

UNIMIB

A.A. 2023/2024 - 38° - 39° cycle of Doctoral courses

HANDS ON RRI

Premise

Responsible Research and Innovation is

- ◇ an approach that anticipates and assesses **potential implications, impact 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.

**RRI is about: including all actors,
and considering specific key issues and process dimensions**



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 impact assessment and sharing results.

For first-year doctoral students, the "Hands on RRI" interactive course on “(CO) DESIGNING RESPONSIBLE RESEARCH. INTEGRITY, ETHICS & REPRODUCIBILITY 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 involving doctoral students from macro-multidisciplinary areas.

For the second-year doctoral students, the “Hands on RRI” interactive course on “**DEVELOPING RESPONSIBLE RESEARCH**” will have 2 formats:

- a common half a day format on “MONITORING RRI ACTIVITIES AND THEIR IMPACTS WITH INDICATORS FOR PROCESSES, INTERMEDIATE OUTCOMES AND PERCEPTIONS”
- a half-day seminar on **Open challenges for responsible research** that each doctoral student can choose from the following 3 options:
 - Participatory research, citizen science in practice**
 - Artificial Intelligence in research (for a good practice)**
 - Next-generation (integrated-digitalized data-omics based) research**

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1°PhD Year
(CO) DESIGNING RESPONSIBLE RESEARCH. INTEGRITY, ETHICS & REPRODUCIBILITY

The program
1st one-day cross-workshop

HUMAN & LIFE SCIENCES

1° YEAR – 1°CROSS WORKSHOP (Life sciences domain) – (CO) DESIGNING RESPONSIBLE RESEARCH. INTEGRITY, ETHICS & REPRODUCIBILITY			
Time	Main Session <i>(RRI dimensions & concepts)</i>	Contents	Trainers per edition
9:00 – 10:15 Interactive plenary (& POST-IT session)	The RRI shift.	<i>RRI concepts, dimensions & implications in Life Sciences domain</i>	S. Casati (CNR-BBMRI)
10:15– 11:30 Interactive plenary (& POST-IT session)	Research Integrity <i>(RRI - Anticipation & reflection - Ethics)</i>	Sharing good practices & experiences <i>- In research design and planning</i> <i>- In the interactions with all the actors at stake</i>	R. Dameno (UNIMIB)
11:30 – 11.45 Break			

<p>11:45– 13:15 Interactive plenary & practical session – working groups</p> <p>13:15 – 13:30 Output sharing</p>	<p>Ethics Self-assessment & third part reviewing <i>(RRI – Dimension: Anticipation & reflection – RRI – Pillars: Ethics, Public Engagement, Social Inclusion)</i></p>	<p>Ethical-Legal-Social – ELSI <i>practical session on</i></p> <ul style="list-style-type: none"> - <i>Research ethics evaluation (risk/impact assessment, mitigation, oversight governance)</i> - <i>Submitting the study to a University/Institutional Ethics Committee – and/or to an Access Committee (Why, When, Who, What and How)</i> - <i>Ethics check within Horizon Europe</i> <p><i>Considering the different scientific domains, the participants will self-assess their research within an ELSI horizon and/or hands on the Unimib Ethics committee matrix to submit a request of ethics reviewing and/or on a Biobank/Registry access procedure to submit an access request</i></p>	<p>S. Casati (CNR-BBMRI)</p>
<p>13:30 – 14:30 Lunch Break</p>			

<p>14:30 – 16:30 Interactive plenary</p> <p>16:30 – 17:40 Practical session –working groups on study preregistration</p> <p>17:40 -18:00 Outputs sharing and take-home message</p>	<p>Reproducibility & FAIRfication <i>(RRI Dimension- Openness & transparency – RRI Pillars: Open Access, Governance, Sustainability)</i></p>	<p><i>(Co) design, pre-register, and track your study and your scientific tools</i></p> <ul style="list-style-type: none"> - <i>Research preregistration and Registered Reports, and workflow infrastructure in an Open Science Environment</i> - <i>Abc for a Data Management Plan, Metadata and FAIRification</i> <p><i>Practical Hands-on session on Preregistration and Research Data Management Plan. This module will be a practical training on drafting a Preregistration and a Research Data Management Plan, building on what has been learned in the previous modules.</i></p>	<p>C. Zogmaister, & D. Scisci (UNIMIB)</p>
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2nd one-day cross-workshop,

ECONOMIC, LEGAL, SOCIAL SCIENCES

1° YEAR – 2° CROSS WORKSHOP (Human Sciences Domain) – (CO) DESIGNING RESPONSIBLE RESEARCH. INTEGRITY, ETHICS & REPRODUCIBILITY			
Time	Main Session <i>(RRI dimensions & concepts)</i>	Contents	Trainers per edition

