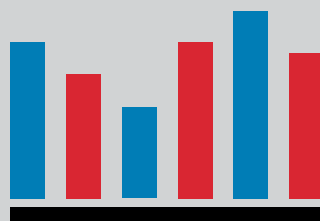


Arts and Research Partnerships in Practice

Proceedings from the First Summit of the
National Endowment for the Arts Research Labs: June 3-4, 2019

NATIONAL
ENDOWMENT for the **ARTS**
RESEARCH LABS



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Preface

The National Endowment for the Arts is embarking on its fifth year of supporting a series of world-class research centers to study the arts' role in health, education, and business in the United States. Stationed around the country, these Arts Endowment Labs are tasked with developing and executing a long-term research agenda, cultivating partnerships with community arts organizations and other researchers, and communicating their findings on multiple platforms. To date, the Arts Endowment has made 17 Research Lab awards to universities hosting transdisciplinary teams of researchers and arts professionals.



Since 2017, the Labs initiative has sparked a wide array of compelling research proposals, attesting to overall demand for the program. The Arts Endowment Labs cover an expansive range of research topics, such as the benefits of art therapy for pediatric cancer patients; the social and emotional impact of music programming for autistic children and their families; the neuroscience of creativity and improvisation; and the arts' relationship to corporate and civic innovation.

This report marks a critical milestone for the Labs program. In June 2019, participants from 12 Research Labs met at the National Endowment for the Arts to discuss cross-cutting challenges and solutions and to workshop their own research findings. The proceedings from this national summit—as reported here—point to new directions the Arts Endowment can take in administering the Research Labs program. The rich exchanges at the summit provoked ideas for greater networking capacity across the Labs, for communications strategies that can reach broader audience groups, and for ongoing technical assistance in these two areas.

To respond to the needs articulated in this report, the Arts Endowment will engage with a technical assistance services provider who will convene the Labs on a regular basis, facilitate sharing of resources across the Labs, conduct periodic webinars to bring the Labs' work to a wider public, and co-develop communications and outreach strategies tailored to individual Labs. Such capacity-building measures are similar to those used in other evidence-guided initiatives at the Arts Endowment, such as the Creative Forces: NEA Military Healing Arts Network, the Our Town creative placemaking program, and the new Sound Health Network.

We are excited to continue our journey with our research partners as we explore even more ways the arts impact our lives.

Mary Anne Carter
Chairman
National Endowment for the Arts

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Executive Summary

The National Endowment for the Arts is committed to building public knowledge about the value and impact of the arts, including benefits for individuals, communities, and the greater society. Through its Office of Research & Analysis (ORA), the Arts Endowment routinely commissions and conducts studies to generate this knowledge.

Since 2012, the agency has awarded research grants to catalyze studies of the arts across multiple sectors and fields of expertise. More recently, ORA has overseen the NEA Research Labs program. These Labs involve multi-year agreements with research institutions to produce research reports, policy briefs, and other tools that can heighten the visibility of empirical evidence about the benefits of arts programs or interventions. Each NEA Research Lab designs and implements a research agenda to study the arts' relationships to one of three domains: 1) Health and Social/Emotional Well-Being; 2) Creativity, Cognition, and Learning; and 3) Entrepreneurship and Innovation. Since 2017, the National Endowment for the Arts has funded at least four new Research Labs per year.

On June 3-4, 2019, three years into the initiative, representatives from 12 NEA Research Labs assembled at the offices of the National Endowment for the Arts in Washington, DC, for the two-day All-Labs Summit: Building & Sustaining Capacity for Arts Research. The participants spanned a range of disciplines and affiliations, including academic researchers and arts practitioners. The agenda also featured a keynote presenter, a panel of federal research agency officials, and “discussants” from various research fields.

The conversations and presentations during the NEA Research Labs Summit focused on topics central to research about the arts:

- Cross-sector partnerships for arts research
- Translational research and scalability
- Research practices
- The institutional context
- Arts research as a cohesive field of inquiry

Participants also discussed administrative requirements specific to the NEA Research Labs program, as well as the processes for implementing the Labs and achieving positive outcomes. The following action items emerged for the Arts Endowment:

1) Promote Cross-Labs Collaboration and Technical Assistance: As noted, each Research Lab is charged with conducting research on the arts' relationships to one of three topical domains. As the program expands, it will be useful to examine the distribution of Labs across these domains, so the Arts Endowment can identify and incentivize opportunities for greater networking, knowledge exchange, and research collaborations across the Labs. The Arts Endowment also may convene the Labs periodically—either as a whole or within specific domains—to foster such relationships and to offer targeted technical assistance, which also may occur via webinars

and teleconferences.

2) Align Deliverables with a Longer-Term Trajectory: Because sustainable partnerships between researchers from different disciplines, and between researchers and arts practitioners, can take years to nurture—and because of the timeframes associated with ambitious research projects—the Arts Endowment can work with Labs to stage the types of output delivered, based on the phase of the Lab’s development. A similar flexibility may be applied to other administrative requirements.

3) Invite Novel and Various Techniques for Distributing Research Results: Publishing results through traditional avenues, such as academic research journals or conferences, enables Labs to advance high-quality arts research. However, because practitioners and the general public also benefit from research findings about the arts, alternative methods of communication may support a broader reach that includes a more general audience. Practice briefs, webinars, convenings, seminars, blog posts, community meetings, and other vehicles offer diverse means for the Research Labs to share their innovations and findings with a variety of stakeholders. The Labs may further inspire the field through communications and events involving artists, art exhibits, and performances, and other arts-based approaches.

The Arts Endowment Research Mission

“I would assert that this diversity of perspectives where we find ourselves now is actually an enviable place to be in as a field. I think it signals that there are still vigorous and productive debates for us to have about how best to conduct our research and that there are still big questions for us to ask about the impact of arts and arts education on people’s lives.”¹

The National Endowment for the Arts (“Arts Endowment”) is committed to research that “elucidates the factors, conditions, and characteristics of the U.S. arts ecosystem and the impact of the arts on other domains of American life.”² Goal 3 of the National Endowment of the Arts Strategic Plan FY 2018-2022 states that the Arts Endowment intends to “Promote Public Knowledge and Understanding about the Contributions of the Arts.” Accordingly, the plan includes a strategic objective about research:

Objective 3.2 Expand and promote evidence of the value and impact of the arts for the benefit of the American people.

Description: Rigorous studies and analyses will provide researchers, arts practitioners, policymakers, and the general public with accurate, relevant, and timely information about the arts. Through its research agenda, including grants opportunities, studies, and datasets, the NEA fulfills this need.³

In service of this strategic objective, the Arts Endowment’s Office of Research & Analysis pursues the following mission and goals.

Mission: Promote public knowledge and understanding about the value and impact of the arts in American life.

Goals: 1) Conduct, commission, and contextualize high-quality, policy-oriented research on the value and impact of arts and culture; 2) Develop models, methods, and metrics that report the impact of the NEA’s performance and provide resources for nonprofit arts organizations to better account for their own performance; and 3) Improve capacity for researchers outside the NEA to conduct rigorous, high-impact studies about the arts.⁴

In 2017, the National Endowment for the Arts launched the NEA Research Labs program, an initiative that funds cross-sector partnerships for arts research. On June 3-4, 2019, three years into the initiative, representatives from all 12 NEA Research Labs assembled at the offices of National Endowment for the Arts in Washington, DC, for the two-day All-Labs Summit: Building & Sustaining Capacity for Arts Research. This report reviews and distills ideas from the rich discussions that occurred during the convening.

1 The quotations throughout this document were gathered from participants during the All-Labs Summit.

2 <https://www.arts.gov/artistic-fields/research-analysis>

3 The National Endowment the Arts Strategic Plan FY 2018-2022; retrieved July 8, 2019 from <https://www.arts.gov/sites/default/files/NEA-Strategic-Plan-FY2018-2022.pdf>

4 *A New Research Agenda for the National Endowment for the Arts: FY 2017-2021*; retrieved July 8, 2019 from <https://www.arts.gov/artistic-fields/research-analysis/new-research-agenda-national-endowment-arts-fy-2017%E2%80%902021>

The NEA Research Labs Program

Through multiyear partnerships with the Arts Endowment, and with the help of arts organizations and other stakeholder groups, the Research Labs are intended to produce research products, policy briefs, and other tools consistent with the agency's research mission. The Research Labs program solicitation for FY 2020 announces an intent to:

...extend [the NEA research] agenda and its impact by cultivating a series of transdisciplinary research partnerships, grounded in the social and behavioral sciences, to produce and report empirical insights about the arts for the benefit of arts and non-arts sectors alike. Sustained methods of inquiry...will have distinctive benefits for the arts community, but also for sectors such as healthcare, education, and business or management.”

To be eligible for a Research Labs award, the applicant must be 1) a U.S. institution of higher education, or 2) a nonprofit, tax-exempt 501(c)(3), U.S. organization with their core components having research and policy as a principal focus, either as the primary work or as part of a transdisciplinary mission. The Arts Endowment seeks research entities that have shown capacity to design and implement a series of studies and/or a research program that includes theory-driven research questions and methodologies. A range of approaches may be used, including quasi-experimental or experimental designs, analyses that use primary and/or secondary data,



Girija Kaimal, Drexel University, discusses research being conducted in their Lab. Source: NEA file photo

or rigorous novel designs. Priority is also given to “translational research that moves scientific evidence toward the development, testing, and standardization of new arts-related programs, practices, models, or tools that can be used easily by other practitioners and researchers.”

Partnerships and cross-sector connections are integral to the Arts Endowment’s 2018-2022 strategic plan, and they are conceptually central for the Research Labs. As noted in the FY 2020 Request for Proposals, the Arts Endowment intends to “make arts-relevant research a shared endeavor (with shared benefits) for academic researchers, arts practitioners, and policy-makers.”

To that end, each Lab team must include representatives from at least two research specialties and at least one nonprofit arts organizational partner. Labs are further encouraged to develop relationships with other non-arts and arts partners from the for-profit or nonprofit sectors, such as health, business, science, and education. In addition, each Lab must establish a Technical Working Group (TWG) that includes “representatives from partner organizations and other experts in [their] field or a related field” to review the activities of the Research Lab and provide feedback.

