



Aalborg Universitet

AALBORG UNIVERSITY  
DENMARK

## Communicating Science in Times of COVID-19

### *A Selective Overview of Good Practices*

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# COMMUNICATING SCIENCE IN TIMES OF COVID-19

A SELECTIVE OVERVIEW OF  
GOOD PRACTICES

# Introduction

The [COST Cross-Cutting Activity \(CCA\) on Science Communication](#) brings together outstanding expertise from over 50 organisations across EU Member States and beyond. We work to raise awareness of science communication and develop best practices for policy makers to stimulate research on science communication in Europe.

For this report we invited a selective group of CCA Members to provide their perspective on the role and relevance of science communication during the current COVID-19 pandemic. Common for the contributions are their focus on new approaches to science-based communication as an essential prerequisite for addressing contemporary health challenges as they cut across disciplines and stakeholders.

Engagement, exchange and communication are indeed needed to facilitate trustworthy science advice and to inform the public about the scientific complexity of the current crisis. Moreover, science communication, according to the contributors, is not a one-way street. Communication and dialogue are needed between stakeholders – academic institutions, government, the private sector, industry, NGOs, media and the public. All of these key groups must be involved in the co-creation of solutions and interventions.

On 22 July 2020, the COST CCA on Science Communication held a webinar on science communication activities during COVID-19. With an international audience of participants from a wide range of sectors, the event stimulated fresh thinking on these topics, by showing how new approaches are implemented and how conventional wisdom is challenged. The contributions to the webinar are published as chapters in this report. If anything, COVID-19 has made it evident that without a strong commitment to high quality and evidence-based science communication, European democracies would not have the required capacity for addressing the complex nature of the current crisis.

The main aim and objective of the CCA network on science communication is to achieve high-quality, evidence-based and cross-sectoral science communication to enhance the societal value of research and innovation across Europe. In this context, the network

will encourage stakeholder engagement and dialogue across Europe, set priorities, and define tools and channels necessary to connect researchers, journalists, diverse stakeholders and citizens and policymakers.

Between 2019 and 2021, the CCA network on science communication will facilitate exchange between researchers, journalists, media centres, policy makers, research funding bodies, stakeholder organisations and public institutions in order to meet the objectives outlined below, as well as to facilitate 'matchmaking' of relevant actors across Europe to enhance the effectiveness of the sector.

Europe needs a new ambitious research agenda for the science of science communication that will ensure robust, and socially sustainable relations between science, policy and society for the next decade. The CCA represents the European science communication community's commitment to contributing to a better and stronger voice of science in Europe.

On behalf of the members of the CCA, I would like to thank the COST Association for its strong visionary proposal for the 2019 Strategy, and for establishing a Cross-Cutting Activity on Science Communication. In particular, I would like to thank Judith Litjens, COST Policy Officer, for her invaluable support.



**Professor David Budtz Pedersen**

Chair of the COST CCA  
in Science Communication

*Copenhagen, February 2021*

# Contents

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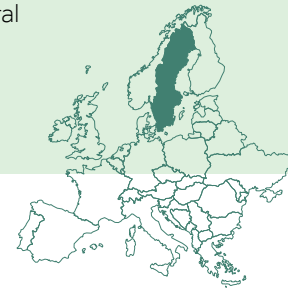
VA PUBLIC & SCIENCE	4
EUROPEAN SCIENCE-MEDIA HUB, EUROPEAN PARLIAMENT	6
HUMANOMICS RESEARCH CENTRE, AALBORG UNIVERSITY	8
TRINITY COLLEGE DUBLIN	10
EUROPEAN UNION OF SCIENCE JOURNALISTS' ASSOCIATIONS	12
PARLIAMENTARY OFFICE OF SCIENCE AND TECHNOLOGY, UK PARLIAMENT	14
EUROPEAN SCIENCE ENGAGEMENT ASSOCIATION (EUSEA)	16
UNIVERSITY OF BRISTOL	18
NOVA UNIVERSITY LISBON	20
WISSENSCHAFT IM DIALOG	22
FINAL REFLECTIONS	24



**CCA member:** Cissi Askwall, Secretary General

**Sector:** National NGO

**Country:** Sweden



## REDESIGNING SCIENCE COMMUNICATION ACTIVITIES DURING COVID-19

Sweden has chosen a somewhat different national strategy to fight the pandemic compared to many other countries. [VA \(Public & Science\)](#), a national NGO promoting dialogue and openness between the public and researchers, runs annual surveys to investigate Swedish public attitudes towards science, and monitors attitudes and possible attitude changes more closely during the course of the pandemic.

VA is currently studying **how Swedes are receiving and interpreting information about the coronavirus** and how this is linked to the way in which the pandemic is communicated in the media. The project includes a number of surveys to measure public attitudes, combined with studies of the actual media reporting. This ongoing real-time study is conducted in collaboration with researchers at the [Karolinska Institute](#) and [Södertörn University](#). From March to December 2020, twelve survey waves, including 1,000 interviews, were conducted based on representative samples through Kantar Sifo's web panel.

### Key findings

The news media have consistently been the primary source of information about the coronavirus for the Swedish public during the first ten months of the pandemic. Only a small proportion (1–2 percent) states that they mainly access information on COVID via social media.

During the Autumn of 2020, VA observed that a decreasing proportion of the population was accessing information about the virus, compared to March. Not accessing information was especially evident in the younger age groups. But as the number of COVID-19 cases increased again, so did the news intake, as well as the confidence in media reporting.

In March 2020, 67 percent perceived media reporting as *fairly* or *very hyped/alarmist*; by September this had dropped to 22 percent, but then rose gradually again to 52 percent in December.

Finally, VA observed that confidence in researchers who comment on the coronavirus in the media has been consistently high, with minor fluctuations. In December 2020, 87 percent said that they have *fairly high* or *very high confidence* in researchers (the same level as in March 2020). At the same time, confidence in politicians was 29 percent, journalists 21 percent, government officials 61 percent, and in health care providers commenting in media 91 percent.

## ADVICE OR RECOMMENDATIONS FOR SCIENCE COMMUNICATION COLLEAGUES

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Studying how citizens access and interpret scientific information in the current circumstances presents a valuable base for developing and adapting science communication and public engagement activities.

