

Survey on 3Rs Education and Training courses and resources

Fields marked with * are mandatory.

The **European Commission Joint Research Centre (JRC)** has launched [a study to review available education and training resources](#) that support the 3Rs approach: **Replacement, Reduction and Refinement** of animal procedures used for scientific purposes.

This ambitious global study is being undertaken by the JRC's EU Reference Laboratory for alternatives to animal testing ([EURL ECVAM](#)) with the support of an external contractor. The study aims to provide an initial overview of education and training opportunities being offered at high school, university and professional levels.

The **objective** of this study is to identify courses, modules, teaching materials, guidance, and other resources to form a snapshot view of how, where and to whom the 3Rs principles and alternative-to-animal approaches are currently being taught keeping in mind that many such initiatives might not be "3R labelled".

The survey **targets** mainly the education and training providers, however it can also be filled in by those who are aware of or have participated in such courses. Please make a separate survey entry for each course.

Please note that your contact details will not be made public or used further for other purposes.

Please be aware that this survey will be open until the **end of June 2018**, as a provisional deadline. The information gathered will be made publicly available in **2019**.

The information gathered will not be linked to any personal data given.

* 1 Please, confirm that you have read and accepted the terms of the privacy statement

[PS_DPO_1924.pdf](#)

Details of the submitter

* 1 Name

Your contact details are required for internal (JRC) use only.

Nineta Hrastelj

2 Organisation

EuCheMS - European Chemical Society

*3 Email

Your contact details are required for internal (JRC) use only.

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Education and training identification

*1 Title of the education and training course or resource

Good Chemistry - Methodological, Ethical, and Social Implications

*2 Owner(s) / Provider(s) / Developer(s)

Add the name of the organisations providing the education and training course or resource

European Chemical Society

3 Acronym of Owner(s) / Provider(s) / Developer(s)

Add the acronym of the organisations providing the education and training course or resource

EuCheMS

*4 Country

Select the country of the owner, provider or developer of the training and education activity

Belgium

*5 Teaching languages

Select the language(s) in which the course or resource is given

English

6 Other teaching language(s)

Enter any additional language(s) that were not listed above

7 Date of creation

8 Funded activity

Is the activity supported by public and/or private entities or programmes (e.g. sponsors, EU funding, other grants, etc.)?

No

*** 10 Location of education and training activity**

Select the country / countries where the educational activity takes place

Not applicable

11 City

Specify the city / cities where the education activity takes place

12 Description

Include a brief description of the education or training programme

The MOOC course is intended to equip the attendants with competences and skills in basic research methodology and its philosophical foundations on the one hand, and in overseeing, understanding, evaluating and assessing contemporary ethical and social issues arising from scientific and technological activity and progress on the other hand. The course is designed and planned in particular for chemistry students and their related fields, requiring no philosophical or ethical background knowledge. The course content is strongly related to the students' daily research activity: Science conduct, logic and theory of science, experimentation, writing publications, dealing with uncertainty, social impact of scientific activity. Applying the fundamentals in philosophy of science and research ethics to the particular conduct of science and its internal and external domains of responsibility is expected to sharpen and solidify the students' awareness for the theory of research practice, their knowledge of ethics and their ability to exploit ethical thinking for the application in the social sphere science and technology as a field of human activity that impacts the quality of life of people all over the planet.

*** 13 Website available?**

- Yes
 No

*** 15 Reference(s)**

Include any relevant publications or other references

The course is currently under pilot phase and the website will soon be available.

16 Upload any additional relevant reference material

The maximum file size is 1 MB

Education and training format

*** 1 Format**

- Computer assisted learning
 Hands-on training
 Interactive online resources

- Lecture
- Mooc (massive open online courses)
- Recorded tutorial
- Summer schools
- Webinars
- Workshops
- Other

3 Presence

- Mandatory
- Optional / Voluntary

5 The presence is optional / voluntary for:

- An entire course
- A module

6 Access

- Free
- Fee-based
- In-house training

7 Content type

- Theoretical
- Practical
- Other

9 Duration of the education and training course

Please indicate the duration and the unit (e.g. hours, days, months, semesters, etc.)

10 Group size

Refer to the maximum number participants accepted per session

11 Frequency of course

- One-time event
- Recurrent event
- Not defined

Course participants profile

1 Prerequisites for registration

Insert any requirements in terms of experience, education, qualifications or profession needed in order to register and attend the programme. Please leave it blank if information is not available.

The course is intended for chemistry students, but not limited to them.

2 Targeted audience

- Students
- Researchers
- Regulators and policy-makers
- Teachers and educators
- Technicians
- Managers
- Scientific officers / Project managers
- Professionals (e.g. veterinarians)
- General public
- Other

4 Targeted sectors

- Academia
- Industry
- Governmental bodies
- Contract Research Organizations (CROs)
- Consulting
- SMEs
- Other

*6 Educational level

Select educational level of the programme

- High school
- Technical College
- Undergraduate
- University (Bachelor)
- University (Master)
- University (Doctoral education)
- Postdoctoral (teaching and research)
- Continuing Professional Development

Education and training characterisation

*1 3Rs relevance

The full definitions of replacement, reduction and refinement of animal testing is available at http://ec.europa.eu/environment/chemicals/lab_animals/3r/alternative_en.htm

- Replacement - *methods, strategies or approaches which do not involve the use of live animals*
- Reduction - *any approach that will result in fewer animals being used*
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Refinement - *modification of any procedures or husbandry and care practices so as to minimise the pain, suffering and distress experienced by the animal and enhance its well-being*

* 2 Topics covered

Select one or more relevant methods if covered (at theoretical or practical level)