Each NEA Research Lab develops and implements a research agenda through a transdisciplinary research team. Using the social and behavioral sciences, the Labs investigate the arts and serve as a “hub” or center of excellence in one or more of the following domains:

- Health and Social/Emotional Well-Being;
- Creativity, Cognition, and Learning; and
- Entrepreneurship and Innovation.⁵

These three domains align with aspects of the National Endowment of the Arts’ Research Agenda FY 2017-2021.⁶ More information about each research domain, including key research questions, is provided in Appendix A.

The general scope of work states that each Lab will “plan and implement a research program, including an exemplar study” in the chosen domain. The research program must include these components:

1. Design and publish an evidence-based research agenda;
2. As part of the agenda, plan and implement a keystone (i.e., exemplar) study or a series of studies;
3. Produce at least one research report for each research study;
4. Fulfill ad hoc analyses or information requests concerning the NEA Research Lab’s research agenda;
5. Disseminate study findings, research products, data, tools, or services to other researchers, arts practitioners, and the general public; and

5 <https://www.arts.gov/artistic-fields/research-analysis/national-endowment-for-the-arts-research-labs>

6 <https://www.arts.gov/artistic-fields/research-analysis/new-research-agenda-national-endowment-arts-fy-2017-2021>

6. Prepare and deliver a briefing to the Arts Endowment on the needs for the proposed research topic area, with recommendations on how these needs could be supported by the Arts Endowment and how the NEA Research Lab can be sustained in the future.

Lab awards are made for periods up to two years, and Research Labs can negotiate up to four noncompetitive renewals for a total of ten years of support. Each award provides funding up to \$150,000 and requires a one-to-one dollar match of non-federal funds.

NEA Research Labs Awards Prior to 2020

From 2017 through 2019, the National Endowment for the Arts awarded Cooperative Agreements⁷ to four new Research Labs each year through a competitive process (see Table 1). A brief description of each Lab can be found in Appendix B, and additional details accessed via their respective Lab webpages.⁸

Table 1: Research Labs 2017-2019 by Research Domain and Year of Award

RESEARCH DOMAIN	FY 2017	FY 2018	FY 2019
Arts, Health, and Social/Emotional Well-Being	Drexel University University of Arkansas	George Mason University Vanderbilt University Medical Center	Rice University Texas Tech University University of Colorado Denver
Arts, Creativity, Cognition, and Learning	Vanderbilt University	University of California, San Francisco	University of California, San Diego
Arts, Entrepreneurship, and Innovation	University of Iowa	Indiana University- Purdue University	

As is evident in Table 1, the distribution of Research Labs across domains is uneven, ranging from two in Entrepreneurship and Innovation to seven in Health and Social/Emotional Well-Being. The relative weighting of these research domains was not predetermined. It corresponds roughly with the representation of those domains within the total applicant pool.

NEA Research Labs Summit: June 3-4, 2019

On June 3-4, 2019, the National Endowment for the Arts hosted the first Summit for Research Labs at their headquarters in Washington, DC. The purpose of the Research Labs Summit was to identify cross-cutting research ideas and logistical challenges, as well as opportunities for greater networking across the Labs program. The meeting also gave an opportunity for research staff at the Arts Endowment to gain insights into how to effectively structure, administer, and monitor the Research Labs program.



Karen Barrett, University of California, San Francisco, responds to group discussion questions. Source: NEA file photo

On June 3, representatives of the 12 Labs met to introduce their research and discuss their visions, outcomes tracking, capacity, sustainability, and needs for technical assistance. The first day of the convening included three panel discussions featuring the Research Labs, titled 1) Study Design and/or Recruitment Issues for Experimental and Quasi-Experimental Studies; 2) Engaging Community Partners in Research and Communications; and 3) Modulating from Arts Research to R&D: Toward Scalability. On June 4, a public, live-streamed session⁹ featured presentations from the first cohort of Research Labs, the previous day's discussants, several federal agencies, and a closing keynote. Appendix C provides the agenda and background reading list, and participant biographies are available in Appendix D.

Participants of the Research Labs Summit spanned a range of disciplines and affiliations, including academic researchers, service providers, policy researchers, and arts practitioners. The Research Labs are equally diverse, collectively covering a host of research questions, populations, research designs, arts practices, and institutional settings. They are also

9 <https://www.arts.gov/video/all-labs-summit-building-and-sustaining-capacity-arts-research>

at different stages in developing their research programs, ranging from fledgling to established. Participants by Research Lab can be found with lab descriptions in Appendix B.

The conversations and presentations during the two-day Research Labs Summit focused on two areas: 1) topics central to arts research and 2) implementation of the NEA Research Labs program. These discussions are summarized, respectively, in the following sections: Arts Research and NEA Research Labs: Program Observations.

Arts Research

Participants of the Research Labs Summit delved into the following topics related to arts research:

- Cross-sector partnerships for arts research
- Translational research and scalability
- Research practices
- The institutional context
- Arts research as a cohesive field of inquiry

Cross-Sector Partnerships for Arts Research

The Research Labs program is built on the assumption that there is value in bringing together researchers with arts practitioners and cultural providers for systematic investigations into the benefits of the arts for arts communities, as well as for healthcare, education, business, and other sectors. Participants in the Research Labs Summit said the interaction of traditional social sciences and/or health research methods with the arts is a challenging and “messy space” with immense opportunity.

One participant observed that the process of bringing together researchers and practitioners in the arts with those from other fields is akin to “creating a protoplasm that doesn’t exist.”

Participants voiced the expectation that any “best practices” that emerge from these cross-sector, transdisciplinary partnerships will yield a unique research agenda, one that cannot be generated, much less fulfilled, by any of the disciplines independently. As one participant observed, “The goal is to produce new ways of thinking, to produce paradigm-shifting methods.”

“Your community arts professionals learn more about what they do as their art and their practice, but researchers can also take that expertise and knowledge and think more carefully and thoughtfully about how we might design these experiences...It’s a give and take, but when you enter into a process of co-creating something or co-developing something, you actually come out learning more about that experience than if you would do it independently or think about independently.”
—Summit participant

“Integrating the arts into STEM in a meaningful way is a huge challenge. It requires the sciences to accept [art] as something equal, but it also requires our artists in the visual and performing arts to take on a new view of research, and of their role as practitioners of a particular craft.”

ESTABLISHING PARTNERSHIPS

Almost by definition, NEA Research Labs build partnerships and cross-sector relationships among academic researchers, arts practitioners, and other stakeholder groups. Because of this requirement, Research Lab partners must start by finding ways to exchange the fundamental ideas and practices of their disciplines. As one participant of the Research Labs Summit observed, the research actually builds community, and this itself can be a lasting outcome.

Partnerships within each of the 12 Research Labs grew from existing and new connections, initiated by the applicant organization or by its ultimate partner. The partnerships came together around overlapping research agendas, investments in similar populations, and other mutual concerns. Sharing compelling stories helped develop interest and buy-in, as did outreach aimed at helping potential partners understand the value of the research and its alignment with their priorities.

Collectively, the Research Lab investigators have sought partners who can provide the kinds of expertise that will enhance the span of their translational research. One researcher observed, “We created our program in a collaboration between a clinical psychologist, a developmental psychologist, a songwriter, a music therapist, and an applied behavior analyst because we really wanted to have control over the elements that we felt were most important.”

“It’s why we’re all here—the interdisciplinary and transdisciplinary collaborations. Interdisciplinary in the sense that we want to work across disciplines. Transdisciplinary in the sense that we want to create new wins...We are very interested in research that doesn’t just cross disciplines, but actively creates new ones.”

—Summit participant

Among their roles within the Research Labs, collaborators from the arts and non-arts sectors provide researchers with detailed information about arts practices and how they are used in the community. These insights pertain not only to what they do but, as one participant summarized, “how we do what we do, how we train, how we implement it [in practice] and also into people’s daily lives.”

CULTIVATING PARTNERSHIPS

Across the board, participants of the Research Labs Summit said their partnerships required nurturing and took considerable time to develop. They referred to processes that took eight months, a year, even two years of regular meetings “to really get on the same wavelength with each other.” Differences in goals, vocabularies, approaches, needs, and investments emerged and had to be addressed during the process.

Consistent communication of goals from the Research Lab investigators was helpful in guiding

the practitioner-partners to a shared understanding and ownership of the research focus. At the same time, there were clear efforts to incorporate the goals of partners, as the following examples show:

“We are really trying to align our research questions with the interests of the teachers, what questions are interesting them, what kind of data will interest them. We want to give them back the data, so they are actually getting something from this.”

“The way we were able to engage the community is [by using] a compelling story. It’s including them as stakeholders along the way, from the beginning...It’s a way to leverage their skill set in a new way.”

“We look for things that benefit the partners—access to the data and findings—ask them what they need to know and add that to the protocol.”

THE ONGOING GIVE-AND-TAKE OF RESEARCH PRACTICE PARTNERSHIPS

Differences in priorities, goals, and practices require negotiation in research-practice partnerships, even down to the details of how many minutes an arts intervention or therapy will last. A number of participants of the Research Labs Summit stressed the importance of basic professional respect when working with partners, particularly arts practitioners when they are invited into the research environment. A specific kind of learning and engagement occurs through the partnerships, and the education is bidirectional. Through the partnerships, researchers deepen their understanding of arts and arts practices, gain access to providers and research participants, and test their ideas in “real-world” contexts. Arts practitioners develop an



*Keynote speaker Nina Kraus, Northwestern University, in conversation with Summit participants.
Source: NEA file photo*

understanding of the iterative research process and how evidence builds systematically over time. Lab partners said they benefited when there were tangible takeaways that could impact their programs, organizations, or policy development.

The summit produced numerous examples of this peer-to-peer support among the Labs, including: sharing of experiences and advice, offers of help, and requests to learn from each other. At the event, more advanced Labs provided practical advice to new Labs about budgets, managing institutional requirements, research deliverables, and the administrative details of the awards.

TRANSLATIONAL RESEARCH AND SCALABILITY

Cross-sector partnering involving both research and arts practices creates a natural pathway for the movement of ideas from basic evidence to application. In translational research, initial ideas are tested and refined in controlled conditions, establishing the underpinnings of future interventions. Interventions are developed from this initial evidence and are tested with multiple paradigms, then disseminated for field application and further testing. Feedback from applications in the field helps researchers refine the basic ideas and intervention models. Ideally, translational research starts with a distinct end in mind. Some Research Labs described how their research questions were framed around the eventual community applications and specific desired outcomes for those communities.