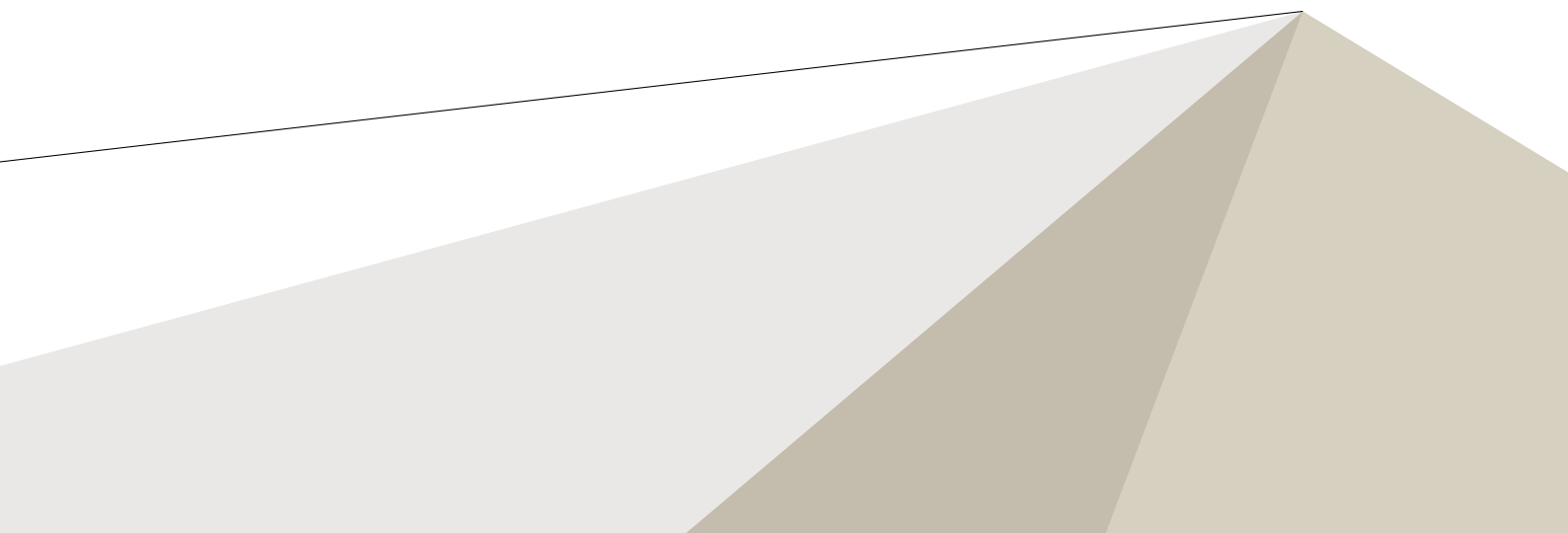
Bearing in mind the growing Zoom and Teams fatigue, online activities should be short, interactive, varied, fun, allow for networking and for sharing expertise and experiences to engage people with science. Although digital tools have the potential to reach much wider audiences, there is still a need to ensure a two-way dialogue.

## THE IMPACT OF COVID ON THE PRACTICE OF SCIENCE COMMUNICATION

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The pandemic could constitute a 'game changer' for science communication practitioners. The spread of COVID-19 has made it evident how crucial it is for science communication to reach and engage with everyone, including those not interested in science, hard to reach, or members of vulnerable groups. The pandemic also forces us to rethink how we conduct

science communication and develop online activities. More investment in training, better institutional recognition of science communication activities, comparative studies and international sharing of data and practises are key prerequisites for ensuring continuous innovation in the field of science communication.



# European Science-Media Hub, European Parliament



**CCA member:** Vitalba Crivello, Policy Analyst

**Sector:** European Institution

**Country:** Belgium



## REDESIGNING SCIENCE COMMUNICATION ACTIVITIES DURING COVID-19

The [European Science-Media Hub \(ESMH\)](#) focuses on the effectiveness of science journalism and science communication. Its mission is to promote reliable, science-based information and knowledge dissemination at the interface between policy makers, the scientific community and the media. Fulfilling this mission during the coronavirus crisis, the ESMH has launched a number of initiatives to promote sound science and accurate science information. In a [series of interviews](#) with leading European virologists, immunologists and epidemiologists, the ESMH follows the **evolving containment strategies in different European countries**, ranging from the effectiveness of public health measures, lockdown, the importance of testing and active surveillance and better health-care system preparedness for a pandemic.

In parallel with the interviews, ESMH is also publishing several [articles](#) to shed light on different aspects of the pandemic, such as the role of human behaviour in spreading the virus and the importance of tracking clusters to control the contagion.

Last but not least, ESMH has started a series on current [treatments to cure COVID-19](#) and we are also covering [the most promising vaccines](#).

### ESMH initiatives

Live events had to be cancelled but alternative solutions were implemented and the ['digital revolution'](#) has sped up at an unprecedented rate. Confident that we could resume [physical meetings](#) as soon as the health crisis would allow it, ESMH started planning virtual events. On 28<sup>th</sup> September 2020, ESMH held the [webinar 'Corona: is disinformation more contagious than the virus?'](#). Members of the European Parliament, media researchers and 50 journalists attended the online event, which was part of the 'Science Media Days', organised by the ESMH for science journalists, media representatives and science communicators from different European countries.

Stemming from a fresh collaboration with the World Health Organisation, ESMH started a project on 'Infodemic', putting together a [list](#) of relevant initiatives tackling the enormous spread of false information on various aspects of the health crisis and regularly publishing [interviews with experts on dis- and misinformation](#) and some thematic [news articles](#). The ESMH 'Infodemic' project recognizes the **key role** that **independent fact-checkers and science journalists** play in the corona crisis, collecting and critically evaluating the huge amount of information and channelling it to the public to respond to the 'quality' communication challenge.

All the experts (whom the ESMH has been following) agree on the urgent necessity to implement an effective response to the crisis, via strong **EU-level cooperation and coordination of research studies**.

## THE IMPACT OF COVID-19 ON THE PRACTICE OF SCIENCE COMMUNICATION

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The health crisis inevitably placed **science at the centre of the public debate**. 'Public health' became the new priority for politicians and media alike.

The crisis shows the importance of a **multidisciplinary research approach**, in which reputable researchers debate their opinions to respond to the many open questions. Due to the high flow of numbers and figures in the current crisis, **data scientists and analysts** are playing an increasingly important role.