- Models of animals (e.g. mannequins, simulators, cadavers)
- Carrying out procedures on animals
- Designing procedures and projects
- Taking care of animals
- Killing animals
- Computational methods
- In vitro* methods
- Ethics
- Legislative aspects
- Other

4 How much of your education and/or training course(s) is dedicated to the 3Rs?

- Partial coverage (e.g. a module)
- Substantial coverage (e.g. multiple modules)
- Full coverage (a dedicated course)

5 Species covered

Select one or more relevant species if covered (at theoretical or practical level)

No species is addressed specifically

Rodents

Lagomorphs

Non-human primates

Small animals

Mice (*Mus musculus*)

Rats (*Rattus norvegicus*)

Guinea-Pigs (*Cavia porcellus*)

Hamsters (*Mesocricetus auratus* [Syrian] & *cricketulus griseus* [Chinese])

Mongolian Gerbil (*Meriones unguiculatus*)

Old world jerboas (*Jaculus jaculus*)

Chinchillas

Beavers

Ground squirrels

Hamsters

Grey dwarf hamsters (*Cricetulus migratorius*)

Rabbits (*Oryctolagus cuniculus*)

Cats (*Felis catus*)

Dogs (*Canis familiaris*)

Ferrets (*Mustela putorius furo*)

Foxes

Badgers

Seals

Otters

Fitchew

Horses, donkeys and cross breeds (Equidae)

Pigs (*Sus scrofa domesticus*)

Goats (*Capra aegagrus hircus*)

Sheep (*Ovis aries*)

Cattle (*Bos primigenius*)

Prosimians (Prosimia)

Marmoset and tamarins (eg. *Callithrix jacchus*)

Cynomolgus monkey (*Macaca fascicularis*)

Rhesus monkey (*Macaca mulatta*)

Vervets *Chlorocebus* spp. (usually either *pygerythrus* or *sabaeus*)

Baboons (*Papio* spp.)

Squirrel monkey (e.g. *Saimiri Sciureus*)

New World Monkeys (Ceboidea)

Old World Monkeys (Cercopithecoidea)

Apes (Hominoidea)

Boars

Bats

Shrews

Llamas

Moles

European bison

Red deer
Quail (*Coturnix coturnix*)
Japanese quail (*Coturnix japonica*)
Bob-white quail
Zebra finches
Canary
Parakeet
Parrot
Chickens (*Gallus gallus domesticus*)
Other birds (other Aves)
Reptiles (Reptilia)
Rana (*Rana temporaria* and *Rana Pipiens*)
Xenopus (*Xenopus laevis* and *Xenopus tropicalis*)
Other Amphibians (other Amphibia)
Zebrafish (*Danio rerio*)
Other Fish (other Pisces)
Cephalopods (Cephalopoda)
Other species

7 Course level on animal species

- Introductory course
- Basic course
- Advanced course

8 Details on the topic or technology covered

Write details on the topic, technology or approach covered by the programme (e.g. organ or systems covered, organ-on-a-chip technology, read-across, visual aids, etc.). Please leave it blank if information is not available.

9 Relevant legislative framework

Select the legislative framework covered by the education or training programme

- Directive 2010/63/EU or equivalent
- CLP Regulation (EC) No 1272/2008
- REACH Regulation (EC) No 1907/2006 or equivalent
- Cosmetics Regulation (EC) No 1223/2009 or equivalent
- Plant Protection Products Regulation (EC) No 1107/2009
- Biocidal Products Regulation (EC) No 528/2012
- Medical Devices Regulation (EU) 2017/745
- In Vitro Diagnostic Medical Devices Regulation (EU) 2017/746
- International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH)
- EU & US Pharmacopoeia
- Food Safety (EC) No 178/2002 or equivalent
- Institute for Laboratory Animal Research (ILAR)

- Test guidelines (OECD, ISO, etc.)
- Other

Education and training outcome

1 Does the course or training provide any learning outcomes?

If 'Yes', please specify below

- Yes
- No

*2 Please list all learning outcomes related to the education or training provided

- Chemists need to have a rough overview of the positions and arguments in the debate, so that they are able to respond to objections (and verbal attacks) with proper and plausible arguments, so that their credibility is maintained and their argumentation is reasonable and convincing.

- Chemists that conduct animal experiments are required by regulations and guidelines to fill out forms in which they explain and reason their choice of study, experimental setup, animal model, research goal, etc. It is useful to understand the ethical background of these regulations and to gain competence in responding to such inquiries professionally and satisfyingly.

3 Is the education or training accredited or approved by an authority?

If 'Yes', please specify below

- Yes
- No

5 Qualification received

Add the qualification, or type of diploma received credits or points system used etc. Please leave it blank if information is not available.

The course will be available on the EuCheMS website for all interested in taking part. Some universities will also transfer the course onto their own study programmes.

6 Are you aware of any statistics on the impact of the course/resource in relation to the career of the students?

If 'Yes', please specify below

- Yes
- No

Course sustainability

1 Procedures for maintaining and updating the course content

Add details on the post-training feedback or surveys

This will be done in a decentralised way - especially when universities transfer the course to their own study programmes. EuCheMS will act as a central point where it will collect feedback from all the participating universities and students.

2 Last update

28/06/2018

Comments

1 Any further comments

The module on the 3Rs is part of a wider MOOC course currently in pilot phase. The full course will look at various ethical issues, from animal testing to publishing, from scientific inquiry and practice to sustainability, and more. The course is being developed by EuCheMS and will be available on the EuCheMS website soon (planned launch is in August 2018). It will also be available for universities to transfer to their own study programmes where all or some elements of the course will be taught to all university levels. Whilst the course is intended for chemistry students, it is accessible to other fields of study and to professionals, citizens and anybody with an interest in the ethical dimensions of chemistry and science more generally.

Contact

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