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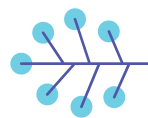
CIVIC SCIENCE MEDIA

An exploration of media, science and community engagement

Civic Science Fellows

RITA ALLEN
FOUNDATION

BRIDGING WORLDS: THE POWER OF CIVIC SCIENCE MEDIA

A new frontier in collaboration is changing how communities engage with science—and you're invited to join this transformative work.

Imagine a neighborhood in Detroit where residents armed with air quality sensors are working alongside journalists to track pollution block by block. Picture young Arizonans designing climate future games that let players visualize the impact of their choices. Envision communities sharing powerful stories about AI's effects on their lives—stories that are now shaping legislation.

This is civic science media in action—creating dialogue, building trust, and fostering participatory approaches that democratize scientific knowledge while ensuring science addresses community priorities and concerns.

In 2023, the Center for Cooperative Media at Montclair State University partnered with the Rita Allen Foundation to launch an exciting initiative: seed grants designed specifically to accelerate collaborations between journalism organizations and civic science groups. These partnerships tackled science-based issues directly affecting local communities, from air pollution's impact on public health to climate resilience.

The results were remarkable. In Cicero, Illinois, one such collaboration led directly to policy changes addressing environmental justice concerns. But this was just the beginning.

Our work draws from seminal research including the American Academy of Arts and Sciences' "The Public Face of Science" initiative, the National Academies' "Communicating Science Effectively: A Research Agenda" consensus report, and the Bill & Melinda Gates Foundation's global media partnership studies. These critical resources affirm the urgent need for building bridges between scientific communities and the public through innovative approaches that strengthen both democratic participation and scientific advancement.

Building on these reports and the Civic Science Fellows program, we've expanded our exploration in 2024, collecting compelling examples of civic science media projects and engaging with field leaders to understand how media can strengthen the vital connections between science and communities. These stories reveal a powerful truth: when media acts as an active partner with both communities and scientists, we create something greater than the sum of its parts.

Our goal with this report is simple yet ambitious: to offer insights that help funders, civic science practitioners, institutions, and media makers understand how storytelling can amplify science's reach and impact. By working together across traditional boundaries, we're creating new models of engagement that reflect community values and foster greater understanding and trust.

This is an invitation to join us in writing the next chapter of civic science media—one where science and society come together through stories that matter.

Are you ready to be part of this story?

Elizabeth Good Christopherson
President and Chief Executive Officer
RITA ALLEN FOUNDATION

Stefanie Murray
Director, Center for Cooperative Media
MONTCLAIR STATE UNIVERSITY

"There are challenging, multidisciplinary, strident issues of the day, from climate change to public health to how to incorporate AI, where the answers aren't always what the science says—the answers are what we decide to do as a community. And that's where the civic comes in."

Mariette DiChristina
DEAN, COLLEGE OF COMMUNICATION
Boston University

BUILDING OPPORTUNITIES FOR COLLABORATION, TRUST, LISTENING, AND LEARNING

Civic science is a collaborative, expansive field of study and practice that aims to seed, incubate, and catalyze ideas and partnerships to ensure that all people can shape and benefit from science, technology, and innovation. As science advances rapidly, new questions emerge that require tapping into an array of tools—from fields as diverse as ethics, communication, community engagement, social science, and policy—and connecting deeply with the people most affected to help frame problems and solutions.

As Mariette DiChristina, Dean of the College of Communication at Boston University, noted at a public conversation hosted by the US–UK Fulbright Commission in partnership with the British Library's Eccles Institute, **"There are challenging, multidisciplinary, strident issues of the day, from climate change to public health to how to incorporate AI, where the answers aren't always what the science says—the answers are what we decide to do as a community. And that's where the civic comes in."**
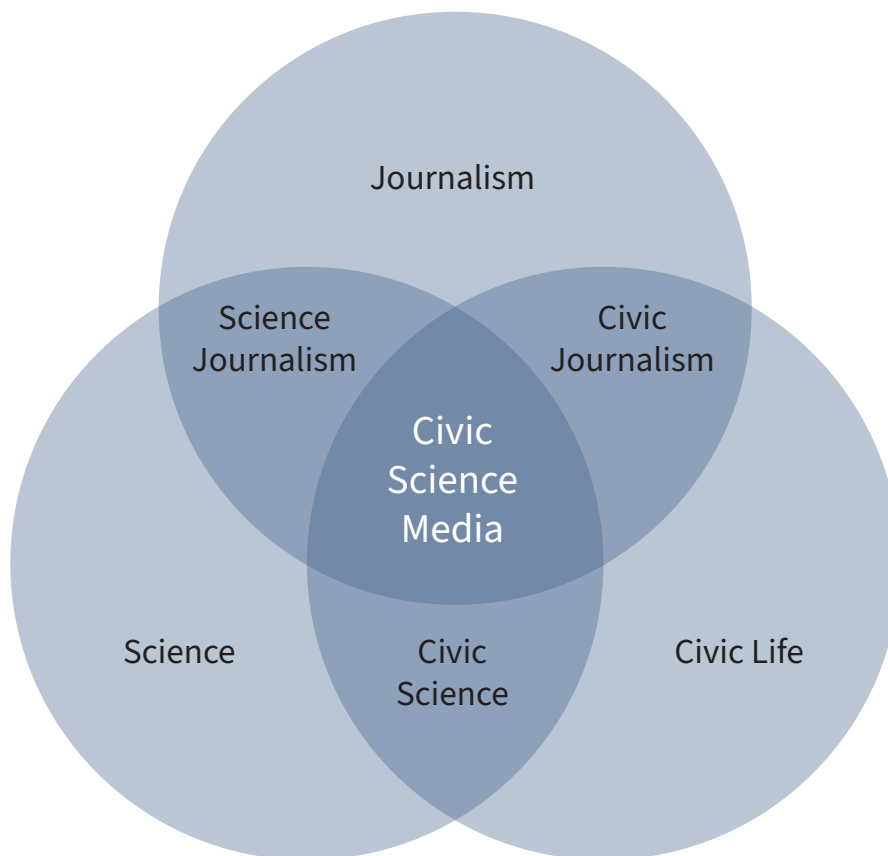
Given the fragmented media ecosystem, the spread of polarizing science and health misinformation, and scientists' traditional focus on communicating primarily with other scientists, navigating these civic science questions will require significant changes to the practice of science engagement and communication. The need goes beyond addressing urgent problems in the near-term: A thriving ecosystem of discovery science and a robust democracy depend on fostering strong bonds between science and technology, diverse communities, and democratic systems to create the seeds of new knowledge.

