



Dialogue on Science,
Ethics, & Religion

Center for Public Engagement
with Science & Technology

Engaging Scientists in the Science and Religion Dialogue

Final Report
January 2022

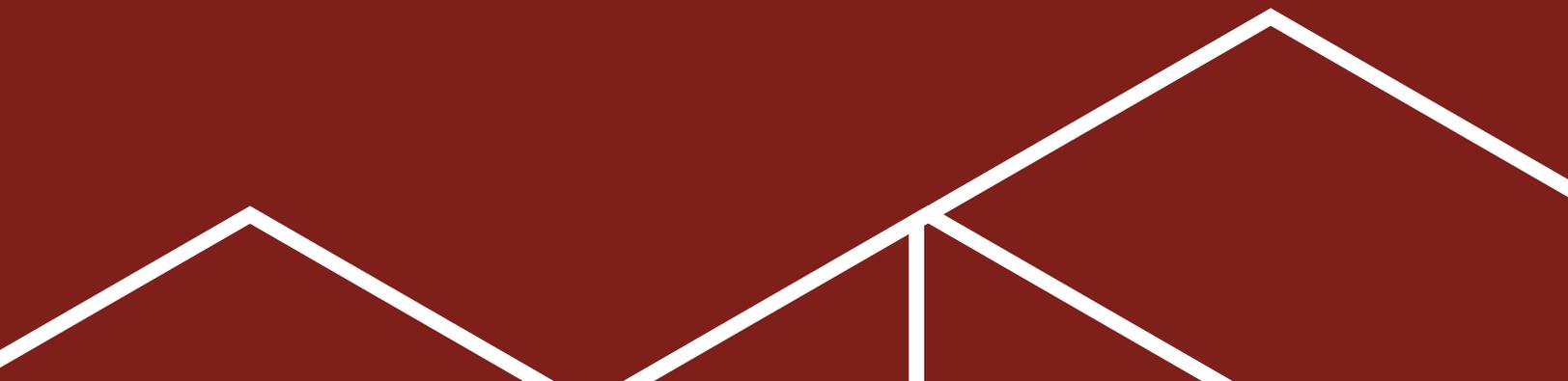


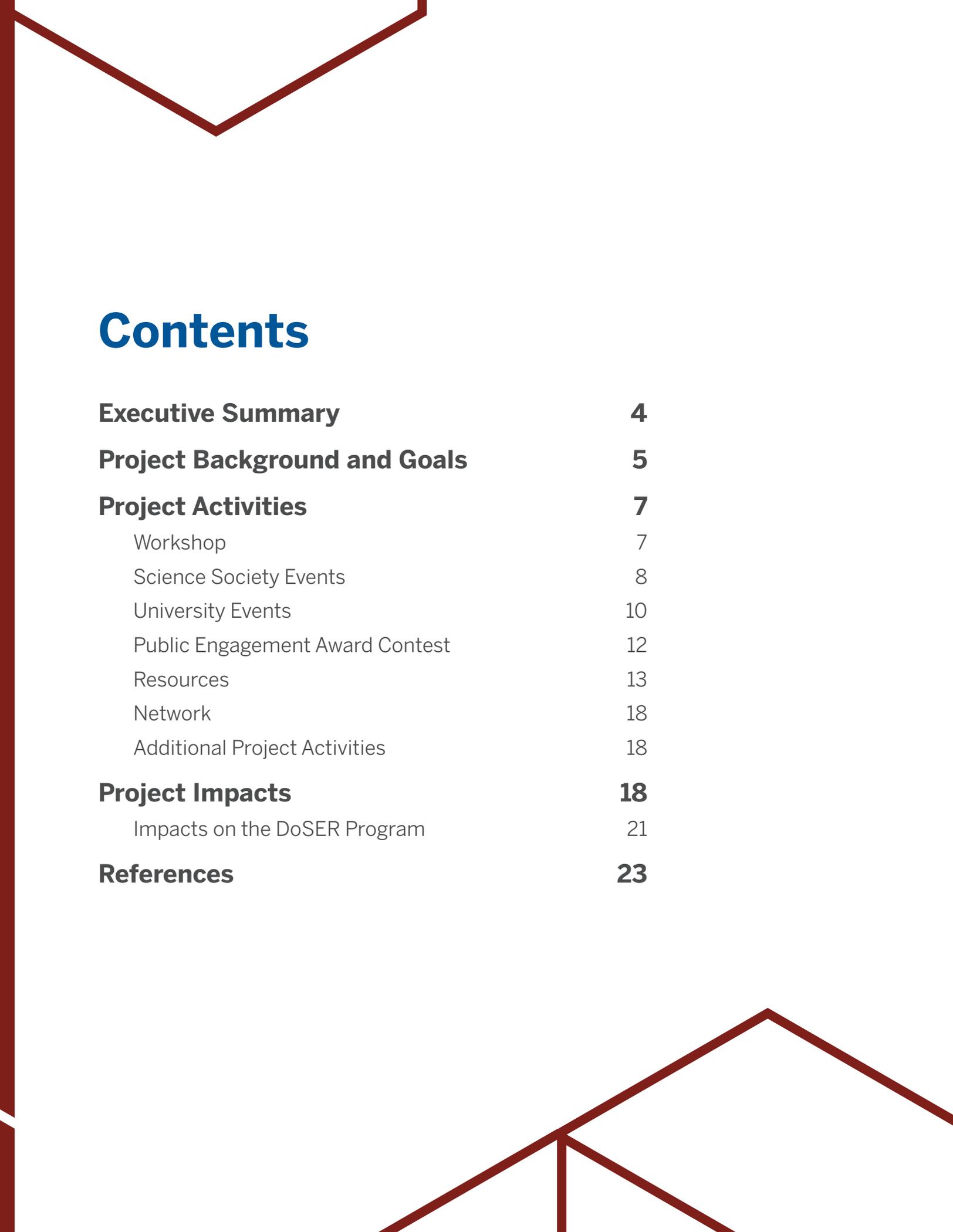
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Inclusive science engagement that recognizes culture, values, faith, and identity is critical to ensure that the process of science is responsive to and can benefit all people.

Executive Summary

Both in the U.S. and worldwide, most adults are supportive of science and strongly believe that scientific advances can benefit society. Views about scientists themselves, however, are complicated; while generally respected as competent experts, scientists are often perceived as cold, arrogant, and hostile to people of faith.

About 70% of U.S. adults say they are religious, including many scientists. However, even scientists of faith may be uncomfortable having conversations about science topics that explicitly involve religious perspectives, or they may not know where to start.

Research suggests that facts are not enough when engaging with the public on science topics. People's views on these issues are shaped by many factors, not just facts and data. Inclusive science engagement that recognizes culture, values, faith, and identity is critical to ensure that the process of science is responsive to, and can benefit, all people.