“Community-engaged research...brings the community stakeholders, including the arts professional, into the research process alongside the researchers, and this is a very important construct for doing research in the arts. What it does is bring the unique expertise and experiences with a shared goal of making discoveries that are relevant to the human condition and using the arts to do that... We all have the same goal of discovery.”

—Summit participant

By its nature, translational research yields outputs that range from basic findings to complex field applications, which include techniques, methods, and products that will have an impact on existing practices and procedures. Researchers frequently must reconcile multiple timelines for product iterations; they often find that slower-paced research and funding cycles do not align with the faster-paced tempo of technology development.

Several participants at the Research Labs Summit talked about the challenge of award cycles that fund clinical research in particular: It can take years from application to project completion, by which time the planned technology is out of date. They recommended that funders find ways to increase the speed of award cycles, while researchers and funders focus on ways of maintaining rigor with shorter study timelines. Some researchers are planning upgrades to the research pipeline so they can adapt to changes in technology. Others are avoiding the limitations of platforms by developing technology apps that are portable and separate from the delivery mechanism.

“We really try, in our work, [to ensure] that we’re purposely planning for scalability. I think our tendency, when we’re doing more controlled lab work, is sometimes to really focus on the controlled way we’re going to design, implement, and evaluate, and then we’re surprised when it’s a hard thing to actually translate into the community, and really recognizing how to think on the front end of the pieces that will help shift to effectiveness and really translate research to practice...We tend to start with those pieces that are so important, things like our child outcomes, some of these metrics that we’ve been discussing, but I think the big issue when thinking about scalability is, what are we actually trying to accomplish when it gets out into the real world?”
—Summit participant

The ultimate outputs of translational research are not confined to technology. There are practice protocols and creative arts therapies, educational and community arts strategies, and innovations in accessibility, for example. Regardless of the output, according to the summit participants, researchers must attend from the very beginning, and all the way through the development of methodologies and the testing of interventions, to the implications for the research beneficiaries.

Research Practices

The Research Labs collectively cover wide-ranging goals, populations, fields, and intervention modalities. Within this diversity, the topic of “research practices” sparked unity as summit participants discussed challenges and solutions. They discussed research designs, several key elements of research studies (e.g., recruitment, interventions, metrics, data collection), and research dissemination.

RESEARCH DESIGN

Perhaps the liveliest exchange at the Research Labs Summit centered on research design, particularly around the commitment to using Randomized Controlled Trials (RCTs). RCTs are generally accepted as the “gold standard” of research designs for their ability to identify causal relationships between phenomena and their effects. Theoretically, these designs control for extraneous or confounding factors and threats to validity, and a key argument for RCTs is the level of rigor they bring to research.

A number of real-world challenges complicate the administration of RCTs, however. In many field settings, random assignment required by these designs is impossible or unethical. For example, students often cannot be randomly assigned to a class receiving an intervention, and it may be unethical to assign a patient to a no-treatment control group. In comparison to other research designs, RCTs can be cost-prohibitive. Where sample sizes are small due to low incidence rates or the populations or settings involved, RCTs may not be viable. Finally, a sophisticated understanding of RCTs may be limited among community members and other stakeholders. Participants at the Labs summit observed that academic medical centers typically are fluent with experimental study designs. Clinics, schools, and arts organizations, on the other hand, may not agree with the rationale and so may be reluctant to participate.

While some participants at the Research Labs Summit asserted that arts research should always

aspire to use RCTs, others countered that the choice of research design depends, in part, on the research question. For example, where research is focused on describing a phenomenon and understanding processes rather than establishing causality, other designs may prove more useful. They also argued that since RCTs control for confounding factors, their very exclusion of “real-world” contextual variables from a study can be a hindrance. As one participant noted, confounding factors may be critical to understanding a phenomenon. Alternatives to RCTs relevant to the work of the Research Labs and employed in other research fields include: regression discontinuity, single case studies, multi-case studies, single group designs, analyses of secondary data, and hybrid models using mixed methodologies.

The design of a study influences its potential for publication, and participants noted that RCT studies are more likely to be published by high-impact, peer-reviewed research journals. Summit participants acknowledged that other designs may be accepted by journals or special editions dedicated to specific elements of studies, such as the population, type of intervention, setting, or type of study design.



*Margie Orem, San Diego Children’s Choir, affiliated with the NEA Research Lab at the University of California, San Diego, responds to group discussion questions.
Source: NEA file photo*

RESEARCH STUDY ELEMENTS

Study participant recruitment. Study participant buy-in is essential to recruitment and retention in a research study. For some Research Labs, the practitioner-partners played a significant role in building and sustaining recruitment by explaining the research to constituents and by providing access to settings and study participants. Considerable groundwork before the study and an

“There is a difference between going to a community as test subjects, versus entering the process for a learning exchange, and ours has been very much a learning exchange...the conversations on the sidelines were very much about, ‘When are you going to tell us about it? How is this going to impact our community?’”

—Summit participant

ongoing, visible presence in the field helped researchers build relationships with the cultural providers and study participants. The ability to follow up with participants after an intervention, to assess extended outcomes, was enhanced when the study subjects had an ongoing relationship with the Lab’s practitioner-partner.

Research Labs also sought ways to ensure that the research voiced and benefited the participants. They looked for avenues to give back to the communities through auxiliary activities or services for the study participants or family

members. This process requires community input because, as one researcher commented, “We can’t assume the outcomes we see as important are the things that individuals may see.”

Arts interventions and therapies—implementation and fidelity. Summit participants noted many challenges associated with studying interventions in field settings, such as clinics or schools. They stressed the importance of aligning interventions with the values and customary practices of the setting for the interventions to be fully implemented. Real-world factors such as school calendars, patient treatment plans, and provider schedules, can complicate delivery. Where the Research Lab’s arts intervention complements a study site’s own activities, such as a medical intervention or an education program, the latter often will take priority. Intervention fidelity must be monitored and documented in order to make appropriate claims about the outcomes. Greater fidelity also permits replication and comparisons across studies.

Protocols, metrics, and tools. Research protocols, metrics, and tools developed and tested within a field are key building blocks of a Lab’s research agenda. They are important for measuring sampling and implementation variables related to the population, interventions, and contexts, and for measuring outcomes. Publishing protocols, metrics, and tools enables replication of studies, as well as further testing of procedures and instruments. Because arts research is not a universally recognized field of practice, some of these resources have not been tested or distributed widely; nor are they readily available through publications or other venues. According to participants at the Research Labs Summit, the lack of tested and accepted protocols, tools, and metrics is a barrier that limits the advancement of arts research as a distinct field.

Data collection and access. Research Lab investigators use data from three resources: their own data collections, data provided by a partner organization, and publicly available data sources

(e.g., U.S. Census Bureau data). With the latter two, data are collected outside their control, and data quality may be lacking. Data-sharing agreements with partners must address issues of ownership, use, and confidentiality. In addition, human subject protection rules, governing informed consent and the use of institutional review boards, often apply to Lab projects.

RESEARCH DISSEMINATION

For science to have an impact, it must be communicated. Research communications allow researchers and practitioners in a given field to develop evidence-based practices and accumulate a body of knowledge. For arts practitioners, research can guide their interventions. For the general public, these communications can guide everything from policy decisions to personal choices.

At the Labs summit, participants discussed unique ways of sharing research with the public, such as through artworks, performances, and community exhibitions.

The Institutional Context

Each NEA Research Lab is housed at a lead organization that exists within a larger institutional context, such as a university, medical research center, or clinic. Institutional support for the Research Lab ranges from minimal to strong. Some Lab investigators have robust institutional support and the benefit of successful collaborations.

However, others described feeling isolated within their institutions: no one shares their research interests, there are few opportunities for collaboration, and/or arts research has a low priority at the institution. In some instances, such indifference extends even to visual and performing arts departments within a university. Additional institutional factors that can support or undermine the Research Labs, depending on their presence or absence, include but are not limited to the following:

- Buy-in from the institution, department, faculty, or staff
- Support for cross-sector research
- Availability of collaboration opportunities
- Technical assistance and other resources for producing high-quality research
- Professional development in areas relevant to the Research Labs, such as leadership, partnerships, collaboration, and external funding procurement and management
- Availability of student research assistants
- The administration's approach to and/or experience with managing federal cooperative agreements or grants, cost-sharing, and different external funding models

In large part, these factors are outside the control of the Research Labs and the Arts Endowment, yet they can significantly impact the success of an individual lab. Where the institutional context is isolating, the broader network of Research Labs provide an important peer community for knowledge-and-resource-sharing, idea development, and collaboration. Equally important perhaps, this community reinforces a shared valuing of arts research.

Arts Research as a Cohesive Field of Inquiry

Throughout the Research Labs Summit, two statements were commonly heard: “We are working in isolation” and “We are reinventing the wheel.” The theme of isolation gathered momentum among participants. They described feeling isolated within their respective research fields, within their own institutions, and sometimes within their own departments. In some settings, arts research may not be understood, respected, or valued. Further, the usual means of sharing knowledge, tools, and outcomes within a field (e.g., high-quality journals, professional organizations, or regular conferences) are widely dispersed and do not always include the arts as a focus of research. Under these conditions, the work is evolving in fragments, without benefiting from the advancement of concepts or methodologies.

“Academia around research in the arts is particularly isolating, because you definitely could be the only person in your department, you may be the only person in your unit or college, you might even be the only person at your institution doing anything along these lines. And so, the idea is to try to think about the lab not just within your individual unit, but rather as a way to have an identity that then allows you to form collaborations with other people across institutions, with other people at other universities.”
—Summit participant

At the summit, the idea of developing a cohesive arts-research field gained some traction. Participants envisioned a professional membership organization with regularly occurring conferences and an academic journal. These mechanisms would support development and arbitration of rigorous research designs, tools, and practices. Other suggestions included



*Sunil Iyengar,
National Endowment
for the Arts,
introduces Panel
Three.*

Source: NEA file photo

funding for graduate and post-doctoral students, and creating college minors. One participant said, “If we are going to build collaborative networks, there has to be [everything], from undergraduate research assistantships all the way through the academic pipeline. But that requires, almost more than anything else, definitive financial resources in order to make that happen.” Some participants wondered if the Research Labs awards could be a “gateway” to additional funding for research by graduate students.

“We think a major problem is that we don’t have a field. We come from many different disciplinary backgrounds. When we go off to conferences, we go to different conferences. We don’t otherwise talk to each other. We publish in different journals, and so it’s hard to accumulate a body of knowledge, train new people in the field or place them in the field, if we don’t have a field.”