Civic science aims to expand who informs, participates in, makes decisions about, and benefits from science and technology. This requires bridge-building, innovation, and experimentation as well as new models of engagement, collaboration, and listening. Elements of civic science—including community collaboration, listening and engagement, and shifting power—seek to build greater public participation in science, increase diverse and equitable approaches to science, expand public deliberation about emerging science, shift how science is conducted, and improve scientific training and education. One way of supporting these foundational shifts across science and all elements of society is through journalism and media engagement and storytelling that purposefully connects communities and science—or **civic science media.**

At its core, civic science media is created when journalists and other media-based storytellers work intentionally with diverse community members and scientists to collaboratively address issues of shared interest. In this sense, civic science media makers serve as an important connector between scientists or scientific organizations and the people most impacted by scientific discovery. Civic science media spans a range of approaches and media types, including news articles, film, video games, social media, self-reported story platforms, interactive exhibitions, and more. For example, a civic science media project we highlight below includes a journalism collaboration about residents who suffer from polluted air in California's agricultural centers, coupled with community information sessions, and conversations between state environmental officials and community members.

Civic science media expands on exciting work taking place across the media landscape. It draws on experiments in **science communication**, which informs communities about science in accessible and compelling new ways; **engagement journalism**, which uses a collaborative approach to storytelling that centers the information needs of the communities served; and **solutions journalism**, which surfaces promising solutions to complex issues, providing an asset frame to understand challenges and opportunities. Civic science media combines these efforts by including communities in science deliberation or exploration through collaboration, multidirectional information sharing, a solutions approach, and engagement with science practitioners and organizations.

The term "civic science" has been in use for decades (see Resources below) and civic science media is increasingly considered a distinct field, which has been seeded through collaborative work and conversations across our networks. This diagram shows the intersections and overlaps of science, civic life, and media, and is drawn from a visualization created by Fanuel Muindi, Director of the Civic Science Media Lab and Professor of Practice at Northeastern University. Muindi notes in a recent article that he envisions civic science journalism as "covering the **civic nature of science**"—how scientists are interacting with local communities to solve real-world problems and foster informed decision-making.

Credit: Original visual created by Fanuel Muindi, Civic Science Media Lab, Northeastern University

Developing research and practice in these overlapping connections is especially important as trust in science remains lower than before the COVID-19 pandemic, significant portions of the US have no local newspaper or only one, and trust in civic institutions has declined significantly in the past 30 years, while complex scientific issues increasingly impact our lives. As we experience rapid advances in artificial intelligence, gene editing, and assistive technology we are also experiencing global pandemics and pathogens, profound impacts from our rapidly changing climate, and dangerous levels of misinformation.

If we are to realize the full potential of science we will need to increase community agency in science, counter misinformation, create new models in science that emphasize public engagement and collaboration, and develop stronger connections between science and society to ensure scientific advances meet the needs of diverse communities. Strengthening the reach of civic science media can help.

KEY CHALLENGES AND SOLUTIONS

As part of this overview, we spoke with boundary-spanning leaders with a range of experiences and insights into civic science (see About This Brief for details). Despite working in varied fields, their comments and suggestions were often aligned, indicating some clear themes and opportunities to advance this work. Five core challenges and potential solutions surfaced throughout our conversations.

1 Funding

As with many early-stage explorations, philanthropy can have a key role in seeding and nurturing civic science media. With reliable and flexible philanthropic investments, along with other potential support, civic science media will be able to expand beyond a handful of projects. In addition, philanthropic funders have a distinctive capacity to support field-wide learning and impact analyses to identify promising practices and models that can support long-term growth and sustainability.

