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Guidance for implementation of ethics and integrity training

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Ethics and Research Integrity Officer Network (ERION)

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Background

The European Association of Research Managers and Administrators [EARMA] held its 5th meeting of the ERION community in Eindhoven on March 9th, 2020. The theme of the meeting was '*Implementation of training programmes for researchers in Ethics and Research Integrity*'. The event attendees participated in breakout sessions to identify best practices and key elements for the implementation of training programmes for researchers in Ethics and Research Integrity. For the identification of best practices, the participants discussed good practices, common tools and links to existing resources. Participants also analysed the reason for each of the examples proposed. To identify key elements participants were asked about their ideal training programme.

This report provides a summary of the outcomes of these sessions, based on the collected participation notes. The purpose of the report is to offer guidance in building and developing research ethics and integrity training programmes. As training in ethics and research integrity is a recurrent topic within the ERION community, this document can be considered a description of the current situation and it can be used as a starting point for any updates or further discussion in future.

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Introduction

Any research performing organisation should offer research ethics and integrity (REI) training. With this report, we have prepared guidance for such training of researchers in the context of ensuring an *awareness* of possible issues and of governance frameworks which can be used to assess and manage specific situations on a *case by case* basis. This is a complex area, and we encourage individuals using the report to think critically about moral, ethical and legal issues and how these converge in the context of both research integrity and ethics within their jurisdiction and institution. As a consequence, the details of the training programme may vary due to a number of factors, including the organisation's size, capacity, resources, applicable laws and regulations, and other external requirements such as those imposed by funders or policymakers and local codes of practice.

In designing a REI training programme, it is crucial to integrate the factors above in a way that facilitates promotion of compliance, high quality research, and high standards of ethics and integrity. We have not included specific directions as to what we believe is ethical or moral simply that such value judgements can be reached by researchers who have been trained and possess an understanding of the ethical and research integrity implications of their research as well as broader issues of research governance. We recognise that besides a research integrity perspective, there are numerous examples where the research itself needs to be carefully and sensitively managed with appropriate safeguards and insurance as well as governance and standards. Consequently, how to identify and manage any ethical concerns including the relevant processes, approvals and categories of risk should be part of any REI training programme.

This report has been structured in three sections, as follows:

Section I – introduces the key themes identified from the workshops that represent good practices and essential principles for an effective and successful approach to training in REI.

Section II – contains a checklist to help create an effective REI training programme.

Section III – provides links to other resources that were mentioned during the workshops.

Section I

Key features of training programmes in REI

Theme I – Policy Framework, Institutional Embedding and Leadership

The [European Code of Conduct for Research Integrity](#) (ECCRI, or ALLEA-code) is a useful starting point that addresses good practice, poor practice and misconduct in research. The European Commission recognises the ALLEA code as the reference document for research integrity for all EU-funded research projects and as a model for organisations and researchers across Europe. As a consequence many institutions already formally adopted the code as their institutional guidance document. Raising awareness of the code's existence, requirements and content should be a basic starting point for any REI training programme.

However, it is also important to consider national/local/institutional guidelines, laws and rules as well as voluntary codes/concordats/initiatives that specific institutions have committed to implementing (like the [Leiden Manifesto](#) or the [San Francisco Declaration](#)), and requirements provided by external recognised bodies such as academic societies or funders. Indeed, promoting compliance with funders' requirements or initiatives can be an efficient means to raise awareness and promote REI.

Other parts of the REI framework may include specific policies or strategies related to aspects of research integrity, such as policies on data management, open access, or research ethics. The responsibility for these parts is typically divided across different administrative functions with relevant expertise, all of which can make important contributions especially in the context of delivering REI training. It is advisable to form a network of colleagues in these different functions to provide a forum for exchange and to help spread awareness and knowledge in the organisation. Such a network may include central or faculty REI advisors, legal counsels, data protection officers, research data administrators, etc. Such a network may, among other things, facilitate coordination between faculty and central policy/activities and provide support for local training initiatives, for example in departments in a start-up phase or with limited resources.

