Sciences Po Grenoble UGA

COURSE DESCRIPTION
1ER CYCLE – SEMESTRE 1

Course Title

Science for Society: policies and politics of responsible research

VIRTUAL CAMPUS: online course (students need a good internet connection, sufficient to keep their camera on throughout the class. They will receive the Zoom link from the professor)
Type de cours : CMINT
Langue du cours : English

Professor

Dr. Séverine Louvel
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Course schedule

Semester 1 Monday 15.15-17.15

Course description - Targets

Information and communication technology, biology, environmental research… Science and innovation have a profound impact on our day-to-day lives. While citizens expect scientists to provide knowledge and expertise to solve societal problems, they also express concerns about the limits of science and even its potential harmful effects. Do scientists have a greater responsibility to contribute to society than other professionals? If so, how can we define it?
The social responsibility of science has become a pressing issue within society and in contemporary policy debates. Responsible research is the contemporary expression of long-standing concerns for (1) Responsible research practices: the production of high-quality, valid and reliable scientific knowledge and (2) Socially relevant science: the production of knowledge that provides answers to social issues and benefits citizens. While it is now recognized that these two dimensions are critical, researchers, policy-makers and citizens still have different conceptions of what it means for scientists to be "socially responsible".

This course will analyse ideas about the responsibility of science toward society. It will provide a critical examination of how policymakers, scientists, and citizens, make science accountable to society and try to increase its social relevance. First, the course will examine policy initiatives for developing responsible research practices (such as measures to prevent scientific misconduct or to develop "open science"); then, it will address the changing meanings of socially relevant science (shift in policies from limiting the potential harmful effects of research to encouraging the routine evaluation of its societal benefits); lastly we will question the rise of new policy frameworks for socially responsible research, which promote the involvement of civil society in the development of science and technology (such as public engagement in science or citizen science initiatives).

The course is open to any student with an interest in science and improving its benefits, and who wishes to understand the difficulties in assessing its societal impacts. It is also open to students who are interested in the role that they can play as citizens in promoting socially responsible research – even in scientific areas in which they don't have technical expertise. We will talk about several areas of science that raise critical societal issues and whose social responsibility has been much discussed, such as biomedical and health sciences, climate science, environmental science, and data science.

Course objectives

After this course, the student:
-can place the notion and policies of socially responsible science in a broader context (the economic, political and social dynamics that shape how scientific knowledge is produced and used in the Western world).
-can apply this knowledge to concrete and topical examples.
-is able to take a position and defend it with regards to policies aiming at fostering socially responsible science

Format and coursework

To prepare for each class, students will have to read one article –a social science research article and/or newspaper article published for example in The Conversation– and they will occasionally have to listen to an audio/video document.
Each class will include a discussion of these materials. In addition, there will be an emphasis on interactive learning with discussions and debates.

Outline

Class 1 – Course presentation and introduction

Responsible research practices
A central tenet to scientists' social responsibility is the production of high-quality knowledge. Does the system for publishing scientific articles encourage researchers to work towards these goals? Are we

witnessing a "scientific publishing crisis"? And how does science communication evolve in the era of Internet and social networks?

Class 2 – Integrity in scientific publishing. Scientific publications are deeply implicated in the production of valid and reliable knowledge. Can we trust the peer-reviewing of scientific articles to select good science? How does the current pressure to "publish or perish" affect scientific integrity?
Class 3 – Research misconduct. Misconduct is an issue in science as in other professional activities such as law, medicine, and business. What is considered research misconduct? Is it always easy to detect? And how does the organization of science encourage research misconduct today?
Class 4 – Open science in the digital age. Today, open science is presented as a solution to counter both scientific misconduct and the spread of misinformation, by democratizing access to scientific knowledge. What is meant by open science in the digital age? And how can society and the scientific community benefit from making research more open?

Social relevance of science
Questions about the social impacts of science and about scientists' responsibility for producing research that is not harmful but beneficial to society are not new. How to ensure that science is aligned with broader social values and produces socially desirable outcomes? Today, this is not meant to be the sole responsibility of scientists but also that of universities, policy-makers and research funders. How do these actors define the social relevance of science? According to what criteria do they assess it? With what effects on scientists and science?

Class 5 – Scientists' social responsibility: meanings and policies. The concept of scientists' social responsibility has gained prominence in the 20e century when military uses of scientific discoveries have undermined the "neutrality view" (according to which what society decides to do with scientific knowledge is not up to researchers). What policies are currently in place for limiting potential harmful uses of scientific research, and for setting socially relevant research goals?

Class 6 – The production of societal value in research evaluation: a critical assessment. Scientists are strongly encouraged to conduct socially relevant research: but how do research institutions assess the "societal value" of science? And can the impact of research in various disciplines (e.g., political science and physics) be assessed the same way? We will discuss issues and challenges of impact evaluation using the example of the British Research Excellence Framework.

New policy frameworks for promoting socially responsible research
Several policy initiatives have been put in place at national and European levels to promote socially responsible research. Most of them aim at involving the civil society in the development of science and technology. Are expressions such as "public engagement in science", "stakeholders' involvement in innovation, and "citizen science", more than fashionable labels/catchy slogans? At what stage can civil society members be involved in scientific programmes: setting their objectives, implementing and/or assessing them? And why is their involvement expected to improve the societal responsibility of science?

Class 7 – Public engagement in science. The term "Public engagement in science" has become popular among policy makers, replacing expressions such as science popularization or the public understanding of science. What is it about? We will investigate why the notion of "public engagement in science" gained momentum in the 2000s and critically discuss how it is implemented in public debates and citizen conferences.

Class 8 – Citizen science. The expression "citizen science" is widely used in the media and in science policy discourses. How may ordinary citizens contribute to science and technology? Does their contribution have an impact on the relationships between science and society? In this class we will discuss the epistemological and political dimensions of various types of citizen science projects in which you may be involved.

Class 9 – Citizen Science (continued + wrap-up session)

Assessment

Oral exam in December

Bibliography

Bartling, S., & Friesike, S. (2014). *Opening science: The evolving guide on how the internet is changing research, collaboration, and scholarly publishing*. Springer Open.

Felt, U., Fouché, R., Miller, C. A., & Smith-Doerr, L. (Eds.). (2017). *The handbook of science and technology studies*. MIT Press.

Hecker, S., Haklay, M., Bowser, A., Makuch, Z., & Vogel, J. (Eds.). (2018). *Citizen science: innovation in open science, society and policy*. UCL Press.

Nowotny, H., Pestre, D., Schmidt-Assman, E., Shultze-Fieltz, H., & Trute, H. H. (2005). The public nature of science under assault. *Hamburg: Springer*.

Nentwich, Michael & König, René. *Cyberscience 2.0: Research in the age of digital social networks*. Campus Verlag, 2012.