

Science Communication Goals and Competencies Among K-State Faculty Engaged in Rangelands-based Research, Teaching, or Extension

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Introduction/Background

Science communication is a fundamental component of land-grant university (LGU) faculty responsibility. Kansas State University charges its faculty with contributing to “the discovery and dissemination of new knowledge, applications, and products” (KSU, 2025, para. 4), positioning the effective communication of research as central to the university’s obligation to serve. Science communication is the communication of scientific research to non-expert, public audiences through channels beyond traditional academic publishing (Burns et al., 2003). Scientists generally report positive attitudes and strong motivations toward science communication (Besley et al., 2018; Poliakoff & Webb, 2007), yet engagement remains difficult due to limited training, time constraints, misaligned institutional incentives, and inconsistent peer norms (Greig et al., 2024; Besley et al., 2018).

Effective dissemination of research is particularly critical in applied rangeland and natural resources sciences, where stakeholder-driven research frequently informs land management practices and contributes to state and federal policymaking (Tobin et al., 2017). Rangeland scientists and extension professionals regularly engage with producers, landowners, conservation organizations, and policymakers on issues spanning grazing management, climate variability, land use, and ecosystem services (Roche, 2021). Effective science communication in these contexts requires addressing both facts and values to inform decisions and build trust across diverse stakeholders (Dietz, 2013). Researchers' motivations, perceived barriers, and communication skills play an important role in determining whether they can effectively engage stakeholders and foster the trust necessary for science-informed decision-making. This study examines the science communication (SciCom) motivations, barriers, and skills of Kansas State University faculty who participate in rangelands-based teaching, research, and/or extension activities. The findings intended to inform training and institutional support that strengthen science communication capacity across LGU rangelands and natural resources programs.

Findings in Brief

- Respondents reported a high interest in SciCom, with most indicating they were very or extremely interested.
- Faculty’s engagement in SciCom is motivated by perceiving SciCom as important and its role in building public trust.
 - Despite this interest and motivation, more than half of respondents had not received formal SciCom training.

- Participants reported moderate enjoyment of science communication activities overall, with the greatest enjoyment derived from giving practical advice based on professional expertise and explaining research findings to the public.
 - However, media-related skills were notably low, especially in areas of social media, video, and audio production.
- Participants showed a preference for traditional communication channels, such as workshops, conferences, and news media over digital platforms like social media.
- Lack of time and institutional support were the largest barriers to faculty engaging in science communication.
 - They also identified time, funding, and institutional support as key needs to enhance their engagement in SciCom.
- Faculty generally identified themselves as science communicators, but reported a low sense of belonging to the community of science communication.

Synopsis

Land-grant universities were established to serve the agricultural needs of the communities they support, including those within rangeland systems. Rangeland faculty engage with producers, land managers, and Extension audiences who rely on research-based information to inform management decisions. This makes SciCom critical for ensuring information is understood and applied in practice. This report highlights the motivations, barriers, and needs of SciCom by Kansas State University faculty interested in or conducting rangelands-based research, teaching, and/or Extension activities. Findings indicate that while faculty demonstrate strong interest and engagement in SciCom, many lack formal training and face barriers related to time and institutional support. Additionally, lower reports of media-related skills and a preference for traditional communication channels suggest opportunities for targeted support.

Methods

Following Institutional Review Board (IRB) approval, faculty conducting or interested in conducting rangelands-based research, teaching, and/or extension activities were invited to an on-campus collaborator luncheon event in October of 2025. During the event, the purpose of the study was presented, the importance of faculty participation was emphasized, and details regarding survey distribution were outlined. Faculty who attended the event, indicated an interest in attending, or are otherwise known to fit the criteria of the sample for the study were included in our contact list.

After the luncheon, personalized recruitment emails were sent via Qualtrics to 72 faculty members on October 2, 2025, with reminder emails to non-respondents on October 7 and October 9. Data collection closed on October 10, 2025, yielding 38 complete responses (52.8% response rate).

This study employed a quantitative, descriptive research design. The survey instrument included items measuring attitudes, motivations, barriers, and engagement in SciCom using 5-point Likert-type scales (Baram-Tsbari & Lewenstein, 2017; Koswatta et al., 2022; Parrella et al., 2022). Data were analyzed using descriptive statistics, including frequencies, means, and standard deviations.