Current challenges
- This nascent field struggles to attract sustained funding, which hampers its impact and growth.
- Grant cycles are shorter than the timelines needed to build trust and connect with communities to create meaningful impact.
- Grant funds don't cover all the expenses needed to build engagement and trust.
- Community co-creation means that project outcomes are unlikely to be clear during the grant application process.

Potential solutions
- To address the time needed to build trust and develop projects within communities, funders can provide flexible, longer-term grants, which would provide time for impactful collaboration with a variety of partners.
- To ensure equitable access and robust opportunities for community engagement, grants can provide capacity-building support, such as providing technology and internet access, removing media paywalls, and paying for childcare and for community leaders' time (as you would a consultant).

2 Time

Building trusting relationships with community members and scientists takes significant time, especially in communities that have been excluded from or harmed by science and or media. Along with flexible funding, ample time is necessary for projects to create the most impact and cultivate a culture of civic science.

Current challenges

- Collaboration and partnership require patience and flexible timing. Typical timelines for journalism projects are not compatible with civic science media collaborations.
- Building trust needed for community engagement requires continued connection—before, during, and after a project—which involves a much longer timetable than typical reported projects have the resources to sustain. Rushing the process prevents the deep listening and collaborative learning necessary for impactful civic science media initiatives.

Potential solutions

- When developing collaborative projects, partners should build in significantly more time and resources for community engagement, recognizing that fostering trust and developing relationships happens over an extended period.

3 Measuring impact

Showing the impact of investments will be critical to the growth of this work, yet traditional media and journalism metrics like page views do not capture community participation, shared knowledge, or trust.

Current challenges

- Media and journalism impacts can be harder to quantify than other social change efforts, such as direct-service interventions or the development of a novel medication. Changing perceptions, ideas, or beliefs through media requires time, repetition, and scale, which does not create conditions for easily identifying correlations.

Potential solutions

- Working with funders, scientists, community members, and media makers to create shared impact metrics would help projects identify and track changes meaningful to everyone involved in the project. These might include, for example, increased relationships between scientists and community members; the use of community knowledge in scientific applications; and the participation of scientists and community members in civic science deliberation.

4 Need for shared language and goals

Civic science media is an emergent field, and terms used to describe the work can mean different things to practitioners, scholars, and funders.

Current challenges

Civic science media is interdisciplinary and cross-sectoral, creating challenges in finding language and defining goals that is compelling across boundaries. For example, the Center's Cross Field Collaboration research indicated that journalists are increasingly open to collaborating with civil society organizations, yet language can be a barrier. Some interviewees indicated that words like "co-creation" can be a challenge for journalists because it runs counter to traditional principles of independence and impartiality, especially among editors and more senior journalists.

Potential solutions

- Developing shared language and goals via a collaborative process will increase clarity and buy-in about the purpose of a project, while informing metrics to track outcomes and impact and define roles that are needed to advance this work.

5 Theory vs. practice

Each partner will have distinctive priorities and face field-wide realities that can hinder or slow collaborations. It can be difficult to work in new ways, with flexibility and recognition of the specific needs and barriers each partner is facing.

Current challenges

- Academic scientific research often contends with uncertain funding and pressure from institutional cultures that don't reward or actively discourage engagement. Given the importance of public funding for scientific research, this can be heightened in political climates unsupportive of science and efforts to build inclusive engagement, making it challenging for scientists and scientific organizations to engage in civic science media collaborations.
- Journalism as a field is undergoing significant challenges, with fewer beat reporters and local news outlets closing. This decline makes it harder to ensure consistent support for

Potential solutions

- To make participation in civic science media accessible and inclusive, project partners need to be aware of and offer support to address the current financial and political realities as well as past harms committed by science and media. Addressing the moment can also include listening to understand shifting priorities, recognizing the time people have available, providing childcare, and ensuring privacy or anonymity when needed (for example, regarding immigration status).
- Project leads should be prepared to conduct outreach in a variety of spaces including public meetings, focus groups, online surveys or text responses, community workshops, door-to-door

journalists who want to focus on intersectional issues like community engagement with science.

- Collaborative participation can be harder to establish and maintain in times of stress, especially for targeted populations and organizations, such as immigrant communities. Fear of speaking up, financial instability, and other urgent priorities can make it harder to connect with community members and ensure their ability to co-create civic science media collaborations.

conversations, local radio interviews, fliers, and tables at community events. They will likely have the most success going where people already gather, such as farmer's markets, churches, libraries, grocery stores, barber shops and salons, sports fields, and parks. While moments of challenge across sectors of society can make participation in civic science media more difficult, it can also make the need for civic science media clearer, providing opportunities to expand participation and commitment.

- To build trust, project partners can create clear ways for community members to share feedback and should be able to show how their input has made an impact.

CIVIC SCIENCE MEDIA EXAMPLES

The following examples reflect a range of civic science media approaches and demonstrate the potential for impact across many intersections of science and civic life. They use a variety of types of media and address different scientific issues and community priorities. This compilation, by no means exhaustive, is shared with the intention of demonstrating what is possible when connecting science and communities through various forms of media storytelling.

The examples were identified through a call for submissions among Civic Science Fellows and host partners, research via Media Impact Funders' and Candid's Media Grants Data Map, suggestions made in interviews with leaders in this space, and the project team's own research.

