

# How to Talk to a Science Denier

Science denialism appears in different parts of society on different topics: Climate change, coronavirus, vaccines, evolution, and many others. How to respond effectively to science denial is still a field of research in itself, but we know that **not responding to denial does more harm than good**.

## Adjust Your Expectations

You cannot convince someone with evidence, who doesn't believe in evidence. - Lee McIntyre [1]

Belief systems define a person's identity. Most pseudoscientific movements also have a moral core (e.g. Creationism) and are intertwined not only with personal identity but also social identity [2]. Due to the confirmation bias we tend to look for and interpret information in ways that match our beliefs [3]

When talking to a science denier, we need empathy to understand the other people's emotions, motivation and fears, to determine what causes them to keep their belief system.

## Build Trust Before Sharing Information

Trust is the key! After understanding the person's emotions, create a common ground by finding shared goals or shared social identity. Only after building a basis of trust, share information about the topic. Conclude by reinforcing the positive change in the other persons' thinking. [4]

## Misinformation Cannot be Undone

Once people are exposed to (mis)information, one cannot undo it. The best thing is not to allow the science denier to spread their information. It's not only about the hard-core leading science deniers, it's about (their) audience! [1]

# Methods of Rebuttal

First empirical evidence about fighting back against science deniers was published by Schmidt & Betsch in 2019 [5]. They investigated two types of rebuttal:

**Content Rebuttal:** When you know something about the field, you can provide scientific information and debunk the misinformation.

**Technique Rebuttal:** If you know the techniques of science denial, you don't have to be an expert in a field to refute misinformation. You can point out the following weaknesses of a belief system:

- ▶ Fake Experts
- ▶ Logical Fallacies
- ▶ Impossible Expectations
- ▶ Cherry Picking Evidence
- ▶ Conspiracy Theories

Summary: Get Involved!

**No matter how hard it is: it's worse to let false scientific claims, no matter how absurd, go unchallenged than to deal with them!**



PDF version online

## References

- [1] Lee McIntyre - How to Talk to a Science Denier, [watch on YT](#)
- [2] Rosenau, J. (2012). Science denial: A guide for scientists. *Trends in microbiology*, 20(12), 567-569.
- [3] Nickerson, R. S. (1998). Confirmation bias: A ubiquitous phenomenon in many guises. *Review of general psychology*, 2(2), 175-220.
- [4] Gleb Tsipursky - How to Talk to a Science Denier without Arguing, [online](#)
- [5] Schmid, P., & Betsch, C. (2019). Effective strategies for rebutting science denialism in public discussions. *Nature Human Behaviour*, 3(9), 931-939