

# Evidence-Based Optimism at CSICon 2022

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Science is loved, respected, and doesn't need saving.

There don't seem to be any more crazy conspiracy theorists out there today than there were some fifty years ago.

Misinformation and disinformation can be—and have been—effectively beaten.

Sometimes, with the right mindset and the right knowledge and tools, the apparently impossible becomes achievable and even fun.

An evolving science of bullshit is helping us understand how and why people fall for it—and how to figure out what to do about that.

These were, at least to me, the main takeaways from CSICon 2022, a remarkably upbeat collection of messages. The objective observer might have reason to be skeptical about such happy talk. After all, we witnessed one of the greatest achievements in the history of science—the development of effective and safe vaccines less than a year after

the identification of the pathogen—only to have its potential benefits blunted by irrational fears. All this came at a time when populist leaders were vying for power in so many places around the globe and shamelessly pandering to conspiracy theorists, antivaxxers, and other purveyors of irrationalism. But the CSICon presenters valued evidence, and they brought plenty of evidence to back up their claims.

## The Impossible

British psychologist and magician Richard Wiseman kicked off the event with a presentation titled “Investigating the Impossible.” Wiseman, who holds Britain's only professorship in the Public Understanding of Psychology, at the University of Hertfordshire, is the author of several research papers and books on the paranormal, magic, and illusion. The first part of his talk dealt with the human susceptibility to illusion and faulty thinking.

In the second part, Wiseman presented the research and interviews he conducted for his most recent book, *Moonshot*, about the psychology of those involved in the Apollo Program that put men on the Moon in 1969 and how these very young people—the average age at the Mission Control Center was twenty-six—achieved what an

older generation of scientists considered “impossible.” In psychological terms, the main ingredient, Wiseman said, was passion complemented by a healthy dose of creativity.

## Implicatory Denial

In her talk “Can Science Be Saved?,” Naomi Oreskes, professor of the history of science and affiliated professor of earth and planetary sciences at Harvard University and coauthor of *Merchants of Doubt*, told us that science doesn't need saving—the general impression that there is a big crisis of trust in science and of appreciation for scientists and expert advice is an illusion fanned by the media. Orestes presented data from polls showing that trust in science and scientists remains high in the United States and other parts of the world. What's been declining, however, is *trust in science* among a specific slice of the population: right-wing conservatives.

And even then, Oreskes pointed out, the problem isn't with the science *per se*; it's with the perceived implications of the science for behavior and policy. Conservatives who act like science deniers are in fact “implication deniers.” They dispute the science because in their eyes, it leads to policies that conflict with the conservative identity, such as vaccine mandates or taxes and subsidies to curb greenhouse emissions. In her talk, Oreskes reminded us that science really doesn't tell people what to do; instead, it shows the likely consequences of their actions.

## Talking

Philosopher Lee McIntyre, research fellow at the Center for Philosophy and History of Science at Boston University, and paranormal investigator Kenny Biddle both gave talks about their experiences interacting with people who hold unwarranted beliefs—flat-earthers for McIntyre and ghost or Bigfoot hunters for Biddle.

They made it clear that it's possible to build trusting relationships even with (at least some) hardcore deniers, based on mutual respect and open dialogue,



building trust through face-to-face interactions, placing the available evidence in the proper context, and being patient and listening to them so they feel compelled to listen back.

The approach might not create “instant converts” to skepticism—what approach would?—but by keeping the communication channels open, it may be possible to plant the seeds of critical thinking and a skeptical outlook. Biddle talked about his experience as a participant in paranormal conventions and how some ghosthunters now call upon him for advice.

### Debunking

Quoting from work published in *Nature Human Behaviour* by Philipp Schmid and Cornelia Betsch (Schmid and Betsch 2019), McIntyre mentioned two strategies that may be effective in countering disinformation: “content rebuttal” and “technique rebuttal.” The first requires presenting the right facts and solid science, but it may be hard for non-specialists to deploy. Content rebuttal involves exposing the fallacies, logical errors, and dishonest maneuvers embedded in the denialist narrative and arguments, something that even non-scientists can do.

The work of Schmid and Betsch was also referenced by British doctor, journalist, and author Seema Yasmin in her talk “Viral BS: Medical Myths and Why We Fall for Them.” Yasmin also presented some work by John Cook, research fellow at the Climate Change Communication Research Hub at Monash University, Australia, who’s developing the 4D Project to synthesize four lines of research about fighting misinformation: detection, deconstruction (identifying the exact nature of the misinformation), debunking (implementing proven refutation approaches), and deployment (inoculating and debunking in a variety of social contexts).

In his talk, Canadian researcher, Netflix personality, and author Timothy Caulfield, professor in the Faculty of Law and the School of Public Health at the University of Alberta, brought to the forefront the need to debunk health misinformation and disinformation. He



reinforced a point previously made by Naomi Oreskes, that today ideology is playing a bigger role in the rejection of science and in the embrace of pseudoscience. Caulfield called attention to the fact that, at least in the domains of healthcare and wellness, the prevalence of misinformation has moved from left-liberal circles (in the 1960s and 1970s) to right-wing or conservative ones today. He called misinformation one of the “defining issues of our time.”

Caulfield stressed the role of identity politics and group solidarity in the reinforcement of unwarranted beliefs—“come for the ideology, stay despite the science-free belief,” as he summarized it—and the fact that debunking misinformation is possible and can work. He pointed out that, if possible, it’s better to act before the misinformation gets an ideological valence and that the target of the debunking is the general public, not the hardline denier.

### Bullshit and Conspiracies


Author and professor of psychology at Wake Forest University John Petrocelli presented his research showing that bullshitting can be more effective in spreading disinformation—more persuasive—than outright lying (Petrocelli

2021).

Defined as an act of communication that disregards truth and evidence—as opposed to lying, which involves a deliberately false narrative—bullshit seems, according to Petrocelli’s results, to enhance the persuasiveness of weak arguments but is deleterious to the acceptance of strong ones. This may occur, the author indicates, because, in the case of the weak argument bullshit, the absence of a clear appeal to truth or evidence may fail to trigger a stricter processing route in the brain, leaving a general impression of agreement that goes unchallenged.

Petrocelli argues that to prevent the damage caused by the use of persuasive bullshit it may be a good idea to start sanctioning bullshitters as severely as we do liars. In the present social mores, liars, once detected, suffer a loss of reputation and credibility and, in certain conditions, may even incur legal liability; bullshitters, on the other hand, usually get a free pass. According to Petrocelli, this lenience is unwarranted.

In a talk by political scientist and University of Miami professor Joseph Uscinski, “Getting Conspiracy Theories Right,” we learned that bullshit is one of the weapons of choice in the spread of



conspiracy theories. Also referring to a recently published research paper (Uscinski et al. 2022), he noted that, contrary to popular belief, polls show no big jump in the fraction of people who adhere to conspiracy theories over recent decades. As he put it, “The good news is that it isn’t getting worse. The bad news is that it has always been this bad.”

But if the polls are correct, then what explains the apparent prevalence of conspiracy thinking in the public square today? Uscinski suggested that, even though the proportion of conspiracists and conspiracy-prone people remains constant in the population, the use of these people—the weaponization of their beliefs and predispositions—by mainstream politicians and powerful figures (again, in the conservative right) is new and troubling.

This new ideological trend in the spread of misinformation notwithstanding, I came away from the talks at CSI-Con with a sense of renewed optimism and hope.

#### References

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