

## Panel 63. Addressing Scientism through the Lens of STS

### Convenors:

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**Keywords: Scientific knowledge; uncritical trust; deference to science; scientific literacy, media**

STS have significantly contributed to shed light on the influence and authority of science in our contemporary Western societies. Despite the several risks associated to the technoscientific progress (e.g. health problems) and the crisis of scientific expertise (Eyal 2019), science keep enjoying a high level of trust and expectations. Nevertheless, the public authority of science does not mechanically lead to a widespread scientific literacy among lay people. Instead, under specific circumstances, it can foster an extreme form of deference grounded in an uncritical trust in science (Brossard and Nisbet, 2007; Haack 2012), even to the point of embracing anti-democratic positions (Howell et al., 2020).

This particular way to relate to scientific knowledge is usually defined in terms of scientism. Mostly debated in philosophy, scientism broadly refers to the belief that science is the only valid form of knowledge and that only the scientific method yield true knowledge (Stenmark, 2018). However, philosophers view scientism as more a program of action than a way of understanding science, thus limiting our capacity to understand and explain people attitudes toward science. In this regard, STS scholars can offer valuable analytical tools to explore how individuals and groups relate to scientific knowledge in everyday life, particularly in our highly mediatized society.

This panel aims to critically discuss scientism from a STS perspective, by exploring its social and political implications both on institutional and individual level. We encourage theoretical, empirical and methodological contributions that engage with, but are not limited to, the following themes:

- media and uncritical trust in science (e.g. how media representations shape uncritical trust and how science communication influence people attitudes and behaviors toward science);
- scientism and democracy (e.g. the impact of deference to science on political discourse and decision-making, especially during crises);
- scientific controversies and alternative belief systems (e.g. how scientism shapes public perceptions of scientific controversies and encourages public debate polarization between established scientific knowledge and refused knowledge communities);
- scientism and socio-technical imaginaries (e.g. how scientism influences sociotechnical imaginaries and shape people future expectations)
- educational programs (e.g. the role of education in fostering scientific literacy while avoiding scientism).

### References:

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12 JUNE 2025 11.30 - 13.00

## ID 305 - Audiovisual Science Communication in Italian Television: Scientism, Trust and Perspectives in RAI Programming

Marta Rocchi, Università di Bologna

**Keywords: Science Communication, Scientism and Media, Italian Television, Public Trust in Science, Gender Representation in STEM**

This paper examines the evolution of audiovisual science communication on Italian television, with a particular focus on Rai. By adopting a historical and critical perspective, the study traces how Rai has mediated scientific knowledge from the early days of public broadcasting to contemporary digital platforms. Over the years, various conceptions of science were presented on Italian television (Giaccardi 1998), which, along with several analytical categories (such as context, involved actors, presentation styles, and narrative techniques), have contributed to shaping the discourse on television's ability to offer an accurate representation of science. Through the concepts of scientism and trust, this paper aims to outline a possible shift: from representing science predominantly as a "product" (Cannavò 1995) to portraying it more as a "process", emphasising its dynamic, iterative, and collaborative nature.

The paper is divided into two sections, each aiming to outline key trajectories in engaging with scientism. The first section briefly examines the narration of science in RAI's cultural programming, starting with *Una risposta per voi* (1954–1968) and progressing through landmark shows such as *Quark* and *Superquark* by Piero Angela, before addressing more recent productions like *Superquark+* (RaiPlay, 2019–2022) and *Quinta dimensione – Il futuro è già qui* (Rai 3, 2022–present). The analysis explores how these programs construct scientific narratives, questioning whether they position the "populariser" as an unchallenged authority figure or instead present science as an open, dialogical field. Particular attention is dedicated to the most recent programs.

The second section investigates how the COVID-19 pandemic amplified the role of science in media. Specifically, it examines whether RAI programming adapted its approach to audiovisual science communication during this period, focusing on the direction of these changes and the formats or features involved. Particular attention is given to two distinct lines of analysis: first, the renewed presence of programs centred on health and medicine, such as *Elisir* and *Check-up* (which resumed broadcasting after a 20-year hiatus); second, the increased representation of women in STEM through RaiPlay catalogue. This latter shift is analysed in terms of its contribution to reshaping broader attitudes about who can embody the role of a scientist. By making women more visible in both fictional and factual narratives about science, these portrayals help create inspiring images of science associated with women, who are no longer depicted solely as rare exceptions but as integral and competent figures within the scientific community (Chambers 2021).

By situating the Italian context within broader discussions of media, scientism, and public trust (Scheufele Krause 2019), this study contributes to understanding how national traditions and global trends intersect in science communication. It also addresses how television, through its unique capacity for storytelling, can challenge or reinforce the socio-political dynamics of scientism in a highly mediatized society.

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## ID 502 - Fictional Technofutures: Exploring the Role of Science Fiction in contributing to a global hype of emerging technologies

Wenzel Mehnert, Austrian Institute of Technology

**Keywords: Fictional Technofutures, Speculative Fiction, Science Fiction, Imaginaries, Hype**

Science fiction (SF) serves as both a mirror and a guide to society's relationship with technological innovation, simultaneously reflecting cultural anxieties and aspirations while shaping the discourse around new and emerging technologies (NEST). From Isaac Asimov's benevolent robots to dystopian visions like HAL 9000 or the Terminator, SF constructs technoimaginaries – visions of possible futures that attribute



meaning to technology and influence public expectations.