At the same time, it is important to have a dedicated REI advisory person/function; among other things, this serves to signal the importance of REI, to provide a clear contact point at the institutional level and to take a role in the development of training programmes.

A crucial part of the institutional embedding is the work and research environment. The learning setting for REI extends beyond the specific educational setting of a training programme, and the impact of the latter will be significantly enhanced by an open research culture in which everyone can freely share experiences and ideas, ask questions, initiate critical discussions, and prevent, as well as learn from mistakes. Approaching the topic of REI in a positive way – in training programmes as well as in other parts of the institutional REI framework – may help establish a culture of care of the desired kind.

Finally, leadership support, whether this is at an institutional or a departmental level, is a precondition for successful implementation of REI training programmes, not least when it comes to allocating sufficient resources. One way of making REI more visible in the institutional priority setting system is to present REI as a central aspect of quality or excellence and to point out risks connected to non-compliance and

ethics/integrity breaches. In order to handle these aspects of quality assurance and risk management, organisations need an appropriate REI framework, including REI training.

Theme II - Audience

Involving the research community in the design and the implementation of the REI training will help clarify the needs, which may in turn make it easier to gain support and resources, tailor the training to the intended audience's interests and increase engagement and attendance. It is important to make sure that the training is neither too advanced and detailed nor too basic and general in relation to the audience's needs. This balance must also be taken into account when promoting the training. For instance, some researchers may not be interested in things that they perceive as falling outside of their own discipline; in such cases breaking it down into discipline specific subtopics may help.

It is also important to consider the ways in which the audience's needs may vary according to things like role, career stage and academic discipline. For instance, training for PhD students and postdocs may need to include what to expect from supervisors, while training for Principal Investigators may need to include mentoring and team management. Senior staff is an important target group as they have a central role in the educational part of a training, both formal (through courses) as well as informal (learning on the job). Researchers and students visiting from abroad may need special training (or at least information) about local and national rules and guidelines to help them understand expectations which may differ from their own institution. Broadening the training programme to non-researchers who are involved in research (e.g. technicians, project managers) should also be considered.

Theme III -Learning outcomes and Delivery

A training programme can be more or less extensive, but ideally it should have at least a common core part for all those performing research addressing the key policies, processes and expectations (for example ethical approval, data management and research misconduct). Depending on local customs and laws, it may be appropriate to offer this part of the training programme at an institutional level and make it mandatory (at least for certain key groups like PhD students). However, this may also have downsides in the form of increased costs and less engaged audiences. The core part can then be complemented with more specialised activities, targeting individuals in different roles, disciplines, career stages, or those conducting research that is considered especially risky. Topics may include things like appropriate manipulation of images in lab-based research, unconscious bias, medical/clinical ethics, social science research involving vulnerable groups, observation studies etc. These items are preferably addressed at local (faculty) level. Whatever the composition of the programme, it should at least form a cohesive collection of several courses. This requires close monitoring and alignment with all trainers involved.

An alternative to making training compulsory is to provide incentives for participation. For instance, it can be integrated in a reward system or associated with status, either informally (e.g. with a gadget) or formally (e.g. through certified accreditation). Participation can also be increased by combining the REI training with (or embed it in) other activities, such as (general) leadership training, application preparation for research projects , or training in REI related topics such as data management or GDPR.

Organisations should have an explicit framework of academic expectations which addresses the minimum standards of REI. The learning outcomes should be aligned with this framework and clearly stated. Trainers should have special competence and expertise on different levels; in ethics, knowledge on relevant rules/regulations/guidelines and on the job experience. Train-the-trainer sessions can be one way of securing an appropriate level of trainer competence.

