Lesson 2: Responsible Research and Innovation approach: the EU drivers for Impact

Learning outcomes:

LO#3 - The student can explain Responsible Research and Innovation (RRI) principles and practices in its main thematic elements: public engagement, open access, gender, ethics, science education, science communication and engagement, and impact.

LO#4 - The student can identify cross-cutting issues in a given project (e.g. ethical and gender issues) and identify different strategies to address them in different research projects.

LO#10 - The student can argue about the reasons for promoting accountability, responsibility, ethics and integrity in research.

LO#11 - The student can contribute to the design of activities and instruments fitted to each of the RRI principles

While planning their research impacts, researchers and R&I institutions must answer to the EU focus areas of impact defined in the Responsible Research and Innovation Policy that define focus areas of impact. At the same time, addressing RRI means also to approach impact by looking at how R&I meets the social, ethical and political current demands. This lesson is about RRI and its different aspects.

Responsible Research and Innovation approach: a vision for research impact

Research and Innovation (R&I) have improved our world and our lives for many years and it will continue to transform our future. Nevertheless, at the same time that it brings a positive impact on societal development, R&I is socially, ethically and politically entangled and, as such, it can have potentially widespread, uncertain and unpredictable social effects. Since new R&I developments can generate a certain level of new risks and ethical dilemmas with impact on the citizens, several policy meetings and research groups, projects and networks around the world have highlighted the need to conceptualize and implement Responsible R&I.

The term ''responsible development'' was used for the first time already in 2003 in the US Act about nanotechnology development, and in Europe from 2009 by the Netherlands Organization for Scientific Research (NWO). As such, many efforts have been put in place worldwide for several years, leading up to the EU Programme for Research and Innovation 2014-2020 (Horizon 2020) approach called "Responsible Research and Innovation" (RRI). EU definition: cf: "Responsible research and innovation is an approach that anticipates and assesses potential implications and societal expectations with regard to research and innovation, with the aim to foster the design of inclusive and sustainable research and innovation."

RRI is an approach aiming at diminishing the gap between Science and Society which implies that societal actors (such as researchers, citizens, policy makers, companies and civil society organisations) work together in the whole research and innovation process in order to better align both the process and its outcomes with the values, needs and expectations of society. RRI

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aims to promote the development of ethically acceptable, sustainable and socially desirable research and innovation outcomes. It is, from Horizon 2020 onwards, a guiding principle for the European Research Area.

Although RRI is a concept that is recently gaining momentum but it still lacks agreement on its definition, content and details. About that, it is important to reference the EU funded project MoRRI: Monitoring the Evolution and Benefits of Responsible Research and Innovation main objective is to provide scientific evidence, data, analysis and policy intelligence to support directly Directorate General for Research and Innovation (DG-RTD) research funding activities and policy-making activities in relation with Responsible Research and Innovation (RRI).

To tackle such a policy approach, RRI acts upon different aspects of the relationship between R&I and society: 1) public engagement, 2) open access, 3) ethics, 4) gender, 5) science education and 6) science governance. All of these aspects are described below, with a selection of case studies/ list of best practices that intend to provide a concrete vision of each RRI element.

At the end, and although RRI is a concept that is recently gaining momentum, it still lacks agreement on its definition, content and details. The role of the RMAs in the accomplishment of each of these RRI is also highlighted, as they

1. provide technical support for researchers and institutions in RRI
2. train the research community to enrol in such activities
3. advocate, raise awareness and contribute to developing such policies within the institutions
4. monitor such practices and policies.

Public engagement (PE)

This RRI challenge is composed of bringing new voices and creative perspectives in R&I design and results and aims specifically to 1) contribute to a more scientifically literate society able to support democratic processes and R&I developments; 2) foster R&I outcomes that are more focused on tackling societal challenges. In brief, it seeks a democratization of science and research.

Engagement with the public approaches has been evolving over the last two decades, from *Promoting the Understanding of Science* (one-way communication of research results to the audience) to the ambitious concept of *Publicly Engaged Science and Innovation* (where Public Engagement is the strategy that allows inputs from the participants). In the Public Engagement processes, both citizens and scientists have a say on the discussed subjects.

