UNIMIB 38° cycle of Doctoral courses

Hands on RRI

Premise

If Responsible Research and Innovation is

◊ an approach that anticipates and assesses **potential implications and societal expectations** with the aim to foster the **design of inclusive and sustainable research and innovation**

◊ and implies that all the **societal actors** (researchers, citizens, policy makers, business, third sector organisations, etc.) **work together during the whole research and innovation process** to better align both the process and its outcomes with the values, needs and expectations of society.

Social justice & Inclusion
Avoid unfair exclusion of particular groups from either participation in research and/or access to benefits arising from research

Sustainability
Enable research programmes and RRI initiatives to contribute to sustainable growth according to EU 2020 strategy

tackling huge challenges such as the "Seven Grand Challenges" identified by the EC

It is crucial to frame and tailor the RRI approach according to the different research stages of
- ideation and development,
- implementation and management,
- finalization, impact assessment and sharing of results,

aiming at integrating it to the whole scientific process.

The Proposal

Consistently, our proposal is to provide one day per year of "Hands on RRI" to accompany and support doctoral students from the first to the third year, during all phases of their research, including the final stages of sharing and impact assessment.
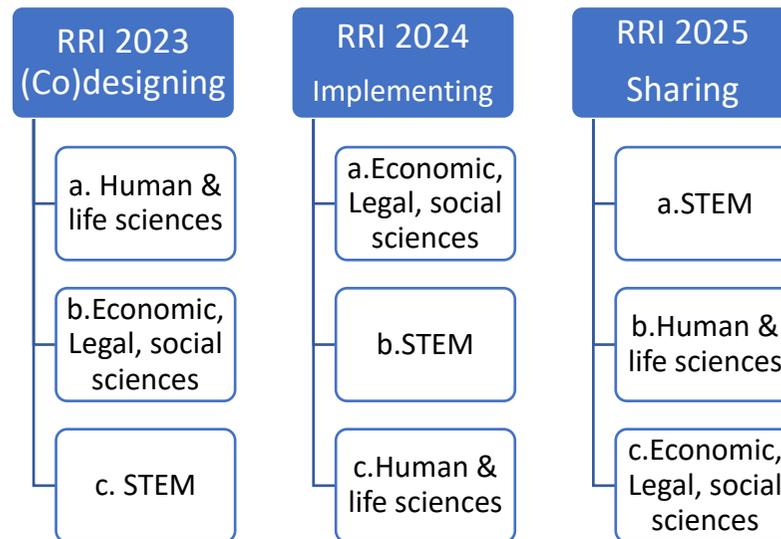And to offer in-depth seminars complementary to the RRI focuses addressed

The "Hands on RRI" interactive workshop will
- have the same format for all Ph.D. students, although brought back to the specifics of disciplinary fields, and research project
- engage **100 participants** for each edition
- foresee 3 editions due to the number of doctoral students.

Instead, the seminars will be offered to a maximum of **25 participants.**

The architecture

RRI 2023 (Co)designing	RRI 2024 Implementing	RRI 2025 Sharing
a. Human & life sciences	a. Economic, Legal, social sciences	a. STEM
b. Economic, Legal, social sciences	b. STEM	b. Human & life sciences
c. STEM	c. Human & life sciences	c. Economic, Legal, social sciences

PLUS, FREE IN-DEPTH SEMINARS

Same format, 3 editions for 2023

17/01/2023 • Human & life sciences	07/02/2023 • Economic, Legal, social sciences	13/03/2023 • STEM
Sanità pubblica	URBEUR	Scienze Marine, Tecnologie e Gestione
Psicologia, linguistica e neuroscienze cognitive	Scienze Giuridiche	Scienza e nanotecnologia dei materiali
DIMET	ASEP	Scienze chimiche, geologiche e Ambientali
Neuroscienze	Business for society	Fisica e Astronomia
Antropologia	Economia, Statistica e Data Science	
Educazione nella società contemporanea	Informatica	
TeCSBi	Risorse per la nuova PA	
	Patrimonio immateriale	

The program

1° YEAR - CROSS WORKSHOP – (CO) DESIGNING RESPONSIBLE RESEARCH. INTEGRITY, ETHICS & REPRODUCIBILITY			
Time	**Main Session** *(RRI dimensions & concepts)*	**Contents**	**Trainers per edition**
9:00 – 10:00 **Interactive plenary** **(& POST-IT session)**	**The RRI shift.**	***RRI concepts, dimensions & implications***	**17/01/23** **S. Casati (UNIMIB)**
			07/02/2023 **S. Casati (UNIMIB)**
			13/03/2023 **S. Casati & P.Frattini (UNIMIB)**
10:00 – 11:30 **Interactive plenary** **(& POST-IT session)**	**Research Integrity** *(RRI - Anticipation & reflection - Ethics)*	***Good practices (and Misconduct …***Plagiarism, Fabrication and Cheating, Falsifying …)* - *In research design and planning* - *In the conduct of the research project*	**17/01/23** **G.Corbellini (Sapienza) o C.Caporale (CNR Roma) TBC**
			07/02/2023 **G.Corbellini (Sapienza) o C.Caporale (CNR Roma) TBC**
			13/03/2023 **E.Datteri (UNIMIB)**
11:00 – 11.15 Break			

