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NSF Advancing Informal STEM Learning Program

PRINCIPAL INVESTIGATOR MEETING

FEBRUARY 11–13, 2019

caise

center for advancement of
informal science education



National Science Foundation
Directorate for Education & Human Resources

February 11, 2019

Welcome to the 2019 Advancing Informal STEM Learning (AISL) Program Principal Investigators (PI) Meeting.

This gathering brings together practitioners, researchers, and evaluators actively working to improve learning in informal environments. Representing a wide range of organizations, you are a group of highly creative and dedicated professionals in the fields of education research, development, design, communication and evaluation. You represent science centers and museums; zoos and aquaria, botanical gardens, and nature centers; universities; libraries; youth, community, and after-school programs; technology, digital media, and gaming organizations; public participation in scientific research, broadcast media, and science communication. Some of you also have active science and engineering research careers.

In addition, colleagues representing other federal and private funding agencies are participating. We want to welcome our colleagues from the Wellcome Trust and the Economic and Social Research Council. Together, we partnered to fund Science Learning+, a set of five US-UK collaborations to strengthen informal STEM learning research and practice. As with past AISL PI Meetings, we trust that your activities over the next few days will continue to foster a stronger sense of identity and a more cohesive community to advance shared knowledge building, practice, and capacity. Ultimately, our shared goal is to have an impact on STEM learning and engagement.

The National Science Foundation (NSF) Directorate for Education and Human Resources (EHR) continues to focus attention on three major areas of impact of our investments: learning and learning environments, broadening participation, and workforce development. Your meeting agenda attends to these three strategic areas. The AISL program, along with others in EHR, has funded groundbreaking and life-changing work. It is work that has opened up opportunities in STEM to new generations of people, and work that has fundamentally changed what and how we bring science to life for people of all ages and backgrounds. We need to keep pushing the boundaries in the research we fund, especially ensuring that we are on the forefront of educational delivery innovations and new ways of understanding human learning and behavior.

Special thanks for planning and hosting the PI Meeting go to PI and project director Jamie Bell and the Center for Advancement of Informal Science Education (CAISE) team members Rachel Diamond and Melissa Ballard, CAISE co-PIs and task force members, as well as the many others who have contributed, including Julie Johnson, NSF AISL program lead; Al DeSena, cognizant NSF program officer for CAISE; and all of the AISL program staff and program officers in the Division of Research on Learning in Formal and Informal Settings (DRL).

I wish you the best for a productive meeting.

Sincerely,

Karen Marrongelle
Assistant Director

2415 Eisenhower Avenue | Alexandria, VA 22314

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WELCOME

Dear Colleagues,

The Center for Advancement of Informal Science Education (CAISE) welcomes you to the 2019 National Science Foundation (NSF) Advancing Informal STEM Learning (AISL) Program and Science Learning+ Principal Investigator meeting. Since 2008, CAISE has had the privilege and opportunity to bring together the AISL community every couple of years to meet new and old colleagues, share work, discuss common issues and challenges, and hear about current directions in and opportunities for future funding. We also invite perspectives from those whose work can inform and inspire our thinking and help us all to continue to build knowledge through practice, research, and evaluation.

Participants in this meeting are collectively working on 202 NSF AISL-funded projects, representing the rich variety of designed experiences, activities, and settings in which diverse audiences of all ages are learning science, technology, engineering, and math (STEM). We hope that you will embrace this moment to inform, challenge, and learn from each other in ways that will connect and advance the professional fields dedicated to enhancing lifelong STEM engagement.

As a resource center for the AISL Program, CAISE has been developing materials and tools that can help broaden participation in STEM, perform evaluation and measurement, and improve research and practice. We will be sharing throughout the meeting. We welcome your feedback on these, as well as any thoughts you have about how work in our field can be better connected, documented, and disseminated.

CAISE is deeply grateful to NSF, the Wellcome Trust, and the Economic and Social Research Council for their many years of enlightened investment in this work. We thank all attendees for bringing your ideas, expertise, and innovative projects to share with the wider community.



Jamie Bell, CAISE Project Director and Principal Investigator

CAISE is supported by the National Science Foundation (NSF) awards DRL-1612739 and DRL-1842633, with previous support under DRL-1212803 and DRL-0638981. Any opinions, findings, conclusions, or recommendations expressed in this meeting, or in materials produced for and during the meeting, are those of the authors and do not necessarily reflect the views of NSF.

NSF, Wellcome Trust, and the Economic and Social Research Council partnered to fund the Science Learning+ Program, which supports US-UK collaborations to strengthen informal STEM learning research and practice.

CAISE thanks the Kavli Foundation for its commitment to science communication and informal STEM learning and its assistance with the 2019 NSF AISL PI meeting.