While "Public Engagement" is commonly understood, it is still unclear how to effectively engage the public, how to deal with contradictory positions between the different publics (including researchers) and at what stages of R&I the public should be involved. Public Engagement in Responsible Research and Innovation: A Critical Reflection from the Practitioner's Point of View is a doctoral thesis that, besides providing a literature review of the topic, it develops an empirical study of these topics in action, highlighting some of the problems of its practical implementation.

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It is also particularly relevant because it addresses the issue of the practitioners - the RMAs who are responsible for Public Engagement activities.

- **Public Engagement Case studies:**
  - https://www.publicengagement.ac.uk/do-engagement/inspire-me/case-studies
  - https://ec.europa.eu/research/swafs/index.cfm?pg=policy&lib=engagement

- **Role of RMAs:** RMAs involved in Public Engagement activities act as moderators between the different actors (e.g. civil society organisations, public representatives, individual citizens) as well as the responsible for the whole engagement process. They must master communication skills as well as conflict management and creative problem-solving, while understanding of the policy context, the understanding of the political processes, the knowledge of which political actors and institutions to engage with, and their ability to communicate effectively (Powell & Colin, 2009). Open University summarised also some features of these RMAs "who can actively listen by connecting meaningfully with people from different academic disciplines and roles, and with multiple external stakeholders. It also requires analytical and rhetorical skills to filter ideas and construct arguments that work in particular contexts. At times it requires flexibility, adaptability, tact and diplomacy; at others a progressive vision« (Holliman et al., 2015, p.13)

Open Access (+Open Science)

Open Science is based on the evidence that making results more accessible will foster better and more efficient science contributing as well to boosting the development of new products and services in the public and private sectors. It is also based on the sociological argument that "scientific knowledge is a product of social collaboration and its ownership belongs to the community" and on the economic argument that "scientific outputs generated by public research are a public good that everyone should be able to use at no cost". By openly sharing R&I knowledge among the scientific community but also with the society and companies, Open Science aims to increase the recognition and social and economic impact of science. In 2012, the European Commission released a clear recommendation encouraging all EU Member States to put public-funded research results in the public sphere and in 2016 published the book "Open Innovation, Open Science, Open to the World - A Vision for Europe" developed under the EC Commissioner for Research, Science, and Innovation Carlos Moedas. Here, the European Commission defines Open Science as "a new approach to the scientific process based on cooperative work and new ways of diffusing knowledge by using digital technologies and new collaborative tools".

We can also find other definitions of Open Science, such as the OECD definition "to make the primary outputs of publicly funded research results – publications and the research data – publicly accessible in digital format with no or minimal restriction". Nevertheless, while Open Science encompasses the Open access of data and publications, it also represents the openness of the scientific process as a whole, reinforcing the concept of RRI. As the Open Science and Research Initiative highlights, Open Science integrates several Open movements, such as: open access to publications, open research data, open source software, open collaboration, open peer

