THE WEAPONIZATION OF THE NATIONAL SCIENCE FOUNDATION: HOW NSF IS FUNDING THE DEVELOPMENT OF AUTOMATED TOOLS TO CENSOR ONLINE SPEECH "AT SCALE" AND TRYING TO COVER UP ITS ACTIONS

Interim Staff Report of the

Committee on the Judiciary
and the
Select Subcommittee on the Weaponization of the Federal Government

U.S. House of Representatives

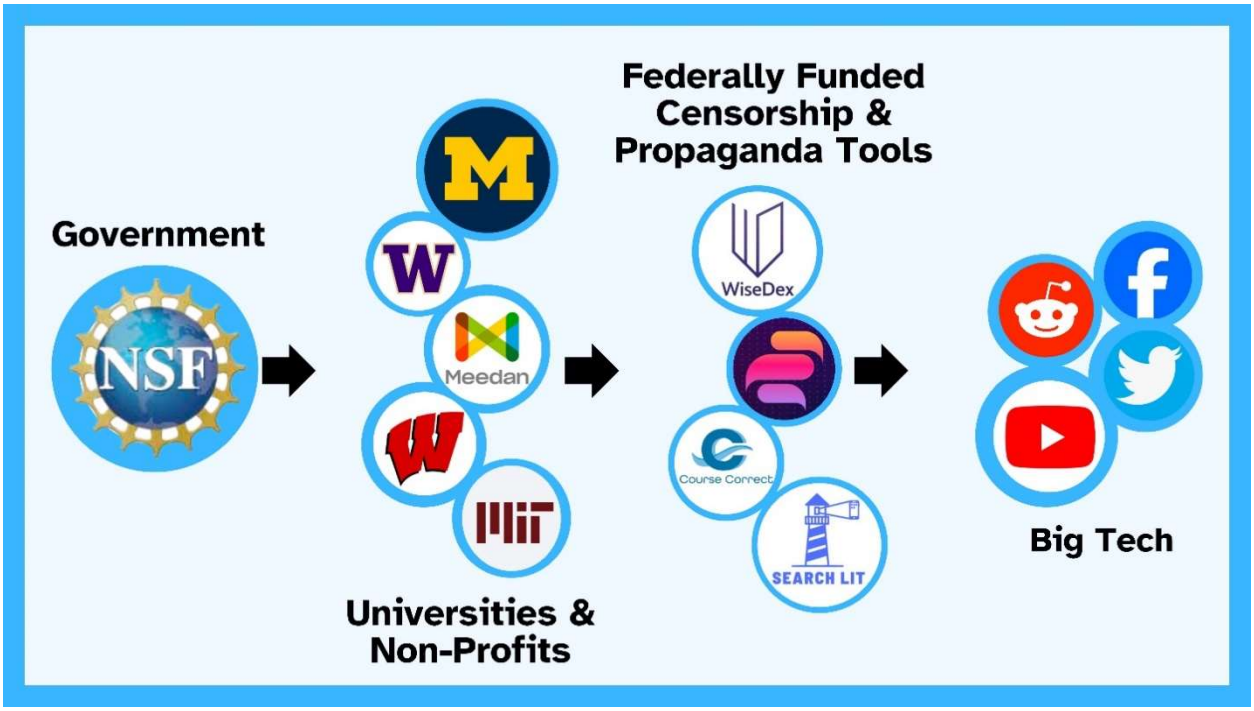
February 5, 2024

EXECUTIVE SUMMARY

> "Our misinformation service helps policy makers at platforms who want to . . . push responsibility for difficult judgments to someone outside the company . . . by *externalizing the difficult responsibility of censorship*."
>
> – Speaker's notes from the University of Michigan's first pitch to the National Science Foundation (NSF) about its NSF-funded, AI-powered WiseDex tool.[1]

This interim report details the National Science Foundation's (NSF) funding of AI-powered censorship and propaganda tools, and its repeated efforts to hide its actions and avoid political and media scrutiny.

In the name of combatting alleged misinformation regarding COVID-19 and the 2020 election, NSF has been issuing multi-million-dollar grants to university and non-profit research teams. The purpose of these taxpayer-funded projects is to develop artificial intelligence (AI)-powered censorship and propaganda tools that can be used by governments and Big Tech to shape public opinion by restricting certain viewpoints or promoting others.



Non-public documents obtained by the House Judiciary Committee and the Select Subcommittee on the Weaponization of the Federal Government demonstrate that these federal bureaucrats, "disinformation" researchers, and non-profit groups understood that their actions—

[1] The University of Michigan's WiseDex First Pitch Slide Deck entitled "Team469_First Pitch_10.27.2021.pptx" attached to an email from James Park to Michael Pozmantier (Oct. 26, 2021, 10:38 PM), at 1 (on file with the Comm.) (emphasis added).

"content moderation" and combatting so-called misinformation—amounted to "censorship."[2] And yet, NSF forged ahead, supporting new technologies that would essentially enable the censorship of online speech "at scale."

But NSF's taxpayer funding for this potential automated censorship is only half of the story. The Committee and the Select Subcommittee have also obtained, via document requests and subpoenas, nonpublic emails and other documents that reveal a years-long, intentional effort by NSF to hide its role in funding these censorship and propaganda tools from media and political scrutiny. From legal scholars, such as Jonathan Turley, to conservative journalists, NSF tracked public criticisms of its work in funding these projects. NSF went so far as to develop a media strategy that considered blacklisting certain American media outlets because they were scrutinizing NSF's funding of censorship and propaganda tools.

The First Amendment prohibits the government from "*abridging* the freedom of speech."[3] Thus, "any law or government policy that reduces that freedom on the [social media] platforms . . . violates the First Amendment."[4] To inform potential legislation, the Committee and Select Subcommittee have been investigating the Executive Branch's collusion with third-party intermediaries, including universities, non-profits, and businesses, to censor protected speech on social media. The Committee and Subcommittee have uncovered serious violations of the First Amendment throughout the Executive Branch, including:

- The Biden White House directly coercing large social media companies, such as Facebook, to censor true information, memes, and satire, eventually leading Facebook to change its content moderation policies;[5]

- Stanford's Election Integrity Partnership (EIP)—created at the request of the Department of Homeland Security's (DHS) Cybersecurity & Infrastructure Security Agency (CISA)—working with the federal government to flag thousands of links and submit recommendations directly to large social media platforms to censor Americans' online speech in the lead-up to the 2020 U.S. election;[6] and

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[2] *Id*.
[3] U.S. Const. amend. I (emphasis added).
[4] Philip Hamburger, *How the Government Justifies Its Social-Media Censorship*, WALL ST. J. (June 9, 2023); *see Smith v. California*, 361 U.S. 147, 157 (1959) (Black, J., concurring) ("Certainly the First Amendment's language leaves no room for inference that abridgments of speech and press can be made just because they are slight.").
[5] *See* Jim Jordan (@Jim_Jordan), X, (July 27, 2023, 12:03 PM), https://twitter.com/Jim_Jordan/status/1684595375875760128; Jim Jordan (@Jim_Jordan), X, (July 28, 2023, 12:03 PM), https://twitter.com/Jim_Jordan/status/1684957660515328001; Jim Jordan (@Jim_Jordan), X, (Aug. 3, 2023, 11:00 AM), https://twitter.com/Jim_Jordan/status/1687116316073930752; Jim Jordan (@Jim_Jordan), X, (Sept. 5, 2023, 6:17 PM), https://twitter.com/Jim_Jordan/status/1699184930331267539; Jim Jordan (@Jim_Jordan), X, (Nov. 30, 2023, 8:44 AM), https://twitter.com/Jim_Jordan/status/1730221179632226337; Jim Jordan (@Jim_Jordan), X, (Dec. 1, 2023, 2:26 PM) https://twitter.com/Jim_Jordan/status/1730669728002142706; *see also* Ryan Tracy, *Facebook Bowed to White House Pressure, Removed Covid Posts*, WALL ST. J. (July 28, 2023).
[6] STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF 'DISINFORMATION' PSEUDO-EXPERTS AND BUREAUCRATS: HOW THE FEDERAL GOVERNMENT PARTNERED WITH UNIVERSITIES TO CENSOR AMERICANS' POLITICAL SPEECH (Comm. Print Nov. 6, 2023); *see also* STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF CISA: HOW A "CYBERSECURITY" AGENCY COLLUDED WITH BIG TECH AND "DISINFORMATION" PARTNERS TO CENSOR AMERICANS (Comm. Print June 26, 2023).

- The Federal Trade Commission (FTC) harassing Elon Musk's Twitter (now X) because of Musk's commitment to free speech, even going so far as to target certain journalists by name.[7]

As egregious as these violations of the First Amendment are, each still faced the same limitation: the censors were *human*. Senior Biden White House officials had to spend time personally berating the social media companies into changing their content moderation policies. Social media executives expended considerable time and effort responding to the White House's threats and evaluating the flagged content. Stanford had nearly a hundred people working for the EIP in shifts flagging thousands of posts, which was only a fraction of the number of election-related posts made in the fall of 2020.[8]

But what happens if the censorship is automated and the censors are machines? There is no need for shifts or huge teams of people to identify and flag problematic online speech. AI-driven tools can monitor online speech at a scale that would far outmatch even the largest team of "disinformation" bureaucrats and researchers. This interim report reveals how NSF is using American taxpayer dollars to fund the tools that could usher in an even greater threat to online speech than the original efforts to censor speech on social media. The NSF-funded projects threaten to help create a censorship regime that could significantly impede the fundamental First Amendment rights of millions of Americans, and potentially do so in a manner that is instantaneous and largely invisible to its victims.

The Committee and the Select Subcommittee are responsible for investigating "violation[s] of the civil liberties of citizens of the United States."[9] In accordance with this mandate, this interim staff report on NSF's violations of the First Amendment and other unconstitutional activities fulfills the obligation to identify and report on the weaponization of the federal government against American citizens. The Committee's and Select Subcommittee's investigation remains ongoing. NSF still has not adequately complied with a request for relevant documents, and more fact-finding is necessary. In order to better inform the Committee's legislative efforts, the Committee and Select Subcommittee will continue to investigate how the Executive Branch worked with social media platforms and other intermediaries to censor disfavored viewpoints in violation of the U.S. Constitution.

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[7] Ryan Tracy, *FTC Twitter Investigation Sought Elon Musk's Internal Communications, Journalist Names,* WALL ST. J. (Mar. 8, 2023); STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., FIGHTING THE WEAPONIZATION OF THE INTERNAL REVENUE SERVICE: THE END OF ABUSIVE UNANNOUNCED FIELD VISITS (Comm. Print Oct. 27, 2023).

[8] STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF 'DISINFORMATION' PSEUDO-EXPERTS AND BUREAUCRATS: HOW THE FEDERAL GOVERNMENT PARTNERED WITH UNIVERSITIES TO CENSOR AMERICANS' POLITICAL SPEECH (Comm. Print Nov. 6, 2023), at 39.

[9] H. Res. 12 § 1(b)(E).

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I. THE HISTORICAL LIMITS OF HUMAN CENSORSHIP

> "For if Men are to be precluded from offering their Sentiments on a matter, which may involve the most serious and alarming consequences, that can invite the consideration of Mankind, reason is of no use to us; the freedom of Speech may be taken away, and, dumb and silent we may be led, like sheep, to the Slaughter."
>
> – George Washington's *Newburg Address to Officers of the Army*, March 15, 1783

The Committee and Select Subcommittee are investigating how and to what extent the federal government coerced or colluded with social media companies and other third parties to censor Americans' speech online. Although the medium—social media—is relatively new, the broader fight against government-issued or -directed restrictions on speech is not.

New technologies, from the printing press to the Internet, enabled more people to share their views more widely. These developments hindered governments' ability to restrict the flow of new ideas, including those that criticize the government. The promise of the Internet, and social media in particular, was to democratize speech at an unprecedented scale. More recently, social media has been credited—or blamed—with political outcomes that reflected the will of the public, rather than the establishment, such as the election of President Donald Trump in 2016 and the "Brexit" vote in 2017.[10]

The backlash from the establishment against social media was quick, severe, and thorough. In the United States, Democrats threatened repeatedly to break up American social media companies.[11] Federal law enforcement, intelligence, and other agencies all began creating and expanding offices, task forces, and boards designed to fight against so-called mis-, dis-, and malinformation.[12] The last of these—"malinformation"—is particularly pernicious and paternalistic: the U.S. government uses this term to refer to information that is true, but lacks adequate context, at least according to the government.[13] Academics across the country, often

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[10] *See, e.g.*, Issie Lapowsky, *Here's How Facebook Actually Won Trump the Presidency*, WIRED (Nov. 15, 2016); Maya Kosoff, *How Facebook and Twitter Quietly Helped Trump Win*, VANITY FAIR (Oct. 26, 2017); Dr. Richard Fletcher and Meera Selva, *How Brexit referendum voters use news*, REUTERS INSTITUTE (Nov. 25, 2019).

[11] *See, e.g.,* Marcy Gordon, *Democrats call for Congress to rein in, break up Big Tech*, AP (Oct. 6, 2020); *see also Missouri v. Biden*, 2023 WL 4335270, at *4, *47 (W.D. La. July 4, 2023); House Judiciary Committee's Transcribed Interview of Alex Stamos (June 23, 2023), at 187-188 (on file with the Comm.).

[12] *See* Ken Klippenstein, *The Government Created A New Disinformation Office to Oversee All the Other Ones,* THE INTERCEPT (May 5, 2023) ("Within the federal government, offices dedicated to fighting foreign disinformation are springing up like daisies, from the Pentagon's new Influence and Perception Management Office to at least four organizations inside the Department of Homeland Security alone, as well as ones inside the FBI and State Department. To oversee the growing efforts — which arose in response to concerns about the impact of Russian meddling in the 2016 election but have now expanded — the director of national intelligence has created a new office."); *see also* STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FEDERAL GOVERNMENT OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF CISA: HOW A "CYBERSECURITY" AGENCY COLLUDED WITH BIG TECH AND "DISINFORMATION" PARTNERS TO CENSOR AMERICANS (Comm. Print June 26, 2023).

[13] CYBERSECURITY AND INFRASTRUCTURE SEC. AGENCY, MIS-, DIS-, AND MALINFORMATION PLANNING AND INCIDENT RESPONSE GUIDE FOR ELECTION OFFICIALS, at 1 (2022), https://www.cisa.gov/sites/default/files/2022-11/mdm-incident-response-guide_508.pdf; *see also* STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE

with taxpayer dollars, began researching the pseudo-science of "disinformation."[14] The zealous overreaction in America to the dangers of "unfettered speech" online is to say nothing of what happened in Europe and elsewhere.[15]

Though these developments were expansive and troubling, there was an inherent constraint on all of them: manpower. To be sure, there has been no shortage of bureaucrats, massive "trust and safety" teams at Big Tech, and countless researchers and academics looking to cash in on the growing "censorship industrial complex."[16] But each of these segments in the censorship regime lamented the shortcomings they faced with the enormous scale of speech that is shared on social media.

For example, Brian Scully, the head of the Cybersecurity and Infrastructure Security Agency's (CISA) "Mis-, Dis-, and Malinformation" team testified that CISA's "switchboarding" process—whereby CISA officials received alleged "misinformation" reports from election officials and transmitted those reports to social media companies so that they could take enforcement measures against the reported content—was "resource intensive."[17] After engaging in the effort for the 2018 and 2020 election cycles, CISA discontinued the practice in 2022.[18]

In a similar vein, the Twitter Files revealed that the people on the receiving end of these requests—the various "trust and safety teams" at Big Tech—often felt overwhelmed. For example, in the days leading up to the 2020 U.S. election, Twitter personnel had discussions about how to handle the "backlog" of incoming requests and how to best "prioritize" them.[19] Government-funded third parties, such as the Center for Internet Security (CIS), offered to create "misinformation portals" for social media companies to better facilitate these types of requests.[20]

FEDERAL GOVERNMENT OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF CISA: HOW A "CYBERSECURITY" AGENCY COLLUDED WITH BIG TECH AND "DISINFORMATION" PARTNERS TO CENSOR AMERICANS, at 10 (Comm. Print June 26, 2023).

[14] STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF 'DISINFORMATION' PSEUDO-EXPERTS AND BUREAUCRATS: HOW THE FEDERAL GOVERNMENT PARTNERED WITH UNIVERSITIES TO CENSOR AMERICANS' POLITICAL SPEECH (Comm. Print Nov. 6, 2023); *but see* Naomi Nix et al., *Misinformation research is buckling under GOP legal attacks*, WASH. POST (Sept. 23, 2023).

[15] *See Hearing on the Weaponization of the Federal Government: Hearing Before the Select Subcomm. on the Weaponization of the Fed. Gov't of the H. Comm. on the Judiciary,* 118th Cong. (Nov. 30, 2023) (statement of Rupa Subramanya); *see also* Dave Davies, *Unfettered Free Speech Is A Threat To Democracy, Journalist Says*, NPR (Oct. 20, 2020).

[16] *Hearing on the Weaponization of the Federal Government: Hearing Before the Select Subcomm. on the Weaponization of the Fed. Gov't of the H. Comm. on the Judiciary,* 118th Cong. (Mar. 9, 2023) (statements of Matt Taibbi and Michael Shellenberger).

[17] Scully Dep. 17:1–18:1, Missouri v. Biden, No. 3:22-cv-01213 (W.D. La. 2022), ECF No. 209.

[18] STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF CISA: HOW A "CYBERSECURITY" AGENCY COLLUDED WITH BIG TECH AND "DISINFORMATION" PARTNERS TO CENSOR AMERICANS (Comm. Print June 26, 2023).

[19] *See, e.g.,* Matt Taibbi (@mtaibbi) X, (Dec. 24, 2022, 12:20 PM) https://twitter.com/mtaibbi/status/1606701448993333253.

[20] *See* STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF 'DISINFORMATION' PSEUDO-EXPERTS AND BUREAUCRATS: HOW THE FEDERAL GOVERNMENT PARTNERED WITH UNIVERSITIES TO CENSOR AMERICANS' POLITICAL SPEECH (Comm. Print Nov. 6, 2023).

Likewise, academics, even when supported by the federal government, could only monitor and report so much content at a time. For example, the Election Integrity Partnership (EIP) had nearly 100 people (plus over a dozen external stakeholders), working in shifts to monitor and report thousands of social media posts by Americans in the lead-up to the 2020 election.[21] All told, the EIP submitted over 400 misinformation reports, flagging thousands of posts with specific recommendations sent directly to Facebook, Twitter, YouTube, TikTok, and other social media platforms.[22] Although any violation of the First Amendment is alarming, the EIP's efforts led to only *thousands* of Americans' posts being targeted; new technologies could enable a much smaller team to accomplish the same task for *millions* of posts, if not entire narratives.

II. THE FEDERAL GOVERNMENT IS FUNDING AI-POWERED CENSORSHIP TOOLS

> "Across the world right now, governments, in the name of the good, are considering or adopting measures like we have in Canada. In Dublin, they're about to enact a draconian hate-crime bill that poses a dire threat to free speech. In Paris, President Emanuel Macron has called for censoring online speech. In Brussels, the EU's Internal Market Commissioner is calling for a crackdown on "illegal content." In Brasilia, they're fighting "fake news" and "disinformation" by clamping down on legitimate online speech. To say nothing of Russia and China and Iran. America is so exceptional—indispensable really. Please do not succumb to the same illiberal, the same authoritarianism. Please keep fighting for what you know is right. Canada is watching. The *whole world* is watching."[23]
>
> – Rupa Subramanya, Canadian journalist, testifying before the Select Subcommittee, November 30, 2023

With the development of artificial intelligence and machine learning, governments are recognizing that censorship of speech online has the potential to be automated. Already, authoritarian governments such as China and Russia have used AI tools to surveil their citizens' speech on the Internet.[24] In the West, including the United States, government, researchers, and non-profits are seeking to develop similar tools to monitor and censor speech "at scale" in the name of combatting so-called misinformation.

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[21] *Id*.
[22] *Id*.; *see also id.* App'x II.
[23] *Hearing on the Weaponization of the Federal Government: Hearing Before the Select Subcomm. on the Weaponization of the Fed. Gov't of the H. Comm. on the Judiciary,* 118th Cong. (Nov. 30, 2023) (statement of Rupa Subramanya).
[24] *See, e.g.*, Dasha Litvinova, *The Cyber Gulag: How Russia Tracks, Censor and Controls its Citizens*, AP (May 23, 2023); Sarah Cook, *China's Censors Could Shape the Future of AI-Generated Content*, THE JAPAN TIMES (Feb. 27, 2023); Eduardo Baptista, *China Deletes 1.4 Million Social Media Posts in Crackdown on 'Self-Media' Accounts*, REUTERS (May 27, 2023).

A. Government Censorship Has Extended to the West, including the United States

The Internet, and later social media, came with the promise of democratizing speech. However, authoritarian governments quickly showed that the Internet does not prevent powerful governments from censoring disfavored viewpoints. For example, citizens in China and Vietnam have been criminally convicted for criticizing how their country handled the COVID-19 pandemic.[25]

Anti-free speech legislation has since spread to the Western world as well. As the Canadian journalist Rupa Subramanya testified before the Select Subcommittee on the Weaponization of the Federal Government in November 2023, Canada, the United Kingdom, Ireland, and other Western liberal democracies have been enacting measures that crack down on speech.[26] In the United Kingdom, a man went to jail for tweeting a joke in poor taste.[27] In Canada, doctors face persecution if they question the country's response to the COVID lockdowns or disagree about the safety of COVID vaccines.[28]

The censorship of speech has extended into financial surveillance and de-banking. The Canadian government froze Canadian citizens' bank accounts simply for protesting vaccine mandates and draconian lockdowns.[29] A federal court in Canada recently found the government's invocation of emergency powers to crack down on these protestors to be unreasonable, but the chilling effect of this government overreach remains.[30]

The Committee and Select Subcommittee have revealed how, in the United States, the federal government solicited banks to turn over information on their customers about whether they shopped at stores such as Bass Pro Shops or purchased firearms.[31] Documents obtained by the Committee and Select Subcommittee suggest that after January 6, 2021, the Treasury Department's Office of Stakeholder Integration and Engagement in the Strategic Operations of the Financial Crimes Enforcement Network (FinCEN) provided banks with "suggested search terms and Merchant Category Codes for identifying transactions on behalf of federal law enforcement."[32]

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[25] *See*, *e.g.*, Jason Nguyen, *How Vietnam Utilizes "Fake News" Accusations To Justify Digital Repression*, THE VIETNAMESE (Sept. 20, 2022); *China Jails Citizen Journalists who Reported on COVID-19*, INTERNATIONAL PRESS INSTITUTE (Dec. 28, 2020).

[26] *Hearing on the Weaponization of the Federal Government: Hearing Before the Select Subcomm. on the Weaponization of the Fed. Gov't of the H. Comm. on the Judiciary,* 118th Cong. (Nov. 30, 2023) (statement of Rupa Subramanya).

[27] *See*, *e.g.*, Owen Bowcott, *Twitter Joke Trial Became Confrontation with Judicial Establishment*, THE GUARDIAN (July 27, 2012).

[28] Sharon Kirkey, *Ontario Doctors Give Up Licences After Complaints Over COVID Vaccine Exemptions, Misinformation*, NATIONAL POST (Apr. 18, 2023); *see also* Shawn Knox, *10/3 podcast: Jordan Peterson Willing to Risk License Over Social Media Training*, NATIONAL POST (Jan. 24, 2024).

[29] *Hearing on the Weaponization of the Federal Government: Hearing Before the Select Subcomm. on the Weaponization of the Fed. Gov't of the H. Comm. on the Judiciary,* 118th Cong. (Nov. 30, 2023) (statement of Rupa Subramanya).

[30] Rob Gillies, *Judge says Canada's use of Emergencies Act to quell truckers' protests over COVID was unreasonable*, AP (Jan. 23, 2024).

[31] Brooke Singman, *'Alarming' Surveillance: Feds Asked Banks to Search Private Transactions for Terms Like 'MAGA,' 'Trump'*, H. JUD. COMM. (Jan. 17, 2024).

[32] *Id*.

B. Free Speech Advocates Have Sounded the Alarm Regarding How Artificial Intelligence Can Lead to Censorship "At Scale"

As artificial intelligence has grown and developed, so too have concerns about its impact on free expression. Today, a growing number of voices are sounding the alarm on AI's potential to infringe on Americans' civil liberties.

Authoritarian governments, such as China and Russia, restrict what their citizens can say and what journalists can report.[33] But more alarmingly, the threats to free speech have extended to Western liberal democracies as well.

In July 2023, tech billionaire and AI entrepreneur Elon Musk founded "xAI" and, in November 2023, unveiled "Grok," an AI chatbot trained using real-time data from the social media platform X, which Musk now owns.[34] Musk introduced Grok as an alternative to OpenAI's "woke" ChatGPT and has been outspoken about the risks associated with AI's development and the need for AI regulation.[35] He has also expressed concern over President Biden's October 2023 AI executive order that pushes the Administration's radical social "equity" agenda in the name of addressing "algorithmic discrimination."[36]

In December 2022, Marc Andreesen, a co-author of Mosaic and co-founder of Netscape, warned that the "level of censorship pressure that's coming for AI and the resulting backlash will define the next century of civilization."[37] In June 2023, Andreesen wrote, "Why AI Will Save the World," declaring that AI could be "a way to make everything we care about better," but also advised that the AI censorship fight is "more important – by a *lot*" than the fight against censorship on social media.[38] He explained:

> AI is highly likely to be the control layer for everything in the world. How it is allowed to operate is going to matter perhaps more than anything else has ever mattered. You should be aware of how a small and isolated coterie of partisan social engineers are trying to determine that right now, under cover of the age-old claim that they are protecting you.[39]

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[33] *See, e.g.*, Sarah Cook, *China's Censors Could Shape the Future of AI-Generated Content*, THE JAPAN TIMES (Feb. 27, 2023); Eduardo Baptista, *China Deletes 1.4 Million Social Media Posts in Crackdown on 'Self-Media' Accounts*, REUTERS (May 27, 2023); Dasha Litvinova, *The Cyber Gulag: How Russia Tracks, Censor and Controls its Citizens*, AP (May 23, 2023).

[34] Jay Peters and Emma Roth, *Elon Musk's new xAI company launches to 'understand the true nature of the universe'*, THE VERGE (July 12, 2023).

