



## **Bringing RRI forward**

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### Introduction



# Welcome to this Special Issue of EuroScientist on: Bringing RRI forward

Welcome to this special issue exploring how Responsible Research and Innovation (RRI) is going to be moving forward.

In this issue, you will discover the emerging vision for how RRI is likely to be implemented in practice terms in the future.

Feel free to share these articles widely among your circles. Let's get the conversation going.

The EuroScientist team.



#### **Editorial**



## RRI: new buzzword or vision of modern science policy?

By Jean-Pierre Alix

## Multi-stakeholder dialogue is key to better acceptance and guidance of scientific progress

Science has the power to transform societies. It has the power to help tackle the challenges Europe is facing, like meeting its energy needs, enhancing the quality of the food it produces, maintaining a healthy population, preventing diseases and pandemics, or enhancing its democratic society as well as gender balance. To deliver on such challenges, should the scientific endeavor take place without any public debate? Conversely, should societies be required to master technical evolution provided by science?



These questions are not new. However, today, Responsible Research and Innovation (RRI) aims to reconcile the need for research to operate autonomously against a backdrop of society transformed by scientific discoveries and technical inventions. As such, RRI is a rather new presentation of an old concept, albeit not a trivial one.

The principle underpinning RRI is to establish a dialogue and negotiation between all those involved; the stakeholders, including the public. That way, these stakeholders can jointly assess the value of innovations stemming from research. As part of this process, RRI puts an emphasis on negotiating future solutions by introducing reflexive arguments rather than, as previously, only letting experts make the final decisions.

And this is a new approach!

We have recently witnessed a good example of how such reflexivity can be implemented. French scientists from INRA, the National Agricultural Research Institute, are collaborating with stakeholders--including association of wine growers and nature protection organisations--as part of their test for new solutions against plant diseases affecting vineyards. Some practical solutions have been implemented in Colmar, a town in the Alsace region, following the violent destruction by environmental activists of an entire experimental field of a genetically modified vine in 2010.

The solution involves setting up meetings for all stakeholders, to discuss the proposed scientific and technical innovations developed by INRA scientists. This replaces previous power struggles where the views of the strongest would--too often--prevail. It does not mean denying potential conflicts of interests. It just aims at looking for common solutions in a democratic manner where possible.

More educated than in the past, today's citizens don't believe 'progress for the sake of progress' is free of scrutiny. Citizens would rather have a say and prefer those innovations that best serve their own interests. Therefore, the connection between researchers and citizens has to become stronger than ever. This new approach is still new in science policy, and we have to imagine how it could be developed and carefully managed.

The <u>Toolkit</u> developed by the <u>RRI Tools European research project</u> aims at documenting available solutions to help implement RRI principles. These are used to connect those who feel they need to have a say about how science and technology progresses, such as educational institutions, industry and businesses, policy makers and media and civil society organisations.

The toolkit gives scientists and other stakeholders the necessary tools to find negotiated solutions in the case of science or innovation-related conflict. They may help tackle conflict, such as in the vine experimentation case above, which requires the <u>participation of citizens</u> and <u>partners to engage</u>.

In this context, the remit of science ethics has to be broadened, beyond the classical set of values outlined by Merton in <u>The Normative Structure of Science</u>. Instead, the new ethics combines existing and novel values, favouring common discussions among stakeholders pertaining the consequences and use of research findings.

Science should therefore evidently be developed only as a <u>common good</u> for humanity and mankind in the respect of nature. This may not appear as an entirely new conclusion. Simply, it may be a matter of raising fresh awareness that the power of science can only be unleashed amid considerable wisdom.

Jean-Pierre Alix,

Jean-Pierre is Euroscience Board member, based in Paris, France, and RRI Toolkit participant.

**Photo credit: Yuxuan Wang** 



#### **RRI Toolkit**



### **RRI Training by showcases**

By steve Miller

## Lessons from the case study of the UK EPSRC Framework for Responsible Innovation

It's not that the ideas behind responsible research and innovation (RRI) are – of themselves – hard to grasp. There's almost a "so what – aren't we doing that already?" feel about them. But taken as a whole, the aims, the practices, the involvement of diverse stakeholders and the engagement with key policy agendas mean that RRI could transform the way the research and innovation processes work. It could bring their results much closer to what our fellow citizens really want and need. The challenge, then, is how to make the various actors understand what's needed, when, and how to do it. In essence: how to bring RRI to life.



