Stock taking/ Inventorying (WP2)

D2.2 State of the Art Review

HEIRRI

Higher Education Institutions
& Responsible Research and Innovation

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Higher Education Institutions
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PROJECT DETAILS

Project acronym
HEIRRI

Project title
Higher Education Institutions and Responsible Research and Innovation

Funding scheme
Horizon2020

Thematic priority
Responsible Research and Innovation in Higher Education Curricula

Starting date
01/09/2015

Project coordinator
Universitat Pompeu Fabra (UPF)

Duration of project
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DELIVERABLE DETAILS

Work package ID
WP2

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Deliverable 2.2: State of the Art Review

Work package leader
Niels Mejlgaard

Deliverable description
The main objective is to present the results of the State of the Art review of RRI and RRI learning.

Nature
[X] R – Report
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Responsible for deliverable
Niels Mejlgaard

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[X] P – Public
[ ] CO – Confidential, only for members of the consortium

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Higher Education Institutions
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Higher Education Institutions
& Responsible Research and Innovation

Deliverable 2.2
State of the Art Review

Niels Mejlgaard, Ivan Buljan, Núria Saladié Elías, Marta Cayetano i Giralt, Erich Griessler, Lasse Schmidt Hansen, Alexander Lang, Ana Marušić, Gema Revuelta de la Poza, Roger Strand, Milena Wuketich

with the HEIRRI consortium

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Higher Education Institutions
& Responsible Research and Innovation

1. Introduction

The 'Higher Education Institutions & Responsible Research and Innovation' (HEIRRI) project is aimed at exploring how issues of Responsible Research and Innovation (RRI) can be brought into educational contexts within higher education institutions (HEIs), and it will develop training programmes and teaching materials tailored to that purpose. The project will initiate a series of pilot training activities across degree levels, and results from the project will be disseminated internationally and made open access available.

The main objective of the report at hand, 'Deliverable D2.2 – State of the Art Review', is to present the results of Task 2.1 of Work Package 2 (WP2). As a background for the development and piloting of training programmes and materials, WP2 provides a review of RRI in teaching contexts (Task 2.1) as well as a database of relevant examples of existing practices (Task 2.2). The activities included in WP2 have been thoroughly outlined in 'Deliverable D2.1 – Inventory Guide of Work'[1], and large blocks of text from D2.1 have been recycled in the present report in order to enhance transparency and consistency.

The purpose of Task 2.1 is to carry out a State of the Art review of RRI teaching in HEI, and the results are presented in the present report. The report describes in more detail the review approach and outlines its results. It includes the following chapters:

- A brief introduction to the emerging concept of RRI (Chapter 2)
- A description of the purpose of the review and the methodological approach (Chapter 3)
- A presentation of the results of the review, including reflections about the implications of the review for WP3 and WP4 (Chapter 4)
- Preliminary thoughts about the database development in Task 2.2 (Chapter 5)

A number of supporting documents have been appended. The content of the appendixes is described at the relevant places in the main report.

[1] https://issuu.com/heirriproject/docs/heirri_wp2_d2.1

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2. The concept of 'Responsible Research and Innovation'

RRI - Responsible Research and Innovation - is an emerging principle of research and innovation policy. As noted by most sources, RRI does not correspond to any fixed definition. The introduction of the concept into European legal text is found in the eighth framework programme of the EU, called Horizon 2020, in its Preamble 22:

> *(22) With the aim of deepening the relationship between science and society and reinforcing public confidence in science, Horizon 2020 should foster the informed engagement of citizens and civil society in R & I matters by promoting science education, by making scientific knowledge more accessible, by developing Responsible Research and Innovation agendas that meet citizens' and civil society's concerns and expectations and by facilitating their participation in Horizon 2020 activities. The engagement of citizens and civil society should be coupled with public outreach activities to generate and sustain public support for Horizon 2020*[2].

In a much cited scholarly text (and in later works), René von Schomberg – philosopher and civil servant of DG RTD of the European Commission – defined RRI as follows:

> *[…] a transparent, interactive process by which societal actors and innovators become mutually responsive to each other with a view on the (ethical) acceptability, sustainability and societal desirability of the innovation process and its marketable products*[3].

The so-called Rome Declaration on Responsible Research and Innovation in Europe connects the concept to the EU Charter of Fundamental Rights:

> *Responsible Research and Innovation (RRI) is the on-going process of aligning research and innovation to the values, needs and expectations of society. Decisions in research and innovation must consider the principles on which the European Union is founded, i.e. the respect of human dignity, freedom, democracy, equality, the rule of law and the respect of human rights, including the rights of persons belonging to minorities*[4].

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[2] European Parliament and Council (2013), Regulation (EU) No 1291/2013 of the European Parliament and of the Council of 11 December 2013 establishing Horizon 2020 — the framework programme for research and innovation (2014-2020) and repealing Decision No 1982/2006/EC, Official Journal of the European Union L 347, 20.12.2013, p. 104.

[3] von Schomberg, R., (2011), 'Prospects for Technology Assessment in a framework of responsible research and innovation', in Technikfolgen abschätzen lehren: Bildungspotenziale transdisziplinärer Methode, Springer VS, Wiesbaden.

[4] Rome Declaration on Responsible Research and Innovation in Europe, Rome 21 November 2014. https://ec.europa.eu/research/swafs/pdf/rome_declaration_RRI_final_21_November.pdf

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Finally, one should mention that the European Commission has tended to explain and operationalize RRI in terms of six so-called 'keys'[5], including public engagement, gender equality, science education, open access, ethics, and (as an overreaching dimension) governance.

To describe RRI as a *policy concept* is already a choice that by no means is innocent. It suggests the perspective that RRI is a word and an idea that is used by policy-makers, managers, funders, politicians and scholars of science, research and innovation, rather than the practitioners of research and innovation themselves. This is of course not entirely correct. Alternatively, one might explain RRI in terms of research and innovation *practice*: responsible research and innovation is research and innovation that is practiced and organised in a particular way (namely, *responsibly*). This perspective opens up for two immediate questions:

a. What signifies responsible R&I, in contrast to R&I that does not deserve the attribute 'responsible'? What needs to be done to make R&I responsible? Says who?
b. Is it so that 'ordinary' R&I is not responsible? Does the use of the RRI concept and its introduction into R&I policies imply a hidden accusation against 'business as usual' R&I for being irresponsible?

We shall return to these questions below.

2.1 Origins of RRI

First, however, it may be useful to briefly indicate the origins and precursors of the RRI concept. As for the construction and introduction of the RRI concept (as well as the similar concepts of *responsible innovation* in the UK and *responsible development* and *anticipatory governance* in the USA, we refer the readers to Owen, Macnaghten and Stilgoe (2012)[6].

It is useful to see RRI as an attempt at conceptual integration of various practices to assess the non-economic (ethical, societal, perhaps environmental) impacts of science and technology and democratize decisions that may influence the paths taken by science and technology development. This includes *inter alia* the different variants of Technology Assessment, ethics review, ELSI/ELSA research, scenario, vision and forecasting exercises, public engagement practices, etc. Most scholars who have combined theory and practice in the development of the RRI concept, emphasize certain process qualities in such practices, notably reflexivity, anticipation, deliberation/public participation and responsiveness. Rommetveit et al. (2015)[7] points out that this is not unique to RRI, but "could be

[5] https://ec.europa.eu/research/swafs/pdf/pub_public_engagement/responsible-research-and-innovation-leaflet_en.pdf
[6] Owen, R., PM. Macnaghten and J. Stilgoe (2012) 'Responsible Research and Innovation: From Science in Society to Science for Society, with Society.' Science and Public Policy 39(6): 751-760.
[7] Rommetveit, K., van Dijk, N., Strand, R. & Gunnarsdóttir, K. (2015) EPINET and RRI – observations and reflections. http://epinet.no/sites/all/themes/epinet_bootstrap/documents/rri_report.pdf

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said to incorporate collective processes of learning generated by a great number of actors on the science/society interfaces over the last 40 or so years" (p. 3).

Indeed, the general challenge in research and innovation policy since at least the 1970s is that governance has been difficult and not very successful. Many policy-makers and scientists have voiced (and still voice) their allegiance to the so-called linear model that postulates that generous and undirected funding of basic research will generate beneficial applications, welfare and growth. The problem is that the linear model lacks strong empirical support, and there has been a constant search of other theories and practices for how to effectively govern the large public investments into research and innovation and, occasionally, the difficult risks and ethical problems created by the same research and innovation. RRI is in this sense one of the many horses that have been developed for policy and governance to bet on.

2.2 RRI: a critical or bureaucratic concept?

The RRI concept is the result of theoretical and practical learning processes that challenge what has been called the 'received view of science', a view that grants scientific research privileges in modern society, above all a unique degree of autonomy. RRI emerges from a set of analyses that to some degree conclude affirmatively to question b) above: Yes, it is the case that ordinary, business-as-usual research and innovation are not by themselves responsible activities. Undirected and insulated from society, research and innovation are practices that produce societal transformations (through technology and knowledge) that are not necessarily good or desirable, or, to paraphrase RRI definitions, align themselves with the needs and concerns of citizens or civil society. Indeed, there are many examples to the contrary.

RRI scholars accordingly have proposed (and experimented with) practices that aim to change aspects of the science-society interface e.g. by democratizing research agenda-setting, trying to direct innovation towards societal needs and concerns, introducing ethics, changing aspects of the business model of scientific research (by open access and open science), etc.

What is so interesting about our times, at the beginning of the 21st century, is that a concept such as RRI was able to succeed in political institutions such as the EU while the same institutions also hold a number of policies that are essentially contradictory to this type of thinking. The same EU which endorses RRI also deploys policies that presuppose the received view of science, advocate the linear model of innovation and express quite simplistic ideas about the role of innovation for economic growth. And these policies co-exist in the same institutions. A similar situation is found in the national research agencies that have adopted RRI policies or frameworks.

Unsurprisingly, this leads not only to political struggles about the relative importance of RRI policies but also about the content and implementation of the RRI concept. Notably, the so-called six keys of

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the European Commission can be criticized as a watered-down version of RRI in which the radical potential has been traded for a set of bureaucratic ideas that in the worst case become perfunctory rituals. This type of criticism is not without its own empirical evidence – also historically, in how ethics often was implemented in the form of rather stale and bureaucratic committee practices (for detail, see the Expert Group 2007 report 'Taking the European Knowledge Society Seriously'[8]). Even worse, one can witness present-day, within the European Commission as well as in scientific institutions, attempts at reframing RRI as little more than the issue of research integrity and in that way avoid any change in the social contract of science.

The fate of the RRI concept is not clear, and the battle over its content is *ongoing.* It is essential that anyone engaged in RRI projects, activities and development practices are aware of this fact. There is no neutral position in this battle; any particular definition or implementation of RRI is implicitly taking a political stance and may, if effective, have an effect on the fate of RRI.

This is not to say that there are no compromises to make or intermediate stances to take. Indeed, in the HEIRRI project, we wish to combine the 'six keys' structure with the more theoretically profound understanding of RRI based in a critical diagnosis of the science-society interface. Since any RRI project inevitably operates in a politicized R&I reality, however, this choice has to be enacted again and again throughout the project in order not to slide into perfunctory modes and bureaucratic rituals.

[8] Felt, U. & Wynne, B. 2007. *Taking European Knowledge Society Seriously: Report of the Expert Group on Science and Governance to the Science, Economy and Society Directorate, Directorate-General for Research*. European Commission, Brussels.

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3. Teaching RRI in higher education

It follows from the above that to teach and learn RRI can mean a number of things:

1) One may teach and learn about RRI qua an emerging concept in research policy – that is, the simple facts about existing RRI policies and practices.
2) One may teach and learn the underlying critical theories and studies of the science-society interface, e.g. in STS, philosophy of technology, science policy studies, ELSA research etc., enabling an understanding of why RRI was introduced, and why it may be a good idea and not only a bureaucratic requirement.
3) One may teach and learn initiatives and practices that may influence research and innovation practices (or practitioners) to become more responsible (in the RRI sense).
4) One may teach and learn research and innovation practices that are responsible (in the RRI sense).

Only in 1) is the term 'RRI' really required. Indeed, in our mapping efforts we have been highly aware that there is a lot of teaching that addresses objectives 2-4) without ever using the term RRI or 'responsibility' for that matter. This fact makes it virtually impossible to perform a comprehensive review; on the other hand, the optimistic implication is that there are immense reservoirs of RRI-relevant teaching practices under a variety of labels. Part of our work has been to identify what we believe to be the most important of these reservoirs and labels.

Before outlining the procedural steps which have been taken to accomplish that task, a few issues should be highlighted. It is important to emphasize that the review has been designed to correspond to the overall objectives of the HEIRRI project. HEIRRI is aimed at understanding the processes and practices by which issues of responsibility in research and innovation are brought into teaching contexts in higher education institutions. As we have noted above, RRI can be conceptualized and defined in multiple ways, but this review is not primarily about the concept itself. It is rather about exploring the ways in which issues of responsibility in R&I (whether these are captured by the RRI heading or not) can be taught and trained.

This also implies that while the HEIRRI project uses the notion of 'six keys' to organize its work around RRI, the review remains sensitive to elements of RRI in teaching which do not fit this scheme. Recent EC-funded projects, such as the 'Responsible Research and Innovation in a Distributed Anticipatory Governance Frame - A Constructive Socio-normative Approach' (Res-AGorA) project, have found that the (capital) 'RRI' terminology as well as its conceptualization into the six keys, is unevenly applied across European countries, different kind of organisations, and different situations[9]. What it means to

[9] Mejlgaard, N. & Griessler, E. (2016). Monitoring RRI in Europe: approach and key observations. In Lindner R. et al. *Navigating Towards Shared Responsibility in Research and Innovations: Approach, Process and Results of the Res-AGorA Project.* Fraunhofer Institute for Systems and Innovation Research ISI: Karlsruhe.

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be responsible in research and innovation varies, and the manifestations of responsibility – or *de facto* rri[10] – come in a range of shapes and formats, which do not universally fit the keys. Examples, practices, recipes, as well as their theoretical and philosophical underpinnings, of teaching responsible research and innovation will appear under different headings, such as, e.g., 'teaching for sustainability' or 'teaching contextual knowledge'. The review aimed to be sensitive to these complementary strands of literature and evidence.

Finally, the review supports the subsequent work packages in the project, specifically the elaboration of the training programme design in WP3 and the development of training materials in WP4. This implies that the review should be able to capture a variety of materials relevant to this purpose. The review has encompassed academic literature and 'grey' literature (project reports, policy documents etc.) but the 'unit of analysis' extends beyond this type of documents. It has been relevant to harvest other sorts of documentation adding to our knowledge of training programmes and training materials, including, e.g., course descriptions, curricula, exemplary case descriptions, or other educational materials. While this kind of documentation is occasionally accessible online, it is not traceable to the same extent and through the same databases as, e.g., academic papers. The implication is that the review has applied multiple methods in its search strategy in order to address the needs of WP3 and WP4, while also fulfilling the commitments made in the Description of Work for HEIRRI.

We have conducted the review on the backdrop of these considerations.

3.1 Review methodology

The State of the Art review of RRI teaching involved a number of elements, which were tailored to collectively capture information about RRI in a teaching and learning context along the lines stipulated above. The overall composition of the review is shown in Figure 1 below.

[10] Randles, S., Laredo, P., Loconto, A., Walhout, B. & Lindner, R. (2016). Framings and frameworks: six grand narratives of *de facto* rri. In Lindner R. et al. *Navigating Towards Shared Responsibility in Research and Innovations: Approach, Process and Results of the Res-AGorA Project*. Fraunhofer Institute for Systems and Innovation Research ISI: Karlsruhe.

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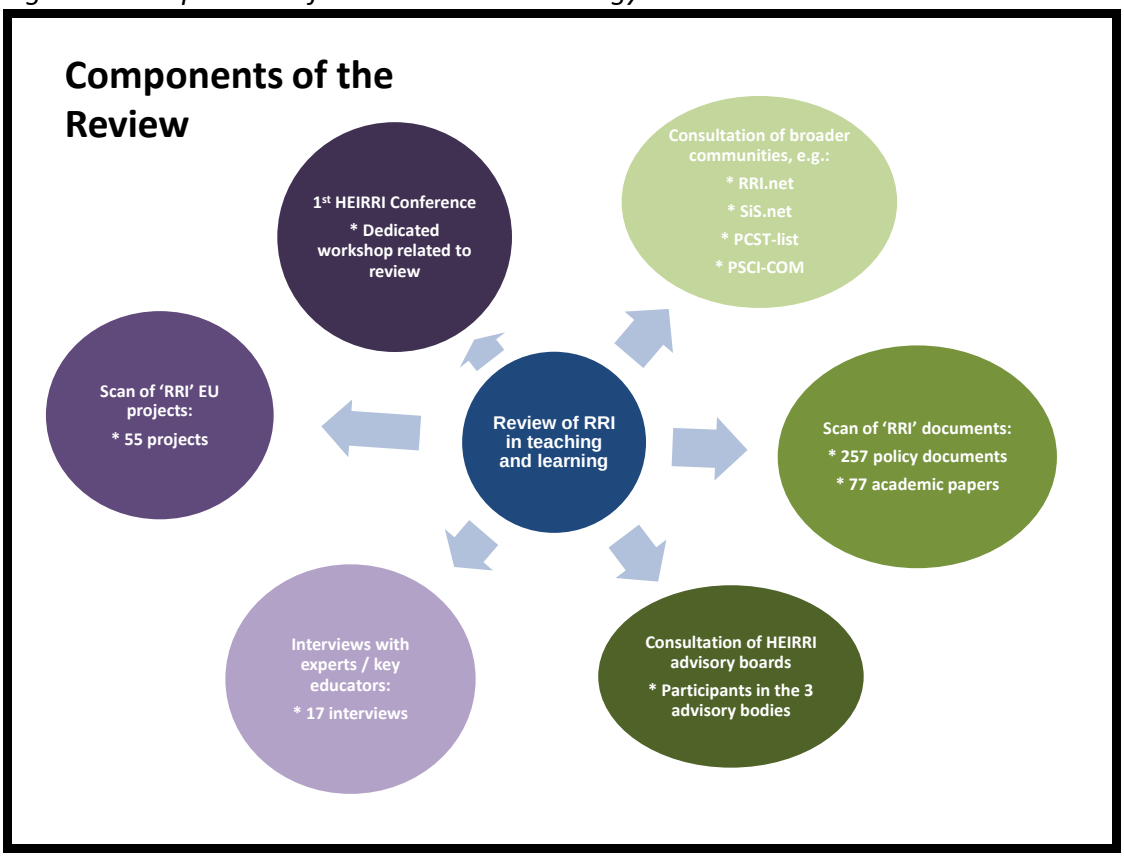
Figure 1: Components of the review methodology



In the following sections, each of the components of the review is briefly described.

3.1.1 Scan of selected 'RRI literature'

'RRI literature' denotes the expanding body of academic papers and policy documents which directly addresses the (recent) notion of RRI but also the broader body of literature related to ideas and understandings of responsibility (not subsumed under the RRI heading) in research and innovation originating in STS, science policy studies, higher education studies, research evaluation, philosophy-, history- and sociology of science. The State of the Art Review included a 'scan' of a sample of this very broad literature with the intention of identifying evidence relating to 'teaching' about responsible research and innovation.

The sample of papers consisted of central documents directly targeting the (capital) RRI concept as well as papers relating more indirectly to the notion of responsibility in research and innovation. In order to align with the structure of the overall HEIRRI project, the sample was arranged to ensure coverage of all of the six key dimensions of RRI, i.e. public engagement, science literacy and science education, gender equality, open access, ethics, and governance of research and innovation.

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A total of 334 documents constituted the sample for the scan. These documents emerged from two different sources. First, a list of 77 documents was developed as part of the ongoing European project on 'Monitoring the Evolution and Benefits of Responsible Research and Innovation' (MoRRI) and is based on expert nomination. These papers are mainly academic contributions and are organized around the six keys, with a more or less equal distribution across the keys. The second list of 257 documents consists mainly of core policy documents relating to issues of responsibility in research and innovation across 16 selected European countries covered by the recently completed Res-AGorA project, and is also based on nominations made by national correspondents to the project. A significant share of these documents concern university policies relating to responsibility, and were considered likely to include also elements related to training and teaching priorities and practices. While several documents are not available in English, an English abstract produced by the Res-AGorA project was provided for each document. The two lists of documents, academic papers and policy documents respectively, are attached as Appendix A.

A protocol for the scanning task was developed in D2.1, the Inventory Guide of Work, and it is attached here as Appendix B. The protocol includes the rationale as well as a description of the scanning procedure, and it provides a reporting template which was completed for those documents which hold relevant information related specifically to teaching RRI.

3.1.2 Scan of selected EU-funded RRI-projects and RRI-related projects

A growing number of projects on RRI specifically have been and are currently initiated through the EU framework programmes. Examples of these targeted RRI-projects include Responsibility, Progress, GREAT, Res-AGorA, MoRRI, Responsible-Industry, and RRI Tools. In addition to these targeted projects, an array of projects initiated under the Science and Society and Science in Society schemes of the European Commission relate closely to the RRI keys and may inform our understanding of responsibility in research and innovation.

As a component of the overall review process, a collection of these projects were scanned for relevance to HEIRRI objectives. The review of these projects applied lenses that focused on perspectives relevant to the 'teaching and learning context' emphasis of HEIRRI. The review targeted the results of these projects as communicated in deliverables and other registered project outputs.

A total of 55 European projects were scanned and these are listed in Appendix C. The list is organized in seven sections; one listing the targeted RRI projects and six sections reflecting the six key components of RRI. The listed projects were recently identified in the MoRRI project as relevant sites for searching for empirical evidence, indicators and metrics of RRI. The intention of the scanning exercise was to identify those projects which contain relevant information on RRI in teaching contexts. The protocol which was developed for the scanning task is attached as Appendix D. The protocol includes the rationale as well as a description of the scanning procedure, and it provides a reporting

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template which was completed for those projects which hold relevant information related specifically to teaching RRI.

3.1.3 Consultation of external experts through interviews

In addition to the scanning procedures around RRI literature and projects (in a broad sense of the term, covering not only 'capital' RRI evidence but also documents and projects related to the six key dimensions and beyond), the review involved a set of consultative procedures aimed specifically at harvesting 'RRI teaching' resources. While the literature scan would expectedly provide useful insight into concepts of RRI teaching, the consultation component was expected to better capture important empirical documentation necessary for the HEIRRI research programme, namely the actual resources, examples of training programmes and course materials, relating to issues of responsibility in research and innovation.

One consultation component was a series of qualitative interviews with key educators and scholars in educational research, who have had extensive experience with bringing aspects of responsibility into education in higher education institutions. The aim of these interviews was to identify important resources, cases, and materials, which may inform the development of training activities and training materials in WP3 and WP4. The informants were also asked to identify major, and minor, opportunities and barriers to implementing RRI in teaching contexts at higher education institutions.

The informants were selected through an internal procedure, where members of the consortium from Barcelona, Bergen, and Aarhus nominated informants. The interviews were explorative and were carried out as loosely structured conversations. A total of 17 interviews were conducted. A number of these were conducted face-to-face, while others were done by telephone, e-mail, or as skype-interviews. Interviews were audio-recorded when possible, and a 1-2 page summary of each interview was written by the interviewer. The protocol for the interview is provided as Appendix E.

3.1.4 Consultation of members of HEIRRI advisory boards and Forum

The members of the advisory boards and the Forum around HEIRRI constitute a separate source of information for the review. The review has probed the participants in these bodies about information on 'RRI in teaching' resources (exemplary institutions, programmes, courses, materials).

The affiliated experts were addressed in two different ways. First, the experts were invited by email to identify RRI teaching resources. The invitation, specifying the requested information, is provided as Appendix F. Second, the review has benefitted from the participation of members of the advisory bodies and Forum, as well as other experts, during the 1st HEIRRI Conference in March 2016, where further RRI teaching resources were identified.

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3.1.5 Consultation of broader communities of scholars and practitioners

Furthermore, the review consulted a broader range of scholars and practitioners engaged in teaching and learning activities related to responsibility in research and innovation. Also here, the intention was to add to the inventorying of resources of RRI teaching. The procedure involved posting of open questions and requests for examples and evidence to selected list servers of the communities in which issues relating to RRI teaching were likely to be salient. The identification of relevant mailing lists was done in collaboration between HEIRRI partners. A protocol for the procedure including the questions which were posted on the lists is attached as Appendix G.

3.1.6 1st HEIRRI Conference as a source for the review

Finally, presentations and activities at the 1st HEIRRI Conference, which was arranged in Barcelona on March 18th, 2016, were considered as part of the review. A special workshop was organized at the end of the conference day, with the particular purpose of summarizing main messages from the conference tracks as well as collecting examples of specific courses or materials relating to RRI[11].

[11] The full programme for the 1st HEIRRI Conference can be accessed here: http://heirri.eu/wp-content/uploads/2016/03/HEIRRI-Final-Programme.pdf

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4. Review results

In this chapter, we present the main findings from the different elements of the review. Results from the expert interviews are presented separately in section 4.1, while results from some of the other components are clustered together. In section 4.2, we outline the results from the review of documents, which include academic literature, policy documents, and EC projects. Section 4.3 presents the results from the consultation activities targeting both the HEIRRI advisory boards and broader communities of scholars within areas related to RRI. Finally in 4.4, a brief account of the main results from the 1st HEIRRI conference is provided. In each of these sections, we aim to present both an overview of the concrete RRI teaching resources which were identified as part of the review and a summary of the key points which are relevant to the HEIRRI project.

4.1 Results from expert interviews

In total, 17 persons with expert knowledge of RRI in teaching and learning contexts were interviewed as part of the review. The intention was to tap into their knowledge about the ways in which issues related to responsibility can be brought into higher education as well as to harvest some of their particular experiences from their own teaching activities. The list of informants is provided in Table 1 below.

Table 1: List of interviewees

Informant	Organisation	Specific relevance to HEIRRI review
Caroline Bailie	University of Western Australia, Australia	Caroline Bailie is Chair of Engineering Education at UWA and has previously held appointments at University of Sydney, Imperial College, UK and Queens University. She has devoted the latter two decades of her career to introducing social justice into engineering education.
Jan Reinert Karlsen	Bergen University, Norway	Jan Reinert Karlson is an Associate Professor at the Centre for the Studies of the Sciences and the Humanities at Bergen University. His key research areas include; historical Epistemology, medical research Ethics, and the philosophy of life and its theory of science. He is responsible for a set of courses at the University of Bergen created in response to the Norwegian "Bildung Committee".
Rasmus Slaattelid	Bergen University, Norway	Rasmus Slaattelid is an Associate Professor at the Centre for the Studies of the Sciences and the Humanities at Bergen University. His key research areas include research on the science-society interface, science policy, evidence-based policy making, and public understanding of science. He teaches "theory of science with ethics".
Torjus Midtgarden	Bergen University, Norway	Torjus Midtgarden is a Professor at the Centre for the Studies of the Sciences and the Humanities at Bergen University. His key research areas include pragmatism and its contemporary relevance for social and political theory. He teaches "theory of science with ethics".
Gunnar Skirbekk	Bergen University, Norway	Gunnar Skirbekk is Professor Emeritus at the Center for Philosophy at Bergen University. He is a member of the Norwegian Academy of Science and Letters and the Royal Norwegian Society of Sciences and Letters. He has particular knowledge of teaching *examen philosophicum* as a mandatory introductory course at Norwegian universities.
Melanie Peters	Rathenau Institute, The Netherlands	Melanie Peters is the director of the Rathenau Institute. She was interviewed in the capacity of having been the Director of the Studium Generale at Utrecht University. During her period, the Studium Generale in Utrecht underwent a successful development and strengthened its position.
Andoni Ibarra	University of the Basque Country, Spain	Andoni Ibarra is the coordinator of the Miguel Sánchez-Mazas Chair and the Principal Investigator of the PRAXIS Research Group. His main research areas include the philosophy of Science, science and technology studies and history of science in the 20th Century. He is also the Editor in Chief of the Journal "Theoria".

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Anna Carew	University of Tasmania, Australia	Dr. Anna L. Carew is a Research Fellow in Wine Science with the Tasmanian Institute of Agriculture based at the University of Tasmania. Her research areas include issues such as transdisciplinary practice, improving engineering education, and teaching about food security.
Gunilla Öberg	University of British Columbia, Canada	Gunilla Öberg is a Professor at the Institute of Resources, Environment and Sustainability. She has initiated and developed interdisciplinary study programmes and courses focused on sustainability and complexity for more than 20 years, first at Linköping University in Sweden ("Tema Vatten", Campus Norrköping) and later at University of British Columbia, Canada.
Pim Klaassens	University of Amsterdam, The Netherlands	Pim Klaassens works at the Athena Institute (UV Amsterdam), where he holds a combined position as postdoc and lecturer. He is also involved in the Netherlands Hub of the RRI Tools project. His research areas include the philosophy of science, neuroeconomics, ethics in life sciences and science communication.
Andrew Jamison	Aalborg University, Denmark	Andrew Jamison is Professor Emeritus at the Institute for Technology, Environment and Society. He was the coordinator of a Programme of Research on Opportunities and Challenges in Engineering Education In Denmark (PROCEED) and has developed study programmes and taught issues of responsibility across multiple disciplines.
Josep Blat	Universitat Pompeu Fabra, Spain	Josep Blat is a Professor of Computer Science at the Department of Information and Communication Technologies (DTIC) and founder and head of the Engineering School and the ICT department. Furthermore, he is vice-president of the Internal Commission for the Ethical Review of Projects (in Catalan, under the acronym of CIREP).
Mònica Figueres	Universitat Pompeu Fabra, Spain	Mònica Figueres is Vice-rector for Social Responsibility and Promotion at UPF. Since 1998 she has taught courses in journalism and sociology of consumption and youth at the undergraduate- and master programme at the Department of Communication at Pompeu Fabra University. Her key research areas include youth and communication with particular attention to the gender, ethics of communication and media education.
Richard Tuffs	Director of European Regions Research and Innovation Network	Richard Tuffs is the current director of ERRIN (the European Regions Research and Innovation Network), through which he has been working in the regional dimension of European policy in territorial cohesion and research. He is also member of the European Commission's External Advisory Group for Science With and For Society (SWAFS), and has experience as an evaluator of H2020 projects.
Steve Miller	University College London, England	Steve Miller is a Professor of Planetary Astronomy & Head of Science and Technology Studies at the University College London (UCL). He has worked in teaching and training in science communication and public engagement, and has a particular expertise in the European dimension of such activities. He is Director of the European Science Communication network and directed the European Network of Science Communication Teachers between 1999 and 2003.
Andrew Maynard	Arizona State University, USA	Andrew Maynard is a Professor in the School for the Future of Innovation in Society at Arizona State University (ASU), and Director of the Risk Innovation Lab. His research areas include; risk innovation and the responsible development and use of emerging technologies. Furthermore, he has experience in teaching various courses, from Ethics in Entrepreneurship and Risk Innovation to Science and Technology Policy.
Michael McKeown	University of Central Lancashire, England	Michael McKeown is a professor in the School of Nursing of the University of Central Lancashire (UCLAN). He has years of experience in Public Engagement activities and research projects around mental health. His key areas include service user and career involvement, mental health advocacy, and psychosocial interventions for people with serious mental health problems.