While some participants indicated a readiness to undertake the task of developing a professional organization and hosting conferences, others recommended intermediate steps such as editing special issues of existing journals and adding a special interest day or group to existing conferences in their respective fields. These options also have the potential of reaching a wider audience and raising awareness of arts research more broadly.

In 2013, the National Endowment for the Arts posted to its website the results of a study examining the feasibility of establishing an arts and culture research network¹⁰. The author, present at the Research Labs Summit, summarized top-line conclusions from the study: there are successful models for building a research network, but it takes a long time to build, the work must be adequately and steadily funded, and it needs a champion willing to devote the necessary time and resources.

“The most complex [issue] is the creation of an interdisciplinary culture and environment... The NEA [award] has been extremely important to us, because we are not a campus where the arts traditionally see themselves as part of the research enterprise. I don’t think that’s unique to us. So, what this [award] gives our college is a great deal of credibility and enables us to work on an equal footing with our colleagues in STEM, to create an interdisciplinary STEM approach. Our focus right now is on critical healthcare issues. But, what we hope is that this interdisciplinary environment will expand beyond healthcare, and move into STEM more generally, and integrate the arts into the university’s research agenda in a very real and organic way.”

—Summit participant

10 Bradburn, Norman. 2013. “An Investigation into the Feasibility of Establishing an Arts and Culture Research Network.” National Endowment for the Arts, March 8. Retrieved July 2, 2019, from <https://www.arts.gov/artistic-fields/research-analysis/research-art-works-study-findings-arts-participation-cultural-assets>

NEA Research Labs: Participant Reflections

What the Research Labs Value Most About the Program

Research Labs Summit participants said they value and benefit from many features of the Research Labs program. The following themes emerged as they reflected on the program.

- The “power of the National Endowment for the Arts brand” helps recruit partners and participants and cultivate institutional buy-in. It was described as a “motivator to bring people together.” It also provides a national profile for the Research Labs as a cohort.
- The Research Labs program embraces a wide range of topics, which opens up a breadth of opportunity for researchers, arts organizations, and practitioners from many disciplines. It also means that the members of the Research Labs interact with people, both within and across labs, they might not encounter otherwise.
- The requirements to develop partnerships gave researchers the impetus and resources to collaborate with external entities—a capacity which, in turn, has fostered novel ideas for Lab projects.
- Partnering has expanded the stakeholder communities of the Research Labs.
- The program creates a community among “orphans” and mitigates the isolation some researchers experience within their institutions and their fields.

“The idea that we could really dream big with this lab and that it was an opportunity to try to conduct research and look for projects or look for partners that we had all been dreaming about doing, but maybe there hadn’t been other funding mechanisms to support. And so, that goal of really being able to think really big and think outside of the box seemed really important to all the partners at our discussion table.”
—Summit participant

Summary and Recommendations

Through the Research Labs program, the National Endowment for the Arts supports cross-sector arts research, particularly translational research that moves ideas from foundational evidence to practical application in the field. At the time of the Summit, there were 12 Research Labs conducting research across three domains, relevant to the mission and goals of the National Endowment for the Arts.

In the Research Labs, arts practitioners develop an understanding of research processes and contribute to basic and applied research. Researchers deepen their own understanding of arts and arts practices. Ultimately, the arts benefit from rigorous research paradigms, and research in the arts is strengthened by a clearer understanding of arts practices. Through these research-practice partnerships, translational research is a natural outcome. Consequently, the Labs can serve a broader, more representative public than either the arts or academic research can target in isolation.

The Research Labs Summit sparked three main observations about the program. First, there is considerable interest in and motivation towards cross-sector research and partnering to make it happen, in spite of the challenges posed by partnering. Second, the combination of arts researchers and practitioners (in arts and non-arts fields) creates a natural pathway for translational research—an important outcome of the program if it is to improve lives. And third, the conversations of Summit participants suggest significant momentum to this overarching research endeavor. It will be important for the Arts Endowment to capitalize on and steer the momentum to maximize the potential of its Research Labs.

Recommendations: Maximizing Impact of the NEA Research Labs

Create platforms for information-sharing and networking across the NEA Research Labs community. The growing cohort of NEA Research Labs is significant within the larger arena of academic research and for individual Labs themselves. This community represents a groundswell of coordinated, translational research in the arts, with the potential to establish a new field. For the individual Lab teams, it is a much-needed community of peers, and they wish to amplify cross-lab communication and collaboration to share data, research designs, and methodologies. The Arts Endowment will consider ways to facilitate networking, knowledge exchanges, and research collaborations or partnerships among Research Labs during and between convenings. These formats may include short- or long-term clustering around certain research variables or questions.

Provide guidance and support for organizational partnerships and cross-sector efforts. Partnerships between organizations and relationships across sectors are conceptually integral to the Research Labs program. At the summit, both researchers and practitioners observed that it takes time to develop effective partnerships. Other fields, such as education, have established

strategies for effective research-practice partnerships,¹¹ which may serve as a future template for the Research Labs.

Explore longer award timelines for the program. Labs Summit participants observed that it takes considerable time to develop effective partnerships, establish research collaborations, establish the Lab within their institution, and develop, run, and disseminate a research project. Labs and/or lines of research that are in the early stages of development are often starting at the very beginning and may need to develop and test metrics. Participants recommended exploring longer award cycles with intervals appropriate to the type of deliverable: for example, beginning with blog posts and moving through preparing presentations, hosting convenings, publishing peer-reviewed research articles, etc.

Promote novel dissemination efforts. Publishing results through traditional avenues enables Labs to advance high-quality arts research. However, alternative methods of communication may enhance Lab publicity and reach wider audiences. Some promising methods include “practice briefs,” webinars, seminars, blog posts, and community meetings and events. The Labs could also leverage partnerships with artists, art exhibits or performances, or other arts-based approaches.

Differentiate or “right-size” technical assistance according to developmental stages and needs of the Research Labs. First-year Research Labs and fledgling Labs with new lines of inquiry have different needs than second-year Research Labs or those with established research programs. Consider developing a technical assistance model that adapts to these differences. Such options may include a supported leadership/mentoring role for advanced researchers. In addition, ensure that Research Labs drive the focus of technical assistance.

Formalize a feedback process to guide program decisions. At the time of the Summit, the NEA Research Labs program was in its third annual award cycle, with three cohorts of Labs existing at different stages. Now may be an ideal time to gather input on the design and administration of the program, including requirements, deliverables, timeline, and support. An ongoing, structured feedback or evaluation process will ensure the Arts Endowment obtains valid input for ongoing development of the Research Labs program.

11 Coburn, Cynthia, Penuel, William, and Geil, Kimberly. 2013. “Research-Practice Partnerships: A Strategy for Leveraging Research for Educational Improvement in School Districts.” William T. Grant Foundation, January. See also <http://nnerpp.rice.edu/> and <http://rpp.wtgrantfoundation.org/>

Appendix A - NEA Research Labs Program: Domains of Interest

The NEA Research Labs investigate three domains:

- The Arts, Health, and Social/Emotional Well-Being
- The Arts, Creativity, Cognition, and Learning
- The Arts, Entrepreneurship, and Innovation¹

The Arts, Health, and Social/Emotional Well-Being

Overview

Each Lab on “Arts, Health, and Social/Emotional Well-Being” focuses on at least two of the following research questions under “Therapeutic Approaches and Benefits” and/or “Non-Therapeutic Approaches and Benefits”:

Therapeutic Approaches and Benefits

- What changes in physical or mental health outcomes are experienced by subjects receiving creative arts therapies to treat one or more diseases, disorders, or health conditions?
- What is the physiological or psychological mechanism of action for a creative arts therapy in treating a disease or disorder or in improving symptoms for a chronic disease, disorder, or health condition?
- What are the comparative therapeutic benefits of creative arts therapies relative to each other or to non-arts-based interventions?
- What is the comparative cost-effectiveness of a creative arts therapy and one or more non-arts-based interventions?
- How does dosage (i.e., frequency, duration, or intensity) of a creative arts therapy relate to individual or program-level outcomes?
- How does the creative arts therapy benefit caregivers or family members?

Non-Therapeutic Approaches and Benefits

- What are the social, emotional, physical, and/or physiological health benefits of the arts for individuals, groups, or societies?
- What physiological or psychological mechanisms or group dynamics are at work in achieving those benefits or related outcomes?
- What kinds of art forms are invoked in these relationships, and at what levels of participation?
- How do these benefits or related outcomes vary by age, socioeconomic characteristics, other demographic and behavioral patterns, and/or by health or disability status?
- How do these benefits and related outcomes compare with those achieved by other health and wellness strategies or interventions?

The Arts, Creativity, Cognition, and Learning

Overview

Each Lab on “Arts, Creativity, Cognition, and Learning” focus on at least two of the following research questions:

- What is the relationship between one or more forms of arts participation and other forms of creativity?
- What are the cognitive and/or social processes of arts-based creativity, and how do they affect learning-related outcomes?
- How do learning-related outcomes associated with arts participation vary by age, socioeconomic characteristics, other demographic and behavioral patterns, and/or by health or disability status?
- How do these benefits and related outcomes compare with those achieved by non-arts approaches (e.g., non-arts extracurricular programs; non-arts integrated curricula)?
- What are the most effective neurocognitive tests and technologies to measure those outcomes?
- What are the benefits and related outcomes for specific approaches to arts learning in formal or informal settings?

The Arts, Entrepreneurship, and Innovation

Overview

Each Lab on “Arts, Entrepreneurship, and Innovation” focus on at least two of the following research questions:

- How do entrepreneurship and innovation reveal themselves differently in the arts relative to other sectors? What about similarly?
- What is the link between artists (including designers) and broad societal innovation, particularly with regard to economic and job growth?
- How does the nonprofit arts sector contribute directly to innovation in commercial settings, within or outside the arts?
- What role do arts and cultural assets play in promoting civic and/or corporate innovation in a community?
- What individual, organizational, or regional characteristics can positively affect the arts’ relationship to entrepreneurship and innovation?
- In which industries, sectors, or geographic areas is arts-driven innovation visible and measurable?
- How do nonprofit and for-profit organizations; federal, state, and local governments; and/or fiscal sponsorships affect how artists and/or arts organizations function and innovate?
- How do the benefits and related outcomes of arts-based entrepreneurship and innovation compare with those achieved by non-arts approaches?