The AAAS Dialogue on Science, Ethics, and Religion (DoSER) program, in collaboration with the AAAS Center for Public Engagement with Science and Technology (CPE), developed the Engaging Scientists in the Science and Religion Dialogue project ("Engaging Scientists") to help scientists and science communicators better engage with people of faith. The project focused on evidence-based, inclusive approaches for engaging the largely religious public about science and technology, drawing on real-world examples and perspectives from a diverse group of scientists and science communicators.

Major project activities included creating:

- A workshop on engaging with people of faith about science, given at scientific society meetings, universities, and other institutions and organizations;
- Other events and programming at scientific society meetings and universities;
- A rich library of resources, including videos and an ongoing profile series, all available at [ScienceReligionDialogue.org](https://www.scienceandreligion.org).

More than 1000 people attended an Engaging Scientists workshop from 2017 to 2021, and hundreds more attended the science society and university events. Attendees who took a post-workshop survey were significantly more likely to feel skilled at, and comfortable with, engaging with people of faith about science topics compared to pre-workshop survey respondents.

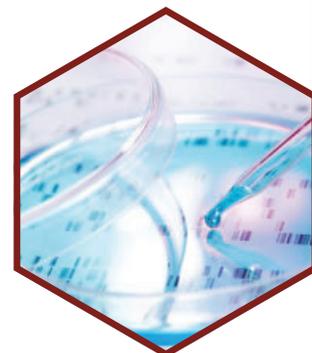
The Engaging Scientists project has been a key part of DoSER's growing visibility and standing in the science communication and engagement field. Several components of the project will continue as core DoSER activities, including the workshop and the profile series. Through this project, the DoSER program has established new relationships within both scientific and faith communities that will inform AAAS's approach to engagement for years to come.

Project Background and Goals

The Engaging Scientists project launched in 2016 as a collaboration between DoSER and the AAAS Center for Public Engagement with Science and Technology (CPE). More than 7 in 10 U.S. adults identify as religious.^{1,2} Popular media is dominated by rhetoric about a “war on science,”³ implying that the public increasingly rejects science and scientific expertise, and religion is often cited as a factor in individuals’ rejection of science or scientific evidence.^{4,5} However, polls and social science research consistently find that, both in the U.S. and worldwide, adults (both religious and otherwise) are interested in science, believe that scientific advances can benefit society, and support funding for scientific research by wide margins.^{6,7,8} Many respondents also express concerns about the harmful impacts of scientific and technological advances and the inequitable distribution of their benefits.

Surveys and social science research also consistently suggest that the public tends to view scientists as cold, arrogant, unconcerned with the impacts of their research, and hostile or indifferent to religious perspectives and those who hold religious beliefs.^{4,9,10,11} Although there is disagreement between scientists and the public on some specific issues, often these are issues that are socially or politically contested (e.g., climate change) or that intersect with values or identity (e.g., the use of animals in medical testing, or evolution, or whether genetically modified foods are safe).¹² More than 70% of U.S. adults, including many scientists, claim a religious affiliation,¹³ which can inform ideas about science and technology topics. However, even scientists and STEM students who are religious themselves may be uncomfortable disclosing or sharing about their religious identity in science contexts, or how that informs their perspectives on science and society issues.¹⁴

For years, prominent voices in science communication and engagement have signaled that “facts are not enough”¹⁵ and that people learn about science “from others who share their values and whom they therefore trust and understand.”¹⁶ AAAS developed the Engaging Scientists project in response to growing recognition that scientists should seek to develop skills



Scientists are often interested in engaging with faith communities, but may feel that they lack the skills or expertise to engage effectively.

in science communication and engagement with a diverse (and largely religious) public, grounded in evidence-based practices. One of the project's overarching goals was to promote richer and more impactful discourse about science and society issues. Scientists and science communicators, whether people of faith or not, are often interested in engaging with faith communities about science. However, many scientists feel that they lack the skills or expertise to engage effectively, feel uncertain about what kind of work is happening in this space already, or don't know how to get started.

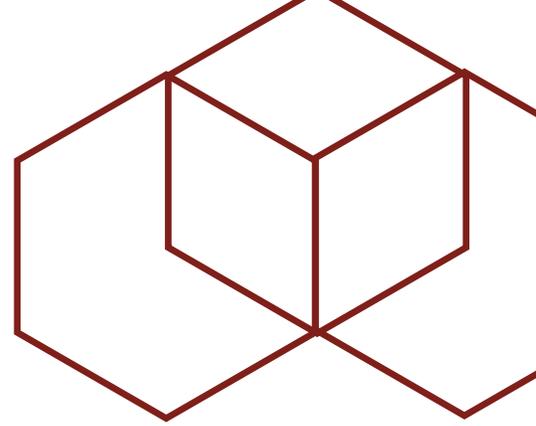
The DoSER program has a 25-year history of fostering communication and engagement between scientific and religious communities about science. In collaboration with CPE, DoSER is uniquely positioned to develop and promote toolkits, resources, and opportunities for scientists, science communicators, religious scholars, and faith leaders to learn about and participate in inclusive and impactful science and society engagement.

The primary goals of the project were:

- Increasing recognition within the scientific community of the importance of science communication and engagement, in particular with people of faith;
- Supporting impactful science and society discourse as a component of scientists' professional development;
- Encouraging greater awareness and use of inclusive, evidence-based approaches for engaging the largely religious public about science and technology; and
- Creating and promoting opportunities for scientists and members of faith communities to share with and learn from each other about science and its applications.

The major activities and outputs of the Engaging Scientists project included:

- A new workshop on science engagement with faith communities for scientists, science communicators, and educators;
- Science society events, including contributions to meeting programming and workshops;



- University campus events, including both public events and workshops for scientists;
- A contest to recognize proposals for science engagement with faith communities from university campus event participants;
- A library of free print, video, and online resources to support and inform science engagement with faith communities;
- Making connections between scientists and faith community representatives interested in science engagement.

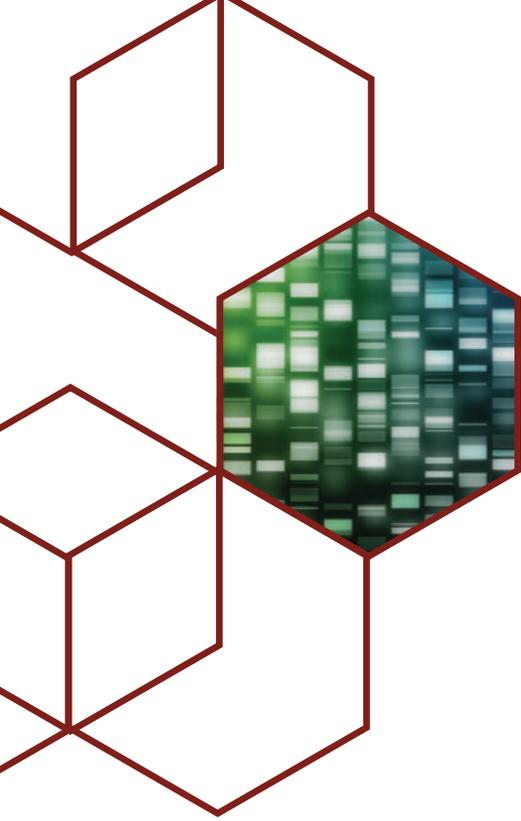
The project was funded by a grant from the John Templeton Foundation, with additional support from a private donor and AAAS. Though originally planned to span three years, the Engaging Scientists project was ultimately extended into a five-year project that concluded in June 2021.