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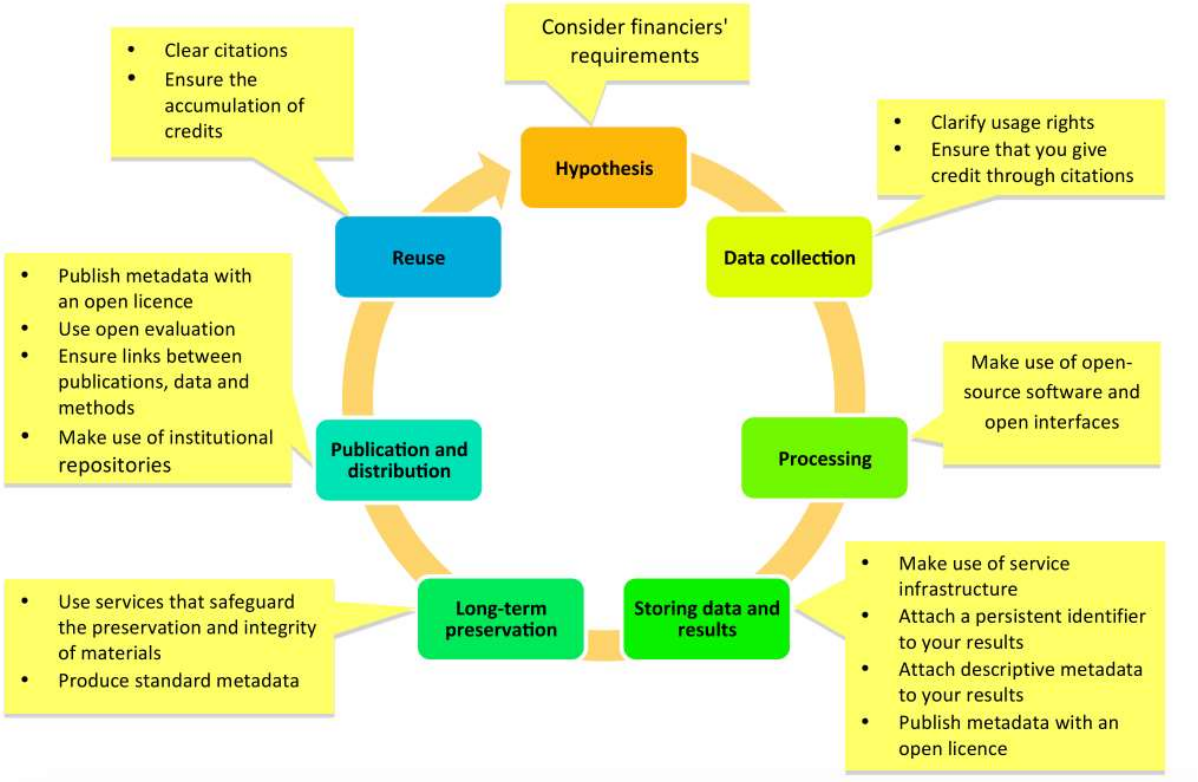
review, open notebooks, open educational resources, open monographs, citizen science and research crowdfunding. The openness to the scrutiny of science and scientific practices by the citizens, that will now have access to data and take part in R&I discussions, it intends to advocate for the public trust in science, a major goal of RRI.
Open Science concepts can be extended to the whole project lifecycle, as the following figure shows:



Source: Open Science and Research Initiative, 2014

In all R&I projects funded by the European Commission, as set out in European Code of Conduct for Research Integrity, providing Sound and FAIR data (Findable, Accessible, Interoperable and Reusable) is an essential part of good research practice and research integrity. For more information see the section below on Data Management,

- **Open Science Case-studies:**
  - Facts and Figures for open research data and Figures and case studies related to accessing and reusing the data produced in the course of scientific production
  - UK Open Research Data Task Force: case-studies
  - Case studies on Open Science in the context of ERC projects - 5 sets of case-studies

- **Role of RMAs:** Research and Innovation institutions have the responsibility to create an enabling environment for open data, with RMAs playing an important role in 1) effectively *training and supporting* the evolving information needs of researchers, 2) providing *support*

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to the infrastructures to share publications articles or data, 3) *advocating, raising awareness and contributing* to developing open access policies within the institutions, and 4) *carrying and monitoring Open Access Policies* themselves. As such, EU-funded project Foster Plus (Fostering the practical implementation of Open Science in Horizon 2020 and beyond) highlights the following RMA tasks:

- Advise on preserving research outputs (e.g. publications) and project records (e. g. correspondence);
- Contribute to the development and governance of repositories of publications and data, in regard to appraisal, selection, description and metadata application, curation and preservation; information retrieval; monitoring data reuse, citation and impact, etc.
- Support researchers in complying with the various mandates of funders, including open access requirements;
- Assist researchers to identify potential funders for Open Science activities;
- Provide advice and training in data management, preservation and analysis to assist researchers to open their research workflows, sharing and reusing the research outputs produced by others.

Ethics (+ Data Management)

Ethics in the RRI approach includes all ethical issues from the beginning to the end of the research lifecycle. It represents the commitment to an ethical research conduct which implies the application of fundamental ethical principles and legislation to scientific research in all possible domains of research.

