

**Strengthening Networks and
Evidence-Based Practices for
Science Communication in Europe**

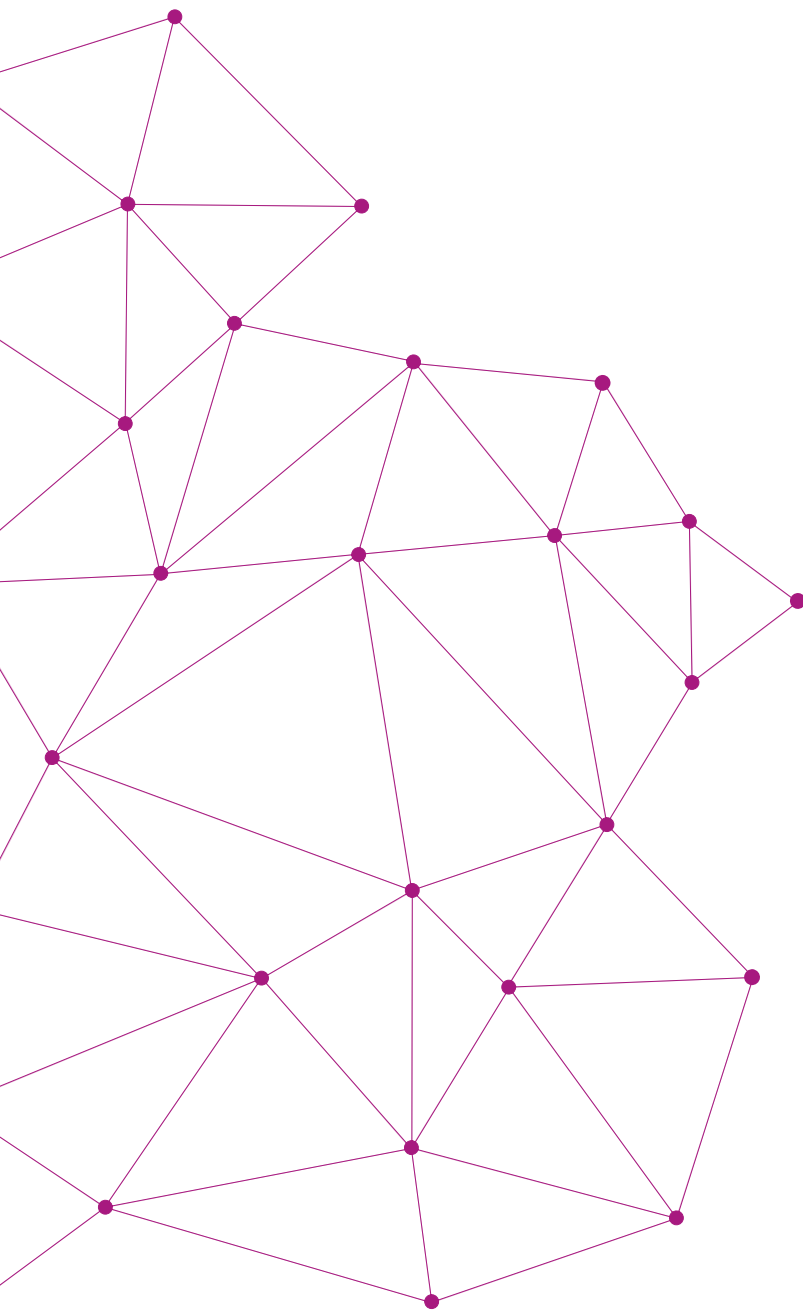
Policy Recommendations from the Future of
Science Communication Conference 2.0

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In light of COVID-19 and other global challenges such as climate change, it has become apparent that improved science communication is essential to more effectively transfer scientific evidence to citizens and policymakers, and, vice versa, to include the public in meaningful dialogues on science and policies.

This policy paper is based on the understanding of science communication as comprising all forms of communication focused on scientific knowledge or scientific work – both within and outside institutionalised science – including their production, content, use, and effects ([Schäfer et al. 2015](#)). Importantly, this also includes science communication that goes beyond one-way knowledge transfer and science journalism, such as citizen dialogues, public engagement with science or citizen science.

Communicating Global Challenges

Analysis

On the one hand, the COVID-19 pandemic has emphasised the relevance of science communication among policymakers and the public. Public surveys show consistently high levels of trust in scientists (see, for example, the [Science Barometer](#) for data from Germany). Furthermore, the developments during the pandemic have helped shift the focus of science communication from simply describing definitive results to explaining the processes, methods and changing nature of scientific knowledge.

On the other hand, throughout the pandemic, statements by politicians, scientists and science communicators have repeatedly presented the assumption that parts of the public are overly sceptical of science and sometimes ignorant. As research in science communication from the past two decades clearly shows, this representation largely reflects unfounded prejudices ([Sturgis & Allum 2004](#); [Simis et al. 2016](#); [Suldovsky 2017](#)). This underlying prejudice could have dire consequences because it supports a paternalistic and, ultimately, authoritarian vision of science communication and of the role of science in society.

