

KNOWLEDGE TRANSLATION AND NETWORK GROWTH

THE KNIGHT RESEARCH NETWORK IN ITS THIRD YEAR

**ASSESSMENT REPORT
JOHN S. AND JAMES L. KNIGHT FOUNDATION
KNIGHT RESEARCH NETWORK, 2021-22**

**JOHN P. WIHBEY
NORTHEASTERN UNIVERSITY
2023**



**KNIGHT
FOUNDATION**

Contents

Executive Summary	3
Introduction	5
I. Community Voices and Concerns	8
II. Knowledge Creation Metrics	12
III. Network Growth Measurement	26
IV. Research Translation Efforts	31
V. Measuring KRN's Progress Toward Ongoing Goals	35
VI. Conclusion	38
Appendix	39

Executive Summary

Through an initial investment of \$50 million from Knight Foundation, the Knight Research Network (KRN) began in 2019, centered on the goals of accelerating research at the intersection of media, technology and democracy; building a strong and diverse community of experts in this area; and connecting deep research to U.S. policy spheres. As of April 2023, Knight's investment in KRN has grown to \$80 million. This report, the third in a series, provides an overview of the Knight Research Network's activity primarily over the period August 2021 to August 2022. This assessment finds:

Outputs and Capacity

- In the third year of activity alone, KRN researchers published more than 900 articles across more than 300 unique publishers, including the popular press, academic press, and self-publication such as blogs, reports and preprints.
- Researchers were mentioned or were involved in more than 1,400 written, audio or video media pieces across 690 unique media outlets or affiliates.
- Three teams—University of Wisconsin, Madison; University of Washington; and George Washington University—have each been awarded \$5 million research grants from the National Science Foundation to build out new projects. The grants are multi-institutional but are led by KRN faculty.

Community Growth

- In 2022, there were 423 authors of research products, which represents a 24% increase year-over-year.
- In 2021, KRN had grown to roughly 620 persons (faculty, staff, students and affiliates) involved; by 2022, KRN had grown to roughly 860 persons involved.
- Network analysis continues to show increasing collaboration and co-authorship of research. The number of authors collaborating with others in KRN increased by 26%, and the number of connection ties among all authors increased by 35% year-over-year.
- The fields of study pursued by KRN researchers remain diverse, but analysis of all of the network's publications shows that computer science, communication studies and law are the leading fields of expertise.

Policy Engagement

- KRN researchers participated in or hosted more than 900 speaking engagements at in-person or online venues such as podcasts, webinars, conferences and in testimony to congressional committees or communication with congressional staff.
- KRN researchers testified before Congress 15 times and gave expert advice in many other public forums, including the European Parliament.
- Knight Foundation funded two in-person convenings, one with KRN leaders in Washington, DC, and one in Miami with a large number of KRN members as well as policymakers.

Ongoing Challenges

- Knight Foundation has been working to create supplemental infrastructure to help with both policy translation and data access—two of the key areas that KRN members have consistently identified as challenging.
- New pilot grants in the area of combatting misinformation in communities of color showed promise, but more follow-up is needed to help map next steps. KRN is beginning to develop substantial expertise in areas such as racialized disinformation and disparate impacts of online harms accruing to disadvantaged groups.
- Some universities are having problems institutionalizing tenure-track/tenured positions because researchers in this field are often “hybrid” and do not fit into orthodox departments.

The following report unpacks these findings and provides recommendations toward KRN's work in the coming year:



Introduction

Background

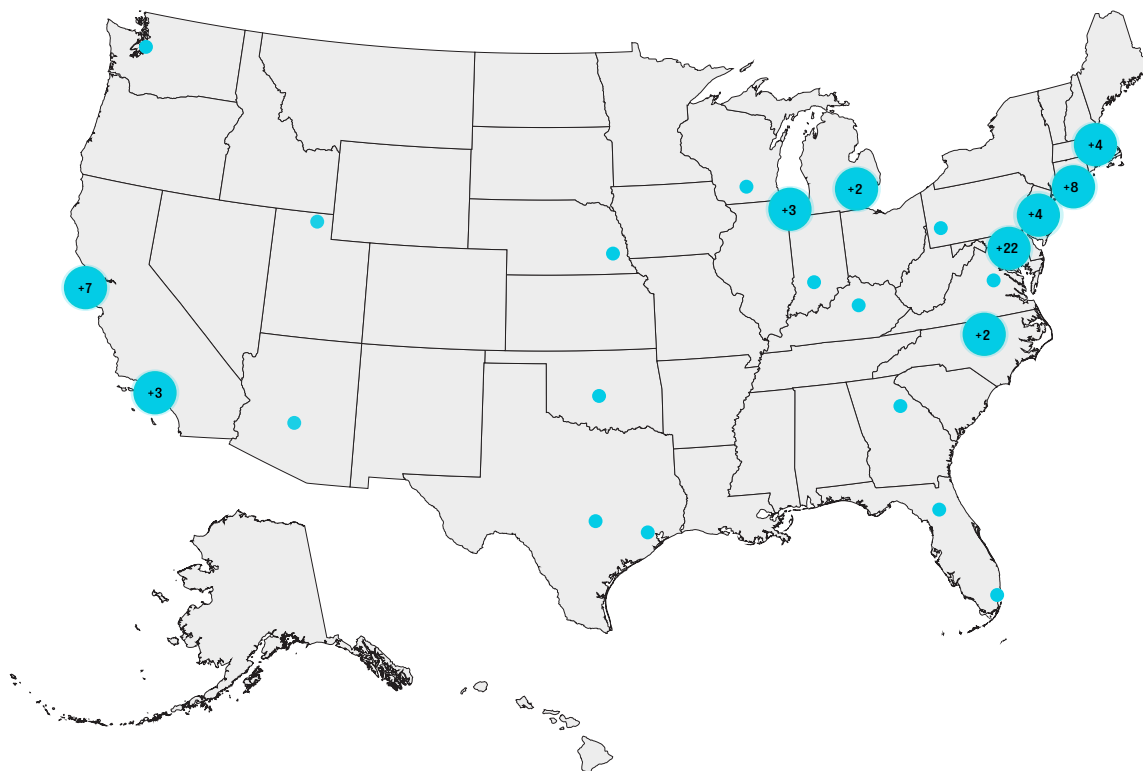
The Knight Research Network (KRN) began in 2019 as an initiative to expand the range and depth of research, and the menu of related policy ideas, at the intersection of media, technology and democracy. Since its initial \$50 million investment, Knight Foundation has committed another \$30 million toward KRN's strategic goals. Combined with aligned investments by other funders, government agencies and universities, there has been an estimated \$120 million investment in KRN's work. After three years, KRN has grown as a community of research and policy practice, now spanning more than 60 institutions and supporting projects among more than 800 researchers, students, administrators and staff. Nearly 90 grants have been made, with about 60 active as of fall 2022.

For Knight Foundation, there are three key pillars to its funding and change-making strategy: 1) Accelerate new research; 2) Build a robust network of scholars and experts; and 3) Connect research to policy and practice. By investing in independent research, the foundation seeks to reinforce the integrity of the online information environment and foster informed engagement in the democratic process in the United States.

KRN's activities, outputs and outcomes are multifaceted, with its impact being spread across government, industry and civil society. This third assessment measures the work and impact of the grantees, maps the contours of the community and surfaces emerging issues for both internal and external stakeholders to consider. This report formally covers the work and outputs of KRN teams between August 2021 and August 2022, although it makes reference to some community events that took place later in 2022.

Figure 1. Geography of the Knight Research Network

The 71 grantee organizations in the KRN. Where there are multiple grantees in the same metro area, the number of grantees is indicated.



KRN's Work

Over the past three years, the network has developed many interrelated focus areas, such as mis- and disinformation studies, the legal and social implications of emerging technologies, government regulation of the tech industry, the intersection of journalism and social media, and the asymmetrical impacts of technology and media on human rights and marginalized groups.

The network has facilitated significant, multi-institutional collaborations. For example, the Election Integrity Project (EIP)—a joint project between the University of Washington and Stanford University—is an important account of efforts to influence the U.S. democratic process through disinformation.¹

Further, the new media and technology landscape has unleashed novel challenges and harms that disproportionately impact traditionally disadvantaged groups. These challenges—and their corresponding solutions—have become a central area of study in the network. For example, the Center for Information, Technology, and Public Life (CITAP) at the University of North Carolina at Chapel Hill (UNC), along with UCLA's Center for Critical Internet Inquiry and Data & Society, are pioneering research projects and breaking new ground at the intersection of race, identity and technology. The Joint Center for Political and Economic Studies focuses on Black Americans, and a team at Howard University is part

¹ Knight Foundation does not fund the Election Integrity Project, but KRN grantees manage it.

of that critical conversation as well. In 2022, Knight Foundation added to its investments in this area through grantmaking to nine teams studying how to combat disinformation in communities of color.

The technical nature of this area of study also requires new tools and modes of research to make important insights. On issues of data and platforms, the Center for Social Media and Politics (CSMaP) at New York University, Carnegie Mellon University's IDeaS Center, the University of Texas at Austin's Center for Media Engagement, the Observatory on Social Media (OSoMe) at Indiana University, and UNC's CITAP—among other KRN members—have built substantial digital and data tools that are used by scholars, journalists, NGOs and watchdogs around the world.

The dual goals of this effort are thus knowledge and impact. KRN has produced hundreds of peer-reviewed research papers that are becoming the basis for a new set of interdisciplinary fields. Some of these have appeared in *Science*, *Nature* and *Proceedings of the National Academy of Sciences*—the world's leading scholarly journals for general science and research. Members of KRN frequently contribute to the *Washington Post*, the *New York Times* and the *Atlantic* in addition to appearing on NPR, Fox News and CNN. KRN members have testified and provided expert commentary across Congress and regulatory agencies within the 50 states and in Europe. In undertaking these efforts, KRN's members enrich and anchor the public conversation in informed conclusions and empirical reality.

Year 3 Analysis

This report details progress made and challenges encountered in executing KRN's three strategic focuses. The assessment begins by highlighting conversations and sampling voices from the KRN community to hear concerns relevant to this diverse and sprawling network and its growth. The report then evaluates progress across a variety of metrics, chiefly project outputs/outcomes relating to publications, public commentaries and media, engagement with the policy world and personnel growth.

To collect the voices of the KRN community, the author of this study interviewed two dozen internal stakeholders (some on multiple occasions) and conducted focus groups. Data collection took place between August and December of 2022. The research design allowed for the co-creation with stakeholders of portions of the annual survey instrument, and the data produced was shared with various working groups to help with shared interpretation. The evaluator and author of this report was then solely responsible for pulling together material from the interviews, focus groups and survey to create a coherent overview of patterns and trends. At the end of this report, the author provides observations and recommendations for Knight Foundation and the field.



I. Community Voices and Concerns

This year's assessment convened 15 leaders from within the network for a sequence of small-group, online conversations, once in late summer 2022 and again in late fall. The goal was for this evaluation work to be use-focused and to uplift a sample of community leadership voices, making issues, workflows and outputs more mutually visible. These online conversations complemented in-person convenings sponsored by Knight Foundation in Washington, DC, in June 2022, and again in Miami in November 2022. In addition to facilitating the listening and strategy sessions, the evaluator and author of this report was a participant-observer at both convenings. Importantly, it is worth noting that KRN was launched just before the COVID-19 global pandemic, so 2022 was the first year that in-person gatherings could begin to accelerate.

Findings here are based on conversations with persons based on their participation in KRN working committees; voices here are from persons with leadership roles in their centers/institutions, as researchers or administrators. Therefore, findings may be biased toward the views of leaders and those with larger grants. Voices of graduate students and staff, as well as smaller grantees, might be solicited more fully in subsequent years of evaluation.

In the listening and strategy sessions for this Year 3 developmental evaluation, KRN members helped co-design the annual survey and then interpreted data together to stimulate a conversation about future strategies. Teams from across the network shared their stories and best practices on issues such as research translation and public communication, the creation of dataset and tools, and personnel development. They also highlighted new work to one another. The goal was to make this third evaluation a participatory process that aligns with the working group priorities that have organically developed within KRN.

