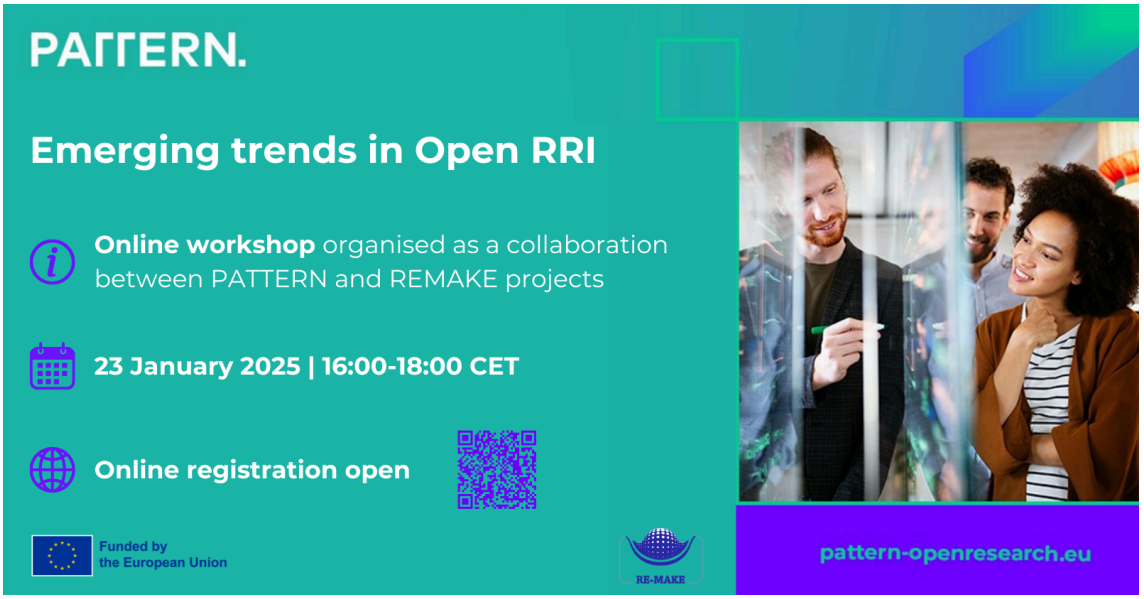
Emerging trends in Open RRI

Driving Innovation in Sustainable Materials and Engineering

Date	23/01/2025
Time	16:00-18:00 CET
Registration	https://zoom.us/webinar/register/WN_uFeVFg87QpiFIb8J5HkG_Q#/registration



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Emerging Trends in Open RRI: Driving Innovation in Sustainable Materials and Engineering

This training workshop has been developed as part of the PATTERN project.

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1. Background: PATTERN project

PATTERN is a coordination and support action whose aim is to promote the practice of Open and Responsible Research and Innovation (Open RRI) by developing and piloting training activities for researchers at all stages of their careers.

PATTERN exists due to the institutional and societal need to increase researchers' professional skills development beyond academia. In fact, graduates are increasingly taking non-academic career paths after the completion of their PhD and research institutions started to invest resources in offering their researchers advanced training in more transversal and transferable skills that can help smoothen this transition.

PATTERN trainings will strengthen researchers' ORRI transferable skills, with the ultimate goal to empower higher education institutions and research organizations to embrace a transformative process to improve the excellence of the science conducted, the capacity within the European Research Area (ERA) to tackle societal challenges and the interaction between science and society.

PATTERN will focus on defining a set of training materials and activities on transferable skills within the ORRI framework. Eight main transferable skills have been identified:

Transferable skill in Open and Responsible Research	PATTERN thematic leader(s)	PATTERN Pilot Organizations	Target for training modules
Open Access	OpenAIRE	OpenAIRE network, LPI, RBI, UMinho	Master students, Doctoral Students, Post-doctoral researchers
FAIR data management	OpenAIRE, KNAW	OpenAIRE network, KNAW, RBI, UMinho, LPI	
Citizen Science	AU, LPI	AU, LPI, UniSR	
Research Integrity	EARMA, UniSR, AU	AU, UniSR, RBI	Doctoral Students, Post-doctoral researchers
Gender, non-discrimination and inclusion in research	ESF, UniSR	UniSR, LPI, University of Helsinki	Master students, Doctoral Students
Dissemination and Exploitation of results	APRE, LOBA	SISSA, UniSR	Master students, Doctoral Students, Post-doctoral researchers
Science Communication	AU, SISSA	AU, SISSA, UniSR, RBI	Doctoral Students, Post-doctoral researchers