The COVID-19 pandemic has also highlighted the challenges for science communication in public and political discourse, specifically: the difficulty of communicating complexity and uncertainty to different audiences and the proliferation of fake news have increased the workload for communicating scientists, as well as their risk of being personally attacked.

Policy Recommendations

- We recommend all stakeholders to consider **science communication as a strategic endeavour** that addresses scientific and political objectives, as well as the societal context. We, therefore, suggest incorporating the **existing evidence from the science of science communication**, considering the heterogeneity of audiences and devising ways to engage with them, including the impact evaluation of communication activities, and drawing from the existing body of knowledge in the social sciences, psychology and other disciplines when making policy and funding decisions.
- Despite the often challenging communications environment, **we need to enable more scientists to engage in this essential activity**, but we are aware that science communication does not need to be performed by each and every scientist. Therefore, science communication work needs to be **better recognised and rewarded by the scientific community** and the science policy institutions. We recommend establishing methods to provide this recognition, such as awards for engaged communicating scientists, the appreciation of communication experience in the evaluation of funding proposals or in the filling of advisory positions. We encourage science institutions to also recognise proven communication experience in the hiring and tenure process.
- We recommend establishing **support structures for communicating scientists** – especially in controversial and politicised areas – ranging from professional training and peer-learning opportunities to advice and legal, as well as psychological, support, particularly for scientists under attack in the public arena.

Fake News & Disinformation

Analysis

Science disinformation can be understood as factually incorrect information regarding claims that concern scientific matters, which is fabricated or deliberately manipulated with the intention to deceive. This also includes the deliberate spread of science misinformation, produced by mistake but without the intention to cause harm (ALLEA 2021). 83% of Europeans believe that fake news is a problem for democracy (European Commission 2018). However, the evidence on public attitudes about science shows not only that views about scientific topics are complex, but also that they tend to be issue-specific, dependent on personal involvement and driven by personal values and predispositions (Akin & Scheufele 2017).

Science dis- and misinformation is an issue that is neither likely to disappear soon nor be solved by simply explaining the science more or better. A complex combination of mechanisms and psychological effects (ALLEA 2021) make it hard to tackle.

Policy Recommendations

- We recommend that **policies and funding opportunities fighting misinformation and “fake news” focus on improving the quality of science communication and its uptake by citizens.** In particular, we recommend improving, incentivising and rewarding critical media literacy and science literacy (regarding methods, concepts, processes in science). This should aim at informed, critical and empowered decision-making by citizens, and includes the need for more dialogue-orientation in science communication practices, to establish a **serious engagement with the public that respects different perspectives and values, while trying to establish a shared factual basis** (Scheufele et al., 2020).
- We recommend strengthening and expanding existing initiatives and projects **teaching science and media literacy in schools**, and to incorporate case material on current experiences.
- We recommend providing additional funding for **media training for scientists in all stages of their academic career**, and to publicise current opportunities wider and more effectively. Training should especially address the role of narratives and emotions, as well as the role of uncertainties, and the gap between specific empirical evidence and the broader policy and action-oriented questions.

A network diagram consisting of numerous purple dots connected by thin purple lines, forming a complex web of interconnected nodes.

Evidence-based Practice of Science Communication

Analysis

Currently, the steadily growing relevance of science communication, together with the increasing activities and funding opportunities, are, unfortunately, met by too few (meaningful) evaluations and sparse knowledge of the impact of science communication ([Ziegler et al. 2021](#)).

This is problematic for science communication research since theoretical and empirical work is often distant from practical realities, and does not reflect areas of relevance or needs for evidence-based input. It is also problematic for science communication practice, which while arguing for evidence-based decision-making, rarely applies the same standards to its own methods. Lastly, this also poses a problem for policymakers and funding bodies, who increasingly require science communication as part of project proposals, but can often not apply theoretically or empirically-based assessments of the proposed measures.

Policy Recommendations

- We see the need for strengthening networks of science communicators and science communication researchers with the aim of **fostering a common understanding of, and a common language for, quality and evaluation practices in science communication**. A science communication hub within the EU could play a pivotal role in bundling knowledge and experience – a role that could be filled by the soon-to-be established European Competence Centre for Science Communication.
- We recommend shaping policies and funding structures to encourage the **incorporation of strategic planning and impact assessment in training for science communication**, and providing the corresponding materials and tools.
- Building on the existing calls for incentives for researchers to engage in science communication, we recommend to structure these **incentives to mirror the understanding of quality and impact orientation of science communication** (thereby not excluding experimental approaches that lack previously proven impact).
- We recommend **broadening the scope of envisioned science communication research** in future calls, addressing such topics as the impact of science communication by industry and journalistic approaches, or the differentiated goals and motives of the various actors and organisational levels involved in science communication.