A number of general observations can be extracted from the interviews. These relate to the overall objectives and benefits of teaching about responsibility in higher education (whether it is in fact called RRI or not – most often it is not), the formats which are considered conducive to such teaching, and the challenges related to actually implementing RRI teaching at the higher education institutions. In addition, a series of specific educational resources, such as courses or development projects, which may inform the subsequent work in WP3 and WP4, was identified during the interviews. Below, the main messages emerging from a cross-read of the interview reports are summarized and the particular educational resources identified in the interviews are reported.

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4.1.1 Key messages from the informants

One of the overall messages conveyed by the informants is that while a number of educational activities supporting discussions about responsible research and innovation already exist, the emerging RRI agenda nonetheless represents a significant change for the higher education systems. The RRI agenda involves a true and comprehensive reflection on the universities' role, goals, and relationship with society, as well as organisational change aiming at aligning knowledge production to the needs and values of society. RRI in teaching and training can be discussed separately, but cannot be entirely isolated from the overall implications of the RRI agenda in terms of structural change. Higher education institutions need to 'walk the talk' and become responsible in their overall processes of research and innovation in order to be able to optimize the teaching of RRI to students or training of employees in this area. There is interdependence between teaching activities and the overall organisational practices (across research, teaching, innovation, and societal engagement) in the sense that RRI teaching can benefit from a committed, supportive environment, but that dedicated teaching activities can also be among the drivers of organisational change.

Related to this, the informants tend to stress that the implementation of RRI in higher education institutions has to be considered an evolving process, which is likely to stretch over decades. The concept itself is dynamic and the organisational features which can be understood as manifestations of RRI are also likely to change over time. On this backdrop, and given the considerable current structural barriers to RRI, achieving responsibility in research and innovation has to be thought of as a long-term objective, where the process of continuous reflections about the notion itself is part and parcel of the objective.

In terms of barriers, the interviewees note that universities are change-averse institutions, in which current reward structures and definitions of excellence do not necessarily accommodate transition towards higher degrees of responsibility in R&I. While societal expectations and demands are clearly pushing universities towards contributing more to society, the actual response strategies that universities employ (and which resonate with the dominant articulations of societal expectations) are often concerned with strengthening commercialisation, industrial relevance, and technology transfer activities. Moreover, the measures of merit, performance and success, which are developed and implemented both nationally and locally at the individual universities, tend to favour traditional components of academic work, such as publishing in high impact journals, or innovation-oriented components, such as patenting the results of research and innovation activities.

The context within which RRI teaching activities are rolled out is thus not considered particularly fertile by the informants, and they often stress the lack of institutional support for such teaching activities. RRI does not fit very well with the incentive structures or with the disciplinary model for organizing teaching and research at universities. Most informants indicated that the type of teaching they describe as RRI teaching does not 'fit well' in a disciplinarily organised study programme (or university);

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that they may be difficult to justify even when successful; that they are constantly under threat "every time there is a new dean" or a reduction of funding. Moreover, some interviewees mention that RRI may be seen as a cosmetic action, a mere practice of box-ticking and not an actual transformation; this kind of 'RRI-washing' represents a barrier to its genuine implementation.

However, the benefits of engaging with the RRI line of thinking for institutions as well as individuals are important enough to invoke considerable optimism about the future trajectory. According to the informants, RRI is a platform for moving towards meaningful interaction between science and society and for fostering R&I which is democratically governed and can contribute to a fairer and more equal society. It aims to bring about a culture of critical and inclusive reflection, which is not at odds – but rather entirely consistent – with the informants' image of good science. In this sense, RRI will not only be beneficial to society but also to science. If RRI is promoted by higher education institutions, it will make academics reflect more systematically on their everyday practices and increase their sense of societal responsibility and accountability.

Concerning the objectives for RRI teaching and training, the importance of 'critical reflection' emerges as a core element. A general observation from the interviews is the emphasis on developing students' critical skills, i.e. their capability for critical thinking and meta-cognition. RRI teaching should enhance students' understanding and ability for continuous critical questioning of what constitutes good practices *within* their respective disciplines or fields of research; but even more importantly how their scientific field and the competence and skills which are nurtured in their education *relate* to other areas of science and to society at large. This requires, among teachers as well as students, critical epistemological or foundational reflection upon one's own scientific field or discipline, the need for critical reflection upon the relationship between science and society, and the need to understand that the epistemological and social problems of research and innovation are not independent. Without a proper level of critique, any concept or practice of RRI will remain superficial and shallow.

In relation to this result from the interviews, it seems useful to invoke Michael Polanyi's old distinction between *knowing-that* and *knowing-how*. Even if this distinction does not map one-to-one on the distinction above between critical reflection and understanding on the one hand and instrumental exposure to 'tools' on the other hand, it still seems important to stress the big difference between teaching students with the learning outcome that they *know that* there is a notion called RRI, that responsibility is defined in this or that manner, etc., and with the learning outcome that they *know how* to think and act responsibly. Indeed, the concept of responsibility does not necessarily have to be explicit at all in order that students (or others) become responsible actors.

These observations are important for the way that the HEIRRI project develops its teaching and training formats and materials in WP3 and WP4. If we focus too strongly on developing fixed formats or training 'tools', we risk reproducing the instrumental perspective on teaching, research and innovation that the concept of responsibility was supposed to correct in the first place. HEIRRI should

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be careful to emphasize the role of understanding, critical skills and what in German is called Bildung. Teaching formats, devices, strategies and examples that promote these aspects can be described succinctly and can be organised in an inventory, but not necessarily as universal 'cases' or 'tools'.

Likewise, it is important to recognize that responsibility in R&I may have multiple meanings. Issues of social justice, environmental depletion and protection, peace and disarmament, or ethics related to controversial technologies are just some examples of relevant aspects of responsibility. Such issues reflect the context in which they emerge and hence the notion of responsibility is a dynamic one. Again, fixed concepts such as, e.g., the RRI keys, tend to miss this point.

It is also worthwhile stressing that HEIRRI might be able to provide awareness and advice about the profound structural barriers to RRI teaching, stemming from both the way scientific work is organized and incentivized and from the bureaucratic structures within which it is situated, which the informants so clearly experience. There is a need to build solidarity between the scattered practitioners who experience such challenges.

4.1.2 Teaching formats and e ng resources

The 17 expert informants have had significant experiences teaching courses and subjects which are about responsibility in R&I. While these are captured by headings such as 'sustainability for the community and the world', 'ethics in life sciences', or 'engineering, social justice, and peace', and thus not by the RRI terminology, they are clearly relevant examples for the purposes of the HEIRRI project.

The list of courses and educational resources which emerged from the interviews is presented in Table 2 below.

Table 2: Educational resources identified in the expert interviews

Institution	Name of course/ activity / document	Short description	Link
University of Bergen	"Theory of science and ethics"	The aim of the course is 1) to give an overview of key topics in theory of science, such as the relationship between science and society, normative issues related to science, and ethical issues in science (including research ethics), and philosophy of science, and 2) to offer students an arena and opportunity to reflect critically upon their own research.	More information
University of British Columbia	"Sustainability for the Community and the World"	This course explores systems thinking in the context of sustainability and also re-examines the familiar three pillars of sustainability – society, ecology, and economics – highlighting the uses and limitations of the model.	More information
University of Bergen	"Crucial issues in science and society"	This is a participatory course to discuss grand issues and explore them across disciplinary boundaries and academic cultures with other students and researchers from diverse scientific backgrounds.	More information

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Vrije Universiteit Amsterdam	"Ethics in Life Science"	The objectives of this course are to provide a toolbox of ethical instruments to analyze properly moral problems related research in the life sciences; to acquire conceptual knowledge of the central concepts in applied philosophy and professional ethics; to challenge an ethical reflection on one owns life science specialization and to open it for an impartial and constructive discussion; to exercise a team based project to enter prepare and execute a moral dialogue; to acquire the necessary skills to handle ethical issues in an accountable manner, as a professional academic beyond one's own inclinations and prejudgments.	More information
Centre for Engineering Ethics and Society	"Infusing Ethics into the Development of Engineers. Exemplary Education Activities and Programmes"	This report aims to raise awareness of the variety of exceptional programmes and strategies for improving engineers understanding of ethical and social issues and provides a resource for those who seek to improve ethical development of engineers at their own institutions.	More information
University of Utrecht	"Studium Generale"	Studium Generale is the scientific discussion platform of the University of Utrecht that offers lectures, symposia and debates to students, teachers and anyone interested in science and the arts and the way they are related. All activities are free and open to anyone without prior reservation.	More information
Colorado School of Mines	"Liberal Arts & International Studies (LAIS)"	The project is dedicated to delivering a programme in the Humanities and Social Sciences to expand Mines students' professional skills through the humanities, social sciences and fine arts. A variety of programmes to promote flexible intelligence, original thoughts and cultural sensitivity are offered.	More information
University of Western Australia	Teaching resources "Engineering, Technology and Society" – network "Engineering, social justice and peace"	The network "Engineering, social justice and peace" publishes synthesis lectures on "Engineering, Technology and Society", all volumes intended as teaching materials with the aim to "foster an understanding for engineers and scientists on the inclusive nature of their profession".	More information
University of Central Lancashire	"Comensus"	Comensus is a service user and career led which has been developed to embed the voices of those using health and social care services in the work of the Faculty of Health at the University of Central Lancashire. It provides a central hub for coordination and facilitation of user and career involvement in the Schools of the university.	More information
Social Sciences and Humanities Research Council, Canada	"Community-University Research Alliances (CURA)"	The purpose of the programme is to support the creation of alliances between community organizations and postsecondary institutions which, through a process of ongoing collaboration and mutual learning, will foster innovative research, training and the creation of new knowledge in areas of importance for the social, cultural or economic development of Canadian communities.	More information.
Aalborg University	"Nanotechnology, Science and Society"	This course was given to students in nanotechnology students. It aimed to foster what the teachers called a 'hybrid imagination', which is the ability to think across disciplines, specifically mixing technical knowledge and skills humanistic or social scientific approaches.	More information

As the examples demonstrate, these efforts originate in part from educational schemes which have a significantly longer history than RRI, such as 'Studium Generale' or 'Theory of Science'. Such frameworks are aimed at invoking critical reflection about one's own discipline, but no less important to enhance the student's ability to think beyond the confined boundaries of separate domains, and particularly to combine or mix technical knowledge and skills with humanistic or social scientific approaches and competence.

Several informants signal that teaching formats using a problem-based learning methodology tend to be useful in this respect. The teaching activities should be practical, take actual societal problems as

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points of departure, and resemble real-life professional situation. In line with the distinction between *knowing that* and *knowing how*, it is crucial that students are not merely taught that there is value in deliberation and discussion, but that these components are part of the pedagogical philosophy and practice. The ability to engage in critical discussion should be a distinctive learning outcome of these courses.

4.2 Results from review of RRI literature and EU projects

In the following, we summarize the results of the review of RRI literature and European projects related to RRI. As noted in Chapter 3, the review procedure in relation to documents and projects included a 'scanning' of 77 (primarily academic) papers identified in the MoRRI project, 257 (primarily policy-oriented) documents identified in the Res-AGorA project, and 55 EU projects within the area of RRI also identified by MoRRI. The scanning procedure aimed at capturing those documents which are relevant towards RRI in teaching contexts.

In total, the scanning procedure identified 21 pieces of literature from the Res-AGorA list of policy documents, 26 pieces of literature from the MoRRI list of academic papers, and 16 projects from the MoRRI list of EU projects, which relate to the objectives in HEIRRI. In some cases the linkage to HEIRRI objectives was quite clear, but in most cases, the relevance was indirect or only marginal. These 47 pieces of RRI literature and 16 projects relating - to varying degrees - to RRI teaching were then analysed using standardised templates (see Appendix B and Appendix D). Below, the selected documents and projects are listed in three consecutive tables. Table 3 presents the selected documents from the original Res-AGorA list of policy documents. For each entry (row in the table), the source is provided (full bibliographical information can be found in Appendix A) along with an abstract of the document. Furthermore, a brief assessment of how the entry is relevant to RRI teaching is provided, and the final column specifies how the document might be categorised according to the scheme developed by the RRI-Tools project. We shall return to this particular point in more detail in Chapter 5, as it relates to the development of the HEIRRI database in Task 2.2. Table 4 is organised in the same way, but captures the sample of relevant papers originating from the list of primarily academic papers from MoRRI. Note, however, that a significant number of these entries are in fact output from the European Commission, which might as well have been categorised as policy papers. We have, however, kept them on the list of academic papers, in order to keep track of the original sources from which we started the exploration. The full bibliographic information for each entry can, again, be located in Appendix A. Finally, Table 5 presents the selected 16 EU projects, out of the original MoRRI list, which we consider relevant to RRI teaching. The table is composed similarly to those concerning documents, and the detailed information for each of the projects can be found in Appendix C.

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Table 3: Selected policy documents relating to RRI teaching

Bibliographical information	Abstract	How could it contribute to RRI teaching?	Specification	Potential 'RRI-Tools' categorization
Centre for Society and Life Sciences, NL (2013)	The report points to specific educational tools to make science education more responsible in an RRI context.	Suggestions for curricula Problem based learning (PBL) Multidisciplinary learning	The report suggests specific RRI activities such as interactive research, mobile educational DNA labs, and face-to-face meetings.	Projects (RRI applied)
Strategy for 2020 by Aleksandras Stulginskis University (2011)	The document sets forth the main strategic development provisions of ASU including its mission and long-term development goals	Developing and implementing RRI goals	The paper is specifically oriented towards ASU but can be used as an example for implementing open access strategy and sharing of knowledge	Tools (e.g. Methods, Guidelines, Training, Monitoring)
Strategic Plan for 2013-2015 by Vilnius University (2013)	The strategic plan establishes priorities for the university's performance with specific guidelines including output-based indicators	It is an example of a programme which promotes objectivity and cooperation among researchers	The paper is an example of a programme which could be used as a part of curricula for students who are beginners in a field of academic research.	Inspiring practices (e.g. External resource cases, programmes)
Report of the Commission on Assisted Human Reproduction, Ireland (2005)	Thirty-two recommendations are listed concerning the set-up of a regulatory body for assisted human reproduction.	Multidiciplinary learning	It is an example of how experts from different field cooperate and share knowledge in research process.	Inspiring practices (e.g. External resource cases, programmes)
Irish Research Council (2013)	The Irish Research Council is tackling the main problems of the integration of sex/gender into research contents.	Relevant didactic concepts	The document is focusing on gender differences in a research context and higher education. There is a list of projects which try to promote gender equality in the context of RRI.	Projects (RRI applied)
Irish Universities Association (2013)	This paper is the Irish University Association's (IUA) response to the launch of Horizon 2020 funding.	Relevant didactic concepts	What is notable in RRI perspective is that open access and research integrity should be adopted by Irish universities in order to enhance teaching and research.	Projects (RRI applied)
Research Prioritisation Steering Group, Ireland (2012)	This report is a framing document for research in Ireland. It includes policies on data management, digital platforms etc.	Relevant didactic concepts	The paper gives specific guidelines for security of big amounts of data. They suggest more structured trainings programmes for data management.	Library element (e.g. articles, reports, journals)
Irish Council for Bioethics (2010)	The document maps out the core values of research integrity and lists the main themes based on the European Science Foundation.	Relevant didactic concepts	It describes different aspects of research integrity or research misconduct with direct or indirect consequences for science and the public.	Tools (Literature)
Irish Council for Bioethics (2008)	This document sets out the scientific basis for stem cell research and the ethical issues in the light of scientific advances internationally.	Exemplary case	Although it focuses mainly on stem cell research, it is an example of how to make public consultations a part of a research methodology.	Inspiring practices (Example)
Centre of Gender Studies, Panteion University (2003)	The initiative addresses the awareness among young women and men on multiple forms of gender discrimination in society and gender-bias in science.	Experiences from sessions	The initiative can raise awareness about gender discrimination through the lectures and exercises combined with scientific methodology listed in the document.	Inspiring Practises (programme)
Research Council UK (2014)	The document covers the role of UK Research Councils and their activities for enhancing economic and social wellbeing,	Relevant didactic concepts	The text is very short but is linked to the UK Research Council's website which contains information on research ethics, open access etc.	Tools (Methods)

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House of Commons- Science and Technology Committee (2013)	The report highlights the need for a holistic approach to tackle gender diversity in STEM education and careers.	Problem based learning (PBL)	The report provides recommendations, ranging from tackling STEM education in a gendered perspective to institutional adjustments advancing women's career position.	Library element (e.g. articles, reports, journals)
Science and Trust Expert Group, UK (2011)	The aim of the report is to enhance society's capabilities to make better-informed judgements about sciences to secure that science is socially robust		The report denies that there is a crisis of public confidence in the sciences but seeks to support the public in developing informed opinion about science and expert advice.	
Aalto University, Finland (2012)	This plan supports the continuous promotion of equality principles at Aalto University.	Exemplary case	The strategy encourages equality among its students and employees in a very systematic and structured way.	Inspiring practices (Example)
Nuffield Council for Bioethics (2011)	The report provides a framework of evaluation of current and emerging biofuel technologies methods in order to promote more ethical production patterns.	Relevant didactic concepts	The authors argue that research results should be applied in a way so that they have the greatest community benefits.	Inspiring practices (Example)
University of Helsinki (2006)	The document represents open access strategy and guidelines which are applicable in different areas of science.	Relevant didactic concepts Exemplary case	The document specifies guidelines for open access at University of Helsinki but can be used in a broader way as an exemplary case etc.	Tools (Guidelines)
Finnish Advisory Board on research integrity (2012).	The object of the report is to recognize research misconduct and to establish common norms for handling alleged misconduct.	Relevant didactic concepts	The Advisory Board in Finland formulated the first national guidelines to handle cases of alleged research misconduct.	Tools (Guidelines)
Academy of Finland (2013)	The plan outlines measures that are needed to promote gender equality at the Academy of Finland Administration office.	Relevant didactic concepts	The document provides very detailed and systematic guidelines for gender promotion and implementation of gender equality in research	Tools (Methods)
Ministry of Higher Education and Research, France (2013)	The strategy plans to initiate discussions on expertise and professional ethics, along with discussions on best practices	Suggestions for curricula	In relation to ethics and citizens participation, the strategy plan propose that intelligence units should be established in order to monitor research progress and innovation.	Inspiring practices (Example)
Law of Ethics of Biomedical Research, Parliament of Lithuania (2013).	In relation to RRI, the law describes ethics of biomedical research as adherence to ethical principles in the conduct of biomedical research.	Relevant didactic concepts	The law gives specific definition of research terms and guidelines along with a list of ethical requirements for conducting research.	Tools (Guidelines)
Parliament of Lithuania (2011)	Regulation on the Office of Ombudsman for academic ethics is based on principles such as lawfulness, justice, impartiality etc.	Relevant didactic concepts	The regulation of the Ombudsmen serves an illustrative case of which principles that should be mandatory in research centers.	Projects (RRI applied)

Table 4: Selected academic papers relating to RRI teaching

Bibliographical information	Abstract	How could it contribute to RRI teaching?	Specification	Potential 'RRI-Tools' categorization
Felt, U., Fochler, M.; Müller, A., Strassnig, M. (2009)	This paper explores the difficulties of addressing ethical questions of genome research in a public engagement setting where laypeople and scientists meet for a longer period of time.	Exemplary case Experiences from sessions	The paper provides insights for designing RRI training programmes where laypeople are included into discussions with Ph.D. students on research ethics.	Library element (e.g. articles, reports, journals)

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		Approach to session design		
Griessler, E., Littig, B. (2006):	The paper presents project results on the potential of the instrument of neosocratic dialogue (NSD) to deal with techno-ethical issues.	Approach to session design	NSD could be used as a means for ethical reflection on R&I. It could be implemented in HEI settings (e.g. summer schools, PhD programmes).	Tools (e.g. methods, guidelines, training, monitoring)
Sunderland; M. E.; Taebi, B.; Carson, C.; Kastenberg, W. (2014)	The paper presents a pilot programme for graduate students in engineering, which aims to create opportunities for dealing with sensitive ethical questions.	Training programme description Suggestions for curricula Approach to session design	The Pilot programme is five-day programme which creates a "safe space" for engineers to critically reflect on experiences with ethical issues.	
Fisher, E.; Mahajan, R. L.; Mitchum, C. (2006)	This article discusses midstream modulation as means for reflexive participation by scientists and engineers in the internal governance of technology development	Training programme description Suggestions for curricula	Midstream modulation aims for a stronger integration of societal aspects during R&D activities.	Library element (e.g. articles, reports, journals)
Kuhlmann, S. (2007)	The paper's main proposition is that there is a need for dedicated Science, Technology and Innovation Studies to better understand the development and governance of science.	Exemplary case Training programme description Suggestions for curricula	Kuhlmann presents "transversal teaching services", as an approach for stronger integration of original research in education.	Library element (e.g. articles, reports, journals)
EU Commission (2015)	The report contains a conceptual introduction to RRI, a detailed review of possible indicators for RRI policy and proposals for design and implementation of RRI.	Training programme description Exemplary teaching topics or cases	The document provides useful definitional material for work in HEIRRI. Particularly the report's section on Science might be useful for HEIRRI.	Library element (e.g. articles, reports, journals)
EU Commission (2012)	The report stresses that research results, including publications and data collections, need to be circulated rapidly and widely using digital media.	Exemplary case	The paper emphasizes cooperation among researchers and institutions in order to create free circulation of knowledge in Europe.	Inspiring practices (Example)
Tim Davies (2013)	The paper explores open data and how it can unlock latent value, stimulate innovation and increase transparency and accountability.	Relevant didactic concepts	Against the backdrop the growth of the open data field, the report provides a snapshot of OGD practices at national level.	Projects (RRI applied)
Van den Eynden, V. and Bishop, L. (2014).	The objective of the paper is to provide evidence and examples of useful incentives for data sharing from the researchers' point of view to inform scientists and policy makers.	Experiences from sessions	The paper presents various reasons why to promote open access policy along different areas of science and how open access policy contributes to science.	Library element (e.g. articles, reports, journals)
Genova, F. et al. (2014)	The paper claims that open data will enhance science, transparency, accessibility to information and individual information.	Suggestions for curricula	The paper presents recommendations to politicians and scientists to be implemented in curriculum and in future directions for open data.	Tools (Guidelines)
Dallmeier-Tiessen, S. et al. (2011).	The paper presents results on attitudes towards Open Access based on a large-scale survey of researchers' experiences with open access publishing.	Supervision attitude/approach	The article presents an instrument to examine how the attitude of scientists is towards open access publishing.	Inspiring practices (Example)
Cragin, M. H., Palmer, C. L., Carlson, J. R., &	The paper indicates that data curation services will need to accommodate a wide range of sub disciplinary data	Multidisciplinary learning	The report summarizes results on data sharing: How common data sharing is dealt with, rules for	Library element (e.g. articles, reports, journals)

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Witt, M. (2010)	characteristics and sharing practices.		sharing and Co-authorships of data creators.	
Costas, R., Meijer, I., Zahedi, Z., & Wouters, P. (2013)	The paper argues that data sharing offers important benefits for scientific progress but barriers hinder the evolution of these practices.	Relevant didactic concepts	A 'vicious circle' is described that implies that data metrics is limited by the low incidence of data sharing activities.	Library element (e.g. articles, reports, journals)
Caprile, Maria et al. (2012)	The paper presents mechanisms that maintain gender inequalities in research institutions, and demonstrates how traditional gender analysis is flawed.	Exemplary teaching topics or cases	Current research focuses on four sets of factors when explaining gender segregation: gender stereotypes, choice of study field, gender division of labor, and biases in organizational practice	Library element (e.g. articles, reports, journals)
Catalyst (2014).	The paper presents the connection between gender diversity and corporate financial performance	Relevant didactic concepts	When companies focus on diversity and leveraging women's talent the described connection is remarkable	Library element (e.g. articles, reports, journals)
European Commission (2004)	The paper considers how gendered assumptions underpin constructions of excellence, and what these imply for both women and men.	Relevant didactic concepts	This study presents results on gender biased practices, for example, how the measurement of scientific excellence may be gendered	Library element (e.g. articles, reports, journals)
European Commission (2009)	The report analyses the gender dynamics among applicants, recipients and gatekeepers of research funding and the role of funding organizations in promoting gender equality in research.	Relevant didactic concepts	The balanced representation of women and men in science has a strategic approach forward equal opportunities in scientific research, and enhance European competitiveness	Tools (e.g. Methods, Guidelines, Training, Monitoring)
European Commission (2009b)	The objectives of the WiST working group were: 1) Reduce the leaky pipeline for women in science and 2) Building the business case for work-life balance.	Relevant didactic concepts	The experts in the working groups gave some advice how to promote gender equality in science.	Tools (e.g. Methods, Guidelines, Training, Monitoring)
European Commission (2012)	The report argues that gender-aware management of universities and research organizations would have a positive impact on the recruitment of both men and women	Relevant didactic concepts	A document describes gender representation in the present, and solutions to problems with gender representation.	Tools (e.g. Methods, Guidelines, Training, Monitoring)
European Commission (2013)	The goal of the report was 1) to provide scientists with practical methods for sex and gender analysis, and 2) to develop case studies on how gender analysis leads to new ideas and excellence in research.	Relevant didactic concepts	The report revealed that gender bias is socially harmful and expensive. Gender bias also leads to missed market opportunities.	Tools (e.g. Methods, Guidelines, Training, Monitoring)
Müller, Jörg et al. (2011)	The article summarizes trends in research, including the impact of higher education on measures for gender equality.	Suggestions for curricula	In order to advance gender equality, we need to question the male bias in definitions of innovation, which channel available funds into male dominated industries	Library element (e.g. articles, reports, journals)
Schiebinger, Londa; Schraudner, Martina (2011)	This paper presents three approaches to gender equality by policy makers, institutional administrators, and scientists and engineers.	Multidisciplinary learning	These approaches include: 1) fixing the numbers of women in science; 2) fixing research structures; 3) incorporating gender analysis into basic and applied research.	Tools (Guidelines)
Allum, Nick, (2009)	The article provides an overview on different and partly conflicting notions and assessments of Science Literacy.	Experiences from sessions	The implication of the study is that improving science education will not necessarily change the ability for decision making on science related matters.	Library element (e.g. articles, reports, journals)

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Miller, J. D. (1983)	The paper introduces a notion of SL as composed of three dimensions	Supervision attitude/approach	The dimensions include: Understanding scientific methods and norms, Knowledge of basic scientific constructs, and Awareness of the impact of science on society.	Library element (e.g. articles, reports, journals)
Miller, J. D. (1998)	This paper provides the first comprehensive description and analysis of the civic scientific literacy (CSL) measure.	Relevant didactic concepts	In order to accurately measure CSL more sophisticated survey items and statistical methods are required.	guidelines
Miller, Jon D, (2010)	The chapter reviews the last 3 decades of SL measurement, presents the survey methodology currently used in US, EU27 as well as key findings.	Relevant didactic concepts	CSL should focus on understanding of basic science concepts rather than detailed knowledge.	guidelines

Table 5: Selected EU projects relating to RRI teaching

Acronym	Abstract	How could it contribute to RRI teaching?	Specification	Potential 'RRI-Tools' categorization
ETHICS-WEB	The ETHICS-WEB is an initiative to build an information- and documentation system on the ethics of science to enhance interdisciplinarity.	Training programme description E-learning Experiences from sessions	This ETHICSWEB Database provides a category of "Training materials and programmes" that gives links to other relevant databases.	Projects (RRI applied)
EUREC-NET	The initiative brings together national Research Ethics Committees (REC) associations and gathers working experiences from various REC's.	Training programme description Approach to session design E-learning	The project itself did not produce training programmes etc. However, it offers a collection of training materials relevant for RRI.	Projects (RRI applied)
SATORI	The project develops a framework for the ethical assessment of science, engineering and innovation across, public, private and business sectors.	Experiences from sessions Approach to session design	The SATORI project wants to identify the needs of stakeholders regarding ethics training.	Projects (RRI applied)
CONSIDER	CONSIDER aims to create a model for Civil Society Organizations (CSO) participation in research to represent causal effects influenced by CSOs	Training programme description Suggestions for curricula	CONSIDER developed concepts for integrating civil society organizations (CSOs) and other stakeholders in research in PhD courses/curricula.	Tools (e.g. methods, guidelines, training, monitoring)
GREAT	GREAT aims to produce principles that could be applied by researchers and policy makers to engage in a systematic way with societal actors	Problem based learning (PBL) Approach to session design	WP6 in the document could be relevant to HEIRRI. It focuses on applicable recommendations for stakeholders to improve their approach to RRI.	Tools (e.g. methods, guidelines, training, monitoring)
ENRRICH	ENRRICH aims to improve the capacity of students' knowledge about RRI by responding to the research needs of CSOs	Relevant didactic concepts Training programme description Suggestions for curricula	Several work packages deal with identification of best practices, development of new course material in RRI, piloting practices etc.	Tools (e.g. methods, guidelines, training, monitoring)

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PACITA	PACITA aims to increase the institutional foundation of policy-making in science and technology based upon the Parliamentary Technology Assessment (PTA) approach.	Experiences from sessions Approach to session design Exemplary teaching topics or cases	Two Summer Schools of were organized to introduce academics and decision makers to PTA and how it contributes to increasing knowledge of science in society.	Inspiring practices (e.g. external resources, cases, programmes)
RECODE	RECODE has addressed challenges within the open access and data dissemination sector.	Multidisciplinary learning	The findings of the project are transformed in recommendations for researchers in different areas in order to ensure open data policy.	Tools (Guidelines)
SOAP	The SOAP project, gathered extensive world-wide information on open access publishing for key stakeholders	Problem based learning (PBL)	The project identified the factors influencing open access policy among researchers and, how to measure those factors.	Tools (Methods)
PASTEUR-4OA	PASTEUR4OA aims to develop open access strategies and policies at the national level and facilitate their coordination among all Member States.	Problem based learning (PBL)	The projects provide an account and information on potential indicators that influences access policy.	Tools (Methods)
OpenAIRE-plus	The objective of the OpenAIRE project was to support the implementation of an Open Access policy in Europe set forth by the EU Commission.	E-learning	The enormous amount of data produced could provide a data foundation for the collection of relevant statistics on open access resources.	Projects (RRI applied)
PRAGES	The PRAGES analyzed existing practices to support s to implement gender-equality measures in their research management	Relevant didactic concepts	The project contains recommendations for promotion of gender equality in science to be included in the curricula.	Tools (Guidelines)
GENSET	The GenSET project aimed to improve the excellence of European science through inclusion of gender dimensions in research and science.	Relevant didactic concepts	Recommendations for strengthening human capital in research and innovation through gender equality are provided in the report.	Tools (Guidelines)
WHIST	WHIST aimed to improve gender diversity in science, by inter alia improving transparency in recruitment, promotion etc. in S&T institutions	Relevant didactic concepts	A potential tool for analyzing obstacles to gender equality activities and provide recommendations to reduce adverse impact in future.	Tools (Guidelines)
CREATIVELITTLESCIENT	The project's objective was to develop a map of policies and practices in science and mathematics education to foster creativity and inquiry based learning.	Exemplary case	The project contains a number of examples on how knowledge and creativity can be used to work together.	Inspiring practices (Example)
PRIMAS	The project aimed to support inquiry based learning in science education. It explored policies and education policies relevant to the dissemination of inquiry-based learning	Approach to session design	Inquiry-based learning is relevant to RRI since it boosts motivation to learn, makes learning easier and gives more active roles both students and teachers.	Inspiring practices (Example)

While the set of documents and projects is diverse, and the individual papers and projects often only indirectly related to RRI teaching, it is possible to extract a number of general points from this

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collection. Below, the main messages emerging from a cross-read of the compilation of policy documents, academic papers and documents relating to EU projects are summarized. A number of particularly interesting individual papers are also described in more detail.