11:15– 12:15 **Interactive plenary** **(& POST-IT session)** **12:15– 13:15** **Practical session –** **working groups** **13:15 – 13:30** **Output sharing**	**Ethics Self-assessment &** **third part reviewing** *(RRI – Dimension:* *Anticipation & reflection –* *RRI – Pillars: Ethics, Public* *Engagement, Social* *Inclusion)*	**Ethical-Legal-Social - ELSI horizon for research** (involving living beings or based on data and/or biological samples of human origin, an/or with an impact) *Practical session on* - *Ethics check within Horizon Europe* - *Research ethics evaluation (risk/impact assessment, mitigation, oversight governance)* - *Submitting the study to a University/Institutional Ethics Committee – and/or to an Access Committee (Why, When, Who, What and How)* *Considering the different scientific domains, the participants will self-assess their research within an ELSI horizon or hands on the Ethics committee matrix to submit a request of ethics reviewing.*	**17/01/23** **S. Casati (UNIMIB)** **07/02/2023** **S. Casati (UNIMIB)** **13/03/2023** **S. Casati (UNIMIB)**
13:30 – 14:30 Lunch Break			

14:30 – 16:00 Interactive plenary	Reproducibility & FAIRfication	**(Co) design, pre-register, and track your study and your scientific tools**	17/01/23 C. Zogmaister & trainer from BICRO
16:00 – 17:30	*(RRI Dimension- Openness & transparency – RRI Pillars: Open Access, Governance, Sustainability)*		(UNIMIB)
		- *Study design, research phases (and tools) registration and workflow infrastructure in an Open Science Environment*	07/02/2023 C. Zogmaister & D. Scisci
Practical session – working groups		- *Abc for a* <u>*Data Management Plan*</u> *and a Data Dictionary*	(UNIMIB)
		Practical session on Research Data Management Plan Hands-on session. This module will be a practical training on drafting a Research Data Management Plan. Building on what has been learned in the previous modules, participants will create a simplified version of a management plan in anticipation of their data collection.	13/03/2023 E. Lazzeri (GARR Pisa)
17:30 -18:00 Outputs sharing and take home message			D. SCISCI & L.M.Federici TBD (UNIMIB)

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In-Depth seminars (half a day plus exercises)

1. SAMPLE & DATA-DRIVEN RESEARCH INVOLVING THE USE OF OMICS TECHNOLOGIES AND/OR THE SUPPORT OF ARTIFICIAL INTELLIGENCE/MACHINE LEARNING AND/OR IN SILICO MODELING
a. Innovative and responsible regulatory framework
b. Risk and impact assessment over time
c. Approaches & tools of verifying AI reliability requirements (agency and human oversight, technical robustness and security, privacy and data governance, transparency, nondiscrimination and equity, accountability...)
d. Governance and return of secondary results.
Scenarios for comparison and exercise: research with children and/or groups at risk of vulnerability

2. "THE LADDER OF SCIENCE COMMUNICATION, PUBLIC ENGAGEMENT AND PUBLIC PARTICIPATION IN SCIENCE"

a. Scientific communication as an engagement process. Empowering the scientific citizenship
b. More than sharing. Citizen science and participatory research
Scenarios for comparison and exercise: codesigning and framing a citizen science project based on COESO principles and/or a participatory research based on RRI principles

4. DATA COLONIALISM
The problem of how to use sensitive data is both an epistemic and an ethical one, where it is not possible to distinguish criteria used to produce reliable knowledge from those used to ensure that the methods used do not reinforce unjust and arbitrary social discrimination. The lack of a clear separation between scientifically and ethically correct conduct is particularly relevant in the case of Big Data. Reflection on the social consequences of using old, biased, unreliable and corrupt data is always inexorably linked to an assessment of the ethical value of the choices made in the selection, management and interpretation of the data. In this sense, not only are the scientific and ethical values of data not necessarily in conflict, but they are typically associated with each other.
The phenomenon of datafication also introduces other issues and side effects such as: data colonialism, lack of transparency in the collection and use of data, an increase in dehumanization at work and a potential violation of privacy.