It is important that REI training programmes have appropriate contents adapted to the need of the targeted audience. After finishing the core part of the course, participants should have:

- o ability to identify and analyse ethical problems in different research contexts, including one's own field

- o knowledge of applicable REI regulations, guidelines and practice (e.g. regarding ethics review, data management, research misconduct), and the ability to implement them in one's own field

- o knowledge of the policy and processes regarding ethics and ethical approval and research integrity and its breaches

The content and learning outcomes should focus on what is practically relevant for the audience. This may be facilitated by sharing experiences and using realistic examples. However, discussing real cases, in particular from one's own institution, is not recommended, as it can affect the learning environment negatively (high emotional burden, unpredictable learning outcome).

Furthermore, the method of delivering the training should be carefully chosen to ensure the learning outcomes are met. Possible components include blended learning (online + face-to-face), role play, world café discussions, case studies, e-learning materials, and many more. Different training methods have relative advantages and disadvantages, and a combination is usually advisable. Depending on the circumstances one may for example combine an online core training (which may be compulsory for everyone) with specialised training in workshops format at faculty or departmental level (which may be partially voluntary).

In order to keep focus and interaction high, a number of short sessions is often preferable over a single long session. Smaller groups are better for most learning methods, especially in the case of physical group meetings for deeper discussions and exchange of experiences through peer-to-peer interaction. To ensure continuous learning, the training can be repeated at different times in the research career or linked to several milestones and it can be complemented with easily accessible info-materials or toolboxes.

REI training requires a comfortable, safe learning environment, especially when it comes to sharing experiences and engaging in deeper discussion. Besides setting the scene and offering a framework to guide daily research practice, REI training plays an important role in refining moral reasoning. This can be considered challenging both from a trainer perspective and from participants as many researchers expect training to provide clear cut answers to general problems. The reality, however, is more complex.

The importance and gravity of the topic should not be seen as a barrier to applying dynamic learning methods and creating an enthusiastic, even fun, atmosphere. For instance, role playing, group activities or games can help lighten up the discussion and help audiences engage more. Creating a perception of REI

as a topic which really matters to researchers in their everyday practice is important to bring about cultural change.

Section II

Checklist for REI training

This section contains a checklist to help organise a REI training programme

Theme I - Policy Framework, Institutional Embedding and Leadership	
Get leadership attention and support by focussing on quality assurance and risk management	☐
Establish a dedicated REI advisory function in the institution	☐
Approach the research community with a positive tone and focus	☐
As an institution, endorse the general framework in Europe; the European Code of Conduct for Research Integrity Proactively communicate this to the research community	☐
Identify relevant laws, rules, guidelines and initiatives at different levels in the field (national, local, institutional level, funders, societies, etc) Use them to further legitimise your plans	☐
Identify (institutional) policies/guidelines relevant for REI (such as data management, GDPR, open access) and link them to REI	☐
Create a (in)formal network of colleagues/experts in relevant topics and enlist their help to deliver training or facilitate discussions/drop-in clinics	☐
Support initiatives towards an open research culture such as Open Science	☐
Theme II - Audience	
Get to know your target group and check their needs and expectations	☐
Involve the target group in the design and implementation of the training	☐
Tailor the training to target group's interests and match it with role, career stage and academic discipline	☐
Find the right balance in content and promotion of the training (basic vs. advanced, general vs. detailed)	☐
Take efforts to increase attendance rates	☐
Pay special attention to senior staff	☐
Pay special attention to researchers from outside the institution or abroad	☐
Involve the broad research community, also non-researchers like technicians, project managers	☐
Theme III -Learning outcomes and Delivery	

Make expectations clear and align with learning outcomes	☐
Put together a cohesive collection of courses and align between the different levels (institutional, faculty)	☐
Combine more common parts with specialised courses	☐
Keep the training practical and relevant at all times	☐
Assure a minimum standard by making (part of the) training mandatory	☐
Combine different training methods (blended learning, workshops, case studies, role play, etc.)	☐
Incentivise participation (in)formally	☐
Attract competent trainers and keep training-the-trainer	☐
Give preference to short sessions in small groups	☐
Create a safe zone	☐
Be aware of framing in moral reasoning (it is not just black and white)	☐
Enable continuous learning	☐
Keep it dynamic and fun	☐