To be clear, KRN is composed of hundreds of people, and there is no single voice of the network. With that caveat in mind, the following themes and priorities emerged from these sessions:

1) Help Needed: Translation and Policy

Research teams across the network highlighted the desire for additional resources and opportunities to “translate” both their individual research projects and the field’s collective body of research into easily understandable and applicable policy options for the benefit of public and private decisionmakers. The network generally agrees that such an effective translation of academic research into actionable policy can maximize its reach and impact, benefiting society as a whole. The following are perspectives, selected for diversity and range of ideas, from surveys and interviews across the network:



“The most valuable help we could use is a connection to a major media outlet that might consider publishing a series of essays akin to the 1619 Project. We would like to revise our academic essays . . . to be shorter and more accessible to a general audience.”

“It would be useful to better understand specific lawmakers and staff at the federal, state and international level who would be interested in our work. It would also help to understand how we can frame our research findings and recommendations in a way that is most useful to policy audiences. For instance, when we publish our guide to state tech policy, who should we contact in the New York, California, Texas and Florida legislatures?”

“As a researcher who did not have previous experience working with communities, it has been a challenge for me to establish trust with communities to build partnerships. In most cases there is a chicken-and-egg problem where the communities want to see some outcome for them to collaborate and there is no clear outcome without a collaboration first.”

“We’ve built many excellent relationships with reporters in the field. But our goal is to become a go-to source for major outlets like the New York Times, Washington Post, CNN, MSNBC, NPR and more. To get there, we could use: 1) A high-level media training for our leadership. They have years of experience speaking with the media, but a refresher on how to be a good source for a reporter would be helpful; 2) Introductions to high-level editors at major outlets, specifically radio and TV; 3) Government affairs. Similarly, we’ve had several meetings with congressional staffers, but we’d like to be more of a source of support for government officials thinking about, and looking for experts to testify on, social media and democracy.”

“It will be useful to have a quick access point highlighting the latest output by scholars within the KRN. This would allow us to more effectively incorporate this research into our own work and products. Additional communications resources could be useful to maximize our reach, and it would also be useful to have a speakers bureau for the KRN that would allow us to more easily organize panels and events based on their work.”

“Gatherings where researchers and policymakers are in close contact would be highly beneficial, so that researchers can better understand the sort of questions that motivate policymakers and use that as inspiration. We wish that there was a program for scholars to spend even a week in a Congressional office to get a better idea of how it works and how to better tailor our work to serve their purposes. This would benefit our research center-wide.”

“It might help us to have access to external parties who can proactively translate our theoretical work for other audiences. Some communications experts are able to work with authors on storytelling that helps them show non-scholar audiences how to understand their work.”

“We would welcome best practices in translating our academic research into accessible policy briefs for specific target audiences.”

2) Influence of Ideas

Leading policy-oriented researchers in KRN continue to lament the state of policymaking, political communication and public discourse around tech reform. They note that the policy process is “broken,” and it remains very hard to frame the case for targeted reform. The policy space is “unusual” in that it is being driven by researchers; because of that, new revelations are “sporadic” and this “doesn’t add up to a policy push.” As one KRN policy expert says, **“We have gotten good at diagnosis but not solutions.”** Many KRN policy experts continue to get a lot of calls/questions from federal policymakers and regulators. They suggest that KRN think more carefully about building an explicit model of “research pipeline-to-influence,” offering “different places along a road” in which researchers might engage. A central goal might be the “mainstreaming of agenda in civil society,” and the uptake of KRN ideas by other policy-engaged groups.

3) Data Access Worries

Changes in leadership and policy at Twitter, which has long been a central tool for research because the platform has been so relatively open, have troubled many members of the KRN community. This uncertainty has clouded the general picture for many researchers. The company’s changes have prompted internal meetings among allied research groups, and many have needed to spend significant time doing technical work to plan for various negative scenarios in which data access may be circumscribed. As one researcher noted, these events have prompted researchers to reconsider their reliance on Twitter: **“What’s going on with Twitter totally changes the game. . . . It’s really lighting the fire under us to diversify our datasets.”** Researchers working with large datasets and developing tools have sought to consolidate resources within the [Media and Democracy Data Cooperative](#), which is led by KRN faculty.

4) Researcher Defense

Researchers studying mis- and disinformation, particularly those working on elections-related research, have substantial concerns that they will be targeted for investigations and/or public criticisms that can lead to harassment online. Some researchers have already faced coordinated attacks online. **“Researcher support will be a big deal,”** says one KRN member.

5) Coordinating Attention on Issues

There is a sense that there should be more network coordination to channel energies and resources toward pressing public policy issues. Working groups/steering committees could help with this. Some issues may require KRN-wide coordination, while others may involve just select members or a few organizations with domain interests. As one KRN member noted, **“Pending federal legislation about privacy and data protection would likely fall into this category, as would efforts to observe and comment on disinformation/misinformation in the run-up to the 2024 election.”**



6) Pipeline of Junior Researchers

In terms of personnel development, KRN members continue to consider how to help junior researchers build networks and get more exposure. To that end, some suggest a program for exchanges among post-doctoral fellows. They note that a multi-month exchange program could be highly impactful and relatively low-cost if participating institutions offered to match resources and slots. A central problem is that many post-doctoral students are working across disciplines, and they may not have a single, natural academic home department in which to enter as a faculty member. So, finding a job can be a challenge, and networking is paramount for finding roles at the intersection of media, technology and democracy. One KRN center administrator said, **“What is this field we are building? Scholars are coming from political science, computer science, communication studies and more. In traditional universities, it’s harder to find a place for these people.”** Getting more exposure to new teams and geographies for doctoral and post-doctoral students could be key to supporting the pipeline of junior researchers in both academia and industry.



II. Knowledge Creation Metrics

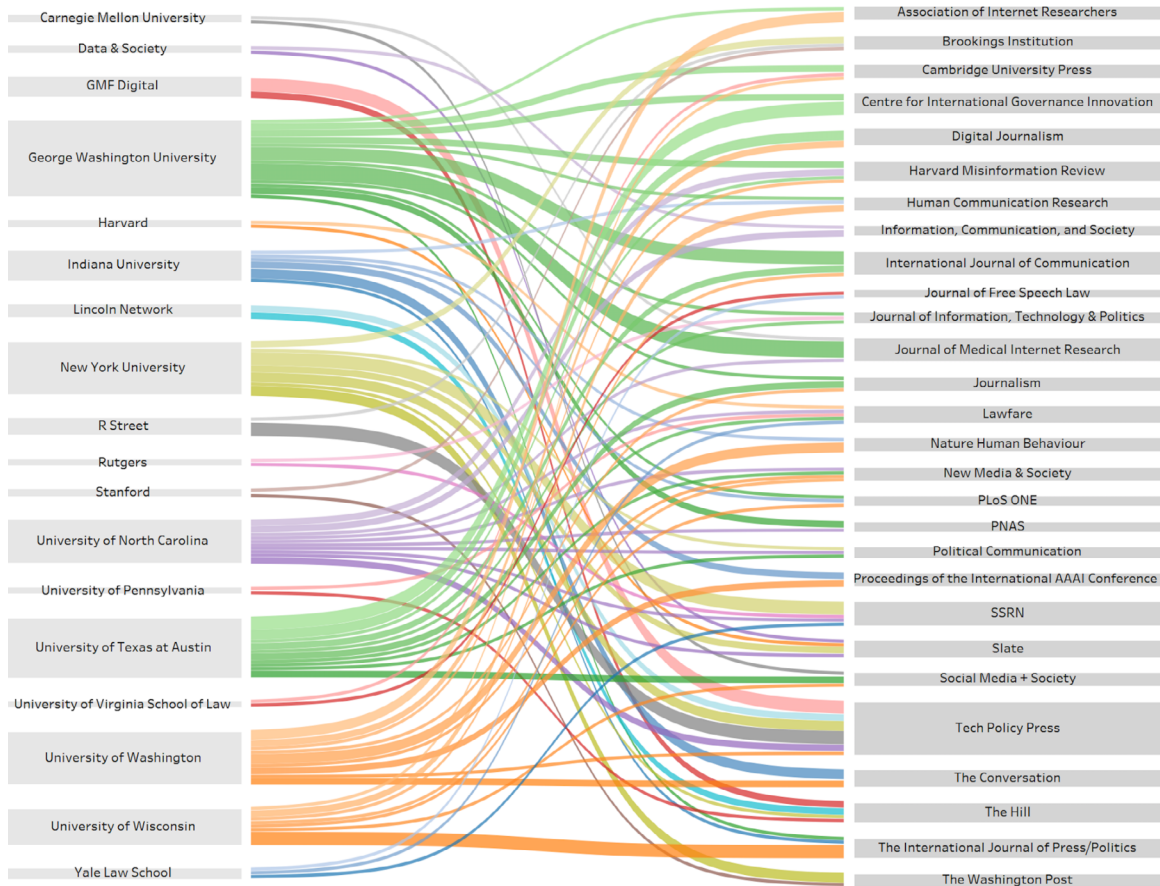
In the third year of activity alone, KRN researchers published more than 900 articles across more than 300 unique publishers, including the popular press, academic press and self-publication such as blogs, reports and preprints. In the popular press, KRN researchers published 31 articles in the *New York Times*, six articles in *The Hill*, five articles in *Slate* and four articles in the *Washington Post*, among others. They also published in policy-focused think tank outlets such as Lawfare, the Centre for International Governance Innovation, and Tech Policy Press.

Academically, the journals in which researchers most frequently published were the *Review of Behavioral Economics* (8), *Yale Journal on Regulation* (7), *Harvard Kennedy School Misinformation Review* (6), *Journal of Medical Internet Research* (6) and *Digital Journalism* (5).

A continuing metric for the success of KRN is the “shared knowledge space,” defined as multiple publications in the same outlets by KRN institutions. This metric is a proxy for examining how researchers are working on similar problems and sharing in the same discourse, in technical and public debates about common questions of interest. Over the past year, there were 53 outlets in which two or more KRN institutions published work. Likewise, there were 20 outlets in which three or more KRN members published (see Figure 1). Table 1 displays specific article counts among the top publications.

Figure 1. Shared Intellectual Space, Year 3: KRN Organizations and Contributions to Publication

Publication venues that saw three or more KRN members contribute



Credit: Garrett Morrow and John P. Wihbey

Table 1. Knight Research Network Publications

Top Publications by Number of Institutions		
Publication	No. of Institutions	No. of Publications
<i>Tech Policy Press</i>	7	18
<i>Lawfare</i>	5	5
<i>Routledge</i>	4	12
<i>SSRN</i>	4	7
<i>Harvard Misinformation Review</i>	4	6
<i>The Hill</i>	4	6
<i>Slate</i>	4	5
<i>New Media and Society</i>	4	4
<i>Social Media + Society</i>	4	4
<i>Center for International Governance Innovation</i>	3	8
<i>Journal of Medical Internet Research</i>	3	7
<i>The International Journal of Press/Politics</i>	3	6
<i>Brookings Institution</i>	3	4
<i>Cambridge University Press</i>	3	4
<i>Human Communication Research</i>	3	4
<i>Journalism</i>	3	4
<i>Journal of Information, Technology & Politics</i>	3	3
<i>PLoS ONE</i>	3	3
<i>Political Communication</i>	3	3

Spanning Fields

The range of scholarship in this growing field is diverse in terms of the wide variety of disciplines and academic departments involved. Figure 2 illustrates a co-citation map, indicating where two KRN researchers are cited together by someone else. The colored clusters represent different fields in the academic literature.

Each dot represents a publication, and if there is a link present between any two dots, this means they both were cited together in other articles. The thickness of links is proportional to how many articles have cited those two publications (dots). As researchers gain more prominence by being cited with others in the network, they are placed increasingly at the heart of the network graph; this is a concept known as “centrality” that is computed mathematically. Overall, the graphic represents a little under half of all the total career publications of KRN researchers—the other unrepresented portion of their publications are spread across increasingly smaller subfields and for clarity have been excluded.