The coronavirus crisis has been dominating the public sphere for several months and the lessons that we are learning from it can be applied to various scientific domains and provide some guidance for effective science communication. **Telling meaningful stories about scientific topics that have an impact on citizens' everyday life** can be complex, but sometimes interesting pieces on topical issues succeed in connecting with the public at large.



# Humanomics Research Centre, Aalborg University



CCA chair, David Budtz Pedersen

Sector: Academia, University

Country: Denmark



## REDESIGNING SCIENCE COMMUNICATION ACTIVITIES DURING COVID-19

The [Humanomics Research Centre](#) is a leading Danish university unit conducting research on science communication and the impact of science on society and policy. For several years, we have served as a hub of expertise to facilitate, strengthen and assess the impact of science in society with a particular aim at strengthening interaction and knowledge exchange among academics and policy-makers. During the COVID-19 outbreak, we have experienced a very high demand for media and policy outreach, providing testimony and input on how to best communicate and integrate multidisciplinary expert advice in policy making.

A particular concern in Denmark has been the adoption and use of independent scientific sources and experts in the emergency response. The Danish COVID-19 response has relied heavily on the Government's internal science services with little or no use of independent expert groups. Trust in government and scientific institutions has seen a historical increase. Yet, the need to include a broader diversity of disciplines and independent experts has become increasingly clear.

A key challenge has been to communicate how government should be organising its expert advisory committees and why the public should trust government experts while at the same time stressing the

importance of independent scientists providing 'second opinions' and checks and balances. We held several policy workshops (online) to ensure that government agencies would consult a wider range of experts, and to communicate open data, models, assumptions and conclusions to the wider scientific community and society at large.

Another key challenge has been the inherent multidisciplinary nature of the current crisis. The COVID-19 crisis is as much a communication and social crisis as it is a health crisis. Health sciences are an important component when communicating scientific evidence to the public but so is the voice of the human and social sciences. [Communication, cognition, culture, narratives, and biases](#) play an important role when communicating scientific evidence to policy makers and citizens, and the behavioural sciences need to make their voice heard and be taken into account. It goes without saying that the current crisis knows no disciplinary boundaries. Still, the default position has been to consult epidemiologists, virologists, modelers, and data scientists, while systematically downplaying the human and social aspects of the crisis. Our role during this crisis has included a contribution to solving the challenges of mobilising and integrating social sciences and humanities (SSH) into the emergency response, as well as promoting stronger science communication efforts within those disciplines.

## ADVICE OR RECOMMENDATIONS FOR SCIENCE COMMUNICATION COLLEAGUES

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Whilst the COVID-19 pandemic has led to an 'infodemic' of conspiracies, [misinformation](#), misunderstandings and politicized scientific debates, the outbreak has also shown that scientific expertise is in high demand. Calls for 'following the science' have proliferated throughout European societies. Yet, the idea of following the science has in many instances turned out to be misleading and modelled on the wrong ideal of science. Research and innovation are incremental activities characterized by uncertainties, unknowns, and the accumulation of new studies into scientific consensus. Simply following the science and adhering to the predictions offered by epidemiological models are not enough. Rather, scientific experts need to be made aware that they are part of a broader social context in which [the voice and values of different](#)

[stakeholders](#), including citizens, need not only to be heard but taken into account. Social dilemmas and political trade-offs are part of the current pandemic as much as scientific facts and models, and responsible science communication needs to be able to balance both.

The global response to COVID-19 has demonstrated that governments not only have to contend with the uncertainty of science but with a multitude of other practical considerations, including feasibility. In all this, policy makers may want certainty from scientists – and claim that they are 'following the science' – but the reality of evidence informed policy making is much messier and should be communicated openly.

## THE IMPACT OF COVID-19 ON THE PRACTICE OF SCIENCE COMMUNICATION

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In Denmark, science communication has certainly evolved during the COVID-19 pandemic. Science communication has become the centre stage of consequential discussions about the nature of science, the need for robust and independent scientific advice, and the general need to educate scientists in how to provide expertise to the public while at the same time accepting that science is only one component of policy making and public deliberation. Learning from the current crisis, there is a window of

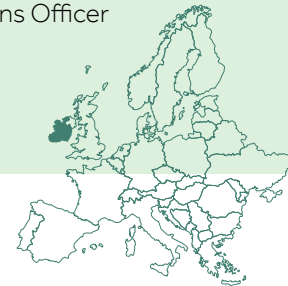
opportunity to include a **wider range of experts when dealing with future complex problems**, such as climate change and [artificial intelligence](#). What we have learned from the COVID-19 outbreak is that society is much more complex than any individual discipline is able to grasp, and that the ontology of our challenges need the input from a diverse set of disciplines and approaches, which are all highly dependent on skilful science communication.



**CCA member:** Thomas Deane, Media Relations Officer

**Sector:** Academia, University

**Country:** Ireland



## REDESIGNING SCIENCE COMMUNICATION ACTIVITIES DURING COVID-19

As Ireland's leading university, [Trinity College Dublin](#) has numerous researchers with expertise in viruses (including one who works on coronaviruses specifically), vaccines, and epidemiology. Initially we wanted to ensure their voices were heard on Ireland's TV and radio stations, as well as in newspapers. As time went on, we also helped our experts in other areas secure media coverage (e.g. business experts, legal experts, historians, psychologists etc.) related to COVID-19. The demand for their expertise was so high that one major challenge was **balancing the number of requests with the people available to speak** (we received multiple requests each day seeking experts to appear on radio and TV, and to chat to newspaper journalists).

Trinity College Dublin has raised its profile as a research university of excellence throughout the crisis – our success in securing media coverage featuring our research experts has helped in that regard.

### Lessons learnt and recommendations

1. We learned it was important to talk to our experts in advance to make sure we knew their availability and willingness to liaise with the media. That made it much easier and faster to fulfil requests.
2. There is a need to **predict the questions** people will have about the emergency and how it will affect them, and then pinpoint the researchers whose expertise is likely to be relevant. These are the people that the media will wish to speak to, so it is important to have these people prepared and happy to talk to media when the requests come in. This may mean spending some time with them in advance to provide guidance on conducting interviews and to encourage them to speak to media when requested.
3. Trinity was successful on a number of occasions in writing **short biographies** of these researchers, explaining why their expertise was relevant, and emailing these biographies with the relevant contact details to media/journalists so they could phone or email directly.
4. From a communications perspective, it was important to hold **brief daily (or twice-weekly) meetings** with other key stakeholders in the university, so that they knew what the main focus of the day was likely to be from a media perspective.