[35] Kelby Vera, *Elon Musk Unveils 'Grok' AI Chatbot As Alternative To 'Woke' Rivals Like ChatGPT*, HUFF. POST (Nov. 6, 2023); Aaron Kliegman, *Biden administration pushing to make AI woke, adhere to far-left agenda: watchdog*, FOX NEWS (July 3, 2023); James Clayton, *'Overwhelming consensus' on AI regulation – Musk*, BBC (Sept. 13, 2023).

[36] Rounak Jain, *'Uh Oh', Says Elon Musk On President Biden Requiring AI Companies To 'Address Algorithmic Discrimination'*, BENZINGA (Oct. 31, 2023).

[37] Marc Andreesen (@pmarca), X (Dec. 4, 2022, 7:05 PM), https://twitter.com/pmarca/status/1599555565482823680.

[38] Marc Andreessen, *Why AI Will Save the World*, ANDREESEN HOROWITZ (June 6, 2023).

[39] *Id*.

Legal scholars have been warning of the First Amendment implications of AI-powered content moderation.[40] Legislators have been considering and introducing legislation that would protect against AI-driven censorship of online speech, such as bills that would prevent taxpayer dollars from going to programs using AI to "help label, suppress, and censor speech online."[41]

C. The National Science Foundation's Funding of Censorship Tools

As the distributor of multi-million-dollar grants, the National Science Foundation (NSF) is a key player in the "censorship industrial complex." In recent years, under the guise of combatting so-called misinformation, NSF has been funding AI-driven tools and other new technologies that can be used to censor or propagandize online speech.

1. The National Science Foundation

In 1950, Congress established NSF as an independent federal agency tasked with "keeping the U.S. at the leading edge of discovery in science and engineering," primarily by making grants.[42] Today, NSF has an annual budget of nearly $10 billion, over 1,500 federal employees, and 200 scientists from research institutions, issuing, on average, 12,000 awards to 2,000 grantees per year and providing about 25 percent of federal funding to America's colleges and universities for basic research.[43] Over the past two fiscal years, NSF has allocated approximately $8 billion each in both FY 2021 and FY 2022.[44]

The scope of NSF's mission has shifted over the years to encompass social and behavioral sciences. For example, NSF used to fund political science projects from the 1960s until 2012, when Congress banned such research from receiving NSF funding.[45] However, in recent years, and after the academic outcry that Americans elected President Trump only because of "Russian disinformation," NSF has spent millions of taxpayer dollars funding projects to combat alleged mis- and disinformation.[46]

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[40] *See, e.g.*, Jonathan Turley, *Bill Gates, elites want to use AI to censor political opponents*, N.Y. POST (Feb. 14, 2023); *Artificial intelligence, free speech, and the First Amendment*, FIRE, https://www.thefire.org/research-learn/artificial-intelligence-free-speech-and-first-amendment (last visited Feb. 4, 2024).
[41] Elizabeth Elkind, *GOP lawmaker aims to cut US taxpayer dollars from United Nations 'censorship' program*, FOX NEWS (Sept. 18, 2023); *see also* Chris Pandolfo and Houston Keene, *Josh Hawley says tech CEOs will 'absolutely' use AI to censor conservatives, interfere in elections*, FOX NEWS (Sept. 13, 2023).
[42] *About NSF*, NAT. SCI. FOUND., https://new.nsf.gov/about#who-we-are-ff8 (last visited Feb. 4, 2024).
[43] *Id.*; *Budget, Performance and Financial Reporting*, NAT. SCI. FOUND., https://new.nsf.gov/about/budget (last visited Feb. 4, 2024).
[44] *NSF FY 2023 Budget Request to Congress*, NAT. SCI. FOUND., https://nsf-gov-resources.nsf.gov/about/budget/fy2023/pdf/01_fy2023.pdf (last visited Feb. 3, 2024); *FY 2024 Budget Request to Congress*, NAT. SCI. FOUND., https://nsf-gov-resources.nsf.gov/2023-08/NSF%20FY24%20CJ_Entire%20Rollup_web_%28ERRATA%20v4%29.pdf (last visited Feb. 3, 2024).
[45] Charles Lane, *Congress should cut funding for political science research*, THE WASH. POST (June 4, 2012); *Congress Limits NSF Funding for Political Science*, SCIENCE MAG. Vol. 339 (Mar. 29, 2013), https://uh.edu/hobby/_docs/science-political-science.pdf.
[46] *See, e.g.*, *NSF 21-500: Secure and Trustworthy Cyberspace (SaTC) Program Solicitation*, NAT. SCI. FOUND. (Oct. 2, 2020), https://www.nsf.gov/pubs/2021/nsf21500/nsf21500.htm.

2. NSF's Convergence Accelerator Program

In 2019, NSF launched its Convergence Accelerator grant program seeking to bring together multiple disciplines, ideas, approaches, and technologies to solve "national-scale societal challenges" aligned with specific research "tracks" that "have the potential for significant national impact."[47] This two-phase program funds research teams and places them into collaborative cohorts, which work "convergently" to solve issues relevant to their track and "impact society at scale."[48]

The Convergence Accelerator grant program currently has thirteen tracks:

- Track A (2019): Open Knowledge Networks
- Track B (2019): AI and the Future of Work
- Track C (2020): Quantum Technology
- Track D (2020): AI-Innovation Data Sharing & Modeling
- Track E (2021): Networked Blue Economy
- Track F (2021): Trust & Authenticity in Communication Systems
- Track G (2021): Securely Operating Through 5G Infrastructure
- Track H (2022): Enhancing Opportunities for Persons with Disabilities
- Track I (2022): Sustainable Materials for Global Challenges
- Track J (2022): Food & Nutrition Security
- Track K (2023): Equitable Water Solutions
- Track L (2023): Real-World Chemical Sensing Applications
- Track M (2023): Bio-Inspired Design Innovations

3. NSF's Track F: The Censorship Program

In March 2021, NSF introduced Track F: Trust & Authenticity in Communication Systems, allocating $21 million to the program.[49] For Track F, NSF solicited proposals to address the manipulation or "unanticipated negative effects" of communication systems—a departure from the Convergence Accelerator program's other, more concrete research topics.[50]

The euphemistic "trust and authenticity in communication systems," in fact, means combatting so-called "misinformation," *i.e.*, censorship. In an early draft solicitation, NSF indicated that Track F projects will "address issues of trust and authenticity in communication systems, including *predicting, preventing, detecting, correcting, and mitigating the spread of inaccurate information* that harms people and society."[51] As NSF's Track F program manager,

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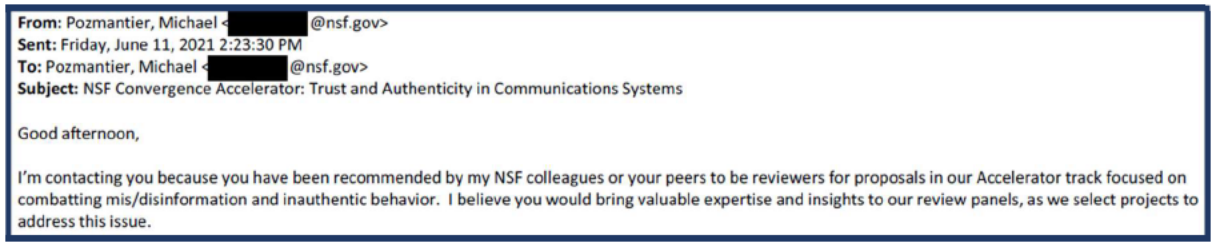
[47] *NSF Convergence Accelerator Phases 1 and 2 for the 2023 Cohort - Tracks K, L, M*, NAT. SCI. FOUND. (May 16, 2023), https://nsf-gov-resources.nsf.gov/solicitations/pubs/2023/nsf23590/nsf23590.pdf
[48] *Id*.
[49] *Convergence Accelerator Portfolio*, NAT. SCI. FOUND, https://new.nsf.gov/funding/initiatives/convergence-accelerator/portfolio (last visited Feb. 4, 2024).
[50] *Funding Opportunity: NSF Convergence Accelerator Phase I and II for the 2021 Cohort*, NAT. SCI. FOUND. (Mar. 18, 2021).
[51] Draft of NSF 2021 Convergence Accelerator Program Solicitation entitled "NSF Convergence Accelerator Phase I and II mgmt plan FY 2021 2021-01-04.docx," attached to a January 10, 2021 NSF email (emphasis added).

Michael Pozmantier, explained more plainly in a June 2021 email, Track F is the NSF "Accelerator track focused on combatting mis/disinformation."[52]



From: Pozmantier, Michael <[redacted]@nsf.gov>
Sent: Friday, June 11, 2021 2:23:30 PM
To: Pozmantier, Michael <[redacted]@nsf.gov>
Subject: NSF Convergence Accelerator: Trust and Authenticity in Communications Systems

Good afternoon,

I'm contacting you because you have been recommended by my NSF colleagues or your peers to be reviewers for proposals in our Accelerator track focused on combatting mis/disinformation and inauthentic behavior. I believe you would bring valuable expertise and insights to our review panels, as we select projects to address this issue.

On March 18, 2021, NSF issued the funding opportunity for Track F, ultimately asking applicants to propose solutions involving AI-powered tools to help Big Tech combat misinformation as well as provide "education and training materials" for school children and communities that might "exhibit different vulnerabilities to disinformation methods."[53]

In September 2021, after receiving dozens of proposals, NSF publicly announced the 24 research teams it had selected for its 2021 cohort (Tracks E and F), awarding twelve Track F teams $750,000 each (a total of $9 million) to develop and refine their project ideas and build partnerships in Phase 1.[54] During this year-long initial planning phase, the teams participated in a nine-month-long NSF program to "advanc[e] their initial idea to a proof of concept" and develop pitch presentations to deliver to "various stakeholders including potential partners, investors and end users" at NSF's annual Convergence Accelerator Expo.[55]

Ultimately, after the teams made their case for continued funding at NSF's July 2022 Expo, in September 2022, NSF selected six of the original twelve "Phase 1" Track F teams to move to "Phase 2," each receiving an additional $5 million (for a total of $30 million) over the next two years to further develop, scale, and sustain their projects beyond NSF support.[56] In all, NSF allocated a total of $39 million to the various Track F teams.

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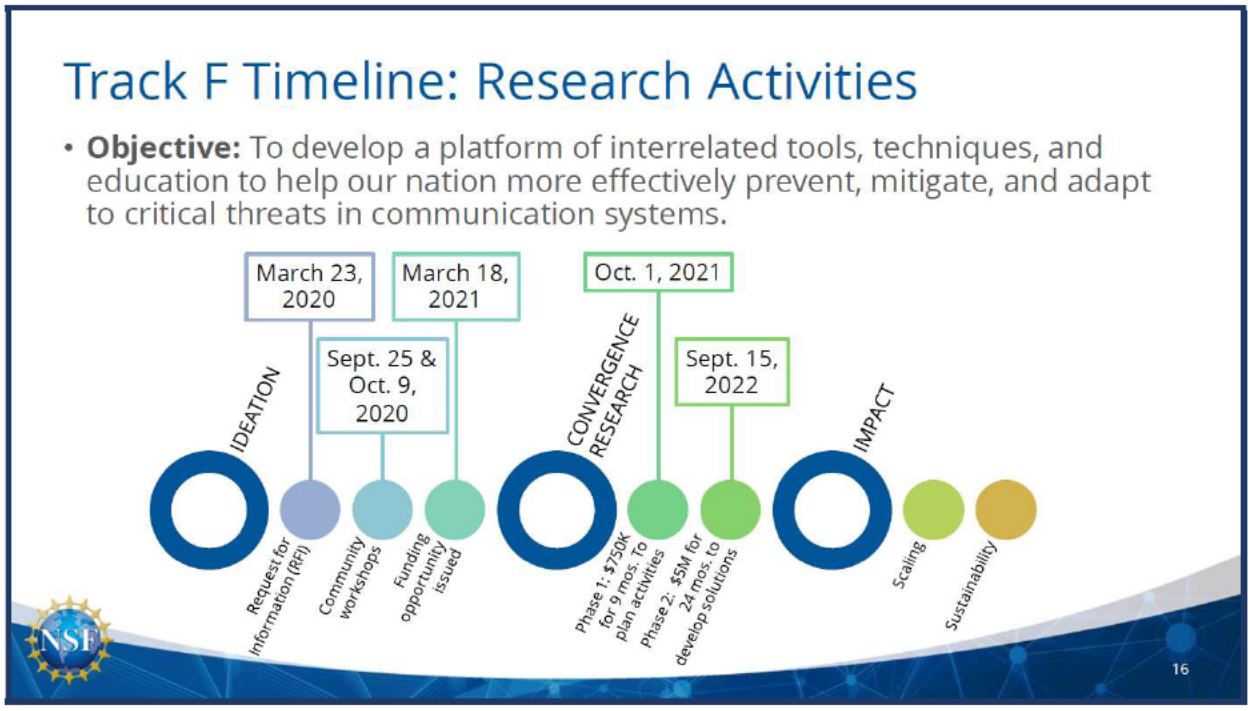
[52] Email from Michael Pozmantier to Michael Pozmantier (June 11, 2021, 2:23 PM) (on file with the Comm.).
[53] *See* NSF Convergence Accelerator 2021 Cohort Program Solicitation, NAT. SCI. FOUND. (Mar. 18, 2021), https://nsf-gov-resources.nsf.gov/solicitations/pubs/2021/nsf21572/nsf21572.pdf ("Projects in Track F will pursue a convergence research agenda and leverage multi-sector partnerships to address issues of trust and authenticity in communication systems, including predicting, preventing, detecting, correcting, and mitigating the spread of *inaccurate information* that harms people and society.") (emphasis added).
[54] *NSF invests $21 million to tackle 2 complex societal challenges: the networked blue economy, and trust and authenticity in communication systems*, NAT. SCI. FOUND. (Sep. 22, 2021), https://www.nsf.gov/news/special_reports/announcements/092221.jsp.
[55] *Convergence Accelerator Program Model*, NAT. SCI. FOUND., https://new.nsf.gov/funding/initiatives/convergence-accelerator/program-model.
[56] *NSF Convergence Accelerator Phases 1 and 2 for the 2023 Cohort – Tracks K, L, M,* NAT. SCI. FOUND. (May 12, 2023), https://new.nsf.gov/funding/opportunities/nsf-convergence-accelerator-phases-1-2-2023-cohort.



This interim report focuses on four of those original twelve Track F recipients and their NSF-funded projects, which received a combined $13 million in American taxpayer dollars:

- the University of Michigan and its WiseDex tool ($750,000);
- Meedan and its Co-Insights tool ($5.75 million);
- the University of Wisconsin-Madison and its CourseCorrect tool ($5.75 million); and
- Massachusetts Institute of Technology (MIT) and its Search Lit platform ($750,000).

D. Censorship and Propaganda in Action: Universities and Non-Profits Develop AI Tools and Other New Technologies to Censor at Scale with Help of Federal Funding

Under the guise of addressing critical threats to communications systems and "combatting mis/disinformation,"[57] NSF has provided millions of taxpayer dollars to university researchers for the development of advanced censorship tools. One research team, led by researchers at the University of Michigan, used the $750,000 it received from NSF to examine how AI could help Big Tech handle and outsource the "responsibility of censorship" on social media.

[57] *See* email from Michael Pozmantier to Michael Pozmantier (June 11, 2021, 2:23 PM) (on file with the Comm.).

1. The University of Michigan: WiseDex

In September 2021, through its Track F program, NSF awarded a group of researchers at the University of Michigan $750,000 to develop two services:

1. A "golden set" service that determines what content is misinformation "that deserves enforcement" each month; and

2. A forecasting application programming interface (API) that can tell a social media platform "for any content item" how true that content is to aid in "a platform's decision procedures" (*i.e.*, whether the content should be censored).[58]

The University of Michigan intended to use the federal funding to develop its tool "WiseDex," which could use AI technology to assess the veracity of content on social media and assist large social media platforms with what content should be removed or otherwise censored.[59] As noted by the team's head researcher, "The original goal of the project was to develop processes that would have public legitimacy, which social media platforms could use for taking enforcement action against misinformation."[60]

Documents show that NSF was aware that federal tax dollars would be supporting a tool used for censorship.

From: James Park [redacted]@umich.edu]
Sent: 10/26/2021 10:38:52 PM
To: [redacted]@strategixmanagement.com
CC: [redacted]@nsf.gov
Subject: Team 469 - first pitch slides
Attachments: Team469_First Pitch_10.27.2021.pptx

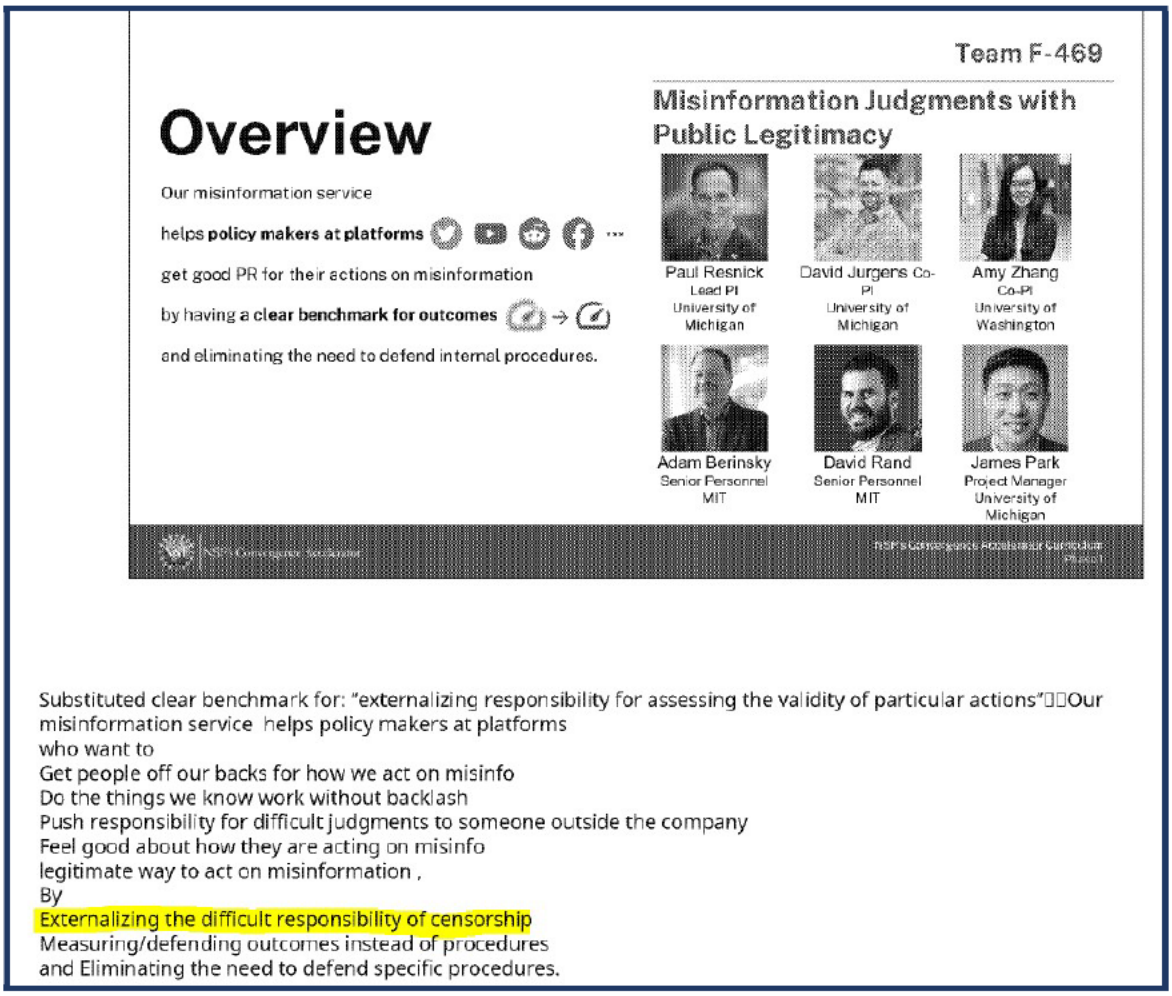
Hello, Convergence Accelerator team,

Please find attached the slides for Team 469's first pitch. We look forward to seeing you all tomorrow.

The Committee and Select Subcommittee have obtained October 2021 presentation slides with speaker's notes that shed light on this point. In the University of Michigan's "first pitch"[61]

[58] *Award Abstract # 2137469: NSF Convergence Accelerator Track F: Misinformation Judgments with Public Legitimacy*, NAT. SCI. FOUND., (last updated Jan. 30, 2024), https://www.nsf.gov/awardsearch/showAward?AWD_ID=2137469.
[59] *Id.*
[60] *Id.*
[61] Email from James Park to NSF Convergence Accelerator team (October 26, 2021, 10:38 PM) (on file with the Comm.).

to the NSF Convergence Accelerator, the researchers marketed WiseDex as a way for "policy makers at platforms" to "externaliz[e] **the difficult responsibility of censorship**."[62]



The speaker's notes also reveal how federal bureaucrats and "disinformation" pseudo-scientists talk about their work in private. Although these statements plainly violate the First Amendment, NSF continued to fund the University of Michigan's $750,000 project directed toward "censorship." In fact, these candid remarks were made to NSF just one month after NSF awarded the University of Michigan $750,000 in Phase 1 funding in late September 2021.[63]

About six months later, in July 2022, the WiseDex team made a presentation at NSF's annual "Convergence Accelerator Expo" to an audience that included interested parties in the public and private sector as well as other research teams that had received NSF funding. In advance of the 2022 Expo, the University of Michigan team emailed representatives at major social media platforms, inviting them to the Expo and describing WiseDex as a tool that

[62] The University of Michigan's WiseDex First Pitch Slide Deck entitled "Team469_First Pitch_10.27.2021.pptx" attached to an email from James Park to Michael Pozmantier (Oct. 26, 2021, 10:38 PM), at 1 (on file with the Comm.) (emphasis added).

[63] *Award Abstract # 2137469: NSF Convergence Accelerator Track F: Misinformation Judgments with Public Legitimacy,* NAT. SCI. FOUND. (last updated Jan. 30, 2024).

"harnesses the wisdom of crowds and AI techniques to help flag more posts."[64] The University of Michigan team explained further that the "result is more comprehensive, equitable, and consistent enforcement, significantly reducing the spread of misinformation."[65] In its agenda presentation notes for the Expo, the Michigan team explained that the WiseDex tool will enable the "scaling-up enforcement of misinformation policies" on social media.[66] Put more plainly, WiseDex would facilitate the censorship of speech online at a speed and in a manner that human censors are not capable.

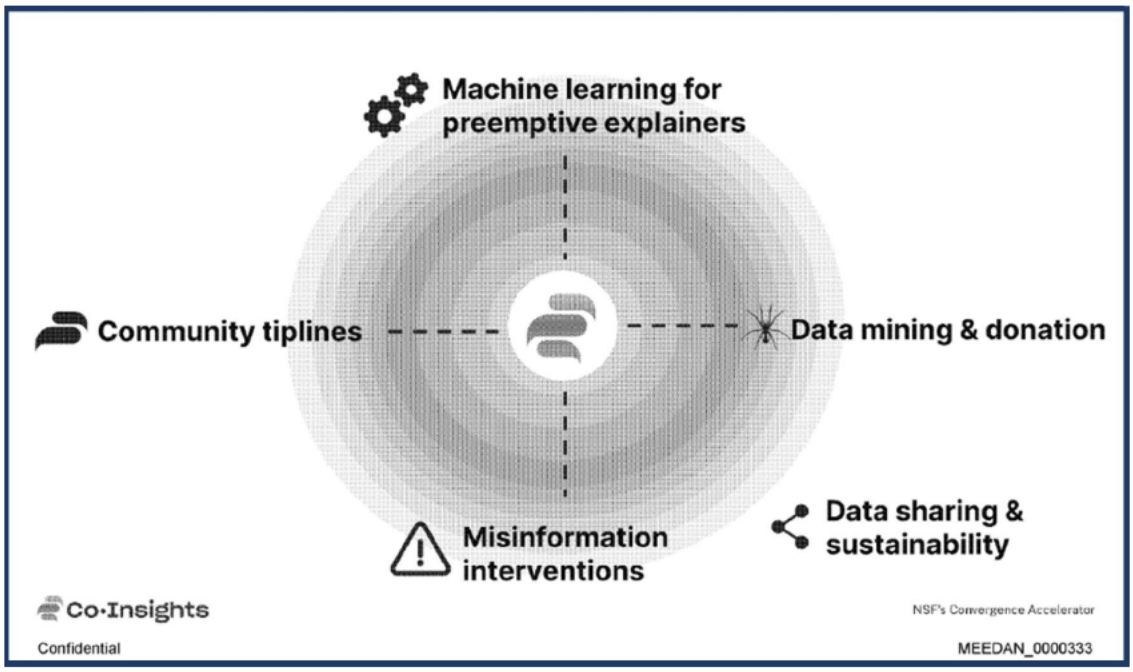
2. Meedan: Co-Insights

Meedan is a non-profit that, among other things, builds software to combat alleged misinformation online.[67] In May 2020, Scott Hale, Meedan's Director of Research, contacted NSF about Meedan's interest in the Convergence Accelerator program, noting in an email that Meedan's vision was to build software and run training and programs "to counter misinformation online" and "advance the state-of-art in misinformation research."[68] On May 5, 2021, Meedan sent NSF an official letter expressing its intent to apply for NSF's Track F.[69] If it were to receive taxpayer dollars, Meedan would leverage its "relationships and experience" with WhatsApp, Telegram, and Signal to develop approaches that proactively "identify and limit susceptibility to misinformation" and "pseudoscientific information online."[70] This included "[o]pen-web crawling and controversy detection identifying possibly [*sic*] content for fact-checking."[71] Ultimately, NSF awarded Meedan's project $5.75 million through its Track F program.[72]

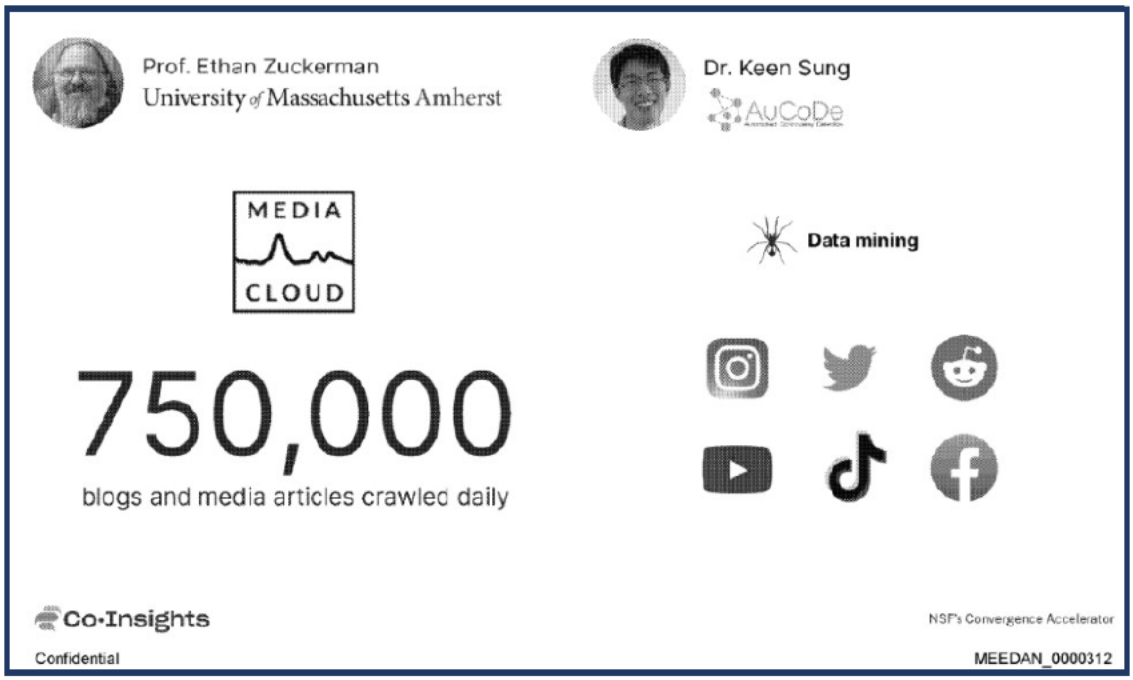
Meedan's project went through multiple name changes, including "FACT CHAMP": "Fact-checker, Academic, and Community Collaboration Tools: Combating Hate, Abuse, and Misinformation with Minority-led Partnerships."[73] By the summer of 2022, it had the name that it has today: Co-Insights. The project's purpose is to use "data and machine learning" to "identify, preempt, and respond to misinformation in minioritized [*sic*] communities."[74]

[64] Email from WiseDex team to multiple recipients, including representatives from major social media platforms (July 13, 2022, 10:23 PM) (on file with the Comm.).
[65] *Id*.
[66] WiseDex team's agenda presentation notes for 2022 Expo (Feb. 2022), at 2 (on file with the Comm.).
[67] *Mission,* MEEDAN, https://meedan.com/mission; *see also Check*, MEEDAN, https://meedan.com/check.
[68] Email from Scott Hale to NSF personnel (May 5, 2020, 2:41 AM) (on file with the Comm.).
[69] Meedan's Letter of Intent to Propose to NSF's Convergence Accelerator Track F program (May 5, 2021), at 1 (on file with the Comm.).
[70] *Id.*
[71] Email from Meedan to NSF personnel (Aug. 30, 2021, 8:54 AM) (on file with the Comm.).
[72] *FACT CHAMP: New project to increase collaboration between fact-checkers, academics, and community leaders to counter misinformation online*, MEEDAN (Sept. 27, 2021); *Co·Insights wins $5m from the National Science Foundation*, MEEDAN (Oct. 17, 2022).
[73] Email from Scott Hale to NSF personnel (Sept. 7, 2021, 4:13 PM) (on file with the Comm.).
[74] Meedan's Oral Pitch Slide Deck entitled "F032-Co-Insights-Slides-v2.pdf" attached to an email from Scott Hale to Michael Pozmantier (June 27, 2022, 7:33 PM), at 6 (on file with the Comm.).