The projects shared below all include elements of civic science media—using journalism or media storytelling to expand community participation in science and connect scientific exploration with community priorities. To build upon existing frameworks in civic science, they also include multiple priorities identified by the Center for Collaborative Media as part of their civic science journalism collaborations pilot grants, and they reflect the five civic science pillars developed by the Practice and Science of Civic Science Advisory Committee in collaboration with the Civic Science Fellows network. These pillars identify core elements of civic science, from the ethics and impact of scientific decisions and applications to ways we might develop tools and skills to increase open lines of connection between science and communities.

The projects cover topics including flooding and extreme heat due to climate change, the rapid expansion of artificial intelligence, air pollution, neuroscience, community health, and conservation. Media approaches include journalism collaborations, a video game, theater performances, museum exhibits, a digital book, and more. Each example includes a brief explanation of the project, the scientific and media partners involved, and a description of the impact distilled from public documents.

Coded Bias

Partners

Algorithmic Justice League

Media Types

DOCUMENTARY FILM

Challenge

Impact of biases built into rapidly expanding AI systems

"Coded Bias" shares personal stories of people who have been impacted by biased algorithms and shines a light on the extraordinary and growing power that artificial intelligence has on everything from employment and housing to finances and justice systems. The film examines the harm built into AI systems and how we can build equity and accountability into these systems. The companion project, AI Harms, allows people to share their stories of harm to help hold companies accountable and create better AI systems. The film elevates the harms of AI systems and brings the conversation about how to use and safeguard AI systems to the public. The Algorithmic Justice League then engages the film's audience around for policy solutions and campaigns, including the first piece of U.S legislation aimed at limiting facial recognition technology.

Populations Engaged

U.S. residents, especially those most likely to be negatively impacted by AI

Areas of Focus

ARTIFICIAL INTELLIGENCE

Project Impact

CIVIC ENGAGEMENT AROUND POLICY

INFORMATION SHARED VIA ADVOCACY ORGANIZATION

DIRECT RESPONSE

INFORMING POTENTIAL POLICY CHANGE

West Oakland Environmental Indicators Project

Partners

Pacific Institute for Studies in Development, Environment, and Security

7th Street/McClymonds Corridor Neighborhood Improvement Initiative

Media Types

DATA MAPPING   COMMUNITY STORIES   FACT SHEETS   DIRECT SURVEY

Challenge

Pollution and heavy industry impacts on health and well-being of West Oakland, CA, residents

To address profound pollution, air quality, land use and other environmental harms, West Oakland residents worked to ensure community participation in neighborhood-level environmental tracking and planning for solutions. Those decisions informed the data collection and analysis conducted, which was then shared with the neighborhood, driving community-led action across West Oakland. This partnership serves as a model for community-based data collection, environmental justice and collaboration between science organizations and local residents.

The 7th St./McClymonds Corridor Neighborhood Improvement Initiative focuses on community leadership, coordination and decision making in the development of projects to improve health, economic and environmental conditions in West Oakland. This seven-year initiative is funded by the William & Flora Hewlett Foundation and managed by The San Francisco Foundation.

"The Indicators Project really gave us the information we needed to fight the environmental and economic racism that people in West Oakland have to deal with on a daily basis. The EIP is an excellent model of a partnership between a research organization and community based organizations."

James "Tim" Thomas
WEST OAKLAND RESIDENT
EXECUTIVE DIRECTOR,
EMERGENCY SERVICES NETWORK

Populations Engaged

West Oakland, CA residents, predominantly communities of color

Areas of Focus

AIR QUALITY   LAND USE   POLLUTION   HEAT   ENVIRONMENTAL AND CLIMATE JUSTICE

Project Impact

COMMUNITY ENGAGEMENT

NEW PARTNERSHIPS ACROSS SCIENCE AND CIVIC ORGANIZATIONS

POLICY CHANGE

HARM REDUCTION

HEALTH AND ENVIRONMENTAL MONITORING

COMMUNITY PLANNING AND ADVOCACY

Make Games, Save the Planet

Partners

Arizona State University

Media Types

GAME

Challenge

Impact of climate change in Arizona

Arizona State University's Make Games, Save the Planet program works with young people to become community science leaders using STEM and media storytelling to imagine and create the future they want. Participants have created a game prototype to engage area residents in dialogue and deliberation about the local impacts of climate change and what they can do about it. While it does not inform science formally, the program is focused on community-based solutions to science impacts.

Populations Engaged

Latino/a youth and community members in Arizona

Areas of Focus

CLIMATE CHANGE

Project Impact

COMMUNITY ENGAGEMENT

YOUTH PEER LEARNING AND TEACHING

NEW MODELS OF INFORMATION SHARING

COMMUNITY PLANNING AROUND SOLUTIONS

Reflection from Rae Ostman, Research Professor, School for the Future of Innovation in Society, and Co-director, Center for Innovation in Informal STEM Learning, Arizona State University:

"Make Games, Save the Planet is an out-of-school program at Arizona State University supported by the U.S. National Science Foundation. Over three years, 12 young people of diverse racial, ethnic, and socioeconomic backgrounds have co-created a narrative extended reality (XR) game to engage local communities in learning and talking about the local impacts of climate change. The game takes place in a fictional community called Aridium, which suffers from extreme heat and drought and shares some environmental, socioeconomic and political characteristics with present-day Arizona.