The need for rapid news on COVID-19-related developments, and the general interest of pretty much everyone in the world regarding COVID-19, meant that **science was in greater demand than ever before**. The **views of our scientists were (initially at least) respected more than ever**, although this trend has declined as people have become disillusioned with competing views and the little progress that they can see, day-to-day, in tackling the virus.

Secondly, the pandemic has helped a lot of our **scientists become more comfortable in communicating what they do to non-specialist audiences and in**

**liaising with the media**. Beforehand, many were wary and/or shy, but many have now **developed skills and even a passion for science communication**, which is a wonderful positive to come from a negative situation.

Lastly, the need for information in an ever-evolving situation has led to **science being communicated more and more across social media platforms**, rather than just through traditional media (TV, radio, newspapers). Lots of our scientists post short video clips of their views to Twitter, for example, and engage in discussion with people asking questions on social media, which is something that was rare before.

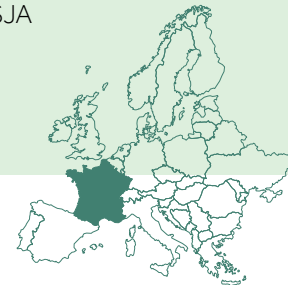
# European Union of Science Journalists' Associations



**CCA member:** Jens Degett, President of EUSJA

**Sector:** Non-government organisation

**Country:** France



## REDESIGNING SCIENCE COMMUNICATION ACTIVITIES DURING COVID-19

The [European Union of Science Journalists' Associations \(EUSJA\)](#) is an umbrella organisation for European National Science Journalists' Associations. During July-August 2020 EUSJA conducted a survey among its national member associations on science journalism and communication during the first four months of the COVID-19 pandemic. The key findings were presented at an ESOF2020 session in September, with the title '[European diversity of Science Communication during the COVID-19 pandemic](#)'.

EUSJA's survey results demonstrated a high occurrence of misleading information in many European countries since the start of the pandemic. About 58% of the survey responses indicated problems with fake news on COVID-19. The average level of fake news prevalence in the media was estimated to be 25%. An

input from this survey showed that there is an acute need for a code of conduct for the way in which science is communicated by journalists as well as science communicators. High quality and evidence-based science communication is a key prerequisite for establishing trust and challenging fake news.

In collaboration with [Vaxvox](#), EUSJA organised an event focussed on COVID-19 vaccines, which was organised during the One World Health Congress on 3 November 2020. Journalists from EUSJA and leading vaccine experts in the world joined this [online workshop](#) on vaccine development in the context of COVID-19. The strategy behind national and global vaccination against SARS-CoV-2 was presented and the experts answered questions on COVID-19 and the vaccines.

## ADVICE OR RECOMMENDATIONS FOR SCIENCE COMMUNICATION COLLEAGUES

Researchers and institutions need to have a strategic outlook in place in order to respond effectively to potential crises. They are expected to establish good personal links with the media, keep journalists informed and train them to understand important issues. Whenever a crisis hits, such as the COVID-19 pandemic and its consequential lockdown, the media

is likely to enter a crisis mode where transmission of factual information is challenging. Science journalists are often side-lined during an emergency and their jobs are taken over by generalists. Having solid contacts in place between research institutions and well

trained/informed science journalists will enable journalists to publish stories which are more accurate, balanced and have more essential content.

## THE IMPACT OF COVID-19 ON THE PRACTICE OF SCIENCE COMMUNICATION

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We are exposed to both good and bad science communication in a changing media world. In the last few decades we have witnessed a transition from the use of traditional to social media channels, now used by many as a primary news source. Furthermore, during the COVID-19 pandemic, many science journalists lost their regular column in their newspaper or their weekly radio/TV programme due to the introduction of emergency programmes.

Some countries have reacted to the COVID-19 crisis in a politically unified way based on science advice and evidence. Others have partly given in to alternative

political priorities and non-evidence-based myths, which have caused trouble for the containment of the virus. Society needs evidence-based media coverage to fight ignorance and disease. EUSJA recommends building stronger links between media and research with the aim to produce evidence-based news. It is also important to clarify economic, religious and political interests in, for example, a code of conduct, which has already been developed by journalists and research institutions in many countries and will be proposed as a good practice at the next EUSJA General Assembly.

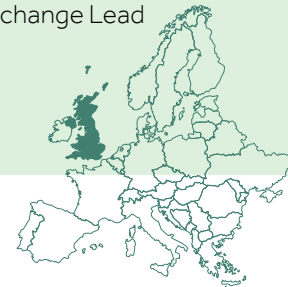
# Parliamentary Office of Science and Technology, UK Parliament



**CCA member:** Dr Sarah Foxen, Knowledge Exchange Lead

**Sector:** Parliament

**Country:** United Kingdom



## REDESIGNING SCIENCE COMMUNICATION ACTIVITIES DURING COVID-19

The [Parliamentary Office of Science and Technology \(POST\)](#) is the internal science advice mechanism serving the UK Parliament. Within POST, the [Knowledge Exchange Unit \(KEU\)](#) serves to facilitate, strengthen and diversify the flow of information and expertise between Parliament and the research community. Since the beginning of the COVID-19 outbreak, both POST and the KEU have been directing a lot of their attention to **sourcing and communicating research evidence and researcher insights** to Members of Parliament, their staff and parliamentary staff, as well as the wider public.

To be able to support Parliament in its work around the COVID-19 outbreak, we had to adapt our ways of working and disseminating our products, so as to be able to [rapidly produce briefing material](#). We were able to do this because the staff in POST are trained scientific advisers, experienced in sourcing and appraising information rapidly, and with developed networks in their respective areas of policy expertise.

Having a central body in Parliament bridging research and policy means that **external researchers have a clear route to engaging with Parliament** (via the KEU), and members of the parliamentary community know that there is a specific body in Parliament (POST) making the science available and accessible for them.