All R&I activities are obliged to comply with ethical norms and principles. US National Institute of Environmental Health Sciences (NIEHS) highlights the relevance of such norms since:

1. they promote the nature of research purpose: search for knowledge, truth, and avoidance of error;
2. they promote the essential values for a collaborative work, such as trust, accountability, mutual respect, and fairness, which are especially relevant for cooperation and coordination among many different people in different disciplines and institutions;
3. they make researchers accountable for their research practices, boosting the public support for research;
4. they integrate a set of important moral and social values, such as social responsibility, human rights, animal welfare, compliance with the law, and public health and safety, which are specially relevant as some research activities have the potential to harm human and animal subjects, students, and the public.

Related to ethical principles the concept of **research integrity** has to be mentioned, which refers to developing research in a way which allows others to have trust and confidence in the methods, findings and publications that result from this research. According to the European Code of Conduct for Research Integrity this means complying to 4 main principles:

1. **Reliability** in ensuring the quality of research, reflected in the design, the methodology, the analysis and the use of resources;

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2. **Honesty** in developing, undertaking, reviewing, reporting and communicating research in a transparent, fair, full and unbiased way;
3. **Respect** for colleagues, research participants, society, ecosystems, cultural heritage and the environment;
4. **Accountability** for the research from idea to publication, for its management and organisation, for training, supervision and mentoring, and for its wider impacts.

Besides the application of such fundamental ethical principles by researchers and its institutions, an ethical research conduct also involves the compliance with ethical norms and principles specifically related to the R&I activity in place. Although this obligation is mostly linked to medical research, which has a longer historical context starting already in 1964 with the declaration on research ethics by the World Medical Association, research ethics principles are of crucial importance for any field of research. In the document "Ethics for Researchers- Facilitating Research Excellence in FP7" the European Commission identified **Twelve Golden Rules to Ethical Research Conduct**. The researcher must ensure that the research:

1. Respects the integrity and dignity of persons (that this intrinsic worth protects them from being used for greater perceived benefits)
2. Follows the "Do no harm" principle. Any risks must be clearly communicated to the subjects involved
3. Recognises the rights of individuals to privacy, personal data protection and freedom of movement
4. Honours the requirement of informed consent and continuous dialogue with research subjects
5. Treats animals with respect and works under humane conditions before, during and after the research
6. Designs animal research in accordance with the 3 Rs: Replacement, Reduction, Refinement
7. Respects the principle of proportionality: not imposing more than is necessary on the subjects or going beyond stated objectives (mission creep)
8. Treats societal concerns seriously - a researcher's first obligation is to listen to the public and engage with them in constructive dialogue, transparently, honestly and with integrity
9. Tries to prevent being openly available for misuse or malignant dual use by terrorists or military organisations
10. Recognises the wholeness of an individual and that any modification (genetic or technological) does not interfere with this principle
11. Respects biodiversity and does not impose irreversible change that threatens the environment or ecological balance
12. Builds on the understanding that any benefits are for the good of society, and any widely shared expressions of concern about threats from your research must be considered (with the acceptance that perhaps certain research practices might have to be abandoned)

These principles are legally converted in the EU and international legislation that can be linked to specific domains of research – such as the EU Clinical Trials Regulation or the Code of Ethics of the International Sociological Association - or with a broad scope - such as the Charter of

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Fundamental Rights of the European Union and the European Convention on Human Rights. During the application to a R&I EU funded programme, researchers are requested to identify any ethical issues related to the project and, if any ethical issue arises, to complete an ethics self-assessment. These ethical issues are organized into 8 groups:

1. Human embryos & foetuses
2. Human beings
3. Human cells or tissues
4. Personal data
5. Animals
6. Non-EU countries
7. Environment, health & safety
8. Dual use
9. Exclusive focus on civil applications
10. Potential misuse of research results
11. Other ethics issues

The proposals retained for funding that identified ethical issues are then submitted to an Ethics Review process.