Appendix B - FY 2017-2019 NEA Research Labs

NEA Research Labs by Year of Award (as of June 2019)

FISCAL YEAR 2017

Drexel University (Philadelphia, PA)

Summit Participants: Joke Bradt and Girija Kaimal (Drexel University)

The Arts Research on Chronic Stress (ARCS) Lab is studying arts-based approaches to promoting health and well-being for caregivers of cancer patients. A partner entity for the Lab is the Radiation Oncology Department at the University of Pennsylvania. Separately, Drexel investigators are examining the effects of creative music therapy on chronic pain management. For its next phase of activity, the Lab will incorporate arts research involving military healthcare facilities, the study of music therapy as a non-pharmacological alternative for treating post-surgical pain, and a pilot study of art therapy for pediatric cancer patients.

University of Arkansas (Fayetteville, AR)

Summit Participants: Collins Desselle (Alliance Theatre) and Jay Greene (University of Arkansas)

This Lab is conducting a large-scale experiment on the effects of multiple field trips on students' social/emotional skills. Researchers are examining potential effects of elementary school students in a large urban school district who have attended up to three culturally enriching field trips at The Woodruff Arts Center in Atlanta in a single school year. Another study is evaluating the longitudinal achievement and non-cognitive benefits of multiple cultural trips for students to the Crystal Bridges Museum of American Art in Bentonville, Arkansas.

University of Iowa (Iowa City, IA)

Summit Participants: Chuck Fluharty and Tom Johnson (Rural Policy Research Institute)

This Lab has consolidated literature and extant knowledge at the intersection of rural arts and culture, entrepreneurship, and innovation—to provide future researchers, funders, and policy-makers with greater evidence about the arts' role in economic well-being for rural communities. The heart of this Lab's approach is a "Comprehensive Rural Wealth" framework to complement standard methodologies for tracking the arts' value to rural communities.

Vanderbilt University (Nashville, TN)

Summit Participants: Jill McMillan (Arts & Business Council of Greater Nashville), Jennifer Novak-Leonard (Northwestern University), and Megan Robinson (Vanderbilt University)

In partnership with Northwestern University, NORC at the University of Chicago, and the Arts & Business Council of Greater Nashville, this Lab is investigating connections between arts-based creativity and other forms of creativity such as problem-solving, entrepreneurship, and social networking. Core studies of the Lab include a national survey of creativity in the United States and a mixed-methods study of Nashville artists.

FISCAL YEAR 2018

George Mason University (Fairfax, VA)

Summit Participants: Thalia Goldstein, Kim Sheridan, and Adam Winsler (George Mason University)

Working with Virginia Repertory Theatre and the Mason Community Arts Academy, this Lab focuses on arts engagement, child development, and education. Studies are examining the outcomes of arts education in low-income, ethnically diverse high school students; the effect of theater training on social skills; and students' sense of agency. The Lab is comprised of three co-investigators, representing different areas of expertise as part of the new George Mason University Arts Research Center ("MasonARC").

Indiana University-Purdue University Indianapolis (Indianapolis, IN)

Summit Participants: Doug Noonan (Indiana University-Purdue University Indianapolis) and Joanna Woronkowicz (Indiana University Bloomington)

In partnership with the Center for Cultural Innovation (San Francisco), the Arts Entrepreneurship and Innovation Lab will conduct multiple studies. These include an analysis of the resilience of freelance artists in comparison with that of independent contractors in non-arts sectors, based on U.S. Census Bureau statistics, and measured in terms of employment and income. Another study will explore problem-solving processes in group settings and whether the inclusion of artists in such groups can foster civic innovation.

University of California San Francisco (San Francisco, CA)

Summit Participants: Karen Barrett (University of California, San Francisco) and Sammy Wegent (Speechless Live)

Researchers are conducting studies to identify neural substrates for creativity across a range of art forms. The Lab's principal activity will involve collecting and analyzing data from "genius improvisers" in music, the visual arts, and comedy. Participants in these three art forms will perform an improvisational task, compared with an appropriate control task, with their brains scanned with functional magnetic resonance imaging (fMRI). Partners include SF Jazz, The San Francisco Art Institute, Second City, and Speechless.

Vanderbilt University Medical Center (Nashville, TN)

Summit Participants: Miriam Lense and Whitney Loring (Vanderbilt University Medical Center)

As part of its research portfolio, this Lab will conduct a randomized waitlist control trial to assess the social and emotional effects of music on autistic children and their parents. The Lab also will administer a national survey of music engagement by families with and without autistic children, as well as host quarterly Music Research Forums to promote the development and refinement of the Lab's studies. Also in preparation is a Music Engagement Toolkit with online training modules to build capacity for arts organizations and musicians who work with children with developmental disabilities.

FISCAL YEAR 2019

Rice University (Houston, TX)

Summit Participants: Anthony Brandt and Christopher Fagundes (Rice University)

Addressing the need for low-cost, non-pharmacological interventions for cognitively impaired patients and their caregivers, this Lab will use brain imaging studies to examine older patients with mild cognitive impairment who do or do not take part in an intensive music course featuring listening, theory, creativity, and performance. The Lab will partner with Musiqa, a Houston contemporary music ensemble that offers free educational programs.

Texas Tech University (Lubbock, TX)

Summit Participants: Kelsie Jackson, Andrew Martin, and Noel Zahler (Texas Tech University)

TTU's College of Visual and Performing Arts will advance a series of research projects as part of its Arts in Medicine Initiative. First on the list is the testing and development of a visual arts-based virtual reality app to improve speech and language re-acquisition in stroke survivors with aphasia. Nonprofit arts partners include Louise Hopkins Underwood Center for the Arts and the Museum of Texas Tech University.

University of California at San Diego (San Diego, CA)

Summit Participants: John Iversen (University of California, San Diego) and Margaret Orem (San Diego Children's Choir)

The Lab will launch a series of "Early Academic Readiness and Learning Intervention" (EARLI) studies that will test the influence of various school-day musical interventions on early childhood development outcomes such as cognitive, affective, social, academic, and music skills. Partners include San Diego Children's Choir and the Vista Unified School District.

University of Colorado Denver (Denver, CO)

Summit Participants: Michael Henry and Dan Manzanares (Lighthouse Writers Workshop), Marc Moss (University of Colorado Denver), Katherine Reed (Children's Hospital in Colorado)

In partnership with Children's Hospital in Colorado and the Lighthouse Writers Workshop, this Lab will develop and test a series of creative arts therapy programs designed to build resilience among critical care health professionals. The programs will use qualitative, mixed-method, and randomized controlled study designs and will integrate visual arts therapy, music therapy, dance/movement therapy, and writing/poetry therapy.

Appendix C - Research Labs Summit Agenda

National Endowment for the Arts Research Labs Summit

Constitution Center, Washington, DC

June 3-4, 2019

The Summit goal is to identify and interrogate cross-cutting research and logistical challenges and opportunities across all 12 NEA Research Labs.

Monday, June 3 (Closed session) – Conference Rooms A/C

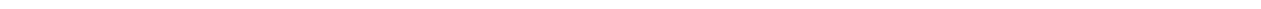
8:30 to 9:00	Sign In and Breakfast
9:00 to 9:30	Welcome and Introductions
9:30 to 11:00	<p>Small Group Discussions</p> <ol style="list-style-type: none"> 1. Vision 2. Outcomes-tracking 3. Capacity & Sustainability 4. Technical Assistance
11:00 to 11:15	Break
11:15 to 12:00	Reports Out and Large Group Discussion
12:00 to 1:00	Lunch
1:00 to 2:15	<p>PANEL ONE: Study Design and/or Recruitment Issues for Experimental and Quasi-Experimental Studies</p> <p>An investigator from each Lab on the panel will describe the Lab’s portfolio, key milestones met so far, and recent and prospective challenges/opportunities involving <i>study design and/or subject recruitment</i>.</p> <p>Panelists: Representatives from the Labs at Drexel University, George Mason University, Indiana University-Purdue Indianapolis University, and University of Arkansas (10 minutes each)</p> <p>Discussant: Steven Holochwost, Research Scientist, Science of Learning Institute, Johns Hopkins University and Principal and Director of Research for Youth & Families, WolfBrown, will facilitate and offer his own perspectives on the topic.</p>
2:15 to 2:30	Break

- 2:30 to 3:45 **PANEL TWO: Engaging Community Partners in Research and Communications**
An investigator from each Lab on the panel will describe the Lab’s portfolio, key milestones met so far, and recent and prospective challenges/opportunities involving *participation by community partners in the research and communication processes*.
- Panelists:** Representatives from the Labs at the University of Iowa, University of California San Diego, University of Colorado Denver, and Vanderbilt University (10 minutes each)
- Discussant: Julene Johnson**, Professor and Associate Dean for Research, University of California at San Francisco (UCSF) School of Nursing, will facilitate and offer her own perspectives on the topic.
- 3:45 to 4:00 **Break**
- 4:00 to 5:15 **PANEL THREE: Modulating from Arts Research to R&D: Toward Scalability**
An investigator from each Lab on the panel will describe the Lab’s portfolio, key milestones met so far, and recent and prospective challenges/opportunities involving *translation of the research results into products or services*.
- Panelists:** Representatives from the Labs at Rice University, Texas Tech University, University of California at San Francisco, and Vanderbilt University Medical Center (10 minutes each)
- Discussant: Brian Smith**, Professor and Senior Academic Dean of Academic Affairs, College of Computing and Informatics, Drexel University, will facilitate and offer his own perspectives on the topic.
- 5:15 to 5:30 **Wrap-Up and Meeting Adjourns**