That's where the RRI Tools project comes in. Over the course of this calendar year, RRI Tools is rolling out a series of training workshops across Europe, making use of its 19 hubs to cover all of the European Union. These workshops introduce what we mean by responsibility in research and innovation. It also looks at the opportunities that the involvement of a wide variety of partners can bring and identify the obstacles to making RRI work. The project's Toolkit enables those looking to overcome those obstacles to find the documents and tools they need.

The Toolkit contains a whole catalogue of "inspiring practices", instances where key elements of RRI have been incorporated in practice in the research team's work or in the business of commercialising the results into socially useful products. And for training purposes, several of these inspirational projects have been developed at length into what the RRI Tools team are calling "showcases".

One of these is the Framework for Responsible Innovation that was put together by the United Kingdom's Engineering and Physical Science Research Council (EPSRC), one of the country's major research funders and one that regularly sees its grant holders partnering with industry and commerce to generate products and services that have been socially inspired. Its AREA code — Anticipate, Reflect, Engage and Act — is designed to ensure that researchers and their commercial partners involve the right stakeholders at the right time, consider the possible risks as well as the benefits of what they are doing, think about what they can then do to change their work to avoid unintended downsides and then do something about it.

David Delpy was the chief executive of EPSRC at the time the Framework was being developed and introduced a few years ago. He was highly supportive of the efforts to bring his Research Council's work more in line with what UK citizens needed. "To me, RRI conveys something that any good researcher thinks of as part of the research that they are undertaking. Being a researcher means having good ideas but also thinking of the potential impact of research and the potential consequences of research. I don't see it as a separate item that is divorced from research, it is part of being a good researcher, especially if we are spending public money," he says.

The development of the Framework holds many lessons for others interested in RRI. So it's a good training showcase. For example, it shows a research funder reacting positively to public criticisms of scientific research, particularly around genetically modified foods and possible concerns about nanotechnology. It shows how the partnership between EPSRC's Societal Issues Panel and social science researchers working on the social challenges new technology could productively come together, rather than--as is often the case--the sociologists being seen solely as negative critics of the science and engineering research community and industry.

The showcase also highlights the importance of preparation if traditional research funders are to embrace RRI. Alison Wall, EPSRC's associate director for building leadership points to the way in which the institution's ruling Council had already seen the Societal Issues team tackle problems around information and communication technology. She explains: "This meant that Council had a good idea of the approach we would take. They could be comfortable with is as we were not going for rules and regulations, and specific grant conditions, but producing a framework for researchers to use."

RRI Tools' showcase on the EPSRC's Framework draws out how, in the case of synthetic biology, the calls for funding included elements of RRI advice and practice to be part of the proposals that would receive money to set up multimillion centres for this challenging new area of research. Some projects also included social science research to follow the way in which the science research teams followed through on EPSRC's Framework. The showcase also highlights a project to help people with restricted mobility that started with a public engagement exercise to find out just what wheelchair users would really like to do.

For training, the showcase can be used simply as an inspiring practice, a chance for workshop participants to "see how it's done". But there are also exercises that groups and individuals can carry out; there's nothing like doing it



yourself to find out how much you really understand. If you're interested, look out for training near you on the RRI Tools website.

#### **Steve Miller**

Steve is professor of science communication and planetary science, Departments of Science and Technology Studies as well as Physics and Astronomy at University College London, UK.

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#### **RRI Toolkit**



#### Launch of the RRI Toolkit

By Daniel Garcia

#### **Hands-on Responsible Research and Innovation**

So what on Earth is Responsible Research and Innovation, or RRI? And more important, how can the RRI Toolkit help us implement this concept in our work and lives? Despite the growing interest and political momentum of the concept of RRI, which is described as a cross-cutting issue in the Horizon 2020 framework programme, these questions are often heard among most actors in European research and innovation circles, who don't know how to implement it. This realisation stems from the <u>27 consultation workshops</u> conducted as part of the EU-funded RRI Tools project during the autumn of 2014.

For RRI to become a game changer in the scientific and technological arena, guidance on how to put it in practice is required. This is precisely the mandate of the <u>RRI Tools project</u>: to develop a Toolkit that helps all those involved in research and innovation to familiarise themselves with RRI and make it a reality.



#### **Challenges to RRI implementation**

This is easier said than done. When crafting the first version of the Toolkit we have found three main challenges.

First, a wealth of resources tackling diverse aspects of RRI is actually already available. These include expert literature, training materials, tools for practical implementation and self-assessment, and examples of good practice. The Toolkit gathers all these useful resources in a single place and provides easy access to them.