The next page contains a visual representation of the key areas to help develop your REI training strategy

Policy Framework & Institutional Embedding

European Code of Conduct for Research Integrity (ECCRI)

National/Local/ Institutional laws and guidelines

Codes/Initiatives that specific institutions have endorsed (eg Leiden Manifesto, DORA…)

External requirements (funders, academic societies…)

Institutional Policies (eg data manag, open Access…)

Work and Research Climate

Leadearship Support

Audience

Role

Career Stage

Discipline

Cultural Diversity

Learning Outcomes&Delivery

Core Training / Discipline specific sessions

Compulsory/ Incentives

Blended Delivery Methods

Session length and group size

Section III

Resources and links

The list of resources and links reflects the knowledge of the participants and authors of this report to-date. While the list cannot be comprehensive, the authors adopted an exhaustive approach by not making any recommendation of some resources over others. Furthermore, paid resources are not included in this version of the report.

The list below provides a summary of the resources by organisation or institution name. The more detailed description of trainings, case studies, learning materials, guidelines etc. is provided further in the text.

List of resources and links:

1. **Erasmus University Rotterdam**
2. **University of Oslo and Oslo University Hospital**
3. **The UK Research Integrity Office**
4. **The Netherlands Research Integrity Network (NRIN)**
5. **Norwegian National Research Ethics Committee**
6. **The Embassy of Good Science**
7. **European Network of Research Ethics and Research Integrity (ENERI)**
8. **League of European Research Universities (LERU)**
9. **European-funded projects**
10. **Directorate-General for Research and Innovation of the European Commission**
11. **U.S. Office of Research Integrity (ORI)**
12. **The University of Texas at Austin**
13. **World Economic Forum Young Scientists**
14. **Global Code of Conduct**
15. **Committee on Publication Ethics (COPE)**
16. **World Conferences on Research Integrity**

1. Erasmus University Rotterdam

The dilemma game - Erasmus University Rotterdam: a disarming tool to make researchers more conscious and critical towards the daily research practice. Contains 75 dilemma situations taken from (research)life, generic of nature and very recognizable for different categories of researchers. The tool can be used in different ways; as learning material, as a start for discussions, it even plays as a real board game.

2. University of Oslo and Oslo University Hospital

Specialised courses on REI subtopics on privacy and information security.

3. The UK Research Integrity Office

The UK Research Integrity Office has a sample case study pack online which is useful for training purposes. They also have some very useful guidance for researchers on authorship, internet-mediated research, retractions in academic journals, animal research, a checklist for researchers on good practice in research, and more.

4. The Netherlands Research Integrity Network (NRIN)

The Netherlands Research Integrity Network (NRIN) aims to facilitate collaboration, exchange and mutual learning between the actors in the field of research integrity. By organizing a diversity of open and closed meetings, and sharing information on the website and in newsletters (library).

5. Norwegian National Research Ethics Committee

The Research Ethics Library of the Norwegian National Research Ethics Committee holds a diverse collection of usable information for training.

6. The Embassy of Good Science

The Embassy of Good Science is a wiki-platform where the community of researchers and all those involved in research can share experiences and insights on research integrity. The Embassy covers a wide variety of themes in an easy-to-read, user-friendly manner, maps the laws, policies and guidelines informing good practices and highlights relevant cases, experiences, educational materials and good practice examples.

7. European Network of Research Ethics and Research Integrity (ENERI)

ENERI is the European Network of Research Ethics and Research Integrity, a platform that aims to improve and institutionalise the exchange between experts in the fields of research ethics and research integrity. ENERI has established an e-Community on SINAPSE to foster smooth communication and cooperation among its members. The research integrity education projects may use the community to disseminate outputs, create sustainability and draw inspiration from the online training options available in the ENERI classroom. Furthermore, ENERI has developed recommendations and tools for researchers, research ethics committees and research integrity offices.