"The project aligns with several civic science pillars. The program is designed for equity and inclusion because the participating young people are empowered to make all key decisions about the game, with the support of adult experts. We use culturally sustaining pedagogy, which supports participants in sustaining their communities' culture, language, and lives as they develop STEM competences and identities and work together for positive social change. The young people are communicating for the future through the world and story of their game, identifying their concerns for their climate future and hopes. Finally, the project is scaffolding for learning and impact by studying the learning outcomes for young people and for the community members and municipal officials who play and discuss the game with them."

Exhausted in Detroit

Partners

(Planet Detroit) (Ecology Center) (Outlier Media)

Media Types

(NEWS ARTICLE/REPORTING) (COMMUNITY EVENTS)

Challenge

Impact of pollution and heavy industry on residents in Detroit, Michigan

Exhausted in Detroit is a collaborative project of Planet Detroit, the Ecology Center, and Outlier Media to measure and report on air quality in Detroit, especially in predominantly Black neighborhoods. They engaged community members through citizen science monitoring and solutions including DIY air filters, as well as local reporting on air quality. This series is funded through a civic science and journalism collaboration grant from the Rita Allen Foundation with support from the Center for Cooperative Media at Montclair State University.

Populations Engaged

Predominantly Black neighborhoods in Detroit, Michigan

Areas of Focus

(AIR QUALITY) (POLLUTION)

Project Impact

COMMUNITY ENGAGEMENT

NEW PARTNERSHIPS ACROSS SCIENCE AND CIVIC ORGANIZATIONS

POLICY CHANGE

HARM REDUCTION

HEALTH AND ENVIRONMENTAL MONITORING

COMMUNITY PLANNING AND ADVOCACY

Including a proposed dust ordinance that would expand protections for Detroit residents dealing with dust and particulate matter emitted by scrap yards and concrete plants.

Ciencia y solidaridad: Historias de líderes comunitarios en Puerto Rico

Science and Solidarity: Stories of Community Leaders in Puerto Rico

Partners

Unidad de Participación Pública en la Ciencia de CienciaPR
Public Engagement with Science, Ciencia Puerto Rico

Media Types

E-BOOK   MULTIMEDIA

Challenge

Lack of culturally appropriate health information and prevention tools for marginalized communities in Puerto Rico

This project features participants from two CienciaPR programs: Aquí Nos Cuidamos ("Here We Take Care of Each Other"), a community and multimedia project focused on health and prevention and Laboratorio de Ciencia Comunitaria (Community Science Laboratory or CienciaCoLab), which enhances the capacity of community leaders to implement local science projects based on community needs. CienciaPR published a free digital book, "Science and Solidarity: Stories of Community Leaders in Puerto Rico," which highlights the stories of 11 local leaders who participated in both projects and how they use science to meet the needs and priorities of their neighbors.

Populations Engaged

Puerto Ricans, particularly marginalized communities

Areas of Focus

HEALTH AND PREVENTION   HEALTH MISINFORMATION

Project Impact

COMMUNITY ENGAGEMENT

NEW PARTNERSHIPS ACROSS SCIENCE AND CIVIC ORGANIZATIONS

COMMUNITY INPUT INTO SCIENCE

COMBATING MISINFORMATION

Ciencia y solidaridad: Historias de líderes comunitarios en Puerto Rico *CONTINUED*

Science and Solidarity: Stories of Community Leaders in Puerto Rico

Reflection from Mónica Feliu-Mójer, Director of Public Engagement with Science for Ciencia Puerto Rico and Director of Inclusive Science Communication and Engagement at the Science Communication Lab:

"*Ciencia y Solidaridad* illustrates how lived experiences, popular knowledge, and science can be combined to create solutions that benefit marginalized communities. Through this book, CienciaPR wanted to highlight the often-overlooked contributions of community leaders to science. By telling their stories, we wanted to visualize and celebrate community leaders and portray concrete examples of how their deep-rooted understanding of local contexts, combined with the trust they have earned from their communities, positions them as powerful advocates for integrating science into everyday problem-solving. The book features profiles, portrait illustrations, and culturally relevant icons that reflect each leader's story.

"*Ciencia y Solidaridad* aligns with all five pillars of civic science learning, particularly Understanding Science in Context and Scaffolding for Learning and Impact. The stories included in the book provide insights into how each community leader combines science with existing assets (e.g., knowledge, relationships, resources). Although their work is hyperlocal, it's also universal because the realities and challenges they face replicate across Puerto Rico and many other communities around the world. By showcasing how they apply science to their specific context, we hope anyone who reads the book can find a lesson to learn. CienciaPR's community engagement work is deeply relational. That can be hard to quantify. Telling the stories of community leaders allows us to document their impact, the strength and depth of our relationships, and what science can achieve when it centers communities and their priorities."