Second, RRI is a multifaceted concept covering a variety of topics, processes and outcomes. The challenge for the Toolkit is therefore to offer a digestible but holistic view of what RRI entails, connecting all the separate pieces.

Third, RRI involves diverse actors who have various levels of expertise. The RRI Toolkit has to address them all, but paying special attention to those more in need of guidance: newcomers to the concept.

#### From newbie to RRI-savvy

With these challenges in mind, the RRI Toolkit first offers a crash course on RRI. It offers five dedicated landing pages outlining the benefits, needs, and obstacles for <u>researchers</u>, <u>innovators</u>, <u>policy makers</u>, <u>civil society</u> and the <u>education community</u>.

In addition, the Toolkit features concrete examples explaining how to address common challenges. These include how to incorporate RRI at universities, how to support RRI in institutions and implement its principles at national level, how to embed the RRI principles in research proposals and business plans or how to co-create participatory research.

The Toolkit also caters to many people who are already familiar with the normative aspects of RRI. The portal offers specific pages dealing with the <u>six policy agendas</u> defined within RRI by the European Commission. They are split to include ethics, gender equality, governance, open access, public engagement, and science education. Through these thematic pages, users have access to relevant information and resources to implement each normative aspect, explaining how best to integrate them within any given research project.

Finally, we have also provided a third approach for those who do not need further guidance on RRI. They can avail of a powerful search engine with specific filters to find the precise resources they need.

#### Reflection and collaboration

This description of the Toolkit may give the impression that RRI is a collection of resources and guidelines on how to use them. However, RRI is primarily about reflecting, sharing, creating, and learning in a collaborative group. This is why the Toolkit includes a self-reflection tool: to assist users in thinking about their own application of RRI.

In parallel, the RRI Toolkit incorporates a number of functionalities to foster multi-actor collaboration through a <u>Community of Practice</u>, where registered users can find potential partners to co-create new projects, post interesting events in the <u>RRI calendar</u>, upload their own resources, share their favourite ones, and comment on any contents through a <u>forum</u>.



To complete this Toolkit, the project is setting up a training program with a complete package of materials and more than 40 workshops during 2016, aimed at research and innovation stakeholders to help spread the word on RRI all across Europe.

You are only just one click away from being part of this great RRI community. Feel free to join!

#### **Daniel García**

Daniel is a member of the RRI Tools Coordination Team, based at La Caixa Foundation, Barcelona, Spain.



#### **RRI Toolkit**



## **RRI Awards: recognising good practice**

By Sara Heesterbeek and Gerrit Rauws

#### **European foundations reward Responsible Research and Innovation**

The idea of connecting and aligning research with society is already meeting fertile ground. As a result, Responsible Research and Innovation (RRI) is gradually stepping away from the margins into mainstream research and innovation culture and policies. Supported by the European Commission, many projects have set out to identify, describe and discuss the different aspects of RRI. Meanwhile, there are numerous initiatives to formalise and institutionalise RRI into policy, industry and education.

Despite this growing interest in the topic, RRI practices have not been well-documented in a wide range of research disciplines. We do not know how scientists can adopt RRI principles to guide their research. We know even less how they actually apply them.



#### Responsible practice awards

Until now, there have hardly been any prizes granted in recognition of good practice in RRI-driven research. Such good practice has often remained unnoticed. As a result, the opportunity for others in the field to learn about them is also limited. This inspired a group of European science-related Foundations to create Awards for Responsible Research & Innovation (EFARRI). EFARRI is a joint initiative of the King Baudouin Foundation, Belgium, La Caixa Foundation, Spain, the Fondazione Cariplo, Italy, the Lundbeck Foundation, Denmark, the Robert Bosch Stiftung, Germany, and the European Foundation Centre Research Forum.

Their objective is to stimulate researchers and innovators to share their experience with RRI. They also aim to open up a rich diversity of promising RRI practices across Europe; including EU Member States as well as the associated countries of the European Research Area.

#### **Over 200 submissions**

A call for proposals was launched on 15th September 2015. It focused on rewarding excellent research practices where the process requirements of RRI have successfully been integrated throughout the research process. To spread the word, we partnered with the national coordinators of the RRI-Tools project, called 'national hubs.' These disseminated the call for proposals across 30 European countries, reaching out to thousands of interested researchers and innovators. By the 7th December 2015 closing date, we received almost 200 eligible applications from across Europe and even beyond, including from Serbia, Switzerland and Turkey. The highest number of applications came from Spain, Italy and Belgium. The submitted projects were diverse, ranging from health to energy research and from humanities to physics.