Tuesday, June 4 (Open Session) – Constitution Center Auditorium

- 9:00 to 9:15 **Welcome and Introductions from the NEA**
- 9:15 to 10:15 **Results from the First Cohort of NEA Research Labs**
Presentations by Project Directors from the Labs at:
 Drexel University
 University of Arkansas
 University of Iowa
 Vanderbilt University
- 10:15 to 10:45 **Perspectives from Day One**
Steven Holochwost, Research Scientist, Science of Learning Institute,
 Johns Hopkins University; and Principal and Director of Research for Youth &
 Families, WolfBrown
Julene Johnson, Professor and Associate Dean for Research, UCSF School
 of Nursing
Brian Smith, Professor and Senior Academic Dean of Academic Affairs,
 College of Computing and Informatics, Drexel University
- 10:45 to 11:00 **Q&A for Panelists**
- 11:00 to 11:15 **Break**
- 11:15 to 12:00 **Arts Research Opportunities at Other Federal Agencies**
Elizabeth Albro, Commissioner of Education Research, Institute of Education
 Sciences, U.S. Department of Education
Sylvia Lyles, Director, Office of Academic Improvement, U.S. Department of
 Education
Thomas Cheever, Program Director, National Institutes of Health (NIH), and Staff
 Assistant to NIH Director for *Sound Health* Partnership
Soo-Siang Lim, Director, Science of Learning Program, National Science
 Foundation
Tim Wojan, Regional Economist, Economic Research Services, U.S. Department
 of Agriculture
- 12:00 to 1:00 **Keynote presentation: “The Science of Sound: How Music and Rhythm
Research Can Inform Healthy Choices”**
Nina Kraus, Hugh Knowles Professor of Communication Sciences, Neurobiology,
 and Otolaryngology, Northwestern University
- 1:00 **Adjournment**

Appendix D - Research Labs Summit Participant Bios



GUEST SPEAKERS

Nina Kraus (Keynote Speaker) is the Hugh Knowles Professor of Communication Sciences, Neurobiology, and Otolaryngology at Northwestern University. She is a scientist, inventor, and amateur musician who uses hearing as a window into brain health. She began her career measuring responses from single auditory neurons and was one of the first to show that the adult nervous system has the potential for reorganization with learning; these insights in basic biology galvanized her to investigate sound processing in the brain in humans. Through a series of innovative studies involving thousands of research participants from birth to age 90, her research has found that our lives in sound, and our experiences, for better (musicians, bilinguals) and for worse (concussion, language disorders, noise), shape how our brain makes sense of the sounds we hear. Using the principles of neuroscience to improve human communication, she advocates for best practices in education, health, and social policy. See www.brainvolts.northwestern.edu for more information.

Steven Holochwost (Discussant) is principal and director of research for youth and families at WolfBrown, where he works with programs designed to improve the lives of vulnerable children and youth. He also holds appointments at Johns Hopkins University's Science of Learning Institute and the Curtis Institute of Music. His research focuses on the effects of environment, and particularly poverty and parenting, on voluntary forms of self-regulation (e.g., executive functions) in childhood and the involuntary activity of neurophysiological systems that support self-regulatory abilities. This research is directly relevant to his applied work at WolfBrown, which examines the efficacy of educational interventions for children in poverty. The common thread running through both these lines of work is the need to understand how poverty impacts child development, and how programs that expand educational opportunities for children can mitigate those effects. Since joining WolfBrown, Holochwost has served as principal investigator or co-principal investigator on many studies that assess the impacts of arts education programs on under-served children and youth. These studies have addressed how instrumental music education can foster basic cognitive skills among children in poverty, how choral participation can change the ways incarcerated adolescents perceive their peers, and how theater residencies can improve social skills among school students who are routinely exposed to traumatic events.

Julene K. Johnson (Discussant) is a professor in the University of California San Francisco (UCSF) Institute for Health & Aging and the associate dean for research in the UCSF School of Nursing. She is also the research education core leader for the UCSF Center for Aging in Diverse Communities. Johnson is a cognitive neuroscientist with a bachelor's degree in music. She has a long-standing interest in studying music and brain in both healthy aging and people with neurodegenerative diseases. She recently completed a cluster-randomized trial that examined the effect of a community choir intervention on health and well-being of culturally diverse older adults. The "Community of Voices" study involved a partnership between UCSF, 12 senior centers, and a community music center. In 2010, she was a Fulbright Scholar in Jyväskylä, Finland where she studied how community choirs help promote well-being in older adults. Her previous work investigated the preservation of music in people with Alzheimer's disease and understanding the relationship between music recognition and brain atrophy in people with various neurodegenerative diseases, such as semantic dementia and frontotemporal dementia.

Johnson also examines the historical roots of music in 19th-century neurology and psychology literature, which helps frame interdisciplinary research questions about music, brain, and aging.

Brian Smith's (Discussant) research focuses on the use of computation to support and augment human performance and learning, especially in contexts outside of formal education, as well as bringing creativity to the core of educational practices. Prior to Drexel, Smith was dean of Rhode Island School of Design Continuing Education (RISD|CE) where he oversaw the development of art and design programs for youth and adults and was a co-investigator of RISD's "STEM to STEAM" initiative. He has also been a faculty member at the Pennsylvania State University's College of Information Sciences and Technology and the MIT Media Laboratory teaching and researching in computer, learning and information sciences.

NEA RESEARCH LABS PARTICIPANTS

Karen Chan Barrett, PhD, is currently a postdoctoral scholar in the lab of Dr. Charles Limb. She began playing classical piano at age five, continuing her music performance education up to the master's degree level at the Peabody Institute of Music at Johns Hopkins University. Concurrently, she was also studying neuroscience, first at Wellesley College and then during her music theory and cognition PhD program at Northwestern University. For her PhD, she completed perceptual experiments under the mentorship of Dr. Richard Ashley as well as auditory neuroscience research in the lab of Dr. Nina Kraus, studying music and attention as well as the relationship between musical training and neural plasticity. She currently investigates complex sound perception (e.g. music, emotion perception) in cochlear implant users as well as the neural correlates of artistic creativity and improvisation. She is a collegiate faculty member of the San Francisco Conservatory of Music, co-teaching a class on Music and the Brain with Dr. Indre Viskontas.

Norman M. Bradburn is the Tiffany and Margaret Blake Distinguished Service Professor Emeritus at the University of Chicago. He is a former provost of the university (1984–1989), chairman of the Department of Behavioral Sciences (1973–1979), and associate dean of the Division of the Social Sciences (1971–1973). From 2000-2004 he was the assistant director for social, behavioral, and economic sciences at the National Science Foundation. Bradburn is currently a senior fellow at NORC at the University of Chicago and co-director of the Humanities Indicators project at the American Academy of Arts and Sciences. A social psychologist, Bradburn has been at the forefront in developing theory and practice in the field of sample survey research. He has focused on non-sampling errors and research on cognitive processes in responses to sample surveys. Bradburn was chair of the Committee on National Statistics of the National Research Council/National Academy of Sciences (NRC/NAS) from 1993 to 1998, and is past president of the American Association of Public Opinion Research (1991–1992). He was a member of the NRC/NAS panel to review the National Assessment of Educational Progress, the panel to assess the 2000 Census, and the Committee on Integrating Humanities and STEM Education. Bradburn is a fellow of the American Statistical Association, the American Association for the Advancement of Science, the American Psychological Society, and an elected member

of the International Institute of Statistics. He was elected to the American Academy of Arts and Sciences in 1994 and to the American Academy of Political and Social Sciences in 2013.

Joke Bradt, PhD, MT-BC, is professor and program director of the PhD program in creative arts therapies at Drexel University and a board-certified music therapist. Her federally funded research has focused on the use of music therapy interventions for chronic pain, chronic illness and symptom management. She currently is conducting a multi-site clinical trial on music therapy for chronic pain management in people with advanced cancer as well as a pilot study examining the impact of music therapy on opioid tapering in cancer survivors with chronic pain. Both studies are funded by the National Institute of Nursing Research of the NIH. In her capacity as a research team member of Creative Forces: NEA Military Healing Arts Network, she has been investigating the impact of music therapy services on clinical outcomes in military service members with posttraumatic stress disorder, traumatic brain injury, and other psychological health concerns. She is the lead author of several Cochrane systematic reviews on music interventions with medical patients. She serves on the co-direction team for *Music Therapy Research 2025*, the strategic research plan of the American Music Therapy Association and is editor-in-chief of the *Nordic Journal of Music Therapy*, a leading international music therapy journal.

Composer **Anthony Brandt** is a professor of composition and theory at Rice University's Shepherd School of Music and artistic director of the new music ensemble Musiqqa, winner of two national awards for adventurous programming. Brandt's catalogue includes three chamber operas, as well as orchestral, chamber, vocal, theater, dance, and television scores. His commissions include works for the Library of Congress, Bowdoin Summer Music Festival, River Oaks Chamber Orchestra, and SOLI. His music is available on the Albany, Crystal, and Navona Live labels. With Musiqqa, he presents interdisciplinary public concerts and free educational programming that have served nearly 60,000 public school students. Brandt and neuroscientist David Eagleman have co-authored *The Runaway Species: How Creativity Remakes the World*. Their book, which is being published in 13 countries, was the official selection of the 2018-19 Common Reading Experience at Texas State University, and the inspiration for the Netflix documentary *The Creative Brain*. Brandt has also contributed chapters to the *Oxford Handbook of Music and the Brain* and *Mobile Brain-Body Imaging and the Neuroscience of Art, Innovation, and Creativity*, and articles for the journals *Frontiers* and *Brain Connectivity*. He is currently also a co-investigator in a study of music and stroke recovery at Methodist Hospital's Center for Performing Arts Medicine.

Collins Desselle is the grants manager at the Alliance Theatre. In this role, she researches and applies for grants from national and local foundations and various government agencies. Prior to the joining the Alliance, she worked in all aspects of fundraising for a small professional theater company. She has an MFA in theatre management from the University of Alabama and bachelors of arts degrees in English and theater. She and her husband live in Atlanta.

Christopher Fagundes is a health psychologist and a tenured associate professor at Rice University. In his work, he seeks to understand the biopsychosocial mechanisms that underlie certain disease processes. He also develops tailored biopsychosocial interventions to alleviate

suffering and improve quality of life. He has authored more than 90 articles and book chapters. The National Institutes of Health (NIH) funds most of his research; Fagundes has also been the primary mentor on several NIH training grants. He was named a “Rising Star” by the Association of Psychological Science. He was the recipient of the Robert Ader New Investigator Award from the Psychoneuroimmunology Research Society, the Neal E. Miller New Investigator Award from the Academy of Behavioral Medicine Research, and the Excellence in Health Psychology Research Award by an Early Career Professional from Division 38 of the American Psychological Association.