As with the two previous years’ evaluation reports, this visualization helps highlight what kinds of expertise are represented by KRN. Knight Foundation has sought to “grow a field of research that brings together



social science, data science and network analysis, computer science and engineering, humanities and the law to understand and proactively inform responses to the growing role of digital media in our society.” This visualization shows that “bringing together.”

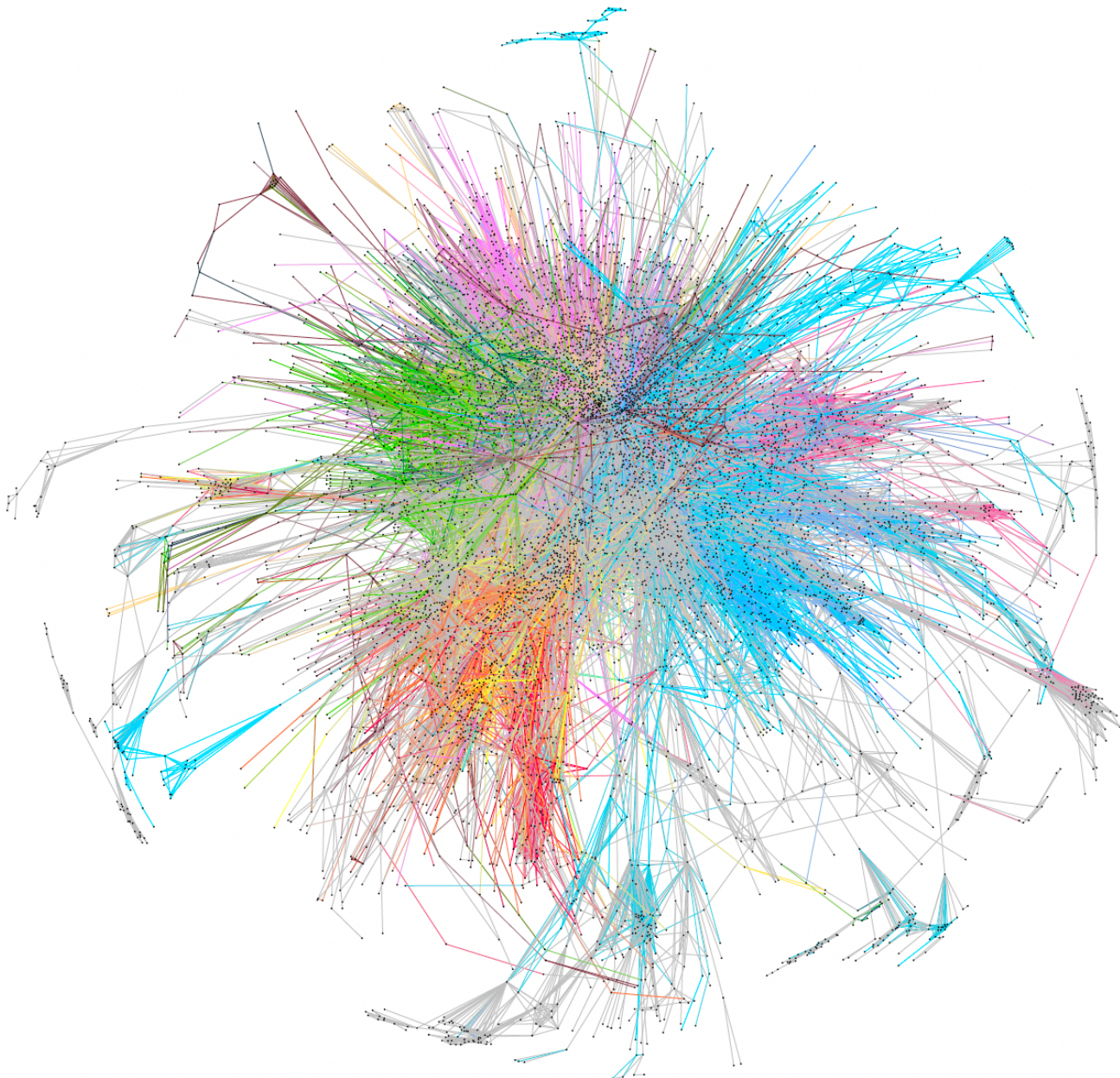
Notably, the expertise within KRN is beginning to stabilize into a pattern. The same analysis changed a lot between 2020 and 2021 (see Display 1 in Appendix); but a comparison of the analysis between 2021 and 2022 shows a very similar pattern, with virtually the same disciplines represented in the same proportion. The exception is economics, which gained slightly more visibility.

Overall, artificial intelligence (i.e., computer science, the study of algorithms and machine learning) remains the leading field of expertise, followed by communication studies and law. There is a certain logic to the list of fields represented—such as social psychology, digital platforms, computer security, internet privacy—as each has a connection to the intersection of media, technology and democracy. The category labels in Figure 2 come from [Microsoft Academic’s fields of study/topics](#) (some field names have been slightly modified for clarity).



Figure 2.

Visualization of the network of 378+ core researchers working within the Knight Research Network, their 6,539 publications as of fall 2022 and their citing publications.



FIELDS		
Artificial Intelligence	9.18%	
Communication Studies	6.58%	
Law	5.15%	
Political Economy	3.87%	
Social Psychology	3.78%	
Digital Platforms	3.71%	
Industrial Organization	1.99%	
Public Administration	1.78%	
Computer Security	1.69%	
Media Studies	1.68%	
Internet Privacy	1.62%	
Econometrics	1.51%	
Other	57.46%	

Credit: Indraneel Mane, Alexander Gates and John P. Wihbey



Insights from KRN Research

So, what is KRN learning? This is very much on the minds of many teams and individual researchers across the network. KRN members note that despite this field's relative novelty, certain common areas of inquiry are accumulating. Based on interviews with several teams across KRN, this report details some tentative insights about general progress.²

Areas of Progress

At the general level, researchers have been making progress on several topics: First, how platforms like social media are being used and their democratic effects; second, strategies for detecting problematic aspects of the information ecosystem and, more excitingly, for improving the information ecosystem; and third, figuring out precise and scientifically accurate ways to get data from platforms and media companies that can be used by researchers. These areas of study have direct policy implications not only for government regulation but for policies within platforms, media organizations and even institutions of higher education. Around these areas of study, researchers are developing a suite of methods and a set of interdisciplinary journals that people are gravitating toward.

At a more technical level, we can see progress in a variety of areas. A significant area of progress is user-centric research that links survey responses with content from social media timelines. This knowledge has changed how researchers view the connections between what people think and what they're exposed to. Scholars are beginning to explore causal links between online misinformation in some domains (especially health) and harmful real-world impacts, such as infections and deaths.

As is detailed below, researchers are beginning to arrive at some conclusions, including: Interventions by social platforms with regard to problematic content (such as fact-checking) can work, but effects are often small; many of the harms on platforms are borne by relatively small groups; misinformation might be best seen as a problem that relates to the structure of the overall information environment, which stretches beyond just social media.

Researchers are getting a better understanding of the structural vulnerabilities of social media, especially in terms of coordinated influence campaigns/information operations and the roles of inauthentic actors as well as elites/superspreaders. Methods to detect these manipulations are also advancing.

Possible Consensus Areas

While there is typically no endpoint to academic inquiry on research questions, particularly in the social sciences, KRN researchers have identified a few key areas in which apparent consensus is emerging.

Interventions

There is a growing body of work on the effectiveness (and unintended consequences) of various interventions on social platforms or within the digital ecosystem. A range of methodologies are being

² It is difficult to capture the full range of scholarship. But for a detailed sample, see a list of top publications at the end of this report that include KRN-affiliated authors; these papers are all published in the three leading general science journals, *Science*, *Nature* and *Proceedings of the National Academy of Sciences*. See Appendix, "List of Recent Publications in Leading General Science Journals."

brought to bear to reach consensus. Other research uses agent-based models (computer simulations) in conjunction with empirical data to evaluate different interventions. The field is advancing even though the effects of interventions typically remain small.

Researchers are finding that interventions work, at least sometimes and in some contexts. They are increasingly able to test intervention efficacy over time, across subgroups, and using both experimental and observational data. Substantively, researchers now understand that content-specific interventions (e.g., labeling, fact checks) may decrease belief in misinformation, but this effect diminishes over time. They are starting to get better evidence about how non-content-specific interventions (e.g., accuracy nudges, credibility labels) impact the entire ecosystem.

Small Groups, Massive Harms

A consistent finding is that the production, dissemination and exposure to harmful online content (misinformation, hate speech, etc.) is heavily concentrated in a relatively small percentage of the population. Scholars have found, for example, that in terms of spreading highly polarizing or abusive messages, a relatively small group of accounts or persons is usually largely responsible. Effective interventions might therefore not require platform-wide changes but rather careful attention to the small group driving the messages in question.³ This means that any interventions need to focus on these subgroups and likely don't need to be applied evenly across the entire population. This has implications for policymakers and companies as they consider both interventions against bad actors and strategies for protection and resilience of vulnerable communities.

Beyond Misinformation

Many researchers have concluded that being misinformed is explained by much more than misinformation. There was an assumption in the academic literature from a decade or more ago that the public wanted to hold correct beliefs, and so the issue was that some people were duped by exposure to false content. In this view, the primary issue was the presence of misinformation in the "information ecosystem." A growing number of researchers now believe that being misinformed is a more complex political, cultural and psychological process that is driven by ideology, race and critical reasoning, among other factors. To combat harms, it is unlikely, then, that interventions such as fact-checking and content moderation are sufficient.

Future Areas of Study

Serious discussion of the implications of generative AI such as ChatGPT and large language models (LLMs) has grown across KRN's community. The research community contains substantial expertise that can contribute to the ethical development of technologies and related public discourse and policymaking. KRN can draw on deep expertise in areas such as computational social science, computer science and machine learning, disinformation studies, policy and legal analysis, information ethics, and the study of disparate harms and racialized mis- and disinformation.

KRN researchers are making advances in computational methods, including some relating to LLMs, and many are likely to find empirical uses for the similar technologies behind ChatGPT, Bard, etc., before long. KRN researchers report new and exciting developments around generative AI/LLMs, both

³ Robertson, R. E. (2022). "Uncommon Yet Consequential Online Harms." *Journal of Online Trust and Safety* 1, no. 3, <https://www.tsjournal.org/index.php/jots/article/view/87>.



in terms of potential positive applications (e.g., scaling up fact-checking) and, more worryingly, in terms of new threats from the weaponization of these technologies by malicious actors (e.g., scaling up the creation of false or misleading content and profiles). There is also progress in areas such as image analysis for the purpose of studying social platforms and online ecosystems.

Academic Centers

The following are snapshots of the academic grantees with the largest amount of support from Knight Foundation (\$1 million+) and their milestones over the year studied.

Center for Communication and Civic Renewal (CCCR), University of Wisconsin-Madison

The Center for Communication and Civic Renewal (CCCR) team saw publication of two books, *Battleground: Asymmetric Communication Ecologies and the Erosion of Civil Society in Wisconsin and Political Behavior of the American Electorate*. CCCR was awarded a \$5 million National Science Foundation Convergence Accelerator grant to develop a project titled “Course Correct: Precision Guidance Against Misinformation.” The team also received a \$121,000 grant from the MIT Polarization Lab to partner with the Bipartisan Policy Center to study trust in election administration, as well as grants from Anti-Defamation League’s Center for Technology and Society, the Tow Foundation and the International Fact-Checking Network of the Poynter Institute, among others. The CCCR team also had more than 30 publications and 35 speaking engagements.