#### **Assessment process**

All applications were first evaluated on their eligibility. In a second phase, a multidisciplinary team of the Delft Technical University, the Netherlands, performed a preliminary assessment of the research quality and its congruence with the principles of RRI. As part of the third round, the proposals were assessed on 4th March 2016 by an international jury of renowned academics in the field of RRI under the chairmanship of Jeroen van den Hoven, professor of ethics and technology at Delft University of Technology, the Netherlands. They have short-listed the fifteen most inspiring and promising research and innovation practices.

During the summer, the jury will select the three winners among the fifteen short-listed. They will consider the applicants' contribution to a societal challenge, how the short-listed projects integrate RRI dimensions, their scientific quality and their replicability. The three winners will receive €20.000 each at the RRI Awards ceremony in November 2016. We hope these awards can contribute to make the RRI discourse, which is often seen as abstract and vague, more tangible and inspiring.

Sara Heesterbeek, project manager at the King Baudouin Foundation, Brussels, Belgium.

and

Gerrit Rauws, director at the King Baudouin Foundation, Brussels, Belgium.



#### Wider RRI debate



## Inspiring findings to expand the RRI scene

By Ralf Lindner, Doris Schroeder, Robert Gianni and Aki Menevidis

#### Joint lessons and recommendations from the Go4 RRI projects

After more than three years of work, the first EU-funded projects with explicit objectives to address the emerging concept of responsible research and innovation (RRI) are ready to present their findings. These will be discussed at a dedicated ESOF2016 session, entitled *Responsible research and innovation in action: policy and practice in Europe*, in July in Manchester, UK. In this article, we present the outcome of four projects bundled as the Go4 projects including <u>GREAT</u>, <u>Progress</u>, <u>Res-AGorA</u> and <u>Responsibility</u>. These show a concern to contribute to a more contextualised understanding of the concept of RRI. We also refer to approaches, tools and mechanisms that have been developed to facilitate the up-take of RRI within science and innovation.

#### Better social challenge responsiveness

Read this post online: <a href="http://www.euroscientist.com/bringing-rri-forward/">http://www.euroscientist.com/bringing-rri-forward/</a>



The quest for RRI has made remarkable progress over the last few years. It started back in 2003 from a rather confined <u>academic debate</u> until it became <u>firmly established</u> in the <u>EU's research and innovation policy</u> as a crosscutting theme in the current framework programme Horizon 2020. Furthermore, the <u>Rome Declaration on Responsible Research and Innovation in Europe</u> received high-level endorsement from the European Council in 2014. While the discourse on RRI is <u>far from being settled</u>, an impressive number of RRI activities have unfolded over the past few years.

For RRI to become part of mainstream research and innovation, we need to encourage a shift in practices, a better environment and <u>conducive research and innovation policies</u>. The Go4 projects have identified a number of implications and requirements for future policy and programme development. In particular, to foster institutional change towards increased responsiveness of research and innovation towards <u>societal challenges</u>, several issues outlined below need to be taken into consideration.

#### **Bespoke RRI**

First, responsibility in research and innovation is a context-specific, emergent process that is <u>maturing over time</u>. Policy makers at the European and Member State levels as well as within individual organisations need to work on these premises. This implies that they need to adjust and adapt the spirit of RRI to their own circumstances, mobilising bottom-up inclusive processes.

Second, we caution against <u>top-down prescription of what the focal elements of responsibility</u> in research an innovation should be. Indeed, the interpretation of what it means to be responsible in research and innovation differs from context to context. For example, science education and open access, may be important considerations for some actors but not for others. The latter may have other pressing societal and justice concerns that they wish to improve and transform.

Therefore, it is the research and innovation actors themselves, who are best placed to determine what RRI means for them through intra- and inter-organisational collective consultation. A genuine bottom-up inclusive processes will help actors to uncover and formalise these priorities.

There is indeed a risk that by attempting to fix the normative content of RRI, it will turn it into a bureaucratic tick-box exercise. We want to avoid at all cost falling into a kind of 'responsibility-wash' where the ambition of RRI remains on the organisational surface and does not become deeply institutionalised.

#### **Greater responsiveness**

Another aspect that needs further consideration is the fact that the EC funding frameworks shape the scope of action, which also affects the direction of research. While there is a need to meet political and economic objectives, these may have negative constraints on other research goals.