Project Activities

Workshop

A major component of the Engaging Scientists project was the co-development of a workshop with CPE on Science Engagement with Faith Communities, which DoSER and CPE continue to offer under a fee-for-service model. This interactive workshop integrates content from the CPE Science Communication Fundamentals workshop with additional context on U.S. religious demographics, insights from social sciences, the role of values and identity in science engagement, and best practices for science engagement with people of faith. The workshop's final exercise is an opportunity to apply the workshop content to respond to a challenging question or scenario with fellow attendees. The workshop was part of all Engaging Scientists science society and university campus events.

Workshop attendees are encouraged to move beyond the idea of science communication as correcting knowledge “deficits” in the public, to AAAS’s concept of public engagement with science as “intentional, meaningful interactions that provide opportunities for mutual learning between scientists and members of the



public.”¹⁷ Three central takeaways for workshop attendees interested in science engagement with faith communities are to “be strategic, be respectful, and be human.”



Participants in the project workshop at the 2019 AAAS Annual Meeting.

Science Society Events

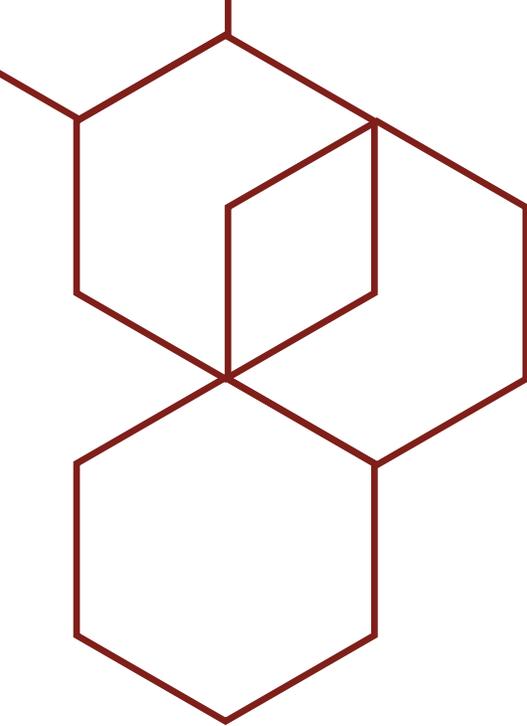
Through the Engaging Scientists project, DoSER sponsored program contributions (including hosting the Science Engagement with Faith Communities workshop) at the meetings of seven different science societies between 2017 and 2020 [Table 1]. The scope of these events varied. In some cases, the DoSER program invited a guest speaker from within the fields of astronomy (at AAS) and genetics (at ASHG) to discuss faith community engagement. Others were poster symposia (AGU) or large podium sessions with multiple speakers (SfN, AABA, AAAS) presenting a range of projects and perspectives on inclusive science engagement. For one virtual conference, Engaging Scientists offered an online webinar with guest speakers on science engagement with seminary students and with Indigenous communities (SACNAS). Given the enthusiastic interest in the workshop from meeting attendees, the program returned in subsequent years to offer the workshop again at several of these society meetings (AGU, AAS, AAAS).

Beyond these events and workshops, DoSER staff reported on or shared Engaging Scientists project activities and content (poster

Society	Year(s)	Format	Theme or Topic
Society for Neuroscience (SfN)	2017	Social Issues Roundtable (and separate workshop)	Engaging Neuroscientists in Dialogue with Religious Communities
American Geophysical Union (AGU)	2017	Poster Symposium (and separate workshop)	Science Engagement with Faith Communities
	2018-2020	Workshop only	-
American Astronomical Society (AAS)	2018	Workshop w/ guest speaker Dr. Salman Hameed	Astronomy Engagement with Diverse Publics
	2020	Workshop only	-
American Association of Physical Anthropologists* (AAPA)	2018	Podium Symposium (and separate workshop)	Biological Anthropology and Dialogue with Diverse Publics
American Society of Human Genetics (ASHG)	2018	Workshop w/ guest speaker Dr. Ting Wu	Science Communication and Engagement with Religious Publics
American Association for the Advancement of Science (AAAS)	2019	Podium Symposium (and separate workshop)	Science Engagement with Faith Communities
	2020-2021	Workshop only	-
Society for Advancing Chicanos and Native Americans in Science (SACNAS)	2020	Sponsored Session	Science Engagement with Faith Communities: Honoring Identity, Culture and Worldview

*In 2021, the organization changed its name to the American Association of Biological Anthropologists (AABA)

Table 1. DoSER Engaging Scientists events at science society meetings.



presentations, podium presentations, or exhibitor booths) at over a dozen science society meetings, events, and conferences. These provided additional opportunities to highlight the importance of science engagement with faith communities for



Speakers at the Biological Anthropology and Dialogue with Diverse Publics symposium at the 2018 AAPA (now AABA) meeting.

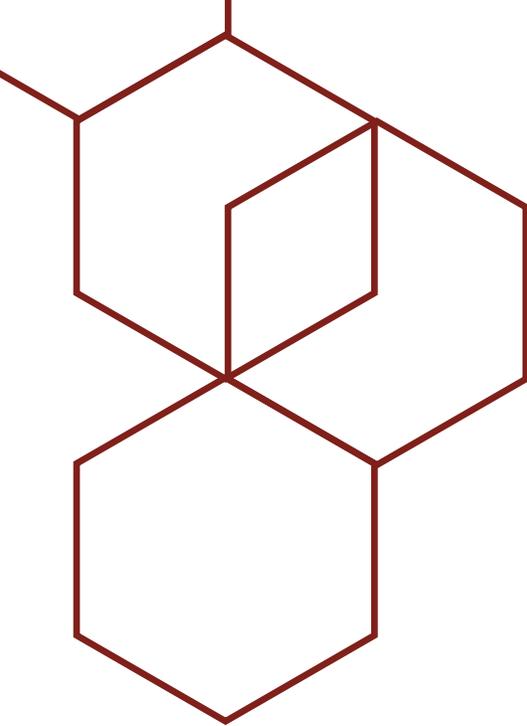
diverse scientific audiences and institutional representatives.