Center for Information, Technology, and Public Life (CITAP), University of North Carolina at Chapel Hill

Center for Information, Technology, and Public Life (CITAP) researchers examined a wide variety of issues, including how conspiracy-related information spreads; how identity shapes media literacy; how Asian-Americans are being targeted by disinformation campaigns; how social media companies’ engagement metrics help fuel misinformation; and how the concept of political identity and ownership can explain how political candidates align themselves with supporter groups. The Political and Civic Apps Division (PCAD), which is a research project seeking to help other researchers across the country through data tools, launched its first application, PIEGraph, which has now enrolled 1,000 demographically representative participants in the United States. Mapping entire social feeds, the tool can assess both the quality and frequency of news sources represented over time, providing a clearer picture of the role that false, biased or otherwise low-quality information plays in the total information consumption of participants studied. CITAP researchers produced more than 70 publications, spoke in nearly 70 different venues and appeared or were mentioned in more than 80 media stories.

Center for Informed Democracy & Social Cybersecurity (IDeaS), Carnegie Mellon University

The Center for Informed Democracy & Social Cybersecurity (IDeaS) has continued to work on fundamental research relating to assessing online harms, disinformation and inauthentic behavior in social media. Their work has influenced responses to COVID-19 and vaccination disinformation by local health officials in southwestern Pennsylvania in addition to social media training for the U.S. Navy and Marine Corps. IDeaS reports that the research has also led to subsequent grants in this area and spurred collaborations with researchers across nine other institutions. In addition, the researchers developed a bot detector and hate speech detector that work in over 40 languages.

Using these tools, the team showed that bots were not the primary source of disinformation or hate but were used strategically to amplify such messages and to build groups conducive to such messages, thus reducing resiliency. IDEaS researchers published ten peer-reviewed papers and participated in 25 speaking engagements.

Center for an Informed Public (CIP), University of Washington

Center for an Informed Public (CIP) continues to draw on the team's multidisciplinary strengths and expertise from across the University of Washington, including the Information School, the Department of Human Centered Design & Engineering, the School of Law, the Allen School of Computer Science & Engineering and the departments of Biology, Communication, Political Science, Psychology and Sociology. CIP researchers secured a \$5 million grant in Phase 2 funding from the National Science Foundation as part of the Convergence Accelerator program. This grant will help scale up Co-Designing for Trust, a project led by CIP-affiliated researchers at the University of Washington, in partnership with the University of Texas at Austin, Seattle Central College and Black Brilliance Research. The project is reimagining information literacy skills and tools through co-design work with a wide range of local stakeholders, from rural public libraries in Texas and Washington to Black-led community organizations in the Seattle area. CIP researchers have also been building data infrastructure, having collected more than 6.5 terabytes of social media data, including 1.9 billion tweets. Overall, the focus of researchers has been wide, spanning topics such as election misinformation, interventions to limit the virality of misinformation, how headlines affect video sharing and audience understanding, and conspiracy-related radicalization and online extremism. CIP researchers had 40 publications, 50 speaking engagements and 140 media mentions.

Center for Media Engagement and Propaganda Research Lab, University of Texas at Austin

The Center for Media Engagement team focused on developing its theme of “connective democracy,” exploring ties among the media, online platforms and the public; scientists and the media; and government and the public as connected via the media. The team's work had a “solutions” focus: informing the public and policymakers about what is happening on encrypted messaging apps, recommending new strategies for social media companies and demonstrating the effectiveness of new techniques for engaging and informing the public. The center's work appeared in five of the top ten journals in the field of communication studies. Overall, the center's researchers produced 100 publications, spoke in academic or public venues more than 65 times and had more than 100 media mentions.

In addition, the University of Texas' Propaganda Research Lab, a part of the Center for Media Engagement, published a variety of publications, some of which led to testimony before the U.S. House Committee on Administration's Subcommittee on Election Integrity. The lab, which focuses on the propagation of disinformation through communications technologies, saw more than 30 media mentions.

Center for Social Media and Politics (CSMaP), New York University

During the period studied, the Center for Social Media and Politics (CSMaP) team produced seven peer-reviewed journal articles and four working papers; one recent paper won a major award from the American Political Science Association (APSA). CSMaP researchers have been studying news



quality labels and their effects; the use of bots on Russian social media; the use of content moderation tools such as account suspensions; and crowd-sourced fact-checking strategies and their efficacy. In addition to these research outputs, the team executed large-scale data collection and infrastructure developments, including collecting tens of billions of tweets; a random sample of 2 million Rumble videos; nearly 2 million news stories about the Ukraine War in English, Russian, Ukrainian, and Chinese; 30 million posts on Gab; and 69 million posts on Gettr. CSMaP leaders met with both Democratic and Republican staffers from eight different legislative and agency offices to discuss various data access initiatives. CSMaP experts gave more than 60 presentations at external events; they also ran three events for public audiences, including a half-day virtual symposium on the future of social media featuring journalists, scholars and policy experts. The center also garnered 140 media mentions.

Data & Society Research Institute

The Data & Society Research Institute's AI on the Ground Initiative involved building a network of stakeholders who are working to define what algorithmic accountability means; they hosted a workshop that collected stories about how AI is impacting communities in the developing world and Global South. They expanded research on trusted data infrastructures to explore community-centric security practices that can establish trust and safety as platforms' foundational values. Data & Society's Labor Futures team used empirical research to posit new rights for workers in data-centric work environments. The team provided expert input with the National AI Research Resource Task Force (NAIRR) and the National Institute of Standards and Technology (NIST) on AI bias issues. In April 2022, executive director Janet Haven was appointed to the National AI Advisory Committee to the White House, joining a group of 27 experts to provide recommendations over the next three years to the President of the United States on policy governing artificial intelligence and automation.

Observatory for Social Media (OSoMe), Indiana University

Observatory for Social Media (OSoMe) continues to both build and maintain widely used data tools and to conduct fundamental research, analyzing topics such as platforms' use of social bots, how partisans reason with content, notions of reliability and trustworthiness for websites and perceptions of online misinformation relating to public health. The group published studies in a variety of top publications, including *Nature Communications*, *New Media & Society*, *Nature Human Behaviour*, *Journalism and Mass Communication Quarterly* and *Nature Scientific Reports*. The group actively worked on many research projects with support from Knight Foundation, Craig Newmark Philanthropies, Defense Advanced Research Projects Agency, Vaccine Confidence Fund, Social Science Research Council and Facebook, and the National Science Foundation. OSoMe researchers were also mentioned or quoted in media stories 110 times.

Information Society Project (ISP), Yale Law School; Thurman Arnold Project (TAP), Yale University

Two complementary projects at Yale, one focused on law and information technologies and the other on economics and regulation, produced noteworthy work. The Yale Information Society Project (ISP) published a collection of five essays envisioning equitable online governance in collaboration with the Yale Law Journal Forum. The papers analyze how race, gender and other facets of identity shape people's experience of and access to the digital public sphere. ISP's major virtual conference on Technologies of Deception discussed the types of technology that function to conflate truth and falsity, mentation and computation, authenticity and falsehood, and the law and policy ideas needed to address these technologies. Three new postdoctoral fellows are carrying forward ISP's Knight Digital Public Sphere work.



The Thurman Arnold Project (TAP) organized a paper and event series wherein new scholarship by students is presented to a broad range of Washington, DC, policymakers and alumni of the program who are involved in competition policy. Last year students wrote twelve papers addressing competition problems in digital markets. The program has been invited to present at the Department of Justice and Federal Trade Commission. The team have authored curricular materials that try to shape fundamental narratives around antitrust law issues. Faculty have co-authored influential scholarship relating to platform regulation and antitrust, work that has engaged researchers in government. Scholarship by economists Fiona Scott Morton and Dirk Bergemann was cited in, among other places, the “Investigation of Competition in Digital Markets” final report from the U.S. House Subcommittee on Antitrust, Commercial and Administrative Law.

Institute for Data, Democracy & Politics (IDDP), George Washington University

The Institute for Data, Democracy & Politics (IDDP) has continued to lead conversations around issues such as online safety and harassment, as well as platform data access policy, among other issues. A team leader also led an effort that was awarded a \$5 million Convergence Accelerator grant from the National Science Foundation to help journalists who are facing online threats. The team had more than 110 speaking engagements, with government, academic, technology industry and civic groups; it also had more than 70 publications (in many leading journals) and 120 media mentions or appearances. Researchers produced publications on topics such as how views about democracy are tied to perceptions of racial demographic change; the way that fact-checking improves beliefs in true information, regardless of country or political affiliation; systemic challenges to combatting disinformation; and how content moderation policies can reduce interactions with vaccine misinformation.

Program on Democracy and the Internet, Stanford University

In addition to running the Election Integrity Project in partnership with the Center for an Informed Public (CIP) at the University of Washington, Stanford University researchers have produced cutting-edge scholarship that argues for a deep rethinking of the technology industry as well as whitepapers that advance new technological ideas to support democracy. These ideas include advocating that software engineers embrace a principled mentality of “do no harm”; imagining new ways for technology users and consumers to fight abusive corporate power; and empowering social media consumers by allowing them to control data about themselves. Through a variety of papers and public appearances, Stanford has led a push for data access from technology companies, in addition to exploring new public-interest governance structures over artificial intelligence technologies. Affiliated legal scholars have examined social media platforms’ exercise of control over speech using machine learning. Stanford’s team includes more than 120 faculty and affiliates. It has hosted a weekly speaker series on leading media and technology issues, which is often attended by more than 100 people. Stanford’s team saw more than 130 media mentions or appearances.



Additional Activities and Contributions from KRN-affiliated Scholars

Other KRN members contributed to the body of knowledge across several subfields:

Law and Online Governance:

- Evelyn Aswad at the University of Oklahoma produced an in-depth report and article putting American free speech traditions in global perspective.
- Ellen P. Goodman at Rutgers Law School led several publications relating to online transparency and warning labels on social media. Her research was cited several times in a Federal Trade Commission report to Congress on combatting online harms.
- A team at Fordham University's McGannon Center for Communications Research compiled a database of technology platform companies' comments on Section 230 of the Communications Decency Act and related internet policy. Those same researchers are producing a report detailing the common narratives, concerns and recommendations.
- The Nebraska Governance and Technology Center, located at the University of Nebraska at Lincoln and led by Gus Hurwitz, completed substantial work on an edited volume of essays, *Media as a Governance Institution*, published by Cambridge University Press. The team also added research capacity to further develop the center's technology attitudes survey project.
- J. Scott Babwah Brennen and Matt Perault at the Center on Technology Policy at the University of North Carolina at Chapel Hill published a white paper titled *Programmed Political Speech: How Programmatic Political Advertising Policies Shape Online Speech*, and organized programming around the paper's findings.

Legal Analysis:

- Farshad Ghodoosi at California State University, Northridge, authored several law- and regulation-related papers on topics such as crypto and contracts.
- Danielle Keats Citron at the University of Virginia School of Law has led empirical and survey research projects relating to intimate privacy measures and the ways both legislative and platform-based policies affected the extent to which people express themselves on- and offline. Citron and the project earned nearly 50 media mentions.
- Ari Ezra Waldman at Northeastern University School of Law completed a publication titled *Manufactured Uncertainty in Constitutional Law*, which involved research into misinformation discourse in 400 legal briefs in major civil rights cases.
- Jasmine McNealy at the University of Florida released three publications on subjects such as governance of AI and data governance. The research points to the need for complex models of AI oversight, as traditional ways of governing this type of technology will not be adequate to protect against a range of potential harms.

Economics and Regulation:

- The Economic Security Project awarded 26 grants totaling \$750,000 out of an applicant pool of 76 competitive proposals to help broaden the antimonopoly field and to dissect the taxonomy of monopoly harms. These grants include 41 researchers at 33 different institutions.