For us, a key **challenge** has been **keeping up-to-date with new scientific information** that has been constantly coming out, and ensuring that the briefing material has been up-to-date and made available as quickly as possible. Another challenge has been to provide as much support as possible to Parliament as a relatively small team. Many, many researchers have generously wanted to feed in to supporting Parliament's work, so another challenge has been coordinating this and ensuring that they have all been able to share their insights.

## ADVICE OR RECOMMENDATIONS FOR SCIENCE COMMUNICATION COLLEAGUES

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We were keen to provide a way for all researchers to be able to feed their insights around the COVID-19 outbreak into Parliament, so we opened a **database**, and invited anyone who considered they had relevant expertise to sign up, so that we could seek insights from them. We [surveyed the experts on the database](#) around various aspects of the outbreak and then **analysed and synthesised the hundreds of responses** and made them available for Parliament and publicly. We found this a very effective way to be inclusive and to ensure that a **plurality of expert voices** could be heard in Parliament. It also enabled us to identify themes and consensus.

To address the challenges mentioned above, we **adapted our methodologies** for engaging with researchers and producing briefing materials. We were able to reach out to the research community on mass and invite them to work with Parliament through two mechanisms: firstly, our dedicated **Twitter account**, which promotes all opportunities for researchers to engage with Parliament: [@UKParl Research](#) and secondly our **informal network of over 400 knowledge mobilisers** in universities, learned societies and professional associations, who communicated the activity to their members and networks. As a result of this system, Parliament has had access to **numerous briefings**, the expertise of over **5000 experts**, and the insights of over 1100 of them.

## THE IMPACT OF COVID-19 ON THE PRACTICE OF SCIENCE COMMUNICATION

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Our practice has certainly evolved as a result of the COVID-19 outbreak. POST now provides reactive briefing material for its audiences and produces these much more rapidly than other briefing products. POST and the KEU have also used the database and expert survey method to engage with researchers

around [the theme of COP26](#) (the 2021 UN Climate Summit), and this has been very effective in enabling **access to a wide range of expert insights in a fully inclusive manner**, so this is likely to be an approach we will continue taking.



# European Science Engagement Association (EUSEA)



**CCA member:** Dr Annette Klinkert, EUSEA Executive Director

**Sector:** NGO, SME

**Country:** Austria



## REDESIGNING SCIENCE COMMUNICATION ACTIVITIES DURING COVID-19

As an international knowledge-sharing platform and innovator in the fields of public engagement, the [European Science Engagement Association \(EUSEA\)](#) places emphasis on the need to consider socio-economic and cultural challenges as well as the technical and medical ones. While technical solutions provide answers to technology-related questions, **social innovation, creativity, and participatory co-creation processes** are needed to face individual and societal challenges and foster behavioural change. In order to develop these processes on a national and global scale, local prototypes are needed to show new opportunities to work together in a world which is increasingly digital but still needs ideas for the future of physical meetings and spaces.

In times of social distancing, people across the world still want to populate streets and squares, parks and other open spaces. In order to contribute ideas to the current challenging situation in which traditional gatherings in urban spaces are not allowed, EUSEA-member [city2science](#) brought together a variety of stakeholders, inviting them to **experiment with a hybrid event format**, combining hands-on experimentation with **physical and online meetings**. Please find below a summary of the activity:

"In our first [MAKERTHON OWL- OPEN.PUBLIC. PLACES](#), conducted from 5-7 June 2020, four institutions, representing academia, industry, policy making

and civil society, in the region Ostwestfalen-Lippe (Germany) came together. These partners invited 60 stakeholders from different ages, genders and backgrounds, including scientists, innovators, start-ups, citizens, artists, students, designers and policy makers, to **reflect on their urban and regional environments**. For three days, these stakeholders were invited to develop new ideas on how to **open up public places in times of social distancing** – meeting both online and in urban settings.

Scientists and other creative minds **designed and prototyped innovative ideas** for streets and squares, churches and museums, parks and playgrounds in times of Corona and beyond. Examples of innovative prototypes proposed include energy trees in cities; parking lots as workspaces; citizen initiatives making culture accessible to different generations; barefoot paths and open sport spaces in parks; and public toilets as 'smart venues' for creative interactive science communication activities. With our MAKERTHON OPEN.PUBLIC.PLACES we aimed to conquer public spaces in cities and villages across the region, while infusing the 'Maker Spirit' into local innovation processes.

The project served as a testbed to demonstrate how local and regional policy makers could integrate **co-creative and inclusive innovation models for urban development processes**. Local actors created

new alliances with their regional universities and learned to use new digital tools for their own internal dialogues. Notions of 'experts' and 'non-experts' were broken-up, scientists were seen as partners, even

allies, in the need to respond to regional challenges. The project also demonstrated how physical and on-line meeting spaces can be combined in a creative and interactive way."

## ADVICE OR RECOMMENDATIONS FOR SCIENCE COMMUNICATION COLLEAGUES

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The pandemic has put a strong focus on the need for **dialogue-oriented science communication**, engaging different publics with the aim to enhance understanding of the opportunities of scientific discoveries and the complexity of scientific processes. Still, many science engagement strategies seem to focus only on promoting STEM or providing information on scientific findings. As science engagement

professionals, it is our responsibility to **broaden our understanding of research and innovation**. We should take into account opinions of both STEM-related scientists as well as psychologists, sociologists, economists, and philosophers. Together, these stakeholders will provide inspiration for **new methodologies and creative approaches** to communicate and reflect on technological and social innovation.

## THE IMPACT OF COVID-19 ON THE PRACTICE OF SCIENCE COMMUNICATION

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The complexity of the pandemic has revealed that our established notions of excellence, governance and knowledge-transfer need to be challenged, giving room to a broader understanding of innovation and a wider range of partners. **Moving away from 'topic-driven' to 'challenge-driven' innovation**, science

communicators need to go beyond explaining research results in a one-dimensional way. Instead, we should motivate and train scientists to become active members in **multi-disciplinary** teams, joining forces with a diversity of stakeholders who develop innovative and applicable solutions in a **co-creative** way.



**CCA member:** Professor Stephan Lewandowsky

**Sector:** Academia

**Country:** United Kingdom



## REDESIGNING SCIENCE COMMUNICATION ACTIVITIES DURING COVID-19

Before and during the pandemic, the behavioural science community has been increasingly interested in why people reject well-established scientific findings, and the implications of that on science communication. One of the factors that has been routinely identified in driving the rejection of science is **conspiracist ideation**; that is, the endorsement of conspiratorial narratives. Coincidentally, I released a practitioners'

handbook on how to combat conspiracy theories, the [Conspiracy Theory Handbook](#), right before the pandemic broke out.