In its pitch to NSF for an additional $5 million in Phase 2 funding, Meedan's Co-Insights team again explained how its project used a variety of advanced tools to inform "misinformation interventions."[75]

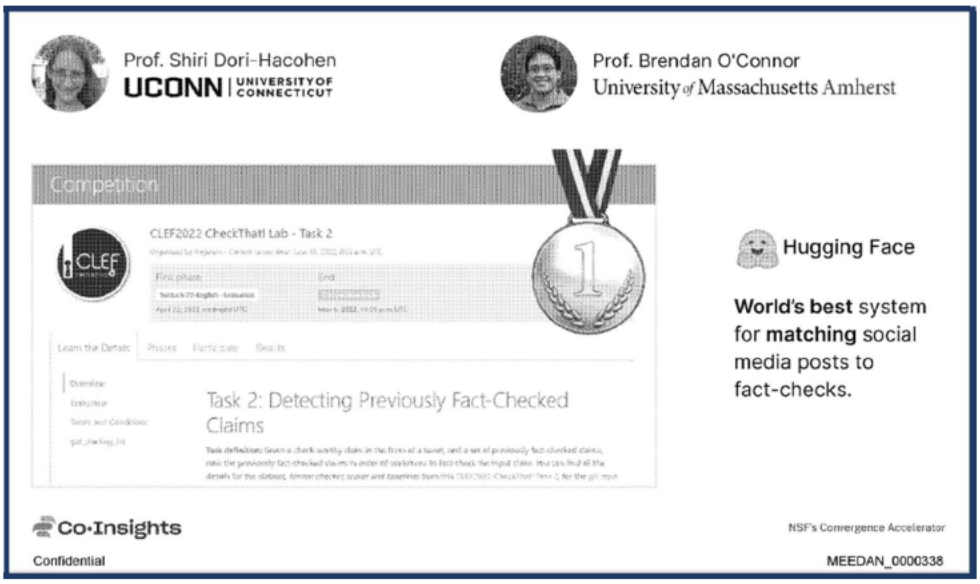


For example, in one slide, the team boasted that it was using AI to monitor 750,000 blogs and media articles daily as well as mine data from the major social media platforms.[76]



[75] *Id.*, at 8.
[76] *Id.*, at 18.

In another presentation slide, the Co-Insights team declared that it had the "world's best system for matching social media posts to fact-checks."[77]

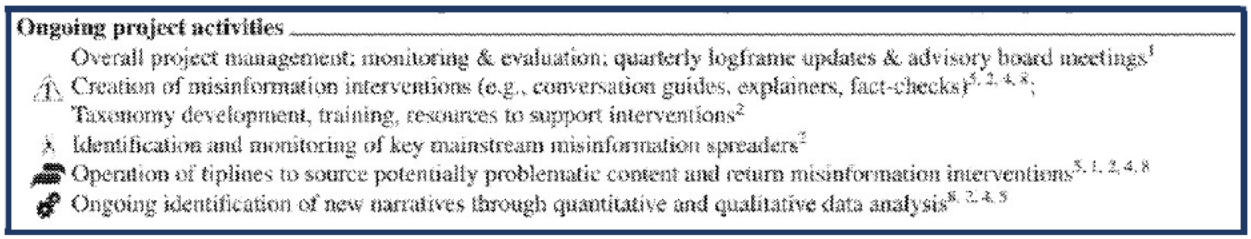


As part of its presentation to NSF, Co-Insights emphasized that it would monitor and respond to "common misinformation narratives," such as:

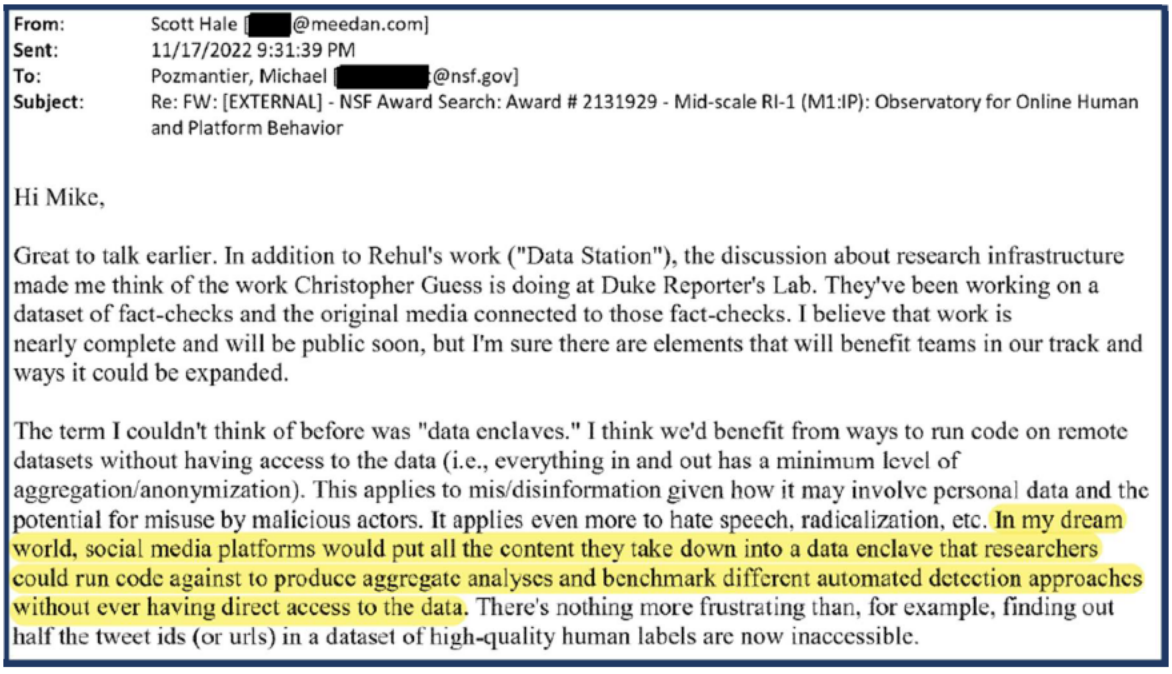
- "Fearmongering and anti-Black narratives," such as criticizing the *New York Times* for "ignoring Black-on-Asian hate crimes," and
- "Undermining trust in mainstream media."[78]

[77] *Id.*, at 13.
[78] *Id.*, at 14.

The project would also operate "tiplines to source potentially problematic content and return misinformation interventions."[79]



These efforts by Meedan, funded by NSF, were part of a much larger, long-term goal by the non-profit. As Hale, the Director of Research at Meedan, explained in an email to NSF, in his "dream world," Big Tech would collect all of the censored content to enable "disinformation" researchers to use that data to create "automated detection" to censor any similar speech automatically.[80]



From: Scott Hale [[redacted]@meedan.com]
Sent: 11/17/2022 9:31:39 PM
To: Pozmantier, Michael [[redacted]@nsf.gov]
Subject: Re: FW: [EXTERNAL] - NSF Award Search: Award # 2131929 - Mid-scale RI-1 (M1:IP): Observatory for Online Human and Platform Behavior

Hi Mike,

Great to talk earlier. In addition to Rehul's work ("Data Station"), the discussion about research infrastructure made me think of the work Christopher Guess is doing at Duke Reporter's Lab. They've been working on a dataset of fact-checks and the original media connected to those fact-checks. I believe that work is nearly complete and will be public soon, but I'm sure there are elements that will benefit teams in our track and ways it could be expanded.

The term I couldn't think of before was "data enclaves." I think we'd benefit from ways to run code on remote datasets without having access to the data (i.e., everything in and out has a minimum level of aggregation/anonymization). This applies to mis/disinformation given how it may involve personal data and the potential for misuse by malicious actors. It applies even more to hate speech, radicalization, etc. In my dream world, social media platforms would put all the content they take down into a data enclave that researchers could run code against to produce aggregate analyses and benchmark different automated detection approaches without ever having direct access to the data. There's nothing more frustrating than, for example, finding out half the tweet ids (or urls) in a dataset of high-quality human labels are now inaccessible.

The millions of taxpayer-funding notwithstanding, NSF considered whether it could recruit other, existing, successful AI companies and persuade them to wield their tools for purposes of "content moderation." For example, in January 2023, Pozmantier, the NSF Track F project manager, emailed Meedan's Hale about NSF's interactions with "Storytell," which is a Chrome extension that uses AI to "automatically" summarize any page, including YouTube

[79] *Id.*, at 28.
[80] Email from Scott Hale to Michael Pozmantier (Nov. 17, 2022, 9:31 PM) (on file with the Comm.).

videos.[81] According to Pozmantier, NSF had been engaging with Storytell, and the company had "been open to listening to content moderation as a use case," *i.e.*, Storytell would consider NSF's idea of repurposing its AI technology to be used for content moderation.[82]

From: Scott Hale [[redacted]@meedan.com]
Sent: 1/19/2023 11:13:01 PM
To: Pozmantier, Michael [[redacted]@nsf.gov]
Subject: Re: [EXTERNAL] - Fwd: Mike - RE: Storytell Chrome Extension; beta release. Interested?

Cool. I don't know the business model they're wanting to pursue, but I'd certainly be open to talking with them and seeing if there was some proof of concept we could help them do to demonstrate the value to fact-checkers. The amount of video we see coming to fact-checking tiplines on WhatsApp is continually increasing. We probably see the most video in Brazil right now, although I realize their tech might be English only at the moment.

On Thu, Jan 19, 2023 at 6:09 PM Pozmantier, Michael <[redacted]@nsf.gov> wrote:

I've been asking them if they plan to have this tool in a format that can be used at a greater scale, they've said they want to have something like that down the line. But specific feedback like yours will help drive them that way, they've been open to listening to content moderation as a use case.

From: Scott Hale [[redacted]@meedan.com]
Date: Thursday, January 19, 2023 at 6:07 PM
To: "Pozmantier, Michael" <[redacted]@nsf.gov>
Subject: Re: FW: [EXTERNAL] - Fwd: Mike - RE: Storytell Chrome Extension; beta release. Interested?

Thanks, Mike,

This looks like nice technology, but I'm not sold on the Chrome extension format. For me, this would be much better as an API that could be used in one of two ways:

1) summarizing videos and breaking out key segments could be very useful for fact-checkers assessing video content. One of the annoying things about fact-checking YouTube, TikTok, etc. is that fact-checkers generally have to watch the video before knowing what claims are being made and determining whether it's worth fact-checking those

2) summarizing larger datasets to spot patterns and trends - there's reference to this feature in the video, but I don't see how that currently works with the Chrome extension format. Ideally, I'd point it at a dataset of content, and it would be able to generate a report, summarize themes from multiple pieces of content, identify key pieces of content, etc. to help me make sense of that large dataset. For us, this would be spotting trends and longer-term themes in social media content that might benefit from pre-emptive explainers. For others, I could imagine it summarizing free-text responses to surveys, etc.

Best wishes,
Scott

On Thu, Jan 19, 2023 at 5:50 PM Pozmantier, Michael <[redacted]@nsf.gov> wrote:

Love to hear what you all think about this tool. Appears to work pretty well at pulling information from videos, but currently doesn't do much at scale.

[81] Email from Michael Pozmantier to Scott Hale (Jan. 19, 2023, 5:50 PM) (on file with the Comm.); *see also Storytell.ai: ChatGPT with your Content*, CHROME WEB STORE, https://chromewebstore.google.com/detail/storytellai-chatgpt-with/khggnjoomjjihbjjkpbhmpelgcdodjpj (last visited Feb. 4, 2024).
[82] Email from Michael Pozmantier to Scott Hale (Jan. 19, 2023, 6:09 PM) (on file with the Comm.).

3. The University of Wisconsin: CourseCorrect

Beginning in September 2021, through its Track F program, NSF awarded a group of researchers at the University of Wisconsin-Madison a total of $5.75 million to develop a tool to "empower efforts by journalists, developers, and citizens to fact-check" "delegitimizing information" about "election integrity and vaccine efficacy" on social media.[83] UW-Madison's CourseCorrect tool would allow "fact-checkers to perform rapid-cycle testing of fact-checking messages and monitor their real-time performance among online communities at-risk of misinformation exposure."[84]

Like Michigan's WiseDex, the University of Wisconsin-Madison's CourseCorrect project harnessed AI and machine learning techniques to address misinformation on social media.[85] Unlike WiseDex, the University of Wisconsin-Madison researchers made clear that their project was specifically focused on "address[ing] two democratic and public health crises facing the U.S.: skepticism regarding the integrity of U.S. elections and hesitancy related to COVID-19 vaccines."[86] To do so, CourseCorrect spent over $5 million in taxpayer money working to "identify, test, and correct real-world instances" of COVID-19, election-related, and other forms of "dangerous misinformation" on social media and scale and sustain the project beyond NSF support.[87]

4. MIT: Search Lit

In September 2021, through its Track F program, NSF awarded $750,000 to a group of researchers at the Massachusetts Institute of Technology (MIT) to develop "effective interventions" to educate Americans—specifically, those that the MIT researchers alleged "may be more vulnerable to misinformation campaigns"—on how to discern fact from fiction online.[88] In particular, the MIT team believed that conservatives, minorities, and veterans were uniquely incapable of assessing the veracity of content online.[89]

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[83] *Award Abstract # 2137724: NSF Convergence Accelerator Track F: How Large-Scale Identification and Intervention Can Empower Professional Fact-Checkers to Improve Democracy and Public Health*, NAT. SCI. FOUND. (last updated Sep. 20, 2021), https://www.nsf.gov/awardsearch/showAward?AWD_ID=2137724.
[84] *Id.*
[85] CourseCorrect Slide Deck entitled "Intervention_July_v3.pptx" (created July 20, 2023, 11:59 AM), at 2, 3, 10-12 (on file with the Comm.).
[86] *Award Abstract # 2137724: NSF Convergence Accelerator Track F: How Large-Scale Identification and Intervention Can Empower Professional Fact-Checkers to Improve Democracy and Public Health*, NAT. SCI. FOUND. (last updated Sep. 20, 2021), https://www.nsf.gov/awardsearch/showAward?AWD_ID=2137724.
[87] *Id.*
[88] *Award Abstract # 2137530: NSF Convergence Accelerator Track F: Adapting and Scaling Existing Educational Programs to Combat Inauthenticity and Instill Trust in Information*, NAT. SCI. FOUND. (last updated Dec. 7, 2023), https://www.nsf.gov/awardsearch/showAward?AWD_ID=2137530.
[89] *Id.*

The MIT project targeted individual groups and designed propaganda tools aimed at "educating" rural and indigenous communities, military veterans, older adults, and military families—all of whom the researchers claimed were unusually susceptible to "misinformation campaigns" online.[90]

In one project proposal document to NSF, the researchers explained the need for "a *proactive* suite of human technologies" to assist these groups with "dangerous digital content" because "*reactive*" content moderation is too slow and ineffective.[91] In order to build "a more digitally discerning public," the Search Lit team proposed developing tools that could support the government's viewpoint on COVID-19 public health measures and the 2020 election.[92]

III. THE FEDERALLY FUNDED CENSORS: PARTISAN AND CONDESCENDING

> In her ethnographic study of two conservative groups, Tripodi (2018) found that information-seekers engage in a distinct set of media practices tied to the way they see the world. One practice centered around the close reading of textual documents deemed sacred (e.g. the Bible or the Constitution). By inverting traditional assumptions that truth is only curated at the top, this media practice allows for everyday people to act as subject matter experts. These practices, which developed and emerged in a print era, have been adapted to online search practices. Because interviewees distrusted both journalists and academics, they drew on this practice to fact check how media outlets reported the news.
>
> * * *
>
> While lateral readers try to find secondary sources that reliably summarize expert consensus on sources and claims (Wineburg & McGrew, 2017; Caulfield, 2017), respondents often focused on reading a wide array of *primary* sources, and performing their own synthesis (Tripodi, 2018).
>
> – MIT's 2021 Proposal to NSF ($750,000 ultimately awarded)

The nonpublic communications and documents obtained by the Committee and Select Subcommittee demonstrate that (1) the "disinformation" academics understood their work as part of a partisan project; and (2) the bureaucrats and so-called "experts" in this space have complete disdain for most of the American population.

[90] *Id.*
[91] *Id.*; MIT's summary of its Search Lit proposal to NSF, at 2 (on file with the Comm.) (emphasis in original).
[92] MIT Search Lit team's annual report to NSF (Dec. 1, 2022), at 20-23 (on file with the Comm.).

A. In Their Own Words, "Disinformation" Pseudo-Scientists Describe Their Work As "Political" and "Censorship"

In response to the Committee and Select Subcommittee's investigation into government-directed censorship, mainstream media outlets have largely characterized "mis- and disinformation" researchers as apolitical academics pursuing serious research free of political biases or agendas.[93] But the very same disinformation "experts" making these public claims, such as the University of Washington's Dr. Kate Starbird, have acknowledged privately that working to counter disinformation is "inherently political"[94] and is itself a form of "censorship."[95]

The NSF-funded researchers at the University of Michigan, University of Washington, and MIT privately explained that their work is involved with the "difficult *responsibility* of censorship," a statement that implies these "experts" bear the burden of determining for everyone

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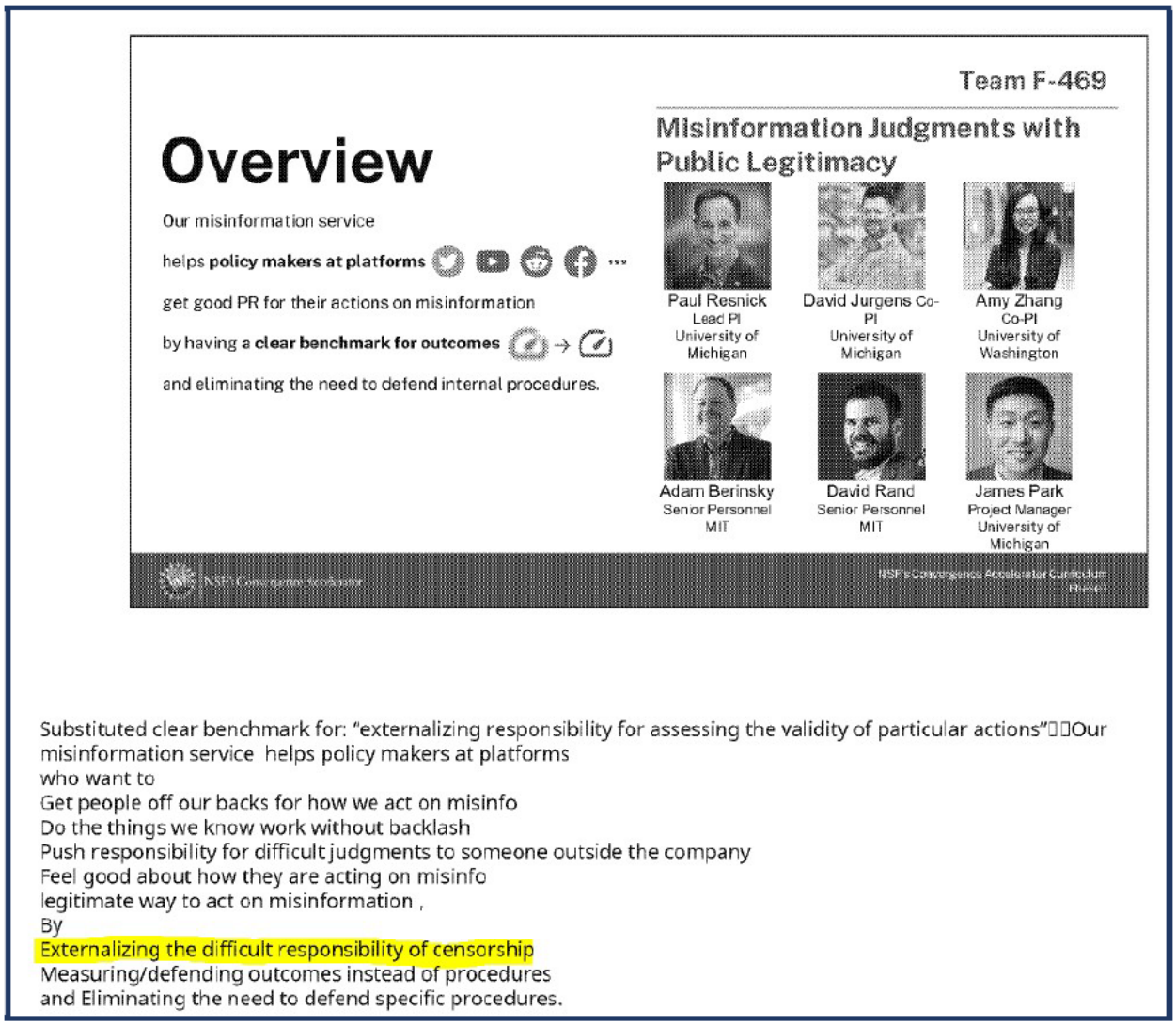
[93] *See, e.g.*, Naomi Nix, et al., *Misinformation research is buckling under GOP legal attacks*, THE WASH. POST (Sept. 23, 2023); Kate Starbird, *UW misinformation researchers will not buckle under political attacks*, SEATTLE TIMES (Oct. 6, 2023).

[94] Email from Suzanne Spaulding (Google Docs) to Kate Starbird (May 16, 2022, 6:27 PM) (on file with the Comm.); *see also* Kate Starbird et al., Proposal to the National Science Foundation for "Collaborative Research: SaTC: Core: Large: Building Rapid-Response Frameworks to Support Multi-Stakeholder Collaborations for Mitigating Online Disinformation" (Jan. 29, 2021) (unpublished proposal) (on file with the Comm.) ("The study of disinformation today invariably includes elements of politics.").

[95] The University of Michigan's WiseDex First Pitch Slide Deck entitled "Team469_First Pitch_10.27.2021.pptx" attached to an email from James Park to Michael Pozmantier (Oct. 26, 2021, 10:38 PM), at 1 (on file with the Comm.) (emphasis added).

else what is good information and what is not.[96] Even if this statement was not so remarkably paternalistic, it would still be an unconstitutional use of federal taxpayer dollars.



Renée DiResta, another prominent disinformation researcher at the Stanford Internet Observatory (SIO), disclosed in her notes for a fall 2021 presentation at an annual CISA Summit that the EIP was designed to fill the "gap" that the federal government could not fill. Her presentation notes state that there were "[u]nclear legal authorities including *very real 1st amendment questions*."[97]

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[96] *See id.*

[97] "CISA keynote.pptx" attach. to email from Renée DiResta to Kenneth Bradley and Amanda Glenn (Oct. 6, 2021, 3:58 PM) (on file with the Comm.); *see also* email from Renée DiResta to Kenneth Bradley and Amanda Glenn (Oct. 6, 2021, 3:58 PM) (on file with the Comm.) (DiResta writes, "I was just writing out the full script into the speaker notes in case the teleprompter was the best bet."); STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF 'DISINFORMATION' PSEUDO-EXPERTS AND BUREAUCRATS: HOW THE FEDERAL GOVERNMENT PARTNERED WITH UNIVERSITIES TO CENSOR AMERICANS' POLITICAL SPEECH (Comm. Print Nov. 6, 2023).