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(towards media and policy-makers)			
Management and Leadership (e.g.(Managing Emotions and Expectations in Research; Achieving Success with less stress; Leadership in research, etc.)	SciLink	SciLink network	Post-doctoral researchers

2. About this Workshop

This two-hour workshop is tailored for early career researchers to gain insights into the practice of Open and Responsible Research and Innovation (Open RRI). The training aims to develop and pilot activities that strengthen transferable skills and empower researchers at all stages of their careers, enabling participants to embrace transformative processes. These enhancements aim to sensitize to Open Science Principles, increase young researchers' awarenessto address societal challenges within the European Research Area (ERA), and show hands on tools and methods that promote the interaction between science and society.

The session begins with a “to know us better” introduction to ensure all participants will feel motivated to participate, followed by a welcome and icebreaker to foster engagement. The main presentation will start by a brief introduction to the main aspects and opportunities around the PATTERN Project, followed by an interactive lecture on Open RRI in Action, exploring current opportunities and emerging trends applied to Sciences, Technology and Engineering. Discussions will cover pertinent Case Studies and hands-on tools and methods, including PATTERN and OpenAIRE services used throughout the research lifecycle and discuss integrating sustainable practices such as Circular Economy and Material Life Cycle Analysis into research.

The Interactive workshop activities will include a design-thinking activity, where participants will use collaborative group tools to co design and generate challenges, ideas and solutions, followed by the group work documentation in PATTERN’s Project Platform, which offers participants the possibility to integrate with the community and continue their project if interested. The workshop will conclude with a group discussion where participants will pitch their results, practicing their communication and dissemination skills. This comprehensive session is designed to provide a deep understanding of Open RRI and how its principles can be integrated into participants' future research endeavors.

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3. Case-study learning elements

Building on the foundational elements of the workshop, we will incorporate case-study learning to enhance participants' understanding and application of Open RRI principles through practical, real-world scenarios. Each step of the research lifecycle will be explored using specific case studies designed to illustrate both challenges and solutions in key areas such as Privacy and FAIR Data Management, as well as strategies for working with and engaging citizens in research.

- **Scenarios on Each Step of the Research Lifecycle:** We will delve into various stages of the research process—from planning and conducting to disseminating and archiving. At each stage, participants will be presented with scenarios that challenge them to apply their knowledge in practical settings, emphasizing decision-making processes that adhere to Open RRI principles.

- **Privacy and FAIR Data Management Challenges:** Case studies will address common obstacles in managing data that is Findable, Accessible, Interoperable, and Reusable (FAIR). We will discuss privacy concerns that arise during data collection and analysis and introduce tools that can help manage these challenges effectively. These sessions will provide practical insights into balancing ethical considerations with research goals, helping participants design studies that respect data privacy and contribute to open science.

- **Tools to Use for FAIR Data Management:** In addition to discussing challenges, we will also focus on specific tools that facilitate FAIR data management. Participants will learn how to utilize these tools to enhance the accessibility and usability of their research data, ensuring it contributes value long after the project has concluded.

- **Working and Engaging Citizens in Their Research:** Engaging with citizens and stakeholders is a critical component of Open RRI. We will explore methods and best practices for involving non-academic audiences in the research process, from data collection through to dissemination. Case studies will include examples of successful citizen science projects and discuss strategies for maintaining engagement and ensuring meaningful participation.

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4. Learning outcomes & training skills to gain

The inclusion of case-study learning in the workshop will equip early career researchers with a comprehensive set of outcomes and skills critical for their development in Open and Responsible Research and Innovation (Open RRI). Participants will gain a thorough understanding of the entire research lifecycle, appreciating the nuances and key considerations at each stage, especially in adherence to Open RRI principles. They will also delve into the complexities of privacy and FAIR Data Management, learning how to effectively manage these challenges to maintain ethical standards and compliance with data governance.

The workshop will introduce participants to specific tools and technologies that support FAIR data management. This knowledge will enhance their ability to make their research outputs more accessible and reusable by the wider scientific community. Additionally, researchers will learn effective strategies for engaging citizens and stakeholders in their research, understanding the benefits and potential challenges of such involvement.

