

(Re)building Trust in Science

How scientists and communicators are reimagining the relationship between knowledge and the public



Proceedings of a conference organized by





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CONFERENCE OVERVIEW

Building Trust in Science for a More Informed Future, a collaboration between the [Aspen Institute Science & Society Program](#) and the [MIT Press](#), aims to bridge the gap between the evidence-base on how humans process and understand information, and the vulnerabilities to misinformation and propaganda we endure when we fail to leverage this knowledge in communicating science, especially in the age of generative AI.

The [conference](#), held on March 10, 2025, at MIT in Cambridge, MA, brought together science communicators, journalists, researchers, students, policymakers, and other stakeholders interested in mobilizing knowledge for a better world. Across expert-moderated panels and thoughtful audience questions, a cross-sector group of researchers and practitioners explored strategies for:

- Empowering diverse groups to make informed decisions in a complex world;
- Combating disinformation and build trust in science and scientists;
- Amplifying voices and perspectives historically marginalized by science and journalism; and
- Crafting impactful messaging that fosters active and engaged communities where science is a cornerstone.

Conference Planning Committee, listed alphabetically:

- **Rick Berke** – Co-founder & Executive Editor, STAT
- **Deborah Blum** – Director, MIT Knight Science Journalism Program
- **Amy Brand** – Director and Publisher, The MIT Press (program co-chair)
- **Mariette DiChristina** – Dean of the Boston University College of Communication
- **Michael John Gorman** – Mark R. Epstein (Class of 1963) Director, MIT Museum and Professor of the Practice of Science, Technology and Society at MIT
- **Amml Hussein** – Civic Science Fellow, Boston University; President-elect, National Association of Social Workers (NASW), New Jersey chapter
- **Alfred Ironside** – Vice President for Communications, MIT
- **Aaron Krol** – Managing Editor and Program Officer, MIT Climate Change Engagement Program
- **Thomas Levenson** – Professor of Science Writing and director of the graduate program in science writing, MIT
- **Lee McIntyre** – Senior Advisor for Public Trust in Science at the Aspen Institute
- **Aaron F. Mertz** – Executive Director, Aspen Institute Science & Society Program
- **Seth Mnookin** – MIT Professor & Director of the Graduate Program in Science Writing (program co-chair)
- **Jylana L. Sheats** – Associate Professor, Tulane University School of Public Health; Associate Director, Aspen Institute Science & Society Program (program co-chair)
- **Claire Wardle** – Co-director of the Information Futures Lab, Brown University

OVERALL RECOMMENDATIONS STEMMING FROM THE CONFERENCE

Science and Public Health Communication

- Communicate uncertainty confidently and transparently—even at the cost of short-term compliance.
- Understand local values, interests and concerns before delivering information. Avoid top-down moralizing.
- Integrate cultural and religious beliefs into science and health messaging.
- Prioritize listening over debate and argumentation.
- Tell emotionally resonant stories that reflect lived experience and community values rather than relying on data alone

Audience Engagement and Trust-Building

- Define your audience precisely using audience segmentation tools and narrative organizations to guide messaging (e.g., PolicyLink, Pew Trusts, Harmony Labs).
- Pair information about challenges with actionable steps.
- Empower local leaders, community influencers, and community faith figures

Media and Storytelling Techniques

- Use entertainment strategically. Low-touch messaging (e.g., in film) can be effective when paired with follow-up actions or public-service announcements (PSAs).
- Emphasis multi-modal communication (e.g., music, images, stories of lived experiences)
- Respect the power of humor to deliver hard truths.
- Prioritize collective stories rather than lone protagonists.

Equity and Global Inclusion

- Encourage communities to co-create.
- Support Indigenous data sovereignty and inclusive tech governance models.
- Acknowledge that AI is a soon-to-be ubiquitous global tool.

- Use AI as a communication assistant. Embrace “human-powered, AI-supported” models.
- Train and scale up interventions with AI. Use tools like DebunkBot and Fora to handle repetitive labor and misinformation engagement.
- Deploy AI tools in efforts to build discernment and critical thinking.

Institutional and Research Infrastructure

- Fund longitudinal, multidisciplinary research to evaluate communication strategies over time.
- Partner with entertainment industries to inform and shape narratives.
- Support journalists and fill news gaps. Where journalism is under attack, institutions like universities must step up with credible information.
- Evidence doesn’t always persuade. Educate scientists, health professionals, and researchers about how to communicate clearly and convincingly.
- Embrace humility. Being open to criticism, debate and remediation increases public trust.



The conference gathered **communicators, journalists, researchers, students, and policymakers** interested in mobilizing knowledge for a better world.

AT A GLANCE - CONFERENCE SUMMARY

In a small village in Sudan, devastating floods had become increasingly common, yet evacuation warnings from government officials often went unheeded. The scientific data were clear: climate change was intensifying these disasters. The communication strategy, however, was failing.