As the Committee and Select Subcommittee have detailed in earlier reports, a full accounting of the content that the EIP flagged for social media platforms reveals the political leanings of the academics; though Americans on both sides of the political spectrum were censored, conservatives were targeted disproportionately.[98] Similarly, the Twitter Files revealed that Republicans were censored at a rate of at least "ten-to-one" as Democrats.[99] And the lead litigator in *Missouri v. Biden* testified to the Select Subcommittee that "the vast majority" of examples of censorship uncovered in discovery in that case were of conservative speech.[100]

B. NSF-Funded Researchers Believe the American Public is Not Smart Enough to Discern Fact from Fiction, Especially Conservatives, Minorities, and Veterans

Littered throughout these researchers' federally funded projects is the paternalistic assumption that particular groups of American citizens are uniquely unable to differentiate between truth and falsehood online. As the MIT-led researchers explained in a summary of their project proposal to NSF, "broad swaths of the public cannot effectively sort truth from fiction online."[101] In particular, the Search Lit team singled out the following demographics:

- "rural and indigenous communities;"
- "military veterans, older adults, and military families;" and
- "older adults."[102]

As part of their efforts to target military families, NSF proposed working "with educators in the Department of Defense Education Activity (DoDEA) group, the organization that runs [Defense Department] schools on military bases, to adapt our innovations to both directly serve children in military families and *then have students share their new learning with their families*."[103] Put plainly, Search Lit sought to help train the children of military families to help influence the beliefs of military families. When Search Lit "discussed these ideas with DoDEA stakeholders, they immediately brought up concerns about military personnel involvement in the January 6 assault on the Capitol and the subsequent anti-extremism training that is a military priority."[104]

In support of their case for NSF funding, the MIT-led researchers cited a study "of two conservative groups" performed by a Search Lit team member, Francesca Tripodi, examining the "online search practices" of Americans who hold "the Bible or the Constitution" as "sacred" and

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[98] STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF 'DISINFORMATION' PSEUDO-EXPERTS AND BUREAUCRATS: HOW THE FEDERAL GOVERNMENT PARTNERED WITH UNIVERSITIES TO CENSOR AMERICANS' POLITICAL SPEECH (Comm. Print Nov. 6, 2023).
[99] Kaitlin Lewis, *Musk Tells Rogan Twitter 'Suppressed' Republicans '10 Times' More Than Dems*, NEWSWEEK (Oct. 31, 2023).
[100] *Hearing on the Weaponization of the Federal Government: Hearing Before the Select Subcomm. on the Weaponization of the Fed. Gov't of the H. Comm. on the Judiciary,* 118th Cong., at 48 (Mar. 30, 2023).
[101] MIT's Search Lit "Project Description" in its formal Phase II proposal to NSF, at 2. (on file with the Comm.).
[102] MIT's Search Lit "Project Summary" in its formal Phase I proposal to NSF, at 1 (on file with the Comm.); *see also* App'x D, at 1.
[103] *Id.*, at 8 (emphasis added).
[104] MIT's Search Lit "Project Summary" in its formal Phase I proposal to NSF, at 8 (on file with the Comm.); *see also* App'x D.

"distrust[] journalists and academics."[105] The summary also derisively noted that the approach that "everyday people" typically use to get their news and information allows them "to act as subject matter experts," rather than "truth [being] only curated at the top."[106]

> In her ethnographic study of two conservative groups, Tripodi (2018) found that information-seekers engage in a distinct set of media practices tied to the way they see the world. One practice centered around the close reading of textual documents deemed sacred (e.g. the Bible or the Constitution). By inverting traditional assumptions that truth is only curated at the top, this media practice allows for everyday people to act as subject matter experts. These practices, which developed and emerged in a print era, have been adapted to online search practices. Because interviewees distrusted both journalists and academics, they drew on this practice to fact check how media outlets reported the news.

According to the researchers, Tripodi's study found that many conservative respondents "may have believed they were [] 'doing the research'" but were in fact only "focused on the top results of Google, seldom scrolling down or looking at subsequent paged results."[107] As evidence, the researchers point out that the conservative "respondents often focused on reading a wide array of *primary* sources, and performing their own synthesis," further alleging that, "unlike expert lateral readers," the conservative respondents made "no such effort" to "eliminate bias that might skew results from search terms."[108]

> In fact, many respondents may have believed they were engaging in "lateral reading" (e.g. "doing the research" using Google). However, their approach differed in crucial respects. Unlike professional fact checkers, who practice "click restraint" (Wineburg & McGrew, 2017), users focused on the top results of Google, seldom scrolling down or looking at subsequent paged results (Tripodi, 2018). While lateral readers try to find secondary sources that reliably summarize expert consensus on sources and claims (Wineburg & McGrew, 2017; Caulfield, 2017), respondents often focused on reading a wide array of *primary* sources, and performing their own synthesis (Tripodi, 2018). While lateral readers seek to eliminate bias that might skew results from search terms (Caulfield, 2017), respondents made no such effort. Finally, unlike expert lateral readers, respondents evaluated search terms based on the nature of the results returned. One participant saw the fact that most results presented a similar story as evidence of a "rigged" media, rather than a heuristic of expert or professional consensus — and re-ran the search with new terms (Tripodi, 2018).

To summarize, the researchers' concern is that there are Americans who deem the Constitution and the Bible "sacred," and therefore dare to conduct their own research of "primary sources" rather than trust the "professional consensus."

C. NSF-Funded Researchers Understand the Leverage They Have Over Social Media Companies to Ensure the Platforms Bow to Their Demands

NSF funding dictates who can survive in the pseudo-science world of studying so-called "disinformation." With this role comes tremendous leverage for NSF to determine who to elevate within the censorship-industrial complex.

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[105] *Id.*, at 7.
[106] *Id.*
[107] *Id.*
[108] *Id.*

Once empowered with taxpayer dollars, the pseudo-science researchers wield the resources and prestige bestowed upon them by the federal government against any entities that resist their censorship projects. In some instances, if a social media company fails to act fast enough to change a policy or remove what the researchers perceive to be misinformation on its platform, disinformation researchers will issue blogposts or formal papers to "generate a communications moment" (*i.e.*, negative press coverage) for the platform, seeking to coerce it into compliance with their demands.[109]

Other times, the pseudo-scientists use their leverage for petty grievance. For example, on July 12, 2023, when an employee at Twitter refused to issue a refund to a Wisconsin CourseCorrect researcher based on his request to cancel a service upgrade on Twitter, the Wisconsin researcher sent an email threatening to publicize "our terrible treatment with thousands of researchers to discourage their use of your products."[110]

Re: Case #0330443818: Request for Cancelation of Upgrade to Pro - [ref:_00DA0K0A8._5004w2kgMxb:ref]

[redacted]@wisc.edu>
Wed 7/12/2023 7:40 AM
To:Twitter Support <support@twitter.com>[redacted] <[redacted]wisc.edu>
Your response is unacceptable. As a result, we'll begin pivoting our API- and ad-based research away from your platform. In the meantime, we'll publicize our terrible treatment with thousands of researchers to discourage their use of your products.

Best,
[redacted]

[redacted] (he/him/his)
[redacted]
Center for Communication and Civic Renewal
School of Journalism and Mass Communication
University of Wisconsin - Madison

Examples like these illustrate the tremendous sway these so-called "disinformation" researchers hold over social media platforms and why the federal government often turns to these unaccountable academics when seeking a proxy for their censorship activities.[111]

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[109] *See* House Judiciary Committee's Transcribed Interview of Alex Stamos (June 23, 2023), at 183-184 (on file with the Comm.); *see also* House Judiciary Committee's Transcribed Interview of Kate Starbird (June 6, 2023), at 153 (on file with the Comm.).
[110] Email from UW-Madison researcher to Twitter support team (July 12, 2023, 7:40 AM) (on file with the Comm.).
[111] *See* STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF 'DISINFORMATION' PSEUDO-EXPERTS AND BUREAUCRATS: HOW THE FEDERAL GOVERNMENT PARTNERED WITH UNIVERSITIES TO CENSOR AMERICANS' POLITICAL SPEECH (Comm. Print Nov. 6, 2023).

IV. NSF IS TRYING TO COVER UP ITS FUNDING OF AI CENSORSHIP

Following congressional oversight and media scrutiny, Executive Branch agencies in the censorship-industrial complex often try to hide their involvement. For example, in early 2023, CISA scrubbed its website of mentions to "domestic actors" on its mis-, dis-, malinformation page.[112] In 2022, CISA considered using third parties to avoid the scrutiny that followed the public backlash to the Disinformation Governance Board.[113]

Throughout the entire Track F funding process, NSF has been closely tracking any signs of political or media attention on its misconduct. NSF developed an extensive "media strategy" and instructed the Track F teams on what they could or should say about their censorship projects. At one point, NSF considered blacklisting certain conservative media outlets that were covering NSF.

A. NSF Developed an Official Media Strategy to Hide its Track F Censorship Program from the American People

In the fall of 2021, various media outlets began reporting on NSF-funded Track F projects, sounding the alarm about how American taxpayer money might be funding the development of tools to censor and indoctrinate Americans.[114]

On September 27, 2021, one week after NSF started issuing Track F awards, Katelynn Richardson, then at *Campus Reform*, reported on how NSF was providing millions to universities to develop tools and techniques to address alleged misinformation. Her reporting highlighted multiple Track F projects, including Wisconsin's CourseCorrect and Michigan's WiseDex, and cited comments made by the head researchers explaining how they would design and test the propaganda and censorship tools.[115]

The following month, on October 22, 2021, *Campus Reform* published another article on Track F, this time highlighting a project led by researchers at Temple University. The article cited an interview in which Eduard Dragut, the lead Temple University researcher on the $750,000 project, admitted that his team planned to "use natural language processing algorithms along with social networking tools to mine the communities where [misinformation] may happen."[116]

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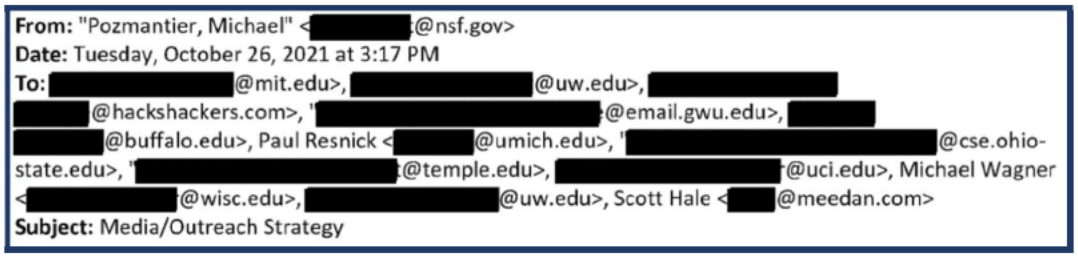
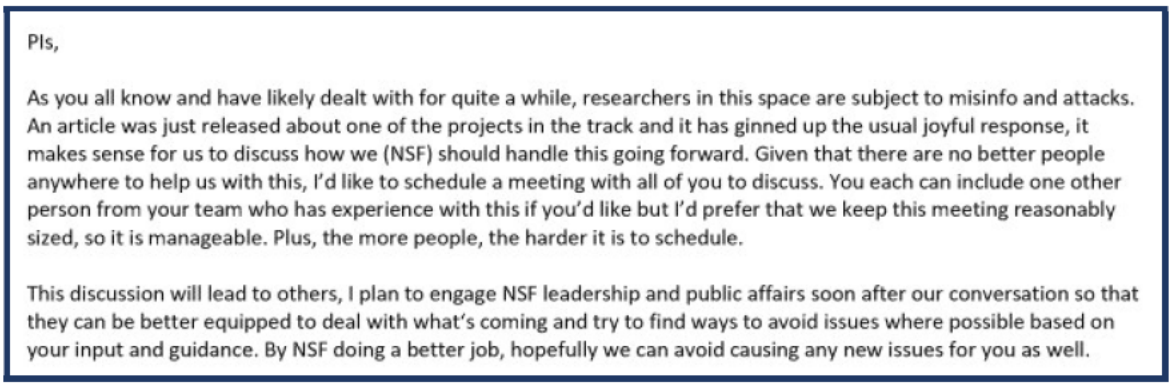
[112] *See* STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF CISA: HOW A "CYBERSECURITY" AGENCY COLLUDED WITH BIG TECH AND "DISINFORMATION" PARTNERS TO CENSOR AMERICANS (Comm. Print June 26, 2023), at 32-34.
[113] *Id.* at 27.
[114] *See* Katelynn Richardson, *NSF grants nearly $7.5 million to universities developing anti-'misinformation' tools*, CAMPUS REFORM (Sept. 27, 2021); Katelynn Richardson, *Federal Gov Pays University $750K to Create Tool That Warns Journalists Against Publishing 'Polarizing' Content*, CAMPUS REFORM (Oct. 22, 2021); *see also* Reclaim The Net, *University Receives $750k of Federal Funds to Stop Reporters From Creating "Negative Unintended Outcomes",* INFOWARS (Oct. 25, 2021).
[115] Katelynn Richardson, *NSF grants nearly $7.5 million to universities developing anti-'misinformation' tools*, CAMPUS REFORM (Sept. 27, 2021).
[116] Katelynn Richardson, *Federal Gov Pays University $750K to Create Tool That Warns Journalists Against Publishing 'Polarizing' Content*, CAMPUS REFORM (Oct. 22, 2021).

A few days later, on October 26, Michael Pozmantier, NSF's Track F program manager, began emailing the head researchers about the need to devise a Track F-specific "media/outreach strategy" to inform how NSF and the research teams would handle the media going forward.[117]


From: "Pozmantier, Michael" <[redacted]@nsf.gov>
Date: Tuesday, October 26, 2021 at 3:17 PM
To: [redacted]@mit.edu>, [redacted]@uw.edu>, [redacted]@hackshackers.com>, [redacted]@email.gwu.edu>, [redacted]@buffalo.edu>, Paul Resnick <[redacted]@umich.edu>, [redacted]@cse.ohio-state.edu>, [redacted]@temple.edu>, [redacted]@uci.edu>, Michael Wagner <[redacted]@wisc.edu>, [redacted]@uw.edu>, Scott Hale <[redacted]@meedan.com>
Subject: Media/Outreach Strategy

In his email, Pozmantier referred to the *Campus Reform* article as the latest example of "misinfo and attacks" against "researchers in this space," adding that "NSF leadership and public affairs" needs to be "better equipped to deal with what's coming."[118]


PIs,

As you all know and have likely dealt with for quite a while, researchers in this space are subject to misinfo and attacks. An article was just released about one of the projects in the track and it has ginned up the usual joyful response, it makes sense for us to discuss how we (NSF) should handle this going forward. Given that there are no better people anywhere to help us with this, I'd like to schedule a meeting with all of you to discuss. You each can include one other person from your team who has experience with this if you'd like but I'd prefer that we keep this meeting reasonably sized, so it is manageable. Plus, the more people, the harder it is to schedule.

This discussion will lead to others, I plan to engage NSF leadership and public affairs soon after our conversation so that they can be better equipped to deal with what's coming and try to find ways to avoid issues where possible based on your input and guidance. By NSF doing a better job, hopefully we can avoid causing any new issues for you as well.

Shortly thereafter, Pozmantier emailed Michael Wagner, the head researcher for Wisconsin's CourseCorrect team, saying, "I knew [blowback] was a possibility, just a question of who is actually paying attention to what we're doing."[119]

From "Pozmantier, Michael" <[redacted]@nsf.gov>
Subject **Re: [EXTERNAL] - Re: Media/Outreach Strategy**
To Michael Wagner <[redacted]@wisc.edu>
Date October 26, 2021 3:56:21 PM CDT

I knew it was a possibility, just a question of who is actually paying attention to what we're doing. It's amazing how few people know what NSF, so I thought any blowback would come from other places.

[117] Email from Michael Pozmantier to NSF Track F grantees (Oct. 26, 2021, 3:17 PM) (on file with the Comm.).
[118] *Id.*
[119] Email from Michael Pozmantier to Michael Wagner (Oct. 26, 2021, 3:56 PM) (on file with the Comm.).

On November 2, 2021, NSF held two meetings with the research teams to develop an official "Track F Media Strategy." In a November 22, 2021 email attaching a first draft of NSF's Track F media strategy, Pozmantier emphasized that "a joint effort" would be required for NSF to do "a better job in how we deal with the media on this topic," including "training" for the researchers "beginning in January."[120]

From: Pozmantier, Michael [redacted]@nsf.gov]
on behalf of Pozmantier, Michael <[redacted]@nsf.gov> [redacted]@nsf.gov]
Sent: 11/22/2021 7:59:55 PM
To: Tripodi, Francesca Bolla [redacted]@email.unc.edu]; [redacted]@temple.edu]; Mike Wagner [redacted]@wisc.edu]; Michael Wagner [redacted]@wisc.edu]; [redacted]@hackshackers.com]; Scott Hale [redacted]@meedan.com]; [redacted]@uw.edu]; [redacted]@email.gwu.edu]; [redacted]@buffalo.edu; [redacted]@uci.edu]; [redacted]@uw.edu]; [redacted]@cogsec.org; Paul Resnick [redacted]@umich.edu]; [redacted]@cse.ohio-state.edu]
CC: [redacted]@nsf.gov]
Subject: NSF Convergence Accelerator: Track F Media Strategy
Attachments: Track F Media Strategy_v1.docx

All,

Thank you for participating in the meetings what were held on November 2, we learned quite a bit through the two discussions-- *I've also included those of you who couldn't make the meetings to get your input as well.* It's a taken a bit longer than I had hoped to get the notes and so forth together to begin to turn the discussion into actions. Please take a look at the attached document and send any comments back to me to coordinate any updates or additional guidance you may have. In addition, we need to start on the action items such as developing a basic media training kit, advanced training, and the response checklist. Given all of your experience and your equity in NSF doing a better job in how we deal with the media on this topic, this will be a joint effort. Some of you may already have these items developed or have done it before, so we're happy to defer to you in guiding the efforts here.

Please let me know which areas you'd like to contribute to. I'm hoping this will not result in much additional work for anyone and expect this to a be an iterative process that will see us ready to adopt the response checklist and provide the media kit and training beginning in January.

The Track F Media Strategy document begins by noting that because Track F "is a controversial topic, it's important for NSF to proactively develop a strategy to enable the Foundation and funded researchers to be in sync," adding that "many" of the Track F researchers "have extensive experience dealing with this issue."[121]

Knowing that Track F is a controversial topic, it's important for NSF to proactively develop a strategy to enable the Foundation and funded researchers to be in sync. Additionally, many of the PIs, Co-PIs, and Sr. Personnel working on Track F projects have extensive experience dealing with this issue. Two meetings were organized by the Convergence Accelerator to draw upon this expertise, to develop the strategy to help prevent or lessen opportunities for the spreading of misinformation about the Track.

The result of these meetings was a set of recommended activities and artifacts to be developed by NSF, the Convergence Accelerator, and the teams to be used to assist in minimizing and responding to issues. The information would also be shared with NSF's Office of Legislative and Public Affairs and other relevant parties.

[120] Email from Michael Pozmantier to NSF Track F grantees, attaching "Track F Media Strategy" document (Nov. 22, 2021, 7:59 PM) (on file with the Comm.).
[121] First Draft of NSF's Track F Media Strategy entitled "Track F Media Strategy_v1.docx," at 1 (on file with the Comm.); *see also* App'x B.

The strategy then provides specific recommendations for the Track F research teams when dealing with the media, such as "always highlight the pro-democracy nature of the Track and each project" and "if possible, focus on the non-ideological nature of work"—even if, as NSF privately acknowledged, showing "both sides can distort" who is really being censored.[122]

Recommendations

Messaging:

- Always highlight the pro-democracy nature of the Track and each project
- Always be accurate, any inaccuracies can be a hanging thread to be pulled
- If possible, focus on the non-ideological nature of work
    - Give examples of both sides **(I'm not a fan of always trying to show both sides because they are not always equal in impact and showing both sides can distort)
    - When it's possible, use sports metaphors
- Focus on the scientific process

Protective Measures:

- Subscribe to monitoring service(s) to proactively help manage when project information is published and possibly miscommunicated.
- Subscribe to scrubbing services, such as DeleteMe

The media strategy document also reveals how NSF developed and required the Track F research teams to receive "media training" with "key messaging about the NSF Convergence Accelerator, Track F, [and] each funded project."[123]

Media Training:

Develop and provide media training to NSF Convergence Accelerator staff and funded researchers understand media engagement best practices, internal communication processes, and standard messaging. The multi-level training will include basic training and an advanced training.

- Multi-level
    - Basic training
        - Media engagement best practices
            - Interview requests (e.g., Who to involve, when to provide a written statement or have a live interview, etc.)
            - Speaking in plain language
            - Highlighting the scientific strategy, value and impact
        - Reporter terminology (e.g., What does it mean to be 'On the record', 'Off the record, or 'On background'?)
        - Standard key messaging about the NSF Convergence Accelerator, Track F, each funded project

[122] *Id.*

[123] First Draft of NSF's Track F Media Strategy entitled "Track F Media Strategy_v1.docx," at 2 (on file with the Comm.); *see also* App'x B.

B. NSF Considered Blacklisting Conservative Media Outlets

The Track F "Media Strategy" memo reveals that NSF initially planned to instruct the Track F teams—groups that received federal taxpayer dollars—about which "media outlets to not engage" as part of its "basic training."[124]

- Examples of media outlets to not engage
- Processes: Notifying your organization of the media request, when to notify NSF

○ Advanced

- Harassment:
  - How to respond to harassment (accompanied by Checklist)
  - Who to notify if harassment is received

After reviewing the media strategy, the head researcher for Michigan's WiseDex project expressed his concerns to Pozmantier that a media blacklist "would be bad optics," noting that, "[w]hile I think it is worth alerting teams to what can go wrong if they engage with certain kinds of media outlets . . . , I think it would be bad optics for the NSF to have a blacklist of media sites that our teams systemically refuse to engage with, especially if it includes domestic sites."[125]

Date: Sunday, November 28, 2021 at 8:54 AM
To: "Pozmantier, Michael" <[redacted]@nsf.gov>
Cc: James Park <[redacted]@umich.edu>
Subject: [EXTERNAL] - Re: NSF Convergence Accelerator: Track F Media Strategy

> This email originated from outside of the National Science Foundation. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Mike,

This looks like a good agenda to execute on.

The only concerning item for me is this under media training:

"Examples of media outlets to not engage"

While I think it is worth alerting teams to what can go wrong if they engage with certain kinds of media outlets (e.g., propaganda arms of foreign governments), I think it would be bad optics for the NSF to have a blacklist of media sites that our teams systemically refuse to engage with, especially if it includes domestic sites.

Pozmantier replied, "I agree 100%, that shouldn't be in there. I'll remove it."[126]

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[124] *Id.*

[125] Email from Paul Resnick to Michael Pozmantier (Nov. 28, 2021, 8:54 AM) (on file with the Comm.) (emphases added).

[126] Email from Michael Pozmantier to Paul Resnick (Nov. 29, 2021, 2:12 PM) (on file with the Comm.).

C. NSF Attempted to Hide Additional Funding to Its Track F Censorship Program

In August 2022, when the time came for NSF to announce which Track F projects would receive an additional $5 million in Phase 2 funding, NSF quietly decided to not issue a press release, although its typical practice was to do so.[127] When NSF announced the $30 million that Track E recipients would be receiving in Phase 2, a similar announcement of the equal amount of taxpayer dollars being provided to Track F recipients was conspicuously absent.[128]

Rather, NSF maintained a tight hold on the information, providing clear instructions to any Track F teams who might be interested in announcing their Phase 2 awards. In an August 19, 2022 email to the six Track F teams selected for Phase 2 funding, Pozmantier explained that "NSF will not be including this track in the Phase 2 press release, only Track E will be announced," adding that any research teams interested in announcing their Phase 2 awards should coordinate with NSF to do so.[129]

It also appears that NSF asked the Track F teams to get formal approval from NSF before issuing press releases, publishing articles, or responding to media inquiries relating to the program, and that the researchers complied, checking with NSF before responding to media inquiries.[130] For example, on September 12, 2022, a University of Wisconsin public relations employee emailed Shelby Smith, the communications and outreach director for NSF's Convergence Accelerator, writing, "I'm working on a press release/web article announcing the [Phase 2] grant, and was told your team would like to review any communications before they go out."[131]

From: [redacted]@wisc.edu>
Date: Monday, September 12, 2022 at 9:49 AM
To: [redacted]@nsf.gov [redacted]@nsf.gov>
Subject: PR/Announcement for Convergence Accelerator Phase II

Hi Shelby,

My name is [redacted], I'm the marketing and communication specialist here in the University of Wisconsin's School of Journalism and Mass Communication. I'm reaching out on behalf of the research team who received an NSF Convergence Accelerator Phase II grant. I'm working on a press release/web article announcing the grant, and was told your team would like to review any communications before they go out.

The draft is attached here. I'm still waiting on review from the research team, but thought I'd share it with you as well for the sake of time. I was told the announcement would go out on Thursday, September 15, so we'd like to time our article accordingly.

Let me know if you have any edits or additions with this draft.

To date, NSF continues to maintain an announcement on its website for the Phase 2 recipients of *every* track except for Track F.[132] To be clear, this is *not* because the Track F

[127] Email from Michael Pozmantier to NSF Track F "Phase 2 Cohort" (Aug. 19, 2022, 12:13 PM) (on file with the Comm.).
[128] *See Convergence Accelerator Portfolio*, NAT. SCI. FOUND., https://new.nsf.gov/funding/initiatives/convergence-accelerator/portfolio.
[129] Email from Michael Pozmantier to NSF Track F "Phase 2 Cohort" (Aug. 19, 2022, 12:13 PM) (on file with the Comm.).
[130] *See, e.g.*, email from Paul Resnick to Michael Pozmantier (Jan. 31, 2023, 5:02 PM) (on file with the Comm.).
[131] Email from Wisconsin marketing and communication specialist to NSF personnel (Sept. 12, 2022, 9:49 AM) (on file with the Comm.).
[132] *See Convergence Accelerator Portfolio*, NAT. SCI. FOUND., https://new.nsf.gov/funding/initiatives/convergence-accelerator/portfolio.

program ended or because no teams were selected to receive further funding. Rather, it appears that NSF recognized that the American people would not respond kindly to the announcement that an additional $30 million was being allocated to projects aimed at indoctrinating and silencing them.