Networks and Institutional Structures

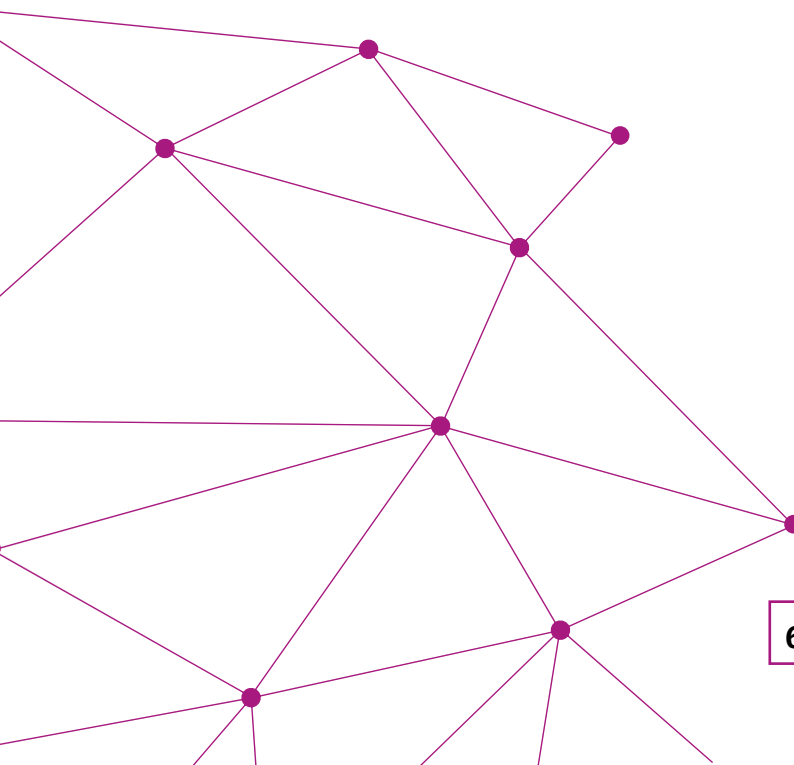
Analysis

Various organisations, networks, formats and lines of funding are available for many different aspects of science communication. On the whole, science communication is a thriving, enthusiastic and growing community. However, there is still no clear definition or overall strategy, and no shared understanding of quality criteria, available. Funding is often inaccessible because of bureaucratic barriers and there is not enough transfer between research and practice. Sometimes **unclear responsibilities in the Commission**, as well as the lack of an overarching presence of science communication, hinder the development of the field on a European level.

Specifically, the term science communication is barely present in the Horizon Europe framework programme. **No specific calls for science communication** are planned besides the recent call for a European Competence Centre for Science Communication. Science communication is primarily present as dissemination of project results and blended in with other concepts such as Open Science, Citizen Science, engagement, collaboration, co-creation or participation.

Policy Recommendations

- We recommend developing a joint **European Science Communication Strategy** that includes the definitions of terms and understandings across the continent, as well as in neighbouring areas. A joint and inclusive definition that spans over existing traditions would be able to integrate efforts and realise more cooperation and synergy effects. A useful perspective for the development of the strategy would be the year 2028, when the follow-up to the current Horizon Europe framework programme will be established.
- We recommend implementing policies and adjusting and/or establishing funding opportunities to expand the **exchange of ideas and best-practices between various actors of science communication across borders**. In particular, efforts should be made to actively include countries and communities with fewer financial and structural resources. We suggest evaluating options to expand exchange opportunities within Erasmus+ and existing exchange programs for administrations, as well as encouraging concrete international exchange on science communication for future scientific project proposals.
- We recommend shaping the activities suggested here through a **bottom-up approach that includes the community, for example, through diverse advisory councils**, topic-specific workshops for developing advice, or joint strategies for further European activities.
- Specifically, we recommend building on the success and results of the Future of Science Communication Conference by maintaining and expanding the community-connecting drive, as well as by **regularly bringing together existing networks and communities across Europe through an annual joint meeting**. Furthermore, we suggest including a wider community **beyond the already involved or engaged actors in science communication** – e.g. with policymakers, politicians, administrators, civil society and industry.



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About the FSCC

The Future of Science Communication Conference (FSCC) brought together researchers and practitioners of science communication across Europe and beyond. It was organised by *Wissenschaft im Dialog* and ALLEA (*All European Academies*) and funded by the German *Federal Ministry of Education and Research*. In June 2021, the conference took place as an online event with over 1000 participants.

About this Paper

The analysis and recommendations presented here are based on a follow-up gathering in Brussels with 70 participants, including researchers, science communication practitioners, policymakers, and other relevant European stakeholders that took place in April 2022.

This paper was elaborated in collaboration with Philipp Schrögel, member of the FSCC advisory council (Heidelberg University).

About Wissenschaft im Dialog

Wissenschaft im Dialog (WiD) is the German organisation for science communication of the scientific community. WiD supports science and research with expertise in effective communication with society and encourages researchers to communicate their research, including its controversial aspects, with the public. Moreover, WiD raises citizens' awareness for the social significance of science and promotes understanding research processes and findings.

About ALLEA

ALLEA is the European Federation of Academies of Sciences and Humanities, representing more than 50 academies from about 40 EU and non-EU countries. Since its foundation in 1994, ALLEA speaks out on behalf of its members on the European and international stages, promotes science as a global public good, and facilitates scientific collaboration across borders and disciplines.