Since the emergence of modern sciences in the wake of the first Scientific Revolution, if many people take for granted that science is a good thing for obvious reasons, science has been also subject to a long list of criticisms (science versus religion, science versus pseudo-science and irrationality, science versus feminism, science accused to be the symbol of Western arrogance in the post-colonial context, etc). It is inevitable that a human activity such as science, which occupies a pivotal role in the fashioning of modern society, should find itself subject to criticism. The question of the problematic reception of Science haunted the development of Science in the past and nowadays and become yet more pressing in the age of uncertainty.

1) The rise of the Public Science between Popular Science and Performance

Social studies of science (Barry Barnes and Harry Collins) have since the 1970s and 1980s brought much attention in the reception of science by questioning whether public participation, discussing the validation of scientific statements in the context of experimental practices.

In the context of the first century of the Scientific Revolution, the new scientific practices are linked to absolutist patronage and court society which tended to replace the Church patronage. The Galileo’s Affair could be analysed in terms of a tension between these two patterns of patronage. The reception of science therefore was largely dependent of this political framework. During the 18th century, the rise of the Public Sphere encouraged scholars and scientists to use the Public audience to reach a consensus and scientific agreement. Scientific experiments became public and were performed in public places (new knowledge like chemistry, electricity for instance took advantage of this regime of publicity to claim the public utility of science).

This shift in interpretation took place in the history of science where scholars turned away from discursive scientific communication in favor of the crucial role played by instruments, performers and audiences, showing the strength of material culture in the process of universalization of modern science. The contribution of a large audience in the process of validation of science underlined the tension between specialized spaces like the laboratory and public places.

Historians of Science explored on the one hand the popularization of science and on the other hand the disciplinarization of scientific practices within the laboratory (for instance from Lavoisier).

This historiographical vision was still widely thought in a vertical pattern diffusionist and maintaining a separation between specialists (who are supposed to be already professionals of science) and amateurs.

Historians focussed therefore on new media (mainly the scientific press) that appear at the turn of the 18th and 19th centuries.

2) Public Understanding of Science’s movement

In the 1980s, a movement around the theme 'Public understanding of science' grew out of a reflection on how better disseminate science in society.

The 19th’s Scientism became both a negative value and a critical movement raised from the scientific milieu claimed to provide a much more critical vision of science.

This exploration led to the assumption by the state through the propagation of science museums and scientific associations, claiming of a new scientific literacy. The idea of a passive reception by lay people started to be questioned, however the boundaries between scientists and amateurs of science remained fixed and stable.

The creation of Scientific Museum in London or the Cité des Sciences in Paris during the 1980s are the best witnesses of this movement.
During the 1990s, the idea of the reception science has been challenged on behalf of a rejection of a vision diffusionist of scientific culture, emphasizing the differentiated practices of appropriation rather than the idea of a "popularization of science".

3) The reception of Science at the Age of Uncertainty

Under the influence of the sociology of science (especially, Actor network theory), analysis of science museums, research on science in the public sphere, the question of how we do science in contemporary societies has dramatically undermined the economistic logic of a tripartite division between production, circulation and reception.

The resurgence of the issue of amateur participation in scientific production, the crisis of scientific culture, the theme of technical democracy are some issues that helped to move from the notion of reception as a passive diffusion of a scientific message already established beforehand.

By adopting a long-term perspective, historians of science are required to revise the concept of public science itself. The story of the great confinement of emerging science in the 18th century is currently increasingly questioned.

4) From reception to appropriation of Science: Redrawing the boundaries of scientific Democracy

I will return to finish on some of the figures of the current sociological debate (return of the indigenous knowledge issue; debate on science and fiction; debate about nature/culture, debate about scientific action/passion, etc.).

This panel would like to open a discussion based on a Philosophical, sociological and Historical reflections which will not a produce a final or unequivocal answer but wish to help to isolate the key issues and encourage a rational, balanced discussion of them. This panel is composed by Professor Takuji from the University of Tokyo, Dr Yannick Barthes, sociologist, from the CNRS-Paris (the Paris School of STS, at the Ecole des Mines) and myself, Dr Van Damme (Sciences Po, Chair of Scientific Humanities).

Pr Takuji will introduce some of the central issues through an historical overview and by discussing cases.

Dr Iseda will explore the relationship between scientists and lay people from the philosophy of science point of view by discussing the problem of pseudo-science which pose the problem both boundaries and shared responsibilities between scientists and lay people in Japan.

Dr Barthes will start from a different perspective by underlining the role played by controversies and conflicts in the field of science and technology about health and environmental risks. This specific field allows us to give visibility to associations and participation in the process of making science.