- The Center for Growth and Opportunity at Utah State University produced three research papers on topics including misinformation and content moderation polices, media and voting, and the economics of fact-checking.
- The Stigler Center for the Study of the Economy and the State, based at the University of Chicago Booth School of Business, has hosted conversations about antitrust reform, the future of the consumer welfare standard, antitrust enforcement in labor markets and in digital markets, the connection between market power and freedom of speech, and how to ensure that academics working in antitrust remain independent from special interest influence. An April 2022 conference on antitrust, sponsored by Knight Foundation and organized by the Stigler Center, saw broad engagement among academics, advocates and policymakers, including some from the Federal Trade Commission, Department of Justice, Congress, and the federal judiciary. The Center's ProMarket media vehicle saw two-dozen analytical pieces published over the period studied.
- The University of Pennsylvania's Economics of Digital Services (EODS) initiative, led by Christopher Yoo, awarded subgrants to five new teams studying how digital platforms access user data in support of their business models and the antitrust law implications. Selection criteria emphasized interdisciplinary research from early-career researchers aiming to pursue work to influence legislators, regulators and scholars in this field globally. The team also organized events with a number of former federal officials, had 30 publications and participated in more than 100.

Rights and Vulnerable Groups:

- In 2022, Knight awarded nine grants to organizations researching the challenges and combatting disinformation in communities of color, and many of the projects have shown early promise. For example, a team at Johns Hopkins University is conducting community engagement activities with Hispanic social media influencers to produce a set of training resources available in English and Spanish. Meanwhile, Danielle K. Brown, a researcher at the University of Minnesota, has created the LIFT Project, which seeks to elevate trusted messengers in Black communities to mitigate the harms of misinformation and stereotypes in mainstream media.
- MediaJustice is supporting research on media manipulation campaigns that have specifically targeted communities of color at a local or regional level. The team was preparing to conduct work in Minneapolis, the locality for the primary case study on how the police use media to influence communities.
- At the Thomas Jay Harris Institute for Hispanic & International Communication at Texas Tech University, researchers have been conducting extensive interviewing and field work to identify common problematic themes in misinformation among Latino communities.
- A team at Howard University is bringing to light the under-representation of Black voices as participants in social science research. The Howard researchers note that Black Americans are often not surveyed in large numbers on critical matters related to media and social media, which means there is a gap in knowledge about what Black Americans think about as it relates to health (e.g., vaccinations), voting rights, propaganda, conspiracy theories and other forms of mis- and disinformation. The research team at Howard University is using its Knight Foundation grant support to change these dynamics by conducting original survey research and focus groups.



- A group at the University of Michigan, led by Sarita Schoenebeck, published and presented a paper at CHI 2022 (the top human-computer interaction venue) about Black women's experiences of harassment, harm and joy online.
- A project at Santa Clara University led by Yuhong Liu has been developing code and tools to collect propagation patterns of mis- and disinformation posts on Chinese-language platforms.

Policy Development and Capacity-Building:

- The Institute for Rebooting Social Media at the Berkman Klein Center for Internet & Society, Harvard University, brought in its first cohorts of Visiting Scholars and Visiting Fellows, who will study issues such as trust and safety online, ways of measuring and assessing social media, and online abuse of journalists. The institute sponsored an array of programming, including convenings with technology professionals.
- The Carnegie Endowment for International Peace's Institute for Research on the Information Environment has executed 13 exploratory studies comparing different institutional models, identifying new kinds of infrastructure that could speed discovery, and examining the unique challenges of studying the information environment in conflict zones, among other topics. The project performed extensive literature review and field landscaping to map out its future work over a five-year period. The group held 118 meetings with more than 240 researchers to understand current research practices and discuss what kinds of infrastructure would speed their process.
- Former Federal Communications Commission commissioner Susan Ness and Chris Riley of the Annenberg Public Policy Center at the University of Pennsylvania have been developing a policy framework that could accommodate conflicting global preferences and norms relating to online expression, governance and moderation. The team has begun publishing analytical essays and convening experts.



III. Network Growth Measurement

In the 2021 report, KRN had grown to roughly 620 persons (faculty, staff, students and affiliates) involved, including a large pipeline of graduate students and 324 KRN authors of research products. By 2022, KRN had grown to roughly 860 persons involved, and there were 423 KRN authors of research products. Several dozen graduate students and post-docs moved into successful positions in industry, academia and civil society groups.

Beyond scale, there is also the important metric of connectivity—how much the network is coalescing and collectively working in common areas. The ongoing evaluation of KRN has involved, among other things, leveraging the concept of academic citation to assess how much the researchers may be collaborating at a substantive level. Of course, this does not capture all the more informal ways that researchers collaborate. For example, dozens of institutions report hosting talks from other KRN researchers, inviting them to seminars and conferences, and generally building relationships and talking together about problems and questions in a variety of venues.

The first way of measuring the network longitudinally is to continue to track the original 60 researchers who were listed as part of the large grantee teams in 2019 (there were 11 such academic research teams that were awarded \$1–5 million.) At that point, centers and institutes had not fully staffed up and engaged large numbers of affiliates, but core members/principal investigators and initial faculty were visible.

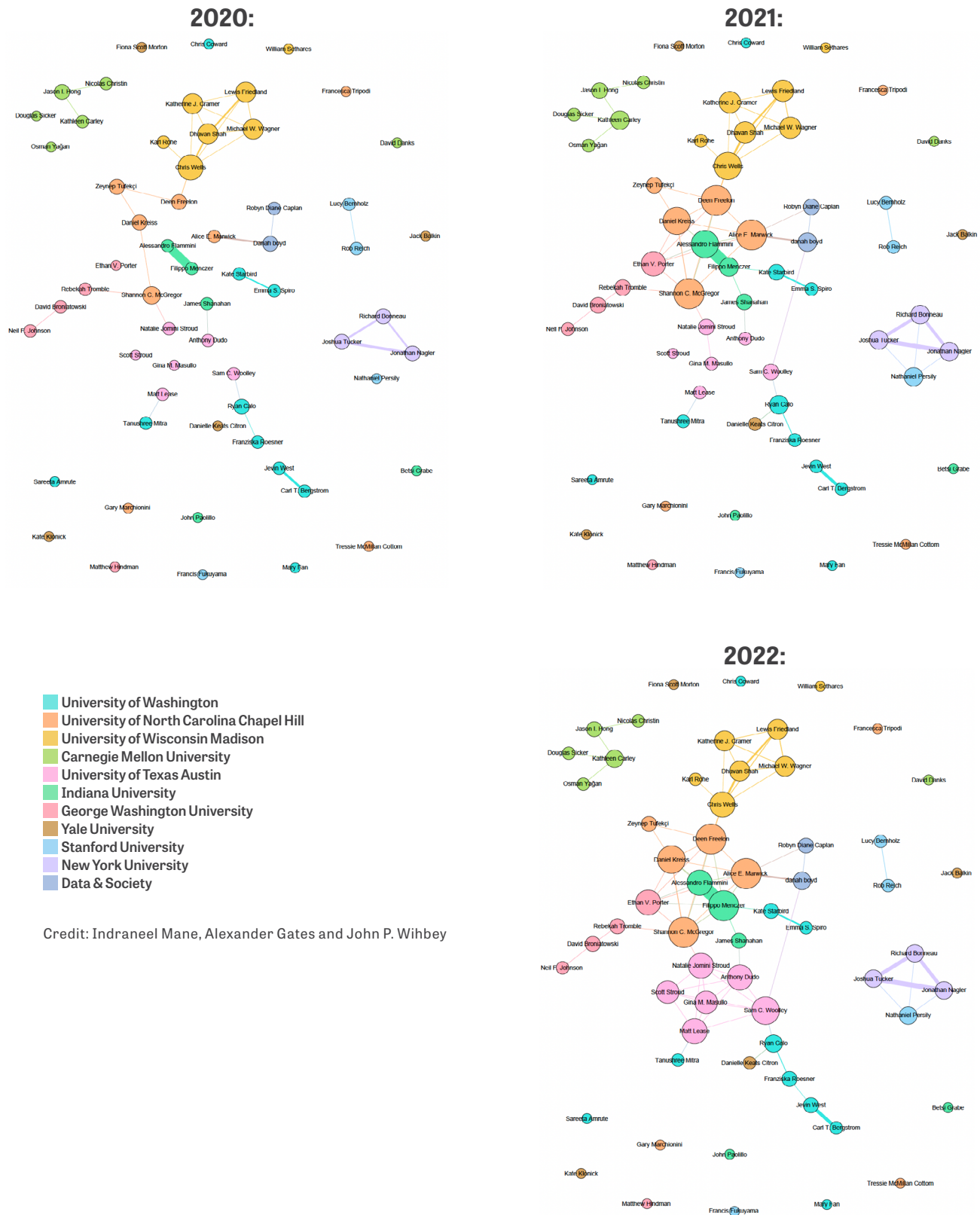
In Figure 3, the network of 60 original researchers shows little connection at all when analyzed in 2020. Only the University of Wisconsin, Madison, team has significant ties. By 2021, however, the University of North Carolina at Chapel Hill, Indiana University, and Carnegie Mellon University groups all had formed connections; the Stanford University and New York University teams were also forging connections. Finally, in the latest year, 2022, we see the University of Texas at Austin team forming connections and the University of Washington team becoming a connected component. The New York University-Stanford University cluster also increases in size, as does Indiana University, which indicates they have more publications in common with others.

For all three years, there are 60 nodes; there were 33 ties in 2020, 59 ties in 2021 and 77 ties in 2022. In summary, this means that the number of co-authorship connections has more than doubled among this sample core group; over time, we see more institutions interacting, underscoring growing connectivity across the network. However, the analysis also shows that a number of researchers have not been connected through co-authorship. This is of course natural in cases where researchers work on different problems, with different methods. There may be inherent limits to the degree of connectivity that KRN can reasonably achieve.

In the time series below (years 2020, 2021, 2022), line thickness indicates more co-authorship instances; the size of nodes indicates more connectivity to others; and colors distinguish the different institutions of researchers (see key for names).



Figure 3. Growing Ties Among Original Core Academic Researchers: Comparing Change Over Time of Co-Authorship, 2020–22



Wider Lens: Increasing Ties

From this network analysis of the small original sample of research connections, we can turn to a wider-scale analysis of all researchers listed by the various teams. There is a clear pattern of growth, in terms of the number of researchers and their connections to others.

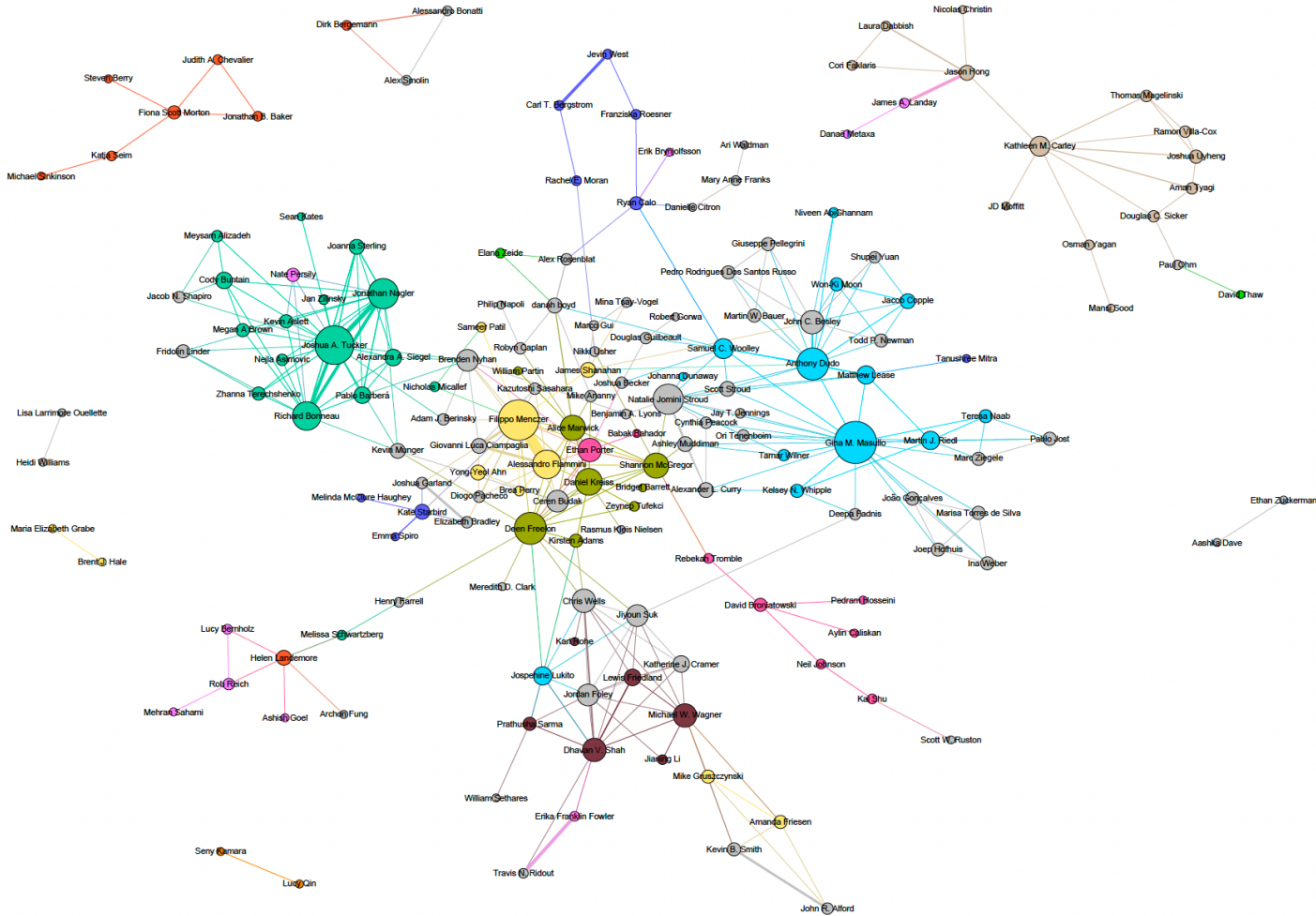
In 2021, there were 324 authors of research products (including co-authors who are external to the funded institution but worked on a KRN-funded project). The analysis in a shows only researchers who had at least one tie to another researcher. In the 2021 graphic, we see 162 nodes (authors) with 292 ties between them. This means about half of the researchers in KRN had co-authored with at least one other KRN member or affiliated researcher.