Researchers may thus need to find ways to cope with multiple conflicting aims. Current funding and project schemes have not taken sufficient account of these tensions. They are often not flexible enough to adequately address unforeseen issues, uncertainty, differences in epistemic cultures and knowledge gaps. This leads to a lack of responsiveness in some projects, which is closely linked to the lack of institutional responsiveness in addressing such shortcomings. It also reflects the funding institutions' inability to deal with these issues.



#### Tackling geographical unbalance

Across Europe, and between different actor groups, there is an uneven distribution of the awareness and relevance of making research and innovation more responsible. The most advanced countries in realising this ambition are in the North and the West of Europe--namely, the UK, the Netherlands and Scandinavia. There, national policies are already well established, for example, within research councils.

A blanket top-down policy to encourage more responsible science across various regions in Europe is not the solution. However, to tackle the geographical unbalance, support for networking activities to exchange experiences on the design and implementation of RRI solutions would be a useful EU policy contribution. Eastern and Southern European countries, in particular, would require additional resources to make decisions and build their RRI capacity through their own approaches. Each solution needs to be tailored to their current and projected societal, technological and economic context-dependent future.

#### **RRI** globalisation

We have reached an impressive collection of conceptual and empirical knowledge in the field of RRI. This has been made possible thanks to the efforts of a growing community of academics, decision-makers and research and innovation practitioners.

RRI will remain isolated in Europe--and possibly the United States--if it does not link into relevant debates in emerging economies. Policy and funder efforts in China, India, and South Africa to achieve "inclusive innovation" through innovating for and with poorer regions need to be taken into account in debates in high-income settings.

More generally, it is now time for governments and funding institutions to vigorously encourage, enable and fund experimentation with different RRI approaches and instruments in as broad a diversity of settings as possible.

Ralf Lindner, Res-AGorA coordinator

Ralf is a Senior Researcher at the Fraunhofer Institute for Systems and Innovation Research ISI, Germany.

**Doris Schroeder**, Progress coordinator Doris is Director of Centre for Professional Ethics and Professor of Moral Philosophy at the University of Central Lancashire, UK.

**Robert Gianni**, member of the GREAT coordination team Robert is a post-doctoral researcher at the University of Namur, Belgium.

**Aki Menevidis**, Responsibility coordinator Aki is Senior Researcher at the Fraunhofer Institute for Production Systems and Design Technology IPK, Germany.

#### Overview of the Go4 projects' key results

**GREAT** 



The GREAT (Governance for Responsible Innovation) project has developed an empirically based and theoretically sound model of the role of responsible research and innovation governance. The project has explored the dynamics of participation in research and innovation, and investigated the characteristics of responsible practices. It also emphasised the nature of new partnerships among various stakeholders, researchers and policy makers that are developing within innovation networks and the influence that these developments have on knowledge production and policy.

The analysis carried out by GREAT followed a triadic methodology, namely a theoretical analysis of the features of RRI, an empirical investigation of the obstacles and promising actions, and an agent-based model for ex-ante evaluation of research and innovation networks fed by empirical outcomes.

These three aspects converged into the generation of a governance model for RRI based on three main features:

- 1. Responsible approaches must be participatory by nature, foreseeing active and meaningful inclusion of different stakeholders.
- 2. Responsible approaches must be developed on the basis of a two-order reflexivity, meaning that participants should be able to reflect on specific issues, but also on the institutional conditions that have enabled the reflexive process. This operation can be promoted by a co-constructive model of governance.
- 3. Finally, responsible approaches to research and innovation must be focused on the ethical values and norms that define what responsibility means contextually. However, given the polysemy of responsibility and the meaning of ethics, the relation amongst the different meanings of responsibility must be kept in a constant, dynamic equilibrium avoiding any of these understandings being disregarded.

#### **Progress**

ProGReSS (PROmoting Global REsponsible research and Social and Scientific innovation) linked existing international networks of RRI with relevant societal actors on a global scale in order to analyse international efforts of focusing innovation on societal challenges.

A major fact-finding mission comparing science funding strategies and innovation policies in Europe, the US, China, Japan, India, Australia, and South Africa came to the following conclusions:

- 1. To avoid Eurocentrism, global discussions of RRI should, in the future, make prominent reference to "inclusive innovation", a governance framework designed to reduce extreme poverty and unsustainable inequality in countries such as China, India and South Africa.
- 2. The vocabulary of Grand Challenges is suitable for a global dialogue on RRI.
- 3. Responsible innovation linked to the Grand Challenges can open new market opportunities and ensure profitability.
- 4. RRI is not yet established to a great extent at any major funding organisation analysed, except at the level of compliance with ethical acceptability and sustainability.
- 5. In inclusive innovation, it is important to promote longer-term as opposed to short-term relationships between partners, such as industry, marginalised end-users, to sustain trust in co-operations.
- 6. An inherent tension in European-style RRI is a challenge; namely the tension between striving to create a more just and inclusive society and the promotion of Europe-an economic competitiveness.



