UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Responsible Research and Innovation – RRI in practice

2122-DOTT-MOD19bis

Title

Responsible Research and Innovation – RRI in practice

Teacher(s)

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Language

English

Short description

Europe is clearly fostering both participatory science and innovation through the breakthrough Paradigm/Shift of Responsible Research and Innovation-RRI that aims at producing science and innovation in partnership with/responding to society.

Proposing its paradigm as a feasible dynamic model that relies on robust, interconnected infrastructural pillars, Europe has also been defining specific instruments and “concepts” aimed at vehiculating a scientific collaborative environment and innovation and becoming a flywheel for technology transfer, industrial ecosystem, and research:

• rethinking regulation in terms of accountability;

• infrastructuring the ESFRI (European Strategy Forum of Research Infrastructures) RIs, EOSC (European Open Science Cloud) and Social Sciences & Humanities Open Cloud (SSHOC);

• funding tailored framework programmes with RRI dimension embedded and increasingly mandatory (e.g., ethics check, gender equalities, opens science…)

More specifically, RRI implies that 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.

In practice, RRI is implemented as a package that includes multi-actor and public engagement in research and innovation, enabling easier access to scientific results, the take up of gender and ethics in the research and innovation content and process, and formal and informal science education.

RRI is declined in the 6 main dimensions:

• Public engagement

• Open access

• Gender

• Ethics

• Science education

• Governance

Our course aims at handling RRI dimensions in practice sharing both the ELSI framework and the methodological requirements, but also discovering and testing the RRI tools and the ESFRI services at disposal. With a specific focus for the mandatory dimensions (Ethics check, gender equalities, Open access…) requested at national as well as at European level when research is financed by public funds.

It will be shaped by chorality and multidisciplinarity of lecturers and facilitators engaged (in a multi-messenger, interoperable, multidisciplinary science horizon) as well as by the proactive involvement of our ESFRI RI (e.g., if we talk about sample/data-based-research, how MIRRI, BBMRI and EuroBioImaging offer practical tools and services so that research is ethical, collaborative, open, in quality, FAIR, with multi-actor engagement... in a word: responsible)

Our programme in a nutshell:

-ELSI (Ethical-Legal-Societal-Issues) and methodological framework for RRI

-RRI good practice requirements

• "Early dialogue" in protocol design

• Good practice in designing a study in a RRI horizon (e.g.: how to clearly define the research question; how to determine the appropriate size of the study sample; how to design a reliable and reproducible study)

• good information practice for participants (consensus matrix differentiated according to research field and type of

participant)

• Risk assessment and mitigation

• (Data) Impact Assessment/ (Research) Impact Assessment

• FAIRfication (from data processing to data findability, accessibility, interoperability, reusability- FAIR)

• Return of results (as a right as well as open access)

• Integrity and Open Science

-RRI in practice: institutional and European tools and ESFRI Services

-RRI practice in small groups working on specific domain, such as:

• Research and innovation with living beings

• Research and innovation based on “particular data” (i.e., biological, genetic, genomic data) generated by humans

• Research and innovation with impact on the environment and living beings

• Research and innovation with impact on future generations

Target audience: All PhD students, RRI should be embedded in daily research practice

CFU / Hours

8 hours of interactive laboratory in plenary 4 hours of practice in small groups

students’ work and evaluation

Hours 12
CFU: 1,5

Teaching period

09/05/22 9am – 1pm

10/05/22 2pm – 6pm

16/05/22 2pm – 6pm

The course will be held in an online format only, through WebEx meetings