University Events

In 2017, DoSER put out a call for proposals to universities interested in hosting a DoSER event on their campus. From 18 applications, six institutions were selected by DoSER staff and the project advisory committee in 2018 [Table 2]. The project supported a robust slate of public programming on these campuses. Themes included broadening science engagement within diverse communities (Howard University, University of Maryland, Baltimore County (UMBC), Indiana University), artificial intelligence (Texas State University), conservation and environmental justice (Stanford University), and human evolution (Vanderbilt University). Three presentations from the Howard University event became part of the TEDx library through a collaboration with TEDxLeDroitPark, and videos from

Campus Event	Year	Format	Theme or Topic
Texas State University	2018	Public event	How AI Influences Our Understanding of Human Intelligence (and Vice Versa)
		Panel discussion	Science Communication and Engagement with Faith Communities
Stanford University	2019	Public event	Science and Spirituality in Conversation
University of Maryland, Baltimore County	2019	Public event	Science Engagement and Dialogue with Faith Communities
Vanderbilt University	2019	Public event	Being Human: the Nexus of Science and Spirituality
		Panel discussion	Where Science and Society Meet
Howard University	2018	Town Hall	Engaging Scientists in the Science and Religion Dialogue
	2019	Symposium	Beyond the Research: A Transdisciplinary Dialogue
		TEDxLeDroitPark event	Translation to Transformation
Indiana University	2019	Public event	Science Engagement and Science Practice within Indigenous Communities: Honoring Faith, Culture and Worldview

Table 2. DoSER Engaging Scientists events at university campuses.



events at UMBC, Indiana, and Texas State were created by the DoSER program and published online. Three institutions (Texas State, Howard, and Vanderbilt) also held additional public town halls, symposia, or panels in addition to the larger public events. Finally, as part of each campus event, the DoSER workshop on engagement with faith communities was offered to graduate students, faculty, and staff.

Public Engagement Award Contest

Attendees at the six university event workshops were invited to submit proposals for projects on science engagement with faith communities, developed in collaboration with a faith community representative. In 2019, 18 winning entries, from five of the participating institutions, were announced and awarded \$1000 each. Winning projects focused on topics such as “The

**Being Human:
the Nexus of Science and Spirituality**
AAAS Dialogue on Science, Ethics, & Religion



TUESDAY, MARCH 19, 4:00 - 5:30 PM
STUDENT LIFE CENTER, BALLROOMS A & B
RECEPTION TO FOLLOW

Exploring Who We Are: Public Engagement on Human Evolution

Respondent:
The Rev. C. Nolan Huizenga
Second Presbyterian Church



PANEL DISCUSSION WITH VANDERBILT SCHOLARS
WEDNESDAY, MARCH 20, 1:30 - 3:30 PM
STUDENT LIFE CENTER, BALLROOMS A & B
RECEPTION TO FOLLOW



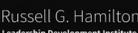
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Maithilee Kunda, PhD
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Communication of Science and Technology Program



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Flyer for event at Vanderbilt University, March 2019.

PROFESSIONAL DEVELOPMENT WORKSHOP:
SCIENCE COMMUNICATION AND ENGAGEMENT WITH RELIGIOUS PUBLICS



TUESDAY 4/2
IMU Oak Room, 9:30am-12:30pm Breakfast served at 9:00am.

The Science Communication and Engagement with Religious Publics workshop is a collaboration between the Dialogue on Science, Ethics, and Religion (DoSER) program and the Center for Public Engagement with Science and Technology, both situated within the American Association for the Advancement of Science (AAAS). It is intended as a professional development opportunity for students, communicators, educators, scientists and other professionals in STEM fields.

In this workshop, AAAS facilitators lead participants through an overview of why culture (including spirituality and faith) and worldview are important considerations for science engagement, and present strategies and best practices for effective and inclusive dialogue about science topics. The workshop includes moderated discussions and a small-group exercise to respond to a challenging question or scenario. While the focus is on dialogue with religious publics, the workshop content is relevant and applicable to effective science education, communication and engagement with a broad range of audiences.

PRE-WORKSHOP DISCUSSION PANEL

MONDAY 4/1
Indiana Memorial Union
Georgian Room, 2:00-4:00pm.
Reception to follow in IMU Faculty Lounge, 4:00-5:00pm.

“Science Engagement and Science Practice within Indigenous Communities: Honoring Faith, Culture, and Worldview”

SPEAKERS



Elizabeth DiGangi
(SUNY Binghamton)



Dr. Annette Lee
(St. Cloud State)



Dr. Fatima Jackson
(Howard University)

Indiana University
Office of the Native American Graves Protection & Repatriation Act



Office of the Native American Graves Protection & Repatriation Act



Flyer from workshop and panel at Indiana University, April 2019.



The “Science and Spirituality” Event at Stanford University, January 2019.

Science of Salaat” (Howard University), a classroom discussion to engage “Diverse Ethical and Religious Views on the Study of Evolutionary Biology” (UMBC), and a multi-day “Science-Faith Dialogue in the Indiana Heartland” with evangelical communities about conservation and climate change (Indiana University).

In 2020, DoSER highlighted the winning proposals on our website, including pictures and documents from engagement events. DoSER invited the public to identify a favorite to recognize as the “Public’s Choice.” The project of Howard University graduate student Myeshia Shelby, “Therapeutic Treatments for Cancer: Fostering a Dialogue Within a Faith Community,” was ultimately selected.¹⁸ A complete list of project proposals and the associated activities is available online.¹⁹

Resources

The Engaging Scientists project provided financial support for the creation of DoSER’s new resource website,

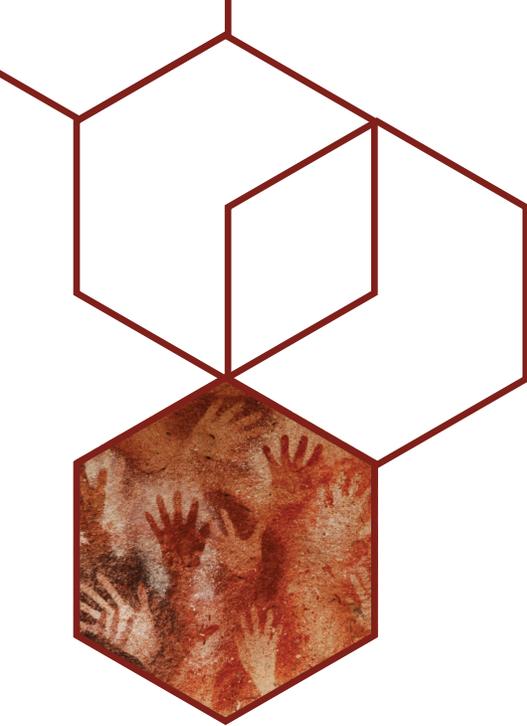
ScienceReligionDialogue.org, which launched in December 2020. The website hosts all media resources developed through the Engaging Scientists project, as well as resources from other DoSER projects, events, and activities. Additional resources are added regularly to the website, including print materials, videos, and articles from AAAS.org.