This presentation investigates the interplay between SF and technology development through the lens of technofutures – speculative depictions that extend beyond prediction to actively shape the socio-technical discourse. By tracing SF's role in fostering cultural imaginaries, this work highlights how these narratives impact societal acceptance, inspire technological innovation, and reinforce unfounded hype beyond the entertainment industry.

Building on frameworks from science and technology studies (STS), this research offers a critical, hermeneutic perspective to evaluate SF's influence on technology. It explores the dialectic between utopian and dystopian narratives, emphasising the risks of reductive readings that commodify SF into mere product roadmaps, neglecting its nuanced critique of sociocultural dynamics.

Ultimately, this analysis calls for integrating SF into a systematic approach to technology assessment, recognising its dual role as a repository of sociotechnical imaginaries and a driver of global technology hype. This approach enriches our understanding of how speculative storytelling shapes not just perceptions but the material development of technological futures on a global scale.

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## **ID 732 - Scientific Misinformation and Naïve Scientism in High Schools: Insights from a Qualitative Study in Lombardy**

*Simone Tosoni, Università Cattolica del Sacro Cuore di Milano*

*Alessandro Ricotti, Università Cattolica del Sacro Cuore di Milano*

*Marianna Musmeci, Politecnico di Milano*

**Keywords: Scientism, communication of science, public understanding of science, scientific misinformation**

This talk presents the findings of a research project conducted by the Politecnico di Milano and Università Cattolica, investigating scientific information and misinformation among high school students in Lombardy. The study, that lasted 2 years, was carried out between 2023 and 2024 in twelve classes across six high schools in Lombardy, and employed a diverse range of qualitative research methods, including focus groups with students, media use diaries and scientific information engagement diaries, in-depth interviews, shared TikTok scrolling sessions, and in-depth interviews with parents and teachers.

Contrary to widespread concerns, scientific misinformation did not emerge as the primary issue. In fact, scientific information holds a marginal position in students' media consumption habits; moreover, they are aware of the existence of misinformation, especially on social media; they rather perceive older generations as the ones truly vulnerable to it. Moreover, students demonstrated a fair ability to recognize misinformation, though their skills are mostly limited to identifying well-known patterns of disinformation within the media landscape they have been socialized into – particularly those linked to populist or conspiratorial narratives.

A more pressing concern that surfaced across all classes was the widespread presence of what we term "naïve scientism" (Tosoni & Ricotti 2024). This refers to a simplistic view of science that assumes the scientific method, when correctly applied, leads to absolute, uncontested, and immutable truths. In this perspective, scientists are seen as unquestionable authorities, even when they speak on topics beyond their expertise. As we will show, this perception not only fosters misunderstandings of public debates but also leads to a significant decline in trust in science when its actual, often contested, working processes become visible (Collins & Pinch 1993) – such as during the COVID-19 pandemic.

To mitigate these risks and vulnerabilities, the research culminated in the development of an educational module tailored to the study's key findings (Musmeci et al. 2024). This module aims to introduce students to science as a dynamic and iterative process, fostering a more nuanced understanding of its methodologies and the nature of scientific knowledge.



## References:

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## ID 871 - Is the Media Uncritical of Science? Scientism and the Media in the 21st Century

*Bernhard Isopp, Technische Universität München*

**Keywords: scientism, the media, ideology critique, deficit model, public understanding of science, science communication**

Offering a corrective to scientism has long been a defining political project of STS. Indeed, this defines a key form of engaged STS and its relation to publics; "anti-scientism" might even be posited as a defining STS sensibility. A background assumption of this disposition is that mainstream or dominant images of science are largely scientific. Formative early STS work identified the media as a key source of these images and posited the media as "uncritical of science." What is the current state of affairs? In the last two decades, especially in the light of controversies like climate change, and more recently, Covid-19, a counterview has become increasingly common: the media, or at least certain segments of it, is too critical of science, or at least cynical and often antagonistic towards experts. Indeed, STS scholars have prominently tried to confront this trend. How can we make sense of scientism in light of these developments? Surprisingly, there has been relatively little systematic recent empirical work exploring how scientism might be reflected in the media. This paper reflects the results of a project analysing different media constructions - and contestations - of expert authority over the last twenty years. Empirically, the question is open as to whether scientific discourses prevail. The results of this analysis are ambivalent, not only because of the diversity of discourses and different registers for talking about science in the media, but also because scientism has been characterized in different ways. This, in turn, informs the larger question of this panel: how does one understand scientism? It frequently overlaps with the notion of "ideologies of science," thus constituting a "dominant ideology." However, does this point us back to "ideology critique," a sociological disposition that STS scholars have been inclined to reject? Here, this project also explores STS scholars' own media activities. This problematizes our enactments of expert authority and raises questions about whether "correcting scientism" produces our own imagined public deficits. I suggest that one approach to think about these issues is by paying more careful attention to the legitimacy of science as an actor category, not to create analytical distance, but to rather allow a more dialogical response to public reverence for and critique of science.

