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.

UNIMIB 38° cycle of Doctoral courses

Hands on RRI

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

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
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
<table>
<thead>
<tr>
<th>Date</th>
<th>Subject</th>
<th>Edition</th>
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<tbody>
<tr>
<td>17/01/2023</td>
<td>Human &amp; life sciences</td>
<td>URBEUR</td>
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<tr>
<td>07/02/2023</td>
<td>Economic, Legal, social sciences</td>
<td>Scienze Giuridiche</td>
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<tr>
<td>13/03/2023</td>
<td>STEM</td>
<td>Scienze Marine, Tecnologie e Gestione</td>
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</tbody>
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- Sanità pubblica
- Psicologia, linguistica e neuroscienze cognitive
- DIMET
- Neuroscienze
- Antropologia
- Educazione nella società contemporanea
- TeCSBi
- Business for society
- Economia, Statistica e Data Science
- Informatica
- Risorse per la nuova PA
- Patrimonio immateriale
- Fisica e Astronomia
- Scienze chimiche, geologiche e Ambientali
## The program

**1° YEAR - CROSS WORKSHOP – (CO) DESIGNING RESPONSIBLE RESEARCH. INTEGRITY, ETHICS & REPRODUCIBILITY**

<table>
<thead>
<tr>
<th>Time</th>
<th>Main Session (RRI dimensions &amp; concepts)</th>
<th>Contents</th>
<th>Trainers per edition</th>
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<tbody>
<tr>
<td>9:00 – 10:00</td>
<td>The RRI shift.</td>
<td><em>RRI concepts, dimensions &amp; implications</em></td>
<td>17/01/23 S. Casati (UNIMIB)</td>
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<td>07/02/2023 S. Casati (UNIMIB)</td>
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<td>13/03/2023 S. Casati &amp; P.Frattini (UNIMIB)</td>
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<tr>
<td>10:00 – 11:30</td>
<td>Research Integrity (RRI - Anticipation &amp; reflection - Ethics)</td>
<td><em>Good practices (and Misconduct ... Plagiarism, Fabrication and Cheating, Falsifying ...)</em>  - In research design and planning  - In the conduct of the research project</td>
<td>17/01/23 G.Corbellini (Sapienza) o C.Caporale (CNR Roma) TBC</td>
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<td>07/02/2023 G.Corbellini (Sapienza) o C.Caporale (CNR Roma) TBC</td>
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<td>13/03/2023 E.Datteri (UNIMIB)</td>
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11:00 – 11.15 Break
<table>
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<tr>
<th>Time</th>
<th>Activity</th>
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<tbody>
<tr>
<td>11:15 – 12:15</td>
<td>Interactive plenary (&amp; POST-IT session)</td>
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<tr>
<td>12:15 – 13:15</td>
<td>Practical session – working groups</td>
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<td>13:15 – 13:30</td>
<td>Output sharing</td>
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<td><strong>Ethics Self-assessment &amp; third part reviewing</strong> (RRI – Dimension:</td>
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<td><strong>Ethical-Legal-Social - ELSI horizon for research</strong> (involving living beings or based on data and/or biological samples of human origin, an/or with an impact)**</td>
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<td><strong>Practical session on</strong></td>
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<td>- Ethics check within Horizon Europe</td>
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<td>- Research ethics evaluation (risk/impact assessment, mitigation, oversight governance)</td>
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<td>- Submitting the study to a University/Institutional Ethics Committee – and/or to an Access Committee (Why, When, Who, What and How)</td>
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<td>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.</td>
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<tr>
<td>13:30 – 14:30</td>
<td>Lunch Break</td>
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**17/01/23**  
S. Casati (UNIMIB)  
  
**07/02/2023**  
S. Casati (UNIMIB)  
  
**13/03/2023**  
S. Casati (UNIMIB)
14:30 – 16:00
Interactive plenary

16:00 – 17:30
Practical session – working groups

17:30 -18:00
Outputs sharing and take home message

Reproducibility & FAIRification
(RRI Dimension- Openness & transparency – RRI Pillars: Open Access, Governance, Sustainability)

(10) design, pre-register, and track your study and your scientific tools
- Study design, research phases (and tools) registration and workflow infrastructure in an Open Science Environment
- Abc for a Data Management Plan and a Data Dictionary

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.

Scientific Responsible: Dr. S. Casati, sara.casati@unimib.it

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.