4.2.1 Cross-cutting observations from the literature and project review

One of the most common themes emerging from the academic and policy documents concerns the ways in which ethical and broader societal issues can be broad into teaching contexts in higher education. Specifically, a number of these documents address, explicitly or implicitly, teaching approaches which could facilitate deliberation in the classroom on the governance frameworks within which research and innovation operates as well as the criteria, values, and principles underlying RRI. Several documents point, directly or indirectly, to inquiry- and problem based approaches to teaching and learning, and to pedagogical tools emphasizing dialogue and deliberation.

One such contribution is from Felt et al. (2009)[12], who put the issue of 'RRI teaching' – they are labelling their approach as 'bottom-up approach to ethics' or 'public engagement' – in the broader context of emerging techno-sciences, their impacts and the changing science-society relationship. In their understanding of public engagement, it is important to open up the R&I process very early (i.e. 'upstream'), before researchers and institutions commit time and resources and the process is deadlocked. In this way, it is also possible to discuss basic societal values and decisions about more general trajectories of techno-scientific developments.

The objectives of the "collective experiment in public participation" (Felt et al. 2009: 358) reported in the paper, was to (1) promote mutual learning between laypeople and scientists, and (2) set the engagement activity upstream in the R&I process, thus being able to also deal with underlying values considering techno-scientific developments. The approach is based on the idea of 'mutual learning' between scientists and laypeople and is not a traditional 'teaching practice' in the context of HEI, but rather an instrument to be used in various settings also beyond universities.

Felt et al. used the method of the 'Round Table' (Science et Cité, Switzerland), bringing together 14 laypeople and seven genome researchers. There were six whole-day-meetings over a period of seven months, and the round tables consisted of discussions and a visit to a laboratory. In the first meetings, the participants together selected issues to be discussed in the following meetings, and the discussions were concerned with the societal and ethical dimensions of genome research. The concept of the round table might be used in the context of HEIs; however, it would be necessary to adapt it according to the requirements of HEIs, i.e., to be able to formulate learning outcomes, assessment methods, etc.

The analysis of the round-table-discussions showed that there is a divide between 'facts' and 'values'

[12] Felt, U., Fochler, M.; Müller, A., Strassnig, M. (2009): Unruly ethics: on the difficulties of a bottom-up approach to ethics in the field of genomics. *Public Understanding of Science*, 18(3): 354-371.

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and that argumentation based on 'facts' are considered superior to those based on 'values'. In teaching RRI – and ethics, as in this case – such asymmetries have to be considered, actively addressed and reflected. Otherwise, discussions on ethical and societal issues might be marginalized, even in RRI training. Even though the setting was very open and promoted long-term interaction, rather than creating a space of open dialogue and space of trust, Felt et al. observed "a process of 'mutual taming'", i.e., controversial issues were not addressed openly in plenary sessions.

Another paper by Griessler and Littig (2006)[13] discusses the virtues of Neo-Socratic Dialogue (NSD) which aims at promoting ethical reflection on R&I processes. It wants to facilitate deliberation on the normative framework, the criteria, values, and principles underlying decision making processes regarding R&I and perception of techno-scientific developments. According to Griessler & Littig, participatory technology assessment (PTA) often lacks the comprehensive inclusion of ethical questions regarding techno-scientific developments and only focuses on the evaluation of factual knowledge. With NSD, the ethical dimension gains attention and reflection.

By taking part in NSD, the participants have a chance to improve their rhetorical abilities and their ability to bring forth conclusive and coherent arguments, to listen to and interpret the statements of others. The paper by Griessler & Littig provides an example for the implementation of a NSD; however, it is not comprehensive with regards to the structure and rules of the NSD. Birnbacher (1999)[14] provides a more systematic and precise description of the Socratic method for teaching ethics. He states that "[e]xperience shows that the success of the Socratic Group Work depends very much on the strictness with which the rules of the game are observed" (Birnbacher 1999: 220). There is not a moderator, but a 'facilitator' acting more as a guide than as a teacher. Although the facilitator should be non-directive with regards to substantial questions, s/he should be directive considering compliance with the procedural rules. The facilitator should create a positive atmosphere, be impartial and should support people in taking part in the discussion. However, in some cases it might be good if the facilitator gives some substantial input or concrete examples on the topic. "Clarity is one of the supreme maxims of Socratic Group Work", the author states (Birnbacher 1999: 221). The different participants have to be supported in (better) understanding each other. The Socratic Dialogue works towards a consensus and starts with the participants' own experience related to the issue under consideration. However, in the case of very pluralistic views and heterogeneous groups "mutual understanding, tolerance, and compromise" (Birnbacher 1999: 222) is a better way. According to Birnbacher, the Socratic Method works best with groups of 12 participants, an overall time frame of about 20 hours (1½ hours for one session) over a course of several days.

[13] Griessler, E., Littig, B. (2006): Neosokratische Dialoge zu ethischen Fragen der Xenotransplantation. Ein Beitrag zur Bearbeitung ethischer Probleme in partizipativer Technikfolgenabschätzung. Buchinger, Erich; Felt, U. (Hrsg.): Technik- und Wissenschaftssoziologie in Österreich. Stand und Perspektiven. ÖZS, Sonderheft 8/2006, 131-157.
[14] Birnbacher, Dieter (1999): The Socratic method in teaching medical ethics: Potentials and limitations. Medicine, Health Care and Philosophy 2, 219–224.

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A potential obstacle for ethical discussions in NSD – which could also be faced in teaching RRI – is that the NSD is misinterpreted as a discussion about the risks of certain techno-scientific developments and that the discussion might shift towards discussing the 'right facts' rather than the ethical implications of a certain technology. In this sense, the perceived superiority of facts over values, which was raised in the paper by Felt et al., is consider a potential barrier to teaching RRI.

A third paper by Sunderland et al (2014)[15] stresses the benefits of considering students as 'co-inquirers'. A specific summer programme wanted to change the perspective of ethics as a normative set of rules – which is a common perspective among engineering students, according to the authors – and instead highlight ethics in R&I as an open approach with potential for innovative research. By treating students as co-inquirers, traditional academic hierarchies were torn down in order to get diverse perspectives on the subject. A collaborative relationship between students from different academic backgrounds and different countries (engineering graduate students from University of California and Philosophy of Technology graduate students from Delft Technical University) was a core goal of the programme.

The paper argues that ethics should be moved from the periphery to the core of the engineering curriculum by engaging students' emotions. Through the collaborative and hierarchy-free approach, students could participate in and voice their thoughts on the design of a curriculum regarding ethics in engineering. The interdisciplinary work was targeted at finding research questions and writing papers, so the students were motivated to prepare and come up with their own ideas. The 'student voice' approach, where students can articulate their perspectives in their own words, gave students the opportunity to get involved already in the design of the course. Emotional rather than exclusive 'intellectual' engagement into ethics should make students *care* about issues of responsibility in the course of their education and career.

These examples, along with the full collection of papers selected as relevant to the RRI teaching perspective in HEIRRI, indicate a number of general points of attention for the development of teaching and training activities in the HEIRRI project:

- It is important to carefully consider the character and quality of the interaction among the students. The document analysis highlights the importance of providing a participatory space where all students are involved in discussions and dialogue. Such educational settings come in many shapes (the formats mentioned above do not exhaustively represent the variety of formats), but essentially they should accommodate non-coercive, collective deliberation and reflection.
- Notions such as problem-based or inquiry-based learning are often put forward as pedagogical

[15] Sunderland; M. E.; Taebi, B.; Carson, C.; Kastenberg, W. (2014): Teaching global perspectives: engineering ethics across international and academic borders. *Journal of Responsible Innovation* 1/2, 228-239.

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means for ensuring that the teaching context continuously interact with the real-life social, ethical, regulatory, and economic aspects of R&I. It is crucial for RRI teaching that it manages to introduce and sustain interaction between the students and the societal and professional context in which they are situated. Using practical problems, cases, hands-on approaches, and real-life dilemmas as part of the course is a way of strengthening the linkage between students and their context. The importance of teaching about responsibility in a way which is emotionally engaging appears to be important.

- The role of the teacher and her/his relation to the group of students are matters of concern when teaching RRI. While a limited number of papers address this issue directly, the general message seems to be that it is useful to aim for non-hierarchical interaction between teacher and student. Instead of authoritative instruction, RRI teaching should embrace the kind of principles which are connected with understandings of responsibility, such as collective reflection. The teacher should play an active part in facilitating the collective processes, but the students and the teacher should work as co-inquirers in relation to the substantial issues at stake.
- A potential barrier to RRI teaching is constituted by the unequal weight which tends to be attributed to 'facts' and 'values' respectively when difficult or controversial techno-scientific issues are discussed. The perceived objective, scientific facts and storylines tend to take preeminence over the perceived subjective opinions, beliefs, and values, which are indispensable components of responsible research and technological development. RRI teaching activities should recognize this challenge and explicitly address it.
- Finally, a number of policy papers in particular emphasized the potential of e-learning platforms in relation to teaching and learning. Besides traditional online training programmes, there was a focus on data simulation. Such platforms could potentially be applicable to different RRI dimensions and especially support a better understanding of the societal aspect of research and innovation. Through data-simulation, students could be able to visualize some of the impacts of research and technological development.

On the whole, a limited number of the papers provide detailed and explicit insights into the main area of interest for HEIRRI, i.e. the teaching and learning contexts for RRI in higher education institutions. Still, many papers and projects hold significant information about issues related the concept of responsibility which might provide inspiration concerning the contents of courses on RRI, even if it lacks relevance regarding the teaching approaches and training formats. As an example, a significant amount of papers are focused on the concept of open access and specifically open data, and some of the elements might very well be taken up in curricula and in teaching practices in general. While these contributions do not develop specific educational tools, the papers presents interesting recommendations for future directions concerning data sharing practices which could increase transparency and accessibility to information in general.

The same tends to be the case with regard to the EU projects covered by the review. A good share of

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these relates to ethics in research and innovation, and while the teaching perspective is not the dominant one, there is nonetheless often interesting information available in these projects. One example is ETHICS-WEB, which has built an information and documentation system, from which users can access training programmes and materials. The initiative does not provide any own material, but is a database / link collection to more comprehensive databases. The most promising of these databases is the Ethics Teaching Programmes Database by the UNESCO's Global Ethics Observatory (Database 3). There are 235 teaching programmes registered in the database. Due to the extent of the material, further analysis is necessary for assessing its relevance for HEIRRI.

Another example is EUREC-NET, which is mainly concerned with research ethics and research ethics committees (RECs). The network wants to 'foster awareness and linkage among RECs', because the institutional structures and practice vary according to the national background of the RECs. Training materials linked on the REC page do not address students as main target group, but members of ethics committees, researchers, study coordinators, etc. However, there are some training programmes that could also be used for students. The Online Research Ethics Course by the University of Montana's Practical Ethics Center (http://ori.hhs.gov/education/products/montana_round1/research_ethics.html) is an example of a (rather traditional) Massive Online Open Course (MOOC) on Responsible Conduct of Research. It is divided into six course sections (Ethical Issues in Research, Interpersonal Responsibility, Institutional Responsibility, Professional Responsibility, Animals in Research, Human Participation in Research); each course section provides (1) an introduction and information on the topic under consideration, (2) major issues of discussion, (3) at least one (typical) case study that provides several alternative pathways, the users can explore, and (4) a self-assessment form.

Also the SATORI project is relevant. It is not primarily concerned with teaching RRI (or in the case of SATORI: ethics) to students, but with ethics assessment in R&I in general. Nonetheless, it offers some insights into practices (e.g., with regards to participatory processes) that could be of use for HEIRRI. There are different rationales for participatory approaches. It is possible to identify normative justifications (e.g., participation as democratic right), instrumental justifications (e.g., heightening acceptance), and substantive justifications (e.g., better adapted innovations). Accordingly, SATORI describes four objectives of participatory approaches, namely 'Governance', 'Social cohesion and social justice', 'Improved quality of service', and 'Capacity building and learning'. Based on interviews, the SATORI project identifies some key points that should be considered in ethical training of researchers and young scholars, which could also be starting points for RRI training.

Other projects concentrate on the ways in which civil society organization (CSOs) could gain greater prominence in research and innovation activities and priority setting, but also on the inclusion of CSO perspectives and participants in teaching and training activities. In particular HEIRRI's sister project ENRRICH has similar goals of implementing RRI in HE curricula, and in order to do so, it aspires to improve the capacity of students and academic staff with regard to developing necessary knowledge,

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skills and attitudes to accomplish this, especially focusing on research needs of society represented by CSOs. ENRRICH has provided a set of descriptions of courses and training activities with a particular focus on CSO involvement, which could clearly inspire the HEIRRI efforts.

4.3 Results from consultation of advisory boards and broader communities

This section provides a brief summary of the inputs gathered through consultations of the HEIRRI advisory boards as well as broader communities of scholars and practitioners in areas related to RRI. Members of the advisory boards were addressed individually by email and asked to provide information on 'RRI teaching' resources (exemplary institutions, programmes, courses, or materials) based on their knowledge of this field and their own experiences. The broader communities were addressed by posting requests for examples and evidence on selected list servers as described in Chapter 3.

This procedure resulted in a number of responses, out of which 13 stood out as particularly interesting for the purposes of the review. The list of RRI teaching resources is reported in Table 6 below.

Table 6: RRI teaching resources identified by advisory boards and broader communities

Institution	Name of Course, activity, document	Short Description	Link
KENNIScoCREATIE Onderzoek & Advies, Netherlands	"Free Blended Learning Training for PhDs"	This training programme helps Ph.D.-students to reflect on the social/practical relevance of their research questions and teaches them how to engage with potential knowledge users and stakeholders in order to develop research questions that better address knowledge needs.	https://kenniscocreatie.nl/
Erasmus University Rotterdam, Netherlands	"Dilemma Game"	In the dilemma game, Ph.D.-students are presented with in total 74 dilemmas relating to ethics, research integrity and professionalism within science. The issues raised include plagiarism, invalid data and cooperation between students.	http://www.eur.nl/fileadmin/ASSETS/ieb/integriteit/dilemmagame-mrg.pdf
League of European Research Universities (LERU)	"Innovative doctoral training"	The League of European Research Universities has developed this document, which provides case descriptions of innovative doctoral training, which may be relevant towards the RRI notion.	http://www.leru.org/files/publications/LERU_AP_15_Good_practice_elements_in_doctoral_training_2014.pdf
Arizona State University (ASU), USA	"Socio-Technical Integration Research (STIR)"	The STIR programme is an interdisciplinary approach in which scholars from social science and humanities are invited directly into the laboratories to observe and engage with the scientists from Nanotechnology.	https://cns.asu.edu/research/stir
International Consortium	"Training and Ressources in Research Ethics Evaluation" (TRREE)	TRREE is an online training programme on ethics and regulation of health research involving human participants. The primary goal is to provide training and resources to those who ensure the protection and the rights of individuals serving as participants in health research.	http://elearning.trree.org/
Anglia Ruskin University, UK	"MSC Sustainability – Working for Positive Change"	The aim of the programme is to 1) gain a deep understanding of key sustainability challenges, 2) become equipped with the skills required to lead change, and 3) undertake a work placement in which you can apply your knowledge and skills.	http://www.mscsustainability.org/
University College London (UCL), England	"Public Engagement training"	This training programme is offered to postgraduate students within the fields of engineering, math and physical sciences at the UCL campus. The programme aims to develop public engagement skills by connecting a specific research project or activity to communities outside of the university.	http://www.ucl.ac.uk/public-engagement/funding/trainandengage

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Osaka University, Japan	"STiPS: Programme for Education and Research on Science and Technology in Public Sphere"	The institute aims to create an interdisciplinary minor degree with a practical emphasis in order to foster an integrated design capacity on nanoscience at the graduate level. It targets both graduate students and professionals.	http://www.tandfonline.com/doi/abs/10.1080/09537320500357251
Delft University of Technology, Delft	"Explore the relationship between ethics, society, business and technological innovations."	This course discusses the concept of responsible innovation, its meaning and its significance. This takes place by addressing the societal implications of new technologies and showing how we might incorporate ethical considerations into technical innovations.	https://www.edx.org/course/responsible-innovation-ethics-safety-delftx-ri101x#!
Nederlandse Onderzoeksschool Wijsbegeerte (OZSW), Netherlands	"Philosophy of Responsible Innovation"	This course discusses the main philosophical issues in relation to RRI. Topics include the role of societal values in innovation, philosophical reflections on the role of knowledge and risk in innovation, and constructive technology assessment and governance of responsible innovation.	http://www.ozsw.nl/activity/philosophy-of-responsible-innovation-2015-ozsw-course/
EU Project	"PARRISE"	The project aims at introducing the concept of RRI by combining inquiry-based learning and citizenship education with socio-scientific issues in science education (SSIBL). The project also aim to collect and share existing best practices and develop learning tools, materials based on the SSIBL approach.	http://www.parrise.eu/About-PARRISE
EU Project	"IRRESISTIBLE"	The goal of IRRESISTIBLE is to design activities that foster the involvement of students and the public in the process of Responsible Research and Innovation (RRI).	http://www.irresistible-project.eu/index.php/en/
University of Minho, Portugal	"Foster Portal"	The FOSTER portal is an e-learning platform that brings together the best training resources for those who need to know more about Open Science, or for those who need to develop strategies and skills for implementing Open Science practices in their daily workflows.	https://www.fosteropenscience.eu/about
Scientific Center for Quality for Health Care (IQ), Netherlands	'Ethical Issues in Human Genomics and Big Data: the need for Responsible Research and Innovation"	The course aims to explore the nature of human-technology relations, as well as their value. The focus is on ethical dimensions of developments in medical technology and genomics.	http://www.iqhealthcare.nl/nl/

The resources submitted from the advisory bodies and broader communities consist of exemplary courses or training activities but also include a number of broader projects which are related to the HEIRRI project.

Reading across the listed RRI teaching activities identified by the advisory boards and broader communities, a few general observations can be highlighted. First, the need for encouraging interdisciplinary debates in teaching and learning context emerges strongly. There is a strong focus that interactions should be enhanced and encouraged through a stronger collaboration between engineers, in particular, and researchers within social science and humanities. The concept of 'midstream modulation'[16] seems relevant here. While the notion of 'upstream engagement' has been used to emphasize the importance of citizen and civil society involvement in governing technological developments from the embryonic stages of it, midstream modulation is meant to underline a

[16] Fisher, E., Mahajan, R. L., Mitcham, C. (2006). Midstream Modulation of Technology: Governance From Within. *Bulletin of Science, Technology & Society*, 26(6): 485-496.

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complementary need for more reflexive participation by scientists and engineers in the internal governance of technology development. For HEIRRI, this argument points to the relevance of providing training activities that will allow (young) researchers to acquire interdisciplinary skills and ability to critically co-produce – with colleagues from other fields – knowledge about the societal implications of their work. Development of innovative learning platform in which researchers from different fields collaborate is a way of internalizing an interdisciplinary awareness and understanding.

Second, the listed activities are concerned with the need for raising the students´ awareness of the societal embedding of research and innovation. Training programmes and session designs in which students are explicitly encouraged to respond to and include societal actors as cases in their research projects are relevant to this end. Problem- and inquiry based learning techniques as well as online teaching platforms are highlighted as appropriate formats.

4.4 Conference results

The 1st HEIRRI Conference has been considered a relevant source of information for the State of the Art review. The conference was a forum for discussing RRI within teaching contexts at higher education institutions, and it was also an arena for interaction between the HEIRRI consortium and some of the academic, practitioners, and stakeholders in the field. The main output of the conference was a series of interesting presentations, organised under four different panels and a poster session. The presentations are listed in Table 7 below, which also contains active web-links to the actual presentations and a selection of the posters.

Table 7: Panel presentations and posters at 1st HEIRRI Conference

Title of presentation (with active link)	Authors
Parallel panel 1 – TRAINING ON RESEARCH AND INNOVATION FOR INDUSTRY: NEEDS AND CHALLENGES	
RRI in industry: The SNIFFPhone Project	Pearson, J., Ikonen, V.
RRI clinics, RRI Guidelines and RRI implementation plans: raising awareness of RRI for technology development	Ikonen, V., Pearson, J. Gianni, R., Yaghmaei, E.
Influence of the satisfaction with an international project of marketing learning on the peceived competences in the European Higher Education Area	Argila-Irurita, A. and Arroyo-Cañada, F. J.
Responsible Research and Innovation at Technical Universities – Challenges and Opportunities	Griessler, E., Altenhofer, M.
Responsible Education of Young Entrepeneurs – The Case Study of the Climate-KIC Innovative Programme 'The Journey'	Klucznik-Törö, A., Heron, K., Hancox, J.
Smart drones for journalism. Teaching students how to be creative using innovation pedagogics	Nyre, L; Gynnild, A; Guribye, F.
Parallel panel 2 – DIALOGUING WITHING UNIVERSITY: TRANSDISCIPLINARITY AS A KEY FOR RRI LEARNING	
Multicultural Constructive Community learning course for Education in Sustainability	Segalas, J., Tejedor, G.
Responsible research and innovation applied to human rights and higher education	Bueno Doral, T., Hänninen, L. and García Castillo, N.
Performing RRI in science education: how to measure the impact?	Heras, M, Ruiz-Mallen, I.
The "Ment Sana" Project: A proof of concept on how to empower students to enter into the RRI system	Malagrida, R., Carreras, J.
Parallel panel 3 – ADAPTING CURRICULA TO FUTURE RESEARCHERS: FOSTER RRI IN POSTGRADUATE LEVELS	
Science in Action: teaching scientific integrity to early career scientists	Martínez-Campos, M., Jiménez, E., Thompson, E., Camí, J.
"Theory of Science" – Wissenschaftstheorie – as a Way to Teach RRI	Karlsen, J.R., Kaiser, M., Slaattelid, R., Strand, R.

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Teaching reproducible research in bioinformatics	Castelo, R.
Be SAGER, increase relevance in research through sex and gender equity	Heidari, S, Babor, T.B., De Castro, P., Marušić, A., Tort, S., Curno, M.
How to become R.I.CH: a one-day interactive workshop to increase confidence in research integrity issues	Van der Burght, S.
Parallel panel 4 – CHANGING STRUCTURES: THE RRI PARADIGM WITHING INSTITUTIONS	
GenPORT: articulating RRI through Gender Equality in Science	Müller, J., Arroyo, L.
Service Learning Programme at Universitat Rovira i Virgili: the promotion of social university responsibility	Capdevila, A., Lombardi Bolaño, A.C., Ojeta Lesaca, O.
Is work climate important for RRI training? Cross sectional study of perceptions of ethical climate and pressures in different faculties at the University of Split, Croatia	Malički, M., Katavić, V, Marković, D, Marušić, M, Marušić, A
Potential and Challenges of Implementing RRI Postgraduate Education: A Case from Japan	Kudo, M., Hirakawa, H., Yagi, E., Kamisato, T., Tsujita, T., Watanabe, H., Yamanouchi, Y., Kobayashi, T.
Poster session	
Elevating Women Entrepreneurship Initiatives for Generating Sustainable Impact and Networks	Klucznik-Törö, A., Mahajan, L., Castello, V., Guerrero, J.
Incorporating Service Learning in Business and Economics Education	Setó-Pamies, D., Bové-Sans, M.A
Studio-based teaching-learning tool as a RRI methodology within the design of water bottles	Soares, T., Seco, P.
Walking the city: social interactions in learning through the urban environment	Aquilué, I., Gomes, R., Roca, E.
Learning engineering without avoiding the "what for" question	Basart, J.M., Farrus, M., Florensa, A., Mariño, J.B, Nadeu, C., Serra, M

Each of these presentations should be considered for the HEIRRI database, since they all target – although to varying degrees – issues related to RRI teaching in HEIs including also a good number of specific examples of teaching situations and courses which revolve around responsibility in research and innovation. A cross-cutting observation from the conference is, however, that these examples are rarely called 'RRI', and several speakers at the conference noticed humorously that they had only just discovered that their teaching experiences could be captured by the RRI label.

While the panels and poster sessions provided several interesting concrete examples, a concluding workshop was also arranged to tease out the general points which could feed into the HEIRRI review. One of the core messages from this workshop is that educators engaged in teaching RRI experience a high degree of motivation and appetite for learning and engaging from the side of the students. This is a positive context for RRI teaching in terms of student demand, but it is, however, counterbalanced by widespread reluctance on the side of the higher education institutions concerning this kind of educational activity. There is a certain institutional resistance towards developing courses which can be considered resource-demanding from an administrative perspective: often these courses involve cross-disciplinary collaboration and thus involvement of staff from different departments or even institutions, and sometimes they will be at odds with accustomed ways of organising curricula. In her keynote address, Jacqueline Broerse illustratively emphasised that development towards responsible research and innovation is dependent on a double push – from top and from bottom. The same argument would appear valid for RRI teaching specifically. It needs engaged individual teachers and interested students, but certainly also institutional support or even demand.

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Another cross-cutting finding from the conference is that participatory teaching formats in which the students take an active role are conducive to teaching RRI. This observation resonates very well with the conclusions from the literature review as well as the interviews. In terms of specific teaching approaches, several were brought up, ranging from performing arts over back-casting methodologies to problem-based learning. The common denominator through these approaches seemed to be the importance of providing sites for participatory reflection, using real-life issues and examples that students can relate to as a basis for the learning process.

A final point of attention emerging from the concluding workshop is that there is a lack of evaluation of teaching activities which could be placed under the RRI umbrella, both in terms of the strengths and weaknesses of the course contents and implementation, but also in terms of their outcomes. Do students in fact acquire the skills necessary for becoming responsible participants in the wider knowledge-based society? Which are the actual learning outcomes and how does that in turn influence the trajectory of research and innovation? Such questions are important and they point to an overall need not only for promoting RRI teaching, but also for evaluating its consequences.

4.5 Synthesis – main points emerging from review

Earlier in this report, we argued that RRI teaching can mean many things. At the basic level, teaching RRI may simply involve transferring knowledge to students about the fact that there is such a concept and about the policies and practices which are in place or being developed related to the RRI notion. Awareness of the different definitions of RRI, including the EC operationalisation into six keys, but also recognition of the current initiatives to promote gender equality in science, open access, citizen and CSO involvement etc., would be likely learning outcomes.