Another key related concept is the **ethics dumping**, which is the exportation of non-compliance research practices outside Europe. This issue is of particular relevance in the current reality of globalization of research activities, where EU organisations develop their work outside the EU, and where international science collaboration and diplomacy is needed.

Ethics and Data management

During the implementation of most Research and Innovation (R&I)projects it is necessary to collect, preserve and disseminate data. Ethically managing these data is critical for maintaining participants' confidentiality and privacy.

In case of R&I projects funded by the European Commission the researcher must submit a Data Management Plan (DMP) within the first 6 months of the project. A DMP details the procedures for the collection, storage, use, re-use, access, retention and destruction of research data. The Commission provides a DMP template that could be used for that purpose.

Regarding ethics, it is in this DMP where the researcher must answer the following questions:

- Are there any ethical or legal issues that can have an impact on data sharing?
- These can also be discussed in the context of the ethics review. If relevant, include references to ethics deliverables and ethics chapter in the Description of the Action (DoA).
- Is informed consent for data sharing and long term preservation included in questionnaires dealing with personal data?

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Data management according to FAIR principles (Findable, Accessible, Interoperable and Reusable) is closely linked to the concept of Open Data and, at the end, with Open Science. You can find more information about that in the previous chapter.

- **Ethics case studies:**
    - The European Commission provides other important guidelines in Ethics for researchers Facilitating Research Excellence in FP7
    - 3 case studies on ethical dilemmas and research misconduct (in the USA)
    - TRUST report on Ethics dumping

- **Role of RMAs:** Even not directly involved in doing research, RMAs have an important role in promoting RRI in their own institutions by:
    - complying also with a core of ethical principles (for example see the National Council of University Research Administrators (NCURA) Statement of Principles
    - identify real and potential ethical issues related to research activities (at the level of a research project planning and implementation, but also at the level of daily research activities at the institution)

Related to this, Boston College has developed the online program called Administrators and the Responsible Conduct of Research with 5 modules with specific case-studies of ethical issues for a diversity of RMA tasks related to:

- Conflict of Interest
- Financial Management
- Mentor-Trainee Responsibilities
- Collaborative Research
- Data Management

Gender

Promoting Gender Equality in the EU was laid out in the 2012 European Commission's Communication for a Reinforced European Research Area (2012). Specifically, regarding R&I, it encloses 3 objectives:

1. Integrating the gender dimension in the R&I content (i.e. analysing and taking in consideration the possible differences between men and women, boys and girls, or males and females, in the R&I subject analyses);
2. Promoting equality in scientific careers (i.e. seek at having 50/50 participation in the project scientific teams and in its management structures)
3. Fostering gender balance in the decision-making (for example, closing the gap in the participation of women in panels or advisory groups)

In 2015, the Council Conclusions on Advancing gender equality in the European Research Area highlighted the need to promote institutional change namely at the R&I and Higher Education institutions. This recommendation sits in strong evidences that R&I institutions, as in many other

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areas of society) reproduce social values leading to gender bias and discrimination. In this regard, European Institute of Gender Equality identified various institutional challenges regarding the promotion of Gender Equality in Academia and Research that justify the need for this cross-cutting issue.

- **Gender case studies**: the Gendered Innovations project from Stanford University provides case studies as concrete illustrations of how sex and gender analysis leads to innovation: http://genderedinnovations.stanford.edu/fix-the-knowledge.html

- **Role of RMAs:** RMAs can play an important role in supporting researchers to integrate gender dimension in their ongoing research activities/ projects and to apply it while conceiving new activities/ projects.
    - GARCIA project - Gendering the Academia and Research: combating career instability and asymmetries developed a Toolkit for Integrating Gender-Sensitive Approach into Research and Teaching targets researchers, teachers and RMAs. It integrates a checklist that RMAs could use to promote reflection about the level of gender-sensitivity of the research team and plan while writing a new research project. This checklist intends to support researchers through 3 steps:
        - Step 1: How to design gender-sensitive research/course content?
        - Step 2: How to apply a gender-sensitive theoretical/methodological structure?
        - Step 3: How to produce gender-sensitive outcomes?