In 2022, there were 423 authors of research products, which represents a 24% increase year-over-year. More than half of the researchers had co-authored with one other KRN member or affiliate. The analysis in the 2022 network visualization in Figure 4 again shows only researchers who had at least one tie to another researcher. In this latest graph, we have 219 authors with 443 ties in the network; this means that the number of connected authors increased by 26% and the number of ties has increased by 35% year-over-year. The visualizations that follow include some researchers who are not formally part of a KRN institution, but who are co-authors or affiliates of KRN-sponsored projects.



Figure 4. Co-Authorship Ties Among Current Researchers Across Knight Research Network: Change Over Time, 2021–22

2021: There are 162 authors with 292 ties between them.



- Carnegie Mellon University
- Center for Democracy and Technology
- George Washington University
- Indiana University
- New York University
- Stanford University
- University of Nebraska-Lincoln
- University of North Carolina Chapel Hill
- University of Texas
- University of Washington
- University of Wisconsin
- Yale University
- Other

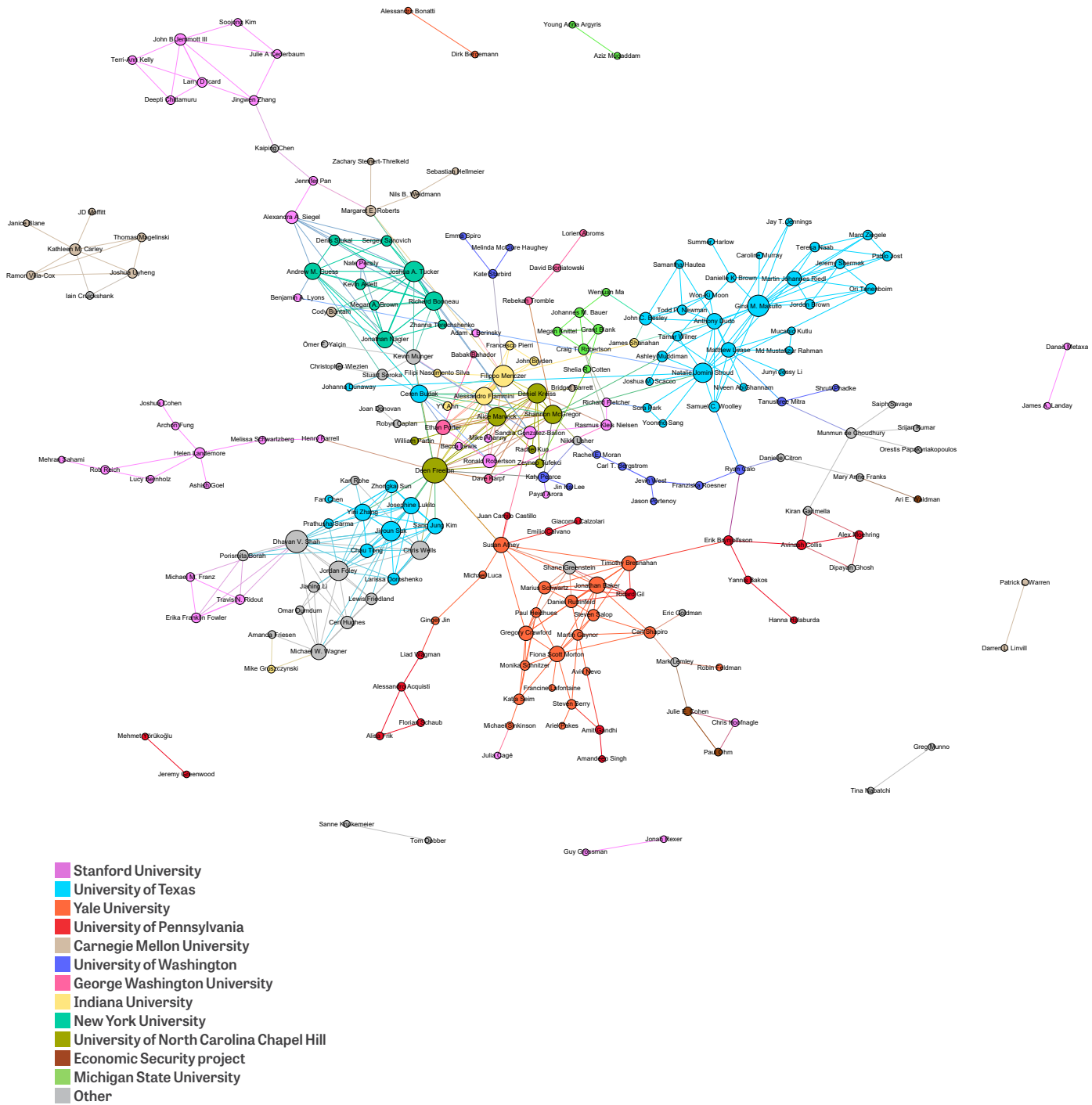
Note: Some researchers shown are not at a KRN institution but are collaborating on a project sponsored by a KRN institution.

Credit: Indraneel Mane, Alexander Gates and John P. Wihbey



Figure 4. Co-Authorship Ties Among Current Researchers Across Knight Research Network: Change Over Time, 2021–22

2022: There are 219 authors with 443 ties between them.



Note: Some researchers shown are not at a KRN institution but are collaborating on a project sponsored by a KRN institution.

Credit: Indraneel Mane, Alexander Gates and John P. Wihbey

IV. Research Translation Efforts

KRN researchers participated in or hosted more than 900 speaking engagements at in-person or online venues such as podcasts, webinars, conferences and in testimony to congressional committees or communication with congressional staff. Of the 56 KRN institutions, 46 of the institutions participated in at least one speaking engagement, and the institutions overall participated in an average of 21 speaking engagements. Where metrics were recorded, KRN-affiliated speaking engagements and events had 691 average number of total attendees, views and/or downloads.

KRN researchers were mentioned or were involved in more than 1,400 written, audio or video media pieces across 690 unique media outlets or affiliates. Of the 56 KRN institutions, 39 of the institutions were mentioned in at least one media outlet, and these institutions were mentioned an average of 38 times. The top ten media outlets in which KRN researchers appeared were the *Washington Post* (60), *New York Times* (40), CNN (28), Tech Policy Press (27), Bloomberg (24), NPR (19, not including affiliates), PolitiFact (16), Slate (15), Politico (15), and the Associated Press (14).

KRN researchers testified before Congress fifteen times and testified before the European Parliament once. KRN members testified before several legislative committees, including the U.S. House Select Committee to Investigate the January 6th Attack on the United States Capitol; the U.S. Senate Committee on Appropriations Subcommittee on State, Foreign Operations, and Related Programs; U.S. House Energy Subcommittee on Communications & Technology; and the U.S. Senate Committee on Homeland Security & Governmental Affairs.

Institutional Support for Policy Translation and Research

To catalyze the applicable translation of the emerging tech, media and democracy field's body of knowledge, Knight Foundation made significant investments to support policy-focused think tanks and research centers. Scholars presented policy-relevant research in a wide variety of ideologically diverse venues, across think tanks and government. Below are the profiles and description of those that received Knight Foundation grants exceeding \$1 million:

Center for Democracy & Technology (CDT)

Center for Democracy & Technology (CDT) is a long-standing Washington, DC, think tank "shaping technology policy and architecture, with a focus on the rights of the individual." During the period studied, CDT focused its work on three areas to generate impact: 1) Publication of multiple research reports that addressed key policy problems; 2) Increased success in engaging academic researchers to have policy impact through CDT's Fellows program; and 3) Bringing KRN and other researchers together to address policy problems through facilitated workshops. CDT's research included work

on how disinformation and online harassment hinder political candidates who are women of color; the report was covered by the *Washington Post* and picked up by many press outlets. Researchers also focused on policy issues relating to data brokers and potential abuse of personal data by government agencies. CDT has also led conversations with lawmakers about the need for data access by independent researchers and has promoted transparency with social media companies, including Meta and TikTok. In early 2022, CDT hosted a workshop that convened 29 researchers from academia, civil society and journalism to explore and articulate researchers' needs. This workshop led to a staff-only Capitol Hill briefing that CDT held that brought together key staffers with almost a dozen researchers to discuss the challenges and opportunities for legislation to enable broader access to data for independent researchers. Researchers produced two-dozen publications, spoke in 35 different venues and had 30 media mentions/appearances. CDT also co-hosted a KRN leadership convening in June 2022.

Center for Journalism and Liberty, Open Markets Institute

Open Markets Institute was founded in 2017 to examine the effects on American democracy and the economy of “unprecedented levels of corporate concentration and monopoly power.” In the period studied, center researchers focused on issues of privacy, antitrust and emerging technologies, as well as tech platform regulation, local coverage of COVID-19 on social media and media monopolies. Two Open Markets leaders appeared at various online and in-person conferences, including three congressional panels. From its one-year alliance with the University of Illinois, the Platforms, Politics & Local News in Illinois research of Summer 2021 enriched professors' curricula and provided students with insights into Big Tech monopolies and social media challenges, all of which helped with term papers and existing research. Several participants in the research projects submitted aspects of the summer research to journals, and some of that research was delivered at academic conferences. The team produced 30 publications, spoke in 15 different venues and had 25 media mentions/appearances during the period studied.

Joint Center for Political and Economic Studies

Founded in 1970, the Joint Center for Political and Economic Studies seeks to provide “compelling and actionable policy solutions to eradicate persistent and evolving barriers to the full freedom of Black people in America.” During the period studied, the Joint Center continued to focus on policy solutions to protect Black communities in America from harm resulting from violations of online privacy and targeting and surveillance through big data-driven technologies. The team produced a 36-page report titled “Affordability & Availability: Expanding Broadband in the Black Rural South,” which details the potential for broadband to increase economic, educational and health care opportunities in the Black rural South. The Joint Center's work also spotlighted proposals included in the Infrastructure Investment and Jobs Act, which was ultimately enacted in November 2021. The Joint Center filed reply comments with the Federal Communications Commission to address issues of digital discrimination and to highlight the need for Infrastructure Investment and Jobs Act broadband resources to be equitably deployed in the Black rural South. The center has also engaged with the Federal Trade Commission's Commercial Surveillance and Data Security Public Forum. Additionally, the center has highlighted the legal issues and racial injustices against African Americans and Latinos that discriminatory online advertisements raise in the context of voting, housing, lending and employment opportunities. Further, president Spencer Overton provided expert commentary to government, academic and public policy groups on issues relating to technology policy and reform of Section 230 of the Communications Decency Act.