Teaching RRI may also, as the review readily displays, be about introducing to students the critical theories and studies about the interface between science and society from which the RRI concept emerged. Such teaching might not even apply the RRI terminology, but would aim to invoke a deeper understanding of the interdependencies of science and society as well as the need for addressing issues of responsibility in relation to research and innovation.

Moreover, teaching RRI may aspire to influence in different ways the science-society interaction and to foster research and innovation practices which are more responsible. In this line of thinking, students should not only '*know-that*' RRI is an issue and why it is relevant and worthwhile, but also '*know-how*' to intervene and to influence, as citizens in research- and innovation-driven societies, the trajectories of research and innovation, and/or to practice research and innovation in ways which are responsible.

What we have found in the process of this review, is that RRI teaching does indeed capture a broad variety of different educational activities and formats. Crucially, only a minority of the activities and practices which were reviewed here even applied the RRI terminology. However, there were some

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common points and lessons to be extracted by the various empirical components of the review. Below, we briefly summarize the main findings of the review in terms of how they help us answer two core questions, which we will need to consider carefully in the process of designing courses and training materials in WP3 and WP4: a) what should RRI teaching achieve?; and b) how can that be done?

With regard to a), there are a number of important 'learning outcomes' which appear to be central targets of RRI teaching – whether or not the RRI terminology is applied or not. If RRI teaching is successful, students should acquire skills that allow them to critically examine their own academic domain, its relation to other areas of research and innovation, and its position and role in relation to society at large. RRI teaching should foster critical thinking and reflexivity, as these skills are essential for students to know how to keep science accountable or to practice, themselves, research and innovation in ways which are not ignorant towards societal values and preferences. The notion of 'hybridization' seems important here. Students should learn how to combine insights from different domains in order to understand the interrelatedness of science and society and to be able to arrive at a more subtle view of their own responsibilities within this context.

Concerning b), a number of different teaching formats are highlighted as conducive for reaching these objectives, including problem-based learning, inquiry-based learning, and participatory learning. What seems to be important is to recognize the students' capabilities, so that can become responsible by being treated as resourceful individuals. RRI teaching should provide opportunities for participatory reflection, using real-life issues and cases that students can relate to as a basis for the learning process, in order to achieve a greater awareness of the interaction between the students' field of study, other areas of research and innovation, and broader society.

The review also shows that there are barriers to RRI teaching. Resistance or lack of support at the level of institutions as well as lack of incentives for the individuals attempting to bring RRI teaching into HEIs are important challenges. These should also be considered in the succeeding work in the HEIRRI project.

In terms of WP2, the overall results of the State of the Art review have been communicated in the report at hand. It is important to stress, however, that many of the specific examples, cases, courses, materials, documents, or projects captured by the review have not been described in detail. In the next part of WP2, i.e. Task 2.2, a selection of the most important examples will be selected for the HEIRRI database. In the final chapter, below, some early thoughts about the development of the database are presented.

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5. Early thoughts about Task 2.2, the Database elaboration

The objective of Task 2.2 is to develop a database containing the evidence collected during Task 2.1, the State of the Art review, and to provide open access to its contents. Two points are important to stress in that regard. First, the review has identified an array of traditional documents, including journal articles, reports, and policy documents, but also various teaching resources such as course descriptions and training materials etc. The basic units of the database are in other words not uniform, which implies that the database structure should support the heterogeneity of its content. Second, the database should, crucially, be aligned with and embedded in the open access RRI Tools web platform. A significant element of Task 2.2 is therefore to understand and adapt to the structure and features of the RRI Tools platform.

In RRI Tools, the 'tools' or instruments captured by the site have been categorized as either 'library elements' (e.g. articles, reports, journals), 'projects' (relevant to RRI), 'inspiring practices' (external resources, cases, programmes, organizations), or 'tools' (e.g. methods, guidelines, training, monitoring), and reporting schemes and templates have been developed for each of these areas. Based on the information compiled as part of the review, it should be possible to feed material into several of these categories.

The first step towards the database development is to sort and organize the compilation and assess the relevance of individual entities for HEIRRI and up against the existing contents at the RRI Tools website. The sorting task includes a categorization of entries into library elements, projects, inspiring practices, and tools, reflecting the structure of the RRI Tools platform. As a second step, a selection of entries will then be prepared for inclusion in the HEIRRI database based on filling and fitting the empirical material to templates developed for that purpose. Finally, the HEIRRI database will be made available through the RRI Tools platform.

5.1 Draft templates for database entries

In Appendix H, we insert four examples of how the individual entries for the HEIRRI database could potentially look. These preliminary examples follow exactly the structure used at the RRI Trends website. We have provided one example for each of the categories 'library element', 'projects', 'tools', and 'inspiring practices' in line with the classification scheme in RRI Tools. It should be noted that these draft entries are only included as a first effort of Task 2.2, but the final structure and template design for the HEIRRI database have not yet been decided.

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6. Appendix A: Lists of scanned literature

6.1 List 1: 77 primarily academic papers identified by the MoRRI project and organised according to the six keys of RRI

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- Castellani, T. (2014). Public Engagement. In The Contribution of Science and Society (FP6) and Science in Society (FP7) to a Responsible Research and Innovation. A Review.
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6.2 List 2: 257 mainly policy-related documents identified by the Res-AGorA Project

Author	Year	Title	Filename
Parliament	2013	Act No. CXXXIV of 2004 on Research and Development and Technological Innovation (latest revision: Act CLXI of 2013, 29. §)	InnovTv_CXXXIV_2004.rtf
Vilnius University	2013	Strategic Plan for 2013-2015 by Vilnius University (in Lithuanian)	2013-2015_VU.pdf
Aleksandras Stulginskis University	2011	Strategy for 2020 by Aleksandras Stulginskis University	strategy_of_ASU_2020.pdf
Mykolas Romeris University	2007	Code of Ethics by Mykolas Romeris University (in Lithuanian)	etikos kodekas_MRU.docx
Vilnius Gediminas Technical University	2013	Strategic Plan for 2013-2015 by Vilnius Gediminas Technical University (in Lithuanian)	2013-2015_VGTU.pdf

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Kaunas University of Technology	2012	Code of Ethics by Kaunas University of Technology (in Lithuanian)	etikos kodeksas_KTU.pdf
Klaipėda University	2006	Code of Ethics by Klaipėda University (in Lithuanian)	etikos kodeksas_KU.pdf
Lithuanian University of Educational Sciences	2012	Code of Ethics by Lithuanian University of Educational Sciences (in Lithuanian)	etikos kodeksas_LEU.pdf
Lithuanian University of Health Sciences	2013	Code of Ethics by Lithuanian University of Health Sciences (in Lithuanian)	etikos kodeksas_LSMU.pdf
Šiauliai University	2007 (amendments done in 2012 and 2013 are incorporated)	Code of Ethics by Šiauliai University (in Lithuanian)	etikos kodeksas_SU.docx
Vytautas Magnus University	2012	Strategic Plan for 2013-2015 by Vytautas Magnus University (in Lithuanian)	2013-2015_VDU.pdf
Vytautas Magnus University	2011	Code of Ethics by Vytautas Magnus University (in Lithuanian)	etikos kodeksas_VDU.pdf
Šiauliai University	2013	Strategic Plan for 2013-2015 by Šiauliai University (in Lithuanian)	2013-2015_SU.pdf
Vilnius Gediminas Technical University	2006	Code of Ethics by Vilnius Gediminas Technical University (in Lithuanian)	etikos kodeksas_VGTU.pdf
Lithuanian University of Health Sciences	2013	Strategic Plan for 2013-2015 by Lithuanian University of Health Sciences (in Lithuanian)	2013-2015_LSMU.pdf
Vilnius University	2006	Code of Ethics by Vilnius University (in Lithuanian)	etikos-kodeksas_VU.pdf

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Lithuanian University of Educational Sciences	2013	Strategic Plan for 2013-2015 by Lithuanian University of Educational Sciences (in Lithuanian)	2013-2015_LEU.pdf
Klaipėda University	2013	Strategic Plan for 2013-2015 by Klaipėda University (in Lithuanian)	2013-2015_KU.pdf
Kaunas University of Technology	2013	Strategic Plan for 2013-2015 by Kaunas University of Technology (in Lithuanian)	2013-2015_KTU.pdf
Mykolas Romeris University	2010	Strategic Plan for 2010-2020 by Mykolas Romeris University (in Lithuanian)	2010-2020_MRU.pdf
Government of the Republic of Lithuania	2002	Guidelines for strategic planning	Strateginio planavimo metodika.DOC
Las Cortes Generales	2007	Biomedical Research Act (2007) [Ley 14/2007, de 3 de julio, de Investigación biomédica]	2007 Biomedical Research Act (ES).pdf
Women and Science Unit (WSU) from the former Ministry of Science and Innovation	2011	The Handbook of Gender in Research (2011) [Manual El género en la investigación (2011)]	2011 Handbook of Gender Issues on Research (ES).pdf
La Cortes Generales	2011	The Science Act (2011) [Ley 14/2011, de 1 de junio, de la Ciencia, la Tecnología y la Innovación]	2011 Science Act (ES).pdf
Confederation of Spanish Scientific Societies (COSCE)	2012	The 2012 Open Letter for Science [Carta por la ciencia 2012]	2012 Open Letter for Science (EN).pdf
Ministry of Economy and Competitiveness	2013	2013 Call of the National Subprogramme for Knowledge Generation. [Convocatoria 2013 Subprograma Estatal de Generación de Conocimiento]	2013 National Subprogram of Knowledge Generation (ES).pdf
	2015	The Icelandic Research Fund: Rules for the grant year 2015	2015_IRF_rules.pdf

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Ministry of Economy and Competitiveness	2013	2013 Call of the National Programme for Scientific and Innovation Culture. [Convocatoria de ayudas para el Programa de Cultura Científica y de la Innovación 2013]	2013 National Program of Scientific and Innovation Culture Promotion (ES).pdf
Rannis	2015	The Technology Development Fund: Description of Project Grants	TDF-Description-of-project-grant 2015.pdf
Ministry of Economy and Competitiveness	2013	2013 Call of the National Programme of R&D&I oriented to the Societal Challenges, within the framework of the National Plan of Scientific and Technological Research and Innovation 2013-2016. [Convocatoria 2013 del Programa Estatal de Investigación, Desarrol	2013 National Program of R&D&i Oriented to Societal Challenges (ES).pdf
Science and Technology Policy Council	2014	Science and technology policy action plan: 2014-2016	STPC Policy and Action Plan 2014-2016.pdf
Ministry of Economy and Competitiveness	2013	2013 Annual R&D&I National Working [Plan Plan de Actuación Anual 2013 (en el marco del Plan Estatal de Investigación Científica y Técnica y de Innovación 2013-2016)].	2013 R&D&i Anual Working Plan (ES).pdf
Althingi (Parliament)	2003	Act on the Public Support for Research no. 3/2003	Act-on-public-support-for-research-No.-3-2003.pdf
Ministry of Economy and Competitiveness		The 2013-2016 National Plan for Scientific and Technical Research and Innovation [Plan Estatal de Investigación Científica y Técnica y de Innovación 2013-2016]	2013 2016 R&D&I National Plan (ES).pdf
Althingi	2000	Act on the Protection of Privacy as Regards to the Processing of Personal Data no. 77/2000	Icelandic Data Protection Act.pdf
Spanish Ministry of Economy and Competitiveness	2013	The 2013-2020 Spanish Science and Technology and Innovation Strategy [Estrategia Española de Ciencia y	2013 2020 R&D&I National Strategy (ES).pdf

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		Tecnología y de Innovación 2013-2020]	
Althingi	2007	Act on Government Support for Technology Research, Innovation and Industry Development nr. 75/2007	Act-on-government-support-for-technology-research etc..pdf
Commission on Assisted Human Reproduction (CAHR)	2005	Report of the Commission on Assisted Human Reproduction	1 cahr_report2005.pdf
Ministry of Welfare	2008	Regulation on Scientific Resarch in the Biomedical Field no. 286/2008	Regulation-on-Scientific-Research-in-the-Biomedical-Field-No-286-2008.pdf
Federal Ministry for Science, Research and Economy	2014	Österreichischer Forschungs- und Technologiebericht 2014 (Austrian Report on Research- and Technology 2014)	FTB_2014_de_01.PDF
Ossur	2013	Corporate Social Responsibility: 2013 Progress Report	Ossur-CSR-Report-2013.pdf
Angela Wroblewski	2011	Equal Opportunities Policies at Austrian Universities and their Evaluation: Development, Results and Limitation	Equal Opportunities Policies at Austrian.pdf
Ossur	2014	Code of Conduct	Ossur_Code-of-Conduct (Sept 2014).pdf
Universität Wien	2012	Ethikkommission der Universität Wien (Ethics Commission at the University of Vienna)	Ethikkommission Universität Wien.pdf
Ossur	2014	Annual Report 2014	Ossur_Annual_Report_2014.pdf
Nicole Kronberger	2010	Monitoring Policy and Research Activities on Science in Society in Europe (MASIS). National Report Austria	MASIS_Austria_Report.pdf

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Iceland Academy of the Arts	2013	Icelandic Academy of the Arts: Strategic Plan 2013-2017	IAA_Strategy 2013-2017.pdf
Austrian Council	2009	Strategie 2020 (Strategy 2020)	FTI-Strategie2020.pdf
Iceland Academy of the Arts	N/A	Code of Ethics	Code of ethics - IAA.pdf
Bruno Bauer	2012	Schwerpunkttema "Open Access in Österreich" (Special Issue "Open Access in Austria") Mitteilungen der Vereinigung österreichischer Bibliothekarinnen & Bibliothekare 65 (2012) 2	Open Acces in Austria.pdf
Österreichische Universitätenkonferenz	2010	Empfehlungen der Österreichischen Universitätenkonferenz (uniko) zu einer Open Access–Politik der Universitäten (Recommendation of Universities Austria for an Open Access Policy at Universities)	Uniko-Empfehlungen_Open_Access_01_2010.pdf
Erich Griessler	2012	One size fits all? On the institutionalization of participatory technology assessment and its interconnection with national ways of policy-making: the cases of Switzerland and Austria	Participatory Technology Assessment in Austria.pdf
Bundeskanzler (Federal Chancellor)	2012	Verordnung des Bundeskanzlers über die Einsetzung einer Bioethikkommission StF: BGBl. II Nr. 226/2001 (Decree of the Federal Chancellor on the Establishment of a Bioethics Commission)	Einsetzung einer Bioethikkommission, Fassung vom 25.04.2014.pdf
Bundeskanzleramt	2011	Der Weg zum Innovation Leader. Strategie der Bundesregierung für Forschung, Technologie und Innovation (The Path to Innovation Leader. Strategy of the Federal Government for Research, Technology and Innovation)	fti_strategie.pdf

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The Agricultural University of Iceland	2009	Policy of the Agricultural University of Iceland 2009-2013	AUI Policy 2009-2013.pdf
Irish Research Council	2013	Gender Strategy and Action Plan 2013 – 2020: Ensuring Excellence and Maximising creativity and innovation in Irish Research	10 Irish Research Council Gender Action Plan.pdf
deCODE Genetics	2004	Code of Business Conduct and Ethics	CODE OF BUSINESS CONDUCT AND ETHICS - deCODE genetics.pdf
Irish Universities Association (IUA)	2013	Horizon 2020: Sustaining Excellence in University Research & Innovation	9 Irish Universities Association - Horizon 2020 Sustaining- Excellence in University Research and Innovation.pdf
Bifrost University	2005	Equal Rights Plan of Bifrost University	Equal Rights Plan of Bifröst University.pdf
Research Prioritisation Steering Group	2012	Report of the Research Prioritisation Steering Group	8 Forfas - Report of the Research Prioritisation Steering Group.pdf
Bifrost University	2012	Mission Statement	Mission Statement Bifrost University.pdf
Advisory Council for Science, Technology and Innovation (ACSTI)	2012	Playing our Part in Europe. ACSTI Statement on Horizon 2020	7 Forfas - Playing our Part in Europe.pdf
Bifrost University	2005	Equal Rights Plan of Bifrost University	Equal Rights Plan of Bifröst University.pdf
Science Foundation Ireland	2012	Agenda 2020: Excellence and Impact	6 SFI AGENDA 20.pdf

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Bifrost University	2014	Teaching Policy	Teaching Policy Bifrost University.pdf
Irish Government, Department of Agriculture, Fisheries and Food	2010	Food Harvest 2020. A Vision for Irish Agri-food and Fisheries	5 FoodHarvest2020.pdf
Bifrost University		Bifrost University Research Policy	Bifrost Research Policy.pdf
Irish Council for Bioethics	2010	Recommendation for Promoting Research Integrity	4 Irish-Council-of-Bioethics-Research Integrity Document.pdf
Bifrost University	2014	Teaching Policy	Teaching Policy Bifrost University.pdf
Irish Council for Bioethics	2008	Ethical, Scientific and Legal Issues Concerning Stem Cell Research: Opinion	3 ICB Ethical Scientific Legal Issues.pdf
Bifrost University	2011	Bifrost University Open Access Policy	Bifrost Open Access Policy.pdf
Irish Government	2008	Building Ireland's Smart Economy: A Framework for Sustainable Economic Renewal	2 Forfas - BuildingIrelandsSmartEconomy.pdf
Bifrost University	2012	Code of Ethics and Conduct	Code of Ethics and Conduct Bifrost University.pdf
GENDERA	1999	Increase the number of female researchers in leadership positions in the National Centre for Social Research (EKKE)	Good practice EKKE.docx
University of Iceland	2011	Policy of the University of Iceland 2011-2016	University of Iceland Policy 2011-2016.pdf
Panteion University, Department of Social Policy	2003	Centre of Gender Studies, Panteion University	Panteion rri education.docx

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University of Iceland	2003	University of Iceland Code of Ethics	Code of Ethics University of Iceland.pdf
Ministry of Public Administration and E-Governance, General Secretariat for Gender Equality	2010	Gender Equality Programme 2011-2013	gender equality programme MAY-2011.pdf
University of Iceland	2012	Sustainability and Environmental Policy	Sustainability and Environmental Policy University of Iceland.pdf
Ministry of Administration Reform and E-Governance	2012	Consultation of public documents	Open gov.docx
Reykjavik University	No date	The Strategy of Reykjavik University	The Strategy of Reykjavik University.pdf
Parliament	2010	Law on Transparency	N 3861 2010 transparency.pdf
Reykjavik University	No date	Reykjavik University Environmental Strategy	Reykjavik University Environmental Strategy.pdf
Ministry of Economic Affairs	2008	Action Plan Nanotechnology	8079721-bijlage(1).pdf
Reykjavik University	2013	Reykjavik University Code of Ethics	Reykjavik University Code of Ethics.pdf
Ministry of Economic Affairs	2008	ICT-Agenda 2008-2011	8067667-bijlage(1).pdf
Reykjavik University	2013	Equlity Programme	Reykjavik Universit Equality Programme.pdf

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Topteam Life Sciences & Health	2011	Topsectorplan Life Sciences and Health	topsectorplan-life-sciences-health-volledige-versie(1).pdf
Reykjavik University	2012	Teaching Strategy of Reykjavik University	Teaching Strategy of Reykjavik University.pdf
Dutch Government	2000	Policy Biotechnology	genomics-notabiotech(1).pdf
University of Akureyri	2012	Strategy of the University of Akureyri 2012-2017	UNAK Strategy 2012-2017.pdf
National Institute for Health and Environment (RIVM)	2013	Dealing with risks from eHealth (Omgaan met de risico's van eHealth)	Whitepaper omgaan met risico's van eHealth.pdf
Haskolinn á Akureyri	2009	Áætlun um jafna stöðu kynjanna við Háskólann á Akureyri 2009 - 2012	UNAK Strategy for Gender Equality 2009-2012.pdf
Ministry of Agriculture, Nature and Food Quality	2009	Societal Innovation Agenda Sustainable Agro- and Fishery-Chains	noi-mia-dav-definitief.pdf
University of Akureyri	2012	Umhverfisstefna 2012-2017	UNAK Environmental Policy.pdf
Collaborating Topsector Energy and Society (STEM) (in Dutch; Samenwerken Topsector Energie en Maatschappij)	2013	Collaborating Topsector Energy and Society (STEM)	STEM_Programmalijnen STEM projecten 2013.doc
University of Iceland	2013	Stefna Háskóla Íslands um opinn aðgang að rannsóknaniðurstöðum og lokaverkefnum	Open Access Policy University of Iceland.pdf
Rathenau Instituut	2009	Work Programme Rathenau Instituut (2009-2010)	Werkprogramma_EN_WEB.pdf

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University of Iceland	2013	Jafnréttisáætlun Háskóla Íslands 2013-2017	Equal Rights Policy University of Iceland 2013-2017.pdf
Centre for Society and Life Sciences	2013	Harvesting Results Preparing for the Future	CSG-next_2008-2013_web.pdf
Holar University College	2013	Jafnréttisáætlun Hólaskóla - Háskólans á Hólum 2013-2015	Equal Rights Policy Holar University College.pdf
Netherlands Organization for Scientific Research (N.W.O)	2013	Societal Responsible Innovation (MVI)	MVI flyer
Holar University College	2014	Siðareglur fyrir Hólaskóla - Háskólann á Hólum	Holar University College Ethics Rules.pdf
NanoKommission of the German Federal Government	2008	Responsible Use of Nanotechologies: Report and recommendations of the German Federal Government's NanoKommission for 2008	NanoCommission 2008 Responsible Use Of Nanotechnologies.pdf
The Agricultural University of Iceland	2014	Umhverfisstefna	AUI_Environmental_Policy_Abstract.pdf
Federal Ministry of Education and Research	2011	Shaping Europe's Future – Agenda for Innovation and Sustainability	FONA 2011 Shaping Europe'sFuture Principles Paper.pdf
The University of Akureyri	2009	Áætlun um jafna stöðu kynjanna við Háskólann á Akureyri 2009 - 2012	UNAK Strategy for Gender Equality 2009-2012.pdf
German Parliament	2007	Ethics Council Act	Ethikratgesetz 2007.pdf
The Agricultural University of Iceland	No date (2012?)	Jafnréttisáætlun Landbúnaðarháskóla Íslands	AUI Equality Plan.pdf
Parliamentary Committee on Education, Research	2010	Technology Assessment at the German Bundestag	Dt.Bundestag 2010 TA Eine Bilanz.pdf

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and Technology Assessment			
Iceland Academy of the Arts	2014	Jafnréttisáætlun	IAA Equality Plan.pdf
Federal Ministry of Education and Research	2009	Research for sustainable development	BMBF 2009 Research for sustainable development.pdf
Rannis	2015	Reglur Tækniþróunarsjóðs	TDF_Rules_2015.pdf
Federal Ministry of Education and Research	2009	Research and Innovation for Germany - Results and Outlook	BMBF 2009 Research and Innovation for Germany-Results & Outlook.pdf
The European Commission	2014	ERAC Peer Review of the Icelandic Research and Innovation System	Final-report-peer-review-STI-Iceland2.pdf
Federal Ministry of Labour and Social Affairs	2010	Action Plan for Corporate Social Responsibility	BMAS 2010 Aktionsplan CSR.pdf
Althingi	2006	Act no. 63/2006 on Higher Education Institution	Higher-Education-Act-no.-63-2006.pdf
Federal Ministry of Education and Research	2010	Ideas. Innovation. Prosperity. Hightech Strategy 2020 for Germany	BMBF 2009 Hightech Strategy 2020.pdf
Svandis Nina Jonsdottir	2015	MoRRi - The Case of Iceland	MoRRI - The Case of Iceland.pdf
German Academy of Technical Sciences (acatec)	2011	Acceptance of Technology and Infrastructures	Acatech 2011 Akzeptanz von Technik - Positionspapier.pdf

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German Advisory Council on Global Change (WBGU)	2011	World in Translation: A Social Contract for Sustainability	WBGU 2011 Summary Report World In Transition.pdf
House of Commons, Science and Technology Committee	2009	The Regulation of Geoengineering - Science and Technology Committee	Regulation on Geoengineering.pdf
Academy of Finland	2011	Academy of Finland Strategy	AKA Strategia 10_210x210_EN_LR.pdf
Research Councils UK	n/a	Mission and Statement of Expectation on Economic and Societal Impact	RCUK mission statement on impact.pdf
Academy of Finland	2014	ACADEMY OF FINLAND ANNUAL REPORT 2013	AKA_annual_report_2013.pdf
Research Councils UK	2011	Research Counsils UK - Pioneering a Low Carbon Future	RCUK Low Carbon Future.pdf
Tekes	2013	Tekes vuosikertomus 2012	Tekes_vuosikertomus2012.pdf
House of Commons - Science and Technology Committee	2013	Women in Scientific Careers – Science and Technology Committee Report	Women in Scientific Careers.pdf
Tekes	2010	Tekes TOIMINTA- JA TALOUSSUUNNITELMA 2012-2015	Tekes_tts12_15.pdf
Science and Trust Expert Group	2010	Science and Trust: Expert Group Report & Action Plan. Starting a National Conversation about Good Science	
Aalto University	2012	Strategic Development of Aalto University	aalto-strategy.pdf

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The Royal Society	2003	Nanoscience and nanotechnologies: opportunities and uncertainties	Royal Society Nanoscience.pdf
Aalto University	2013	Aalto University Annual report	aalto_university_annual_report_2013.pdf
Nuffield Council on Bioethics	2011	Nuffield Council for Bioethics. Report on Biofuels and Ethical Issues	Biofuels_ethical_issues_Nuffield.pdf
Aalto University		Aalto University Equality Plan	aalto_equality_plan_2012-2014.pdf
Technology Strategy Board	2012	TSB Responsible Innovation Framework for commercialisation of research findings. For use in synthetic biology feasibility studies competition 2012	responsible_innovation TSB.pdf
Åbo Akademi		Åbo Akademi Strategy	abo_akademis_strategi_20102019.pdf
Engineering and Physical Sciences Research Council	n/a	EPSRC Framework for Responsible Innovation	
University of Helsinki		Open access to research publications in the University of Helsinki	decision260508_eng (1).pdf
HM Government	2010	UK Nanotechnologies Strategy: Small Technologies, Great Opportunities	10-825-uk-nanotechnologies-strategy.pdf
Finnish Advisory Board on research integrity		Responsible conduct of research and procedures for handling allegations of misconduct in Finland	HTK_ohje_2012.pdf
Hellenic Republic National Bioethics Commission	2008	Research Ethics in Biological Sciences	Opinion_Bioethics Commission.pdf
University of Jyväskylä		Jyväskylän yliopiston julkaisueettiset periaatteet (Ethical principles of the publication at the University of Jyväskylä)	julkaisueettisen_periaatteet.pdf

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Parliament	2011	Codified Law 4009/2011 on Higher Education (initial law issued in 2011 and amendments introduced in 2012 and 2013)	N.4009_N.4076_N.4115_all together.pdf
University of Jyväskylä	2014	Strategy for the University of Jyväskylä	Jyvaskylan yliopiston strategia.pdf
Ministry of Education and Religious Affairs, General Secretariat of Research and Technology	2011	National Strategic Framework for the Development of Research and Innovation for the period 2014-2020	ΕΣΠΕΚ 6.4.1.pdf
University of Jyväskylä	2014	Implementation Plan for the Strategy at the University of Jyväskylä	JY_Strategian toimenpideohjelma.pdf
Foundation of Research and Technology Hellas		Foundation of Research and Technology Hellas (FORTH) Ethics Committee	FORTH Ethics Committee.docx
Lappeenranta University of Technology		Lappeenranta University of Technology Quality Manual	lut-quality-manual.pdf
Ministry of Education and Religious Affairs, General Secretariat of Research and Technology	2007	Strategic Plan for the Development of Research, Technology and Innovation 2007-2013	Strategic Plan 2007-2013.doc
LAPPEENRANTA UNIVERSITY OF TECHNOLOGY		LAPPEENRANTA UNIVERSITY OF TECHNOLOGY CODE OF CONDUCT	lut-code-of-conduct.pdf
Scilipoti	2013	Regulation of the democratic consultation and the participation on the decisions about the localisation and construction of public infrastructures (No. 980, communicated to the Precidency on July 30, 2013)	10-A-Dibattito-pubblico-Senato.pdf
LAPPEENRANTA UNIVERSITY OF TECHNOLOGY		Plan of Equality at the Lappeenranta University of Technology	LUT_yhdenvertaisuussuunnitelma_300512.pdf

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The Finnish Advisory Board on Research Integrity (TENK)	2012	Responsible conduct of research and procedures for handling allegations of misconduct in Finland. Guidelines of the Finnish Advisory Board on Research Integrity 2012	HTK_ohje_2012.pdf
Tampere University of Technology		Strategy of Tampere University of Technology for 2013–2016	p039860.pdf
Tekes – the Finnish Funding Agency for Technology and Innovation	2011	Tekes Strategy: Growth and Wellbeing from Renewal	tekes_strategy_engl_2011.pdf
Tampere University of Technology		Tampere University of Technology Annual Report	p068841.pdf
Ministry of Employment and the Economy	2010	Demand and user-driven innovation policy	Framework_and_Action_Plan.pdf
University of Helsinki		Strategic plan for the University of Helsinki 2013–2016	strategia_2013-2016_eng (1).pdf
Sitra	2013	Towards a Sustainable Well-being Society Building blocks for a new socioeconomic model. Version 1.0	Towards_a_Sustainable_Wellbeing_Society.pdf
University of Eastern Finland		University of Eastern Finland Strategy	Strategy_2020_approved_01042014.pdf
Government	2012	Denmark – a nation of solutions - Enhanced cooperation and improved frameworks for innovation in enterprises (Danmark Løsningernes land - Styrket samarbejde og bedre rammer for innovation i virksomhederne)	10. 2012 - Danmark loesningernes land.pdf
University of Tampere		Plan of Equality, University of Tampere	Tasa_arvo_ja_yhdenvertaisuussuunnitelma.pdf