#### **Res-AGorA**

The Res-AGorA project (Responsible Research and Innovation in a Distributed Anticipatory Governance Frame. A Constructive Socio-normative Approach) had the objective to develop a comprehensive governance framework for responsible research and innovation.

A number of <u>explicit proposals for RRI</u> have already been developed. However in the view of the project consortium these cannot be the definite final manifestation for all the different contexts at different political and organisational levels across Europe, as the very essence of what is responsible in research and innovation is contested and will need constant renegotiation and deliberation.

The aim of Res-AGorA was to develop a framework of principles intended to harness the self-governing capacities and capabilities of actors within Europe. This orienting framework has been developed with the aim to support actors to understand their responsibility challenges and to design, negotiate and implement their own context-specific understanding of responsibility in research and innovation.

Res-AGorA has designed this framework in the form of ten governance principles, codified in the <u>Responsibility Navigator</u>, which was conceived as a means to provide orientation without normatively steering research and innovation in a pre-defined direction. Furthermore, the <u>Co-Construction Method</u> is a collaborative workshop method designed to systematically facilitate the practical use of the Responsibility Navigator.

#### Responsibility

The RESPONSIBILITY project (Global Model and Observatory for International Responsible Research and Innovation Coordination) had the scope to set up a virtual observatory including a forum as an interface between politicians, society and industry, researchers and Civil Society Organisations (CSOs). Its objective was to enhance a common understanding of RRI, in particular through the deployment of practical tools to implement RRI in all relevant spheres. In doing so, it provided deliberative fora for discussion and international cooperation, involving the societal, policy and research stake-holders in these activities.

As a comprehensive approach the observatory aims to affect social, democratic as well as economic dimensions of RRI. The RESPONSIBILITY platform is expected to contribute to the development of RRI on three different levels:

- First, by providing a space for a wide range of research and innovation stakeholders to reflect on the purposes and implications of research and innovation;
- Second, by contributing to the development and dissemination of RRI governance tools and methods;
- Third, by contributing to the more detailed practical application of the key RRI action points issued by the Science with and for Society unit of the European Commission.

The concept or approach of RRI is emergent and subject to contestation and adaptation. Against this background, the platform is particularly interesting since it embodies one of the first concrete manifestations of RRI principles that have been set out so far.

Photo credit: Shaping new Horizons



#### Wider RRI debate



# Aude Lapprand interview: A manifesto for involving citizens in science

By Sabine Louët

#### Creating a debate around science and democracy requires involving citizens

Aude Lapprand is the general delegate of the <u>Sciences Citoyennes Foundation</u>, a French non-profit organisation that leads a reflection about the responsibility of researchers and democracy in science. Since 2002, the institution has been working at encouraging the democratisation and civil appropriation of science at the service of the common good. Their main approach involves questioning the role of science and technology in building our society.

### Manifesto for responsible research



In 2015, the Sciences Citoyennes Foundation has published a <u>manifesto</u> with the aim to rebuild the lost confidence between science and society. This manifesto will be presented by the Sciences Citoyennes Foundation at the <u>7th Living Knowledge</u> conference to be held in Dublin, Ireland, between 22nd and 24th of June 2016. "What we mainly want with this manifesto is to create a debate, especially amongst researchers and citizens," says Lapprand. "I think that in this manifesto we are quite aware that we presented some non-consensual positions, especially on some myths generated by some researchers like freedom of research," she adds.

#### Citizen conventions

Among the proposed solutions to improve democracy in science and increased responsibility of scientists, Lapprand introduces the concept of citizen convention. "Citizen convention or citizen conferences allow the reflection of 15 citizens randomly chosen within the population, with no [conflict of interest], with no link with the specific topics that are concerned [about]," she explains. Those 15 citizens, intensively trained by specialists, "will be able to elaborate recommendations concerning the topics [of interest]," she adds.

Video editing and cover text Charline Pierre and Lena Kim.

Interview by Sabine Louët, EuroScientist Editor.

Photo credit: Aude Lapprand