R Street

R Street engages in policy research in “support of free markets and limited, effective government.” In September 2021, R Street released the final written report of its multistakeholder project on content moderation. The team subsequently hosted a half-day event to continue the conversation and engage government actors, including a panel moderated by R Street featuring representatives of the United States, United Kingdom and the European Union governments speaking to their work on engaging diverse stakeholders on content moderation. In parallel, R Street produced original long-form research and several shorter articles on the intersections between private sector and public policy activity related to online content and the information ecosystem. R Street also co-hosted a KRN leadership convening in June 2022.

Targeted Policy Translation Projects

There are other translation-oriented outcomes that are either still developing or have come to fruition among more discrete projects funded by Knight Foundation. These include:

Policy Think Tanks

- **The Cato Institute** published an in-depth survey report and analysis delving into how knowledgeable the American public is about content moderation, surfacing many misconceptions and misinformation about how the First Amendment applies to private companies. The Cato team presented the findings to a large group of employees at Meta.
- **Public Knowledge** provided analysis and commentary on a variety of media and information-related issues before Congress, including possible reform of Section 230 of the Communications Decency Act, platform accountability and algorithmic amplification matters and the Journalism Competition and Preservation Act.
- **The Lincoln Network** continued to provide federal lawmakers insight on how to effectively modernize the federal government. In September 2021, Zach Graves testified before the Select Committee on the Modernization of Congress, highlighting how the Government Accountability Office's growing science and technology capabilities can close longstanding gaps in congressional expertise. During the period studied, the Lincoln Network published 65 works in a variety of media.
- At the **German Marshall Fund of the United States**, the Digital Innovation and Democracy Initiative analyzed major technology policy challenges driving the transatlantic agenda, including on artificial intelligence, platforms, semiconductors and digital democracy. For example, the initiative analyzed the implications of the European Union's Digital Services Act and Digital Markets Act and commented on steps Congress can take to curb online extremism. The initiative had more than 20 publications, more than 20 speaking engagements and more than 50 media mentions/appearances.
- The **American Enterprise Institute for Public Policy Research** convened large working groups focused on a variety of areas relating to technology policy. Participants published six papers based on the in-depth discussions facilitated by these working group meetings. These essays include Adam Thierer (Mercatus Center) on how decentralized governance mechanisms may better regulate rapidly emerging technologies; Richard Epstein (New York University) on whether social media platforms should be treated as “common carriers”; and John Samples (Cato Institute) on how to balance First Amendment concerns regarding social media.

- The **Center for Humane Technology** created consciousness-raising materials, toolkits and interactive curricula for a wide audience. The center's mission is to shift perceptions about humans' uses of technology, to focus on human well-being in this regard and to change societal norms and expectations for the technology sector and its relationship with communities. In 2022, the center reached nearly 14,000 technologists, investors, researchers and others who enrolled in the Foundations of Humane Technology course.
- The **Social Science Research Council** grew its **MediaWell** online resource center, which seeks to map and translate research on mis- and disinformation across the social, behavioral, and data sciences; humanities; and other related fields. MediaWell received nearly 60,000 page views over the period studied.

Media Research

- A team at **Syracuse University's Newhouse School of Public Communications** is working with media partners to produce stories about scams and disinformation, with a particular emphasis on how these affect communities of color.
- Researchers at the **Reuters Institute for the Study of Journalism** conducted interviews for publication of a report titled "Born in the fire: What we can learn from how digital publishers in the Global South approach platforms."
- **The NetGain Partnership**, of which Knight is a member, has sought to address the lack of researcher access to platform data and bring more critical scrutiny to the tech sector. The partnership has brought together leading funders to focus efforts and resources on pressing problems at the intersection of technology and the public interest.
- Danilo Yanich and Benjamin Bagozzi at the **University of Delaware** have developed three databases of local television media. Using text reuse techniques that help to see common patterns in content, they are examining the contour and the nature of the duplication of local news content across stations. The project aims to look at how media ownership relates to the types of news offered to the public.



V. Measuring KRN's Progress Toward Ongoing Goals

The 2021 and 2022 KRN assessments identified areas of opportunity and concern in addition to making recommendations. This section measures Knight's progress toward those previously identified goals and makes additional recommendations.

Progress Toward Previously Identified Goals

1) Increasing Researcher Access to Data

As mentioned above, KRN researchers have continued to express concern that they do not have access to the privately held data necessary to study the online information ecosystem. This was a concern expressed from the outset, in 2019, and new management at Twitter and some stalling of legislative efforts have only produced more uncertainty and anxiety. To date, Knight Foundation has supported a variety of researchers who have called for enhanced platform data access in their scholarship and academic work. Further, Knight Foundation invested in the University of Texas at Austin's efforts to develop a data repository that can facilitate large-scale data-sharing and access. The foundation has also funded the NetGain Partnership, a coalition of nonprofit funders that, among other things, has supported research toward the creation of better data tools to help study commercial technology platforms.

2) Increasing Connectivity within KRN

The COVID-19 pandemic stunted the connective growth of KRN, and there remain concerns among KRN members that four years on, the network remains too dispersed and decentralized, lacking a strong foundation of social capital. The bibliometric data highlighting the extent of collaboration within the network make clear that network members are working together at an increasing rate. Since the pandemic has eased, Knight Foundation hosted two major convenings: one in Washington, DC, with network leadership, and the other in Miami, where a large number of KRN members gathered for the first annual "Informed" conference. KRN members have welcomed and praised Knight's connective efforts, which catalyzed new workstreams and new relationships across the network.

3) Effective Branding and Promoting of KRN

The network still lacks a collective brand or robust digital assets that represent the work. And while Knight Foundation currently maintains a webpage that lists all KRN grantees and archives their research submissions, maintaining such a page requires constant labor and financial costs with a relatively low return on investment. In light of this, organizing effective convenings of the field and stakeholders, such as the "Informed" conference, may be more effective alternative to investment



in expensive digital assets to build visibility and recognition. Such a strategic alternative may become preferable as the network's membership and output continue to increase.

4) Maximizing Impact Through the Translation of Research to Inform Policy

As noted in previous sections, KRN members continue to brief policymakers and testify in high-profile venues; KRN researchers appear across mass media and in many policy publications. However, as is clear from section I, "Community Voices and Concerns," there are many teams that wish they had better training, wider contacts and networks, and generally more pathways to impact. At the time of this report, Knight Foundation has been at work trying to increase the network's translational capacity, which would help members more widely circulate their insights, ultimately to better inform policy and achieve real-world impact.

5) Enhancing KRN's Diversity of Research

The Year 1 report reflected concerns that the initial research teams in the network were not attentive enough to communities of color and their particular issues and challenges. In July 2021, Knight Foundation created an open call for new research proposals to combat disinformation in communities of color, which sought to expand the network and make it more inclusive, both in terms of personnel and thematic focus. Roughly \$1.2 million was committed to nine teams exploring aspects of the problem of combatting disinformation in communities of color. Many of the original grantees have been exploring related areas of research, giving KRN more focus on issues of race and gender. The network has developed a true center of gravity in this space, particularly given the work of the University of North Carolina at Chapel Hill, UCLA, Data & Society Research Institute, Howard University and Joint Center for Political and Economic Study's teams.

In addition, Knight Foundation and KRN have continued to monitor the issue of the diversity of the research community itself in terms of the demographics of personnel. There remain concerns that the network includes too few junior researchers from marginalized backgrounds. Knight Foundation should therefore continue to monitor the demographic diversity of its KRN grantees and take proactive action to creating a diverse pipeline of talent in this field.

New Recommendations

The following recommendations arise from conversations with stakeholders across the network:

Recommendation 1: Clarify longer-term funding as soon as possible. The issue of sustainability looms on the horizon for many of the larger centers and institutes. Stakeholders acknowledge that despite this uncertain economic moment, they must soon plan for the 2023–24 academic year.

Recommendation 2: Consider how universities can better accommodate this hybrid and emerging field of research. As Knight considers future investment, it should consider how universities may hire more tenure-track and tenured professors in the digital and computational research space. Doing so would institutionalize the field of study. To date, KRN researchers and administrators have reported difficulty in securing tenure-line hires in this digital democracy/media and democracy field because of the field of study's interdisciplinary nature. Currently, KRN's study of media and democracy leverages expertise from the computer science, engineering, political science, sociology, economics and legal fields. And while the field of communication studies has become an important home for many, not all researchers will fit there. To date, Knight Foundation has engaged with KRN grantees on the



topic of deeper, institutional research roles. In subsequent negotiations with universities, tenure lines might again be a big piece of the conversation for Knight Foundation; it should be noted that Knight has already sought to push in this direction, and the task is complex and framed by deep, structural factors.

Recommendation 3: Prepare to support academic freedom. Several grantees are being targeted for their work on misinformation. While the universities will have their own response teams and support, Knight Foundation itself would be well advised to consider its response.

Recommendation 4: Continue funding research on the impact of disinformation and online threats on communities of color. Some of the smaller grants, in particular the newer Combatting Disinformation in Communities of Color grants, seem to be strong pilots/proofs of concept. Yet they may need help (resources, advising) to scale these important findings.

Recommendation 5: Facilitate the next wave of research collaborations in the network. As the initiative rolls into its fourth year, Knight should consider how to foster and incentivize another set of multi-institutional projects. Collaborative research efforts generate strong signals to private stakeholders, other funders, academic leadership, and policymakers. Along these lines, a large-scale project, involving many KRN researchers, examining data from Meta (Facebook) relating to the 2020 U.S. elections released important new findings (after the time period being studied in this report.)



VI. Conclusion

In its third year, KRN produced more research, became more connected and produced much greater impact compared to its first two years, suggesting a good growth trajectory across a variety of metrics. The number of authors collaborating with others in KRN increased by 26% year-over-year, and the number of connections among all network authors increased by 35%. In Year 3, network researchers participated in or hosted more than 900 speaking engagements in various venues, and they testified before Congress fifteen times.

Further, KRN's researchers have received validation from critical societal institutions in the network's third year. The media regularly relies on KRN researchers, having mentioned or involved them in more than 1,400 written, audio or video media pieces across 690 unique media outlets or affiliates. And the federal government has recognized the value of three seminal KRN research institutions—University of Wisconsin at Madison; University of Washington; and George Washington University—by awarding each of them \$5 million grants from the National Science Foundation.

Researchers are beginning to come to consensus around the effects on democracy of widespread social media use, strategies for detecting problematic aspects of the information ecosystem and scientifically accurate ways to get data from platforms and media companies that can be used by researchers. Scholarship is accumulating that demonstrates that interventions by social platforms can be effective (although effects may be small), that small groups bear many of the greatest harms online and that addressing misinformation requires a multi-layered approach that extends beyond social media. New evidence is being produced regularly in such areas. Even between the time of data collection for this assessment and its publication, a major research partnership led in part by KRN grantees and researchers at Meta released new findings that add to general understanding of online information consumption in relation to the potential polarization of platform users, among other issues.