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Technical research centre of Finland, VTT	2011	VTT's research and innovation visions in 2020	vtt_research_and_innovation_visions_2020.pdf
Academy of Finland		Academy of Finland Equality Plan	Tasa-arvosuunnitelmä_021213_en.pdf
Ministry for Science, Innovation and Higher Education	2012	Science in Dialogue - Towards a European Model for Responsible Research and Innovation	9. 2012 - Conference Report - Science in Dialogue.pdf
Academy of Finland		Academy of Finland Research Programme Strategy	tutkimusohjelmastrategia09_210x280_ENG.pdf
University of Helsinki	2010	Open access to research publications in the University of Helsinki	Rectors decision on open access_Finland.pdf
University of Turku		University of Turku Quality Manual	TY_laatukk_2.1_ENG (1).pdf
Government	2012	Responsible growth - Action Plan for Corporate Social Responsibility 2012-2015 (Ansvarlig vækst - Handlingsplan for virksomheders samfundsansvar 2012-2015)	8. 2012 - Ansvarlig_vaekst csr handlingsplan.pdf
University of Eastern Finland		UNIVERSITY OF EASTERN FINLAND MAIN QUALITY MANUAL	UEF_plk_in_English_2.pdf
Government	2008	The Government Communication to the Parliament on the National Innovation Strategy and Evaluation of National Innovation Policy	National_Innovation_Strategy_Finland.pdf
University of Tampere		HR Strategy of the University of Tampere for 2012–2015	UTA HR Strategy.pdf
Minister for Science, Innovation and Higher Education quoted by Altinget.dk	2011	Østergaard defends closure of The Danish Board of Technology (Østergaard forsvarer lukning af Teknologirådet)	7. 2011 - Lukning af Teknologirådet.pdf

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University of Tampere		University of Tampere Strategy	UTAstrategy.pdf
The Ministry of Science, Technology and Innovation	2008	RESEARCH2015 - A Basis for Prioritisation of strategic Research (FORSK2015 - Et prioriteringsgrundlag for strategisk forskning)	6. 2008 - forsk2015 prioriteringsgrundlag.pdf
University of Turku		University of Turku Strategy	UTU_strategy_2013-2016_final.pdf
The Future Panel	2008	12 challenges for knowledge policy (12 udfordringer for videnpolitikken)	5. 2008 - 12 udfordringer for videnpolitikken.pdf
University of Oulu		Visions and actions University of Oulu	Visions&Actions_2013_ENG.pdf
Academy of Finland	2006	FinnSight 2015	Finnsight_2015_Finland.pdf
Aalto University	2014	Principles of Open Publishing at the Aalto University	20140521_LIITE_Avoimen+julkaisemisen+periaatteet+Aalto-yliopistossa+.pdf
Research and Innovation Council of Finland	2010	Research and innovation policy guidelines	Research and innovation policy guidelines_Finland.pdf
Academy of Finland		Synthetic Biology Programme Memorandum	Synthetic biology programme memorandum.pdf
Danish Agency for Science, Technology and Innovation	2007	Employee driven innovation and diversity (Medarbejderdreven innovation og mangfoldighed)	4. 2007 - Medarbejderdreven innovation.pdf
University of Tampere		University of Tampere Annual Report	Tay_toimintakertomus_ja_tilinpaatos.pdf

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Ministry of Education	2011	Development Plan for Education and Research	Education and research development plan_Finland.pdf
University of Tampere		HR Strategy of the University of Tampere	UTA HR Strategy.pdf
The Danish Council for Research Policy	2006	A tool for the judgement of research quality and relevance (Et værktøj til vurdering af forskningens kvalitet og relevans)	3. 2006 - forskningens kvalitet og relevans.pdf
The Danish Agency for Science, Technology and Innovation	2004	Resarch that matters (Forskning der nytter)	2. 2004 - Forskning der nytter.pdf
The Danish Government	2003	New paths between research and business - from idea to invoice (Nye veje mellem forskning og erhverv - fra tanke til faktura)	1. 2003 - Fra tanke til faktura.pdf
CSQA certificazioni srl	2012	System for the Responsible Management of Nanomaterials in Consumer Products	9-CSQA_Certificazioni_Gestione_Responsabile_Nanotech_Certificazione.pdf
Andrea Gibelli	2008	Letter of Mr. Andrea Gibelli, MP, Chairman of the VAST Committee of the Italian Chamber of Deputies to Mr. Claude Birraux, Chairman of the OPECST Committee of the French National Assembly	8-Lettera_Gibelli_Comitato_VAST.pdf
CISE - Centro per l'Innovazione e lo Sviluppo Economico (Innovation and Economic Development Center)	2009	UGO Certification Standard – Innovation for a better life	7-UGO_standard.pdf
Comitato nazionale sulla biosicurezza, le biotecnologie e le scienze della vita -	2010	Code of Conduct on Biosecurity	6-Codici_condotta_biosicurezza.pdf

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CNBBSV (National Committee on Biosecurity Biotechnologies and the Life Sciences)			
Consiglio regionale del Friuli Venezia Giulia (Friuli Venezia Giulia regional council)	2014	Minutes of the Committees of the Friuli Venezia Giulia Regional Council on the draft regional regulation on the coexistence of GMOs with conventional and organic agriculture (2014)	5-Audizioni-FVG-Ogm.pdf
ASSOKNOWLEDGE Confindustria Servizi Innovativi e Tecnologici (Industrialists Association's Group on technology-based and innovative services)	2010	Strategic research plan on nanotechnologies	4-Assoknowledge_Confindustria_Servizi_Tecnologici_Innovativi-Nanotecnologie.pdf
ASSOKNOWLEDGE Confindustria Servizi Innovativi e Tecnologici (Industrialists Association's Group on technology-based and innovative services)	2011	Strategic research plan on product innovation	3-Assoknowledge_Confindustria_Servizi_Tecnologici_Innovativi-Innovazione-Prodotto.pdf
Ministry of Education, University, and Research	2011	National Research Programme 2011-2013	2-PNR_2011-2013_23_MAR_2011_web-1.pdf
Florence Gluck	2013	Responsible Innovation in Lorraine	2013_Lorraine.pdf
Ile de France region	2009	Funding Responsible Innovation	2009_AIR Ile de France.pdf

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Fondation Sciences Citoyennes	2010	Project of law for professional ethics in expertise and protection of whistleblowers	2010_FSC_Projet_Loi-LA.pdf
IRD Committee of Ethics	2012	IRD Guide to Good Practices in Research for development	2012_IRD guide_bonnes_pratiques.pdf
CNRS Committee of Ethics	2013	CNRS Guide to promote a Responsible and Honest Research	2013 COMETS guide recherche integre_responsable.pdf
Parliament	2007	Law on the Freedoms and Responsibilities of Universities	2007_LRU_loi-LRU-100807universites.pdf
Ministry of Higher Education and Research	2013	France Europe 2020 Strategic Agenda for Research, Technology Transfer and Innovation	2013_AgendaStategique02-07-2013-EnglishLight_262183.pdf
Alain Graf	2009	Report from the Bioethics National Debate	2009_EG bioéthique rapport_final.pdf
Parliament	2009	First law of Grenelle	2009_LOI_n°_2009-967_du_3_août_2009_version_initiale.pdf
Parliament	2005	The Charter of the Environment	2004_Charte_environnement_EN.pdf
Ministry of Education, University, and Research	2014	National Research Programme 2014-2020 (Draft)	1-PNR_online_21feb14.pdf
Government	2003	Measures of the Implementation Programme of the Provisions of the White Paper of Lithuania on Science and Technology	White Paper EN.pdf
Parliament	1994, 2010	Patent Law	Patent Law EN.pdf
Parliament	1999	Law on Copyright and Related Rights	Law on Copyright and Related Rights EN.pdf

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Parliament	2009	Law on Higher Education and Research	Law on Higher Education and Research EN.pdf
Parliament	2000	Law on Ethics of Biomedical Research	Law on Ethics of Biomedical Research EN.pdf
Research Council of Lithuania	2012	Whistle-blowing regarding ethical infringement of research performance (in Lithuanian)	Whistle-blowing regarding ethical infringement of research performance LT.pdf
Parliament	2011	Regulation on the Office of Ombudsman for Academic Ethics and Procedures (in Lithuanian)	Regulation on the Office of Ombudsman for Academic Ethics and Procedures LT.pdf
Ministry of Health	2011	Regulation on Bioethics Committee - Amendment 2 (in Lithuanian)	Regulation on Bioethics Committee 2011 LT.pdf
Ministry of Health	2010	Regulation on Bioethics Committee - Amendment 1 (in Lithuanian)	Regulation on Bioethics Committee 2010 LT.pdf
Ministry of Health	2002	Regulation on Bioethics Committee (in Lithuanian)	Regulation on Bioethics Committee 2009 LT.pdf
Ministry of Economy	2013	Green Industry Innovation Programme (in Lithuanian)	Green Industry Innovation Programme LT.pdf
Research Council of Lithuania	2012	Ethical Principles of Research Performance (in Lithuanian)	Ethical principles of research performance LT.pdf
Adolf Filáček	2013	Governance of Science and Public Engagement: Czech Trends	11_Filacek_Governance of Science and Public Engagement_Czech Trends.pdf

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Ondřej Pokorný	2012	Potential for Technology Assessment (PACITA Project – CZ Country Study)	10 Potential for Technology Assessment (PACITA Project-CZ Country Study).pdf
Eurobarometer	2013	Science and Technology: Engagement, impact, attitudes towards in the Czech Republic	9 Science and Technology Engagement, impact, attitudes towards in the Czech Republic.pdf
Adolf Filacek	2011	Monitoring Policy and Research Activities on Science in Society in Europe: Czech Republic Report	8 Monitoring Policy and Research Activities on Science in Society in Europe Czech Republic Report (MASIS).pdf
Ministry of Education, Youth and Sports, Council for Research, Development and Innovation of the Czech Republic	2013	Methodology of Evaluation of Research Organizations and Evaluation of Finished Programmes (valid for years 2013 - 2015)	7 Methodology of Evaluation of Research Organizations and Evaluation of Finished Programmes.pdf
Council for Research, Development and Innovation of the Czech Republic	2012	Analyses of the Existing State of Research and Development in the Czech Republic and a Comparison with the Situation Abroad	6 Analyses of the Existing State of Research and Development in the Czech Republic.pdf
Ministry of Education, Youth and Sports, Council for Research, Development and Innovation of the Czech Republic	2012	National priorities of oriented research, experimental development and innovations	5 CZ National priorities of oriented research, experimental development and innovations.pdf
Ministry of Education, Youth and Sports, Council for Research,	2005	National Innovation Policy of the Czech Republic for 2005-2010	4 National Innovation Policy of the Czech Republic

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Development and Innovation of the Czech Republic			for 2005-2010.pdf
Karel Klusáček	2008	White Paper on Research, Development and Innovation in the Czech Republic	3_White Paper on Research, Development and Innovation in the Czech Republic.doc
Karel Klusacek	2008	Green Paper on Research, Development and Innovation in the Czech Republic	2_Green Paper on research, development and innovation in the Czech Republic.pdf
Council for Research, Development and Innovation of the Czech Republic; Ministry of Education, Youth and Sports	2009	The National Research, Development and Innovation Policy of the Czech Republic in 2009 – 2015	1_The National Research, Development and Innovation Policy_of_the_Czech_Republic in 2009 - 2015.pdf
Krzysztof Leja	2008	Social Responsibility of the University	Społeczna odpowiedzialność uczelni.pdf
National Centre for Research and Development Programme	2013	Social Innovation (2013)	NCBiR, Program INNOWACJE SPOŁECZNE.pdf
National Research and Development Centre	2013	The Gekon Programme - Generator of Concepts of Ecology	GEKON.docx
Ministry of Health	2005	The Act of July 1, 2005 on the establishment of a multi-annual programme, the National Programme for Fighting Cancer	USTAWA z dnia 1 lipca 2005 r. o ustanowieniu programu wieloletniego NPZChN.docx
Ministry of Environment	2013	Strategic Plan for the Adaptation of Sectors and Areas Vulnerable to Climate Change by 2020 with the prospect of 2030 (SPA2020)	Strategiczny plan adaptacji dla sektorów i obszarów wrażliwych na

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			zmiany klimatu 2020-2030 2013.pdf
Ministry of the Environment	2014	GreenEvo – Green Technology Accelerator, Statute	Regulamin GreenEvo 2014.pdf
Ministry of Agriculture and Rural Development	2013	Announcement of the Ministry of Agriculture and Regional Development on the list of research areas and a list of research for organic farming in 2013	Ogłoszenie MRiRW w sprawie wykazu obszarów badawczych i wykazu badań na rzecz rolnictwa ekologicznego 2013.pdf
MillwardBrown	2012	Innovation and social responsibility among the largest companies	Millward Brown Innowacyjność a społeczna odpowiedzialność biznesu wśród największych przedsiębiorstw 2012.pdf
Polish Academy of Sciences	2011	Bioethics Committee of the Presidium of the Polish Academy of Sciences	Komitet Bioetyki przy Prezydium PAN - program.pdf
General Directorate for National Roads and Motorways	2013	Roads of confidence, General Directorate for National Roads and Motorways – programme of the protection of life and health of people on the roads (2007-2013)	Drogi zaufania - program ochrony życia i zdrowia ludzi na drogach krajowych.pdf
University of Iceland	2011	Sustainability and Environmental Policy for the University of Iceland 2011-2016	samthykkt_sjalfbaerni-_og_umhverfisstefna_1.pdf
Ministry for the Environment	2002	Welfare to the Future: Iceland´s National Strategy for Sustainable Development 2002-2020	Sjalfbar__roun_enska.pdf

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The Prime Minister´s Office	2011	Iceland 2020 - Governmental Policy Statement for the Economy and Community: Knowledge, Sustainability, Welfare.	iceland2020.pdf
Science and Technology Council of Iceland	2012	New Vision: Changes to the science and innovation system in Iceland	Ný sýn vefútgáfa.pdf
Arnold Verbeek	2009	Education, Research and Innovation Policy: A new direction for Iceland	ERIP_Iceland.pdf
Icelandic Science and Technology Council	2013	Icelandic Science and Technology Council: Strategy 2013-2016 (Draft)	VTR_Stefna_2013-2016.pdf
Prime Ministers' Office. Science and Technology Policy Council		Building on Solid Foundations: Science and Technology Policy for Iceland 2010-2012	SogT 2010-12.pdf
Innovation Center Iceland	2008	Innovation Center Iceland: Strategy until the year 2012	stefna-nmi-tilarsins2012.pdf
Government	2014	314/2005 (XII.25.) Government Decree on Environmental impact assessment and on uniform environmental usage authorisation process	környezeti vizsg_314_2005.rtf
Government	2013	235/2009 (X.20.) Government Decree on Medical science research on humans, on clinical testing of experimental artefacts to be used on humans and on the authorisation process of clinical examinations with medical devices to be applied on humans	emberi kut_235_2009.rtf
Althingi	2011	Act no. 61/2011 on the status of the Icelandic language and Icelandic sign language.	Icelandic-Language-Act 61-2011.pdf
Parliament	2013	Act XXI of 2008 on the protection of data on human genetics, on the rules of research and examinations	humángenetika_XXI_2008.rtf

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		of human genetics and of the functioning of bio-banks	
Bifrost University	2012	Bifrost University Language Policy	Bifrost Language Policy.pdf
Hungarian Academy of Sciences	2010	Science Ethics Code of the Hungarian Academy of Sciences	Science_Ethics_Code_English.pdf
Holar University College	2012	Málstefna Hólaskóla - Háskólans á Hólum	Holar Language Policy.pdf
Parliament	2013	Act CXI of 2011on the Commissioner for Fundamental Rights	Act CXI of 2011 - AJBH.pdf
University of Iceland	2004	Málstefna Háskóla Íslands	Málstefna Háskóla Íslands_Háskóli Íslands.pdf
Parliament	2013	Act CXII of 2011 on the Right of Informational Self-determination and on Freedom of Information	Privacy_Act-CXII-of-2011_EN_201310.pdf
Iceland Academy of the Arts		Málstefna Listaháskóla Íslands	LHI málstefna.pdf
Ministry of Public Administration and Justice	2011	24/2011 (VIII.9.) Decree of the Ministry of Public Administration and Justice	24_2011_kim_hatás vizsgálat.pdf
University of Akureyri	2008	The Language Policy of the University of Akureyri	The Language Policy for UNAK.pdf
Parliament	2013	Fundamental Law of Hungary	fundamental_law.pdf
Svandis Nina Jonsdottir	2015	Monitoring Responsible Research and Innovation - The Case of Iceland	MoRRI - Iceland - Updated.pdf
Ministry of Economy	2011	New Széchenyi Plan: Science-Innovation Programme	005_TudomanyInnovacio.pdf

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Svandis Nina Jonsdottir	2015	Monitoring Responsible Research and Innovation - The Case of Iceland (second update)	MoRRI - Iceland - Second update.pdf
Aleksandras Stulginskis University	2012	Code of Ethics by Aleksandras Stulginskis University (in Lithuanian)	etikos kodeksas_ASU.pdf
Author	Year	Title	Filename
Parliament	2013	Act No. CXXXIV of 2004 on Research and Development and Technological Innovation (latest revision: Act CLXI of 2013, 29. §)	InnovTv_CXXXIV_2004.rtf
Vilnius University	2013	Strategic Plan for 2013-2015 by Vilnius University (in Lithuanian)	2013-2015_VU.pdf
Aleksandras Stulginskis University	2011	Strategy for 2020 by Aleksandras Stulginskis University	strategy_of_ASU_2020.pdf
Mykolas Romeris University	2007	Code of Ethics by Mykolas Romeris University (in Lithuanian)	etikos kodekas_MRU.docx
Vilnius Gediminas Technical University	2013	Strategic Plan for 2013-2015 by Vilnius Gediminas Technical University (in Lithuanian)	2013-2015_VGTU.pdf
Kaunas University of Technology	2012	Code of Ethics by Kaunas University of Technology (in Lithuanian)	etikos kodeksas_KTU.pdf
Klaipėda University	2006	Code of Ethics by Klaipėda University (in Lithuanian)	etikos kodeksas_KU.pdf
Lithuanian University of Educational Sciences	2012	Code of Ethics by Lithuanian University of Educational Sciences (in Lithuanian)	etikos kodeksas_LEU.pdf
Lithuanian University of Health Sciences	2013	Code of Ethics by Lithuanian University of Health Sciences (in Lithuanian)	etikos kodeksas_LSMU.pdf
Šiauliai University	2007 (amendments done in 2012 and	Code of Ethics by Šiauliai University (in Lithuanian)	etikos kodeksas_SU.docx

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	2013 are incorporated)		
Vytautas Magnus University	2012	Strategic Plan for 2013-2015 by Vytautas Magnus University (in Lithuanian)	2013-2015_VDU.pdf
Vytautas Magnus University	2011	Code of Ethics by Vytautas Magnus University (in Lithuanian)	etikos kodeksas_VDU.pdf
Šiauliai University	2013	Strategic Plan for 2013-2015 by Šiauliai University (in Lithuanian)	2013-2015_SU.pdf
Vilnius Gediminas Technical University	2006	Code of Ethics by Vilnius Gediminas Technical University (in Lithuanian)	etikos kodeksas_VGTU.pdf
Lithuanian University of Health Sciences	2013	Strategic Plan for 2013-2015 by Lithuanian University of Health Sciences (in Lithuanian)	2013-2015_LSMU.pdf
Vilnius University	2006	Code of Ethics by Vilnius University (in Lithuanian)	etikos-kodeksas_VU.pdf
Lithuanian University of Educational Sciences	2013	Strategic Plan for 2013-2015 by Lithuanian University of Educational Sciences (in Lithuanian)	2013-2015_LEU.pdf
Klaipėda University	2013	Strategic Plan for 2013-2015 by Klaipėda University (in Lithuanian)	2013-2015_KU.pdf
Kaunas University of Technology	2013	Strategic Plan for 2013-2015 by Kaunas University of Technology (in Lithuanian)	2013-2015_KTU.pdf
Mykolas Romeris University	2010	Strategic Plan for 2010-2020 by Mykolas Romeris University (in Lithuanian)	2010-2020_MRU.pdf
Government of the Republic of Lithuania	2002	Guidelines for strategic planning	Strateginio planavimo metodika.DOC
Las Cortes Generales	2007	Biomedical Research Act (2007) [Ley 14/2007, de 3 de julio, de Investigación biomédica]	2007 Biomedical Research Act (ES).pdf

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Women and Science Unit (WSU) from the former Ministry of Science and Innovation	2011	The Handbook of Gender in Research (2011) [Manual El género en la investigación (2011)]	2011 Handbook of Gender Issues on Research (ES).pdf
La Cortes Generales	2011	The Science Act (2011) [Ley 14/2011, de 1 de junio, de la Ciencia, la Tecnología y la Innovación]	2011 Science Act (ES).pdf
Confederation of Spanish Scientific Societies (COSCE)	2012	The 2012 Open Letter for Science [Carta por la ciencia 2012]	2012 Open Letter for Science (EN).pdf
Ministry of Economy and Competitiveness	2013	2013 Call of the National Subprogramme for Knowledge Generation. [Convocatoria 2013 Subprograma Estatal de Generación de Conocimiento]	2013 National Subprogram of Knowledge Generation (ES).pdf
	2015	The Icelandic Research Fund: Rules for the grant year 2015	2015_IRF_rules.pdf
Ministry of Economy and Competitiveness	2013	2013 Call of the National Programme for Scientific and Innovation Culture. [Convocatoria de ayudas para el Programa de Cultura Científica y de la Innovación 2013]	2013 National Program of Scientific and Innovation Culture Promotion (ES).pdf
Rannis	2015	The Technology Development Fund: Description of Project Grants	TDF-Description-of-project-grant 2015.pdf
Ministry of Economy and Competitiveness	2013	2013 Call of the National Programme of R&D&I oriented to the Societal Challenges, within the framework of the National Plan of Scientific and Technological Research and Innovation 2013-2016. [Convocatoria 2013 del Programa Estatal de Investigación, Desarrol	2013 National Program of R&D&i Oriented to Societal Challenges (ES).pdf
Science and Technology Policy Council	2014	Science and technology policy action plan: 2014-2016	STPC Policy and Action Plan 2014-2016.pdf

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Ministry of Economy and Competitiveness	2013	2013 Annual R&D&I National Working [Plan Plan de Actuación Anual 2013 (en el marco del Plan Estatal de Investigación Científica y Técnica y de Innovación 2013-2016)].	2013 R&D&i Anual Working Plan (ES).pdf
Althingi (Parliament)	2003	Act on the Public Support for Research no. 3/2003	Act-on-public-support-for-research-No.-3-2003.pdf
Ministry of Economy and Competitiveness		The 2013-2016 National Plan for Scientific and Technical Research and Innovation [Plan Estatal de Investigación Científica y Técnica y de Innovación 2013-2016]	2013 2016 R&D&I National Plan (ES).pdf
Althingi	2000	Act on the Protection of Privacy as Regards to the Processing of Personal Data no. 77/2000	Icelandic Data Protection Act.pdf
Spanish Ministry of Economy and Competitiveness	2013	The 2013-2020 Spanish Science and Technology and Innovation Strategy [Estrategia Española de Ciencia y Tecnología y de Innovación 2013-2020]	2013 2020 R&D&I National Strategy (ES).pdf
Althingi	2007	Act on Government Support for Technology Research, Innovation and Industry Development nr. 75/2007	Act-on-government-support-for-technology-research etc..pdf
Commission on Assisted Human Reproduction (CAHR)	2005	Report of the Commission on Assisted Human Reproduction	1 cahr_report2005.pdf
Ministry of Welfare	2008	Regulation on Scientific Resarch in the Biomedical Field no. 286/2008	Regulation-on-Scientific-Research-in-the-Biomedical-Field-No-286-2008.pdf
Federal Ministry for Science, Research and Economy	2014	Österreichischer Forschungs- und Technologiebericht 2014 (Austrian Report on Research- and Technology 2014)	FTB_2014_de_01.PDF

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Ossur	2013	Corporate Social Responsibility: 2013 Progress Report	Ossur-CSR-Report-2013.pdf
Angela Wroblewski	2011	Equal Opportunities Policies at Austrian Universities and their Evaluation: Development, Results and Limitation	Equal Opportunities Policies at Austrian.pdf
Ossur	2014	Code of Conduct	Ossur_Code-of-Conduct (Sept 2014).pdf
Universität Wien	2012	Ethikkommission der Universität Wien (Ethics Commission at the University of Vienna)	Ethikkommission Universität Wien.pdf
Ossur	2014	Annual Report 2014	Ossur_Annual_Report_2014.pdf
Nicole Kronberger	2010	Monitoring Policy and Research Activities on Science in Society in Europe (MASIS). National Report Austria	MASIS_Austria_Report.pdf
Iceland Academy of the Arts	2013	Icelandic Academy of the Arts: Strategic Plan 2013-2017	IAA_Strategy 2013-2017.pdf
Austrian Council	2009	Strategie 2020 (Strategy 2020)	FTI-Strategie2020.pdf
Iceland Academy of the Arts	N/A	Code of Ethics	Code of ethics - IAA.pdf
Bruno Bauer	2012	Schwerpunkttema "Open Access in Österreich" (Special Issue "Open Access in Austria") Mitteilungen der Vereinigung österreichischer Bibliothekarinnen & Bibliothekare 65 (2012) 2	Open Acces in Austria.pdf
Österreichische Universitätenkonferenz	2010	Empfehlungen der Österreichischen Universitätenkonferenz (uniko) zu einer Open Access–Politik der Universitäten (Recommendation of	Uniko-Empfehlungen_Open_Access_01_2010.pdf

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		Universities Austria for an Open Access Policy at Universities)	
Erich Griessler	2012	One size fits all? On the institutionalization of participatory technology assessment and its interconnection with national ways of policy-making: the cases of Switzerland and Austria	Participatory Technology Assessment in Austria.pdf
Bundeskanzler (Federal Chancellor)	2012	Verordnung des Bundeskanzlers über die Einsetzung einer Bioethikkommission StF: BGBl. II Nr. 226/2001 (Decree of the Federal Chancellor on the Establishment of a Bioethics Commission)	Einsetzung einer Bioethikkommission, Fassung vom 25.04.2014.pdf
Bundeskanzleramt	2011	Der Weg zum Innovation Leader. Strategie der Bundesregierung für Forschung, Technologie und Innovation (The Path to Innovation Leader. Strategy of the Federal Government for Research, Technology and Innovation)	fti_strategie.pdf
The Agricultural University of Iceland	2009	Policy of the Agricultural University of Iceland 2009-2013	AUI_Policy 2009-2013.pdf
Irish Research Council	2013	Gender Strategy and Action Plan 2013 – 2020: Ensuring Excellence and Maximising creativity and innovation in Irish Research	10 Irish Research Council Gender Action Plan.pdf
deCODE Genetics	2004	Code of Business Conduct and Ethics	CODE OF BUSINESS CONDUCT AND ETHICS - deCODE genetics.pdf
Irish Universities Association (IUA)	2013	Horizon 2020: Sustaining Excellence in University Research & Innovation	9 Irish Universities Association - Horizon 2020 Sustaining-Excellence in University Research and Innovation.pdf

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Bifrost University	2005	Equal Rights Plan of Bifrost University	Equal Rights Plan of Bifröst University.pdf
Research Prioritisation Steering Group	2012	Report of the Research Prioritisation Steering Group	8 Forfas - Report of the Research Prioritisation Steering Group.pdf
Bifrost University	2012	Mission Statement	Mission Statement Bifrost University.pdf
Advisory Council for Science, Technology and Innovation (ACSTI)	2012	Playing our Part in Europe. ACSTI Statement on Horizon 2020	7 Forfas - Playing our Part in Europe.pdf
Bifrost University	2005	Equal Rights Plan of Bifrost University	Equal Rights Plan of Bifröst University.pdf
Science Foundation Ireland	2012	Agenda 2020: Excellence and Impact	6 SFI AGENDA 20.pdf
Bifrost University	2014	Teaching Policy	Teaching Policy Bifrost University.pdf
Irish Government, Department of Agriculture, Fisheries and Food	2010	Food Harvest 2020. A Vision for Irish Agri-food and Fisheries	5 FoodHarvest2020.pdf
Bifrost University		Bifrost University Research Policy	Bifrost Research Policy.pdf
Irish Council for Bioethics	2010	Recommendation for Promoting Research Integrity	4 Irish-Council-of-Bioethics-Research Integrity Document.pdf
Bifrost University	2014	Teaching Policy	Teaching Policy Bifrost University.pdf

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Irish Council for Bioethics	2008	Ethical, Scientific and Legal Issues Concerning Stem Cell Research: Opinion	3 ICB Ethical_Scientific_Legal_Issues.pdf
Bifrost University	2011	Bifrost University Open Access Policy	Bifrost Open Access Policy.pdf
Irish Government	2008	Building Ireland's Smart Economy: A Framework for Sustainable Economic Renewal	2 Forfas - BuildingIrelandsSmartEconomy.pdf
Bifrost University	2012	Code of Ethics and Conduct	Code of Ethics and Conduct Bifrost University.pdf
GENDERA	1999	Increase the number of female researchers in leadership positions in the National Centre for Social Research (EKKE)	Good practice EKKE.docx
University of Iceland	2011	Policy of the University of Iceland 2011-2016	University of Iceland Policy_2011-2016.pdf
Panteion University, Department of Social Policy	2003	Centre of Gender Studies, Panteion University	Panteion_rri education.docx
University of Iceland	2003	University of Iceland Code of Ethics	Code of Ethics_University of Iceland.pdf
Ministry of Public Administration and E-Governance, General Secretariat for Gender Equality	2010	Gender Equality Programme 2011-2013	gender equality programme_MAY-2011.pdf
University of Iceland	2012	Sustainability and Environmental Policy	Sustainability_and_Environmental_Policy University of Iceland.pdf
Ministry of Administration Reform and E-Governance	2012	Consultation of public documents	Open_gov.docx