<p>9:00 – 10:15 Interactive plenary (& POST-IT session)</p>	<p>The RRI shift.</p>	<p><i>RRI concepts, dimensions & implications in Human Sciences domain</i></p>	<p>S. Casati (CNR-BBMRI)</p>
<p>10:15 – 11:00 Interactive plenary (& POST-IT session)</p>	<p>Research Integrity <i>(RRI - Anticipation & reflection - Ethics)</i></p>	<p><i>The Status of Researcher</i></p>	<p>V. Colcelli (CNR)</p>
<p>11:30 – 11.45 Break</p>			
<p>11:45– 13:15 Interactive plenary & practical session – working groups</p> <p>13:15 – 13:30 Output sharing</p>	<p>Ethics Self-assessment & third part reviewing <i>(RRI – Dimension: Anticipation & reflection – RRI – Pillars: Ethics, Public Engagement, Social Inclusion)</i></p>	<p>Ethical-Legal-Social - ELSI practical session on</p> <ul style="list-style-type: none"> - <i>Ethics check within Horizon Europe</i> - <i>Research ethics evaluation (risk/impact assessment, mitigation, oversight governance)</i> - <i>Submitting the study to a University/Institutional Ethics Committee – and/or to an Access Committee (Why, When, Who, What and How)</i> <p><i>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.</i></p>	<p>S. Casati (CNR-BBMRI)</p>
<p>13:30 – 14:30 Lunch Break</p>			

<p>14:30 – 16:30 Interactive plenary</p> <p>16:30 – 17:40 Practical session – working groups on study preregistration and Data Management Plan</p> <p>17:40 -18:00 Outputs sharing and take-home message</p>	<p>Reproducibility & FAIRfication <i>(RRI Dimension- Openness & transparency – RRI Pillars: Open Access, Governance, Sustainability)</i></p>	<p><i>(Co) design, pre-register, and track your study and your scientific tools</i></p> <ul style="list-style-type: none"> - <i>Research preregistration and Registered Reports, and workflow infrastructure in an Open Science Environment</i> - <i>Abc for a Data Management Plan, Metadata and FAIRification</i> <p><i>Practical Hands-on session on Preregistration and Research Data Management Plan. This module will be a practical training on drafting a Preregistration and a Research Data Management Plan, building on what has been learned in the previous modules.</i></p>	<p>C. Zogmaister & D. Scisci, (UNIMIB)</p>
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3rd one-day cross-workshop

STEM – Earth sciences

1° YEAR – 3° CROSS WORKSHOP (STEM & Earth sciences domain) – (CO) DESIGNING RESPONSIBLE RESEARCH. INTEGRITY, ETHICS & REPRODUCIBILITY			
Time	Main Session <i>(RRI dimensions & concepts)</i>	Contents	Trainers per edition
<p>9:00 – 10:00 Interactive plenary (& POST-IT session)</p>	<p>The RRI shift.</p>	<p><i>RRI concepts, dimensions & implications in STEM, Earth sciences domain</i></p>	<p>S. Casati (CNR-BBMRI)</p>

10:00 – 11:30 Interactive plenary (& POST-IT session)	Research Integrity <i>(RRI - Anticipation & reflection - Ethics)</i>	<i>Good practices and experiences</i> <ul style="list-style-type: none"> - <i>In research design and planning</i> - <i>In the interactions with all the actors at stake</i> 	E. Lazzeri (GARR)
11:30 – 11.45 Break			
11:45– 13:30 Interactive plenary (& POST-IT session)	Ethics Self-assessment & third part reviewing <i>(RRI – Dimension: Anticipation & reflection – RRI – Pillars: Ethics, Public Engagement, Social Inclusion)</i>	Ethical-Legal-Social - ELSI <i>practical session on</i> <ul style="list-style-type: none"> - <i>Project based on Citizen science</i> - <i>Ethics check within Horizon Europe</i> - <i>Research ethics evaluation (risk/impact assessment, mitigation, oversight governance)</i> <p><i>Considering the different scientific domains, the participants will self-assess their research within an ELSI horizon or draft citizen science rationale</i></p>	S. Casati (BBMRI-ERIC)
13:30 – 14:30 Lunch Break			

<p>14:30 – 16:30 Interactive plenary</p> <p>16:30 – 17:40 Practical session – working groups on study preregistration and Data Management Plan</p> <p>17:40 -18:00 Outputs sharing and take-home message</p>	<p>Reproducibility & FAIRfication <i>(RRI Dimension- Openness & transparency – RRI Pillars: Open Access, Governance, Sustainability)</i></p>	<p><i>(Co) design, pre-register, and track your study and your scientific tools</i></p> <ul style="list-style-type: none"> - <i>Research preregistration and Registered Reports, and workflow infrastructure in an Open Science Environment</i> - <i>Abc for a Data Management Plan, Metadata and FAIRification</i> <p><i>Practical Hands-on session on Preregistration and Research Data Management Plan. This module will be a practical training on drafting a Preregistration and a Research Data Management Plan, building on what has been learned in the previous modules.</i></p>	<p>E.Lazzeri (GARR)</p>
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2°PhD Year
DEVELOPING A RESPONSIBLE RESEARCH.
The Program