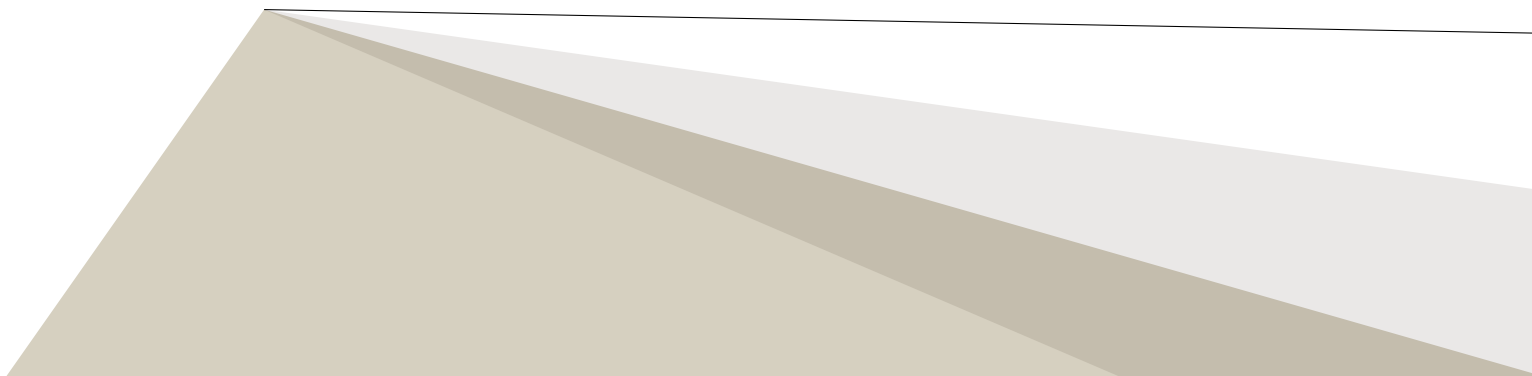
Although conspiracy theories have achieved considerable prominence during the pandemic, it should not be overlooked that in many countries (e.g., UK, Germany) the **public's trust in scientists and experts generally has increased**, sometimes considerably.

## ADVICE OR RECOMMENDATIONS FOR SCIENCE COMMUNICATION COLLEAGUES

A large body of research has established the utility of **inoculation**; that is, warning people ahead of time that they might be misinformed and accompanying that warning with an explanation of particular techniques by which disinformers mislead. In the context of conspiracy theories involving vaccinations, inoculation or 'Prebunking', as it is sometimes called, has been shown to be more effective than corrections applied after exposure to the misinformation.

At the time of this writing, several COVID-19 vaccines have been released, and attention must now turn to ensuring that the public is protected against anti-vaccination disinformation. This would be the **ideal time to develop a narrative** about vaccine safety that anticipates likely contrarian arguments and inoculates the public against them. To assist in this endeavour, we just released [The COVID-19 Vaccine Communication Handbook](#) together with an underlying 'wiki' that provides additional, in-depth coverage of the issues and will be continually updated.

What has become clear is the importance of **clear and consistent communication**. This is particularly true at the level of policy and government, but if science informs government policy, then science communication must also inform government communication.





**CCA members:** Professor Ana Sanchez, Co-Coordinator of the Master in Science Communication; Renata Ramalho, Head of Science Communication and Image ITQB NOVA Institute for Chemical and Biological Technology

**Sector:** Academia

**Country:** Portugal



## REDESIGNING SCIENCE COMMUNICATION ACTIVITIES DURING COVID-19

**ITQB NOVA** is a Portuguese Life Sciences institute, with a long-standing science communication and outreach programme. Since the start of the pandemic, we have organised webinars for internal and external audiences, as well as **virtual lab tours**. In addition, we premiered a '**Scientists at home**' web series to replace the scientists' visits to schools. Because of the increased media interest in Life Sciences during the pandemic, the presence of ITQB NOVA research and researchers in the media increased during this period.

From the beginning of the crisis there have been continuous requests, by media and policy makers, for scientists' input. **Increased media interest** resulted in more contacts with scientists and scientific

institutions. Scientists who had never interacted with the media before now had to face questions beyond their specific expertise, navigating uncertainty and expert disagreement. It could be challenging to convince scientists to comment and explain a scientific topic that was still new to them but had immediate impact in the population. At the same time, journalists themselves became more aware of the limits of scientific disciplines. **Experts were now referred to as epidemiologists, virologists, public health experts, immunologists, and not just 'scientists'**. New channels and new relationships between scientists and journalists were established and media interest now goes beyond COVID-19.

## ADVICE OR RECOMMENDATIONS FOR SCIENCE COMMUNICATION COLLEAGUES

From a more practical point of view, here are a few of our recommendations and lessons learnt:

- > Be prepared:
  - > Scientists had some training or at least awareness of science communication;
  - > Relationship with journalists and partner institutions had already been established.
- > Act fast and take advantage of **existing partnerships**;
- > Think about what your audiences need and give it to them:
  - > Schools and families needed online content so we produced online videos and events;

- > Journalists needed reliable information quickly so we worked closely with them to make sure they had access to the available information and found reliable experts;
- > Scientists needed to feel connected so we created an online community, online campaigns and seminars etc.

- > Experiment:
  - > Try it. Some things will not work as expected, be prepared to try something else.

## THE IMPACT OF COVID-19 ON THE PRACTICE OF SCIENCE COMMUNICATION

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In the first wave of the pandemic, **public trust in science was evident**, expert disagreement was low, and the media (and the public) accepted that scientists did not know it all. Science communication took place in a novel context: conversations revolved around one topic and boundaries between science and society were blurred. The scenario is constantly evolving as the pandemic progresses but some changes may last. Relations with the media have become stronger, many scientists premiered in science communication and will likely remain active, online channels blurred geographical barriers and reached new audiences, and the Life Sciences, as a discipline, became central in the public discourse.

Outlined below are key reflections from ITQB NOVA.

### Science Communication and the nature of science

- > Many science communication initiatives deal with science as a product and not so much as a process. Should we thrive to change this, and if so, how?
- > How can we work to develop public trust in science, campaign for evidence-based decisions and, at the same time, disclose the tentative and uncertain nature of science?