DoSER released the first Engaging Scientists project resource, *Scientists in Civic Life: Facilitating Dialogue-Based Communication*, in 2018.²⁰ Written by science communication scholar Dr. Matt Nisbet of Northeastern University, the booklet provides an overview of science communication research. It includes discussion of public perceptions of science, and strategies for engagement with a wide range of publics who hold diverse worldviews, values, and beliefs. As of June 2021, *Scientists in Civic Life* has been downloaded more than 750 times, and more than 1000 physical copies have been distributed. It has also been used as a resource in two graduate-level science communication courses, and by other organizations working on inclusive science engagement with diverse audiences.

Beginning in June 2020, the Engaging Scientists project launched the *Profiles in Science Engagement with Faith Communities* series.²¹ As of December 2021, the series will include 22 profiles of scientists spanning different career stages, fields, interests, and backgrounds. Some profiles are of scientists of faith, others are not, but all highlight activities with common themes of respect, empathy, and collaboration around shared interests and values.

As a scientist working in a different culture than her own, profilee Dr. Gillian Hue reflected that “It’s become really important for me to stay cognizant of my own assumptions that I’m bringing to the conversation...understanding what [your biases] are, and checking them, as you plan your engagement is the biggest lesson that I’ve learned.” Dr. Nate Matias framed science engagement as fundamentally a process of making science relevant in ways that engage with people’s existing identities: “We want to help people bridge between what they’re experiencing and the traditions and understanding that they

“It’s become really important for me to stay cognizant of my own assumptions... understanding [your biases], and checking them, as you plan your engagement is the biggest lesson that I’ve learned.”

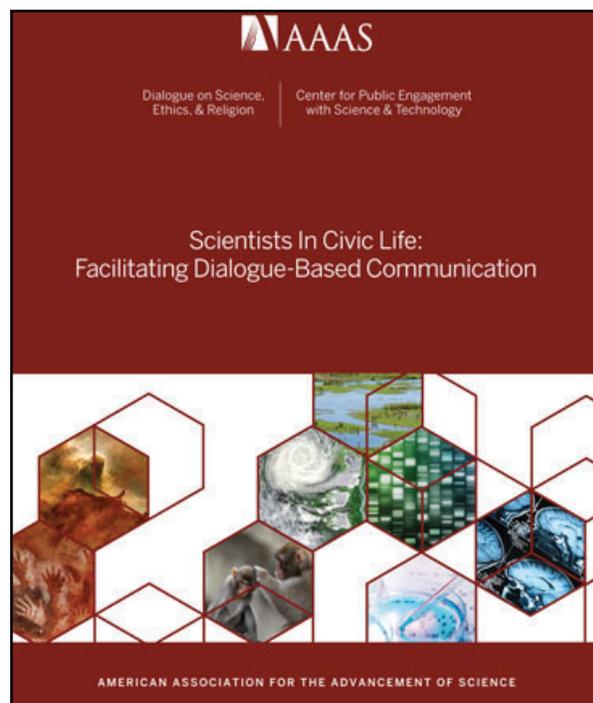


already have—to make sense of these emerging questions in ways that are still grounded in the engineering and science of what’s possible, and what’s real.”

All profiles are available on the program’s resource website²² and can also be downloaded as PDFs, and print copies are available for in-person distribution. These profiles were so well received by the public that DoSER intends to continue the series for the foreseeable future, profiling several scientists each year.

In 2021, as a final project resource, DoSER created a video series on *Science Engagement with Faith Communities*. These four short videos highlight key concepts and ideas from the DoSER workshop, and feature scientists profiled in the project as examples and case studies for inclusive and impactful science engagement with faith communities. Videos are available at ScienceReligionDialogue.org/resources/engagement-video-series.

Many presentations from the science society and university events, as well as other presentations supported by the Engaging



Cover of the booklet published in 2018.



PROFILES IN SCIENCE ENGAGEMENT WITH FAITH COMMUNITIES

Salman HAMEED

Salman Hameed is Charles Taylor Chair and Associate Professor of Integrated Science and Humanities at Hampshire College. He is also Director of Hampshire's Center for the Study of Science in Muslim Societies. We spoke with him about the inspirational power of science communication, assuming people are smart, making science relevant for your audience, and the necessity of a more nuanced understanding of faith perspectives. All photos courtesy S. Hameed.

You became an astronomer because you were fascinated by Cosmos! Tell us about that.

I got into the sciences and astronomy because I watched Carl Sagan's show Cosmos back in 1984 when it aired in Pakistan. I was in 9th grade at the time, and I was blown away—I wanted to be an astronomer. It took another 17 years until I got my Ph.D. But to me, science engagement with the public has always been an important component of being a scientist. I appreciate from personal experience how outreach by a scientist can change lives. I wouldn't be talking to you right now, I wouldn't be here in the U.S., I wouldn't be an astronomer had I not

SALMAN HAMEED
PROFILES IN SCIENCE ENGAGEMENT WITH FAITH COMMUNITIES 1

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PROFILES IN SCIENCE ENGAGEMENT WITH FAITH COMMUNITIES

Fatimah JACKSON

Fatimah Jackson is the Director of the W. Montague Cobb Research Laboratory and Professor of Biology at Howard University. We spoke with her about the complementarity of Islam and human evolution, involving and empowering community members in research, and how to do scientific justice to human remains. Photos courtesy F. Jackson.

How does your work intersect with scientific, ethical, and religious issues?

I am a Professor of Biology at Howard University and Director of the W. Montague Cobb Research Laboratory, which holds three collections of African and African American skeletal and dental remains. It is the largest collection of African and African American skeletal and dental remains in the world, and being a collection of human materials, issues of ethics and religious beliefs as well as science all come into play.

I'm also a practicing Muslim and have given lectures on human evolution in Islam, and I have worked with fellow Muslim scientists to discuss how one can maintain religious faith while remaining true to the science.

FATIMAH JACKSON
PROFILES IN SCIENCE ENGAGEMENT WITH FAITH COMMUNITIES 1

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PROFILES IN SCIENCE ENGAGEMENT WITH FAITH COMMUNITIES

Annette S. LEE

Annette S. Lee is an Associate Professor of Astronomy and Planetarium Director at St. Cloud State University in Minnesota, and Director of Native Skywatchers. We spoke with her about working to reclaim and revitalize indigenous star knowledge, the challenges of interdisciplinary work, and the importance of avoiding the "grab and go" research model. Above photo: Annette Lee. Credit: J. Woods/St. Cloud State University.