D. NSF Continues to Try to Cover Up Its Funding of Censorship Tools

In 2022, NSF created an official media strategy and made the calculated decision to not announce Track F's Phase 2 recipients. NSF's cover up of its censorship program continued into at least 2023.

For example, on January 31, 2023, a few days after Pozmantier advised Paul Resnick, the head researcher for Michigan's WiseDex team, to not respond to media inquiries, Resnick followed up again with another "reporter inquiry" about whether "Twitter use[s] WiseDex as a vendor," noting that he wanted to check with Pozmantier "before responding."[133] Pozmantier ultimately replied: "NSF would probably stay away."[134]

Days later, on February 2, 2023, Pozmantier emailed the Track F teams, outlining the various Track F projects receiving media attention, including WiseDex and CourseCorrect, and explaining "how NSF is handling it."[135] "In short, NSF is not responding to requests from people who are interested in attacking our programs or your projects," Pozmantier wrote, adding "it's probably best if you also ignore it."[136]

From: Pozmantier, Michael [redacted@nsf.gov]
on behalf of Pozmantier, Michael <redacted@nsf.gov> [redacted@nsf.gov]
Sent: 2/2/2023 8:03:34 PM
To: [redacted]@temple.edu]; [redacted]@mit.edu; [redacted]@uw.edu]; [redacted]@cse.ohio-state.edu; [redacted]@uci.edu]
CC: Paul Resnick [redacted]@umich.edu]
Subject: Convergence Accelerator Media Attention

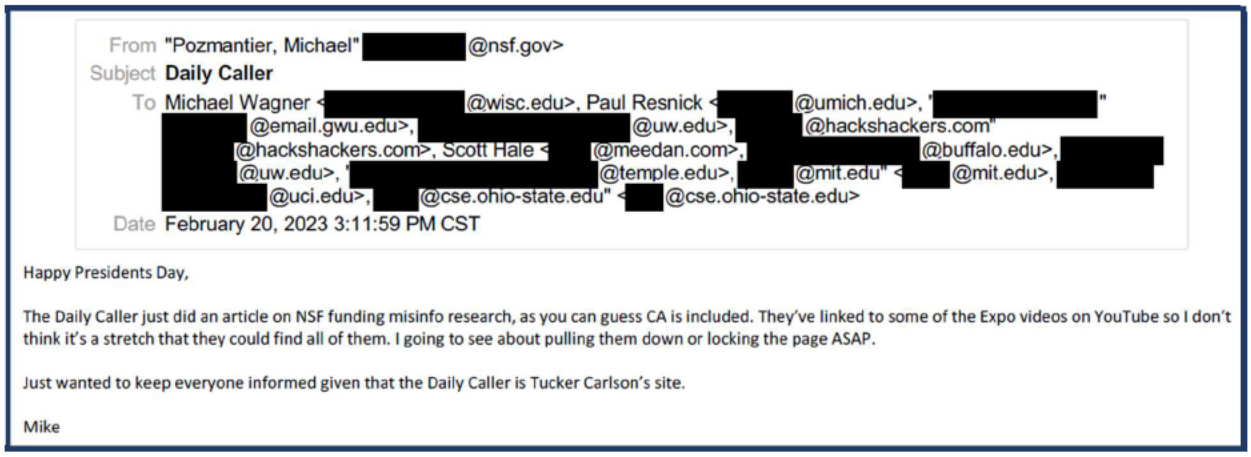
[redacted], [redacted], [redacted], [redacted], and [redacted],

I hope you're all doing well. As we experienced last year, there are groups that want to frame the projects working in the information integrity space in a negative light for their own ends; it's continued this year but with greater intensity. In November, the ARTT project was singled out and last week Course Correct and WiseDex were the targets. Because we expect this to continue, it's possible that your projects could be targeted as well so I'm making sure that you're aware that this is happening and how NSF is handling it.

In short, NSF is not responding to requests from people who are interested in attacking our program or your projects. Though it's up to you and your institutions to make that determination for yourselves, it's probably best if you also ignore it.

[133] Email from Paul Resnick to Michael Pozmantier (Jan. 31, 2023, 5:02 PM) (on file with the Comm.).
[134] Email from Michael Pozmantier to Paul Resnick (Jan. 31, 2023, 10:10 PM) (on file with the Comm.).
[135] Email from Michael Pozmantier to the head researchers of the Phase 2 Track F teams (Feb. 2, 2023, 8:03 PM) (on file with the Comm.).
[136] *Id.*

A couple weeks later, in late February 2023, when Katelynn Richardson, now at the *Daily Caller*, published an article on "NSF funding misinfo research," and "linked to some of the Expo videos on YouTube," Pozmantier quickly emailed the heads of each of the research teams, warning them of the article.[137] He also noted that he was "going to see about pulling [the Track F Expo videos on YouTube] down or locking the page ASAP."[138]



From "Pozmantier, Michael" [redacted]@nsf.gov>
Subject **Daily Caller**
To Michael Wagner <[redacted]@wisc.edu>, Paul Resnick <[redacted]@umich.edu>, "[redacted]" [redacted]@email.gwu.edu>, [redacted]@uw.edu>, [redacted]@hackshackers.com" [redacted]@hackshackers.com>, Scott Hale <[redacted]@meedan.com>, [redacted]@buffalo.edu>, [redacted]@uw.edu>, "[redacted]@temple.edu>, [redacted]@mit.edu" <[redacted]@mit.edu>, [redacted]@uci.edu>, [redacted]@cse.ohio-state.edu" <[redacted]@cse.ohio-state.edu>
Date February 20, 2023 3:11:59 PM CST

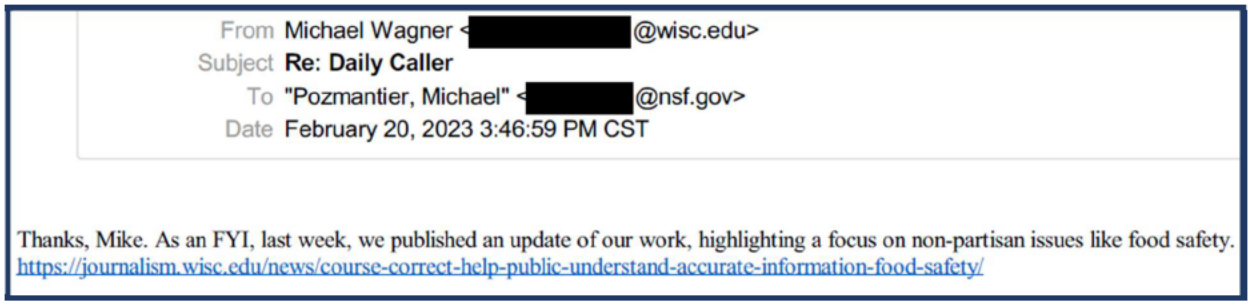
Happy Presidents Day,

The Daily Caller just did an article on NSF funding misinfo research, as you can guess CA is included. They've linked to some of the Expo videos on YouTube so I don't think it's a stretch that they could find all of them. I going to see about pulling them down or locking the page ASAP.

Just wanted to keep everyone informed given that the Daily Caller is Tucker Carlson's site.

Mike

In response to this email, Michael Wagner, the head researcher for Wisconsin's CourseCorrect team, assured Pozmantier that his team had recently issued a statement emphasizing that CourseCorrect is focused on "non-partisan issues like food safety."[139]

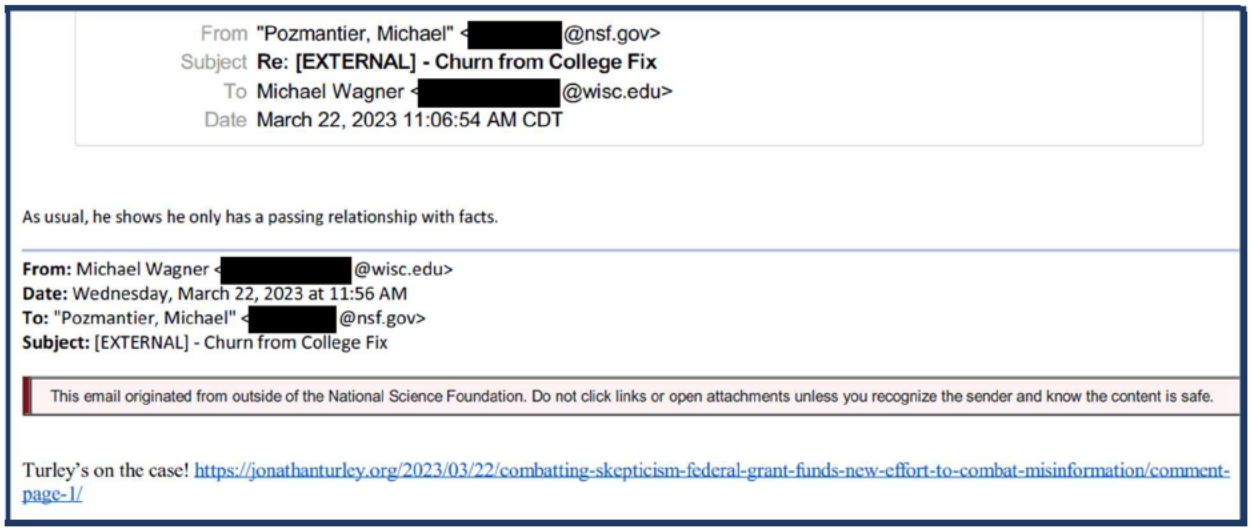


From Michael Wagner <[redacted]@wisc.edu>
Subject **Re: Daily Caller**
To "Pozmantier, Michael" <[redacted]@nsf.gov>
Date February 20, 2023 3:46:59 PM CST

Thanks, Mike. As an FYI, last week, we published an update of our work, highlighting a focus on non-partisan issues like food safety.
https://journalism.wisc.edu/news/course-correct-help-public-understand-accurate-information-food-safety/

[137] Email from Michael Pozmantier to the head researchers of each the twelve Track F grants (Feb. 20, 2023, 3:12 PM) (on file with the Comm.).
[138] *Id*.
[139] Email from Michael Wagner to Michael Pozmantier (Feb. 20, 2023, 3:46 PM) (on file with the Comm.).

In March 2023, Wagner flagged for Pozmantier a recent article from legal scholar Jonathan Turley about the projects NSF had been funding, writing mockingly that "Turley's on the case!"[140] Pozmantier revealed his contempt for the legal scholar, writing "[a]s usual, he shows he only has a passing relationship with the facts," without identifying any shortcomings in Turley's article.[141]



From "Pozmantier, Michael" <[redacted]@nsf.gov>
Subject **Re: [EXTERNAL] - Churn from College Fix**
To Michael Wagner <[redacted]@wisc.edu>
Date March 22, 2023 11:06:54 AM CDT

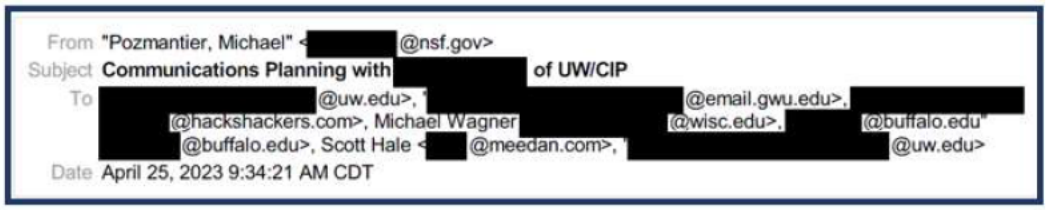
As usual, he shows he only has a passing relationship with facts.

From: Michael Wagner <[redacted]@wisc.edu>
Date: Wednesday, March 22, 2023 at 11:56 AM
To: "Pozmantier, Michael" <[redacted]@nsf.gov>
Subject: [EXTERNAL] - Churn from College Fix

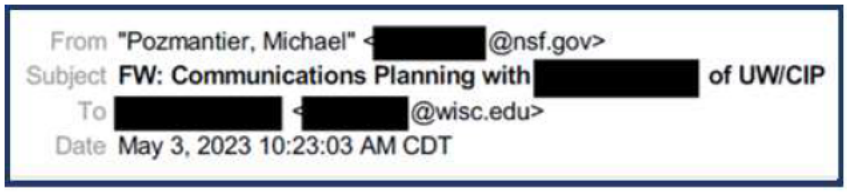
This email originated from outside of the National Science Foundation. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Turley's on the case! https://jonathanturley.org/2023/03/22/combatting-skepticism-federal-grant-funds-new-effort-to-combat-misinformation/comment-page-1/

In April 2023, the situation had progressed such that Pozmantier started organizing "communications planning" meetings for the Track F teams, [142] which continued into May. [143]



From "Pozmantier, Michael" <[redacted]@nsf.gov>
Subject **Communications Planning with [redacted] of UW/CIP**
To [redacted]@uw.edu>, "[redacted]@email.gwu.edu>, [redacted]@hackshackers.com>, Michael Wagner [redacted]@wisc.edu>, [redacted]@buffalo.edu" [redacted]@buffalo.edu>, Scott Hale <[redacted]@meedan.com>, "[redacted]@uw.edu>
Date April 25, 2023 9:34:21 AM CDT



From "Pozmantier, Michael" <[redacted]@nsf.gov>
Subject **FW: Communications Planning with [redacted] of UW/CIP**
To [redacted] <[redacted]@wisc.edu>
Date May 3, 2023 10:23:03 AM CDT

[140] Email from Michael Wagner to Michael Pozmantier (March 22, 2023, 11:56 AM) (on file with the Comm.).
[141] Email from Michael Pozmantier to Michael Wagner (March 22, 2023, 11:06 AM) (on file with the Comm.).
[142] Email from Michael Pozmantier to Track F Recipients (Apr. 25, 2023, 9:34 AM) (on file with the Comm.).
[143] Email from Michael Pozmantier to Track F Recipients (May 3, 2023, 10:23 AM) (on file with the Comm.).

NSF and researchers receiving taxpayer-funded NSF grants coordinated their responses to media coverage of other NSF fundings as well. For example, on September 29, 2022, *Just the News* wrote an article on NSF's multi-million-dollar grants to Stanford and the University of Washington through its Secure and Trustworthy Cyberspace (SaTC) program.[144] Like the Track F projects, the projects funded through NSF's SaTC were also focused on countering so-called "(mis/dis)information online."[145] In response, on October 5, 2022, Dr. Kate Starbird, the head of the University of Washington's Center for an Informed Public, emailed Sara Kiesler, an NSF official, warning that "partisan media outlets [are] making false and misleading claims" about her work.[146] Linking to the *Just the News* article, Dr. Starbird criticized the claim that her "SaTC funding was a 'reward' from 'the Biden Administration' for 'censoring' specific voices."[147]

On Oct 5, 2022, at 6:14 PM, Kate Starbird <[redacted]@uw.edu> wrote:

This email originated from outside of the National Science Foundation. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Hi Sara,

I wanted to let you know that we're becoming aware of negative media attention from partisan media outlets making false and misleading claims about our 2020 research with the Election Integrity Partnership (doing rapid response to election-related mis/disinformation) and our subsequent SaTC project. The criticism takes shape around several false/distorted claims, including an insinuation that we worked with the Biden administration (we partnered with the CISA office run by a Trump appointee and a bipartisan group of election officials), that our work funneled censorship requests from government to platforms (a severe distortion of our work), that the research was politically biased (we reported on misinformation propagating on both sides, though our results do show that more misinformation spread on one side), and that our SaTC funding was a "reward" from "the Biden Administration" for "censoring" specific voices.

I'm including a link here to the original article (though there have been several more since): https://justthenews.com/government/federal-agencies/biden-administration-rewarded-private-entities-got-2020-election [justthenews.com]

Accompanying this rhetoric, we have now received 5 FOIA requests (in the past two weeks), including one that specifically asks for all of our (UW) communication with the National Science Foundation. These requests are quite broad, and they will likely take years for us to complete.

Please let me know if you'd like to chat about any of this. We are preparing a statement refuting the false claims and distorted framing of our work. However, we have not yet decided upon a promotion strategy. There's a chance this will fade away, and we might give it one last chance to do that before calling more attention to it through a correction.

The good news is, we'll have books to write about how challenging it is to design rapid response collaborations to address misinformation in high-stakes contexts — with chapters devoted to safety and security for research teams.

---

[144] Greg Piper and John Solomon, *Outsourced censorship: Feds used private entity to target millions of social posts in 2020*, JUST THE NEWS (Sept. 29, 2022).

[145] *Id.* (quoting UW's press release: Michael Grass, *$2.25 Million in NSF Funding Will Support Center for an Informed Public Research*, UNIVERSITY OF WASHINGTON INFORMATION SCHOOL (Aug. 17, 2021). Stanford and UW were two key personnel in the EIP. *See* STAFF OF SELECT SUBCOMM. ON THE WEAPONIZATION OF THE FED. GOV'T OF THE H. COMM. ON THE JUDICIARY, 118TH CONG., THE WEAPONIZATION OF 'DISINFORMATION' PSEUDO-EXPERTS AND BUREAUCRATS: HOW THE FEDERAL GOVERNMENT PARTNERED WITH UNIVERSITIES TO CENSOR AMERICANS' POLITICAL SPEECH (Comm. Print Nov. 6, 2023).

[146] Email from Dr. Kate Starbird to NSF personnel (Oct. 5, 2022, 6:14 PM) (on file with the Comm.).

[147] *Id.*

E. NSF Is Attempting to Stonewall Congressional Investigations

On January 24, 2023, Pozmantier emailed Paul Resnick, the head researcher for Michigan's WiseDex project, mentioning that Senator Joni Ernst wrote NSF a "letter of inquiry" in November 2022 regarding a particular Track F project that had gained media attention.[148] However, just a few days later, in a February 2, 2023 email, Pozmantier noted that "NSF is not responding to requests from people who are interested in attacking our program."[149] Taken together, these emails raise questions as to whether NSF's lack of transparency on Track F would extend to openly defying information requests from Congress.

These emails may also help explain why NSF has failed to provide the Committee and Select Subcommittee with an appreciable volume of documents and information responsive to the requests sent more than nine months ago in May 2023 pursuant to the Committee's ongoing investigation.[150] To date, NSF has produced a mere 294 pages to the Committee in response to requests for documents and information relating to its Track F program, maintaining an iron grip on much of the substantially relevant information in its possession and obstructing the Committee and Select Subcommittee's investigation for over half a year.[151]

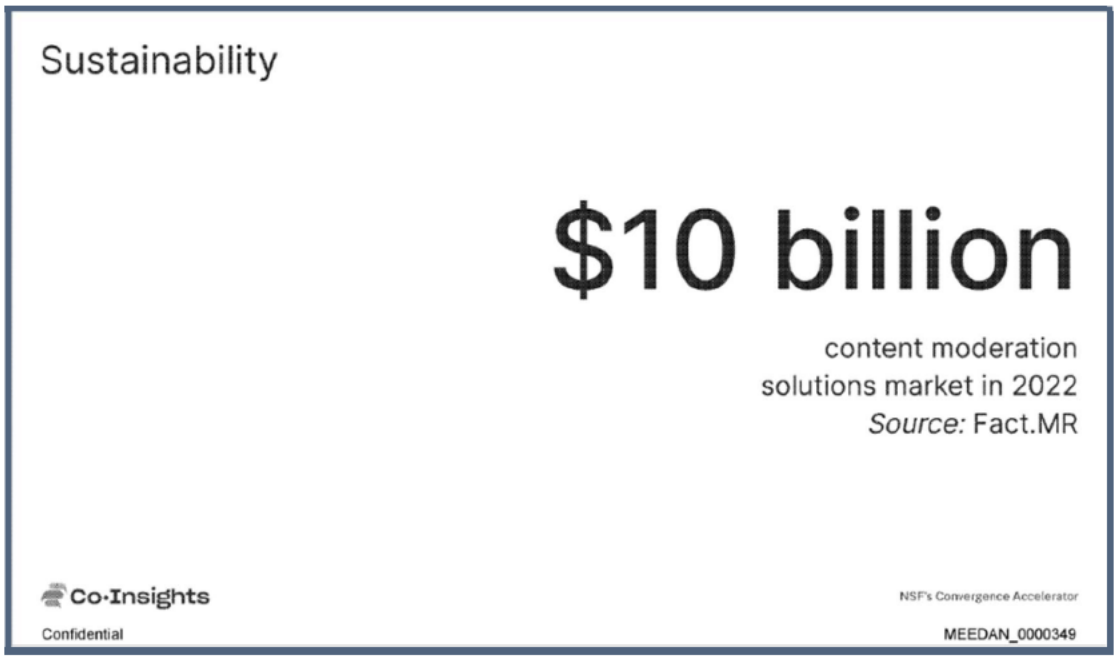
Time and again, NSF engaged in efforts to hide its Track F censorship program from the American people, training the research teams on how to avoid media scrutiny and refusing to respond substantively to congressional requests itself. The extent to which NSF has gone to shield its taxpayer-funded censorship research raises serious concerns that NSF knows its research activities violate the Constitution and fundamental civil liberties.

V. THE ROLE OF CONGRESS: DEFUND THE CENSORSHIP-INDUSTRIAL COMPLEX AND FIGHT THE NEXT BATTLE TO DEFEND FREE SPEECH

> If you *don't* agree with the prevailing niche morality that is being imposed on both social media and AI via ever-intensifying speech codes, you should also realize that the fight over what AI is allowed to say/generate will be even more important – by a *lot* – than the fight over social media censorship. AI is highly likely to be the control layer for everything in the world. How it is allowed to operate is going to matter perhaps more than anything else has ever mattered. You should be aware of how a small and isolated coterie of partisan social engineers are trying to determine that right now, under cover of the age-old claim that they are protecting you.
>
> In short, don't let the thought police suppress AI.[152]
>
> – Marc Andreessen, June 6, 2023

[148] Email from Michael Pozmantier to Paul Resnick (Jan. 24, 2023, 9:53 PM) (on file with the Comm.).
[149] Email from Michael Pozmantier to researchers, copying Paul Resnick (Feb. 2, 2023) (on file with the Comm
[150] *See* Letter from Rep. Jim Jordan, Chairman, H. Comm. on the Judiciary, to Dr. Sethuraman Panchanathan, Dir., Nat. Sci. Found. (May 1, 2023) (on file with the Comm.).
[151] NSF Production to the House Judiciary Committee (Aug. 25, 2023) (on file with Comm.); NSF Production to the House Judiciary Committee (Dec. 15, 2023) (on file with Comm.); NSF Production to the House Judiciary Committee (Feb. 5, 2024) (on file with Comm.).
[152] *See* Marc Andreesen, *Why AI Will Save the World*, ANDREESEN HOROWITZ (June 6, 2023) (emphases in original).

The Committee and the Select Subcommittee will continue their investigation to understand the full threat to free speech in order to inform legislative solutions, such as prohibiting NSF from funding projects used to monitor speech. Matt Taibbi and Michael Shellenberger, two of the journalists at the forefront of this issue, have testified before the Select Subcommittee on the intersection of government, Big Tech, universities, and other third parties, dubbing the enterprise the "censorship-industrial complex."[153] But just how big is the censorship-industrial complex? One of the key players, Meedan, estimated that market in 2022 for "content moderation solutions" was $10 billion.[154]



With the power of the purse, the House of Representatives is uniquely positioned to legislate to protect fundamental First Amendment rights and end the censorship-industrial complex by draining it of its key resource: American taxpayer dollars. To be sure, other legislative solutions have been, and will continue to be, considered. Moreover, mainstream outlets are reporting that universities in the censorship-industrial complex are "ending" their disinformation programs because of civil liberties concerns identified by the Committee's and Select Subcommittee's investigation.[155]

These successes notwithstanding, the urgency of the situation cannot be overstated. New technologies are being developed that represent a threat of a different magnitude to online speech, and with it, the modern town square. At a minimum, American taxpayers should not be funding the tools that may take away one of their most important and fundamental rights. The Committee and Select Subcommittee will continue to investigate and legislate to protect Americans' freedom of speech against threats old and new.

---

[153] *See Hearing on the Weaponization of the Federal Government: Hearing Before the Select Subcomm. on the Weaponization of the Fed. Gov't of the H. Comm. on the Judiciary,* 118th Cong. (Mar. 9, 2023) (statements of Matt Taibbi and Michael Shellenberger).
[154] Meedan's Oral Pitch Slide Deck, *supra* note 74, at 24.
[155] Naomi Nix et al., *Misinformation research is buckling under GOP legal attacks*, WASH. POST (Sept. 23, 2023).

Appendix A

National Science Foundation
Office of the Director

June 13, 2023

The Honorable Jim Jordan
Chairman
Committee on the Judiciary
U.S. House of Representatives
Washington, D.C. 20515

Dear Chairman Jordan:

Thank you for your letter regarding content moderation on technology and social media platforms. The U.S. National Science Foundation (NSF) takes very seriously our responsibilities to the public, and strong oversight and stewardship of taxpayer dollars are vital to NSF's ability to deliver on its mission to promote the progress of science; to advance the national health, prosperity, and welfare; and to secure the national defense. I appreciate the opportunity to respond to your questions and NSF staff are working diligently to identify all responsive records.

For more than seven decades, NSF has been a critical component in powering the United States economy, transforming American lives, and securing the national defense. NSF advances research and innovation and American competitiveness by investing in foundational, curiosity-driven, discovery research, as well as use-inspired, solution-oriented innovations to advance key technologies and address societal and economic challenges Many of the technological advances we are benefiting from today such as Artificial Intelligence, Quantum Information Science, and Biotechnology are rooted in sustained investment over many decades. However, we currently face intense global competition in the race to develop these technologies and the workforce needed to secure the future of innovation. Our success in unlocking the promise of these and other technological developments and scientific breakthroughs will determine our continued global leadership and are central to our economic and national security.

Among the areas in which NSF is a leader on behalf of the U.S. Government is next-generation communication networks and systems. For example, NSF investments over the last two decades have led to millimeter wave technologies, dynamic spectrum sharing, and open radio access networks (OpenRAN), which are enabling the fifth, sixth, and future generations of wireless networks ("5G" and "6G"). As part of this mission, it is critical that NSF also invests in tools, technologies, and approaches to prevent, mitigate and adapt to critical threats to communication systems and assist end users with knowledge to make informed decisions.