- > How can science communicators help to deal with the slippery slope arguments between openness and uncertainty of science and rejection of pseudoscience and misinformation?
- > How should we train science communicators on the challenges highlighted above?

### Scientists and science communication

- > The challenges of the pandemic reinforced the importance of having as many scientists as possible trained and ready to communicate to society and advise policy makers in their areas of expertise.
- > How can research institutions further support scientists in their efforts to reach broader audiences online?
- > When scientists choose preprints for communicating their findings, should science communication follow? Or should peer review remain the gatekeeper for disseminating findings to larger audiences?



**CCA member:** Elena Tibi, International Affairs and Project Development Officer; Rebecca Winkels, Head of Strategic Communication

**Sector:** Non-profit organisation

**Country:** Germany



## REDESIGNING SCIENCE COMMUNICATION ACTIVITIES DURING COVID-19

Wissenschaft im Dialog (WiD) was founded in 2000 and is one of the largest German science research organisations to communicate scientific content to the public. As a result of the pandemic, all WiD's live events were cancelled in Spring 2020, after which **online formats** were developed for **discussion forums, competitions, remote hackathons, the Forum Science Communication digital** and many more. We also tried to focus on innovating projects and introduced new initiatives such as Instagram Live Chats and Twitter Interviews, as well as Youtube-Live-Feeds.

While this new reality forced us to revise our conventional ways of working, WiD has carried out projects focussing on online and social media communication for quite some time. One of those projects is 'The debate', a platform which aims to foster dialogue about current controversial scientific topics and an attempt to **introduce a scientific perspective into public debates**. One strong element of this project has always been the use of social media and online news articles and thus we were able to build on the existing platform to cover the current crisis. COVID-19 and its impacts on society have been covered in this project in online debates, fact videos, multimedia information tools and interviews.

Another online format WiD has been running successfully for three years now is the platform wissenschaftskommunikation.de, which deals with meta-level science communication. During the pandemic the platform has covered special issues on **crisis communication, science communication in times of the pandemic, and health communication**, to foster the dialogue about these topics among science communicators in Germany.

Since 2014, WiD has been carrying out an annual science barometer. In Spring 2020, a Corona special edition was set up to investigate how the public's attitude and trust towards science might have changed during Corona, with the outcome that the overall level of **trust in science and research has risen significantly** against the background of the Corona pandemic.

In order to reach a younger target group, WiD set up a TikTok project to communicate facts during COVID-19 via videos called 'Viral News' and conducted a corresponding Instagram series called 'No viral news' which covered science news not related to the pandemic at a time when all science news focused on COVID-19.

## ADVICE OR RECOMMENDATIONS FOR SCIENCE COMMUNICATION COLLEAGUES

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A sound understanding of digital tools along with the **flexibility to adapt** to the new situation is perhaps the most relevant advice that can be given in general. A self-directed demand analysis followed by

an assessment of recently introduced online tools can help to identify the most appropriate tools for communicating science.

## THE IMPACT OF COVID-19 ON THE PRACTICE OF SCIENCE COMMUNICATION

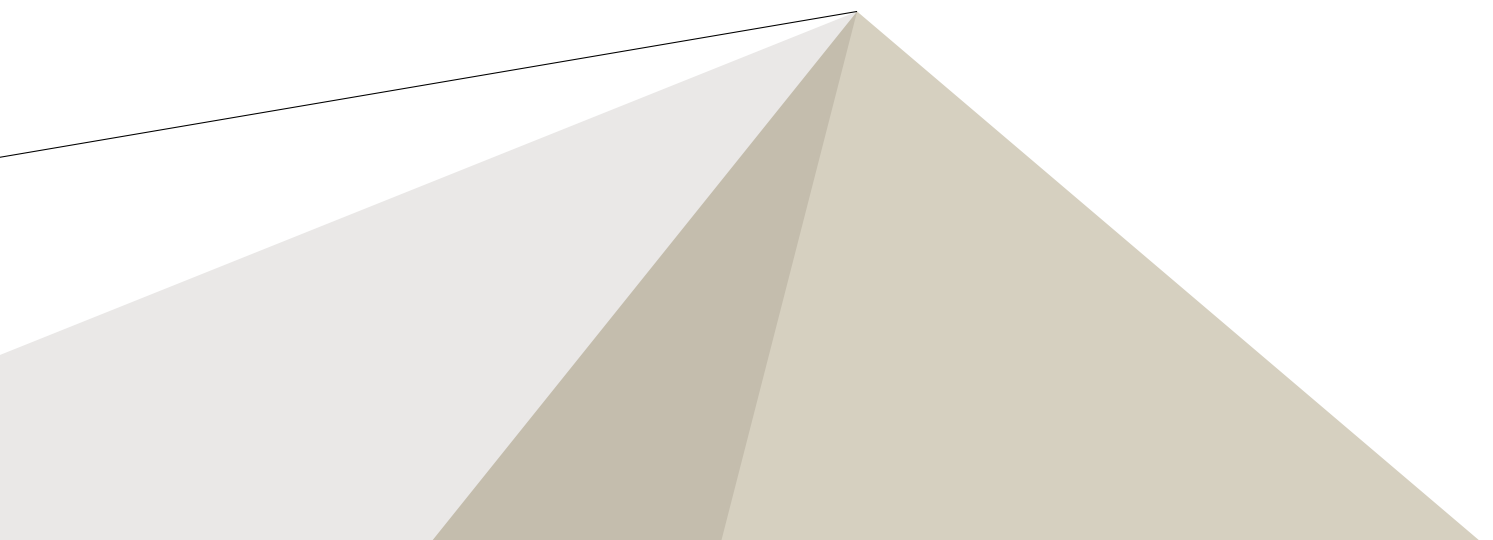
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The crisis has put a spotlight on both the strengths and weaknesses of science communication and has shown that there is still work to be done to improve the overall work of our sector. Examples of areas which will remain at the centre of our work include the **fight against fake news and conspiracy myths**, analysis of the **impact of communication efforts**, and a continuous examination of the qualities of science communication.

A key problem that we have witnessed during this pandemic is that it is more difficult to reach the not-so-obvious target groups, due to the lack of

face-to-face meetings. This is one of the areas where we have to be creative and find different ways for the future.