Louisiana Watershed Flood Center

Partners

(The Current) (Watershed Flood Center at the University of Louisiana at Lafayette)

Media Types

(NEWS ARTICLE/REPORTING) (DATA MAPPING) (DIRECT RESPONSE VIA EMAIL ALERT)

Challenge

Local flooding and the need for timely information to increase community preparedness

Based on community feedback, *The Current*, a local media outlet in Lafayette, Louisiana, and scientists from the Watershed Flood Center at the University of Louisiana teamed up to investigate flooding and produce a flood risk guide, as well as create an email news alert system to inform residents of high flood risk. Listen to an interview with the project leads on the Civic Science Television (CivicSciTV) Network.

Populations Engaged

Residents of Lafayette, Louisiana

Areas of Focus

(FLOODING) (CLIMATE CHANGE)

Project Impact

COMMUNITY ENGAGEMENT

NEW PARTNERSHIPS ACROSS SCIENCE AND CIVIC ORGANIZATIONS

POLICY CHANGE

HARM REDUCTION

COMMUNITY PREPAREDNESS

Improving science by thinking about how the information is being conveyed and used, which also informs teaching and helps early career scholars understand the importance of science engagement.

State Impact, Climate Solutions

Partners

Franklin & Marshall College Center for Opinion Research   Shippensburg University

La Voz Latina Central   QHubo News   Sankofa African American Theatre Company

USA TODAY Network in central Pennsylvania*   WITF

York Daily Record, Lebanon Daily News, Hanover Evening Sun, Chambersburg Public Opinion, Waynesboro Record Herald and Greencastle Echo Pilot

Media Types

NEWS ARTICLE/REPORTING   EXPERIENTIAL (THEATER)   EVENTS

Challenge

Impact of climate change in Pennsylvania communities

Climate Solutions develops climate literacy, resilience, and adaptation planning among citizens of central Pennsylvania through engagement, storytelling, and educational programs. The aim is to educate and inspire residents to notice and share the impacts of climate change and participate in discussions about local solutions. Funding for this project comes from Solutions Journalism Network. Examples include the theatrical production, *Between Heaven and Earth*, reporting on the state's proposed changes to environmental justice policies, and a bilingual survey asking the public what coverage it wants to see.

Populations Engaged

Central Pennsylvania residents

Areas of Focus

CLIMATE CHANGE   FLOODING

Project Impact

DIALOGUE AND DELIBERATION

DIRECT RESPONSE

CIVIC ENGAGEMENT AROUND POLICY

COMMUNITY-LED CITIZEN SCIENCE

Neglected and Exposed: Toxic Air Lingers in a Texas Latino Community, Revealing Failures in State's Air Monitoring System

Partners

Altavoz Lab Environmental Fellowship Environmental Health Sciences Pulitzer Center

Texas Tribune Environmental Health News palabra

Media Types

NEWS ARTICLE/REPORTING

Challenge

Impact of agricultural chemical hazards and need for greater community preparedness

The collaboration on air quality focuses on community reporting, engagement through in-person events, and civic action. Reporting efforts included a bilingual event, hosted by the *Texas Tribune* as part of its engagement work, which showed residents how to monitor and track air pollution via community air monitoring sensors; how to protect themselves in case of a chemical hazard; and how to file complaints and make public comments on petrochemical permits with the Texas Commission on Environmental Quality. The *Texas Tribune* and its reporting partners shared critical information and facilitated connections between residents and local environmental organizations. Three families living in Cloverleaf asked to have community air monitors installed at their homes.

Reporters also returned to the community to distribute fliers with information about chemical hazard preparedness and how to get involved with advocacy organizations.

Populations Engaged

Cloverleaf, a predominantly Latino/a community in Texas

Areas of Focus

AIR QUALITY POLLUTION ENVIRONMENTAL JUSTICE HEALTH

Project Impact

COMMUNITY ENGAGEMENT

ONGOING COLLABORATION BETWEEN JOURNALISM, SCIENCE, AND COMMUNITY

COMMUNITY INPUT INTO SCIENCE

HARM REDUCTION

HEALTH AND ENVIRONMENTAL MONITORING

ASTC Community Science Dialogue and Deliberation Fellowship Program

Partners

Association of Science and Technology Centers

Member Science and Technology Centers and Museums   Local Community Partners

Media Types

EXPERIENTIAL (SCIENCE CENTERS AND MUSEUMS)   EVENTS

Challenge

Need to increase community participation around science issues and encourage engagement among diverse communities

ASTC's Community Science Dialogue & Deliberation Fellowship Program nurtured a corps of 10 science center and museum professionals who learned skills for maintaining equitable partnerships and developing Dialogue & Deliberation programming to address community priorities. Each fellow collaborated with a community partner to design and host a Dialogue & Deliberation event that produced community recommendations or decisions on a community-identified topic at the intersection of science, technology, society, and policy, followed by reflection and evaluation. Examples of impact from two of the projects include:

1 Addressing Misinformation and Building Trust in Local Media
THE INSTITUTE FOR SCIENCE & POLICY AT DENVER MUSEUM OF NATURE & SCIENCE

This project brought together the Colorado News Collaborative with more than 70 community members and journalists to build and rebuild relationships and identify potential actions to combat misinformation in the media. "The first session helped participants discover and engage in tensions around misinformation, improve understanding, and gather ideas of potential actions. This information was then used to frame the second session, which focused on specific actions. Participants worked together to identify ways to help tackle misinformation in Colorado, uphold and amplify marginalized voices, create and strengthen cross-community partnerships, and build trust in reporting, particularly around scientific issues." Results included an issues framework and discussion guide individuals can use in their own communities and a report with actionable next steps. Learn more here.