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Reykjavik University	No date	The Strategy of Reykjavik University	The Strategy of Reykjavik University.pdf
Parliament	2010	Law on Transparency	N_3861_2010_transparency.pdf
Reykjavik University	No date	Reykjavik University Environmental Strategy	Reykjavik University Environmental Strategy.pdf
Ministry of Economic Affairs	2008	Action Plan Nanotechnology	8079721-bijlage(1).pdf
Reykjavik University	2013	Reykjavik University Code of Ethics	Reykjavik University Code of Ethics.pdf
Ministry of Economic Affairs	2008	ICT-Agenda 2008-2011	8067667-bijlage(1).pdf
Reykjavik University	2013	Equlity Programme	Reykjavik Universit Equality Programme.pdf
Topteam Life Sciences & Health	2011	Topsectorplan Life Sciences and Health	topsectorplan-life-sciences-health-volledige-versie(1).pdf
Reykjavik University	2012	Teaching Strategy of Reykjavik University	Teaching Strategy of Reykjavik University.pdf
Dutch Government	2000	Policy Biotechnology	genomics-notabiotech(1).pdf
University of Akureyri	2012	Strategy of the University of Akureyri 2012-2017	UNAK Strategy 2012-2017.pdf
National Institute for Health and Environment (RIVM)	2013	Dealing with risks from eHealth (Omgaan met de risico's van eHealth)	Whitepaper omgaan met risico's van eHealth.pdf

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Haskolinn á Akureyri	2009	Áætlun um jafna stöðu kynjanna við Háskólann á Akureyri 2009 - 2012	UNAK Strategy for Gender Equality 2009-2012.pdf
Ministry of Agriculture, Nature and Food Quality	2009	Societal Innovation Agenda Sustainable Agro- and Fishery-Chains	noi-mia-dav-definitief.pdf
University of Akureyri	2012	Umhverfisstefna 2012-2017	UNAK Environmental Policy.pdf
Collaborating Topsector Energy and Society (STEM) (in Dutch; Samenwerken Topsector Energie en Maatschappij)	2013	Collaborating Topsector Energy and Society (STEM)	STEM_Programmalijnen STEM projecten 2013.doc
University of Iceland	2013	Stefna Háskóla Íslands um opinn aðgang að rannsóknaniðurstöðum og lokaverkefnum	Open Access Policy University of Iceland.pdf
Rathenau Instituut	2009	Work Programme Rathenau Instituut (2009-2010)	Werkprogramma_EN_WEB.pdf
University of Iceland	2013	Jafnréttisáætlun Háskóla Íslands 2013-2017	Equal Rights Policy University of Iceland 2013-2017.pdf
Centre for Society and Life Sciences	2013	Harvesting Results Preparing for the Future	CSG-next_2008-2013_web.pdf
Holar University College	2013	Jafnréttisáætlun Hólaskóla - Háskólans á Hólum 2013-2015	Equal Rights Policy Holar University College.pdf
Netherlands Organization for Scientific Research (N.W.O)	2013	Societal Responsible Innovation (MVI)	MVI flyer
Holar University College	2014	Siðareglur fyrir Hólaskóla - Háskólann á Hólum	Holar University College Ethics Rules.pdf

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NanoKommission of the German Federal Government	2008	Responsible Use of Nanotechologies: Report and recommendations of the German Federal Government's NanoKommission for 2008	NanoCommission 2008 Responsible Use Of Nanotechnologies.pdf
The Agricultural University of Iceland	2014	Umhverfisstefna	AUI Environmental Policy Abstract.pdf
Federal Ministry of Education and Research	2011	Shaping Europe's Future – Agenda for Innovation and Sustainability	FONA 2011 Shaping Europe'sFuture Principles Paper.pdf
The University of Akureyri	2009	Áætlun um jafna stöðu kynjanna við Háskólann á Akureyri 2009 - 2012	UNAK Strategy for Gender Equality 2009-2012.pdf
German Parliament	2007	Ethics Council Act	Ethikratgesetz 2007.pdf
The Agricultural University of Iceland	No date (2012?)	Jafnréttisáætlun Landbúnaðarháskóla Íslands	AUI Equality Plan.pdf
Parliamentary Committee on Education, Research and Technology Assessment	2010	Technology Assessment at the German Bundestag	Dt.Bundestag 2010 TA Eine Bilanz.pdf
Iceland Academy of the Arts	2014	Jafnréttisáætlun	IAA Equality Plan.pdf
Federal Ministry of Education and Research	2009	Research for sustainable development	BMBF 2009 Research for sustainable development.pdf
Rannis	2015	Reglur Tækniþróunarsjóðs	TDF Rules 2015.pdf
Federal Ministry of Education and Research	2009	Research and Innovation for Germany - Results and Outlook	BMBF 2009 Research and Innovation for Germany-Results &

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			Outlook.pdf
The European Commission	2014	ERAC Peer Review of the Icelandic Research and Innovation System	Final-report-peer-review-STI-Iceland2.pdf
Federal Ministry of Labour and Social Affairs	2010	Action Plan for Corporate Social Responsibility	BMAS 2010 Aktionsplan CSR.pdf
Althingi	2006	Act no. 63/2006 on Higher Education Institution	Higher-Education-Act-no.-63-2006.pdf
Federal Ministry of Education and Research	2010	Ideas. Innovation. Prosperity. Hightech Strategy 2020 for Germany	BMBF 2009 Hightech Strategy 2020.pdf
Svandis Nina Jonsdottir	2015	MoRRi - The Case of Iceland	MoRRI - The Case of Iceland.pdf
German Academy of Technical Sciences (acatec)	2011	Acceptance of Technology and Infrastructures	Acatech 2011 Akzeptanz von Technik - Positionspapier.pdf
German Advisory Council on Global Change (WBGU)	2011	World in Translation: A Social Contract for Sustainability	WBGU 2011 Summary Report World In Transition.pdf
House of Commons, Science and Technology Committee	2009	The Regulation of Geoengineering - Science and Technology Committee	Regulation on Geoengineering.pdf
Academy of Finland	2011	Academy of Finland Strategy	AKA Strategia 10_210x210_EN_LR.pdf
Research Councils UK	n/a	Mission and Statement of Expectation on Economic and Societal Impact	RCUK mission statement on impact.pdf
Academy of Finland	2014	ACADEMY OF FINLAND ANNUAL REPORT 2013	AKA_annual_report_2013.pdf

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Research Councils UK	2011	Research Counsils UK - Pioneering a Low Carbon Future	RCUK Low Carbon Future.pdf
Tekes	2013	Tekes vuosikertomus 2012	Tekes_vuosikertomus2012.pdf
House of Commons - Science and Technology Committee	2013	Women in Scientific Careers – Science and Technology Committee Report	Women in Scientific Careers.pdf
Tekes	2010	Tekes TOIMINTA- JA TALOUSSUUNNITELMA 2012-2015	Tekes_tts12_15.pdf
Science and Trust Expert Group	2010	Science and Trust: Expert Group Report & Action Plan. Starting a National Conversation about Good Science	
Aalto University	2012	Strategic Development of Aalto University	aalto-strategy.pdf
The Royal Society	2003	Nanoscience and nanotechnologies: opportunities and uncertainties	Royal Society Nanoscience.pdf
Aalto University	2013	Aalto University Annual report	aalto_university_annual_report_2013.pdf
Nuffield Council on Bioethics	2011	Nuffield Council for Bioethics. Report on Biofuels and Ethical Issues	Biofuels_ethical_issues_Nuffield.pdf
Aalto University		Aalto University Equality Plan	aalto_equality_plan_2012-2014.pdf
Technology Strategy Board	2012	TSB Responsible Innovation Framework for commercialisation of research findings. For use in synthetic biology feasibility studies competition 2012	responsible_innovation TSB.pdf

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Åbo Akademi		Åbo Akademi Strategy	abo_akademis_strategi_20102019.pdf
Engineering and Physical Sciences Research Council	n/a	EPSRC Framework for Responsible Innovation	
University of Helsinki		Open access to research publications in the University of Helsinki	decision260508_eng (1).pdf
HM Government	2010	UK Nanotechnologies Strategy: Small Technologies, Great Opportunities	10-825-uk-nanotechnologies-strategy.pdf
Finnish Advisory Board on research integrity		Responsible conduct of research and procedures for handling allegations of misconduct in Finland	HTK_ohje_2012.pdf
Hellenic Republic National Bioethics Commission	2008	Research Ethics in Biological Sciences	Opinion_Bioethics_Commission.pdf
University of Jyväskylä		Jyväskylän yliopiston julkaisueettiset periaatteet (Ethical principles of the publication at the University of Jyväskylä)	julkaisueettisen_periaatteet.pdf
Parliament	2011	Codified Law 4009/2011 on Higher Education (initial law issued in 2011 and amendments introduced in 2012 and 2013)	N.4009_N.4076_N.4115_all together.pdf
University of Jyväskylä	2014	Strategy for the University of Jyväskylä	Jyvaskylan_yliopiston_strategia.pdf
Ministry of Education and Religious Affairs, General Secretariat of Research and Technology	2011	National Strategic Framework for the Development of Research and Innovation for the period 2014-2020	ΕΣΠΕΚ 6.4.1.pdf
University of Jyväskylä	2014	Implementation Plan for the Strategy at the University of Jyväskylä	JY_Strategian_toimenpideohjelma.pdf

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Foundation of Research and Technology Hellas		Foundation of Research and Technology Hellas (FORTH) Ethics Committee	FORTH Ethics Committee.docx
Lappeenranta University of Technology		Lappeenranta University of Technology Quality Manual	lut-quality-manual.pdf
Ministry of Education and Religious Affairs, General Secretariat of Research and Technology	2007	Strategic Plan for the Development of Research, Technology and Innovation 2007-2013	Strategic Plan 2007-2013.doc
LAPPEENRANTA UNIVERSITY OF TECHNOLOGY		LAPPEENRANTA UNIVERSITY OF TECHNOLOGY CODE OF CONDUCT	lut-code-of-conduct.pdf
Scilipoti	2013	Regulation of the democratic consultation and the participation on the decisions about the localisation and construction of public infrastructures (No. 980, communicated to the Precidency on July 30, 2013)	10-A-Dibattito-pubblico-Senato.pdf
LAPPEENRANTA UNIVERSITY OF TECHNOLOGY		Plan of Equality at the Lappeenranta University of Technology	LUT_yhdenvertaisuussuunnitelma_300512.pdf
The Finnish Advisory Board on Research Integrity (TENK)	2012	Responsible conduct of research and procedures for handling allegations of misconduct in Finland. Guidelines of the Finnish Advisory Board on Research Integrity 2012	HTK_ohje_2012.pdf
Tampere University of Technology		Strategy of Tampere University of Technology for 2013–2016	p039860.pdf
Tekes – the Finnish Funding Agency for Technology and Innovation	2011	Tekes Strategy: Growth and Wellbeing from Renewal	tekes_strategy_engl_2011.pdf
Tampere University of Technology		Tampere University of Technology Annual Report	p068841.pdf

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Ministry of Employment and the Economy	2010	Demand and user-driven innovation policy	Framework_and_Action_Plan.pdf
University of Helsinki		Strategic plan for the University of Helsinki 2013–2016	strategia_2013-2016_eng (1).pdf
Sitra	2013	Towards a Sustainable Well-being Society Building blocks for a new socioeconomic model. Version 1.0	Towards_a_Sustainable_Wellbeing_Society.pdf
University of Eastern Finland		University of Eastern Finland Strategy	Strategy_2020_approved_01042014.pdf
Government	2012	Denmark – a nation of solutions - Enhanced cooperation and improved frameworks for innovation in enterprises (Danmark Løsningernes land - Styrket samarbejde og bedre rammer for innovation i virksomhederne)	10. 2012 - Danmark loesningernes land.pdf
University of Tampere		Plan of Equality, University of Tampere	Tasa_arvo_ja_yhdenvertaisuussuunnitelma.pdf
Technical research centre of Finland, VTT	2011	VTT's research and innovation visions in 2020	vtt_research_and_innovation_visions_2020.pdf
Academy of Finland		Academy of Finland Equality Plan	Tasa-arvosuunnitelmä_021213_en.pdf
Ministry for Science, Innovation and Higher Education	2012	Science in Dialogue - Towards a European Model for Responsible Research and Innovation	9. 2012 - Conference Report - Science in Dialogue.pdf
Academy of Finland		Academy of Finland Research Programme Strategy	tutkimusohjelmastrategia09_210x280_ENG.pdf
University of Helsinki	2010	Open access to research publications in the University of Helsinki	Rectors decision on open access_Finland.pdf

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University of Turku		University of Turku Quality Manual	TY_laatukk_2.1_ENG (1).pdf
Government	2012	Responsible growth - Action Plan for Corporate Social Responsibility 2012-2015 (Ansvarlig vækst - Handlingsplan for virksomheders samfundsansvar 2012-2015)	8. 2012 - Ansvarlig_vaekst csr handlingsplan.pdf
University of Eastern Finland		UNIVERSITY OF EASTERN FINLAND MAIN QUALITY MANUAL	UEF_plk_in_English_2.pdf
Government	2008	The Government Communication to the Parliament on the National Innovation Strategy and Evaluation of National Innovation Policy	National_Innovation_Strategy_Finland.pdf
University of Tampere		HR Strategy of the University of Tampere for 2012–2015	UTA HR Strategy.pdf
Minister for Science, Innovation and Higher Education quoted by Altinget.dk	2011	Østergaard defends closure of The Danish Board of Technology (Østergaard forsvarer lukning af Teknologirådet)	7. 2011 - Lukning af Teknologirådet.pdf
University of Tampere		University of Tampere Strategy	UTAstrategy.pdf
The Ministry of Science, Technology and Innovation	2008	RESEARCH2015 - A Basis for Prioritisation of strategic Research (FORSK2015 - Et prioriteringsgrundlag for strategisk forskning)	6. 2008 - forsk2015_prioriteringsgrundlag.pdf
University of Turku		University of Turku Strategy	UTU_strategy_2013-2016_final.pdf
The Future Panel	2008	12 challenges for knowledge policy (12 udfordringer for videnpolitikken)	5. 2008 - 12 udfordringer for videnpolitikken.pdf
University of Oulu		Visions and actions University of Oulu	Visions&Actions_2013_ENG.pdf

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Academy of Finland	2006	FinnSight 2015	Finnsight_2015_Finland.pdf
Aalto University	2014	Principles of Open Publishing at the Aalto University	20140521_LIITE_Avoimen+julkaisemisen+periaatteet+Aalto-yliopistossa+.pdf
Research and Innovation Council of Finland	2010	Research and innovation policy guidelines	Research and innovation policy guidelines_Finland.pdf
Academy of Finland		Synthetic Biology Programme Memorandum	Synthetic biology programme memorandum.pdf
Danish Agency for Science, Technology and Innovation	2007	Employee driven innovation and diversity (Medarbejderdreven innovation og mangfoldighed)	4. 2007 - Medarbejderdreven innovation.pdf
University of Tampere		University of Tampere Annual Report	Tay_toimintakertomus_ja_tilinpaatos.pdf
Ministry of Education	2011	Development Plan for Education and Research	Education and research development plan_Finland.pdf
University of Tampere		HR Strategy of the University of Tampere	UTA HR Strategy.pdf
The Danish Council for Research Policy	2006	A tool for the judgement of research quality and relevance (Et værktøj til vurdering af forskningens kvalitet og relevans)	3. 2006 - forskningens kvalitet og relevans.pdf
The Danish Agency for Science, Technology and Innovation	2004	Resarch that matters (Forskning der nytter)	2. 2004 - Forskning der nytter.pdf
The Danish Government	2003	New paths between research and business - from idea to invoice (Nye veje mellem forskning og erhverv - fra tanke til faktura)	1. 2003 - Fra tanke til faktura.pdf

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CSQA certificazioni srl	2012	System for the Responsible Management of Nanomaterials in Consumer Products	9-CSQA_Certificazioni_Gestione_Responsabile_Nanotech_Certificazione.pdf
Andrea Gibelli	2008	Letter of Mr. Andrea Gibelli, MP, Chairman of the VAST Committee of the Italian Chamber of Deputies to Mr. Claude Birraux, Chairman of the OPECST Committee of the French National Assembly	8-Lettera_Gibelli_Comitato_VAST.pdf
CISE - Centro per l'Innovazione e lo Sviluppo Economico (Innovation and Economic Development Center)	2009	UGO Certification Standard – Innovation for a better life	7-UGO_standard.pdf
Comitato nazionale sulla biosicurezza, le biotecnologie e le scienze della vita - CNBBSV (National Committee on Biosecurity Biotechnologies and the Life Sciences)	2010	Code of Conduct on Biosecurity	6-Codici_condotta_biosicurezza.pdf
Consiglio regionale del Friuli Venezia Giulia (Friuli Venezia Giulia regional council)	2014	Minutes of the Committees of the Friuli Venezia Giulia Regional Council on the draft regional regulation on the coexistence of GMOs with conventional and organic agriculture (2014)	5-Audizioni-FVG-Ogm.pdf
ASSOKNOWLEDGE Confindustria Servizi Innovativi e Tecnologici (Industrialists Association's Group on technology-based and innovative	2010	Strategic research plan on nanotechnologies	4-Assoknowledge_Confindustria_Servizi_Tecnologici_Innovativi-Nanotecnologie.pdf

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services)			
ASSOKNOWLEDGE Confindustria Servizi Innovativi e Tecnologici (Industrialists Association's Group on technology-based and innovative services)	2011	Strategic research plan on product innovation	3-Assoknowledge_Confindustria_Servizi_Tecnologici_Innovativi-Innovazione-Prodotto.pdf
Ministry of Education, University, and Research	2011	National Research Programme 2011-2013	2-PNR_2011-2013_23_MAR_2011_web-1.pdf
Florence Gluck	2013	Responsible Innovation in Lorraine	2013_Lorraine.pdf
Ile de France region	2009	Funding Responsible Innovation	2009_AIR Ile de France.pdf
Fondation Sciences Citoyennes	2010	Project of law for professional ethics in expertise and protection of whistleblowers	2010_FSC_Projet_Loi-LA.pdf
IRD Committee of Ethics	2012	IRD Guide to Good Practices in Research for development	2012_IRD guide bonnes pratiques.pdf
CNRS Committee of Ethics	2013	CNRS Guide to promote a Responsible and Honest Research	2013 COMETS guide recherche integre responsable.pdf
Parliament	2007	Law on the Freedoms and Responsibilities of Universities	2007_LRU_loi-LRU-100807universites.pdf
Ministry of Higher Education and Research	2013	France Europe 2020 Strategic Agenda for Research, Technology Transfer and Innovation	2013_AgendaStategique02-07-2013-EnglishLight_262183.pdf

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Alain Graf	2009	Report from the Bioethics National Debate	2009_EG bioéthique rapport_final.pdf
Parliament	2009	First law of Grenelle	2009_LOI_n°_2009-967_du_3_août_2009_version_initiale.pdf
Parliament	2005	The Charter of the Environment	2004_Charte_environnement_EN.pdf
Ministry of Education, University, and Research	2014	National Research Programme 2014-2020 (Draft)	1-PNR_online_21feb14.pdf
Government	2003	Measures of the Implementation Programme of the Provisions of the White Paper of Lithuania on Science and Technology	White Paper EN.pdf
Parliament	1994, 2010	Patent Law	Patent Law EN.pdf
Parliament	1999	Law on Copyright and Related Rights	Law on Copyright and Related Rights EN.pdf
Parliament	2009	Law on Higher Education and Research	Law on Higher Education and Research EN.pdf
Parliament	2000	Law on Ethics of Biomedical Research	Law on Ethics of Biomedical Research EN.pdf
Research Council of Lithuania	2012	Whistle-blowing regarding ethical infringement of research performance (in Lithuanian)	Whistle-blowing regarding ethical infringement of research performance LT.pdf
Parliament	2011	Regulation on the Office of Ombudsman for Academic Ethics and Procedures (in Lithuanian)	Regulation on the Office of Ombudsman for Academic Ethics and Procedures LT.pdf

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Ministry of Health	2011	Regulation on Bioethics Committee - Amendment 2 (in Lithuanian)	Regulation on Bioethics Committee 2011 LT.pdf
Ministry of Health	2010	Regulation on Bioethics Committee - Amendment 1 (in Lithuanian)	Regulation on Bioethics Committee 2010 LT.pdf
Ministry of Health	2002	Regulation on Bioethics Committee (in Lithuanian)	Regulation on Bioethics Committee 2009 LT.pdf
Ministry of Economy	2013	Green Industry Innovation Programme (in Lithuanian)	Green Industry Innovation Programme LT.pdf
Research Council of Lithuania	2012	Ethical Principles of Research Performance (in Lithuanian)	Ethical principles of research performance LT.pdf
Adolf Filáček	2013	Governance of Science and Public Engagement: Czech Trends	11_Filacek_Governance of Science and Public Engagement_Czech Trends.pdf
Ondřej Pokorný	2012	Potential for Technology Assessment (PACITA Project – CZ Country Study)	10_Potential for Technology Assessment (PACITA Project-CZ_Country_Study).pdf
Eurobarometer	2013	Science and Technology: Engagement, impact, attitudes towards in the Czech Republic	9_Science and Technology_Engagement, impact, attitudes towards in the Czech Republic.pdf
Adolf Filacek	2011	Monitoring Policy and Research Activities on Science in Society in Europe: Czech Republic Report	8_Monitoring Policy and Research Activities on Science in Society in Europe_Czech

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			Republic Report (MASIS).pdf
Ministry of Education, Youth and Sports, Council for Research, Development and Innovation of the Czech Republic	2013	Methodology of Evaluation of Research Organizations and Evaluation of Finished Programmes (valid for years 2013 - 2015)	7 Methodology of Evaluation of Research Organizations and Evaluation of Finished Programmes.pdf
Council for Research, Development and Innovation of the Czech Republic	2012	Analyses of the Existing State of Research and Development in the Czech Republic and a Comparison with the Situation Abroad	6 Analyses of the Existing State of Research and Development in the Czech Republic.pdf
Ministry of Education, Youth and Sports, Council for Research, Development and Innovation of the Czech Republic	2012	National priorities of oriented research, experimental development and innovations	5 CZ National priorities of oriented research, experimental development and innovations.pdf
Ministry of Education, Youth and Sports, Council for Research, Development and Innovation of the Czech Republic	2005	National Innovation Policy of the Czech Republic for 2005-2010	4 National Innovation Policy of the Czech Republic for 2005-2010.pdf
Karel Klusáček	2008	White Paper on Research, Development and Innovation in the Czech Republic	3 White Paper on Research, Development and Innovation in the Czech Republic.doc
Karel Klusacek	2008	Green Paper on Research, Development and Innovation in the Czech Republic	2 Green Paper on research, development and innovation in the Czech Republic.pdf
Council for Research, Development and Innovation of the	2009	The National Research, Development and Innovation Policy of the Czech Republic in 2009 – 2015	1 The National Research, Development and

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Czech Republic; Ministry of Education, Youth and Sports			Innovation Policy of the Czech Republic in 2009 - 2015.pdf
Krzysztof Leja	2008	Social Responsibility of the University	Społeczna odpowiedzialność uczelni.pdf
National Centre for Research and Development Programme	2013	Social Innovation (2013)	NCBiR, Program INNOWACJE SPOŁECZNE.pdf
National Research and Development Centre	2013	The Gekon Programme - Generator of Concepts of Ecology	GEKON.docx
Ministry of Health	2005	The Act of July 1, 2005 on the establishment of a multi-annual programme, the National Programme for Fighting Cancer	USTAWA z dnia 1 lipca 2005 r. o ustanowieniu programu wieloletniego NPZChN.docx
Ministry of Environment	2013	Strategic Plan for the Adaptation of Sectors and Areas Vulnerable to Climate Change by 2020 with the prospect of 2030 (SPA2020)	Strategiczny plan adaptacji dla sektorów i obszarów wrażliwych na zmiany klimatu 2020-2030 2013.pdf
Ministry of the Environment	2014	GreenEvo – Green Technology Accelerator, Statute	Regulamin GreenEvo 2014.pdf
Ministry of Agriculture and Rural Development	2013	Announcement of the Ministry of Agriculture and Regional Development on the list of research areas and a list of research for organic farming in 2013	Ogłoszenie MRiRW w sprawie wykazu obszarów badawczych i wykazu badań na rzecz rolnictwa ekologicznego 2013.pdf
MillwardBrown	2012	Innovation and social responsibility among the largest companies	Millward Brown Innowacyjność a społeczna

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			odpowiedzialność biznesu wśród największych przedsiębiorstw 2012.pdf
Polish Academy of Sciences	2011	Bioethics Committee of the Presidium of the Polish Academy of Sciences	Komitet Bioetyki przy Prezydium PAN - program.pdf
General Directorate for National Roads and Motorways	2013	Roads of confidence, General Directorate for National Roads and Motorways – programme of the protection of life and health of people on the roads (2007-2013)	Drogi zaufania - program ochrony życia i zdrowia ludzi na drogach krajowych.pdf
University of Iceland	2011	Sustainability and Environmental Policy for the University of Iceland 2011-2016	samthykkt_sjalfbaerni-_og_umhverfisstefna_1.pdf
Ministry for the Environment	2002	Welfare to the Future: Iceland´s National Strategy for Sustainable Development 2002-2020	Sjalfbar__roun_enska.pdf
The Prime Minister´s Office	2011	Iceland 2020 - Governmental Policy Statement for the Economy and Community: Knowledge, Sustainability, Welfare.	iceland2020.pdf
Science and Technology Council of Iceland	2012	New Vision: Changes to the science and innovation system in Iceland	Ný sýn vefútgáfa.pdf
Arnold Verbeek	2009	Education, Research and Innovation Policy: A new direction for Iceland	ERIP_Iceland.pdf
Icelandic Science and Technology Council	2013	Icelandic Science and Technology Council: Strategy 2013-2016 (Draft)	VTR_Stefna_2013-2016.pdf
Prime Ministers' Office. Science and Technology Policy Council		Building on Solid Foundations: Science and Technology Policy for Iceland 2010-2012	SogT 2010-12.pdf

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Innovation Center Iceland	2008	Innovation Center Iceland: Strategy until the year 2012	stefna-nmi-tilarsins2012.pdf
Government	2014	314/2005 (XII.25.) Government Decree on Environmental impact assessment and on uniform environmental usage authorisation process	környezeti vizsg_314_2005.rtf
Government	2013	235/2009 (X.20.) Government Decree on Medical science research on humans, on clinical testing of experimental artefacts to be used on humans and on the authorisation process of clinical examinations with medical devices to be applied on humans	emberi kut_235_2009.rtf
Althingi	2011	Act no. 61/2011 on the status of the Icelandic language and Icelandic sign language.	Icelandic-Language-Act 61-2011.pdf
Parliament	2013	Act XXI of 2008 on the protection of data on human genetics, on the rules of research and examinations of human genetics and of the functioning of bio-banks	humángenetika_XXI_2008.rtf
Bifrost University	2012	Bifrost University Language Policy	Bifrost Language Policy.pdf
Hungarian Academy of Sciences	2010	Science Ethics Code of the Hungarian Academy of Sciences	Science_Ethics_Code_English.pdf
Holar University College	2012	Málstefna Hólaskóla - Háskólans á Hólum	Holar Language Policy.pdf
Parliament	2013	Act CXI of 2011on the Commissioner for Fundamental Rights	Act CXI of 2011 - AJBH.pdf
University of Iceland	2004	Málstefna Háskóla Íslands	Málstefna Háskóla Íslands_Háskóli Íslands.pdf

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Parliament	2013	Act CXII of 2011 on the Right of Informational Self-determination and on Freedom of Information	Privacy_Act-CXII-of-2011_EN_201310.pdf
Iceland Academy of the Arts		Málstefna Listaháskóla Íslands	LHI málstefna.pdf
Ministry of Public Administration and Justice	2011	24/2011 (VIII.9.) Decree of the Ministry of Public Administration and Justice	24_2011_kim_hatásvizsgálat.pdf
University of Akureyri	2008	The Language Policy of the University of Akureyri	The Language Policy for UNAK.pdf
Parliament	2013	Fundamental Law of Hungary	fundamental_law.pdf
Svandis Nina Jonsdottir	2015	Monitoring Responsible Research and Innovation - The Case of Iceland	MoRRI - Iceland - Updated.pdf
Ministry of Economy	2011	New Széchenyi Plan: Science-Innovation Programme	005_TudomanyInnovacio.pdf
Svandis Nina Jonsdottir	2015	Monitoring Responsible Research and Innovation - The Case of Iceland (second update)	MoRRI - Iceland - Second update.pdf
Aleksandras Stulginskis University	2012	Code of Ethics by Aleksandras Stulginskis University (in Lithuanian)	etikos kodeksas_ASU.pdf

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7. Appendix B: Literature scan | Protocol and template

7.1 Protocol for the literature scan

This protocol relates to the scan of literature, including academic papers, reports, and policy documents, on RRI and RRI Learning. The role of the literature scan in relation to the overall project is presented in D2.1, the Work Plan for WP2, and the documents to be scanned are listed in Appendix A. Please find the template to be used for reviewing individual documents below.

The purpose of this protocol and associated template is to establish a common ground among the reviewers involved in the literature scan, and to ensure that the work is done coherently.