By the end of the course, the learners will be familiar with:

- The entire research lifecycle and the specific Open RRI principles applicable at each stage.
- Privacy concerns and FAIR Data Management practices are necessary to navigate ethical and compliance issues effectively.
- A range of tools and technologies that support the implementation of FAIR data principles, enhancing the accessibility and reusability of research data.
- Effective methods for engaging citizens and stakeholders in research, including the benefits and challenges of public involvement.
- Strategic decision-making processes that align with the values of Open RRI, enhancing their ability to make informed choices in their research projects.
- Practical problem-solving skills, especially in addressing privacy and data management challenges within the context of real-world research scenarios.
- Communication techniques that facilitate clear and accessible dissemination of scientific findings to both academic and non-academic audiences.
- Teamwork and collaboration strategies, crucial for working effectively within diverse research teams and with various stakeholders.

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5. About the lecturers and facilitators

Andrea Giraldo Sevilla, Researcher at the Research Unit on Learning Transitions (CY Cergy Paris University and Learning Planet Institute) and Research Manager at the Learning Planet Institute.

- **Bio:**

  Her educational backgrounds are in Systems & Management Engineering (BAC+5 at TECNUN - University of Navarre), Anthropology (BA in Social and Linguistic Anthropology at the IHEAL of the Sorbonne University and MA in Comparative Development Studies at the EHESS - Panthéon Sorbonne's IEDES). Recently, she obtained a MSc in Sciences of Learning and Interdisciplinarity (MSc AIRE at UPC - AIRE) in 2022.

  Over the past 10 years, she has been worked as a "seismograph" among different disciplines, fields and cultures in the framework of STEM for sustainable development as well as skills development and digital educational projects for sustainable development for International Organizations (UNESCO or EU Commission), National Development Agencies (AFD - Expertise France or Asian Development Bank) as well as Research Centres from different Universities (Université Paris Cité, Paris Sciences et Lettres and CY Paris University).

  The main topics of interest she has been working are the following:

  (1) the effect of gender, motivation as well as other socio-demographic and socio-economical profiling in STEM education trajectories, as well as trends and clusters analysis in formal and semi-formal learning since 2022;
  (2) the analysis and calculation of the digital gender gap in the use, access and digital competences (2020-2023) in the Dominican Republic;
  (3) the development of STEM Competency Frameworks for Teachers and Students using participatory methods and Network Sciences in Tajikistan.

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Theodora Kavvadia, Training Coordinator at OpenAIRE (Pedagogy Expert, MA Counselling in Education, Working and Public Health Environments, MA Digital Communication & Interactive Environments, National & Kapodistrian University of Athens)

- **Bio:**

Theodora brings a wealth of expertise to her field, holding a bachelor's degree in Pedagogics. She furthered her knowledge with a master's degree in counseling psychology in Education, specializing in both Working and Public Health Environments (MA 2020). Recently, she augmented her educational foundation with a Master of Science degree in Digital Communication & Interactive Environments (MA 2024), ensuring her skills remain at the forefront of modern communication techniques.

With a focus on humanitarian and social services, she has established herself as a psychoeducational expert and academic advisor. Her professional journey includes roles as an administrator and team leader within Public Sector Organizations, particularly in the context of EU Projects.

Her research interests are diverse and impactful, encompassing Action Research, Differentiated Learning Methods, Biography Analysis, and Public Democratic Innovation utilizing co-design methodologies & digital tools. She also promotes the integration of gamification as a best practice. Through her work, Theodora is dedicated to advancing knowledge and promoting inclusive approaches to learning and societal innovation.

Agenda & Topics

23 January 2025, 16.00-18.00 CEST

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Time	Activity
15.55	Arrival (technical check)
16.00	Welcome and Icebreaker
Presentation	
16.10	**Open RRI in Action: Opportunities and Emerging Trends:** • Why Open RRI and Open Science matter? • Difference between Open RRI and Open Science • Hands on tools and services • Circular Economy and Material Life Cycle Analysis • Evaluation criteria
Interactive Workshop	
16.50	**Introduction and Ice breaker**
17.00-20	**Design thinking**
17.20-17.25	**Coffee break**
17.25-17.50	**Project Documentation**
17.50-18.00	**Group discussion:** Pitch and sharing results
End of the training	

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