Statement on Harassment

The 2019 AISL PI meeting is dedicated to providing a harassment-free experience for everyone in attendance. We do not tolerate harassment of meeting participants in any form. As CAISE is housed at the Association of Science–Technology Centers, we have adapted their conference harassment policy, as shown below.

The code of conduct that follows is part of CAISE’s mission to provide spaces for those who conduct and/or study informal STEM learning and science communication and public engagement activities to come together to address the common challenges, build new professional relationships, and strengthen existing connections. Our world is rich in diversity, and CAISE embraces those differences, including in ability, age, color, ethnicity, race, family or marital status, sex, gender identity and expression, sexual orientation, pregnancy and related medical conditions, language, national origin, political affiliation, religion, socioeconomic status, veteran status, health status, and other dimensions of diversity.

As an attendee at the 2019 AISL PI Meeting, I will:

- Conduct myself with integrity, respect, honesty, and credibility.
- Approach all events in accordance with the highest ethical standards of professionalism and personal conduct.
- Avoid all activities that will cause damage to or discredit to my organization, CAISE, or myself.
- Embrace our diverse community of professionals and learners, and be inclusive of all audiences in my presentations, demonstrations, and conversations.

This code of conduct is in place to protect the safety of all attendees. Contact, language, or imagery of a violent, threatening, sexual, discriminatory, demeaning, or disruptive nature is not appropriate for any meeting component, including keynotes, sessions, networking and evening events, Twitter, and other online media. Attendees who are asked to stop any harassing or discriminatory behavior are expected to comply immediately. CAISE staff may take action to redress any situation that is disrupting the meeting or making the environment unsafe for participants, including asking participants to leave the meeting.

This harassment policy is open to suggestions for improvement and refinement. The above policy also aligns with *NSF 19-1 Proposal & Award Policies & Procedures Guide (PAPPG)*. Please let a CAISE staff member know if you have any comments, or email caise@informalscience.org.

ABOUT CAISE

CAISE works to build and advance the informal STEM education (ISE) field by providing infrastructure, resources, and connectivity for educators, researchers, evaluators, and other interested stakeholders. We seek to characterize, highlight, and connect quality, evidence-based informal STEM learning work—work that is supported by a diversity of federal, local, and private funders.

Through InformalScience.org, we provide access to an ever-growing repository of more than 8,000 resources, including project descriptions, research literature, evaluation reports, and other documentation. In addition to hosting the AISL PI meetings, CAISE convenes task forces and workshops that are designed to facilitate discussion and identify needs and opportunities for informal STEM learning researchers and practitioners.

CAISE has a core staff based at the Association of Science–Technology Centers in Washington, D.C., with co-Principal Investigators at academic institutions and other organizations across the United States. If you have questions, concerns, or kudos during or after the meeting, please let us know!

CAISE STAFF



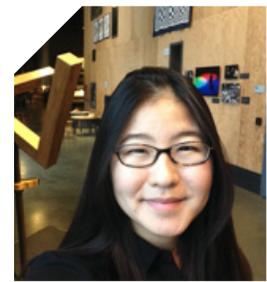
Jamie Bell
Project Director and
Principal Investigator



Rachel Diamond
Project Manager



Melissa Ballard
Communications and
Community Manager



Michelle Choi
Program Manager
University of Washington

CAISE CO-PRINCIPAL INVESTIGATORS



Bronwyn Bevan
University of
Washington



Cecilia Garibay
Garibay Group



Kevin Crowley
University of
Pittsburgh



Martin Storksdieck
Oregon State
University

New Resources

Our 2016 NSF award allowed CAISE to begin exploring opportunities for synergy among those who conduct and/or study informal STEM learning, science communication (SciComm), and public engagement activities. We collected data about the state of connectivity across the fields and formed three task forces focused on addressing common challenges. Below are our most recent publications and news.

1

Broadening Perspectives on Broadening Participation in STEM | bit.ly/broadening-perspectives-stem

To help you reflect on and strengthen efforts to broaden participation in STEM, the CAISE Broadening Participation in STEM Task Force developed a suite of professional development tools. Use them to plan and lead reflective discussions about current practices, with an eye to developing goals, strategies, and priorities that can make ISE and science communication work more inclusive

2

Interview Series on STEM Identity, Interest, and Engagement | bit.ly/eval-measure

As these three constructs have become increasingly important in ISE and science communication, the CAISE Evaluation and Measurement Task Force interviewed experts to provide professionals in the field with an overview of how the constructs are being designed for and measured.

3

Baseline Studies of Connectivity | bit.ly/baseline-studies

CAISE conducted a survey of leading ISE and science communication researchers and practitioners and a bibliometric analysis of selected research journals to gain a clearer picture of where the fields diverge and converge.

