



RESPONSIBLE RESEARCH AND INNOVATION: Theories, Practices and Tools for the Public Engagement

In our turbulent society, science and technology are crucial in solving and shaping challenges in equal measure. The mission of this course is to offer to Ph.D. students awareness of the societal, ethical and political impact of new emerging technologies and knowledge.

The course will develop practical skills and actionable tools for the responsible management of the societal impact of technological research projects.

WHEN? ---- > **Wednesday March 13, 2024, H. 9:30 – 18:00**

WHERE? ---- > **Campus di Biologia e Biomedicina "Fiore di Botta" – ROOM 3E**

Responsible Research and Innovation: theories, practices and tool for the public engagement

Teaching Staff

Stefano Crabu is a science, technology and medicine sociologist at the University of Padova. He studies innovation processes in the life sciences and ICT, mainly focusing on the sociomaterial and epistemological aspects of translational biomedicine, laboratory practices and hacking practices.



Paolo Giardullo is Assistant Professor in Sociology, at the University of Padova where he teaches Environmental Sociology and Social Research Methodology and Techniques. He contributed to research projects funded by national and international competitive calls on the topics of Responsible Research and Innovation, air quality policies and refused knowledge.



Federico Neresini teaches Digital Sociology and Sociology of Innovation at the University of Padova, where he also coordinates the PaSTIS research unit. His research interests are focused on STS, in particular on the construction processes of scientific knowledge and the analysis of technoscience in the public sphere.



Invited Speakers

Simone Arnaldi teaches sociology and ethics of artificial intelligence at the University of Trieste. His main research interests concern responsible innovation, science policy and science diplomacy. His publications include: *Co-creation and responsibility in techno-scientific innovation from below* (with Stefano Crabu and Paolo Magaudda, in Italian, Mimesis Edizioni, 2023) and *Responsibility in science and technology. Elements of a social theory* (with Luca Bianchi, Springer VS, 2016).



Carlo Ghezzi is an Emeritus Professor at Politecnico di Milano (Italy), where he has been teaching and doing research for over 40 years. He is an ACM Fellow, IEEE Fellow, member of Academia Europaea, and member of the Italian Academy of Sciences (Istituto Lombardo). He has published over 200 papers in international journals and conferences and co-authored 7 books. He is interested in the ethical implications of research in computer science. He is currently chairing the Ethics Committee at Politecnico di Milano.



Vincenzo Napolano is the Head of Communications of the European Gravitational Observatory (EGO) in Pisa and has been a science communicator for the National Institute of Nuclear Physics. He is interested in mobilizing new technologies and performing arts and languages to communicate science to the general public. He has curated several successful scientific exhibitions, including "Astri e Particelle" at the Palazzo delle Esposizioni in Rome in 2009, "Balle di Scienza" at Palazzo Blu in Pisa in 2014, "Oltre il limite" at MUSE in Trento in 2015, "Made in Math" at the Triennale di Milano in 2016, "Gravity" at MAXXI in Rome in 2019, and "Incertezza" at the Palazzo delle Esposizioni in Rome in 2021. He is also the author of several articles for popular science magazines, websites, newspapers, and scientific communication publications.



COURSE DESCRIPTION

AIMS AND GOALS

The aim of this course is to introduce Ph.D. students to basic concepts and application of Public Engagement. At the end of the course Ph.D. students will have developed awareness of the societal, ethical and political impact of new emerging technologies and scientific knowledge.

To this end, the course is subdivided into two sections; *morning section* dedicated to theoretical introduction to Public Engagement; *afternoon section* aimed at developing practical skills through working groups. Each section is subdivided in different slots to deepen the different facets of Public Engagement both theoretically, as in the case of Responsible Research and Innovation (RRI) framework, and practically.

- **Morning section** (H. 9:00 – 13:00), will deal with RRI framework, introducing theoretical backgrounds together with practical insights emerging from outstanding experiences in different research domains (Physics and Computer Sciences). In doing so, potential implications, societal expectations and social impact and public communication concerning emerging technologies, will be brought to the fore in connection with the need to boost the design of inclusive and sustainable research and innovation activities.
- **Afternoon section** (H. 14:30 – 18:00) is intended to provide Ph.D. students with a toolkit for designing public engagement activities to develop responsible management of the societal impact of scientific and technological research projects. The toolkit includes tools and techniques to be integrated in customizable public engagement paths. Furthermore, the afternoon section will make the tools active via participatory and working group activities to simulate real world challenges in public engagement.

COURSE SCHEDULE | Wednesday March 13, 2024

Morning session

Slot 1 - H. 9:30 – 11:00: Opening. *Responsible Research and Innovation: antecedents, characteristics and prospects*, by Simone Arnaldi (University of Trieste).

Chair: Federico Neresini

H. 11:00 – 11:30: Break

Slot 2 - H. 11:30 – 13:00: Round table. *Practicing Responsible Research and Innovation: Science and Technology for and within society*

Speakers:

- Vincenzo Napolano (European Gravitational Observatory), *The public communication of fundamental science: the case of physicists in search for gravitational waves*;
- Carlo Ghezzi (Politecnico di Milano), *From Bytes to Ethics: The Role of Ethics in Informatics*;

Chairs: Stefano Crabu (University of Padova), Paolo Giardullo (University of Padova) and Federico Neresini (University of Padova)

H. 13:00 – 14:30: Lunch break

Afternoon session

Slot 3 - H. 14:30 – 15:30: Practical session. *How to render scientific and technological research responsible. Exploring the tools and methodologies for the public engagement*, by Stefano Crabu (University of Padova), Paolo Giardullo (University of Padova) and Federico Neresini (University of Padova)

Slot 4 - H. 15:30 – 17:00: Working groups. Experimenting with public engagement initiatives for the RRI.

Slot 5 - H. 17:00 – 18:00: Short presentations by working groups and feedback