How and why did you start working to revitalize Indigenous star knowledge and astronomy?

I am mixed-race Lakota. My tribe is of the Lakota from the *Wanbli Luta* (Red Eagle) family, and my other indigenous community is Ojibwe. My husband is Ojibwe and our kids are both. I am an astronomer, a scientist, and an artist.

In 2007, I wanted to create a program that would combine my talents and interests and community. This dream was a very odd, and an important part of who I am, so I was very deeply motivated. I came up with the idea for a research

ANNETTE S. LEE
PROFILES IN SCIENCE ENGAGEMENT WITH FAITH COMMUNITIES 1

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PROFILES IN SCIENCE ENGAGEMENT WITH FAITH COMMUNITIES

Francis SU

Francis Su is the Benediktsson-Karwa Professor of Mathematics at Harvey Mudd College and author of the book Mathematics for Human Flourishing. We spoke with him about the wonder in math, how math addresses some of our deepest questions and longings, and approaches to inclusive teaching. (All photos courtesy F. Su except where noted.)

How did you get into math?

I got interested in math at a young age. I was captivated by the way that mathematical reasoning could take advantage of patterns to answer seemingly hard questions. For instance, I remember being asked the question: what is the sum of all the numbers from 1 to 100? That seems like a hard question. But then someone showed me that if you pair 1 with 100, 2 with 99, 3 with 98, etc., then you see 50 pairs of numbers where each pair sums to 101. So it's suddenly clear that the total is 50×101 , which is 5050. That is the part of mathematics that excites mathematicians—the discovery of patterns and trying to understand those patterns. Over time, as I learned more mathematics, I began to see how

FRANCIS SU
PROFILES IN SCIENCE ENGAGEMENT WITH FAITH COMMUNITIES 1

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A selection of cover images from the Profiles in Science Engagement with Faith Communities series.

More than 1000 people attended DoSER workshops between 2017 and 2021 and hundreds of other scientists and science communicators have been impacted.

Scientists project, have been recorded and are available to the public at aaas.org/DoSER and ScienceReligionDialogue.org, and through AAAS's YouTube channel,²³ totaling more than 30 video products to date.

Network

The Engaging Scientists Network was launched in 2017 to help establish connections between scientists and faith community representatives. During the life of the project, 100 scientists and 30 community representatives signed up for the network, including the 18 scientists winning the campus event Public Engagement awards and their collaborators. Although the network was closed to new registrants at the conclusion of the project, DoSER will continue to explore and evaluate how best to provide resources for scientists who wish to get involved in religiously inclusive engagement and connect them with opportunities for engagement through our program, external activities, social media, our newsletter, and other channels.

Additional Project Activities

Although primarily envisioned as a means to engage scientists, the Engaging Scientists project also received an extremely positive reception from informal science learning (ISL) practitioners and educators (including those working and volunteering at museums and science centers), as well as from the broader science communication community. As part of the project, the workshop was offered to staff and volunteers at the Smithsonian Institution National Museum of Natural History, the National Aquarium in Baltimore, and the Perot Museum of Nature and Science. A condensed version of the workshop was offered at the SIGNS Summit in 2018, the Inclusive SciComm Conference in 2019, and at the virtual SciTalk Conference in 2021. As part of the project activities, DoSER staff contributed a chapter to a 2019 book released by the National Science Teaching Association (NSTA) press,²⁴ and a 2021 commentary in the *Journal of Science Communication*.²⁵

Project Impacts

More than 1000 people attended DoSER workshops between

2017 and 2021. Beyond the audiences of public events at universities and in science society programming, hundreds of other scientists and science communicators have been impacted through attending presentations or engaging with resources created and disseminated through the project. DoSER AAAS website visits increased by more than 50% during the project timeline, from 39,566 visits in 2018 to 59,194 visits in 2020.

Pre-workshop surveys found that even before attending the workshop, participants recognized that public engagement should be informed by attitudes and perspectives of the audience. A comparison of pre- and post-workshop surveys identified significant shifts in self-assessed skill at “Engaging with religious audiences about science topics” and “Responding to comments or questions about science that are informed by faith beliefs,” and greater comfort in “Engaging with religious/spiritual publics about science topics.”

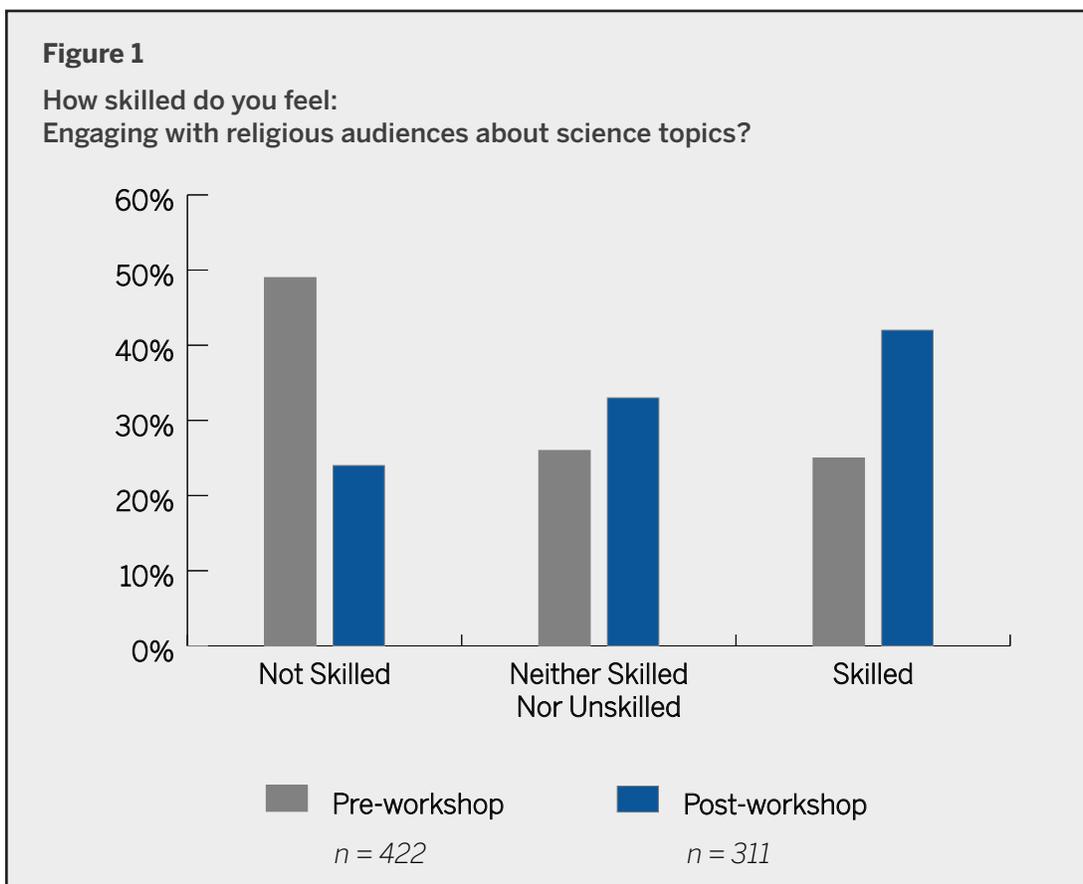


Figure 2

How skilled do you feel:
Responding to comments or questions about science that are informed by
faith beliefs?