2 Identifying Priorities for Equitable Access to Green Space
NATURAL HISTORY MUSEUM OF LOS ANGELES COUNTY

Nature for All brought together a team of Angelinos from diverse backgrounds with environmental justice advocates, artists, and researchers for a structured conversation and art creation event about equitable green space access. The discussion unearthed community priorities, including the ability to gather, safety, and accessibility. "An interactive pop-up gallery exhibit featuring the art and insight from the first event will be created and open to the public at the Natural History Museum and other community locations to further engage the public and encourage additional contributions to the topic of equitable access to green space." Learn more here.

ASTC Community Science Dialogue and Deliberation Fellowship Program *CONTINUED*

Populations Engaged
U.S. populations, centered around engagement with science centers and museums

Areas of Focus

CONSERVATION   PUBLIC HEALTH   GEOLOGY   WILDLIFE   HUMAN-NATURE RELATIONSHIPS

SCIENCE EDUCATION   TECHNOLOGY

Project Impact

DIALOGUE AND DELIBERATION

COMMUNITY-LED SCIENCE AND REPORTING VIA MUSEUMS

COMMUNITY ENGAGEMENT SPACES

NEW PARTNERSHIPS ACROSS SCIENCE AND CIVIC ORGANIZATIONS

NEW MODELS OF INFORMATION SHARING

EXPANDING THE REACH OF COMMUNITY SCIENCE NEEDS AND CONCERNS

Reflection from Naomi Wallace, ASTC's Senior Manager of Programs.

"The ASTC Dialogue & Deliberation Fellows showed how this flexible approach can be successfully applied in a variety of communities and across many different topics. Fellows tackled nutritional literacy and food access in Cleveland, Ohio, sustainable fishing in South San Padre Island, Texas, flooding mitigation in Ithaca, New York, and more. These events created opportunities for community members, scientists, decision-makers, and other relevant parties to have structured, collaborative conversations about addressing these local issues.

"This Fellowship was particularly well-aligned with the pillar "Communicating for the Future," as the goal of Dialogue & Deliberation is to structure discussions between people with different knowledge, values, and experiences. It was also aligned with "Leading for Systems Change," as each Fellow was able to bring their learnings back to their institution and encourage the adoption of Dialogue & Deliberation beyond the scope of their originally funded project. We are optimistic that this approach will become increasingly common among science centers and museums—as well as others working in civic science—who wish to have deeper, more impactful relationships with their communities."

ISeeChange - various projects

Partners

(ISeeChange)

Media Types

(DATA MAPPING) (COMMUNITY STORIES) (PHOTOS) (VIDEO)

Challenge

Impacts of flooding from climate change in Gentilly, Louisianna

ISeeChange helps communities document and understand their natural environment, local weather, and climate change impacts to help build resilience and improve adaptation and community infrastructure. Combining community-submitted images and stories with artificial intelligence modeling, ISeeChange helps inform priorities and changes to civic infrastructure.

An example of IseeChange work comes from New Orleans's Gentilly neighborhood. ISeeChange data in Gentilly, Louisiana, is helping the City of New Orleans and Stantec assess rain impact and flooding as they develop the St. Bernard Campus as part of Gentilly's National Disaster Resilience (NDR) Program. This project aims to improve neighborhood drainage through a rain garden, increase green infrastructure like shade structures and walking trails, and rebuild the Willie Hall Playground facilities, which includes stormwater storage. Community data from ISeeChange Community reported data helped inform the community needs and will track the impact of the improvements.

Populations Engaged

Residents of the Gentilly neighborhood of New Orleans impacted by flooding

Areas of Focus

CLIMATE CHANGE   FLOODING   RESILIENCE

Project Impact

COMMUNITY ENGAGEMENT

NEW PARTNERSHIPS ACROSS SCIENCE AND CIVIC ORGANIZATIONS

INCREASED PROJECT FUNDING

COMMUNITY RESILIENCE

EXPANDED GREENING AND FLOOD MITIGATION

COMMUNITY INPUT INTO SCIENCE

The Air We Breathe

Partners

(Cicero Independiente)   (MuckRock)

Media Types

(NEWS ARTICLE/REPORTING)   (COMMUNITY SURVEY)

Challenge

Impact of pollution and heavy industry on residents of Cicero, Illinois

Community engagement journalist Irene Romulo led the bilingual project to engage a mostly Hispanic community in Cicero to track and report on air pollution. Located near industrial sites, Amazon fulfillment warehouses, and freight rail yards, Cicero has high levels of particulates in the air. By installing sensors in community members' homes and reporting findings back to them via local journalism and community events, the project identified significantly worse pollution levels in Cicero compared to neighboring communities and what was being reported by government sensors. Community sensors discovered that a nearby coal tar plant had been violating environmental regulations, leading to further investigation and action.