4

Access Your Favorite Journals | bit.ly/ebSCO-access

Members of InformalScience.org have free access to the full text of more than 2,000 journals within science education and the learning sciences, via EBSCO's Education Source database. These journals include *Science Communication*, *Curator: The Museum Journal*, and *the Journal of Research in Science Teaching*.

Subscribe to **CAISE's Monthly Newsletter** to stay connected to ideas, knowledge, and conversations within the ISE and science communication fields.

Sign up here: bit.ly/caise-newsletter

MEETING GOALS

In cooperation with the AISL Program, CAISE has designed the meeting so that attendees can:

- 1 Discuss current topics and approaches in ISE and the issues, challenges, and opportunities that arise in designing, researching, and evaluating this work, across settings and sectors, **during the concurrent sessions.**
- 2 Share the problems of practice and theoretical foundations of their project work with colleagues and other stakeholders, and experience the richness and diversity of the AISL portfolio **during the project showcase.**
- 3 Be informed and inspired by talks and presentations by field leaders, funders, and advisory and expert committee members about STEM education, communication, and engagement **during the plenary sessions.**
- 4 Connect and network with new and old colleagues, as well as program officers and other stakeholders in ISE and science communication **throughout the meeting.**

We'd like your feedback on the PI Meeting. At the end of the meeting, please complete Inverness Research's questionnaire: www.surveymonkey.com/r/2019_AISL_PI



AGENDA

MONDAY, FEBRUARY 11

8:00 a.m.–5:00 p.m. **Registration is open** | Second Floor of Westin Alexandria

Science Learning+ PIs Only

8:30 a.m.–1:00 p.m. **Science Learning+ (SL+) Meeting** | Curie

Invitation only. Breakfast and lunch provided

Pre-Meeting Sessions

Please note that lunch will not be provided.

1:00–1:15 p.m. **Welcome from CAISE and NSF** | Edison Ballroom

1:15–2:15 p.m. **Presentation: Grant and Fiscal Management** | Edison Ballroom

Daniel McEnrue and Rashawn Farior, NSF Division of Grants and Agreements

2:20–3:15 p.m. **Presentation: NSF Opportunities, Directions, and Big Ideas** | Edison Ballroom

AISL and Division of Research on Learning in Formal and Informal Settings
Program Officers

3:15–3:30 p.m. **Refreshment Break**

3:30–4:30 p.m. **Panel Discussion: Key Issues in ISE Evaluation** | Edison Ballroom

In this roundtable session, a group of experienced evaluators will lead discussions with PIs about key evaluation issues and current trends pertinent to a range of informal STEM education settings/environments.

Organizer: Cecilia Garibay, Garibay Group

Panelists: Sue Allen, Maine Mathematics and Science Alliance; Archana Kannan, Stanford University; Karen Peterman, Karen Peterman Consulting; Katrina Bledsoe, Education Development Center

4:30 p.m. **Adjourn**

5:00–6:30 p.m. **Informal Gathering for First-Time AISL and SL+ PIs**

Join CAISE co-PIs and staff in the Trademark Restaurant bar area of the Westin Alexandria for networking and relationship building.

Dinner is on your own. See the neighborhood guide on page 26 for restaurants in walking distance.

AGENDA

TUESDAY, FEBRUARY 12

7:45 a.m.–5:00 p.m. **Registration is open** | Second Floor of Westin Alexandria

8:15 a.m.–9:00 a.m. **Networking Breakfast** | Edison Ballroom

9:00–9:30 a.m. **Welcome and Morning Plenary** | Edison Ballroom

Jamie Bell, CAISE

Evan K. Heit, Division Director for NSF Division of Research on Learning in Formal and Informal Settings

Sylvia M. James, Deputy Assistant Director for NSF Directorate for Education & Human Resources

9:30–9:50 a.m. **Introduction to the Day** | Edison Ballroom

Overview of the agenda, Jamie Bell, CAISE

Interactive introductions, Bronwyn Bevan, University of Washington

9:50–10:00 a.m. **Transition to Concurrent Sessions**

10:00–11:15 a.m. **Concurrent Sessions, Round 1** | Breakout Rooms

Small breakout sessions themed around cross-cutting topics and issues reflected in the current NSF AISL portfolio of projects

See page 13 for descriptions and locations

11:15–11:30 a.m. **Break and Transition Back to Edison Ballroom**

11:30 a.m.–12:30 p.m. **Keynote Remarks: Cultivating Learning** | Edison Ballroom
Identities in the Context of Social Inequality

Dr. Na'ilah Suad Nasir, the Spencer Foundation

Dr. Na'ilah Suad Nasir is the sixth President of the Spencer Foundation, which supports research about education. She was a faculty member at the University of California, Berkeley, from 2008 to 2017, and she served as Vice Chancellor of Equity and Inclusion at UC-Berkeley from November 2015. Dr. Nasir earned her PhD in Educational Psychology at UCLA in 2000 and was a member of the faculty in the School of Education at Stanford University from 2000 to 2008.