NSF uses a rigorous merit review process to ensure funding decisions are based on a fair, competitive, and transparent process, consistent with NSF's broad mission as well as specific direction from Congress. Each proposal submitted to NSF is reviewed by science and engineering experts well-versed in their particular discipline or field of expertise. Further, All each proposal submitted to NSF is reviewed according to two merit review criteria: Intellectual

Merit and Broader Impacts. NSF's merit review process is widely considered to be the "gold standard" of scientific review. Perhaps the best evidence of NSF's success is the repeated replication of its merit review model for discovery, education and innovation around the globe. The Internet, 3D printing, the economic theory underpinning spectrum auctioning and kidney exchanges, and the first image of a black hole are all examples of the power of NSF investments in innovations and innovators.

In recent years, Congress has called on NSF to engage the research community to identify and address issues of safety, ethics and adversarial influence online. Examples of this Congressional direction include:

House Report 117-395, as referenced by the joint explanatory statement accompanying Division B, the Commerce, Justice, Science, and Related Agencies Appropriations Act, 2023, of the FY2023 Consolidated Appropriations Act (P.L. 117-328):

> *Trustworthy Algorithmic Research*.—The Committee urges NSF to increase support for research into the safety and ethical effects of content moderation and recommendation algorithms that will advance new technical methods to reduce the likelihood of unexpected negative effects from these algorithms. The Foundation shall further consider using the special authority provided under Section 5401 (f) of the National Artificial Intelligence Initiative Act, Public Law 116–283, to carry out this research. No later than 180 days after the enactment of this Act, NSF shall provide the Committee with a report on its efforts to prioritize such research.

The joint explanatory statement accompanying Division B, the Commerce, Justice, Science, and Related Agencies Appropriations Act, 2022, of the FY2022 Consolidated Appropriations Act (P.L. 117-103):

> *Online Influence.* —NSF is encouraged to consider additional research efforts that will help counter influence from foreign adversaries on the Internet and social media platforms designed to influence U.S. perspectives, sow discord during times of pandemic and other emergencies, and undermine confidence in U.S. elections and institutions. To the extent practicable, NSF should foster collaboration among scientists from disparate scientific fields and engage other Federal agencies and NAS to help identify areas of research that will provide insight that can mitigate adversarial online influence, including by helping the public become more resilient to undue influence.

The Identifying Outputs of Generative Adversarial Networks (IOGAN) Act (P.L. 116-258):

> Sec. 3. NSF support of research on manipulated or synthesized content and information security.
>
> The Director of the National Science Foundation, in consultation with other relevant Federal agencies, shall support merit-reviewed and competitively awarded research on manipulated or synthesized content and information authenticity, which may include—

> (1) fundamental research on digital forensic tools or other technologies for verifying the authenticity of information and detection of manipulated or synthesized content, including content generated by generative adversarial networks;
>
> (2) fundamental research on technical tools for identifying manipulated or synthesized content, such as watermarking systems for generated media;
>
> (3) social and behavioral research related to manipulated or synthesized content, including human engagement with the content;
>
> (4) research on public understanding and awareness of manipulated and synthesized content, including research on best practices for educating the public to discern authenticity of digital content; and
>
> (5) research awards coordinated with other federal agencies and programs, including the Defense Advanced Research Projects Agency and the Intelligence Advanced Research Projects Agency, with coordination enabled by the Networking and Information Technology Research and Development Program.

NSF has a long history of addressing these types of priority research areas through special-emphasis programs and public-private partnership to address potential biases in AI systems, with the goal of contributing to the trustworthiness of such systems. For example, the NSF Program on Fairness in AI in Collaboration with Amazon supports building trustworthy AI systems to tackle grand challenges facing society. Specific topics of interest include transparency, explainability, accountability, integrity, mitigation strategies, validation, and inclusivity. NSF's independent merit review process ensures projects funded through this collaboration enable broadened acceptance of AI systems, helping the U.S. further capitalize on the potential of AI technologies. NSF also joined with the Partnership on AI (PAI), a multistakeholder organization that brings together academic researchers, industry, civil society organizations, and other groups working together to better understand AI's impact on society, to support projects exploring the social challenges arising from AI technology and enabling scientific contributions to overcome them.

NSF's investments also aim to enhance authentic and trustworthy information and dissemination in cyberspace. For example, NSF's Secure and Trustworthy Cyberspace (SaTC) program includes, among its research topics of interest, information integrity, and particularly emerging threat models stemming from unverifiable information provenance. This includes adversarial machine learning threats in model training, deployment, and reuse; privacy risks, including model inversion and risks to individuals such as re-identification, and de-anonymization; and forensic and formal methods for analyzing, auditing, and verifying security- and privacy-related issues of AI components.

A key element of strengthening resilience against information manipulation is to empower individuals through education on how to recognize, create, consume, and propagate trustworthy information and to identify corrupted information. NSF investments support research to develop effective educational and digital literacy pathways for all age levels, demographics, and

technological experiences. The SaTC program also supports evidence-based and evidence-generating methods to improve cybersecurity education and workforce development at the K-12, undergraduate, graduate, and professional education levels. This includes approaches to improve cybersecurity learning and learning environments, new educational materials and methods of instruction, and assessment tools to measure student learning.

In your letter, you requested information specifically about NSF's Convergence Accelerator Track F: Trust & Authenticity in Communications Systems. The NSF Convergence Accelerator supports the development of new technologies that address pressing societal and economic challenges for the Nation. This particular Convergence Accelerator track is addressing the urgent need for tools and techniques that help the Nation more effectively prevent, mitigate, and adapt to critical risks to the trust and authenticity in communication systems.

The NSF Convergence Accelerator follows an ideation process for selecting convergent research topics, or "tracks," for the program's yearly cohort. The ideation process involves gathering ideas and insights from the research and innovation community to include community workshops and findings. Selected ideas must also be grounded in scientific research, suitable for a convergent approach, advance key technologies, and address a societal or economic challenge.

The selection process for Track F began in March 2020 by issuing a Dear Colleague Letter, Request for Information on Future Topics (NSF-20-061). Based on the community input, two workshop topics were chosen for the 2021 cohort track topics, one being Track F: Trust & Authenticity in Communication Systems. The selection of the topic and the subsequent workshop occurred in 2020, during the Trump Administration. The subsequent funding opportunity was released in early 2021. Track F: Trust & Authenticity in Communication Systems was selected to assist the Nation with effectively preventing, mitigating, and adapting to critical threats to national security in the form of communication systems that our adversaries seek to disrupt or exploit to negatively impact U.S. businesses, platforms, networks and more. We continue to believe it is vital for the U.S. to understand how to be resilient to these types of attacks and has the tools to do so.

In September 2021, NSF awarded up to $750,000 per team and $9 million total to twelve Track F Phase 1 teams. At the end of Phase 1, teams competed to advance to Phase 2, as envisioned in the original solicitation and consistent with all Convergence Accelerator tracks. NSF selected six Track F teams for Phase 2, awarding up to $5 million per team or $30 million total over 24 months. Please find below all the awards made through the Track F program with links that will take you to the award summaries and additional information.

NSF Convergence Accelerator Track F: America's Fourth Estate at Risk: A System for Mapping the (Local) Journalism Life Cycle to Rebuild the Nation's News Trust
Award Number:2137846; Organization: Temple University; Start Date:10/01/2021; Award Amount: $750,000.00.

NSF Convergence Accelerator Track F: An Algorithmic Observatory to Address Financial Misinformation and Disinformation in Minoritized Communities (LOI ID: L02616265)
Award Number:2137567; Organization: University of California-Irvine; Start Date: 10/01/2021; Award Amount: $750,000.00.

NSF Convergence Accelerator Track F: Adapting and Scaling Existing Educational Programs to Combat Inauthenticity and Instill Trust in Information
Award Number:2137530; Organization: Massachusetts Institute of Technology; Start Date: 10/01/2021; Award Amount: $750,000.00.

NSF Convergence Accelerator Track F: Building Trust in Communication Systems by Addressing Misinformation-Driven Online Abuse and Harassment
Award Number:2137448; Organization: George Washington University; Start Date: 10/01/2021; Award Amount: $749,222.00.

NSF Convergence Accelerator Track F: Co-designing for Trust: Reimagining Online Information Literacies with Underserved Communities
Award Number:2230616; Organization: University of Washington; Date: 10/01/2022; Award Amount: $2,611,462.00.

NSF Convergence Accelerator Track F: Expert Voices Together: Building Trust in Communication Systems by Addressing Online Abuse and Harassment
Award Number:2230683; Organization: George Washington University; Start Date: 09/15/2022; Award Amount: $2,691,316.00.

NSF Convergence Accelerator Track F: Course Correct: Precision Guidance Against Misinformation
Award Number:2230692; Organization: University of Wisconsin-Madison; Start Date: 09/15/2022; Award Amount: $2,370,316.00.

NSF Convergence Accelerator Track F: How Large-Scale Identification and Intervention Can Empower Professional Fact-Checkers to Improve Democracy and Public Health
Award Number:2137724; Organization: University of Wisconsin-Madison; Start Date: 10/01/2021; Award Amount: $750,000.00.

NSF Convergence Accelerator Track F: Misinformation Judgments with Public Legitimacy
Award Number:2137469; Organization: Regents of the University of Michigan - Ann Arbor; Start Date:10/01/2021; Award Amount: $750,000.00.

NSF Convergence Accelerator Track F: Online Deception Awareness and Resilience Training (DART)
Award Number:2230494; Organization: SUNY at Buffalo; Start Date:09/15/2022; Award Amount: $2,500,000.00.

NSF Convergence Accelerator Track F: A Disinformation Range to Improve User Awareness and Resilience to Online Disinformation
Award Number:2137871; Organization: SUNY at Buffalo; Start Date:10/01/2021; Award Amount: $750,000.00.

NSF Convergence Accelerator Track F: Actionable Sensemaking Tools for Curating and Authenticating Information in the Presence of Misinformation during Crises
Award Number:2137806; Organization: Ohio State University; Start Date:10/01/2021; Award Amount: $749,999.00.

Through the programs mentioned above and other funding opportunities, as well as the specific funded projects, NSF seeks to invest in research, innovation, and workforce development that will benefit society by deepening our understanding of a changing technological information environment and provide the public with tools to safely navigate it.

NSF is working to identify and produce other documents responsive to your request. We appreciate your patience and will follow up with the Committee staff in the near future to coordinate further productions. Please feel free to contact [redacted], Head of the Office of Legislative and Public Affairs, at ([redacted] if you have any additional questions.

Sincerely,

Sethuraman Panchanathan
Director

Cc: The Honorable Jerrold Nadler
Ranking Member
Committee on the Judiciary
U.S. House of Representatives

Appendix B

Message

From: Pozmantier, Michael [@nsf.gov]
on behalf of Pozmantier, Michael <@nsf.gov> [@nsf.gov]
Sent: 11/22/2021 7:59:55 PM
To: Tripodi, Francesca Bolla i@email.unc.edu]; @temple.edu]; Mike Wagner [@wisc.edu]; Michael Wagner [@wisc.edu]; @hackshackers.com]; Scott Hale [@meedan.com]; @uw.edu]; @email.gwu.edu]; @buffalo.edu; @uci.edu]; @uw.edu]; @cogsec.org; Paul Resnick [@umich.edu]; i@cse.ohio-state.edu]
CC: Smith, Shelby L. @nsf.gov]
Subject: NSF Convergence Accelerator: Track F Media Strategy
Attachments: Track F Media Strategy_v1.docx

All,

Thank you for participating in the meetings what were held on November 2, we learned quite a bit through the two discussions-- *I've also included those of you who couldn't make the meetings to get your input as well.* It's a taken a bit longer than I had hoped to get the notes and so forth together to begin to turn the discussion into actions. Please take a look at the attached document and send any comments back to me to coordinate any updates or additional guidance you may have. In addition, we need to start on the action items such as developing a basic media training kit, advanced training, and the response checklist. Given all of your experience and your equity in NSF doing a better job in how we deal with the media on this topic, this will be a joint effort. Some of you may already have these items developed or have done it before, so we're happy to defer to you in guiding the efforts here.

Please let me know which areas you'd like to contribute to. I'm hoping this will not result in much additional work for anyone and expect this to a be an iterative process that will see us ready to adopt the response checklist and provide the media kit and training beginning in January.

Feel free to pass this along to anyone on your teams that you feel should be included.

Happy Thanksgiving,

Mike

Media Strategy

Background

Due to the nature of the research/work being conducted by the Track F: Trust and Authenticity in Communication Systems funded projects, it is likely that NSF and the project teams will become a focal point for the various groups including media, non-profit, and other organizations. This is based on the response to reporting on a project focusing on helping local journalists understand how their work might be misused. An article written by an organization that is followed by various groups/publications with extensive reach was republished with the project being mischaracterized in the process, resulting in angry emails to NSF's media external mailbox. This process continued with a mention in another article further mischaracterizing the project in a more mainstream source.

Knowing that Track F is a controversial topic, it's important for NSF to proactively develop a strategy to enable the Foundation and funded researchers to be in sync. Additionally, many of the PIs, Co-PIs, and Sr. Personnel working on Track F projects have extensive experience dealing with this issue. Two meetings were organized by the Convergence Accelerator to draw upon this expertise, to develop the strategy to help prevent or lessen opportunities for the spreading of misinformation about the Track.

The result of these meetings was a set of recommended activities and artifacts to be developed by NSF, the Convergence Accelerator, and the teams to be used to assist in minimizing and responding to issues. The information would also be shared with NSF's Office of Legislative and Public Affairs and other relevant parties.

Recommendations

Messaging:

- Always highlight the pro-democracy nature of the Track and each project
- Always be accurate, any inaccuracies can be a hanging thread to be pulled
- If possible, focus on the non-ideological nature of work
    - Give examples of both sides **(I'm not a fan of always trying to show both sides because they are not always equal in impact and showing both sides can distort)
    - When it's possible, use sports metaphors
- Focus on the scientific process

Protective Measures:

- Subscribe to monitoring service(s) to proactively help manage when project information is published and possibly miscommunicated.
- Subscribe to scrubbing services, such as DeleteMe

Media Training:

Develop and provide media training to NSF Convergence Accelerator staff and funded researchers understand media engagement best practices, internal communication processes, and standard messaging. The multi-level training will include basic training and an advanced training.

- Multi-level
  - Basic training
    - Media engagement best practices
      - Interview requests (e.g., Who to involve, when to provide a written statement or have a live interview, etc.)
      - Speaking in plain language
      - Highlighting the scientific strategy, value and impact
    - Reporter terminology (e.g., What does it mean to be 'On the record', 'Off the record, or 'On background'?)
    - Standard key messaging about the NSF Convergence Accelerator, Track F, each funded project
    - Examples of media outlets to not engage
    - Processes: Notifying your organization of the media request, when to notify NSF
  - Advanced
    - Harassment:
      - How to respond to harassment (accompanied by Checklist)
      - Who to notify if harassment is received

Develop Response Checklist

Actions:

1. Create a talking points document
2. Put together list of scrubbing and monitoring services
   a. Some may offer free service to researchers, if not this is an allowable project expense
3. Develop Media Basic Training Kit that can be provided without a training session
4. Design a Media Training Session to go over more advanced topics
5. Develop Response Checklist in conjunction with advanced training

Appendix C

Message

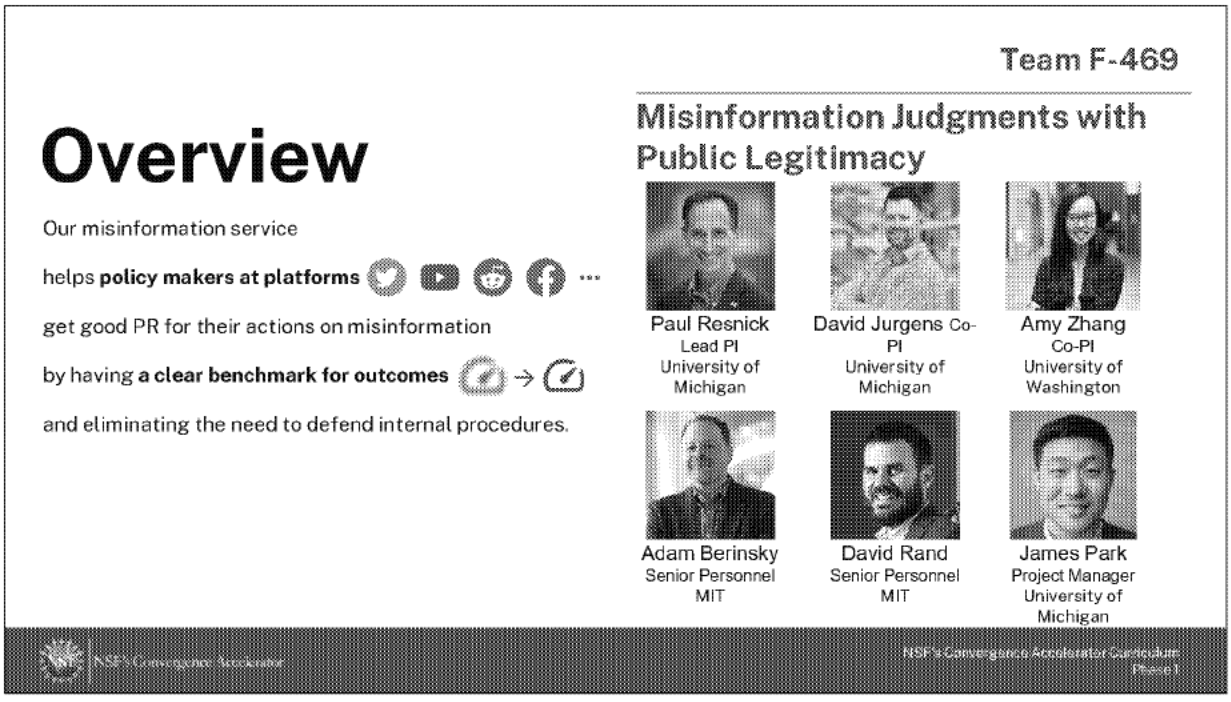
From: James Park [[redacted]@umich.edu]
Sent: 10/26/2021 10:38:52 PM
To: [redacted]@strategixmanagement.com
CC: [redacted]@nsf.gov
Subject: Team 469 - first pitch slides
Attachments: Team469_First Pitch_10.27.2021.pptx

Hello, Convergence Accelerator team,

Please find attached the slides for Team 469's first pitch. We look forward to seeing you all tomorrow.

Thanks again,
James

--
James C. Park
Assistant Director, Center for Social Media Responsibility
School of Information | University of Michigan



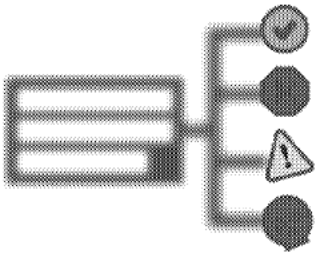
Substituted clear benchmark for: "externalizing responsibility for assessing the validity of particular actions"Our misinformation service helps policy makers at platforms
who want to
Get people off our backs for how we act on misinfo
Do the things we know work without backlash
Push responsibility for difficult judgments to someone outside the company
Feel good about how they are acting on misinfo
legitimate way to act on misinformation ,
By
Externalizing the difficult responsibility of censorship
Measuring/defending outcomes instead of procedures
and Eliminating the need to defend specific procedures.

Why

Everyone agrees platforms should slow the spread of misinformation ***but*** *they disagree on which content is misinformation.*

Customer Problem Statement

Any action Platform Product Policy owners take will be criticized.
Thus, they are reluctant to innovate and to be transparent.



Because there there is no clear benchmark for determining whether a new procedure is more effective and fair...

We can unleash platforms to stop misinformation if society can agree on how to evaluate what is misinformation.

Previous possibilities for why:
There is widespread agreement
Misinformation undermines liberal democracy by eroding the commonly accepted facts that allow society to reach consensus.

The misinformation-informed partisan definitions of facts are increasingly divergent, making efforts to curtail misinformation by social media companies untenably controversial. Thus misinformation is accelerating the fracture of modern society.

Our work reestablishes bipartisan consensus on truth and therefore enables platforms to curtail the spread of misinformation, saving modern democracy.

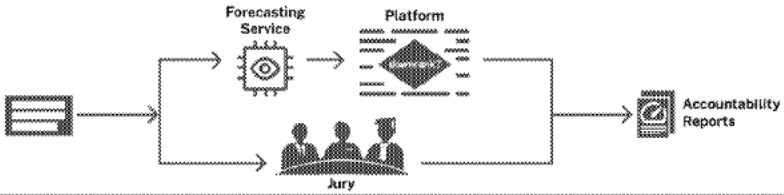
How

Value Proposition

Our external service will provide **publicly legitimate judgments.** Platforms can focus on the engineering challenge of approximating the correct decisions quickly and at large scale.

Deliverables

A ***golden set service*** will convene juries.
Accountability reports will use the jury judgments.
A ***forecasting service*** will provide, for any content item, a forecast of jury outcomes.



A major initial project activity will be to determine the conditions of public legitimacy for such jury processes. Alternative design elements include: who would be the jurors; how would case materials be selected; how would juries deliberate? The second servic

Appendix D

PROJECT SUMMARY

Overview:

The health of a democracy depends on the public's ability to access reliable information (Hobbs, 2010; Mihailidis & Thevenin, 2013). Learning how to find information and assess its quality is essential to making informed personal and civic decisions (Lynch, 2017; Metzger et al., 2010). On the Internet, traditional gatekeepers and hallmarks of authority are largely absent. Moreover, few understand how search engines work and the role that search terms play in shaping the information returned. If people consume information without the ability to assess its credibility—unable to tell who is behind a cause and what their motives might be—they are easy prey for groups that seek to deceive, mislead, and manipulate. In these ways and others, the toxic effects of disinformation have chipped away at the foundations of democracy the world over (Diamond, 2020; Levitsky & Ziblatt, 2018). Members of our team have developed and evaluated cost-effective interventions that teach K-12 and college students to find trustworthy online sources in a wide variety of domains. Based on research with professional fact checkers (Wineburg & McGrew, 2017, 2019), these interventions teach civic online reasoning—skills that allow Internet users to efficiently evaluate the information that flows across their screens. Rigorous studies conducted in secondary school and college settings show that these interventions improve students' ability to distinguish between quality digital information and sham (Breakstone et al., 2021a; 2021b; Brodsky et al., 2019; McGrew, 2020; McGrew et al., 2018).

In the Convergence Accelerator program, we will shift our attention from public education to education of the public. Through a three-year road map, and with partners in academia, industry, nonprofit, and government, we propose a multidisciplinary human-centered design process for adapting effective interventions to new contexts--based on our expertise in the sociology of information, effective web reading practices, curriculum development, and online delivery at scale. We will disseminate effective approaches through an open software platform that integrates educational interventions and assessment. We will test this approach with populations often excluded from information literacy efforts and who may be more vulnerable to misinformation campaigns, such as rural and indigenous communities with limited access to high-speed internet, military veterans, older adults, and military families.

The project's Phase I output will be to co-design, test, adapt, and scale misinformation interventions that have proven effective within educational settings to the broader public. In Phase I, we will work with Humanities Montana, a convener of libraries and cultural institutions and advocate for engaged citizenship, to adapt proven educational interventions to serve rural, low-income citizens, including indigenous populations, in libraries and other community settings. Such efforts will require expertise in the study of existing media practices of selected sub-groups, experience with developing and assessing civic online reasoning interventions, and a proven track record of designing and delivering educational experiences at scale.

Intellectual Merit:

We will develop a flexible, human-centered design process for adapting existing search literacy interventions to particular contexts. In Phase II, we will use this design process to create targeted interventions for a range of groups outside the formal educational system who are vulnerable to misinformation campaigns, including for military veterans, military families, older adults, immigrant populations, and low-income urban residents.

Broader Impacts:

The broader impacts of our research will be 1) to widely disseminate resources for effective search practices across diverse communities through public media and online learning resources, 2) to publish in journals, conferences, and other venues use-inspired research that provides a road map for understanding the deep stories and search practices of particular communities and using that understanding to adapt existing, effective interventions to new contexts, and 3) to develop an openly-licensed integrated software platform of simulations and assessments that allow for the evaluation of interventions across diverse contexts.

TABLE OF CONTENTS

For font size and page formatting specifications, see PAPPG section II.B.2.

	Total No. of Pages	Page No.* (Optional)*
Cover Sheet for Proposal to the National Science Foundation		
Project Summary (not to exceed 1 page)	1	
Table of Contents	1	
Project Description (Including Results from Prior NSF Support) (not to exceed 15 pages) **(Exceed only if allowed by a specific program announcement/solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)**	15	
References Cited	5	
Biographical Sketches (Not to exceed 2 pages each)	8	
Budget (Plus up to 3 pages of budget justification)	18	
Current and Pending Support	51	
Facilities, Equipment and Other Resources	3	
Special Information/Supplementary Documents (Data Management Plan, Mentoring Plan and Other Supplementary Documents)	20	
Appendix (List below.) **(Include only if allowed by a specific program announcement/ solicitation or if approved in advance by the appropriate NSF Assistant Director or designee)**		
Appendix Items:		

*Proposers may select any numbering mechanism for the proposal. The entire proposal however, must be paginated. Complete both columns only if the proposal is numbered consecutively.

NSF Convergence Accelerator Track F: Adapting and Scaling Existing Educational Programs to Combat Inauthenticity and Instill Trust in Information[1]

Overview

The health of a democracy depends on the public's ability to access reliable information (Hobbs, 2010; Mihailidis & Thevenin, 2013). Learning how to find information and assess its quality is essential to making informed personal and civic decisions (Lynch, 2017; Metzger et al., 2010). On the Internet, traditional gatekeepers and hallmarks of authority are largely absent. Moreover, few understand how search engines work and the role that search terms play in shaping the information returned. If people consume information without the ability to assess its credibility—unable to tell who is behind a cause and what their motives might be—they are easy prey for groups that seek to deceive, mislead, and manipulate. Just as important, citizens who feel unable to identify misinformation are less likely to engage in sharing *any* information, even when that information may be reliable and socially beneficial (Yang & Horning, 2020). In these ways and others, the toxic effects of disinformation have chipped away at the foundations of democracy the world over (Diamond, 2020; Levitsky & Ziblatt, 2018).

Members of our team have developed and evaluated cost-effective interventions that teach K-12 and college students to find trustworthy online sources in a wide variety of domains. Based on research with professional fact checkers (Wineburg & McGrew, 2017, 2019), these interventions teach a set of skills—*civic online reasoning*—that allow Internet users to efficiently evaluate the information that flows across their screens. Rigorous studies conducted in secondary school and college settings show that these interventions improve students' ability to distinguish between quality digital information and sham (Breakstone et al., 2021a; 2021b; Brodsky et al., 2019; McGrew, 2020; McGrew et al., 2018).