Participant Characteristics

Participants reported an average of 16.89 years in their faculty roles ($SD = 10.94$), with a range from 1 to 35 years. The majority of participants were affiliated with the College of Agriculture ($n = 21, 55.3\%$), followed by the College of Arts and Sciences ($n = 14, 36.8\%$), the College of Engineering ($n = 2, 5.3\%$), and the College of Veterinary Medicine ($n = 1, 2.6\%$).

On average, participants' appointments were distributed across teaching ($M = 25.92\%$, $SD = 22.78$), extension ($M = 16.05\%$, $SD = 29.27$), research ($M = 35.79\%$, $SD = 27.74$), service ($M = 7.37\%$, $SD = 16.88$), and administration ($M = 14.87\%$, $SD = 31.38$).

Fifteen participants (39.5%) reported holding leadership roles, while 23 (60.5%) did not. Most participants held tenure-track positions ($n = 29, 76.3\%$), while 9 (23.7%) did not. Participants reported an average of publishing 2.89 journal articles each year within the last three years ($SD = 2.58$).

Respondents represented a range of faculty titles. The most common was professor ($n = 14, 34.1\%$), followed by associate professor ($n = 9, 22.0\%$) and assistant professor ($n = 7, 17.1\%$). Additional titles included extension associate professor ($n = 2, 4.9\%$), instructor ($n = 1, 2.4\%$), research assistant professor ($n = 1, 2.4\%$), research professor ($n = 1, 2.4\%$), teaching assistant professor ($n = 1, 2.4\%$), and other ($n = 2, 4.9\%$).

The age of the participants ranged from 30 to 68 years, with the average being 51 years ($SD = 11.39$). Most participants identified as male ($n = 25, 65.8\%$), followed by female ($n = 10, 26.3\%$), and 3 who preferred not to say (7.9%). The majority identified as White ($n = 31, 81.6\%$). One participant each identified as American Indian or Alaska Native (2.6%) and Asian (2.6%), while two identified as other (5.3%; including one identifying as Macedonian). Five participants (13.2%) preferred not to disclose their race or ethnicity.

Findings

Participant Interest and Training in Science Communication

Most respondents reported a high level of interest in science communication. Nearly half indicated they were very interested (47.4%), followed by extremely interested (39.5%), with only 3 slightly interested (7.9%), and 2 somewhat interested (5.3%). Despite this high level of

interest, 22 participants (57.9%) reported they have not received science communication training of any sort, whereas 16 (42.1%) reported some form of training.

Attitudes and Motivations Toward Science Communication

The **reasons for engaging in SciCom** scale consisted of 9 items measured on a 5-point Likert scale average ($M = 3.86$, $SD = 1.06$, $\alpha = .94$), indicating generally strong motivation to engage. Listed in Table 1, all items scored above the midpoint scale. The highest-rated reason to participate was *I think communicating science is important* ($M = 4.37$, $SD = 1.38$), followed by *science communication helps to build public trust about science* ($M = 4.13$, $SD = 1.38$).

Table 1
Motivations for SciCom Engagement

	<i>M</i>	<i>SD</i>
I think communicating science is important	4.37	1.38
Science communication helps to build public trust about science	4.13	1.38
I value the public's perspectives about my research	3.89	1.37
I care about local community views and concerns	3.89	1.41
I feel I am obligated to communicate science as a scientist	3.84	1.37
Engaging in science communication is useful for achieving my career goals	3.76	1.34
Science communication is one of my responsibilities as a faculty member at Kansas State University	3.66	1.45
Science communication is a grant requirement	3.63	1.13
Others recognize me as an effective science communicator	3.58	1.03

Participants reported moderate **enjoyment of SciCom activities** ($M = 3.45$, $SD = 0.79$, $\alpha = .80$). Enjoyment was measured using 6 items on a 5-point Likert scale (see Table 2). The most enjoyable activities included *giving practical advice based on your professional expertise* ($M = 4.03$, $SD = 0.72$) and *explaining your research and its results to the public* ($M = 3.79$, $SD = 0.94$).

Activities around *contributing to the public debate about science policy* ($M = 2.87$, $SD = 1.36$) and *evaluating political decisions based on your professional expertise* ($M = 2.84$, $SD = 1.29$) were rated the lowest among participants' enjoyment.