8. League of European Research Universities (LERU)

Advice paper - League of European Research Universities (LERU): Towards a Research Integrity Culture at Universities: From Recommendations to Implementation

9. European-funded projects

VIRT2UE has developed a blended-learning train-the-trainer programme for research integrity trainers that aims to foster scientific virtues and the consistent application of the European Code of Conduct for Research Integrity across Europe via online and face-to-face training. The major target group of the project are research integrity trainers and researchers. (program available for many European countries).

Path2Integrity develops formal and informal learning paths by using learning cards to educate secondary school students, university students, early career researchers and citizens about research integrity based on the European Code of Conduct for Research Integrity (handbook of instructions and accompanied by a train-the-trainer programme).

INTEGRITY combines high quality training in ethics and research integrity with innovative modes of engagement focussed on empowering, e.g. with animated videos, thus equipping the next generation of researchers with the capacity to conduct research responsibly and address unforeseen challenges with integrity and in an ethical manner.

SOPs4RI (Standard Operating Procedures for Research Integrity) aims to stimulate transformational processes across European Research Performing Organisations and Research Funding Organisations (RPOs and RFOs). The SOPs4RI Toolbox is a structured collection of easy-to-use Standard Operating Procedures and Guidelines. It covers nine topics among which training in research integrity.

10. Directorate-General for Research and Innovation of the European Commission

The Directorate-General for Research and Innovation of the European Commission is offering guidance on dealing with ethics in (European sponsored) research:

The webpage consists of broad information on the importance of ethics in research and its implementation; a clear description of the ethics review procedure and an overview of ethics legislation, regulation and conventions (EU Commission and many other EU institutions). In particular there is info on compliance to ethics in EU-projects:

How to complete your ethics self-assessment

Roles and Functions of Ethics Advisors/Ethics Advisory Boards in EC-funded Projects

Specific EU publications:
https://ec.europa.eu/research/swafs/index.cfm?pg=library&lib=research_ethics

11. U.S. Office of Research Integrity (ORI)

Office of Research Integrity (ORI):

The Lab – The Research Clinic: two interactive video (role)plays to (partially) use as learning materials or to actively engage in role play.

A series of movies reproducing the most common integrity issues in research:

A number of case studies in reading or video format

Several infographics on topics such as image fraud, ethical writing, authorship, different aspects of recognizing and dealing with research misconduct, etc.

And numerous hands-on guides, tools and manuals about different aspects like mentorship, animal resources, conflicts of interest, etc.

12. The University of Texas at Austin

51 animated videos - 1 to 2 minutes each, to define key ethics terms and concepts: https://ethicsunwrapped.utexas.edu/glossary

13. World Economic Forum Young Scientists

The World Economic Forum Young Scientists community – a group of leading researchers under the age of 40 from diverse fields, including biology, physics, the environment and computing, and from all regions of the world – came together during a workshop to identify and reflect on the cross-cutting ethical issues they are faced with.

14. Global Code of Conduct

On the content of research partnerships between high-income and lower-income settings and the export of unethical research practices: The Global Code of Conduct for Research in Resource-Poor Settings.

15. Committee on Publication Ethics (COPE)

Flowcharts and Guidelines – Committee on Publication Ethics (COPE): guidance on how to deal with possible image manipulation, misconduct in peer review or published articles, ethical guidelines, text recycling guidelines, dealing with authorship issues, etc.

16. World Conferences on Research Integrity

Since its launch in 2007, several guidance documents have been produced such as the Singapore statement, Montreal statement, Amsterdam agenda, Hong Kong principles.

Acknowledgements

Appendix A, Moderators and rapporteurs at 5th ERION meeting

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Pearson John, Vrije Universiteit Brussel, Belgium
Porcel Joana, ISGlobal, Spain
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