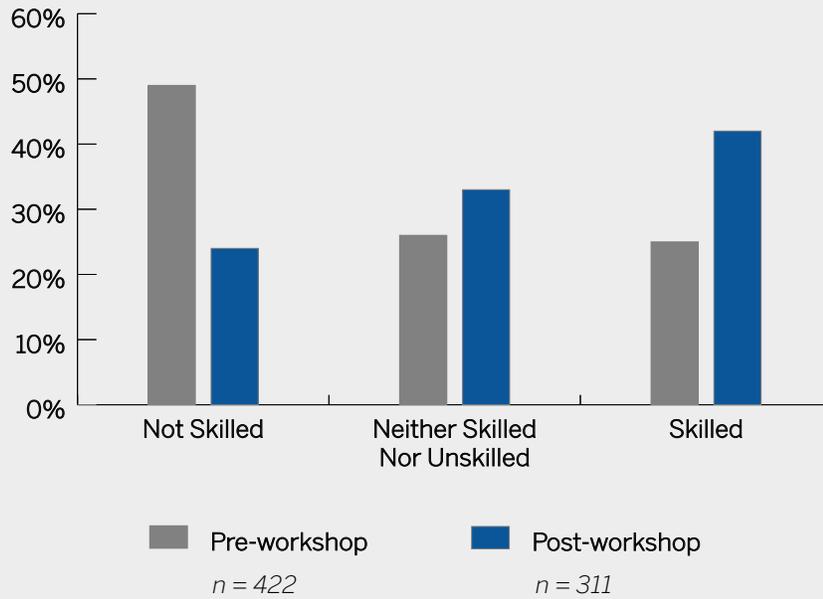
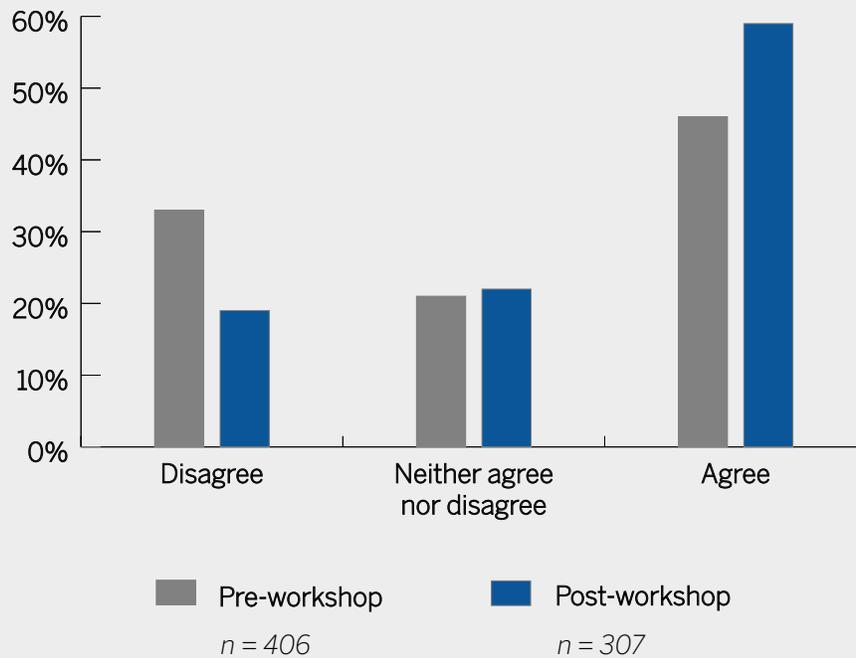


Figure 3

“I am comfortable engaging with religious/spiritual publics about science topics.”



66% of post-workshop survey respondents requested additional resources or otherwise reached out to engage with the DoSER program following the workshop. 89% of attendees reported that they would recommend the workshop to a colleague.

An external evaluator conducted a follow-up survey ($n=44$) and interviews ($n=12$) with attendees 6 to 12 months after the workshop, and found that these self-reported impacts were positive and lasting. Though few of these respondents indicated they were doing new or more targeted engagement with faith communities, most interviewees signaled that they were more thoughtful and intentional about addressing religious and spiritual dimensions of worldview and identity in their ongoing public engagement, including making changes to their pedagogy in science classrooms.

Feedback from the workshop included many positive comments from attendees. One shared that attending the workshop “completely changed the way I think about religious groups as an audience—they are engaged members of the public. The workshop emphasized the importance of finding common ground.” A respondent from an ISL institution noted that “[the workshop] had immediate impact...one of my team members used the information to completely transform her approach to our volunteer staff.”

Impacts on the DoSER Program

The Engaging Scientists project has been a major contributor to DoSER’s growing visibility and standing in the science communication and engagement field and has helped to establish a larger and stronger network of contacts and relationships for our work engaging with faith communities. Several components of the project will continue as core DoSER activities. The *Profiles in Science Engagement with Faith Communities* series will continue to feature several scientists a year, highlighting examples and best practices from diverse scientists. In collaboration with AAAS CPE, DoSER will continue to offer the Science Engagement with Faith Communities workshop under a fee-for-service model. Finally, the media resources (print, electronic, and video) and the new resource

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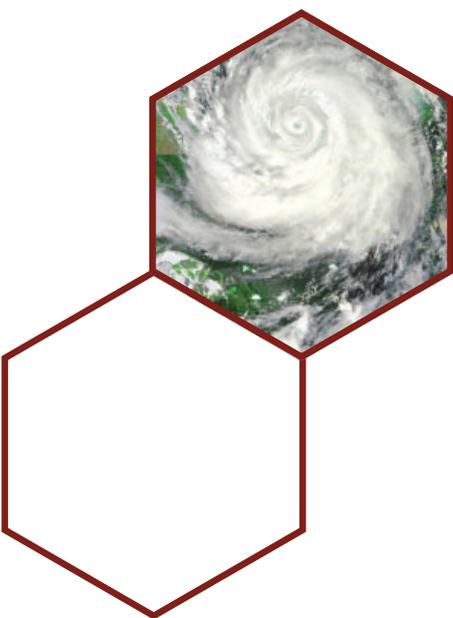
“[The workshop] had an immediate impact...one of my team members used the information to completely transform her approach to our volunteer staff.”

website (ScienceReligionDialogue.org) created through the project will remain free and available to the public, in support of DoSER’s long-standing mission to support communication and engagement about science between scientific and religious communities.