Table 2
Enjoyment in SciCom Activities

	<i>M</i>	<i>SD</i>
Giving practical advice based on your professional expertise	4.03	0.72
Explaining your research and its results to the public	3.79	0.94
Describing the possible practical uses of your research	3.68	1.09
Discussing the social and ethical aspects of your research	3.47	1.18
Contributing to the public debate about science policy	2.87	1.36
Evaluating political decisions based on your professional expertise	2.84	1.29

Barriers to Engagement in SciCom

Participants were asked about potential barriers to engaging in SciCom. After reverse coding, higher scores indicate fewer perceived barriers. Overall, the **barriers to SciCom engagement** consisted of 8 items measured on a 5-point Likert scale ($M = 3.67$, $SD = 0.73$, $\alpha = .78$).

Responses varied across potential barriers. In Table 3, the lowest mean scores were observed for *my participation in public communication takes time away from my research work* ($M = 2.74$, $SD = 1.27$), and *little institutional assistance or approval is given for outreach program or opportunities* ($M = 2.63$, $SD = 1.20$). Higher mean scores relative to the other barrier items were reported for *I have not communicated with the public in the past* ($M = 4.63$, $SD = 0.79$) and *I am not interested in public communication* ($M = 4.26$, $SD = 1.03$).

Table 3

Barriers to SciCom Engagement

	<i>M</i>	<i>SD</i>
I have not communicated with the public in the past	4.63	0.79
I am not interested in public communication	4.26	1.03
Participating in public communication activities will result in contempt from my peers	4.26	1.18
My area of expertise is not interesting to the public	4.02	1.28
I lack confidence in my public communication skills	3.50	1.25
Public communication is not valued by the academic organizations in my field/discipline	3.32	1.28
My participation in public communication takes time away from my research work	2.74	1.27
Little institutional assistance or approval is given for outreach program or opportunities	2.63	1.20

Note. Items were reverse-coded so that higher scores reflect lower perceived barriers to engagement in SciCom.

Training Needs and Preferences for Engagement

The **needs for engaging in SciCom** scale was measured using 6 items on a 5-point Likert scale (see Table 4) ($M = 3.82$, $SD = 0.64$, $\alpha = .71$). Respondents reported *time for communication* ($M = 4.24$, $SD = 0.71$) and *funds for my communication activities* ($M = 3.95$, $SD = 1.16$) as the most important needs for supporting engagement in SciCom.

Table 4

Needs for engaging in SciCom

	<i>M</i>	<i>SD</i>
Time for communication	4.24	0.71
Funds for my communication activities	3.95	1.16
Support (encouragement, recognition) from management for my communication activities	3.89	0.98

Communication experience/opportunities to communicate	3.84	0.95
Help from professional science communicators	3.53	1.06
Specific training to communicate science	3.47	1.08

Willingness to Participate in Science Communication Training

Respondents expressed a moderate **willingness to participate in science communication training** opportunities ($M = 3.46$, $SD = 0.86$, $\alpha = .86$). This was measured using 6 items on a 5-point Likert scale. Preferred formats included *group workshops in my department* ($M = 3.84$, $SD = 1.00$) and *one-on-one, in-person training* ($M = 3.74$, $SD = 1.20$).

In contrast, the *semester-long professional development course* was rated below the midpoint ($M = 2.63$, $SD = 1.40$), indicating lower preference relative to other training formats.

Table 5

Willingness to Participate in Science Communication Training Methods

	<i>M</i>	<i>SD</i>
Group workshops in my department	3.84	1.00
One-on-one, in-person training	3.74	1.20
Self-paced, online training modules	3.61	1.13
Group workshops in the university	3.58	1.20
One-day seminar	3.37	1.30
Semester-long professional development course	2.63	1.40

Science Communication Skills and Competencies

Using 6 items on a 5-point Likert scale, participants reported moderate levels of **essential skills for contributing to SciCom** ($M = 3.73$, $SD = 0.61$, $\alpha = .88$). In particular, *providing accurate information so people can make good choices* ($M = 4.00$, $SD = 0.66$) and *clearly interpret scientific information* ($M = 3.97$, $SD = 0.79$) were the highest mean scores among the essential skills assessed.

Conversely, *increasing public understanding of science/research topics and processes* ($M = 3.55$, $SD = 0.76$) and *engaging with the public in back-and-forth communication* ($M = 3.34$, $SD = 0.97$) were among the lower-rated items, relative to the other essential skills measured.