When climate journalist Lina Yassin discovered her technical explanations weren't resonating with local communities who viewed the floods as divine tests, she pivoted dramatically. Instead of "throwing data" at people, she partnered with respected religious leaders who reframed flood safety through Islamic teachings that caution against knowingly endangering one's life—a grave sin in the Quran.

"It was amazing how people listened to the same message we were trying to communicate as soon as it came from a trusted person they look up to," Yassin explained. The result? Increased engagement with evacuation orders and lives saved.

This approach represents the emerging frontier of science communication: recognizing that effective science advocacy isn't merely about transmitting facts, but about connecting those facts to human values, identities, and stories. In an era defined by polarization and information overload, simply asserting scientific consensus no longer suffices. The path forward requires a radical reimagining of how science communicators build relationships with diverse audiences.

The End of "Just the Facts"

The traditional model of science communication operated on what scholars call the "information deficit" theory—if people don't accept scientific conclusions, they simply need more information. This approach has proven spectacularly ineffective in many contexts, particularly around politically charged topics like climate change, vaccines, and GMOs

"When we're shooting for public trust in science, we're not shooting for a hundred percent—that would actually be democratically undesirable," explains Dietram Scheufele, a leading science communication researcher at the University of Wisconsin-Madison. Instead, healthy skepticism and dialogue about values should accompany scientific discussions. "By overclaiming that there are certain policy outcomes that science can determine, we're doing a disservice to science because science can inform policy outcomes, but it cannot and should not determine them."

Francis Collins, former director of the National Institutes of Health, reflected on communication failures during the COVID-19 pandemic, noting that public health officials didn't consistently emphasize the evolving nature of scientific knowledge. "Lesson number one is if you're in a circumstance where you're communicating scientific evidence, start by saying this is a work in progress," Collins said, regretting not having framed pandemic guidance with more transparent acknowledgment of uncertainty.

The cost of these communication failures was steep: Collins estimates that 235,000 Americans died because they didn't get accurate, trusted information about vaccines. But the problem wasn't necessarily the science itself—it was how that science was communicated, by whom, and in what context.

Meeting People Where They Are (Without Leaving the Message Behind)

Climate communication has evolved significantly in recent years, moving beyond the era of denial and into questions of action and adaptation. Yet, even as a majority of Americans acknowledge climate change is happening, the percentage who consider it a serious national issue has plateaued at just 54 percent.

Lauren Feldman, Professor of Journalism and Media Studies at Rutgers, explains that rather than targeting the small percentage of outright denialists, communicators should focus on the “movable middle”—those who are concerned but inactive. Despite widespread awareness, only about 10 percent of Americans have taken meaningful political or civic action on climate.

Successful engagement comes through finding shared values, sometimes without explicitly using politically charged terms. Anirudh Tiwathia, Director of Behavioral Science at Rare Center for Behavior & the Environment, pointed to the Inflation Reduction Act as an example of effective climate policy that gained bipartisan support partly because it disproportionately invested in red districts. “You have to decide if you want to use an identity marker like the word ‘climate change,’ or if you want to communicate,” he said.

This principle extends to entertainment media as well. Films like *Twisters* incorporate climate themes without explicit messaging, featuring relatable characters whose values align with conservative audiences—“Oklahomans who care about supporting their small town”—while following the scientific process from hypothesis to data collection to intervention. The approach isn't about diluting the message but delivering it through channels that resonate.

“This is not a call to water things down at all,” Tiwathia insists. “This is very much a call to get creative about how we can get people to care.”

The Power of Community and Trusted Messengers

The most effective science communication happens through trusted, local sources. Weather forecasters have emerged as crucial climate communicators because they already have established relationships with their communities. Similarly, during the COVID-19 pandemic, the paucity of community-based health educators proved devastating.

“That kind of community-based educational effort was often not really possible because those health experts in the community had kind of all gone away,” Collins observed. Without sufficient infrastructure to support local voices, messaging was primarily driven by officials in Washington and Atlanta, who were often perceived as elitist and disconnected.

Renee Cummings, Professor of Practice in Data Science at the University of Virginia, highlighted how generative AI tools can expand access to trusted messengers, particularly in underserved areas. She described using AI to bring educational resources to high school students in remote villages in Suriname, demonstrating how technology can overcome geographic barriers to scientific information when appropriately deployed.

The critical insight is that messengers matter as much as messages. Research consistently shows that communities respond better to information from sources they already trust—whether religious leaders, local meteorologists, or community health workers. These messengers don't simply repeat facts; they translate scientific information into locally meaningful contexts.

The Role of Art and Story

Science communication increasingly recognizes the power of narrative and artistic expression in making complex information accessible. Lori Rose Benson, former CEO of Hip Hop Public Health, emphasizes music as an underutilized tool. Quoting collaborator Olajide Williams, she notes, “There’s more real estate in our brains for music than language itself.”