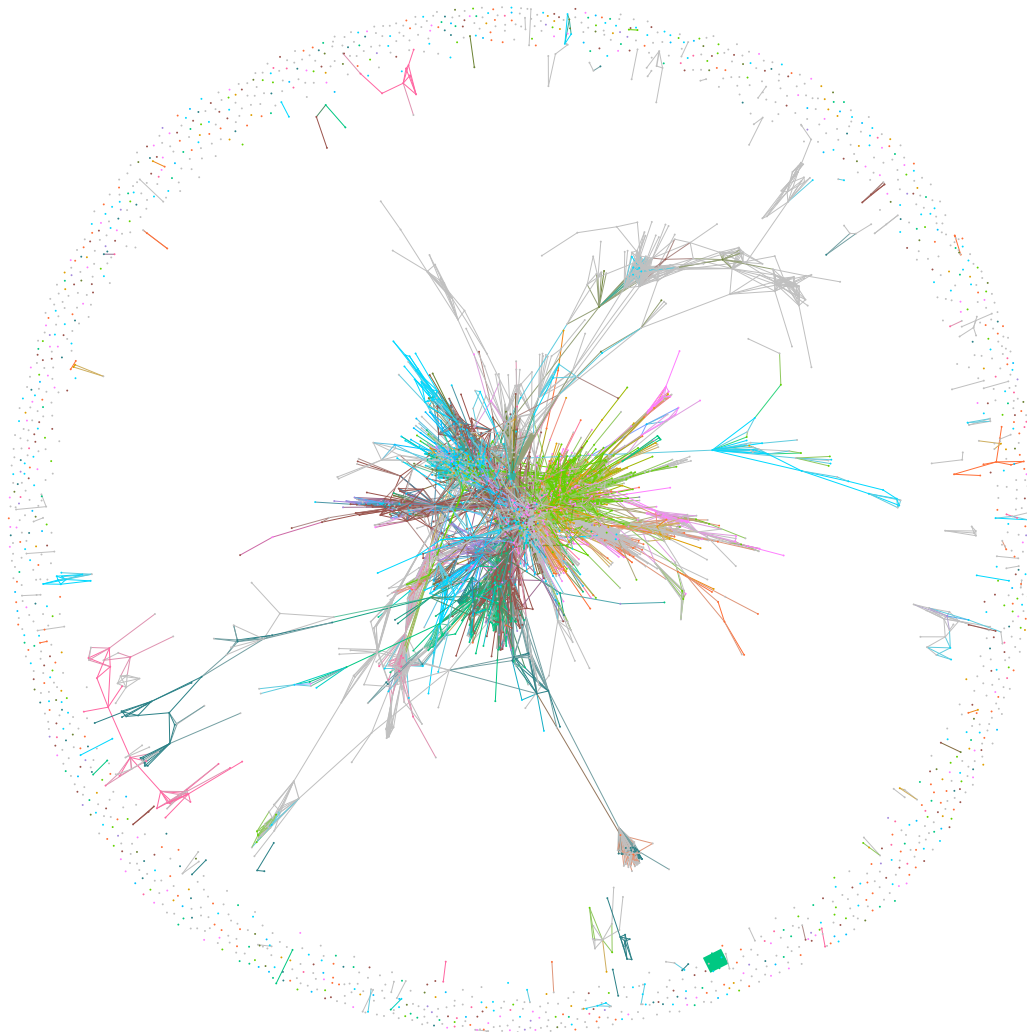
Yet there remain opportunities to improve the network. Network researchers have identified legitimate challenges, such as their inability to maximize their impact on policy, lack of access to critical data and the development and diversity of junior members. Knight Foundation has acknowledged these challenges and identified potential solutions. Knight has made a variety of additional commitments—whether directed toward community building, policy translation or data sharing and curation—that represent potential solutions to problems that the network had identified in past reports. In sum, KRN enters its fourth year with heightened expectations on multiple fronts, a sentiment reflecting its initial success and the extent of the initiative's potential to catalyze impactful scholarship that can define how our communities stay informed and engaged with their democracy.



Appendix

Display 1.

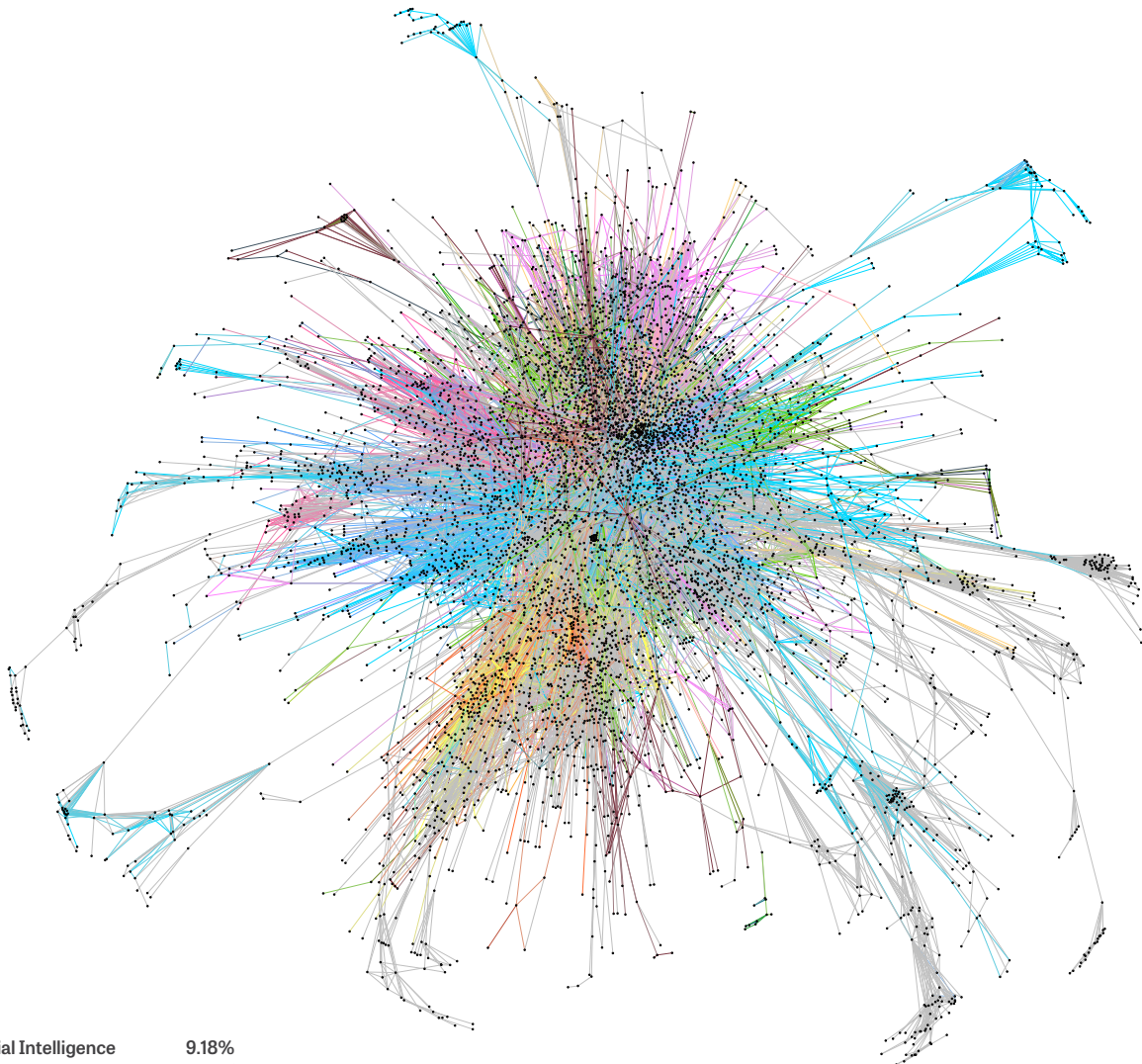
The map of expertise in the network changed considerably in Years 1 and 2 of KRN's existence, while Year 3 shows a stabilizing pattern relative to Year 2. For convenience, the 2020 and 2021 network maps, previously published, are reprinted here:



■ Digital Platforms	9.49%
■ Artificial Intelligence	8.5%
■ Social Psychology	7.57%
■ Political Communication	5.5%
■ Law	5.03%
■ Computer Security	4.24%
■ Social Science	3.33%
■ Computer Network	3.2%
■ Knowledge Management	2.91%
■ Data Mining	2.32%
■ Condensed Matter Physics	2.14%
■ Multimedia	1.97%
■ Other	43.8%

Credit: Indraneel Mane, Alexander Gates and John P. Wihbey

Display 1.



Artificial Intelligence	9.18%
Communications Studies	6.58%
Law	5.15%
Political Economy	3.87%
Social Psychology	3.78%
Digital Platforms	3.71%
Industrial Organization	1.99%
Public Administration	1.78%
Computer Security	1.69%
Media Studies	1.68%
Internet Privacy	1.62%
Econometrics	1.51%
Other	57.46%

Credit: Indraneel Mane, Alexander Gates and John P. Wihbey



Recent Publications in Leading General Science Journals

Aslett, Kevin, Andrew M. Guess, Richard Bonneau, Jonathan Nagler, and Joshua A. Tucker. "News Credibility Labels Have Limited Average Effects on News Diet Quality and Fail to Reduce Misperceptions." *Science Advances* 8, no. 18 (May 6, 2022): eabl3844. <https://doi.org/10.1126/sciadv.abl3844>

Bak-Coleman, Joseph B., Ian Kennedy, Morgan Wack, Andrew Beers, Joseph S. Schafer, Emma S. Spiro, Kate Starbird, and Jevin D. West. "Combining Interventions to Reduce the Spread of Viral Misinformation." *Nature Human Behaviour* 6, no. 10 (October 2022): 1372–80. <https://doi.org/10.1038/s41562-022-01388-6>

Bak-Coleman, Joseph B., and Jevin D. West. "Modest Interventions Complement Each Other in Reducing Misinformation." *Nature Human Behaviour* 6, no. 10 (October 2022): 1329–30. <https://doi.org/10.1038/s41562-022-01389-5>

Bhadani, Saumya, Shun Yamaya, Alessandro Flammini, Filippo Menczer, Giovanni Luca Ciampaglia, and Brendan Nyhan. "Political Audience Diversity and News Reliability in Algorithmic Ranking." *Nature Human Behaviour* 6, no. 4 (April 2022): 495–505. <https://doi.org/10.1038/s41562-021-01276-5>

Calo, Ryan, Chris Coward, Emma S. Spiro, Kate Starbird, and Jevin D. West. "How Do You Solve a Problem like Misinformation?" *Science Advances* 7, no. 50 (December 8, 2021): eabn0481. <https://doi.org/10.1126/sciadv.abn0481>

González-Bailón, Sandra, Valeria d'Andrea, Deen Freelon, and Manlio De Domenico. "The Advantage of the Right in Social Media News Sharing." *PNAS Nexus* 1, no. 3 (July 1, 2022): pgac137. <https://doi.org/10.1093/pnasnexus/pgac137>

Notarmuzi, Daniele, Claudio Castellano, Alessandro Flammini, Dario Mazzilli, and Filippo Radicchi. "Universality, Criticality and Complexity of Information Propagation in Social Media." *Nature Communications* 13, no. 1 (March 14, 2022): 1308. <https://doi.org/10.1038/s41467-022-28964-8>

Nyhan, Brendan, Ethan Porter, and Thomas J. Wood. "Time and Skeptical Opinion Content Erode the Effects of Science Coverage on Climate Beliefs and Attitudes." *Proceedings of the National Academy of Sciences* 119, no. 26 (June 28, 2022): e2122069119. <https://doi.org/10.1073/pnas.2122069119>

Wang, Chia C., Kimberly A. Prather, Josué Sznitman, Jose L. Jimenez, Seema S. Lakdawala, Zeynep Tufekci, and Linsey C. Marr. "Airborne Transmission of Respiratory Viruses." *Science* 373, no. 6558 (August 27, 2021): eabd9149. <https://doi.org/10.1126/science.abd9149>

Acknowledgements

I would like to thank Garrett Morrow at Northeastern University, as well as Indraneel Mane and Alexander Gates at the University of Virginia. They greatly helped with data analysis and visualization.

My gratitude to John Sands and Ashley Zohn at Knight Foundation for their support of this work. AJ D'Amico at Knight provided excellent comments and edits. As always, I want to thank Alejandro de Onís for the expert design work.