In the Convergence Accelerator program, we will shift our attention **from public education to *education of the public.*** Through a three-year road map, we propose **a multidisciplinary human-centered design process for adapting effective interventions to new contexts--based on our expertise in the sociology of information, effective web reading practices, curriculum development, and online delivery at scale. We will disseminate effective approaches through an open software platform that integrates educational interventions and assessment.** We will test this approach with populations often excluded from information literacy efforts and who may be more vulnerable to misinformation campaigns, such as rural and indigenous communities with limited access to high-speed internet (Swire-Thompson & Lazer, 2020), military veterans (House Veterans' Affairs Committee, 2020), older adults (Guess et al., 2019), and military families (Newman, 2021).

The project's Phase I output will be to **co-design, test, adapt, and scale misinformation interventions** that have proven effective within educational settings to the broader public. In Phase I, we will work with Humanities Montana, a convener of libraries and cultural institutions and advocate for engaged citizenship, to adapt proven educational interventions to serve rural, low-income citizens, including indigenous populations, in libraries and other community settings. If the goal is to educate *every* Internet user, we must develop processes that allow us to adapt and deliver the tools developed by our team to new contexts and populations. Such efforts will require expertise in the study of existing media practices of selected sub-groups, experience with developing and assessing civic online reasoning interventions, and a proven track record of designing and delivering educational experiences at scale.

Educational interventions need to account for the distinct media literacy practices of different communities, including where they go for information they can trust and how they come to trust those sources. We will ground our work in ethnographic methods to understand *existing media literacy practices.* By understanding the "deep stories" (Hochschild, 2016; Tripodi, 2018) that communities bring with them when they search (e.g., Lee et al., 2021), our work will provide more context to how these processes are exploited by media manipulators and foreign governments. This research will inform how we adapt our interventions to help citizens become discerning consumers of digital content.

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[1]The title has evolved slightly since the Co-PIs submitted the letter of intent with this title: *Lateral Reading for All--Adult Educational Programs for Effective Search Practices to Combat Inauthenticity in Communication*.

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In Phase I, through a co-design process, we will develop a searchable library of tasks and curriculum materials with detailed guidance about implementation in diverse contexts. To achieve the goal of adapting, testing, and scaling community-centered misinformation interventions, we will bring together diverse stakeholders to prototype and test a range of interventions that will include workshops and classes, online learning modules, public service announcements (PSAs), posters, and other resources and activities. In developing materials, we will build on extensive experience creating free online curricula, professional development workshops, open online courses, and public media (in partnership with Retro Report, a premier documentary news organization that produces videos for the New York Times and other news organizations). We will evaluate materials using digital clinical simulations (Thompson et al., 2019) and other tested assessment tools (Breakstone et al., 2021a; 2021b; McGrew et al., 2018). We will then disseminate materials through partnerships with organizations like Humanities Montana, as well as develop an online repository of our resources of adapted intervention materials for use in communal settings (e.g., libraries, senior centers, and places of worship). This initial set of materials will be made available through Stanford's existing Civic Online Reasoning website, a site that has logged 180,000 curriculum downloads in the last 18 months. Above all, we will develop a flexible, human-centered design process for adapting existing interventions to new contexts.

In Phase II, we will extend this human-centered design process **to create and scale targeted interventions for a range of additional groups who are especially vulnerable to misinformation campaigns**, including military veterans, military families, and older adults. We will follow the process developed in Phase I: (1) generate ethnographic understanding of existing information-seeking practices; (2) prototype interventions based on patterns identified during ethnographic research; (3) engage in an iterative prototyping and testing with key community stakeholders; and (4) archive effective approaches, resources, and assessment prompts. To support our work across multiple contexts, **we will develop an integrated learning and assessment platform** that includes digital clinical simulations of challenging tasks in civic online reasoning, diverse assessment items that evaluate intervention effectiveness with distinct populations, and curricular materials for community settings like senior centers.

The multidisciplinary, multi-sector team brings expertise in combating misinformation from a range of disciplines and methodological training including: sociology, education, the learning sciences, information science, civics, adult online and blended learning, personalized learning at scale, and psychometrics. The team includes members from nonprofit, industry, and academia, with proposed partnerships in health care and the military to be developed during Phase I in preparation for Phase II.

A. Objectives and Significance of the Proposed Activity

The overarching goal of this work is to equip the general public with the knowledge and skills needed to find trustworthy information online. Understanding communities' unique media literacy practices-- where they go for information, how they come to trust that information, and how their orientation to search inputs influences outputs (Tripodi, 2018)-- is crucial to the success of training and intervention delivery. Unlike decontextualized interventions and games, the key to our success is authentic task environments of the live web (Caulfield, 2017; McGrew, 2020; Wineburg & McGrew, 2017). Our three year roadmap **expands our efforts beyond traditional classrooms** to **generate a software platform for research and interventions that can analyze, identify, and respond to the unique socio-technical features** of the communities we wish to serve. We will adapt and test existing interventions for use with groups at increased risk for falling prey to inauthentic behavior. Through this iterative process, we will create a repository of curriculum and assessment materials that will be made freely available online. Our core objectives for the proposed activities include:

1. **Build a Multi-Sector Partnership:** Establish a collaborative community with partners from academia, non-profits, the military, and industry to build human-centered, use-inspired interventions that foster trust in communication among the public.

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2. **Seek Information on Information Seekers:** Assess how groups decide what information they trust, where they go for news and information, and how they understand the algorithms that drive search engines like Google.
3. **Co-Design Prototype Interventions:** Building on existing interventions developed by our team, create co-design tools, media and curricula that meet the needs of the target communities.
4. **Iteratively Evaluate Intervention Effectiveness:** Evaluate implementation and engagement in target communities, and how much new interventions improve civic online reasoning
5. **Disseminate Insights and Tools to the Field:** Distribute resources including a public-facing report, an online repository of free curricular materials, an interactive e-learning tool, a collection of professionally produced videos, assessment items, and digital clinical simulations.

Through a set of tasks described in *D. Coordination Plan* below, including participation in the NSF Innovation Curriculum, the proposed work will address these **guiding questions:**

1. Where do people go for information they can trust and how do they come to rely on this information? To what extent are these practices shaped by community norms and values? How do these practices vary across communities? How well do users understand the technology they use to validate information (e.g., Google or Wikipedia)?
2. Can community-centered education and training materials that result from the convergence approach create more digitally discerning citizens?
3. To what extent should intervention approaches differ across communities and contexts? What parts of effective interventions are most likely to require contextual adaptations, and what aspects typically work across contexts?

From Public Education to *Educating the Public*: Evaluating What Works and For Whom

The baseline of search skills in the U.S. population is dangerously low. People struggle to evaluate online information. Participants who said they would base evaluations on source information rarely did so when observed in real time (Eysenbach & Köhler, 2002; Flanagin & Metzger, 2007; Hargittai et al., 2010). Individuals frequently ignored source information (Bartlett & Miller, 2011; Barzilai & Zohar, 2012), focusing instead on the relevance (rather than quality or accuracy) of the information provided (Walraven et al., 2009) and basing their conclusions on a website's surface-level features (Coiro et al., 2015; Hargittai & Young, 2012; McGrew et al., 2018). These findings may reflect deficiencies in how people are taught to judge the credibility of Internet sources. Many of the most widely used website evaluation materials—including those appearing on prestigious university websites—feature outdated strategies that can lead students astray (Breakstone et al., 2018; Caulfield, 2017; Sullivan, 2019; Wineburg et al., 2020; Wineburg & Ziv, 2020). In the largest study of its kind (Breakstone et al., 2021a), 3,446 high school students were provided a live Internet connection and tested on a series of tasks. On one, students were shown an anonymously produced video that circulated on Facebook claiming to show ballot stuffing during Democratic primary elections and asked to use Internet-enabled computers to determine whether the video provided strong evidence of voter fraud. Despite access to the Internet's powerful search capabilities, just three of the study's more than three thousand participants were able to divine the true source of the video, which actually featured footage of voter fraud in Russia.

The encouraging news is that there are cost-effective solutions for improving digital discernment at scale. Studies conducted in the last few years suggest that it is possible to improve individuals' digital savvy through focused educational interventions based on research with professional fact checkers (Breakstone et al., 2021a; 2021b; Brodsky et al., 2019, 2021; Kohnen et al., 2020; McGrew, 2020; McGrew et al., 2019). Wineburg and McGrew found substantial differences in how expert fact checkers approached digital content compared with intelligent but less competent searchers (Wineburg & McGrew, 2016a, 2016b, 2017, 2019). While less competent web readers tended to focus on reading the information in front of them, fact checkers did the opposite, opening up new tabs across the horizontal axis of their browsers and searching for information about the organization or individual behind it—a skill we call *lateral reading*. Only after surveying other sites did fact checkers return to the original site. Using this

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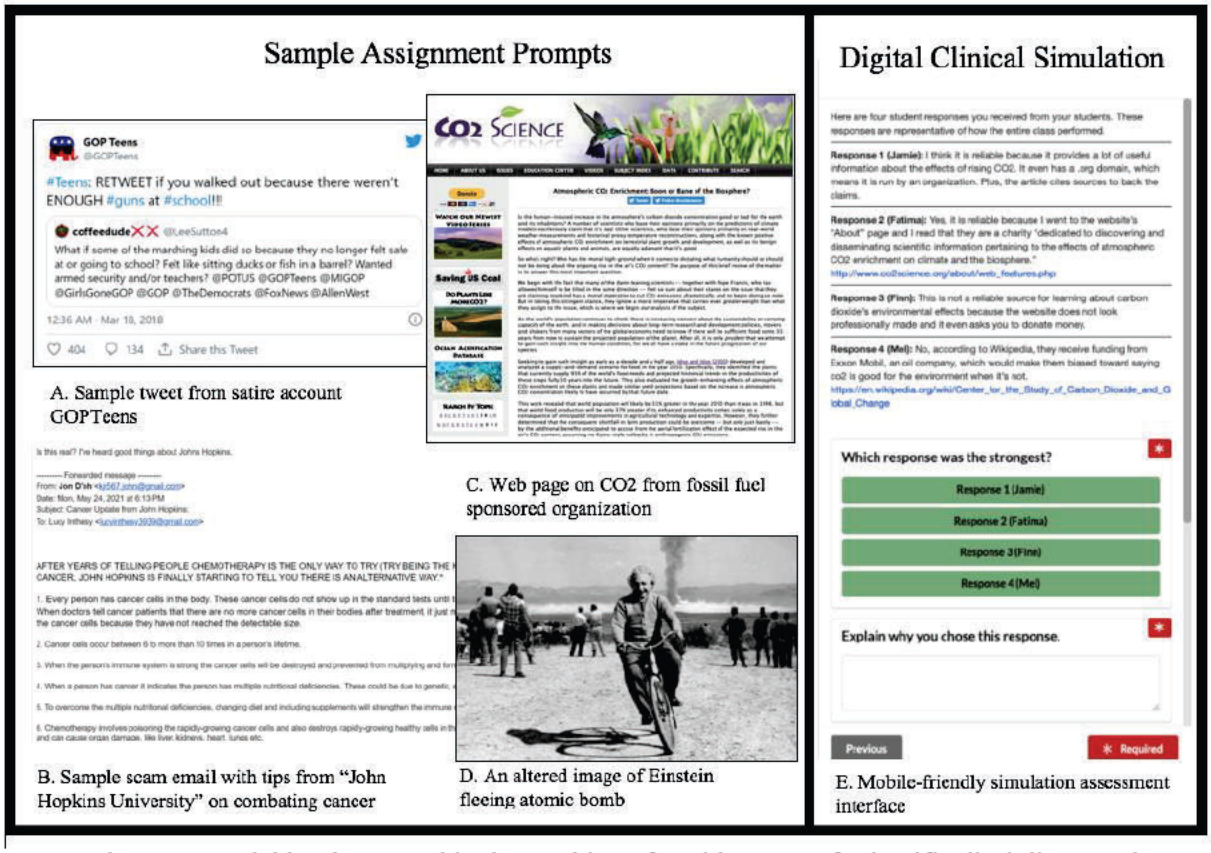
approach, fact checkers quickly sized up sites that masked their intent and backers. Students and academics, on the other hand, dwelled on the original site, often resulting in confusion about its real agenda or sponsor. Lateral reading allowed fact checkers to quickly answer a crucial question: *Who's behind the information, and what are the strengths and weaknesses of this source?*

Recent lateral reading educational interventions have been conducted in K-12 settings (Kohnen et al., 2020; McGrew, 2020) and college classrooms (Breakstone et al., 2021b; McGrew et al., 2019; Brodsky et al., 2019, 2021) to test whether students can learn and apply these strategies. In work based both on the Stanford History Education Group's (SHEG) Civic Online Reasoning (COR) curriculum and co-PI Caulfield's SIFT model (Stop, Investigate the source, Find better coverage, Trace claims; Caulfield, 2019), instructors provided students with explicit instruction on how to evaluate a range of digital content, and students practiced these skills through engagement with real online sources. Pretest and posttest measures asked students to evaluate the credibility of unfamiliar sources in authentic online environments with live Internet connections. Empirical data shows that students successfully apply lateral reading and identify reputable sources and claims, sometimes with only a few hours of training. In Exhibit 1, we show sample assignment prompts (Caulfield, n.d.) such as twitter posts (Panel A), scam emails (Panel B), sponsored source web pages (Panel C), and altered photographs (Panel D) that the team has used in prior interventions. On the right is a mobile friendly simulation assessment that asks participants to assess the reliability of a website (Panel C). Participants are shown the images and a set of related claims, and they are asked to determine the level of authenticity, trust, and evidence to support those claims. A large-scale practice and assessment bank would allow the team to adapt training materials so they resonate with the user. We will bring this human-centered, use-inspired approach to Phase 1 and Phase 2 deliverables.

Exhibit 1. Sample Assessment Prompts and Evaluation Interface in Online Learning Environment



The SIFT model has been used in the teaching of a wide range of scientific disciplines, and SHEG's work has shown great promise in domain transferability: students who showed digital

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discernment in one topical domain (such as nutrition) were able to transfer their strategies to evaluating sources in another domain (Breakstone et al., 2021b). Adoption of these methods has been accelerating in higher education and K-12. Caulfield's SIFT method is widely disseminated in university library-based information literacy training (Warzel, 2021) and recently, a pilot with CIVIX Canada, involved 3,000 K-12 students in 96 classrooms (CIVIX, n.d.). SHEG's COR materials, which span multiple topics and disciplines, have been downloaded more than 180,000 times, featured in *TIME Magazine* (Steinmetz, 2018), and integrated into legislation on digital literacy (California SB-135, 2018). Below, we detail our human-centered design process for building the underlying beliefs and cultural norms of non-student populations into a training and delivery system for civic online reasoning.

The Need for a Human-Centered Solution to a Technology Problem: The Role of Context in Misinformation Intervention Efficacy

Investigating how different populations understand information ecosystems, engage in search practices, and respond to misinformation interventions are all critical precursors to adapting proven educational interventions at scale. Research is needed on how different groups assess information and how media literacies vary across groups. Use-inspired research into how people understand algorithms, personalization, and how our information environment is constructed is a necessary precursor to developing effective interventions that serve the needs of diverse populations.

In her ethnographic study of two conservative groups, Tripodi (2018) found that information-seekers engage in a distinct set of media practices tied to the way they see the world. One practice centered around the close reading of textual documents deemed sacred (e.g. the Bible or the Constitution). By inverting traditional assumptions that truth is only curated at the top, this media practice allows for everyday people to act as subject matter experts. These practices, which developed and emerged in a print era, have been adapted to online search practices. Because interviewees distrusted both journalists and academics, they drew on this practice to fact check how media outlets reported the news.

In fact, many respondents may have believed they were engaging in "lateral reading" (e.g. "doing the research" using Google). However, their approach differed in crucial respects. Unlike professional fact checkers, who practice "click restraint" (Wineburg & McGrew, 2017), users focused on the top results of Google, seldom scrolling down or looking at subsequent paged results (Tripodi, 2018). While lateral readers try to find secondary sources that reliably summarize expert consensus on sources and claims (Wineburg & McGrew, 2017; Caulfield, 2017), respondents often focused on reading a wide array of *primary* sources, and performing their own synthesis (Tripodi, 2018). While lateral readers seek to eliminate bias that might skew results from search terms (Caulfield, 2017), respondents made no such effort. Finally, unlike expert lateral readers, respondents evaluated search terms based on the nature of the results returned. One participant saw the fact that most results presented a similar story as evidence of a "rigged" media, rather than a heuristic of expert or professional consensus — and re-ran the search with new terms (Tripodi, 2018).

Findings from this one subpopulation underscore the variations that we expect to find among different groups. On the one hand, respondents lacked key understandings and techniques to search effectively and adhered to deeper narratives that might make them suspicious of any intervention that privileges mainstream sources or recognized experts. On the other hand, the community possessed one of the hardest things to foster in students — the habit, a deep part of their practice, of opening up more than one tab. In a related vein, many conservatives today are concerned about algorithmic bias (Vaidhyanathan, 2019; Tripodi 2019a; Tripodi 2019b) in ways most students are not. Yet, in the context of deeper communal narratives of media conspiracy, this algorithmic awareness may not yield greater search competency and may erode institutional trust.

Communities Disproportionately Targeted. Over the full scope of a three-year project, we propose to use human-centered design processes to adapt search literacy interventions to new contexts and populations. We are particularly interested in developing resources for underserved populations who have complex relationships with institutions designed to instill community trust (e.g., government, health care,

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social services). Disinformation works in conjunction with sociopolitical factors to increase the spread of problematic content (Freelon & Wells, 2020). For example, ahead of the 2020 election, a cybersecurity firm found that suspicious accounts targeted indigenous groups by exploiting tensions between indigenous nations and the U.S. government (Groupsense, 2020). Fragile relationships between government health agencies and indigenous groups in Brazil pose similar difficulties when it comes to establishing trust in the COVID-19 vaccine (BBC News, 2021). Strategically targeting groups with curated content that resonates with their audiences makes a misinformation campaign effective (Yin et al., 2018). However, most rigorous interventions regarding media literacy do not take into account the cultural contexts by which various groups decide what information to trust. We propose **in-depth investigation and information literacy interventions** in the following contexts:

1) Libraries in rural areas of the United States, especially those serving adults who live in low-income or isolated settings with limited access to high-speed internet
2) Military families, veterans, and related groups
3) Older adults, especially those facing challenges from cognitive impairment

Preliminary conversations with stakeholders from these groups indicate the diversity of these groups' information needs and of the misinformation threats they face. For instance, active duty military service members, their families, and veterans are all linked by common experiences and service, but their information needs and practices differ by context and by generation. Interventions to serve them will need to differ as well. In developing early partnerships with military groups, we heard different needs from different subpopulations in these groups. We will work with educators in the Department of Defense Education Activity (DoDEA) group, the organization that runs DoD schools on military bases, to adapt our interventions to both directly serve children in military families and then have students share their new learning with their families. When we discussed these ideas with DoDEA stakeholders, they immediately brought up concerns about military personnel involvement in the January 6 assault on the Capitol and the subsequent anti-extremism training that is a military priority (PBS NewsHour, 2021).

By contrast, in developing our partnerships with colleagues who work with older adults in the Veterans Affairs (VA) system, their concerns were more related to financial scams, medical misinformation, and threats that are particular to veterans facing cognitive impairment. Research reveals that patterns of neurocognitive and psychiatric comorbidities of posttraumatic stress disorder make older veterans particularly vulnerable (Kang, Xu, & McConnell, 2018). A core research question of our proposal involves understanding how to efficiently adapt interventions to diverse populations. Effective interventions are contingent on understanding how various groups establish trust. What features of the instructional design, pedagogical approach, examples, delivery mechanism, or assessments of an intervention need to be adapted for rural libraries, veterans, and children and families of active duty soldiers? If we can identify features that work across contexts and those that need to be context-specific, we can more efficiently adapt proven interventions to new populations.

The Opportunity: Building Publicly Accessible, Adaptable, Scalable Interventions to Prepare Digitally Discerning Citizens

Phase I Overview. In Phase I, we will begin our initial work through a partnership with Humanities Montana and their network of rural libraries and cultural institutions. We will target the search literacy learning needs of rural adults and tribal groups, with a focus on patrons who use the library as their primary means of Internet access. We will identify 3-5 institutions to work with closely, and then begin a human-centered design process with the following stages:

1) **Ethnographic field work in Montana with library patrons and tribal groups in rural areas:** We will conduct field interviews, observations, and think aloud protocols with 15-25 library patrons across multiple institutions, settings and cultural contexts to better understand their existing media literacy practices. This preliminary work will identify how patrons decide what information to trust and test their current understanding of search engines, their results, and the Internet context.

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2) **Co-design of prototype interventions**: Working with Humanities Montana, our team will connect with front-desk librarians, library system leaders, and influencers in tribal groups to conduct a set of human-centered design sessions. These sessions will focus on developing prototype interventions in multiple media—workshops, online learning modules, posters, PSAs, search aides—that help rural and Montanans improve their civic online reasoning.
3) **Assess effectiveness:** Using our extensive assessment experience, we will use a combination of digital clinical simulations (described below) and assessment items to evaluate which interventions appear most promising for improving patron searches.
4) **Bring promising interventions to scale**: Drawing on the experience of the MIT Teaching Systems Lab and our partners at Retro Report, we will build an online repository of openly licensed versions of our most promising interventions and disseminate with partners.
5) **Evaluate the nature and type of adaptations**: We will compare our final set of adapted interventions in the Montana context with the core, proven interventions that we have used widely in K-20 settings to identify the kinds of adaptations necessary. By understanding how we adapt core materials to the cultural needs to rural library patrons and tribal groups we can develop hypotheses for how our team can adapt effective interventions in new contexts (e.g., veterans, military families, older adults) in Phase II and what parts work across contexts.

During Phase I, we will include our partners from DoDEA and affiliates with the VA system so that we begin to engage them in this co-design work. We anticipate substantial logistical challenges in arranging access to work with military populations and patients in Veterans Administration medical care, such as understanding the restricted Internet access in active duty contexts and developing adequate arrangements with human subjects boards (IRB) to study veteran populations. We propose working on these challenges in Phase I, so we are ready in Phase II to begin work in these additional contexts.

Technology Innovations for Simulation and Assessment. A key component in our efforts to prototype, improve and assess our interventions are *digital clinical simulations*. PI Reich and co-PI Wineburg, in a previous collaboration, developed a free open online course called *Sorting Truth from Fiction: Civic Online Reasoning*, which has served thousands of registrants on edX. The course includes digital simulations that allow participants to practice civic online reasoning skills in a partly-controlled environment. We develop these scenarios in our openly licensed digital simulation platform called *Teacher Moments* (Thompson et al., 2019). These simulations typically consist of five components:

1) A prompt for civic online reasoning task
2) Full access to the internet and/or a set of sample search results from lateral reading
3) Assessment items that allow participants to explain their process, findings, and reasoning
4) AI coaching agents that provide feedback and scaffolding
5) Debriefing videos that show expert search practitioners completing analogous tasks

Typical prompts ask participants to identify the source behind a website or evaluate a claim from a website or social media post. Since research shows that effective fact checkers employ lateral reading and solve information challenges by using the web to evaluate sources, our simulations always allow participants to either fully engage in searching the web, or use a set of simulated search results. We have some criticisms of proposed web literacy tasks or simulations that ask participants to evaluate web sources without access to the open web; expert fact checkers don't rely on their own intuitions as much as they seek out collective judgments found in broader information ecosystems.

Once participants have used their newly-developed skills to evaluate a source or claim, we use assessment items to ask them to describe their process, findings, decisions, and reasoning. For participants who struggle with a task or approach a task incorrectly, we provide additional, personalized support at this stage through intelligent coaching agents. For instance, in *Sorting Truth from Fiction*, we ask participants to evaluate a tweet from an account called "Republican Teens". The account is a parody/satire account. Once participants discover this, there is no need to further evaluate the veracity of the particular claim in the tweet. Through natural language processing, we were able to determine with at least 90% accuracy when participants failed to identify the account as satire, and provide targeted

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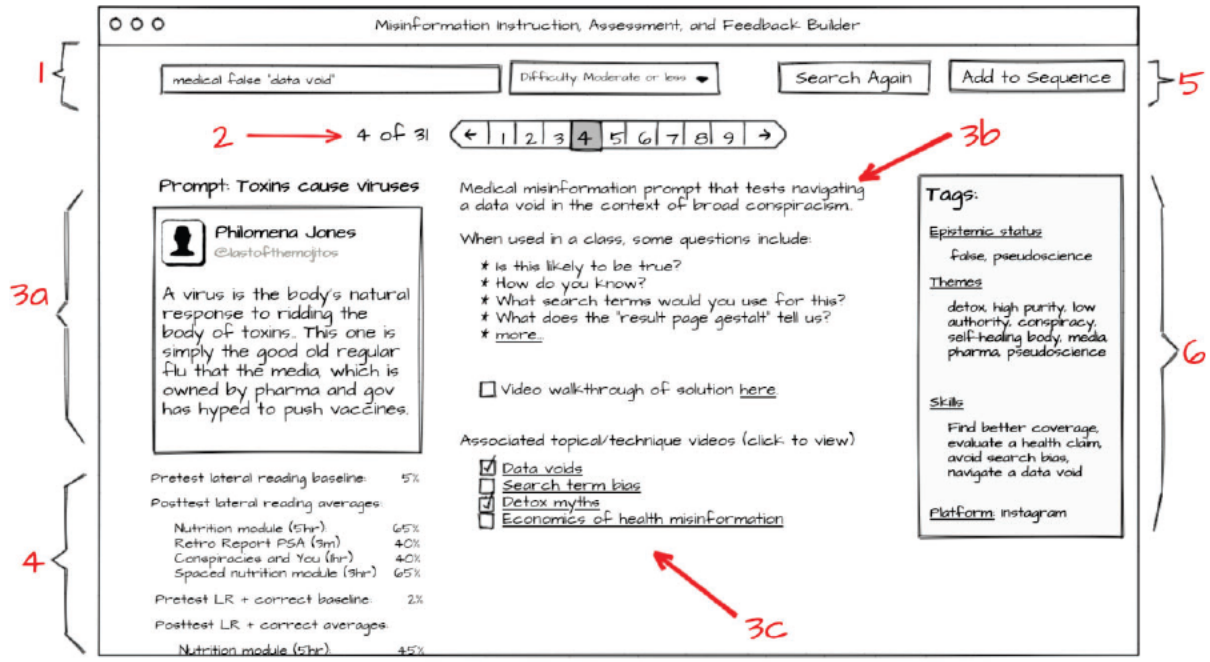
feedback. These digital clinical simulations can be used for skill development, for formative assessment, and within pre-post evaluation frameworks. We plan to use them for all three purposes.