1st half-a-day cross-workshop

ECONOMIC, LEGAL, SOCIAL SCIENCES

2° YEAR – 1° half-a-day CROSS WORKSHOP (Economic, Legal, Social Sciences Domain)		
MONITORING RRI ACTIVITIES AND THEIR IMPACTS WITH INDICATORS FOR PROCESSES, INTERMEDIATE OUTCOMES AND PERCEPTIONS		
Time	Main Session	Trainers per edition
14:00 – 15:15 Interactive plenary (& POST-IT session)	The RRI indicators <i>Process and perception indicators for the 8 RRI dimensions (from governance to open access)</i>	S. Casati (CNR-BBMRI)
15:15– 16:30 Interactive plenary (& POST-IT session)	FAIRfication: How to assess the process.	D. Scisci (UNIMIB)
16:30 – 16.45 Break		

16:45– 17:45 Practical session –working groups	Hands on on-going PhD projects to assess and (eventually) revise the research process within a RRI indicators framework.	S. Casati, D. Scisci
17:45 – 18:00 Output sharing		

2nd half-a-day cross-workshop

STEM – Earth Sciences

2° YEAR – 2° YEAR – 1° half-a-day CROSS WORKSHOP (STEM & Earth sciences)		
MONITORING RRI ACTIVITIES AND THEIR IMPACTS WITH INDICATORS FOR PROCESSES, INTERMEDIATE OUTCOMES AND PERCEPTIONS		
Time	Main Session	Trainers per edition
14:00 – 15:15 Interactive plenary (& POST-IT session)	The RRI indicators <i>Process and perception indicators for the 8 RRI dimensions (from governance to open access)</i>	S. Casati (CNR-BBMRI)
15:15– 16:30 Interactive plenary (& POST-IT session)	<i>Big data and interoperability: potential and criticality of new technologies applied to information</i>	F. Frexia (CR4S)
16:30 – 16.45 Break		

16:45– 17:45 Practical session –working groups	Hands on on-going PhD projects to assess and (eventually) revise the research process within a RRI indicators framework.	S. Casati & F. Frexia
17:45 – 18:00 Output sharing		

3rd half-a-day cross-workshop

HUMAN & LIFE SCIENCES

2° YEAR – 1° half-a-day CROSS WORKSHOP (Human & Life Sciences Domain)			
MONITORING RRI ACTIVITIES AND THEIR IMPACTS WITH INDICATORS FOR PROCESSES, INTERMEDIATE OUTCOMES AND PERCEPTIONS			
Time	Main Session <i>(RRI dimensions & concepts)</i>	Contents	Trainers per edition
14:00 – 15:15 Interactive plenary (& POST-IT session)	The RRI indicators <i>Process and perception indicators for the 8 RRI dimensions (from multi-actor engagement to open access)</i>		S. Casati (CNR-BBMRI)
15:15– 16:30 Interactive plenary (& POST-IT session)		<i>FAIRfication and sample-data characterization and digitalization</i>	M. Pallocca (IRCCS INT Regina Elena)
16:30 – 16.45 Break			

<p>16:45– 17:45 Practical session –working groups</p> <p>17:45 – 18:00 Output sharing</p>	<p>Hands on on-going PhD projects to assess and (eventually) revise the research process within a RRI indicators framework.</p>	<p>S. Casati & M. Pallocca</p>
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Open challenges for responsible research

a half-day (4 hours) seminar that each doctoral student can choose from the following 3 options:

1st half day seminar

Participatory research, citizen science in practice

Casati S (CNR - BBMRI) The citizen as a partner in scientific processes: good practices from advanced biomedical field (just in case Gui does not confirm)

Lastorina A (Irea - CNR). Environmental citizen science practices in the ILTER community: remarks from case study at global scale

Frattini P (UNIMIB) Citizen science & hydrogeological risk management: a living laboratory with young generation

Vito D (San Diego City University) Marine debris glow estimation through citizen sciences approaches: case studies from Mediterranean coastal tourist sites

Gui M (UNIMIB) Digital well-being at school and in family. A participatory path with the city of Milan (to be confirmed)

2nd half day seminar

Artificial Intelligence in research (for a good & responsible practice)

Barucci A (CNR - IFAC) From Radiomics and Biophotonics and Egyptology and beyond... to boldly go where no algorithm has gone before.

Colcelli V (CNR -IFAC) The legal and ethical requirements for AI application in medical research activities

Mellone S (UNIBO) AI for predictive, personalized, preventive, and participatory medicine

3rd half day seminar

Next-generation (integrated-digitalized data-omics based) research

Tomasi M (UniBZ) General Data Protection Regulation, data governance and renewed accountability

Casati S (CNR-BBMRI) Real-word data and biobanking. A shift for ethical reviewing, informed consenting and oversight governance processes within a Responsible research and Innovation framework

Viceconti Marco (UniBO) Next generation Sequencing, digitalization and citizen's rights

Ambrosini A (Telethon Foundation) Registry of patients with neuromuscular diseases: a participatory practice

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