Table 6

Essential skills to contribute to SciCom

	<i>M</i>	<i>SD</i>
Provide accurate information so people can make good choices	4.00	0.66
Clearly interpret scientific information	3.97	0.79
Communicate the relevance of science to each person	3.79	0.70
Communicate the importance of science to each person	3.71	0.65
Increase public understanding of science/research topics and processes	3.55	0.76
Engage with the public in back-and-forth communication	3.34	0.97

Regarding **media-related skills**, participants reported notably lower media skills than their general science communication skills and essential communication skills ($M = 2.46$, $SD = 0.72$, $\alpha = .84$), especially in areas of *knowing how to produce audio, including specific genres (i.e., podcasts)* ($M = 1.92$, $SD = 0.91$), *knowing how to produce video, including specific genres (i.e., science documentary, video blogs)* ($M = 1.95$, $SD = 0.96$), and *knowing how to create social media content and manage social media platforms* ($M = 1.97$, $SD = 0.94$).

Knowing how to write clearly for public media ($M = 3.29$, $SD = 1.06$) and *knowing how to be interviewed by media, including on-camera practice* ($M = 3.05$, $SD = 1.11$), were among the highest rated media skills within this category, still within the moderate range. Seven items were measured using a 5-point Likert scale and listed in Table 7 below.

Table 7
SciCom Media Skills

	<i>M</i>	<i>SD</i>
Know how to write clearly for public media	3.29	1.06
Know how to be interviewed by media, including on-camera practice	3.05	1.11
Know how to conduct an interview	2.84	1.10
Know how to produce digital media	2.18	0.93
Know how to create social media content and manage social media platforms	1.97	0.94
Know how to produce video, including specific genres (i.e., science documentary, video blogs)	1.95	0.96
Know how to produce audio including specific genres (i.e., podcasts)	1.92	0.91

Thirteen items were used to measure **general communication skills**, using a 5-point Likert scale. Respondents reported communication skills were moderate ($M = 3.16$, $SD = 0.75$, $\alpha = .88$), with the highest-rated skills being *presenting to the public* ($M = 3.87$, $SD = 0.78$) and *converting complex ideas into understandable concepts for the public* ($M = 3.71$, $SD = 0.84$).

The lower reported communication skills among those assessed were *using principles of risk communication* ($M = 2.61$, $SD = 1.10$) and *evaluating the effectiveness of communication strategies* ($M = 2.42$, $SD = 1.00$).

Table 8
General Communication Skills

	<i>M</i>	<i>SD</i>
Present to the public	3.87	0.78
Convert complex ideas into understandable concepts for the public	3.71	0.84
Engage with the public through hands-on activities	3.53	1.06
Develop personal connection with the public based on shared scientific experience and values	3.45	1.03

Demonstrate scientists are trustworthy, credible source of science information	3.42	0.92
Use effective storytelling tools to engage the public (e.g., engages the imagination, uses common structures for narrative)	3.39	1.10
Create messages that meet public's needs and wants	3.11	0.98
Develop communication strategies for delivering project findings	3.05	1.11
Facilitate public discussions	2.95	1.06
Mitigate science controversies (e.g., social/political controversies)	2.87	0.94
Manage a science communication project	2.66	1.10
Use principles of risk communication	2.61	1.10
Evaluate effectiveness of communication strategies	2.42	1.00

Knowledge of Science Communication

Participants reported relatively low levels of understanding of SciCom content types ($M = 2.52$, $SD = 0.96$, $\alpha = .95$). Seven items were used on a 5-point Likert scale and listed below in Table 9. The highest-rated SciCom content topic among those included in the scale was *the needs and interests of different audiences (e.g., journalists, policymakers, consumers, voters, children, science teachers, curious people)* ($M = 2.92$, $SD = 1.22$). In contrast, the lowest-rated content topic among those assessed was *different models of science communication (i.e., deficit, dialogue, and engagement model; science literacy)* ($M = 2.11$, $SD = 0.98$).

Table 9

Understanding of SciCom Content Topics

	<i>M</i>	<i>SD</i>
The needs and interests of different audiences (e.g., journalists, policymakers, consumers, voters, children, science teachers, curious people)	2.92	1.22
Specific communication practices (i.e., dialogue or message delivery)	2.68	1.23
Principles of education (i.e., informal science education, inquiry-based education)	2.68	1.12
Techniques used to frame the scientific message to make impact	2.63	1.22
Key issues about media (i.e., news values and norms)	2.39	1.20
Patterns of science journalism and general assignment of journalists	2.21	1.04
Different models of science communication (i.e., deficit, dialogue, and engagement model; science literacy)	2.11	0.98

Likelihood to Contribute to SciCom

Participants rated their likelihood of contributing to SciCom across various communication channels using a 10-item, 5-point Likert scale ($M = 3.41$, $SD = 0.62$, $\alpha = .71$). The two most preferred channels were *public conferences, seminars, and workshops* ($M = 4.39$, $SD = 0.68$) and *news media (an interview for a newspaper, radio, television, science magazine)* ($M = 4.26$, $SD = 0.98$).

