalize the results**	Experimental design illustrated by practical examples
	The experimental design: how to optimize the experimental conditions	Research problem and questions – Practical approach
	Presentation of the results	Code of conduct for research integrity
		Communicating results

To register please visit: www.fondazioneguidobernardini.org