As a result, the Illinois Environmental Protection Agency and the Cook County Department of Environment and Sustainability increased outreach and public health information to residents, but in English only. Following the findings, the Illinois EPA and Cook County stated that they are "working to convert these filter-based monitors to stronger 'federal equivalent method,' or FEM, monitors, which can allow for real-time reporting and more timely public health advisories."

Support for this project came from the Data-Driven Reporting Project, which is funded by the Google News Initiative in partnership with Northwestern University's Medill School; the Rita Allen Foundation; the Reva and David Logan Foundation; the Healthy Communities Foundation; and the Donald W. Reynolds Journalism Institute at the University of Missouri. Read about the impact of this project in Civic Science Media Lab's *Civic Science Times*.

Populations Engaged

Cicero neighborhood residents, primarily Latino/a, in Chicago

Areas of Focus

(AIR QUALITY)   (ENVIRONMENTAL JUSTICE)

Project Impact

COMMUNITY ENGAGEMENT

DIALOGUE AND DELIBERATION

COMMUNITY-LED CITIZEN SCIENCE

HARM REDUCTION

AIR QUALITY MONITORING

POLICY CHANGE

Children in Crisis

Partners

Las Vegas Sun

Center for Health Reporting, University of Southern California's Annenberg School for Communication and Journalism

Media Types

NEWS ARTICLE / REPORTING

Challenge

Impact of strained pediatric and adolescent mental health systems in Las Vegas

The Children in Crisis project aims to understand the local impact of the mental health crisis on children and teenagers in Las Vegas, Nevada. "With the state trying to fix its system, now is the perfect time for parents—or anyone else who interacts daily with these children—to speak up and offer suggestions." The project was supported by the Center for Health Reporting at the University of Southern California's Annenberg School for Communication and Journalism.

Populations Engaged

Nevada children experiencing mental health crises and their families

Areas of Focus

MENTAL HEALTH   HEALTH POLICY AND PRACTICE

Project Impact

COMMUNITY ENGAGEMENT

COMMUNITY INPUT INTO MEDICAL CARE

DIALOGUE AND DELIBERATION

POLICY CHANGE

Other notable projects

In addition to these examples, we discovered a range of strong efforts that include one or two elements of civic science media. These include:

The Neuroscience and Society Program at Johns Hopkins Berman Institute of Bioethics ensures the people most impacted by advances in neuroscience research inform the scholarship and perspectives of neuroscientists. One project featured direct requests to the public as part of an in-person co-designed workshop focused on increasing exchanges between scientific and non-scientific populations. The workshop featured a film with public responses to these questions: "If you were a neuroscientist, what experiment would you do?" and "How would the field benefit from public perspectives?" Responses touched on the impact of stress, inequity in society, gun violence, advances in Alzheimer's disease treatment, and aging. The film was shared with neuroscientists as part of the workshop, which aimed to create more opportunities for disease advocates and neuroscientists to share information and engage in dialogue.

"Adrift" is a three-part series created by *Environmental Health News* and *palabra*, a multimedia platform created by the National Association of Hispanic Journalists. The story was produced in collaboration with Voices of Monterey Bay. The series focuses on pesticide use in rural California communities of color and explores the health impacts on farmworkers who are routinely exposed to toxic chemicals used in agriculture. The series began with a question to local residents: "What information would be useful?" In addition to reporting, community members asked for a bilingual information resources including videos, infographics, and clear explanations about pesticide exposure and ways to protect themselves.

The British Science Association has several programs aimed at increasing public engagement with science and sharing public insights to inform the future of science policy. Sciencewise helps to ensure science policy in the United Kingdom is informed by the perspectives, hopes, and concerns expressed by the public. The program aims to bring public perspectives to policy across a range of scientific and technological issues, from stem cell use and basic science to climate and sustainability.

As civic science media develops as a field and approach, we hope it will serve as a prod to media producers, community members, scientists, and organizational leaders to consider ways that projects might add engagement, media, or science feedback to increase reach, impact, or learnings.

Resources

- The Civic Science Imperative

- What Is Civic Science?

- Communicating Science Effectively: A Research Agenda

- The Oxford Handbook of the Science of Science Communication

- The Public Face of Science in America

- Civic Science Fellows Program

- How Science Philanthropy Can Build Equity

- The State of Inclusive Science Communication: A Landscape Study

Reflections on the Path Ahead

As we work to increase the impact and benefit of science by building greater connections between science, communities, technology, and democracy, we are excited to collaboratively explore the road ahead.

The research project conducted by the Center for Collaborative Media highlighted journalists' willingness to collaborate with civic society organizations, and based on what we are learning through initial research, seed grants, and the examples and interviews highlighted in this overview, there is a growing field of collaborations developing around civic science media as well.

As more civic science media projects develop, we anticipate opportunities for deeper research. We also recognize the importance of understanding a range of different impacts, including how civic science media expands public engagement with complex scientific issues; how science, community, and media collaborations can influence scientific and public policy decision making; and how civic science can meaningfully break down exclusionary systems in science and how findings from science are applied to decision-making.

We look forward to expanding on this work and following the questions and ideas that come from this initial overview. With sparks from the growing civic science community, we look forward to seeing civic science media collaborations grow across communities and across issues where science and technology can help us understand and shape our future.

About this Brief