Participants reported the lowest likelihood of contributing to SciCom through *social media* (e.g., Facebook, Instagram, LinkedIn, Twitter, and YouTube) ($M = 2.82$, $SD = 1.45$) and *web forums* ($M = 2.50$, $SD = 1.13$).

Table 10
Likelihood of Contributing to SciCom by Channels

	<i>M</i>	<i>SD</i>
Public conferences, seminars, and workshops	4.39	0.68
News media (an interview for a newspaper, radio, television, science magazine)	4.26	0.98
Popular science magazines	3.71	1.11
Public lectures, debates, and science cafés	3.89	1.09
University homepages	3.45	1.22
Reports and other consultant work for private companies and organizations	3.34	1.44
Popular books or chapters	2.97	1.10
Personal web pages	2.79	1.34
Social media (e.g., Facebook, Instagram, LinkedIn, Twitter, and YouTube)	2.82	1.45
Web forum	2.50	1.13

Engagement Behaviors and Activities

Participants reported communicating with the public about science or their research findings. Most indicated communicating either weekly (34.2%) or monthly (34.2%), followed by quarterly (13.2%) and biannually (10.5%). Very few participants reported communicating yearly (5.3%) or never (2.6%).

Within the past three years, participants reported activities in which they have communicated with the public; multiple responses were permitted (see Table 11). The most reported activity was *participation in public speaking events* (92.1%), followed by *used news media* (76.3%). Half of participants (50.0%) reported additional activities under *other*, including media engagement (e.g., interviews, press releases, and podcasts), professional writing (e.g., journal articles), communication with policymakers, and presentations such as webinars or community talks.

The least commonly reported activities were *writing an article for science websites* (e.g., *Discover.com*, *ScienceDaily.com*) and *publishing a blog on a personal homepage* (both 5.3%), and no participants reported a lack of engagement in communication activities.

Table 11
Frequencies of Reported Communication Activities

	<i>n</i>	<i>%</i>
Participated in public speaking events	35	92.1
Used the news media	29	76.3
Other	19	50.0
Shared reports and other work with private companies and organizations	16	42.1
Posted on your own social media page(s) about science	12	31.6

Wrote a news article for a university homepage	11	28.9
Responded to a science-related online posting by the public	10	26.3
Wrote book or book chapter	8	21.1
Wrote an essay for science magazines (e.g., Popular Science, Scientific America)	5	13.2
Wrote an article for science websites (e.g., Discover.com, ScienceDaily.com)	2	5.3
Published a blog on a personal homepage	2	5.3
None	0	0

Participants who reported participating in public speaking events ($n = 35$) most commonly identified *conferences* (92.1%) and *workshops* (78.9%) over the past three years. The least common events were deliberative forums (0%) and citizen jury (2.6%).

Table 12
Public Speaking Activities Over the Last Three Years

	<i>n</i>	%
Conferences	35	92.1
Workshops	30	78.9
Seminars	28	73.7
Public lectures	18	47.4
Community/public forum	10	26.3
Science festivals	9	23.7
Debates	2	5.3
Science cafés	2	5.3
Citizen jury	1	2.6
Deliberative forum	0	0

Note. Only respondents who reported participating in public speaking events ($n = 35$) were presented with this question.

Among participants who reported using news media ($n = 29$), the most common forms of engagement included *an interview, monologue, or panel discussion on radio or podcast* (83.3%) and *an interview for a national or local newspaper* (73.3%). The least common forms of engagement were *an interview for a science magazine* (23.3%) and *an interview for a documentary film* (23.3%). Other items are reported in Table 12 below.

Table 13
News Media Engagement Activities Over the Last Three Years

	<i>n</i>	%
An interview, monologue, or panel discussion on radio or podcast	25	83.3
An interview for a national or local newspaper	22	73.3
An interview on television	15	50.0
An interview for online news	12	40.0
An interview for a science magazine	7	23.3
An interview for a documentary film	7	23.3

Note. Only respondents who reported using news media ($n = 29$) were presented with this question.