Her organization’s approach leverages multi-sensory and culturally tailored messaging to build engagement around public health. For example, simple tracks about handwashing—like “20 Seconds or More,” later translated into Spanish—evolved into broader initiatives incorporating local features like historically Black colleges and parks to resonate with specific audiences.

Laura Hughes, founder of Gusto Partners, stresses the importance of sensory storytelling in public health. She recounts how people in New Orleans described safe housing as “kids laughing and gumbo that you can smell,” underscoring how emotional and sensory details make abstract concepts like health equity concrete and relatable. “People are looking for an aspirational future. Take them on the journey with you.”

The effectiveness of entertainment media in changing perceptions was demonstrated when an HIV-testing storyline on *How to Get Away with Murder* prompted viewers to seek testing the day after the episode aired, directly citing the show as their motivation. Such examples suggest that entertainment can drive behavioral change in ways that informational campaigns often cannot.

Navigating Polarization Without Surrendering Truth

The polarization of scientific topics presents unique challenges. Lee McIntyre, Research Fellow at Boston University’s Center for Philosophy and History of Science, distinguishes between misinformation (false information) and disinformation (deliberately false content), warning that disinformation actively manufactures division between groups. “The worst part is that it makes people cynical that there’s no scientific consensus and therefore erodes trust in all experts, not just in one topic of science.”

In highly polarized contexts, science communicators must be political without becoming partisan. “There’s a key distinction between scientists being political actors... which is not just unavoidable,

it's actually desirable—but there's a difference between being political and being partisan,” Scheufele observes.

He criticizes the scientific community's tendency to alienate potential allies unnecessarily, citing examples like “Neil deGrasse Tyson unnecessarily tweeting about Isaac Newton's birthday on Christmas,” which creates friction with Christians, or “climate scientists saying that all Republicans in Congress are unsafe.”

Rather than becoming activists, McIntyre suggests scientists should be more active in their communities to help people put a name and face to science. “The worst way to garner trust is through elite online communication; the best way is face-to-face conversation.”

The Promise and Peril of AI in Science Communication

Generative AI presents both opportunities and challenges for science communication. David Rand, Professor at MIT, shared research showing that AI-generated conversations led to a 20% reduction in belief in conspiracy theories, with 25% of firm believers converting into non-believers after just a six-minute exchange.

“Large language models like GPT can be really good teachers. They don't just lecture; they respond in a back-and-forth nature,” Rand explains. This dynamic enables effective tutoring and public dialogue but could also facilitate manipulation if models are trained to convince people of falsehoods.

Claire Wardle, Associate Professor at Cornell University, cautions against the binary framing that dominates AI conversations. While headlines often focus on spectacular dangers or inflated promises, AI can assist with important but unglamorous tasks—like helping journalists parse massive documents or generating personalized health information.

However, she warns that we may be repeating mistakes from earlier internet eras, including working in silos, overlooking literacy needs, and failing to invite the broader public to the AI policy table. “My mom's not invited,” she notes, highlighting how discussions about AI governance often exclude non-experts.

Building a Path Forward

Rebuilding trust in science requires more than improved communication techniques—it demands institutional transformation and a commitment to meaningful dialogue. Lily Tsai, Professor of Political Science at MIT, emphasizes that trustworthiness doesn't always correlate with trust. “One of the problems is that scientists are often thinking about how to make their data trustworthy but not how to make themselves as people trustworthy, too.”

People want to know their values are respected, even if not shared. This human connection is essential to trust-building in science. Tsai frames the ideal engagement as a values-based dialogue: “You value X, tell me why you value X, and let me see whether we can connect about how science helps you to achieve those values X, even if I don't agree with those values X.”

The panelists emphasized several key directions for future action:

1. Scaling up successful communication strategies: Developing research agendas to test and implement effective approaches at scale.
2. Adjusting economic incentives: Restructuring the information ecosystem to reward accurate, accessible science communication.
3. Encouraging scientist adoption: Moving beyond theoretical discussions to practical implementation of reflective communication practices.
4. Demonstrating respect across differences: Finding ways to engage with diverse values without suggesting disagreement equals disrespect.
5. Setting boundaries for engagement: Determining when continued dialogue is productive versus when it becomes an exhausting exercise in debunking.

As Francis Collins noted, wisdom is the “confluence of knowledge, common sense, experience, and moral content.” In science communication, this wisdom emerges not just from what we know but from how we share it—with humility, respect, and a genuine commitment to understanding the human stories behind the data.

In the end, rebuilding trust in science isn’t about convincing people to accept facts. It’s about creating spaces where science becomes part of a shared conversation about our collective future—spaces where, as Lina Yassin’s fourth-grade teacher taught her, uncertainty is welcome, questions are valued, and everyone feels not just talked at, but truly heard.



The conference was attended by **250+ people live** in Cambridge, Massachusetts, and another **350+ virtually**.