Science Education

In the 2014 report "The future of Europe is Science" the European Commission highlights that science is a powerful tool for shaping the future of Europe and showcases how Science education has an important role to educate the future scientists. With a decreasing number of young people interested in the science topics and careers, Science education is in the agenda of EU and national science and education authorities for some years and it is a priority in the current R&I Framework Programme.

Science education priority within RRI is thus related to the improvement of science and technology literacy in the society, as well as creating audiences for STEM (Science, Technology, Engineering and Mathematics). To make science more attractive to young people that could pursue careers in STEM, it is necessary to innovate in several areas and involve different actors in science education, from formal to informal education, from curriculum to teaching methods. The European Commission highlights the following areas and actors:

- different levels of the education system,
- universities and other higher education establishments,
- research and innovation funding and performing organizations,
- civil society organizations and NGO's,
- industry, policymakers,
- professors,
- teachers,

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- students and pupils,
- Science museums and science centres.

Science education plays an important role not only in educating future scientists, but also in developing the science literacy tools in all social actors to participate in the R&I process.

- **Science Education case studies**: The 2015 EU report SCIENCE EDUCATION for Responsible Citizenship (Chapter 7) we can find a list of Interesting Practices Promoting Responsible Science Education

Science Governance

Governance is the umbrella term for activities from the individual to the institutional level to foster sustainable change towards Responsible Research and Innovation in the institutions or towards other stakeholders. The main goal is to open up policy-making and institutional practices, to make them more inclusive, transparent and accountable.

The 2001 European Commission White Paper on European Governance identifies five requirements of a good governance: 1) openness, 2) participation, 3) accountability, 4) effectiveness and 5) coherence. In the context of RRI, the EU Project RRI Tools provides the following highlights for governance in RRI:

- Collective responsibility for the impact of R&I
- Participatory governance to cope with new and unexpected challenges
- Transparent and reflective procedures
- Accountability and responsiveness towards society
- Anticipation of unintended consequences from R&I

- **Governance case studies:** RRI Tools provides a list of "inspiring practices" of RRI governance initiatives and project: https://www.rri-tools.eu/governance

  Regarding Open Science governance, the EU project FIT4RRI produced a set of useful Guidelines on governance settings for responsible and open science targeted to different audiences, including RMAs.

- **Role of RMAs:** bringing RRIs to the institutional practices will also require the involvement of the RMAs, as they participate actively in the development, application and evaluation of such practices and policies within their institutions. Often RMAs are involved in the process of decision-making or, indirectly, in providing information to support such decisions.

Bibliographic references:

- ALLEA - All European Academies. (2017). *The European Code of Conduct for Research Integrity - Revised Edition* (p. 18). ALLEA - All European Academies.
- Auckland, Council, the, Science, O., Commission, open to the world A. vision for E. B. E., Friesike, B. and, Term, S. (2013) O. S. O., Bartling, F. S. of T. I., Friesike (Eds.), S. and, York, O. S. N., Springer, N., UK, L., T, J. (2009) E.-S. a transformed scientific method I. H., Papers,

Co-funded by the Erasmus+ Programme of the European Union

This project has received funding from the European Union's Erasmus+ programme under the registration number 2019-1-HU01-KA203-061233.

T. and I. P., publications, S. et al (2011) R. on integration of data and, Exchange, O.-O. for D., Council (ISSC), I. S. S., Sciences (TWAS), T. W. A. of, C, Sandusky, … Librarians, we recommend you to go to:** * D. M. for. (n.d.). *Open Science 4 Libraries - course bibliography,*. FOSTER FACILITATE OPEN SCIENCE TRAINING FOR EUROPEAN RESEARCH. Retrieved 15 January 2021, from https://www.fosteropenscience.eu/content/open-science-4-libraries-course-bibliography