Phase II Objectives. Over the course of Phase II, we will replicate this design cycle and develop analogous deliverables to serve library patrons across the country and underserved populations, including older adults, veterans, and military families. In Phase II, the American Library Association would be brought in as a national partner to help us scale up and implement effective interventions to libraries throughout the U.S. We will serve veterans directly through partnerships with the VA. We will serve military families by adapting our school-based interventions for students in DoDEA schools, and then develop additional supports that help teachers and students share their newly learned search practices with their active-duty family members. We will also seek to develop additional partnerships that would allow us to reach other groups.

A crucial part of developing and testing interventions in multiple contexts is a consistent framework for assessment. A key project in Phase II will be developing a bank of assessment items and digital clinical simulations that can be used across settings and compared in a psychometrically rigorous manner. We will substantially expand our assessment and digital clinical simulation work to allow for the development of hundreds of test items and simulations, and we will use item response theory to develop measures of item difficulty and discrimination that will allow educators and researchers to use different combinations of items for different contexts and assessment purposes while also allowing for consistent estimates of learning and skill development. AI coaching agents will help identify challenges of appropriate difficulty and provide targeted feedback on their performance. AI can then use difficulty tags and data to create learning sequences automatically. In Exhibit 2, we show a wireframe of an integrated platform for assessment and simulation.

Exhibit 2. Wireframe of Integrated Platform for Assessment and Simulation Phase 2 Deliverable



At the end of Phase II, we envision an assessment bank and course builder in which the user can build a customized assessment, online course, or workshop, by searching specific combinations of topics and skills (1 in Exhibit 2 wireframe). The tool generates search results (2) that include a link to a visual preview of the assessment prompt (3a) along with a description of the issues it raises (3b) and a list of related instructional videos that can be added to the sequence (3c). The interface displays data collected about baselines and post-intervention performance (4). Users can add the prompt to the course or slide

deck they are building, along with related instructional media (5), or browse related items by tags (6). AI-driven instruction and analytics insight reports automate tagging and performance data.

By the end of three years, we will have a set of adapted, scaled interventions that work in three important contexts (libraries, VA medical settings, and DoDEA schools on military bases), an online repository of openly-licensed materials and assessments that can be widely used across settings, and a set of design principles explaining how effective civic online reasoning interventions can be adapted to new contexts. We will continue to refine and iteratively improve this preliminary Phase II plan as we gain new insights from Phase I prototyping work and from our work with other convergence accelerator teams.

B. Convergence Research

Issues of trust and authenticity in communications systems are complex social problems that require a convergence approach to make significant progress— "a high level of interdisciplinarity and engagement with multiple diverse stakeholders, including researchers and the ultimate users of research products" (NSF, 2021). The Co-PIs bring deep combined expertise developing, evaluating, automating, and scaling interventions to combat misinformation with K-20 populations. Through close partnership with multi-sector leaders and their constituents in rural communities, military schools and hospitals for older adults and veterans through Phase I and Phase II, we will co-design interventions that will be relevant to these communities in terms of content (*will the examples we choose resonate with them?),* format (*how comfortable will they be with technology?*), and messaging (*do the intervention materials feature individuals who reflect the culture, language, history, and assumptions of the target community?*). An integrated partnership between developer and end-user will catalyze discovery around intervention effectiveness and adaptation, and result in a concrete set of widely available tools, training materials, and an assessment library. We will make our data public so that any sector leader or training facilitator in the country can access community-specific training materials. The **intellectual merit** of this work is in creating a true "research platform" as defined by the NSF solicitation: an "integrated collection of tools, techniques, and educational materials and programs" (NSF, 2021) that are chosen specifically for their ability to accelerate research and impact in this area.

The team brings techniques from multiple disciplines and deep experience engaging multi-sector partners: Co-PI Tripodi, trained in **sociological** methods, has led large-scale **ethnographic** studies that position the team to conduct high-quality end-user and human-centered research with the proposed target populations. She brings deep expertise making her work accessible to the general public, including repeatedly testifying to the Senate on censorship through search engines and its impact on public discourse (Tripodi, 2019a, 2019b). Co-PI Wineburg and Breakstone are trained in **the learning sciences, civics education, and assessment**. Together, they bring three decades of experience in **designing curricula** and rigorously evaluating their effectiveness. They have led some of the most widely cited studies to date about students' digital literacy and low-cost interventions to help students evaluate online sources (Breakstone et al., 2021a; Breakstone et al., 2021b, McGrew et al., 2018; McGrew et al., 2019; Wineburg & McGrew, 2019; Wineburg et al., 2016). They have also developed digital literacy videos that have been viewed over two million times on YouTube (Crash Course, 2019). With more than two decades of experience in **online and blended learning** and **community outreach**, co-PI Caulfield has spearheaded some of the most widely-adopted techniques in K-16 misinformation interventions and has significant experience tailoring educational materials to community needs. PI Reich is trained in **adult online learning** and **learning at scale**, and has expertise developing online learning tools and leveraging the rich data produced by these environments for rigorous evaluation, including integrating AI features.

C. Roles & Responsibilities and Partnerships

The multidisciplinary team brings expertise in learning science, online learning, civic education, sociology, and political media scholarship. We complement this expertise with partners from nonprofit, military, and industry sectors. Our team includes the following core members and their responsibilities:

Justin Reich (PI) is Associate Professor of Comparative Media Studies/Writing and the director of the MIT Teaching Systems Lab (TSL), where he leads a multidisciplinary team of learning scientists,

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technologists, game developers, and evaluation experts. Reich has led the design of seven award-winning open online courses for educators on edX and other platforms, including *Sorting Truth from Fiction: Civic Online Reasoning* (edX, n.d.), developed collaboratively with SHEG. Together, these courses have served nearly 100,000 registrants from around the world. Dr. Reich has managed over $12.5 million in research grants and projects, and his scholarly work on open online learning has been published in *Science, Proceedings of the National Academy of Sciences*, and other high-impact venues. Dr. Reich will provide overall management of the project and lead the development of online intervention materials.

Rachel Slama (Project Manager) is the Associate Director of the MIT Teaching Systems Lab. She brings fifteen years of experience managing complex federally-funded projects in partnership with schools, districts, and other education partners. Hallmarks of her professional trajectory include: (1) analyzing student outcome data for field impact across K-12 (Slama et al., 2017; Slama et al., 2015; Slama, 2014; Slama, 2012) and postsecondary digital and large-scale learning environments (Littenberg-Tobias et al., 2020; Ruipérez-Valiente et al., 2019; Thompson et al., 2019), (2) leading large convenings for a range of stakeholders virtually and in-person, and (3) disseminating technical work in accessible formats including at national state education agency convenings (Slama et al., 2018) and Senate briefings (Slama, 2016). Dr. Slama will serve as primary project manager, and coordinate all aspects of the project.

Sam Wineburg (co-PI) is the Margaret Jacks Professor of Education and, by courtesy, of History & American Studies at Stanford University and Fellow of the National Academy of Education. Wineburg founded the Stanford History Education Group whose curriculum and assessments have been downloaded over ten million times, making it one of the largest providers of free social studies curriculum in the world. His work since 2015 has focused on how people judge the credibility of digital content, research that has been reported in the *Wall Street Journal*, the *New York Times*, the *Washington Post*, NPR, *TIME Magazine*, BBC, MSNBC, and *Die Zeit*, and translated into dozens of languages. He will supervise Stanford's contributions, advise on research design and assessments, and collaborate on public outreach.

Joel Breakstone (co-project manager) is the director of SHEG, and leads their efforts to research, develop, and disseminate free curriculum and assessments. The SHEG website attracts more than 1.3 million visitors annually and their mailing list includes more than 130,000 educators. For the last six years, Breakstone oversaw the creation of the Civic Online Reasoning website, which won a Global Media and Information Literacy Award from UNESCO in 2020. His research has appeared in the *British Journal of Educational Psychology*, *Cognition and Instruction*, and *Harvard Kennedy School Misinformation Review*. He will work with Dr. Slama to co-manage the project and co-lead the development of curricular materials, assessments, and interventions.

Mike Caulfield (co-PI) is the director of blended and networked learning at Washington State University, Vancouver. He was a founding member of the American Association of State Colleges and Universities (AASCU) eCitizenship Project in 2010, and a board member from 2010-2013. Since 2016, he has produced a variety of curricula and educational materials on source and claim contextualization using his SIFT methodology: an award-winning open textbook, Web Literacy for Student Fact-Checkers (2017), digital materials and assessments for AASCU's nine university, 1,000+ student pilot on teaching web literacy (2017-2018), the open-source online curriculum "Check, Please!" (2019), the Infodemic website (2020), and materials, assessments, and teacher-training workshops for CIVIX Canada's 3,200 student, 96 classroom pilot for elementary and secondary school institutions (2020-2021). On this project he will lead co-design efforts to develop and implement curricular materials, assessments, and workshops.

Francesca Tripodi (co-PI) is an assistant professor in the School of Information and Library Science (SILS) and a Senior Researcher at the Center for Information Technology & Public Life (CITAP) at UNC-Chapel Hill. Dr. Tripodi's research examines how our interactions with search influence our political reality. In 2019, she testified before the U.S. Senate Judiciary Committee and explained how search processes are gamed to maximize exposure and drive ideologically-based queries. Her forthcoming book with Yale University Press titled *Searching for alternative facts: How conservative politicians and pundits wield the power of search* explores how media practices are

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exploited for politics. Dr. Tripodi will lead our ethnographic studies to ensure that interventions are grounded in deep understanding of people and contexts.

***Multi-sector Partners Working in Diverse Contexts*.** We have cultivated partners in media development, librarianship, veterans' care, and the military (please see Letters of Collaboration).

Randi Lynn Tanglen is the Executive Director of **Humanities Montana,** which serves communities through speaking to Montanans' diverse history, literature, and philosophy. The Informed Citizen project seeks to deepen the public's knowledge and appreciation of the vital connections between democracy, the humanities, journalism, and an informed citizenry. The Democracy Project engages teens in civic action through partnerships with local libraries and community organizers. Humanities Montana has a strong network of connections with libraries and tribal groups throughout the state. They will support our efforts to conduct ethnographic research with patrons that use libraries as primary sites of internet access, and help implement interventions to support civic online reasoning among library patrons.

Kyra Darnton, is the Executive Producer of **Retro Report,** a journalism nonprofit that produces high-quality short-form documentaries featuring meaningful context about today's headlines. It has produced more than 250 short documentaries that have reached tens of millions of viewers through partnerships with *The New York Times*, *The New Yorker,* PBS Frontline, NBC, *Politico*, *The Atlantic*, Univision*, Time Magazine* and others. Retro Report has recently expanded its reach with prime-time television series on PBS and Vice TV. With a strong track record of developing engaging public media, Retro Report will help shape the public media aspects of our interventions.

Samantha Oakley is a program manager with the **American Library Association's (ALA)** Public Programs Office who will act as an advisor during Phase I to provide feedback during prototyping and help position our efforts for potential scaling. Oakley led ALA's Media Literacy Education in Libraries for Adult Audiences that this initiative builds on. If funded for Phase II, ALA would be brought in as a national partner to help us scale up and implement effective interventions to wider audiences. ALA is the foremost national organization providing resources to inspire library and information professionals to transform their communities through essential programs and services.

Dr. Andrea Schwartz, MD, MPH is a professor at the Harvard Medical School and Medical Director of the Geriatrics Consult Clinic at VA Boston. In Phase I, she will help address logistical challenges to working with VA populations and develop human-centered design cycles for Phase II.

Dr. Jennifer Fritschi is the DoDEA director of education technology and **Radley Ramirez** is the Teacher of the Year in the DoDEA and an education technology director for Europe, who will partner with us during Phase I to address logistical challenges to working in DoDEA schools and on military bases and develop human-centered design cycles for Phase II research.

Results from Prior NSF Support

PI Justin Reich's most relevant completed NSF funded project is EAGER: Framing MOOC Learning for Student Success (NSF Division of Undergraduate Education: 1646976; $300,000; 2016-2018) with Dustin Tingley (Harvard University). Intellectual merits include the testing of a set of behavioral interventions over 2.5 years, with one-quarter million students, from nearly every country, across 247 online courses offered by Harvard, MIT, and Stanford (Kizilcec et al., 2020). Study findings include a process for iterative scientific investigation that can uncover what works for whom in different context. Broader Impacts: The results inform policymakers and school administrators about the relative effectiveness and cost-effectiveness of these interventions, the limits of personalizing interventions with artificial intelligence, and the challenge of scaling interventions across diverse contexts.

Dr. Reich also leads an ongoing Cyberlearning project (with Co-PI, Carolyn Rosé; award #1917668) to incorporate digital clinical simulations in computer science teacher education. The broader impacts include that over 300 digital clinical simulations that have been authored in Teacher Moments serving over 8,000 teachers in training. The intellectual merit includes implementing intelligent coaching agents that scan users' inputs and provide targeted scaffolds and supports. Publications from the project include a timely piece on the role of simulations in teacher education during the pandemic (Sullivan et al., 2020) and a best paper winning article that examines simulation co-design (Dutt et al., 2021).

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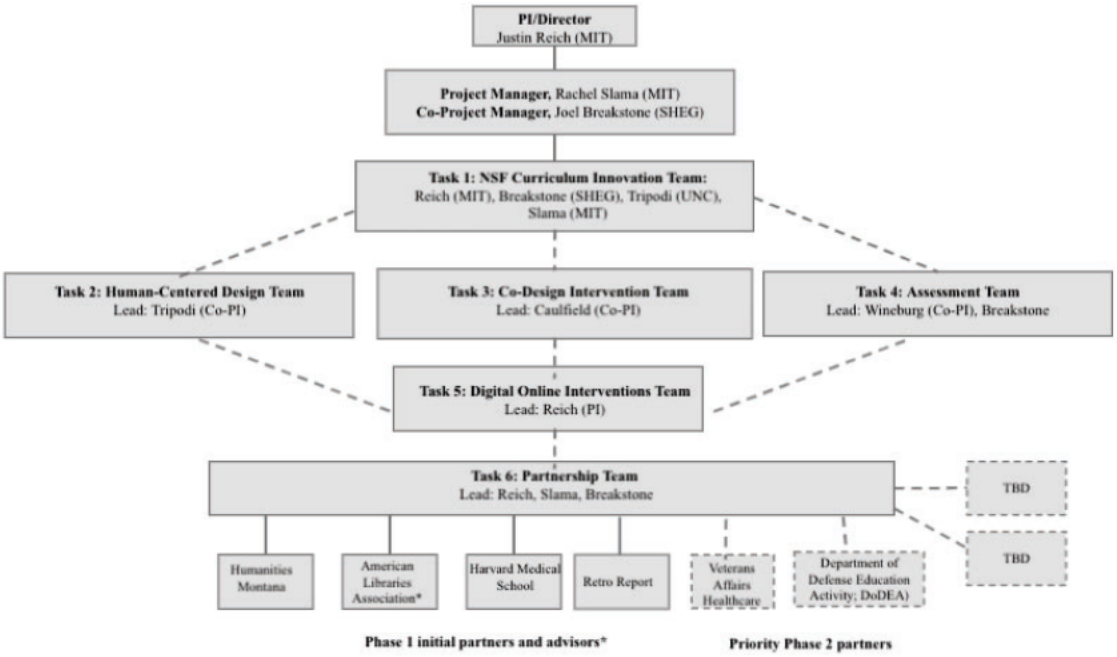
D. Coordination Plan

Exhibit 3. Organizational Chart with Team Coordination and Management Structure



In Exhibit 3, we describe the coordination and management structure for our project. where the PI and project managers will coordinate task teams. Broadly speaking, MIT will take overall responsibility for management of the project and the coordination of activities and stakeholders. Dr. Rachel Slama, the associate director of the MIT TSL, will be the primary project manager, supported by Dr. Joel Breakstone from SHEG, building off our multi-year collaboration developing the online edX course *Sorting Truth from Fiction: Civic Online Reasoning*. Our human-centered design cycles will generally involve a combination of ethnographic research, collaborative design, intervention and assessment prototyping, and online development. Dr. Tripodi will lead ethnographic work, Caulfield will lead co-design exercises, Drs. Wineburg and Breakstone will lead curriculum, assessment, and intervention development, and Dr. Reich will lead the development of online resources and the online repository. Our project partners and advisors from Humanities Montana, Retro Report, the ALA, Harvard Medical School, and the DoDEA will support development in their respective areas of expertise.

In Exhibit 4, we delineate project roles and activities, and responsibilities. We organize our Phase I work around six project tasks:

1) **Task 1: Participate in the NSF convergence curriculum**
2) **Task 2: Generate an ethnographic understanding of existing information seeking practices**
3) **Task 3: Prototype an intervention design based on patterns identified during qualitative research and co-design sessions**
4) **Task 4: Conduct pilot study based on iterative rapid testing and design process with key stakeholders in the community**
5) **Task 5: Develop and disseminate openly-licensed online intervention materials**
6) **Task 6: Form multidisciplinary, multi-sector partnership**

Our project team will have a weekly stand-up to coordinate activities and identify blockages or obstacles to individual or collaborative goals. We will develop sub teams around ethnographic work, co-design, prototyping, and online development that each meet during the relevant phase of work. We will conduct quarterly project reviews to ensure progress toward our final deliverables, to identify opportunities for stronger collaboration, and to consolidate learning from sub-team work.

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Exhibit 4. Proposed Project Activities, Roles, and Responsibilities

Task/Subtask and Deliverables	S	O	N	D	J	F	M	A	M	J	J	A
Task 1: Participate in NSF innovation curriculum (Reich, Breakstone, Tripodi)												
Activities will be based on the sample NSF curriculum including key milestones: Kick-off Workshop (October), Mid-point Research Share Workshop (December), Winter Kick-off Refocus Workshop (January), Pitches (March), Proposal Writing (April), Phase II Applications (May) and Phase II Pitches (June).	X	X	X	X	X	X	X	X	X	X	X	X
Task 2: Generate ethnographic understanding of existing information seeking practices (Lead: Tripodi) +Partners												
Develop user interview protocols based on prior research and partner input, recruit participants and conduct interviews and focus groups	X	X										
Summarize findings and implications in memo for co-design, assessment, and intervention teams			X	X	X							
Task 3: Prototype an intervention design based on patterns identified during qualitative research and co-design sessions (Lead: Caulfield, Wineburg, Breakstone) + Partners												
Curate existing curriculum and assessment materials to build co-design workshops.	X	X										
Conduct curriculum co-design sessions with target populations and refine interventions and prototypes based on co-design findings.						X	X					
Task 4: Conduct pilot study based on iterative rapid testing and design process with key stakeholders in the community (Lead: Breakstone, Wineburg)												
Gather existing instruments that have been used in prior studies and make adaptations based on preliminary findings from Tasks 2 and 3.			X	X	X							
Recruit participants to test pilot intervention and training materials among library patrons in rural settings. Pre-test six weeks before intervention					X	X						
Task 5: Develop openly-licensed online intervention materials that be widely used and adapted to new contexts (Lead: Reich) + Partners												
Curate existing materials developed in Tasks 2-4 to determine appropriate format (e.g. online, face-to-face, video)						X	X	X				
Task 6: Form multidisciplinary, multi-sector partnership (Lead: Reich, Breakstone, Slama) + partners												
Host partner kickoff meeting and develop partner data management plan (privacy, sharing, IRB, protocols; revisit in Phase II if applicable)	X	X										
Convene partners in monthly virtual meetings as a group and individual check-ins/office hours	X	X	X	X	X	X	X	X	X	X	X	X
Host informational session to recruit Phase 2 partners							X					

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E. Deliverables

We propose a set of six deliverables in Phase I, which will contribute to **broader impacts** across society. On the basis of ethnographic field work in rural library settings, (1) we will publish an initial study of the search literacy practices of information seekers who live in rural settings and/or tribal lands, who use libraries as their primary Internet connection. Following our multi-stakeholder co-design sessions with researchers, librarians, patrons and other stakeholders, (2) we will develop a set of intervention and training materials that can be used, formally and informally, in library settings. (3) We will adapt prototype interventions and training materials for online contexts, and develop additional online videos in partnership with Retro Report. To test the effectiveness of our interventions, (4) we will develop an online repository of assessment materials integrated with effectiveness data. On the basis of this Phase I prototyping work, we will publish (5) a design approach to adapting effective interventions to new contents and populations. Throughout the project, we will develop (6) collaboration materials that outline our interdisciplinary effort and provide guidance for other teams pursuing similar aims.

As a team, we have a strong track record of consistently stewarding philanthropic and government funding towards the successful completion of scholarly and educational projects. Given our extensive history of collaboration and the additional support of the convergence accelerator program, we are confident that we have the team, partners, resources, and supports needed to have a high probability of achieving these project goals in Phase I and crafting a successful Phase II proposal, that is refined and informed by additional Track F partners and our Phase I findings.

In Phase II, our goal is to expand our deliverables to two additional contexts by the end of the two-year period—serving older adults in geriatric care through Veterans Administration hospitals and serving military families through the DoDEA educational system. By testing our adaptation process in libraries, elder care, and on military bases and schools (Phase II, Year 1), we will be able to develop a robust set of principles for adapting civic online reasoning materials to a wide variety of other civic, educational, and religious groups (Phase II, Year 2). Our goal is to make sure that civic online reasoning materials are widely and publicly available to help all Americans improve their search literacy skills.

Metrics of Success. Our project will track three kinds of metrics during Phase I: 1) Implementation progress metrics, 2) Effectiveness metrics, and 3) Dissemination metrics.

For implementation metrics, we will use the timeline on Exhibit 4 to track progress towards tasks and goals. To assure smooth functioning of our partnership, the MIT TSL team will send a quarterly survey to all project members and partners to evaluate our collaborative practices, meeting schedules and structures, progress towards deliverables, and communication practices. During each quarterly review meeting, we will collaboratively review these data and identify shortcomings in our collaboration and improve our interdisciplinary collaborative practices. As we set the final number of partner libraries and institutions for prototyping and implementing new interventions, we'll track measures of usage and implementation fidelity, such as downloads, time on site, and similar usage and engagement metrics.

For metrics of the effectiveness of our work, we will draw on SHEG's existing Civic Online Reasoning assessment items and digital clinical simulations that evaluate whether people can successfully perform important search literacy tasks, such as evaluating the credibility of a source or determining if a source supports a certain argument. These assessment items have been essential in developing both national portraits of student search skills (Breakstone et al., 2021), and evaluating the effectiveness of civic online reasoning interventions (McGrew et al., 2019). We can use existing materials to conduct preliminary evaluations of our prototype interventions, and as ethnographic research develops a deeper understanding of context-specific civic online reasoning practices, we will develop new assessment items to evaluate the effectiveness of new kinds of interventions.

For dissemination metrics, as we develop a repository of freely available online resources we will make them available on the SHEG website (with 1.2 million visitors per year) and on MIT online properties such as edX and the Open Learning Library. We will track the total downloads as well as unique institutions using our resources. Dissemination metrics will play a major role during Phase II scale-up efforts and we will set initial interim benchmark dissemination goals in Phase I.

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F. Track Alignment

From the solicitation: "The overarching goal of Track F is to develop prototype(s) of novel research platforms forming integrated collection(s) of tools, techniques, and **educational materials and programs to support increased citizen trust in public information of all sorts** (health, climate, news, etc.), through more effectively preventing, mitigating, and adapting to critical threats in our communications systems" (emphasis added). Our team unites leading experts on the development of educational materials to improve civic online reasoning and increase citizen trust in information ecosystems. We supplement this core educational expertise with a leading ethnographer of search practices and experts in online learning at scale. Our combined expertise in pedagogy, digital systems, digital learning, and information systems can serve as a resource to other Track F teams as well. Our project will primarily focus on education, but our team regularly consults with other groups developing techniques and technologies for improving the information ecosystems, and we look forward to bringing our anthropological and education expertise to these teams. Similarly, we look forward to learning how new technologies and other interdisciplinary approaches can improve educational efforts.

G. Broader Impacts and Broadening Participation Plan

Broader Impacts. Herb Lin, the Hank J. Holland Fellow in Cyber Policy and Security at Stanford's Hoover Institution gave the following testimony to the House Subcommittee on Cyber, Innovative Technology, and Information Systems on 4/30/21: *"The information warfare threat to the United States is different from past threats, and it has the potential to destroy reason and reality as a basis for societal discourse, replacing them with rage and fantasy. Perpetual civil war, political extremism, waged in the information sphere and egged on by our adversaries is every bit as much of an existential threat to American civilization and democracy as any military threat imaginable."*

Efficient, effective search practices are now well established through rigorous research, but most adults either learned little about effective search practices or learned ineffective techniques. It is an urgent matter for civil society, for democracy, and for national security for adults to learn these crucial skills for participation in 21st century life. The **broader impacts** of our research will be 1) to widely disseminate resources for teaching and learning effective search practices across diverse communities through public media and online learning resources, 2) to publish in journals, conferences, and other venues use-inspired research that provides a road map for understanding the deep stories and search practices of particular communities and using that understanding to adapt existing, effective interventions to new contexts, and 3) to develop an openly-licensed integrated software platform of simulations and assessments that allow for the evaluation of interventions across diverse contexts. Through a multisector, multidisciplinary approach, we will adapt our public education interventions towards educating broad swaths of the American public about the crucial skills of civic online reasoning.

Broadening Participation Plan. A human-centered, co-design approach allows key stakeholders in diverse settings—library patrons in rural settings and tribal lands, DODEA teachers and students, patients in the VA medical care system—to participate in the design and development of learning resources to support fellow community members. The interventions that we co-design will then support the participation of underserved communities in civic life by more effectively navigating our information ecosystem. As we measure adoption of our interventions in libraries and cultural institutions in Phase I, we will track key demographic features of the patrons and communities of those institutions to ensure that our efforts are broadening participation across Montana and beyond. A key goal of this research is that more citizens, especially those from marginalized communities, will be more prepared to engage in civic activities and STEM careers with more robust information literacy practices. Because we seek to serve diverse communities, it is essential for our team to bring diverse students to work on our projects. For instance, at MIT we participate annually in the MIT Summer Research Program that supports trailblazing, first-generation college students in conducting research in MIT labs in preparation for applying to graduate schools. We also actively recruit student researchers through affinity groups like the Black Student Union at MIT. By broadening participation in our research activities, we hope to support diverse leadership in the future of information studies and civic online reasoning.

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