It is part of the rationale for the literature scan that it will focus on aspects relevant to the teaching and learning context emphasized by HEIRRI. Its purpose is to identify documents and materials suitable for informing the development of RRI courses and course materials. Documents presenting didactic concepts, teaching approaches, considerations or actual experiences with programmes, lectures, exercises, experiments or excursions relating to RRI ('six RRI keys' but also its broader conceptualization) are the target of the literature scan. Identification of actual training materials such as course descriptions, curricula, exemplary case descriptions or other educational materials is of crucial interest.

Beyond the RRI notion itself and the six keys, relevant documents may appear under varies headings and labels, such as 'teaching and learning for sustainability', 'teaching research integrity', 'philosophy of science' or 'teaching contextual knowledge'. The reviewer should be sensitive to these complementary strands of literature and evidence, because these may be as relevant as declared RRI pieces.

The majority of the documents listed in Appendix A is expected to be conceptually relevant to RRI, but not necessarily to RRI in teaching and learning contexts. The reviewer shall initially scan the document in question briefly in order to determine whether it relates to RRI learning at all. Please note, that the template shall only be filled for those documents that are deemed relevant to RRI teaching and learning.

For each of the (mainly academic) papers identified in MoRRI (List 1 in Appendix A), a review report – focusing mainly on metrics and indicators, but also providing an abstract of the document – has already been produced as part of the MoRRI project. For each of the national policy documents (List 2 in Appendix A) an English abstract has been produced by the Res-AGorA project. These review reports and abstracts are accessible and could be very useful for this scanning purpose.

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The pre-coded 'tick box' parts of the template may be difficult to fill. Reviewers are invited to use the comments sections provided to add complementary text. When relevant course or training materials, curricula, or other RRI related materials have been identified, please provide as extensive and rich documentation and web-links as possible using the designated cells.

Please note that we do not expect comprehensive review reports. To the extent that the documents in question are relevant to the HEIRRI database they will be re-approached under Task 2.2 (development of database). The main purpose of the scanning efforts in Task 2.1 is to collect the relevant documents and resources and provide an initial description of their contents.

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7.2 Template for the literature scan

The document is relevant to RRI in teaching and learning contexts	**Yes, ☐** **If no, do not proceed.**			
Reviewer's name				
1. Bibliographical information	FOR EXAMPLE: (Edited) books: Adair, J. (1988): *Effective time management: How to save time and spend it wisely*, London: Routledge. Ury, W.; Fisher, R.; Patton, B. M. (1991): *Getting to yes: Negotiating an agreement without giving in*, London: Routledge. Danaher, P.; Wesley, S. (eds.) (1998): *Beyond the ferris wheel*, Rockhampton: SAGE. Chapter in edited book: Byrne, J. (1995): Disabilities in tertiary education. In: Rowan, L.; McNamee, J. (eds.): *Voices of a Margin*, Rockhampton: SAGE. pp. 123-321. Journal Article Brown, C. (2007): Citing is easy. In: *Style Review* 24 (2), pp. 10-19.			
2. Document type	Scientific article ☐	Book chapter ☐	Book ☐	Report ☐
	Project deliverable ☐	Policy/ strategy document ☐	Other:	
3. Abstract (copy and paste if possible)				
4. Relation to the RRI framework	Explicit reference to RRI ☐	Implicit, related but with no reference ☐		
Comment:				
5. Main focus relates to… (multiple entries possible)	RRI in general ☐	Citizen participation ☐	Science literacy ☐	Gender equality ☐
	Open access ☐	R&I governance ☐	Ethics ☐	Other:
Comment:				
6. Main approach (multiple entries possible)	Theoretical, conceptual ☐	Methodological ☐	Policy oriented ☐	Evaluative ☐
	Descriptive, empirical ☐	Other:		
Comment:				

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7. How could it contribute to RRI teaching and learning? (multiple entries possible)	Exemplary case of teaching and learning ☐	Experiences from sessions ☐	Relevant didactic concepts ☐	Approach to session design ☐
	Training programme description ☐	Suggestions for curricula ☐	Problem based learning (PBL) ☐	Multidisciplinary learning ☐
	E-learning ☐	Exemplary teaching topics or cases ☐	Supervision attitude/approach ☐	Other:
Please specify:				
8. Potential 'RRI-Tools' categorization	Documentation (e.g. articles, reports, journals) ☐	Projects (RRI applied) ☐	Inspiring practices (e.g. external resources, cases, programmes) ☐	Tools (e.g. methods, guidelines, training, monitoring) ☐
Comment:				
9. General comments and remarks				
10. Relevant sources (If there is other sources cited or material used which may seem relevant for HEIRRI please list references)				

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Higher Education Institutions
& Responsible Research and Innovation

8. Appendix C: List of projects for scanning

8.1 RRI-projects

Proposal Call	Project Acronym	Project Title	Start Date	End Date	Sources
FP7-SCIENCE-IN-SOCIETY-2012-1	Responsibility	Global Model and Observatory for International Responsible Research and Innovation Coordination	01-02-2013	31-01-2016	http://responsibility-rri.eu/?lang=en Reports: Periodic Report Summary 1. Available at: http://cordis.europa.eu/project/rcn/108670_en.html Network of Networks. D2.1. Available at: http://responsibility-rri.eu/wp-content/uploads/2014/10/RESPONSIBILITY-D2.1-Network-of-Networks-Final-EC-Public.pdf Observatory Descriptive Report. D4.1. Available at: http://responsibility-rri.eu/wp-content/uploads/2013/08/RESPONSIBILITY-D4.1-OBSERVATORY-Decriptive-Report_Final-EC-Public.pdf

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FP7-SCIENCE-IN-SOCIETY-2012-1	Progress	PROmoting Global REsponsible research and Social and Scientific innovation	01-02-2013	31-01-2016	http://www.progressproject.eu/ Reports: Periodic Report Summary 1. Available at: http://cordis.europa.eu/project/rcn/106727_en.html RRI- Best practices in Industry. D.4.1. Available at: www.progressproject.eu/wp-content/uploads/2013/05/PROGRESS_D4.1.pdf Case Studies – Overview of Ethical Acceptability and Sustainability. D. 5.1. Available at: www.progressproject.eu/wp-content/uploads/2013/05/Progress-Deliverable-5-1-final.pdf
FP7-SCIENCE-IN-SOCIETY-2012-1	GREAT	Governance of REsponsible innovATion	01-02-2013	31-01-2016	http://www.great-project.eu/ Reports: Periodic Report Summary 1. Available at: http://cordis.europa.eu/result/rcn/158109_en.html Responsible Innovation Models Report. D.2.4. Available at: www.great-project.eu/research/Responsible_Innovation_Model_Report_versionforsubmission.docx

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FP7-SCIENCE-IN-SOCIETY-2012-1	Res-AGorA	Responsible Research and Innovation in a Distributed Anticipatory Governance Frame. A Constructive Socio-normative Approach	01-02-2013	31-01-2016	http://res-agora.eu/news/ Reports: Periodic Report Summary 1. Available at: http://cordis.europa.eu/result/rcn/172087_en.html Governance Situations and Challenges. Conceptualizing Varity to Underpin a Socio-normative RRI Governance Framework. D.2.3. Availably at: http://res-agora.eu/assets/Res-AGorA_del_2.3.pdf First Annual RRI Monitoring Report. D.5.1. Availably at: http://res-agora.eu/assets/Deliverable-5_12_withAnnexes.pdf
H2020 EC service contract RTD-B6-PP-00964-2013	MoRRI	Monitoring the Evolution and Benefits of Responsible Research and Innovation	26-09-2014	26-03-2018	http://www.isi.fraunhofer.de/isi-de/t/projekte/rl-MoRRi.php

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FP7-SCIENCE-IN-SOCIETY-2013-1	Responsible-Industry	Responsible Research and Innovation in Business and Industry in the Domain of ICT for, Health, Demographic Change and Wellbeing	01-02-2014	31-07-2017	http://www.responsible-industry.eu/ Reports: Periodic Report Summary 1. Available at: http://cordis.europa.eu/result/rcn/161219_en.html Tools and Production Matrix. D.1.3. Available at: www.responsible-industry.eu/dissemination/deliverables/D1.3_Tools_and_product_matrix.pdf?attredirects=0&d=1 Responsible Industry – Quality Assuarance Plan Final. D.6.4. Availably at: www.responsible-industry.eu/dissemination/deliverables/D6.4%20Responsible%20Industry%20-%20Quality%20Assurance%20Plan.pdf?attredirects=0&d=1
FP7-SCIENCE-IN-SOCIETY-2013-1	RRI Tools	RRI TOOLS, a project to foster Responsible Research and Innovation for society, with society.	01-01-2014	31-12-2016	http://www.rri-tools.eu/ Reports: A Catalouge of good RRI practices. D.1.4. Availably at: www.rri-tools.eu/documents/10182/18424/D+1.4+A+catalogue+of+good+practice+standards+in+RRI/16f80230-03e4-46e4-b655-b445e66aaae3 Report on the analysis of needs and constraints of the stakeholder groups in RRI practices in Europe. D.2.2. Availably at: http://www.rri-tools.eu/documents/10182/18424/RRITools_D2.2-AnalysisNeeds+ConstraintsStakeholderGroupsRRI.pdf/d5aadef5-12c4-4045-a813-15a55fc534ff

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8.2 Public engagement projects:

Proposal Call	Project Acronym	Project Title	Start Date	End Date	Sources
FP7 'Capacities' service contract nr. 2010/S 16-020113	MASIS	Monitoring Policy and Research Activities on Science in Society in Europe	01-01-2010	01-01-2012	Report: European Commission. 2012. "Monitoring Policy and Research Activities on Science in Society in Europe (MASIS). Final synthesis report." http://ec.europa.eu/research/science-society/document_library/pdf_06/monitoring-policy-research-activities-on-sis_en.pdf
H2020-SEAC-2014-1	ENRRICH	Enhancing Responsible Research and Innovation through Curricula in Higher Education	01-07-2015	01-01-2018	Cordis: http://cordis.europa.eu/project/rcn/197445_en.html
FP7-SCIENCE-IN-SOCIETY-2013-1	PE2020	Public Engagement Innovations For Horizon 2020	01-02-2014	31-01-2017	http://pe2020.eu/ Reports: Inventory of PE mechanisms and initiatives.D.1.1. Available at: http://pe2020.eu/wp-content/uploads/sites/15/2014/02/PE2020-FINAL-D.1.1-report.pdf A Refined Typology of PE Tools and instruments D2.1.Available at: http://pe2020.eu/wp-content/uploads/sites/15/2014/02/D2-1-_PE2020_submission-1.pdf

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FP7-SCIENCE-IN-SOCIETY-2013-1	ENGAGE 2020	Engaging Society In Horizon 2020	01-09-2013	30-11-2015	http://engage2020.eu/ Reports: Engage2020 Policy Brief Issue2_final ,http://engage2020.eu/media/Engage2020-Policy-Brief-Issue2_final.pdf Engage2020 Policy Brief Issue 1_final, http://engage2020.eu/media/Engage2020-Policy-Brief-Issue-1_final.pdf D3.2 Public Engagement Methods and Tools, http://engage2020.eu/media/D3.2-Public-Engagement-Methods-and-Tools.pdf D3.1 Current Praxis of Policies and Activities, http://engage2020.eu/media/D3.1-Current-Praxis-of-Policies-and-Activities.pdf D2.1 – Public Engagement – Promises, demands and fields of practice, http://engage2020.eu/media/D2.1-Public-Engagement-Promises-demands-and-fields-of-practice.pdf
FP7-Adhoc-2007-13	VOICES	Voices for innovation (Views, Opinions and Ideas of Citizens in Europe on Science)	16-01-2013	15-07-2014	http://www.voicesforinnovation.eu/ Report: Broerse, Jacqueline E.W. et al. (2014): Voices for responsible research and innovation: Engaging citizens to shape EU research policies on urban waste. Final report. Available at: http://www.voicesforinnovation.eu/files/VOICES%20FOR%20RESPONSIBLE%20RESEARCH%20AND%20INNOVATION_ENGAGING%20CITIZENS%20TO%20SHAPE%20EU%20RESEARCH%20POLICY%20ON%20URBAN%20WASTE.pdf

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FP7-SCIENCE-IN-SOCIETY-2009-1	PERARES	Public Engage-ment with Research and Research Engage-ment with Society	01-05-2010	30-04-2014	http://www.livingknowledge.org/livingknowledge/perares Reports: Van der Windt et al. (2014): Evaluating Projects of Public Engagement with Research and Research Engagement with Society. Final report on PERARES Work Package 9: Monitoring and Evaluation. Available at: http://www.livingknowledge.org/livingknowledge/wp-content/uploads/2014/09/Final-report_Evaluating-Projects-of-PER_WP9-Monitoring-and-Evaluation.pdf Tehnopolis group (2012): Sis Case Studies, May 18, first version, pp. 109ff
FP7-SCIENCE-IN-SOCIETY-2010-1	PACITA	Parlia-ments And Civil Society In Technology Assess-ment	01-04-2011	31-03-2015	http://www.pacitaproject.eu/ Reports: Ganzevles, Jurgen and Rinie van Est (2012): Deliverable 2.2. TA Practices in Europe. Available at: http://www.pacitaproject.eu/wp-content/uploads/2013/01/TA-Practices-in-Europe-final.pdf Bütschi, Danielle (2014): Strengthening Technology Assessment for Policy-Making Report of the Second Parliamentary TA Debate, 7-8 April 2014, Lisbon. Available at: http://www.pacitaproject.eu/wp-content/uploads/2014/10/PACITA_ParDdbate.pdf

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FP7-SCIENCE-IN-SOCIETY-2012-1	NERRI	Neuro-Enhance-ment: Respon-sible Research and Innovation	01-03-2013	29-02-2016	http://www.nerri.eu/eng/home.aspx; http://www.europeanbraincouncil.org/projects/NERRI.asp Reports: NERRI (2014): RECONNAISSANCE (WP2) D2.5 Briefing Paper. Available at: http://www.europeanbraincouncil.org/pdfs/NERRI_Briefing_Paper_D2%205.pdf
FP7-Adhoc-2007-13	PIER	Public Involve-ment with exhibition on Respon-sible research and innovation	01-01-2014	31-01-2015	http://www.pier-project.eu/ Report: http://cordis.europa.eu/project/rcn/111478_en.html

8.3 Science literacy and science education projects:

Proposal Call	Project Acronym	Project Title	Start Date	End Date	Sources
FP7-SCIENCE-IN-SOCIETY-2010-1	SECURE	Science Education CUrriculum REsearch	01-11-2010	31-10-2013	www.secure-project.eu Report: Balancing the need between training for future scientists and broader societal needs. http://www.artefact.be/secure/EN.pdf
FP7-SCIENCE-IN-SOCIETY-2011-1	CREATIVELITTLESCIENT	Creative Little Scientists: Enabling Creativity through Science and Mathematics in Preschool and First Years of Primary Education	01-10-2011	31-03-2014	http://www.creative-little-scientists.eu/ Report: http://www.creative-little-scientists.eu/sites/default/files/Creativity_in_Science_and_Mathematics_Education.pdf

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FP7-SCIENCE-IN-SOCIETY-2013-1	ARC OF INQUIRY	Arc of Inquiry: Inquiry Awards for Youth over Europe	01-03-2014	28-02-2018	http://www.arkofinquiry.eu/homepage Project in Progress
FP7-SCIENCE-IN-SOCIE	AVSA	Audio-visual science audiences (avsa). A comparative study	01-04-2008	31-03-2010	http://cordis.europa.eu/project/rcn/89923_de.html Report (periodic): http://cordis.europa.eu/documents/documentlibrary/118298181EN6.pdf
FP7-SCIENCE-IN-SOCIETY-2009-1	PRIMAS	Promoting inquiry in mathema-tics and science education across Europe	01-01-2010	31-12-2013	http://www.primas-project.eu Reports: PRIMAS final publication: http://www.primas-project.eu/servlet/supportBinaryFiles?referenceId=18&supportId=1247 PRIMAS final policy report: http://www.primas-project.eu/servlet/supportBinaryFiles?referenceId=23&supportId=1247

8.4 Gender equality projects:

Proposal Call	Project Acronym	Project Title	Start Date	End Date	Sources
FP7-SCIENCE-IN-SOCIETY-2007-1	PRAGES	Practising Gender Equality in Science	01-04-2008	31-12-2009	http://www.pragesdatabase.eu/ http://www.reteparioppportunita.it/prages/ Reports: Final Report Summary – PRAGES, http://cordis.europa.eu/result/rcn/45561_en.html Cacace, Marina (2009), Guidelines for Gender Equality Programmes in Science, Prages – Practising Gender Equality in Science, Rome. http://www.reteparioppportunita.it/Rete_Pari_Opportunita/UserFiles/Progetti/prages/pragesguidelines.pdf

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FP7-SCIENCE-IN-SOCIETY-2009-1	GENSET	Increasing Capacity for Implementing Gender Action Plans in Science	01-09-2009	29-02-2012	www.genderinscience.org/ Reports: Periodic Report Summary – GENSET http://cordis.europa.eu/result/rcn/53610_en.html genSET Project (2010), The Consensus Report: Recommendations for Action on the Gender Dimension in Science, http://www.portiaweb.org/images/stories/genSET_consensus_report.pdf European Gender Summit (2011, 2012, 2013, 2014), Communication. Available at: www.genderinscience.org
FP7-SCIENCE-IN-SOCIETY-2010-1	GENIS LAB	The Gender in Science and Technology LAB – GENIS LAB	01-01-2011	31-12-2014	www.genislab-fp7.eu/ Report: Periodic Report Summary - GENIS LAB. http://cordis.europa.eu/result/rcn/54862_en.pdf
FP7-SCIENCE-IN-SOCIETY-2010-1	INTEGER	Institutional Transforma-tion for Effecting Gender Equality in Research	01-03-2011	28-02-2015	http://www.projectinteger.com/en/about-the-project Report: Periodic Report – INTEGER. http://cordis.europa.eu/publication/rcn/15978_en.html
FP7-SCIENCE-IN-SOCIETY-2011-1	STAGES	Structural Transforma-tion to Achieve Gender Equality in Science	01-01-2012	31-12-2015	http://www.stages.csmcd.ro/ Reports: Periodic Report Summary 1 – STAGES. http://cordis.europa.eu/result/rcn/141360_en.html Progress evaluation report no. 3, 2014 (unpublished)
FP7-SCIENCE-IN-SOCIETY-2012-1	GENO-VATE	Transforming organisational culture for gender equality in research and innovation	01-01-2013	31-12-2016	http://www.genovate.eu/ Report: GENOVATE Convention Report March 2013. http://www.genovate.eu/dissemination/genovate-reports/
FP7-SCIENCE-	WHIST	Women's careers hitting	01-05-2009	30-11-2011	http://cordis.europa.eu/project/rcn/91101_en.html

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IN-SOCIETY-2008-1		the target: gender management in scientific and technological research			Reports: Final Report – WHIST. http://cordis.europa.eu/publication/rcn/15270_en.html Periodic Report Summary 2 – WHIST. http://cordis.europa.eu/result/rcn/55789_en.html Final Report Summary – WHIST. Available at: http://cordis.europa.eu/result/rcn/56106_en.html
European Commission	MORE2	Support for continued data collection and analysis concerning mobility patterns and career paths of researchers			http://www.more-2.eu/www/index.php Reports: Final Report – MORE2. http://ec.europa.eu/euraxess/pdf/research_policies/more2/Final%20report.pdf Researcher Indicators Report. http://ec.europa.eu/euraxess/pdf/research_policies/more2/Indicators%20report.pdf 150 indicators - online database. http://www.more-2.eu/www/index.php?option=com_content&view=article&id=118&Itemid=125 MORE2 - Remuneration Cross-Country Report (WP4). http://www.wifo.ac.at/jart/prj3/wifo/resources/person_dokument/person_dokument.jart?publikationsid=47102&mime_type=application/pdf

8.5 Open Access projects:

Proposal Call	Project Acronym	Project Title	Start Date	End Date	Sources
FP7-SCIENCE-IN-SOCIETY-2012-1	RECODE	Policy RECom-menda-tions for Open Access to Research Data	01-02-2013	31-01-2015	http://recodeproject.eu/ http://cordis.europa.eu/project/rcn/106728_en.html?isPermaLink=true Reports: Sveinsdottir et al. (2013): Deliverable D1:

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		in Europe			Stakeholder Values and Ecosystem. RECODE. Available at: http://recodeproject.eu/wp-content/uploads/2013/10/RECODE_D1-Stakeholder-values-and-ecosystems_Sept2013.pdf Bigagli et a. (2014): Deliverable D.2.1:Infrastructure and technology challenges. RECODE. Available at: http://recodeproject.eu/wp-content/uploads/2014/04/D2.1-Infrastructure-and-technology-challenges.pdf Finn et al. (2014): Deliverable D3.1: Legal and ethical issues in open access and data dissemination and preservation. RECODE. Available at: http://recodeproject.eu/wp-content/uploads/2014/05/D3.1-legal-and-ethical-issues-FINAL.pdf Noorman et al. (2014): Draft Deliverable D4.1: Institutional barriers and good practice solutions. RECODE. Available at: http://recodeproject.eu/wp-content/uploads/2014/09/RECODE-D4.1-Institutional-barriers-FINAL.pdf RECODE policy recommendations for open access to research data – summary booklet D5 – Guidelines for different stakeholder groups on supporting open access to and preservation of research data *(Submitted January 2015)* D6 – Using existing open access networks to support policy harmonisation across Europe
FP7-SCIENCE-IN-SOCIETY-	SOAP	Study of open access publishing	01-03-2009	28-02-2011	http://project-soap.eu/ Reports: Periodic Report Summary 2 – SOAP http://cordis.europa.eu/result/rcn/5537

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2008-1					1_en.html Periodic Report 1 – SOAP http://cordis.europa.eu/publication/rcn/14993_en.html Final Report Summary – SOAP http://cordis.europa.eu/result/rcn/55370_en.html
FP7-SCIENCE-IN-SOCIETY-2013-1	PASTEUR-4OA	Open Access Policy Alignment Strategies for European Union Research	01-02-2014	31-07-2016	http://www.pasteur4oa.eu/
FP7-INFRASTRUCTURES-2011-2	OpenAIRE-plus	2nd-Genera-tion Open Access Infrastruc-ture for Research in Europe	01-12-2011	31-12-2014	http://cordis.europa.eu/project/rcn/100079_en.html https://www.openaire.eu/
FP7-ICT-2007-2	AEGIS	Standards	01-09-2008	31-08-2012	http://cordis.europa.eu/project/rcn/88209_en.html http://www.aegis-project.eu/

8.6 Ethics projects:

Proposal Call	Project Acronym	Project Title	Start Date	End Date	Sources
FP7-SCIENCE-IN-SOCIETY-2007-1	EPINET	Epistemic Networks	01-05-2011	31-04-2015	http://www.epinet.no/
FP7-SCIENCE-IN-SOCIETY-2007-1	VALUE ISOBARS	The Landscape and Isobars of European Values in Relation to Science and New Technology	01-06-2009	01-11-2011	http://www.value-isobars.no/
FP7-	TECHNO	a	01-03-	31-11-	http://technolife.no/

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SCIENCE-IN-SOCIETY-2007-1	LIFE	Transdisciplinary approach to the Emerging CHallenges of NOvel technologies: Lifeworld and Imaginaries in Foresight and Ethics	2009	2011	Report: http://technolife.no/content/filelist_b9b0f429-0e6c-49f5-8944-24541635e46e/1336510179106/technolife_final_report_for_website.pdf
FP7-SCIENCE-IN-SOCIETY-2007-1	STEPE	Sensitive technologies and European public ethics	01-05-2008	31-12-2011	http://cordis.europa.eu/project/rcn/89262_en.html Report: Final Report Summary – STEPE http://cordis.europa.eu/result/rcn/57707_en.html
FP7-SCIENCE-IN-SOCIETY-2007-1	ETHICS-WEB	Inter-connected European Information and Documentation System for Ethics and Science: European Ethics Documentation Centre	01-06-2008	31-08-2011	http://www.ethicsweb.eu/node/1 Reports: Periodic Report Summary 2 – ETHICSWEB http://cordis.europa.eu/result/rcn/56501_en.html Periodic Report Summary 1 - ETHICSWEB http://cordis.europa.eu/result/rcn/45920_en.html Final Report – ETHICSWEB http://cordis.europa.eu/publication/rcn/15617_en.html
FP7-SCIENCE-IN-SOCIETY-2009-1	EUREC-NET	European Research Ethics Committees' Network	01-03-2011	28-02-2014	http://www.eurecnet.org/index.html Report: Periodic Report Summary 1 – EURECNET http://cordis.europa.eu/result/rcn/140032_en.html
FP7-SCIENCE-IN-SOCIETY-2013-1	SATORI	Stakeholders Acting Together On the ethical impact assessment of	01-01-2014	30-09-2017	http://satoriproject.eu/

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		Research and Innovation			
FP6-2003-SCIENCEANDSOCIETY-4	INES	The Institutiona-lisation of Ethics in Science Policy; Practices and Impact	01-02-2004	31-08-2007	http://cordis.europa.eu/project/rcn/73926_en.html
FP7-SCIENCE-IN-SOCIETY	EGAIS	The Ethical GovernAnce of emergIng technologieS New Governance Perspectives for Integrating Ethics into Technical Development Projects and Applications	01-05-2009	29-02-2012	http://cordis.europa.eu/project/rcn/91156_en.html Reports: Periodic Report 1 – EGAIS http://cordis.europa.eu/publication/rcn/10741_en.html Periodic Report Summary 2 – EGAIS http://cordis.europa.eu/result/rcn/53898_en.html Periodic Report Summary 1 – EGAIS http://cordis.europa.eu/result/rcn/46390_en.html
FP7-SCIENCE-IN-SOCIETY	PRO-GRESS	Towards a European normative model for Responsible Research and Innovation globally, using constitutional values as a driver to inform societal desirability	01-02-2013	31-01-2016	http://www.progressproject.eu/ Reports: Schroeder D et al (2014) Funder Reports - How innovation is driven towards societal desirability through funding requirements, Report for FP7 Project "Progress". http://www.progressproject.eu/project-deliverables/ Cavallaro F *et al*. (2014) Responsible Research and Innovation and End-Users, Report for FP7 Project “ProGReSS”, progressproject.eu.
FP7-	GEST	Global Ethics in	01-02-	30-04-	http://www.uclan.ac.uk/research/explor

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SCIENCE-IN-SOCIETY-2010-1		Science and Technology	2011	2014	e/projects/global_ethics_science_technology.php http://cordis.europa.eu/project/rcn/96890_en.html Reports: Result in Brief – GEST, http://cordis.europa.eu/result/rcn/90934_en.html Periodic Report Summary - GEST http://cordis.europa.eu/result/rcn/54533_en.html Book: Ladikas et al. (2015): Science and Technology Governance and Ethics. A Global Perspective from Europe, India and China. Springer
FP7-SCIENCE-IN-SOCIETY-2010-1	EPOCH	Ethics in Public Policy Making: The Case of Human Enhancement	01-11-2010	31-10-2012	http://cordis.europa.eu/project/rcn/96892_en.html Report: Periodic Report Summary – EPOCH http://cordis.europa.eu/result/rcn/55321_en.html

8.7 Governance projects:

Proposal Call	Project Acronym	Project Title	Start Date	End Date	Sources
FP7-SCIENCE-IN-SOCIETY-2011-1	CONSI-DER	Civil society organisations in designing reseach governance	01-02-2012	31-01-2015	http://www.consider-project.eu/ Report: Periodic Report – CONSIDER http://cordis.europa.eu/publication/rcn/16797_en.html
FP7-SCIENCE-IN-SOCIETY	ACUMEN	Academic Careers Understood through Measurement and Norms	01-03-2011	28-02-2014	http://research-acumen.eu/ http://cordis.europa.eu/project/rcn/97240_en.html
FP7-	HEALTH	Health Matters:	01-6-	31-07-	http://www.healthgovmatters.eu/

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SCIENCE-IN-SOCIETY 2008-1	GOVMATTERS	A social science and ethnographic study of patient and professional involvement in the governance of converging technologies in Medicine	2009	2012	
FP7-SCIENCE-IN-SOCIETY-2012-1	GREAT	Governance of REsponsible innovATion	2013-02-01	2016-01-31	http://www.great-project.eu/ http://cordis.europa.eu/project/rcn/106794_en.html
FP7-SCIENCE-IN-SOCIETY-2009-1	PRE-SCIENT	Privacy and emerging fields of science and technology: Towards a common framework for privacy and ethical assessment	01-01-2010	31-03-2013	http://www.prescient-project.eu/prescient/index.php
FP7-SCIENCE-IN-SOCIETY-2011-1	ROBO-LAW	Regulating Emerging Robotic Technologies in Europe: Robotics facing Law and Ethics	01-03-2012	28-02-2014	http://www.robolaw.eu/index.htm Report: Periodic Report Summary – ROBOLAW http://cordis.europa.eu/result/rcn/57151_en.html
FP7-SCIENCE-IN-SOCIETY-2007-1	SET-DEV	Science, Ethics and Technological Responsibility in Developing and Emerging	01-03-2008	31-05-2011	http://www.set-dev.eu/ Reports: Periodic Report Summary - SET-DEV http://cordis.europa.eu/result/rcn/54255_en.html

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		Countries			Final Report - SET-DEV http://cordis.europa.eu/publication/rcn/14525_en.html
FP7-SCIENCE-IN-SOCIETY-2012-1	RES-AGORA	Responsible Research and Innovation in a Distributed Anticipatory Governance Frame. A Constructive Socio-normative Approach	01-02-2013	31-01-2016	http://res-agora.eu/ http://cordis.europa.eu/project/rcn/108668_en.html Report: Griessler, Mejlgaard & Pöchhacker (2014): First Annual RRI Monitoring Report. http://res-agora.eu/assets/Deliverable-5_12_withAnnexes.pdf
FP7-ENV-2008-1	PASSO	Participatory assessment of sustainable development indicators on good governance from the civil society perspective	01-05-2009	31-10-2010	http://www.isis-it.com/passo/ http://cordis.europa.eu/project/rcn/91257_en.html Report: Tehnopolis group (2012): Sis Case Studies, May 18, first version, pp. 174ff
FP5	STAGE	Science, Technology and Governance in Europe	15-09-2001	14-12-2004	Report: Hagendijk, R., Healey, P., Horst, M., & Irwin, A. (2005). Science, Technology and Governance in Europe: Challenges of Public Engagement.
INTERREG	KARIM	European Network for Responsible Innovation and Technology Transfer		2014	http://www.karimnetwork.com
FP7-SCIENCE-IN-SOCIETY	Responsible-industry	Responsible-industry	01-02-2014	01-06-2017	www.responsible-industry.eu

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FP7-SCIENCE-IN-SOCIETY	EGAIS	The Ethical GovernAnce of emergIng technologieS New Governance Perspectives for Integrating Ethics into Technical Development Projects and Applications	01-05-2009	29-02-2012	http://cordis.europa.eu/project/rcn/91156_en.html Reports: Periodic Report 1 – EGAIS http://cordis.europa.eu/publication/rcn/10741_en.html Periodic Report Summary 2 – EGAIS http://cordis.europa.eu/result/rcn/53898_en.html Periodic Report Summary 1 – EGAIS http://cordis.europa.eu/result/rcn/46390_en.html
FP7-SCIENCE-IN-SOCIETY	NANO-CODE	A multistake-holder dialogue providing inputs to implement the European Code of Conduct for Nanosciences & Nanotechno-logies (N&N) research	01-01-2010	30-11-2011	http://cordis.europa.eu/result/rcn/91262_en.html Report: Final Report Summary – NANOCODE, http://cordis.europa.eu/result/rcn/55409_en.html
FP7-SCIENCE-IN-SOCIETY-2010-1	EPOCH	Ethics in Public Policy Making: The Case of Human Enhancement	01-11-2010	31-10-2012	http://cordis.europa.eu/project/rcn/96892_en.html Report: Periodic Report Summary – EPOCH http://cordis.europa.eu/result/rcn/55321_en.html
FP6-2005-SCIENCE-AND-SOCIETY-	RISK-BRIDGE	Risk-Bridge (Building Robust, Integrative	01-07-2006	30-06-2009	http://cordis.europa.eu/project/rcn/80067_en.html

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14		Inter Disciplinary Governance Models for Emerging and Existing risks)			
ERC-2012-StG_20111124	ITEPE	Institutional Transformation in European Political Economy – A Social – Legal Approach.	01-02-2013	31-01-2017	http://cordis.europa.eu/project/rcn/105530_en.html
FP7-HEALTH-2007-B	BRIDGE	Scoping study of approaches to brokering knowledge and research information to support the development and governance of health systems in Europe	01-01-2009	31-12-2010	http://cordis.europa.eu/project/rcn/90965_en.html Reports: Final Report - BRIDGE http://cordis.europa.eu/publication/rcn/14254_en.html Periodic Report - BRIDGE http://cordis.europa.eu/publication/rcn/10272_en.html BRIDGE Result In Brief (http://cordis.europa.eu/result/rcn/86324_en.html)
FP6-2004-MOBILITY-5	ALIVE	Accoun-tability and Legitimacy of Gover-nance Institu-tions that support Viable Environments.	01-01-2006	31-12-2007	http://cordis.europa.eu/project/rcn/79139_en.html

9. Appendix D: Project scan | Protocol and template

9.1 Protocol for the project scan

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This protocol relates to the scan of EU-founded projects around RRI. The purpose of the project scan in relation to the overall HEIRRI project is presented in D2.1, the Work Plan for WP2, and the projects to be scanned are listed in Appendix C. Please find the template to be used for reviewing individual projects below.