Self-Reflection and Identity within SciCom

A reflective science communication scale consisting of 8 items was measured on a 5-point Likert scale, indicating moderate levels of self-perceived awareness and reflection in science communication ($M = 3.81$, $SD = 0.62$, $\alpha = .83$) (see Table 14). All items scored above the midpoint on the scale. The highest rated item was *I am aware of the difference between providing information and acting as an advocate* ($M = 4.37$, $SD = 0.63$), followed by *I am aware of my own values and norms of scientific practice* ($M = 4.16$, $SD = 0.95$). The lowest-rated item was *I share my communication experience with my colleagues* ($M = 3.03$, $SD = 1.13$).

Table 14
Self-Reflection in SciCom

	<i>M</i>	<i>SD</i>
I am aware of the difference between providing information and acting as an advocate	4.37	0.63
I am aware of my own values and norms of scientific practice	4.16	0.95
I feel responsible for my own learning about the science communication process	3.95	0.87
I know my strengths as a science communicator	3.82	1.04
I know my weaker points as a science communicator	3.79	1.07
I understand the challenges of science communication	3.71	1.14
I feel responsible for outcomes of science communication	3.66	0.91
I share my communication experience with my colleagues	3.03	1.13

Respondents reported their level of agreement with five statements assessing science communication identity, using a 5-point Likert scale ($M = 3.95$, $SD = 0.93$, $\alpha = .93$). Most items were above the midpoint scale (see Table 15). The highest-rated item was, *in general, being a science communicator is an important part of my self-image* ($M = 3.61$, $SD = 0.92$), followed by *I am a science communicator* ($M = 3.47$, $SD = 1.25$). The lowest-rated item among respondents, which fell below the midpoint scale, was *I have a strong sense of belonging to the community of science communication* ($M = 2.74$, $SD = 0.95$).

Table 15
Descriptive Statistics for SciCom Identity Scale

	<i>M</i>	<i>SD</i>
In general, being a science communicator is an important part of my self-image	3.61	0.92
I am a science communicator	3.47	1.25
Being a science communicator is an important reflection of who I am	3.42	1.11
I feel like I belong in the field of science communication	3.16	1.08

I have a strong sense of belonging to the community of science communication	2.74	0.95
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Dissemination Responsibility

Participants rated *university media relations offices* ($M = 4.29, SD = 1.09$) and *scientists at the university* ($M = 4.21, SD = 0.94$) as the sources most responsible for disseminating knowledge about scientific methods and results from universities to the public. Lower ratings were given to *scientists at the private sector* ($M = 3.08, SD = 1.17$) and *university administration* ($M = 3.37, SD = 1.17$).

Table 16
Dissemination Responsibilities Among University Professionals

	<i>M</i>	<i>SD</i>
University media relations offices	4.29	1.09
Scientists at the university	4.21	0.94
Separate communication firms at the university	3.47	1.03
Departments/unit administrations	3.58	1.11
University administration	3.37	1.17
Scientists at the private sector	3.08	1.17

Recommendations

Based on the findings of this study, the following recommendations are proposed to support and strengthen science communication capacity among Kansas State University faculty engaged in rangelands-based teaching, research and/or extension activities.

- 1. Develop targeted science communication training programs**
 - Provide training opportunities focused on practical skill development, especially for faculty who have a high interest but limited formal training.
- 2. Prioritize training and resources in digital and media communication skills**
 - Emphasize areas such as social media, video, and audio production, where faculty reported the lowest confidence.
- 3. Offer flexible, accessible training formats**
 - Design workshops and one-on-one training opportunities within departments, as these were the most preferred formats over longer courses.
- 4. Leverage existing strengths in traditional communication channels**
 - Continue supporting workshops, conferences, and news media engagement, where faculty are active and more confident.
- 5. Increase institutional support for science communication**
 - Provide dedicated time, recognition, incentives, and resources to support faculty engagement, address key barriers related to workload and lack of support.

- Strengthen connections between researchers and university media relations offices to address communication barriers and support the shared responsibility of science communication.

6. Encourage the integration of science communication in faculty roles

- Recognize science communication as a core component of research, teaching, and Extension appointments to reinforce its importance and legitimacy.

7. Build community and peer learning opportunities

- Create spaces for faculty to share experiences, resources, collaborate, and strengthen their sense of belonging within the science communication community.

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