- *Case studies | NCCPE*. (n.d.). Retrieved 15 January 2021, from https://www.publicengagement.ac.uk/do-engagement/inspire-me/case-studies
- *Collaborative Research: Introduction*. (n.d.). Retrieved 15 January 2021, from https://ori.hhs.gov/education/products/rcradmin/topics/colscience/open.shtml
- *Conflict of Interest: Opening Case*. (n.d.). Retrieved 15 January 2021, from https://ori.hhs.gov/education/products/rcradmin/topics/coi/open.shtml
- Council of Europe. (1950). *European Convention on Human Rights* (p. 34). http://www.echr.coe.int/Documents/Convention_ENG.pdf
- *Data Management: Introduction*. (n.d.). Retrieved 15 January 2021, from https://ori.hhs.gov/education/products/rcradmin/topics/data/open.shtml
- DAUE, R. (2017, June 27). *Clinical trials - Regulation EU No 536/2014* [Text]. Public Health - European Commission. https://ec.europa.eu/health/human-use/clinical-trials/regulation_en
- David B. Resnik. (n.d.). *What Is Ethics in Research & Why Is It Important?* National Institute of Environmental Health Sciences. Retrieved 15 January 2021, from https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm
- *Data management - H2020 Online Manual. (n.d.). Retrieved 16 January 2021, from https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/data-management_en.htm*
- *Ethics - H2020 Online Manual*. (n.d.). Retrieved 15 January 2021, from https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/ethics_en.htm
- European Commission. (2000). *Charter of Fundamental rights of the European Union* (Official Journal of the European Communities). http://www.europarl.europa.eu/charter/pdf/text_en.pdf
- European Commission. (2001). *European Governance A White Paper* (p. 38) [Text]. https://ec.europa.eu/commission/presscorner/home/en
- European Commission. (2012a). *COMMISSION RECOMMENDATION of 17.7.2012 on access to and preservation of scientific information* (p. 9). European Commission. http://ec.europa.eu/research/science-society/document_library/pdf_06/recommendation-access-and-preservation-scientific-information_en.pdf
- European Commission. (2012b). *COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL COMMITTEE AND THE COMMITTEE OF THE REGIONS - A Reinforced European Research Area Partnership for Excellence and Growth* (p. 16). https://eige.europa.eu/sites/default/files/era-communication_en_2012_0.pdf

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This project has received funding from the European Union's Erasmus+ programme under the registration number 2019-1-HU01-KA203-061233.

- European Commission. (2014). *The future of Europe is science :a report of the President's Science and Technology Advisory Council (STAC).* Publications Office. https://data.europa.eu/doi/10.2796/28973
- European Commission. (2015). *Advancing gender equality in the European Research Area - Council conclusions (adopted on 01/12/2015)* (p. 7). https://eige.europa.eu/sites/default/files/council_conclusions_2015.pdf
- European Commission - Directorate-General for Research & Innovation. (2019). *Horizon 2020 Programme - Guidance How to complete your ethics self-assessment* (p. 43). https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/ethics/h2020_hi_ethics-self-assess_en.pdf
- European Commission. Directorate General for Research and Innovation. (2015). *Science education for responsible citizenship :report to the European Commission of the expert group on science education.* Publications Office. https://data.europa.eu/doi/10.2777/13004
- European Commission. Directorate General for Research and Innovation. (2016). *Open innovation, open science, open to the world: a vision for Europe.* Publications Office. https://data.europa.eu/doi/10.2777/061652
- *European research area (ERA)*. (n.d.). [Text]. European Commission - European Commission. Retrieved 15 January 2021, from https://ec.europa.eu/info/research-and-innovation/strategy/era_en
- *Facts and Figures for open research data*. (n.d.). [Text]. European Commission - European Commission. Retrieved 15 January 2021, from https://ec.europa.eu/info/research-and-innovation/strategy/goals-research-and-innovation-policy/open-science/open-science-monitor/facts-and-figures-open-research-data_en
- *Financial Management: Opening Case*. (n.d.). Retrieved 15 January 2021, from https://ori.hhs.gov/education/products/rcradmin/topics/financial/open.shtml
- *FIT4RRI Guidelines on Governance Settings for RRI & OSc*. (n.d.). Home. Retrieved 15 January 2021, from https://fit4rri.eu/guidelines/
- *FOSTER*. (n.d.). Retrieved 15 January 2021, from https://www.fosteropenscience.eu/
- *Home Page - RRI Tools*. (n.d.). Retrieved 15 January 2021, from https://rri-tools.eu/
- ilse Marschalek. (2017). *Public Engagement in Responsible Research and Innovation. A Critical Reflection from the Practitioner's Point of View* [University of Vienna]. https://www.zsi.at/object/publication/4498/attach/Marschalek_Public_Engagement_in_RRI.pdf
- *International Sociological Association*. (n.d.). Retrieved 15 January 2021, from https://www.isa-sociology.org//en
- kamraro. (2013, November 11). *Science with and for Society* [Text]. Horizon 2020 - European Commission. https://ec.europa.eu/programmes/horizon2020/en/h2020-section/science-and-society
- kamraro. (2014a, March 26). *Science Education* [Text]. Horizon 2020 - European Commission. https://ec.europa.eu/programmes/horizon2020/en/h2020-section/science-education