The purpose of this protocol and associated template is to establish a common ground among the reviewers involved in the project scan, and to ensure that the work is done coherently.

It is part of the rationale for the project scan that it will focus on aspects relevant to the teaching and learning context emphasized by HEIRRI. Its purpose is to identify documents and materials suitable for informing the development of RRI courses and course materials. Documents and project results presenting didactic concepts, teaching approaches, considerations or actual experiences with programmes, lectures, exercises, experiments or excursions relating to RRI ('six RRI keys' but also its broader conceptualization) are the target of the literature scan. Identification of actual training materials such as course descriptions, curricula, exemplary case descriptions or other educational materials is of crucial interest.

Beyond the RRI notion itself and the six keys, relevant documents may appear under varies headings and labels, such as 'teaching and learning for sustainability', 'teaching research integrity', 'philosophy of science' or 'teaching contextual knowledge'. The reviewer should be sensitive to these complementary strands of literature and evidence, because these may be as relevant as declared RRI pieces.

The bulk of the projects listed in Appendix C is expected to be irrelevant to the HEIRRI objectives, which is why a central task of the scan is to identify those projects which hold information about RRI in the context of teaching and learning. The reviewer shall initially briefly scan key parts of the project in question (project abstract, key deliverables, summaries of results, webpage) in order to determine whether it relates to RRI learning at all. If the project is deemed relevant to RRI in teaching and learning, a central task is to identify the particular materials and documents from the project with relevance to HEIRRI. Please note, that the template shall only be filled for those projects that are deemed relevant to RRI teaching and learning. Please also note that some of the projects have been reviewed by the MoRRI project, and that the review reports from MoRRI may be useful for the HEIRRI project scan.

The pre-coded 'tick box' parts of the template may be difficult to fill. Reviewers are invited to use the comments sections provided to add complementary text. When relevant course or training materials, curricula, or other RRI related materials have been identified, please provide as extensive and rich documentation and web-links as possible using the designated cells.

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Please note that we do not expect comprehensive review reports. To the extent that the projects in question are relevant to the HEIRRI database they will be re-approached under Task 2.2 (development of database). The main purpose of the scanning efforts in Task 2.1 is to collect the relevant project documents and resources and provide an initial description of their contents.

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9.2 Template for the project scan

The project is relevant to RRI in teaching and learning contexts	**Yes, ☐** **If no, do not proceed.**			
Reviewer's name:				
1. Project Acronym:				
2. Project Title:				
3. Period: (Start/end date)				
4. Project summary: (copy and paste if possible)				
5. Main objectives:				
6. Main focus relates to: (multiple entries possible)	RRI in general ☐	Citizen participation ☐	Science literacy ☐	Gender equality ☐
	Open access ☐	R&I governance ☐	Ethics ☐	Other:
Comment:				
7. Main outcomes:				
8. How could it contribute to RRI teaching and learning? (multiple entries possible)	Exemplary case of teaching and learning ☐	Experiences from sessions ☐	Relevant didactic concepts ☐	Approach to session design ☐
	Training programme description. ☐	Suggestions for curricula ☐	Problem based learning (PBL) ☐	Multidisciplinary learning ☐
	E-learning ☐	Exemplary teaching topics or cases ☐	Supervision attitude/approach ☐	Other:
Please specify:				
9. Potential 'RRI-Tools' categorization	Documentation (E.g. articles, reports, journals) ☐	Projects (RRI applied) ☐	Inspiring practices (e.g. external resources, cases, programmes) ☐	Tools (e.g. methods, guidelines, training, monitoring) ☐
Comment:				

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10. General comments and remarks	
11. Relevant sources and materials (Which are the documents and/or materials provided by the project which are relevant for HEIRRI)	

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10. Appendix E: External expert Interviews | Interview protocol

10.1 Protocol for the expert interviews

This protocol relates to the interviews of key educators and scholars, who have had extensive experience bringing aspects of RRI into teaching and learning in higher education institutions. The aim of the interviews in relation to the overall HEIRRE project is presented in D2.1, the Work Plan for WP2. Please find the interview-guide below.

The purpose of this protocol and the associated interview-guide is to provide a common starting point for the researchers carrying out the interviews and to ensure some degree of consistency across interviews. It should be noted, however, that the interviews are intended to be explorative and to be carried out as loosely structured conversations. The interviewer can pursue other trails through the interviews when this is considered useful.

The overall aim of the expert interviews is to identify RRI educational resources, exemplary cases and materials as a supplement to those identified in the literature and project scan, in order to inform the development of RRI training design and training materials in WP3 and WP4. The interviews should uncover the expert's knowledge about past, current, and emerging training approaches, programmes, courses and materials related to teaching responsible research and innovation. It is important that the interviewee is encouraged to be specific about relevant teaching techniques, topics and curricula, and explicit about how documentation can be retrieved.

It should be noted that the most illustrative examples of RRI in teaching and learning may appear under different headings. Relevant insights may very well come under different headings such as 'teaching and learning for sustainability', 'teaching research integrity', 'philosophy of science' or 'teaching contextual knowledge'. The interviewer should be sensitive to these complementary strands of knowledge and not confine the conversation to teaching and learning activities explicitly under the RRI heading.

The interview guide provides several main questions (marked with ➢) and associated, potential follow-up questions. The latter may be substituted by improvised follow-up questions reflecting the flow of the conversation.

The length of the interviews may vary. We estimate that they will on average be around one hour. The interviewers should audio-record the conversation and provide a written 1-2 page summary.

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10.2 Interview guide for expert interviews

Start the interview with a brief introduction of yourself and the HERRI project. Inform the interviewee about the purpose of the interview, which is to collect information about different ways of teaching issues related to responsibility in research and innovation. Depending on the interviewee's familiarity with the RRI concept, it may be useful to briefly introduce the definition of RRI and the history behind it, and perhaps also the six keys of RRI. It must be emphasized, however, that issues of responsibility in research and innovation stretch beyond those key areas.

- **Please tell me about your own experiences teaching issues related to responsibility in research and innovation?**
    a. How were issues of responsibility addressed?
    b. Which were the thematic areas covered?
    c. To which areas of science and technology did your teaching relate?
    d. Did your teaching relate to specific societal controversies or contentions?
    e. What went well in these teaching situations?
    f. And what went wrong?
    g. Which lessons for RRI teaching and learning can be extracted from your examples?
    h. Who were the students (e.g. degree level)?
    i. Which teaching formats did you use?
    j. Can you provide access to course outline, description of contents, teaching materials, etc.?

- **Are you aware of other interesting examples of how to teach issues related to responsibility in research and innovation?**
    a. Which issues of responsibility, which areas of science and technology, which societal controversies etc.
    b. In which environment did this take place and who were involved?
    c. Why was this example particularly interesting?
    d. Which lessons for RRI teaching and learning can be extracted from this example?
    e. Do you know, if access to course descriptions and materials etc. can be provided?

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- **Which are the benefits of teaching issues related to responsibility in research and innovation at higher education institutions?**
    a. To students?
    b. To science?
    c. To society at large?

- **Are there specific teaching formats or pedagogical practices which are particularly conducive to RRI teaching?**
    a. How can these be characterized?
    b. Why are these approaches particularly relevant?

- **Are there any barriers constraining the promotion of responsible research and innovation in teaching and learning?**
    a. Are there (dis-)incentives for the individual educator or for the higher education institutions?
    b. Do training and courses related to RRI compete for space in existing curricula?
    c. Which are the pedagogical / didactic challenges?
    d. Are there any particular areas of science and technology in which RRI teaching is particularly difficult to implement?
    e. Are students sufficiently interested?

- **Are there, in your opinion, aspects of responsible research and innovation which are currently particularly salient in teaching and learning?**
    a. Which aspects and why?
    b. Which aspects are being ignored or in need of more attention?

- **Before ending, is there anything you would like to add? Is there anything important for us to consider in relation to teaching responsible research and innovation, which has not been covered by this interview?**

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11. Appendix F: Consultation of Advisory Boards| Protocol

11.1 Protocol for consultation of Advisory Boards

This protocol relates to the web-based consultation of the HEIRRI affiliated experts in the Advisory Boards. The objective of this consultation in relation to the overall HEIRRI project is presented in D2.1, the Work Plan for WP2. Please find the inquiry below.

The purpose of the consultation is to identify relevant resources, materials and experiences among the affiliated experts which can feed into the development of RRI training courses and materials in WP3 and WP4. The members of the HEIRRI Advisory Boards have been recruited on the basis of their knowledge of RRI, and RRI in teaching and learning context, and are therefore expected to have valuable knowledge of training resources relevant HEIRRI objectives.

The consultation will be implemented as an inquiry by e-mail to the Advisory Board members individually. This method is chosen because the experts are familiar with the project and the RRI framework in advance and do most likely not need extensive introduction or persuasion to participate. For this reason, we make use of a low-cost and fast method of interaction.

In addition to the inquiry below, it may be relevant to return to individuals with follow-up questions and requests for materials or documentation. The consultation should therefore be expected to be a two-step procedure, where the latter part will be customized based on the result of the first. In other words, the content of follow-up emails will depend on the initial response of the individual Advisory Board members.

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11.2 Inquiry

Email subject: Good examples of RRI in teaching and learning

Dear member of the XXXX Advisory Board for the HEIRRI project,

One of the main objectives of the HEIRRI project is to develop and test training activities on Responsible Research and Innovation (RRI) within higher education institutions. As a background, we are currently reviewing literature and projects related to RRI Learning and consulting key researchers and educators, who have knowledge and experience teaching responsible research and innovation.

We hope that you as members of our advisory board would contribute to this effort. May we please ask you to take a moment to consider whether you have or know of relevant courses, educational programmes, course materials, or other resources related to RRI in teaching and learning contexts?

Please note that we are not necessarily looking for resources explicitly under the heading of 'RRI'. Good and relevant examples may very well appear under different headings for teaching and learning, such as ethics, sustainability, equality, inclusiveness etc.

Thank you very much in advance. We look forward to your response.

Best regards
XXXX

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12. Appendix G: Consultation of broader communities of scholars and practitioners | Protocol

12.1 Protocol for consultation of broader communities

This protocol relates to a broader consultation of communities of scholars and practitioners in the area of RRI. The objective of this consultation in relation to the overall HEIRRI project is presented in D2.1, the Work Plan for WP2. Please find the inquiry below.

The purpose of the consultation is to identify relevant resources, materials and experiences among the broader communities of scholars and practitioners, which can feed into the development of RRI training courses and materials in WP3 and WP4.

The consultation will be implemented as an inquiry by e-mail to selected list servers. The selection of lists will be based on nomination from the HEIRRI consortium members.

In case of positive and useful responses, it may very well be relevant to return to individual contributors with customized follow-up questions and requests for materials or documentation.

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12.2 Inquiry

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Dear colleagues

One of the main objectives of the EU-funded HEIRRI project is to develop and test training activities on Responsible Research and Innovation (RRI) within higher education institutions. As a background, we are currently reviewing literature and projects related to RRI teaching and learning and consulting key researchers and educators in this field.

We hope that you may be able to contribute to this effort. May we please ask you to take a moment to consider whether you know of relevant courses, educational programmes, course materials, or other resources related to RRI in teaching and learning contexts?

Please note that we are not necessarily looking for resources explicitly under the heading of 'RRI'. Good and relevant examples may very well appear under different headings for teaching and learning, such as ethics, sustainability, equality, inclusiveness etc.

Thank you very much in advance. We hope to hear from you on the following email-address:

XX@XX.XX

Best regards

XXXX

What is HEIRRI?

HEIRRI (Higher Education Institutions & Responsible Research and Innovation) is a European project that aims to integrate the concept of "Responsible Research and Innovation", or RRI, in the science and engineering degrees, mainly focusing on universities and other higher education institutions (HEIs). HEIRRI started on September 1st 2015, it will last three years and it has an approximate budget of one and a half million euros.

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HEIRRI is led by **Universitat Pompeu Fabra** and the HEIRRI Consortium is composed by the **Aarhus University** (Denmark), the **University of Bergen** (Norway), the **University of Split** (Croatia), the **Institute for Advanced Studies** (Austria), **"la Caixa" Foundation** (Spain), the company **Innovatec** (Spain), the European network of science centres and museums **Ecsite** (with more than 400 institutions from 50 countries) and the **Catalan Association of Public Universities** (ACUP, which chairs **GUNi**, the Global University Network for Innovation, with 208 universities in 78 countries).

For more details on HEIRRI, please contact
HEIRRI Communication and media contact
Marta Cayetano i Giralt: marta@acup.cat

Follow us on Twitter: @HEIRRI

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13. Appendix H: Filled draft templates for the HEIRRI database

13.1 Filled draft template for 'library element'

BIBLIOGRAPHIC REFERENCES

Irish Council for Bioethics (2010). Recommendations for Promoting Research Integrity.

Summary of Content

The report is based on a recognition that issues of promoting integrity in research and discouraging misconduct are not thoroughly elaborated and confined within the areas of science and health science, but apply to all disciplines of research within social sciences and the humanities. Then, throughout the document the Council focuses on these disciplines in order to elucidate the main issues pertaining to research integrity. In particular, the report provides important insights into the concepts of research integrity and misconduct and how they could be improved within higher education institutions.
In relation RRI, the most important contribution of the report, is its conceptualization of educational abilities that could enhance the *ethics key* in higher educations and provide an important framework onto which researchers can rationalize and be further educated within ethics in science and education (pp. 22). According to the report, educational programmes in ethics and good research practice (GRP) should focus on the following four abilities:

1. **Ethical sensitivity**: Students should be able to identify the ethical dimensions of a given situation within the research setting, as well as the relevant guidelines, standards and regulations that apply in such situations.
2. **Ethical reasoning**: Students should be able to develop defensible rationales for the choices and

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action they make in research.

3. **Moral motivation and commitment**: Students should be able to prioritize moral values over other more personal values or interests (e.g. ambition and career progression or institutional loyalties) as well as identifying and integrating these moral values with their professional values.
4. **Survival skills:** Students should be able to perform the fundamental and complex tasks associated with their professional discipline with integrity. Such tasks include basic research design, methodology and analysis, as well as report writing, applying for funding, and teaching and supervising students and other trainees.

This educational model is about internalizing the concepts of GRP in a deeper way, by providing individual researchers with a framework to help them deal with complex ethical issues, which may not always entail clear-cut answers about which behaviors are right or wrong.

Furthermore, the report provides several suggestions for educational activities, training programmes etc. in which the four abilities could be developed and nurtured in higher education institutions. These activities include; active learning methodologies that make use of both vertical and horizontal communication, discussion and interaction, i.e. between the instructors and the trainees, as well as inter-trainee interactions and discussion groups, to encourage the engagement and participation of the trainees in the learning process. Moreover, Problem-based learning (PBL) is recommended through the use of specific case studies, vignettes or role-playing exercises.

Format
PDF
Access
Open
Language
English
Expertise
Undergraduate, Master, Ph.D.
LINK
https://rritrends.res-agora.eu/uploads/20/4%20Irish-Council-of-Bioethics-Research_Integrity_Document.pdf

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13.2 Filled draft template for 'inspiring practice'

SUMMARY

Socio-Technical Integration Research (STIR) is an associated project at the Center for Nanotechnology in Society at ASU initiated by Dr. Erik Fischer. STIR provides an experimental *midstream modulation* platform for scientists and engineers to incorporate the methods and perspectives of the social sciences and humanities while going about their normal work in the laboratory. The project uses a collaborative, hands-on approach that was developed by Dr. Fischer when he was of the member of a nanoscale engineering laboratory.

The main objective of the project is to understand the conditions under which science and engineering research practices can be responsive and adaptive to social and ethical concerns. This approach corresponds greatly to initiatives of 'responsible research & innovation' and 'upstream public engagement', which have requested this kind of responsiveness. In return, STIR aims to provide an empirical basis for designing and evaluating effective programmes based on these policies.

Scale

International, National, Local

Language

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English

Country
USA

Process Requirements

Diversity & Inclusion
The project conducted a coordinated set of 20 laboratory engagement studies to assess and compare the varying pressures and capacities for laboratories to integrate broader societal considerations into their work. A core group of ten doctoral students each conduct two paired laboratory studies that extended more traditional ethnographies by engaging researchers in semi-structured interactions designed to enhance reflection upon research decisions in light of broader considerations.

Openness and Transparency
STRIR tests and refines a set of techniques that will be made available to others for use in designing, conducting and assessing effective collaborations with scientists and engineers that are aimed at responsible innovation. This includes developing a research & education platform that will allow the continued training and placement of additional and future researchers

ANTICIPATION & REFLECTION
The project strengthens linkages between science studies and policy deliberations by informing research, management and education institutions to seek and institute greater interdisciplinary interactions with the aim of creating a stronger Research & Innovation platform in higher educations.

Responsiveness & Adaptive Change
The platform of midstream modulation in STIR is able to affect changes in how scientists (re)view their own work. In consequence, these adjustments can lead to an improved deliberation between researchers, the general public and policy makers. Furthermore, this can contribute to an improvement in the ways in which scientific research is conducted, from experimentation to dissemination and in the end raise the ethical standards of the entire scientific community.

Stage
Development, Exploration, Implementation, Evaluation
Outcomes
Dr. Fischer have trained dozens of graduate students in STIR, and they have in turn conducted over 30 studies in university- and industrial laboratories in approximately 14 countries across Europe, North America and Asia.

In consequence, the project has provided a *proof-of-concept* for the possibility and utility of socio-

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technical integration. It has found a correlation between observation, engagement and the alteration of research practices for the better. These concrete and tangible examples of changes in laboratory practice, whether in the form of social and ethical deliberations or technical breakthroughs, hold significance for the prospect of building longer-term socially responsive capacities in science.

Lessons

In practical terms, STIR takes place in the way that a researcher (e.g. Ph.D. Student or A Post Doc) at his home university, collaborate with other researchers at another laboratory at a different university. However, the connecting factor is that they are both working on the exact same research question. Then, collaboration takes place directly within the laboratory between the researchers in order to inquirer and reflect on the implications of the specific research question. In particular, this reflection should be centered on the broader issues of the societal implications of the research question in order to raise the societal awareness of the research question.

Website(s)

https://cns.asu.edu/research/stir

Organizations

Arizona State University (ASU)

Contact

Principle Investigator (PI): Erik Fisher, CNS-ASU Associate Director for Integration; Assistant Professor, School of Politics and Global Studies & CSPO, ASU. efisher1@asu.edu
Co Principle Investigator (Co-PI): David Guston, CNS-ASU Director; CSPO Co-Director and Professor, ASU. david.guston@asu.edu

References

A brief introduction to STIR: https://cns.asu.edu/sites/default/files/about-stir.pdf
For further publications on STIR https://cns.asu.edu/research/stir/publications
Video on how STIR functions explained by Dr. Erik Fischer: https://vimeo.com/148684835

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13.3 Filled draft template for 'tool'

TREEE:

Training and Resources in Research and Ethics Evaluation

AUTHOR/INSTITUTIONS INVOLVED

Coordinator: Dominique Sprumont (Institute of Health Law, University of Neuchatel, Switzerland)
Manager: Marie Hirtle (Biotika, Canada)

SUMMARY

TRREE is headed by a consortium of interested persons from Northern and Southern countries. It aims to provide basic training, while building capacities on ethics of health research involving humans in order for researchers to meet the highest ethical standards. TRREE achieves this goal by an online training programme with local collaborators from both European and African counterparts.
TRREE provides access to the following online learning programmes.

- **E-Learning:** a distance learning programme and certification on research ethics evaluation
- **E-Resources:** a participatory web-site with international, regional and national regulatory and policy resources

The training material is designed for all involved in collaborative research involving humans including physician-investigators and other researchers, students, research ethics committees and regulatory agencies. Moreover, the modules are based on well-established principles of research ethics, such as the Declaration of Helsinki. In general, research ethics operates within the universal human rights

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framework as elaborated in the Universal Declaration of Human Rights (1948) and the Convention on the Rights of the Child (1989).

ACCESS

Open, requires a free registration on the website.

FORMAT

Online, DB

SCALE

National, International, Regional

Within the online platform, each user has access to national supplements for respectively the African- and European Region. This means that users can click on a specific country in each of the two regions and find detailed material and presentations on how the main ethical and legal issues involving research on human participants is addressed in national laws and regulation. Specifically, the national supplements, includes 1) a precise description of the national legal framework within a given country, and 2) direct online access to all the legal and regulatory provisions applicable in the country involved.

Language

English, German, French, Latvia, Lithia, Polish, Portuguese, Romanian.

Process

Diversity, Inclusion, Transparency, Anticipation, Adaptation.

Scale

Development, Exploration, Implementation, Dissemination

Practicalities

The E-learning programmes are divided into six modules:

1. **Introduction to Research Ethics**. An introductory module that presents the basics of research ethics evaluation and the broader context of research ethics.
2. **Research Ethics Evaluation**. The module focuses the training needs of members of Research Ethics Committees (RECs). It also relevant to other stakeholders such as researchers and their teams or students who are on the process of developing research projects.
3. **Informed Consent**: More information on this course will be added later.
4. **Good Clinical Practice:** The module is a current and comprehensive guide to the elements and principles of Good Clinical Practice (GCP) quality standards for clinical trials.
5. **HIV Vaccine Trials:** This module is intended primarily for those who design and implement HIV vaccine trials and for those who conduct ethics reviews of trial protocols. It draws upon specialized, dedicated international guidance on HIV vaccine trials as well as relevant ethics and human rights standards.
6. **Adolescence Involvement in HIV Prevention Trials:** The purpose of this module is to introduce

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course participants to key ethical complexities that may arise in the context of clinical trials of biomedical HIV prevention products involving adolescents as participants. This introductory module is primarily intended for those involved in the design and conduct of such trials, such as site-staff, and those involved in the review of protocols such as Research Ethics Committee members.

Expertise
Beginner, Practitioner, Master.

TRREE provides training and resources relevant for all those who have an interest in ensuring the protection and well-being of human participants in research as well as the promotion of the highest ethical standards. While some modules may focus on more specific training needs of research ethics committee members, the training is open to all students and researchers at all levels. In particular, it may be of interest to health authorities, funding agencies and universities, as well as to political authorities, patients and the media.

Tool URL
http://elearning.trree.org/

Contact
TREE Coordinator: Prof. Dominique Sprumont, info[at]trree.org)
TREE Technical Assistance: support[at]trree.org

Strengths and Opportunities:
The website provides valuable training materials at all levels of science and education. The varieties of online modules and training programmes could easily be incorporated as a fixed part of curricula, within the design of seminar and lectures, or as an exercise for homework at both Ph.D., Master, and Undergraduate Level. This raises the awareness of ethical dimensions within science for both students and teachers. If the exercises are continued and incorporated in the teaching practices in a daily or weekly basis, this could eventually lead to solid incorporation of ethical dimensions in the future work-life of students after graduation.

Moreover, the varieties of language available and the national supplements for both the African- and European regions entails an increased awareness of inter-national differences and variations in ethical standards. By raising the level of awareness on these comparative differences among students and teacher, this could lead to an increased convergence of national practices on ethical standards.

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Higher Education Institutions
& Responsible Research and Innovation

13.4 Filled draft template for 'project'

Train & Engage BEAMS/IOE

AUTHOR/INSTITUTIONS INVOLVED

London's Global University (UCL)

SUMMARY

A voluntary training course - Train and Engage - is offered to Postgraduate students within the fields of Engineering, Math and Physical sciences at the UCL campus. The project aims to develop public engagement skills by connecting a specific research project or activity to the outside community of the university. The objective of the training is to provide the students with an excellent grounding in this exciting and fulfilling area.

The sessions are offered by the UCL Public Engagement Unit and feature training- and group exercises as well as the chance to attend and critique a short public engagement event. Furthermore, Train and Engage offers postgraduate research students the chance to apply for grants of up to £1,000 for activities that involve people outside the university.

The Train and Engage grant scheme operates annually. The scheme is funded and administered by UCL's Public Engagement Unit. To be eligible for funding from Train and Engage, applicants must either attend the Train and Engage workshops or the "Connecting with the Public" course offered by the UCL Doctoral School in collaboration with the Department of Science and Technology Studies and the Public Engagement Unit.

ACCESS

Through application

FORMAT

The sessions are delivered by the UCL Public Engagement Unit.

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SCALE
Local, National
LANGUAGE
English
PROCESS
Engagement, inclusion, diversity,
STAGE
Development, exploration, reward
PRACTICALITIES
The Public Engagement Programme is structured around three sessions

1. Introduction to Public Engagement.
In this session the students will explore the concept of public engagement, why universities engage with public audiences, and assess the potential benefits of doing public engagement. Furthermore, the students will identify relevant public groups for their own research projects and take a creative approach to generating engagement activities suitable for their chosen public groups.

2. Developing you own Public Engagement Project
In this session, the discussion will center on project management skills and creative evaluation approaches for public engagement.

3. How to engage - Practical Public Engagement
The final element of the course is for the students to attend public engagement events with the purpose of using them as case studies in their own research projects and to discuss the methodological advantageous with public engagement activities. Furthermore, the students will identify the support and the possibilities for funding available at UCL.

EXPERTISE
Post graduate research students
TOOL URL
http://www.ucl.ac.uk/public-engagement/documents/trainandengage/2016TrainandEngageguidance

REFERENCES
http://www.ucl.ac.uk/public-engagement/funding/trainandengage

CONTACT
e.baddeley@ucl.ac.uk

STRENGTHS & OPPORTUNITIES
The programme will encourage Postgraduate students to develop research projects that engage and

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incorporates perspectives of Civil Society Organization (CSO). The programme will improve the capacity of students' knowledge about Responsible Research and Innovation (RRI) by directly responding to the needs of CSO's.

By attending public engagement events and using them directly into their research projects as case studies, this will create a midstream modulation platform. This platform is a two-way deliberate process in which students 1) carefully respond to the concerns of the public while 2) the public gains greater awareness and understanding of the implications of the research project. In general, the Train and Engage programme is an important project and step towards an enhancement and dissemination of the "citizen participation" key in RRI in science and education in higher education institutions.

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