Amid the global coronavirus pandemic, the ongoing challenges of vaccine development, hesitancy, and equitable distribution illustrate in stark terms that science and technology have a cultural, historical, and political context, and that science communication and engagement have a critical role in the public sphere. DoSER’s work through the Engaging Scientists in the Science and Religion Dialogue project reflects the program’s commitment to fostering constructive, evidence-based engagement about science and society issues with faith communities. The five-year project supported the development of approaches, resources, and relationships that will serve the program in good stead through the years to come.

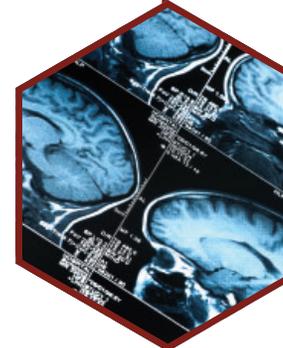
This project has also served to integrate DoSER’s engagement with faith communities into the larger efforts and broader mission of the AAAS to advance science, engineering and innovation throughout the world for the benefit of all people. DoSER is immensely grateful to the scientists, students, educators, faith leaders, and community representatives with whom we have shared and learned over the course of this project, and look forward to continuing this important work.

As noted by Dr. Fatimah Jackson of Howard University, a project advisor, speaker at several project events, and one of the scientists in the *Profiles in Science Engagement with Faith Communities*, “It is possible to convey the fundamental aspects of all the science that we do in a cultural context that’s relevant for the people. That’s probably the most important thing that we do in science—to make it real and important for the people that we’re speaking to.”



References

- 1 PRRI (2020). The 2020 Census on American Religion. <https://www.prii.org/research/2020-census-of-american-religion/>.
- 2 McPhetres J, Zuckerman M (2018). Religiosity predicts negative attitudes towards science and lower levels of science literacy. *PloS one*. 13(11):e0207125.
- 3 Besley, JC et al. (2019). "Calling it a war on science has consequences." *The Conversation*, Published Jan 11 2019. <https://theconversation.com/calling-it-a-war-on-science-has-consequences-108302> (retrieved 18 Aug 2021).
- 4 Baker JO (2012). Public perceptions of incompatibility between "science and religion". *Public Understanding of Science*, 21(3):340-53.
- 5 Payir A, Davoodi T, Cui KY, Clegg JM, Harris PL, Corriveau K (2021). Are high levels of religiosity inconsistent with a high valuation of science? Evidence from the United States, China and Iran. *International Journal of Psychology*. 56(2):216-27.
- 6 National Science Board, National Science Foundation (2020). *Science and Engineering Indicators 2020: The State of U.S. Science and Engineering*. NSB-2020-1. Alexandria, VA. Available at <https://ncses.nsf.gov/pubs/nsb20201/>.
- 7 Wellcome Trust (2019). "Wellcome Global Monitor: how does the world feel about science and health." <https://wellcome.ac.uk/sites/default/files/wellcome-global-monitor-2018.pdf>.
- 8 Ecklund EH, Scheitle CP (2018). "Religion vs. Science: What religious people really think." Oxford University Press.
- 9 Fiske ST, Dupree C (2014). "Gaining trust as well as respect in communicating to motivated audiences about science topics." *Proceedings of the National Academy of Sciences* 111. Supplement 4: 13593-13597.
- 10 Rutjens BT, Heine SJ (2016). The immoral landscape? Scientists are associated with violations of morality. *PloS one*, 11(4), e0152798.
- 11 Simpson A, Rios K (2019). Is science for atheists? Perceived threat to religious cultural authority explains U.S. Christians' distrust in secularized science. *Public Understanding of Science*, 28(7), 740-758.
- 12 Pew Research Center (2015). "Americans, Politics and Science Issues." <http://www.pewinternet.org/2015/07/01/americans-politics-and-science-issues/>.
- 13 Pew Research Center (2019). "In U.S., Decline of Christianity Continues at Rapid Pace." <https://www.pewforum.org/2019/10/17/in-u-s-decline-of-christianity-continues-at-rapid-pace/>.
- 14 Ecklund EH. (2010). *Science vs. religion: What scientists really think*. Oxford University Press.
- 15 Hayhoe K (2018). When facts are not enough. *Science* 01 Jun 2018 Vol. 360, Issue 6392, pp. 943 DOI 10.1126/science.aau2565.
- 16 Kahan D (2012). "Why we are poles apart on climate change." *Nature* 488.7411: 255-255.
- 17 <https://www.aaas.org/focus-areas/public-engagement>.
- 18 Korte, A (2019). AAAS Recognizes Engagement Projects Connecting Scientific and Religious Communities. <https://www.aaas.org/news/aaas-recognizes-engagement-projects-connecting-scientific-and-religious-communities>.
- 19 AAAS (2019). DoSER Engaging Scientists Public Engagement Contest. <https://www.aaas.org/programs/dialogue-science-ethics-and-religion/doser-engaging-scientists-public-engagement-contest>.
- 20 <https://ScienceReligionDialogue.org/resources/scientists-in-civic-life-facilitating-dialogue-based-communication/>.
- 21 Cohen, AD (2020). Profiles Spotlight Researchers Engaging with Religious Communities. <https://www.aaas.org/news/profiles-spotlight-researchers-engaging-religious-communities>.
- 22 <https://ScienceReligionDialogue.org/resources/profiles-listing/>.
- 23 <https://www.youtube.com/c/wwwAAASorg>.
- 24 O'Malley RC, et al. (2019). Promoting dialogue on science, ethics, and religion through the American Association for the Advancement of Science (AAAS). In: *Making Sense of Science and Religion: Strategies for the Classroom and Beyond*; Shane J., Meadows L., Hermann R.S., Binns I. (eds.); National Science Teaching Association Press.
- 25 O'Malley RC, et al. (2021). Science engagement with faith communities: Respecting identity, culture and worldview (invited commentary). *Journal of Science Communication* 20(1), C11. <https://doi.org/10.22323/2.20010311>.



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ABOUT AAAS | DoSER | CENTER FOR PUBLIC ENGAGEMENT

The American Association for the Advancement of Science (AAAS) seeks to advance science, engineering, and innovation throughout the world for the benefit of all people. AAAS established the Dialogue on Science, Ethics, and Religion (DoSER) program in 1995 to facilitate communication and understanding between scientific and religious communities, recognizing that these often overlap. AAAS's Center for Public Engagement with Science and Technology was established in 2004 to provide scientists and scientific institutions with opportunities and resources to have meaningful conversations with the public.

This booklet was produced as part of the "Engaging Scientists in the Science and Religion Dialogue" project, a joint effort by the DoSER program and the AAAS Center for Public Engagement with Science and Technology.

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