

The UO of the 3R Center and the CHT of the University of Pavia  
organize the transversal Ph.D course:

## **SCIENTIFIC RESEARCH AND THE 3R'S PRINCIPLE**

Fifth edition

Edited by M.L. Amadio, G. Ceccarelli, A. Ferrigno, C. Lanni, D. Ovadia and L. Visai

The course will be delivered IN ENGLISH in virtual mode by  
MONDAY 16 JUNE TO WEDNESDAY 25 JUNE 2025

**With the participation of international invited speakers**

Program and registration at the link:

<http://phd.unipv.it/corsi-trasversali-per-dottorandi/>

Accreditation of CFU for university doctorates of the Macroareas of Science and Technology, Life Science, Humanities and Social Sciences and for the IUSS doctorate of Biomolecular Sciences and Biotechnology and Cognitive Brain Sciences

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## SCIENTIFIC RESEARCH AND THE 3R'S PRINCIPLE

The interdisciplinary course has been designed with the objective of providing students with a comprehensive understanding of the ethical principles that underpin the use of animals in scientific experimentation, as set out in the 3Rs framework. The 3Rs are an acronym representing three fundamental principles of ethical animal research: reduction, refinement and replacement. The first principle, reduction, involves the minimisation of animal usage in a given study. The three words encapsulate the ethical principles that researchers must adhere to when conducting animal experiments. The course's objective is to present the principal innovative applications of research within the 3Rs, with the aim of promoting responsible experimentation. (5 CFU)

### PROGRAM

**Monday 16 June 2025** - proff. M.L Amadio, C. Lanni, and L. Visai, University of Pavia  
**10.00-12.00 AM:** “3R: Reduction, Refinement and Replacement and their applications”

**Tuesday 17 June 2025** - Prof. Daniela Ovadia, University of Pavia  
**10.00-12.00 AM: Part 1** “Basic principles of ethics in animal research ”  
**14.00-16.00 PM: Part 2** “Basic principles of ethics in animal research ”

**Wednesday 18 June 2025-** - Prof. Andrea Ferrigno, University of Pavia  
**10.00-12.00 AM: Part 1** "Animal Experimentation: Legislation, 3Rs Principles, and Statistical Reduction"  
**14.00-16.00 PM: Part 2** "Animal Experimentation: Legislation, 3Rs Principles, and Statistical Reduction"

**Thursday 19 June 2025** - Prof. Virginie Sottile, University of Pavia  
**10.00-12.00 AM:** "3D models of tissue development ex vivo."

**Monday 23 June 2025** - Prof. Gabriele Ceccarelli, University of Pavia  
**10.00-12.00 AM:** "Current tissue engineering approaches for mesodermal tissue regeneration: an overview"

**Tuesday 24 June 2025** - Prof. Alessandro Caimi, University of Pavia  
**10.00- 12.00 AM:** “3D modeling, In-silico trials, and digital twins for 3R”

**Wednesday 25 June 2025** – 3 international speakers  
Annalisa Gastaldello (European Commission - Joint Research Centre – System Toxicology Unit, Ispra, Varese)  
**9.15-10.15 AM:** *Innovative models in biomedical research*

Tania De Miranda Capeloa ((European Commission - Joint Research Centre – Ispra, Varese)  
**10.15-11.15 AM:** *Title to be defined*

**Jeffrey Brown** (Ethical Treatment of Animals (PETA) Foundation. London, UK)  
**11.15-12.15 AM:** *What to know about EMA, EFSA, and replacing animals in drug and food testing*

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