

Talking about science and technology has positive impacts on research and society

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Discussions around science and technology can become controversial, such as public conversations around [climate science](#) or gene-editing tools.

That might leave the impression that such conversations are best avoided. But it is important to have constructive conversations about scientific and technical subjects because of how they impact our lives.

Not having these conversations can lead to further division and strained relationships. Avoidance of such conversations could also have serious implications for scientific research support such as the continued development of life-saving vaccines or in deciding how we might regulate emerging technologies such as generative artificial intelligence.

The ancient Greeks had a term for opportune moments, or those qualitative measures of time where things just seem to be right for some action. They called these kairotic. The term [kairos](#) is a qualitative measure of time, as opposed to chronos, or linear quantitative time.

It is a kairotic moment to talk about trust—which we might think of as a very old idea but is highly important today—as we see new science emerging and technologies developing apace.

Polarizing information

The consequences of allowing issues in science and technology to be so polarized that we don't talk about them include [economic impacts](#), Canada falling behind in applied and [basic scientific research](#) and [responsible technology development](#).

We need to have direct conversations about [scientific research](#), progress, [experts and expertise](#), and new technologies that may become critically important to [society in the future](#).

Together, we have built a [research network](#) called [TRuST](#) at the University of Waterloo.

Our [inaugural lecture series event](#) began this [conversation](#) about trust in science, technology and health in Canada, and we hope to continue these conversations through an ongoing speaker series and collaborations with other researchers and organizations.

Our work asks the tough [questions about why people do—or don't—trust science and technology](#), [who is found trustworthy](#), how trust is earned and lost and how we can have conversations about science and technology in the service of us all.

By doing so, we hope to launch conversations about these topics, not to provide definitive answers or to tell anyone what to think.

A crisis of trust?

While there appears to be a public crisis in trust, there is a good deal of complexity when we talk about concepts of trust and who is trustworthy. Trust in scientists and interest in science has remained high for a number of years, but there are some trends that raise questions about whether that is changing.

Overall, trust in [medical doctors and scientists](#), for example, seems to have declined somewhat since the early days of the COVID-19 pandemic when trust was somewhat higher than normal.

Surveys and polls give us high-level insights, but we also know that there are issues that become controversial. We also know that how questions are asked in a survey or poll can influence the nature of responses. For instance, if we ask "do you trust scientists," do you think about scientists generally or are you thinking of a specific scientist?

Sometimes [controversy is manufactured](#), as in the case of [climate change](#) where the prevailing consensus among scientists was strategically downplayed. Sometimes the way we frame an issue can lead to confusion and mistrust.

Once an issue is controversial it can be polarizing and polarizing language can influence how we think and talk about issues.

And of course, social media influences how [scientific knowledge](#) is shared, distorted, "[ironically reversed](#)", [exploited](#) and [corrected](#)—or not.

Communicating through disagreement

How do we talk to each other when we might not agree?

First, you need to have capacity, both emotionally and in terms of conversational skill, and some knowledge and interest in a topic to undertake this work.

Listening is a good place to begin, and by that we mean genuinely trying to hear and understand someone's perspective. You might not agree, but you cannot engage their ideas if, for instance, you're talking about *if* something actually happened and someone else is speculating *about* what happened.

This might seem like a subtle distinction, but these are the important distinctions. In the field of rhetoric, we might talk about this as a problem of [stasis](#): you're asking a question about if something is a fact and someone else is talking about the definition of what they have already taken to be a fact.

Listening means working hard to determine what someone else is talking about and while you can still disagree, calling out misinformation or otherwise challenging points, you should do so empathetically and respectfully. We can work towards building bridges that will productively move a conversation forward.

Built into this is a certain amount of respect for the person you're talking to—even if [you're an expert](#), you need [ethos](#) which means character built upon goodwill ([eunoia](#)), good morals (arete) and good sense or reason ([phronesis](#))—and also goodwill to understand their perspective.

Goodwill, however, goes both ways. If someone you are listening to does not seem to be coming to a conversation in good faith or with goodwill, it might be time to excuse yourself.

Better science, better technology

Improving science, our ethical processes for technology development and deployment and how we engage in conversations about how these efforts should shape our communities and [everyday lives](#) also requires work on the part of scientists, engineers and other experts.

Developing strategies to talk about our [research methods](#) and how science works and, critically, to listen to people's concerns is a first step in [responsibly and ethically communicating science](#). It is a step experts can take with family, friends and in their communities. Working to support knowledge sharing from a wide variety of experts that better reflect the range of people and experiences in our communities is also very important.

Because trust requires certain kinds of vulnerability, the trustworthiness of experts is important in science and technology.

Relationships between experts and non-experts are asymmetrical. Experts often have knowledge that others need, and others must trust that experts will provide that knowledge and do so with goodwill, good sense and good judgment in line with shared values. When this is perceived as not happening, [trust](#) can be reduced or lost.

Trust is critical to the advancement of science itself and science in the advancement of society.

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