Co-funded by the Erasmus+ Programme of the European Union

This project has received funding from the European Union's Erasmus+ programme under the registration number 2019-1-HU01-KA203-061233.

- kamraro. (2014b, April 1). *Responsible research & innovation* [Text]. Horizon 2020 - European Commission. https://ec.europa.eu/programmes/horizon2020/en/h2020-section/responsible-research-innovation
- *Mentor/Trainee: Introduction*. (n.d.). Retrieved 15 January 2021, from https://ori.hhs.gov/education/products/rcradmin/topics/mtr/open.shtml
- Mihajlović Trbovc, J., & Hofman, A. (2015). *Toolkit for integrating gender-sensitive approach into research and teaching*. University. http://garciaproject.eu/wp-content/uploads/2015/11/GARCIA_report_wp6D.pdf
- *MoRRI*. (n.d.). Retrieved 15 January 2021, from http://morri-project.eu/
- *National Council of University Research Administrators > About Us*. (n.d.). Retrieved 15 January 2021, from https://www.ncura.edu/AboutUs.aspx
- OECD. (2015). *Making Open Science a Reality*. https://doi.org/https://doi.org/10.1787/5jrs2f963zs1-en
- *Open Research Data Task Force - Case Studies* (p. 64). (2018). Department for Business, Energy & Industrial Strategy. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/775379/Case-studies-ORDTF-July-2018.pdf
- *RCR for Administrators*. (n.d.). Retrieved 15 January 2021, from https://ori.hhs.gov/education/products/rcradmin/
- Schroeder, F., Fenet, S., Cook Lucas, L., & Hirsch, F. (2016). *"Ethics Dumping" – Paradigmatic Case Studies*. https://ec.europa.eu/research/participants/documents/downloadPublic?documentIds=080166e5b1996825&appId=PPGMS
- Stahl, B. C. (2013). Responsible research and innovation: The role of privacy in an emerging framework. *Science and Public Policy*, *40*(6), 708–716. https://doi.org/10.1093/scipol/sct067
- Stanford University. (n.d.). *Gendered Innovations*. Retrieved 15 January 2021, from http://genderedinnovations.stanford.edu/index.html
- *Study on open access to publications and research data management and sharing within ERC projects (ERCEA/A1/PO/2016/06) | Zenodo*. (n.d.). Retrieved 15 January 2021, from https://zenodo.org/communities/erc-study-on-oa-and-rdm/?page=1&size=20
- *User, S. (n.d.). How to make your data FAIR. OpenAIRE. Retrieved 16 January 2021, from https://www.openaire.eu/how-to-make-your-data-fair*
- *What Is Ethics in Research & Why Is It Important? - by David B. Resnik, J.D., Ph.D.* (n.d.). National Institute of Environmental Health Sciences. Retrieved 15 January 2021, from https://www.niehs.nih.gov/research/resources/bioethics/whatis/index.cfm
- *Why change must be structural*. (n.d.). European Institute for Gender Equality. Retrieved 15 January 2021, from https://eige.europa.eu/gender-mainstreaming/toolkits/gear/why-change-must-be-structural

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