Charles W. Fluharty is the founder, president, and CEO of the Rural Policy Research Institute (RUPRI), the only U.S. national policy institute solely dedicated to assessing the rural impacts of public policies. Since RUPRI’s founding in 1990, over 300 scholars representing 16 different disciplines in 100 universities, all U.S. states, and 30 other nations have participated in RUPRI projects, which address the full range of policy and program dynamics affecting rural people and places. Collaborations with the OECD, the EU, the German Marshall Fund, the Inter-American Institute for Cooperation on Agriculture, the International Comparative Rural Policy Studies Committee, and other international organizations have framed RUPRI’s comparative rural policy foci. A clinical professor in the University of Iowa College of Public Health and a graduate of Yale Divinity School, he was also a German Marshall Fund Transatlantic Fellow from 2007 to 2011. He is the author of numerous policy studies and journal articles, has presented dozens of Congressional testimonies and briefings, and is also a frequent speaker before national and international audiences, having delivered major public policy speeches in over a dozen nations. He has also provided senior policy consultation to most federal departments, state and local governments, associations of government, planning and development organizations, and many foundations.

Thalia R. Goldstein is an assistant professor of applied developmental psychology. Her work focuses on children’s developing social and emotional skills, particularly theory of mind, empathy, and emotional control and regulation, and how such skills intersect with children’s engagement in pretend play, theater, drama, and other imaginative activities. She directs the [SSIT lab \(The Social Skills, Imagination, and Theatre Lab\)](#), which conducts research that looks both at the effects of engaging in pretend play and theater on children’s social-emotional skills, and how children understand and learn social information in fictional worlds. She is also the co-director of the National Endowment for the Arts Research Lab, the [Mason Arts Research Center \(MasonARC\)](#). Goldstein received a PhD in developmental psychology in 2010 from Boston College. She completed post-doctoral training at Yale University from 2010-2012. Following this, she moved to Pace University, where she was assistant professor from 2013-2017. Goldstein’s research has been funded by grants from the National Science Foundation, the National Endowment for the Arts, The John Templeton Foundation, the Caplan Foundation, Arts Connection, and the Department of Homeland Security. Her papers have appeared in *Child Development*, *Trends in Cognitive Science*, *Journal of Cognition and Development*, and *Developmental Science*, among others. Goldstein serves on the editorial boards of the journals *Empirical Studies in the Arts and Imagination Cognition and Personality*, and she is the current co-editor of the APA Division 10 Journal, *Psychology of Aesthetics, Creativity, and the Arts*.

Jay P. Greene is a distinguished professor and chair of the Department of Education Reform at the University of Arkansas. Greene's current areas of research interest include school choice, culturally enriching field trips, and the effect of schools on non-cognitive and civic values. Greene's work has been published in journals from a diverse set of disciplines, including education (*Educational Researcher*), sociology (*Sociology of Education*), public policy (*Education Finance and Policy*), psychology (*Psychology of Music*), political science (*British Journal of Political Science*), and economics (*Economics of Education Review*). He has also written or edited three books. His research on school choice was cited four times in the Supreme Court's opinions in the landmark *Zelman v. Simmons-Harris* case. Greene has been a professor of government at the University of Texas at Austin and the University of Houston. He received his BA in history from Tufts University and his PhD from the Government Department at Harvard University.

Michael Henry is co-founder of Lighthouse Writers Workshop with program director Andrea Dupree. In 1997, they came up with the idea of running their own creative writing workshops under the name "Lighthouse" while looking at an Edward Hopper painting, *Lighthouse at Two Lights*. When Lighthouse officially became a nonprofit organization in 2004, Henry was named executive director. Over the years, Henry has worked as a water meter reader, board of elections paperclip counter, college dining hall dishwasher, pizza delivery guy, UPS truck loader, accounts payable clerk, painter's helper, high school girls' cross country coach, and ski instructor. He received a BA in English literature from the University of Rochester and an MFA from Emerson College. As for his writing, his nonfiction and poetry have appeared in numerous literary journals and magazines such as *Elevation Outdoors*, *Ekphrastic Review*, *Hippocampus*, *Threepenny Review*, *Pleiades*, *Copper Nickel*, *Rio Grande Review*, *Georgetown Review*, *Mountain Gazette*, *The Writer*, and *5280 Magazine*. He's also published two books of poetry, *No Stranger Than My Own* and *Active Gods*, and a chapbook, *Intersection*. In 2017 he was awarded a prestigious Livingston Fellowship from the Bonfils-Stanton Foundation, and in 2018 he received the Judy Anderson Founders Award from PlatteForum.

John R. Iversen is a cognitive neuroscientist studying music, language, and the brain. He is associate director of the Swartz Center for Computational Neurosciences at the University of California San Diego and principal investigator, with Tim Brown, of the UCSD NEA Research Lab. He directs the SIMPHONY project, a breakthrough longitudinal study of the impact of music training on children's brain and cognitive development. SIMPHONY places the impact of music into a broader neurodevelopmental framework, in which researchers are charting the 'growth curves' of the developing brain to understand how brain development shapes the emerging skills of each child. After undergraduate studies in physics at Harvard, John received graduate degrees in history and philosophy of Science at Cambridge, and received a PhD in speech and hearing sciences from MIT.

Kelsie Jackson serves as lead writer for the J.T. & Margaret Talkington College of Visual & Performing Arts at Texas Tech University. He is also the college's sponsored projects administrator, and in this capacity, he serves the Texas Tech NEA Research Lab as its administrative lead and representative to other academic units and institutions, as well as working to facilitate the college's grantmaking. Jackson earned the master of arts (2009) and doctor of philosophy (2013) degrees from the University of Houston and holds over a decade of

experience in research administration, education, and leadership.

Thomas Johnson is professor emeritus at the University of Missouri. He formerly had a joint appointment as the Frank Miller Professor of Agricultural and Applied Economics, and professor in the Harry S Truman School of Public Affairs at the University of Missouri. Tom continues to conduct research and write on issues related to the causes of rural development and the role of national, state, and local policy. He is a fellow of the Southern Regional Science Association, and recipient of several national awards for rural policy assessment. Johnson is co-director of the Rural Policy Research Institute's (RUPRI's) Rural Cultural Wealth Lab.

Girija Kaimal (EdD, MA, ATR-BC) is an Associate Professor in the PhD Program in creative arts therapies at the Drexel University College of Nursing and Health Professions. In her Health, Arts, Learning and Evaluation (HALE) research lab, she examines the physiological and psychological outcomes of creative visual self-expression. Kaimal currently is principal investigator on two studies examining arts-based approaches to health among pediatric cancer patients and caregivers, active-duty military service members, and veterans (funded by the U.S. Department of Defense and the National Endowment for the Arts). She is the principal investigator for the Arts Research on Chronic Stress (ARCS) lab and was in the inaugural cohort of the NEA Research Labs program. She is also leading a collaborative study with Johns Hopkins University on the relationship between cortical activity and creative expression in virtual reality. Previously, she has led longitudinal evaluation research studies examining arts-based approaches to urban school leadership development and teacher incentives (funded by the U.S. Department of Education as well as area foundations and universities). Her work has been published in national and international journals and of particular note and impact has been her research on the outcomes of self expression on the brain's reward pathways and reductions in cortisol levels (published in *The Arts in Psychotherapy* and the journal *Art Therapy*).

Miriam Lense, PhD, is an assistant professor at Vanderbilt University Medical Center and a licensed clinical psychologist who specializes in working with families and children with and without developmental disabilities including autism spectrum disorder (ASD). She co-directs the Vanderbilt Music Cognition Lab, which is the hub for the Program for Music, Mind, and Society at Vanderbilt, an interdisciplinary program that connects scientists, clinicians, musicians, and students across Vanderbilt. Lense's research, which has been funded by the National Endowment for the Arts, the National Institutes of Health, and the GRAMMY Foundation, focuses on music, social engagement, child development, and family well-being. Her lab investigates mechanisms underlying musical and social interactions with a particular focus on child-directed singing and the rhythm of social engagement, as well as the development of community engagement opportunities and music-based interventions. With her colleague Dr. Sara Beck, Lense designed the SeRenade Parent-Child Music Class Program to provide music-based parent training and peer interaction opportunities for families of children with ASD. Lense is a member of the Vanderbilt Kennedy Center, the Vanderbilt Brain Institute, and the Inclusion Network of Nashville.

Whitney Loring, PsyD, is a licensed clinical psychologist and assistant professor of pediatrics and psychiatry and behavioral sciences. Through the Vanderbilt Kennedy Center's Treatment

and Research Institute for Autism Spectrum Disorders (TRIAD), her responsibilities include developing and conducting workshops and consultation for parents, educators, and providers in the community regarding evidence-based assessment and intervention strategies for individuals with autism spectrum disorders (ASD) and is the coordinator of TRIAD's Families First Program. She is also a member of the Inclusion Network of Nashville, whose purpose is to promote acceptance and inclusion of individuals with disabilities and their families by building capacity throughout a community network of arts, education, athletic, and entertainment organizations. Her research focus includes developing and evaluating intervention strategies that address behavioral pediatric concerns for children with neurodevelopmental diagnoses (e.g., sleep concerns, toileting difficulties) and the effectiveness of various models of parent, provider, and educator training and consultation. She also provides clinical services through her behavioral sleep medicine clinic for children with neurodevelopmental diagnoses who need intervention related to insomnia or assistance in wearing CPAP devices. Through her role as TRIAD's associate director of training, she also oversees postdoctoral fellowship activities and coordination of training initiatives across TRIAD projects.

Since 2012, **Dan Manzanares** has organized literary communities for Lighthouse Writers Workshop located in Denver, Colorado. He teaches fiction, nonfiction, and poetry in the literary arts center's community engagement program. Manzanares wrote Lighthouse's Write Denver Toolkit (Springboard for the Arts, 2018), a free booklet on how to create and sustain robust literary communities. The toolkit is being used by artists and organizations across Colorado, in 25 U.S. states, and nine countries. He has served on the Arts Endowment's Big Read Reading Committee and in many Colorado-based arts and cultural advisory groups. In 2016, Manzanares won a Mayor's Award for Excellence in Arts and Culture. He's a published poet, and has been supported by a residency at Brush Creek Foundation for the Arts, which he used to work on his novel. Manzanares is a master of fine arts candidate in genre fiction at Western Colorado University.

Andrew W. Martin is senior associate academic dean in the J.T. & Margaret Talkington College of Visual and Performing Arts and professor of studio art in the School of Art at Texas Tech University. In his administrative role, Martin manages the college's resource allocations, including research initiatives and expenditures. As interim dean in 2015-2016, he launched the college's Arts Initiative in Medicine (AIM), and secured funding to support ten of the initiative's current projects. He works closely with Dean Noel Zahler in administering the AIM program and the new NEA Research Lab. Martin holds the master of fine arts degree in art from the University of California, Los Angeles. His drawings, paintings, mixed-media constructions, and collaborative works have been displayed across the country, including thirteen solo exhibitions and over 100 juried and invitational exhibitions. Martin's work is held in public and private collections and has been represented by galleries in California, Ohio, and Texas.