The pandemic also provides new opportunities for science communication as online work environments are now generally more accepted. Digital formats have always brought together people from different locations, but the use of digital tools has now become much more widespread.





# Final reflections



## KEY POINTS ADDRESSED BY CONTRIBUTORS

This selective overview of national responses to the COVID-19 crisis has demonstrated that, in many organisations, the **practice of science communication has evolved** as a result of the COVID-19 outbreak. Over the past year, an immense intensification of the relationship between scientists and the media has taken place, embodied by the mainstreaming of a **scientific perspective into the public debate**. The contributions in this publication provide insights into the innovative and creative approaches to science communication, adopted by CCA members throughout the COVID-19 pandemic.

The publication highlights the fact that, in this new socio-technical reality, effective communication is more needed than ever. Several CCA members stress the need for an **interdisciplinary and inter-sectoral debate** on how to respond to complex societal problems such as COVID-19. In addition to concrete examples of initiatives introduced during the course of the pandemic, the contributions reveal some **widely endorsed trends and recommendations**, including the need for science communicators to:

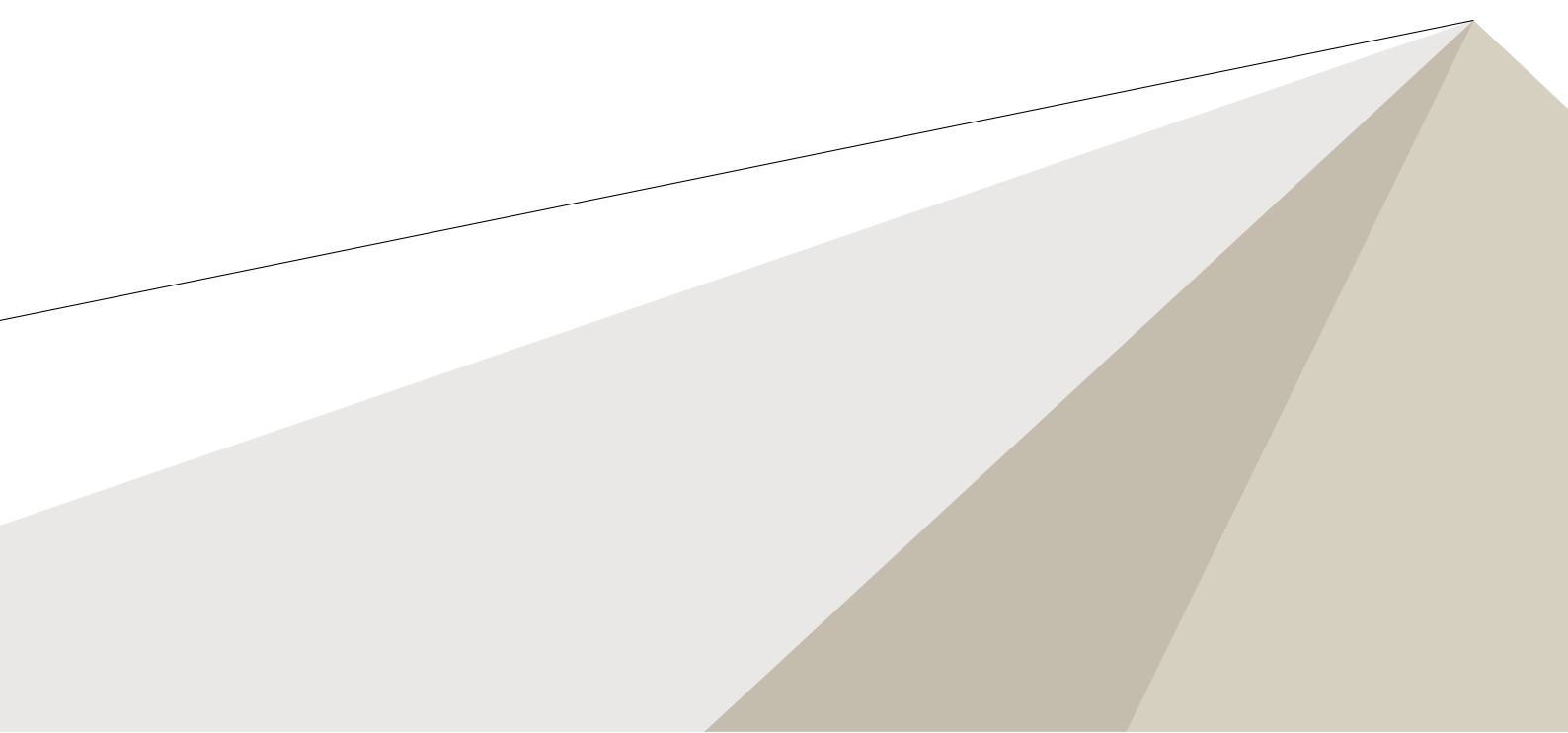
- > Keep up to speed with the **information flow** and respond with effective, timely and concise narratives;
- > Ensure accurate and quick feedback to the public and policy makers;
- > Effectively coordinate, translate and integrate the **vast scientific input**;
- > Adjust working methods (switching from **pro-active to reactive** mode);
- > Move away from '**topic-driven**' to '**challenge-driven**' innovation: science communicators need to go beyond explaining research results and focus on engaging in dialogue;
- > Recognise the importance of **co-creation and dialogue-oriented science communication**, establishing links with different publics, exploiting the opportunities of scientific discoveries and understanding the complexity of scientific knowledge production;

- > Promote **EU-level cooperation and coordination** of research studies;
- > Appreciate the importance of a **multidisciplinary research approach**;
- > Continue the fight against **fake news** and **conspiracy theories**.

Many contributions have demonstrated that the pandemic has helped **scientists become more comfortable in communicating their work to non-specialist audiences and in liaising with the media**. The COVID crisis has facilitated a quick adjustment in the practice

of **science communication**, resulting in **science being communicated more and more across new (social) media platforms** rather than just via the more traditional media channels.

A key observation, shared by several CCA members, is the fact that the overall level of **trust in science and research has risen significantly** against the background of the Corona pandemic. In many countries (e.g. Portugal, Sweden, UK, Ireland, Germany) the public's trust in scientists and experts generally has increased, sometimes considerably. This trend, which demonstrates that people want to hear from experts, gives a key role to science communication in the COVID crisis.





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