Originally from Northwest Indiana, **Jill McMillan** earned a bachelor's degree in integrated marketing communication with a minor in industrial organizational psychology from Pepperdine University. After graduation, McMillan taught with Teach for America in Phoenix, Arizona, before moving to Boston, Massachusetts to begin her career in arts administration. There McMillan worked with organizations including Boston Children's Theatre, ArtsBoston, Broadway In Boston,

and the Institute of Contemporary Art. A lifelong arts enthusiast, McMillan now serves the cultural sector at the intersection of arts and business as the executive director of the Arts & Business Council of Greater Nashville. As executive director, McMillan sustains and promotes the Arts & Business Council's artist-centric mission to cultivate Nashville's creative community; ensures that the organization's service to artists is of the highest quality; and is an advocate for artists at the local, state, and national levels.

Marc Moss is the Roger S. Mitchell Professor of Medicine and Head of the Division of Pulmonary Sciences and Critical Care Medicine at the University of Colorado School of Medicine. Moss has a longstanding interest in critical care-related research and he has held continuous NIH funding as a principal investigator for over 19 consecutive years. More specifically, Moss's research interests include identifying new treatment modalities for patients with the Acute Respiratory Distress Syndrome (ARDS), exploring the diagnosis and treatment of neuromuscular dysfunction (including swallowing dysfunction in critically ill patients who require mechanical ventilation), and studying burnout syndrome, posttraumatic stress disorder, and wellness in critical care healthcare professionals, specifically ICU nurses. Moss's research on wellness is funded by the NIH and he recently received funding from the National Endowment of the Arts. Moss is the principal investigator for the Colorado center in the NHLBI-sponsored Prevention and Early Treatment of Acute Lung Injury (PETAL) network. Based on his expertise in clinical/translational research and mentoring, Moss served as the program director for the Education, Training, and Career Development Core of the Colorado Clinical Translational Sciences Institute (CCTSI) from 2008-2016. More recently, he served as the president of the American Thoracic Society from 2017-2018.

Douglas Noonan is a professor at the O'Neill School of Public and Environmental Affairs at IUPUI. His economic and policy research addresses issues in the urban environment like revitalizations through creative placemaking and cultural districts, entrepreneurship in the arts and digital media, and community resilience. He is director of the [Arts, Entrepreneurship, and Innovation \(AEI\) Lab](#) in partnership with the National Endowment for the Arts, and he is the director of research initiatives for the new [Center for Cultural Affairs](#) at Indiana University. He serves as the co-editor-in-chief of the *Journal of Cultural Economics* and is a board member of the Association of Cultural Economics International.

Jennifer Novak-Leonard specializes in the development and use of novel measurement systems to understand cultural participation and the personal and public values derived from these experiences. She has published influential work that appears in public reports and peer-reviewed journals on how to understand the multiplicity of ways people participate in art and creative expression, and on the intrinsic impacts of arts experiences. She is often called upon to develop and expand robust data sources related to arts and culture, and to aid policymakers and cultural leaders in their use of research and data for decision-making. Novak-Leonard regularly serves as a research advisor for national and regional data collection and research efforts. Recently, Novak-Leonard led the planning study and pilot test for the 2017 Survey of Public Participation in the Arts. Her prior studies include arts participation in immigrant communities; public funding for art, arts in higher education, the professional trajectories of art students, intrinsic impacts of arts experiences, and the creative economy; her work has been supported

by the National Endowment for the Arts, National Institutes of Health, Doris Duke Charitable Foundation, James Irvine Foundation, and RAND among others.

Margaret Orem is an award-winning choral director and music educator. She is devoted to music education for children and teachers alike. Since 1975, she has taught music on every level beginning at Weed High School and College of the Siskiyous, followed by a three-year teaching stint at San Diego State University. Orem most recently was a classroom music teacher at Jerabek Elementary School (1990-2017) teaching pre-kindergarten through fifth grade and conducted a school volunteer choir. Orem has been a teacher/conductor with the San Diego Children's Choir since 2004. She has conducted all levels at San Diego Children's Choir, including the Early Years I and II programs for preschool and kindergarten. She currently conducts and teaches the Preparatory Choir for grades 1st-3rd grade and the Apprentice Choir, 3rd-5th grade. She is the lead arts educator designing and implementing the singing intervention in the NEA Research Lab keystone study EARLI: Singing, and just completed eight weeks of singing training at two elementary schools.

Katherine Reed (LPC), art therapist, has managed the Ponzio Creative Arts Therapy Program at Children's Hospital Colorado since its inception in 2005. From 1999-2001, Reed served as a Peace Corps health education volunteer in Burkina Faso following nine years of teaching AIDS education, art, and French in Colorado public schools. Reed earned her master of arts in art therapy at the Art Institute of Chicago in 2004, with a focus on social action. Reed's current role allows her to integrate her passions: creating strategies for mental health awareness and services, using the arts as vehicles for healing, building, and empowering community. In partnership with Dr. Marc Moss of the University of Colorado, Reed has led her team in the development of CORAL, the NEA funded Colorado Resilience in Arts Lab, to design, facilitate, and study creative arts therapy resilience strategies for critical care health care providers.

Megan Robinson received her BA in sociology from Southwestern University in 2013 and her MA from Vanderbilt in 2016. Her research interests include urban sociology, work and occupations, and the consumption of culture and creativity. Her master's paper featured a simulated agent-based model examining the association between knowledge and creative economic and social structures of accumulation, job opportunity, and skills-based displacement. Ongoing projects center around themes of detachment, including an exploration of levels of occupational anomie in the contemporary economy and the identification of processes contributing to the suburbanization of urban poverty and citizen disenfranchisement in the "creative" city. Robinson is currently a fourth-year doctoral student in the Vanderbilt Sociology department.

Kimberly Sheridan is an associate professor with a joint appointment in educational psychology and art education at George Mason University, where she directs the Learning in the Making Lab and is a founding co-director of the Mason Arts Research Center (MasonARC), a National Endowment of the Arts Research Lab. Sheridan's research focuses on how people learn in studio environments and through the process of making. In her work at the MasonARC, she conducts close qualitative analyses of how studio arts environments and teachers support learners' sense of agency. Sheridan's work broadly takes a sociocultural perspective on learning, studying how

learning is situated in diverse and changing contexts with the advent of new technologies. She focuses in particular on creative production with technology and how technology can create innovative contexts of possibility for youth from traditionally underserved groups. Her work has been funded by the National Science Foundation, the Institute of Museum and Library Services, and the National Endowment for the Arts.

Sammy Wegent is the co-founder and CEO of Speechless Inc., a training company based in San Francisco that amplifies and applies the concept of “improv thinking” in order to help people be themselves and be heard. He has a BFA and MFA in acting and over 20 years of experience as a professional actor, comedian, and instructor. He has performed at comedy clubs, colleges, and corporate events all over the world and has won numerous awards for his acting work in film and animation. He has taught acting, writing, improvisation, and stand-up comedy at several colleges and companies and has done narrative design and copywriting at various Silicon Valley firms. He has been featured in the *New York Times*, *Wall Street Journal*, *Newsweek*, *San Francisco Chronicle*, *LA Weekly*, *Silicon Valley Magazine* and *Huffington Post*. The Speechless team and he have entertained and trained companies all over the world including Google, New York Times, TED, Facebook, Capital One, Oracle, Adobe, Airbnb, Gimlet Media, Headspace, Intel, Slack, Microsoft, Uber, Twitter, Salesforce, Zynga, IDEO, eBay, PayPal, Walmart, the Bill & Melinda Gates Foundation, and many more.

Adam Winsler (PhD 1994, Stanford University) is professor of applied developmental psychology in the Department of Psychology at George Mason University. His research examines the academic trajectories (pre-K-12) of low-income children of color, English Language Learners (ELLs), and immigrant students. He also studies the development of bilingualism, executive functioning, the role of private speech (self-talk) in children’s behavioral self-regulation, long-term effects of pre-K programs, and the positive effects of arts education (music, dance, drama, visual art) on students. He has over 100 publications including papers in the journals, *Child Development*, *Developmental Psychology*, *Early Childhood Research Quarterly*, and *Urban Education*. He served as editor-in-chief of *Early Childhood Research Quarterly* from 2006-2016. His current research is funded by the National Endowment for the Arts (NEA), the Institute for Education Sciences (IES), and the Jack Kent Cooke Foundation (JKCF).

Joanna Woronkowicz is an assistant professor at the O’Neill School of Public and Environmental Affairs at Indiana University. Her research focuses on understanding the dynamics of artistic production, specifically, the role of physical and human capital. In her research, she addresses questions such as: What are the effects of investments in arts facilities on organizations and cities? How do arts workers navigate their careers? She supplements this work by studying arts policy related to the distribution of arts in society. Woronkowicz is co-founder and director of institutional advancement for the Center for Cultural Affairs at the O’Neill School, and co-director of the Arts, Entrepreneurship, and Innovation Lab at Indiana University-Purdue University Indianapolis.

Noel Zahler is a well-known composer of concert music, and an administrator who has led colleges of visual and performing arts, schools of music, interdisciplinary programs and departments of music, at Long Island University, Carnegie Mellon University, the University

of Minnesota, and Connecticut College. His entrepreneurial expertise has been sought in the creation of collaborations and partnerships throughout the music and business world. He has earned degrees from Columbia University (DMA), Princeton University (MFA), L'Accademia Musicale Chigiana (Certificato di Perfezionamento), Siena, Italy, and C.U.N.Y. Queens College (BA/MA). Zahler is the recipient of numerous awards and prizes, including a National Endowment for the Arts Research Labs award, an NEA Consortium Commission, a Howard Hughes Medical Institute Research Grant, a National Science Foundation grant, and a Fulbright/Hayes Fellowship to Italy, among many others. A fellow of the Associated Kyoto Program, Zahler also has been granted an Italian National Research Council Award, New York State Council for the Arts grant in support of recordings and a National Endowment for the Humanities Scholarship. He serves as treasurer of the American Composers Alliance and is a member of the Lubbock Symphony Orchestra (LSO) Board. Since 2015, he has served as the dean of the J.T. & Margaret Talkington College of Visual and Performing Arts at Texas Tech University.