Her work focuses on issues of race, culture, learning, and identity. She is the author of *Racialized Identities: Race and Achievement among African American Youth* (2011) and has published numerous scholarly articles. Dr. Nasir is a member of the National Academy of Education and a fellow of the American Educational Research Association (AERA). In 2016, she received the AERA Division G Mentoring Award.

- 12:30–1:30 p.m. **Working Lunch** | Edison Ballroom
Small-group discussions on the role of ISE in broadening participation in STEM
- 1:30–2:45 p.m. **Concurrent Sessions, Round 2** | Breakout Rooms
Small breakout sessions themed around cross-cutting issues reflecting the current NSF AISL portfolio of projects
See page 16 for descriptions and locations
- 2:45–3:00 p.m. **Refreshment and Networking Break**
- 3:00–3:45 p.m. **Flash Talks: Relevant Reports for the STEM Engagement Community** | Edison Ballroom
- Learning Through Citizen Science: Enhancing Opportunities by Design**
Tina Phillips, Cornell Lab of Ornithology
- Encountering Science in America**
Erica Kimmerling, American Academy of Arts and Sciences
- Federal STEM Education 5-Year Strategic Plan**
Rob Semper, Exploratorium
- 3:45–4:00 p.m. **Instructions on Project Showcase** | Edison Ballroom
- 4:00–4:55 p.m. **Prepare for Project Showcase and Pre-Showcase Break**
Find your assigned room, set up your poster, and take a break
- 5:00 p.m. **Project Showcase and Reception** | Second Floor of Westin Alexandria
See page 18 for more details
5:00–5:30 p.m.: Affinity Groups
5:30 p.m.: Refreshments available
5:45–6:15 p.m.: Rotation 1 of Project Presentations
6:30–7:00 p.m.: Rotation 2 of Project Presentations

Dinner is on your own. See the neighborhood guide on page 26 for restaurants in walking distance.

AGENDA

WEDNESDAY, FEBRUARY 13

8:00 a.m.–1:00 p.m. **Registration is open** | Second Floor of Westin Alexandria

8:15 a.m.–9:00 a.m. **Networking Breakfast**

9:00–9:10 a.m. **Introduction to Day and Goals** | Edison Ballroom

Bronwyn Bevan, University of Washington

Kevin Crowley, University of Pittsburgh

9:10–10:25 a.m. **Interactive Session: Tools You Can Use to Expand Your Efforts to Broaden Participation in STEM** | Edison Ballroom

CAISE co-PIs and Broadening Participation Task Force Members

10:25–10:45 a.m. **Break**

10:45 a.m.–12:00 p.m. **Interactive Session: Exploring Assessments for Impact in ISE and Science Communication** | Edison Ballroom

CAISE co-PIs and Evaluation and Measurement Task Force Members

12:00–1:00 p.m. **Working Lunch**

Nominators of the chosen open space sessions will “pitch” their topics

1:00–2:30 p.m. **Open Space Sessions** | Breakout Rooms

Discuss a session topic that you would like to dive into further with your colleagues

2:15–2:30 p.m. **Break and Transition Back to Edison Ballroom**

2:30–3:00 p.m. **Sharing, Next Steps, and Closing Remarks** | Edison Ballroom

Jamie Bell, CAISE

NSF AISL Program Directors

3:00 p.m. **Adjourn**

Documentation of the 2019 AISL PI meeting, along with past meetings, will be posted here: informal.science.org/about-caise/pi-meetings

SESSIONS

Concurrent Sessions

These sessions are intended to catalyze thinking and discussions that can continue beyond the meeting and generate new ideas for future work and collaborations. The topics were identified through a process that included a September 2018 questionnaire sent to AISL PIs, a review of the current AISL program portfolio of projects, and input from NSF program directors. Each concurrent session was organized by an AISL PI, who invited AISL-funded colleagues to co-facilitate.

TUESDAY MORNING – 10:00-11:15 A.M.

Addressing Current Socio-Scientific Issues #1: Implications for Science Literacy | EDISON G

ORGANIZER:

Billy Spitzer, New England Aquarium

The need for asset- and need-based approaches to science communication and literacy have been identified and articulated in two reports from the National Academies: *Communicating Science Effectively* (2017) and *Science Science Literacy: Concepts, Contexts and Consequences* (2016). In light of these developments, how are institutions and individuals in ISE and science communication dealing with controversial or socio-scientific topics? How are we thinking about our roles and professional identities, given the finding that more and better information alone is not sufficient to facilitate societal dialogue? In this session, participants will have the opportunity to hear about some examples of evidence-informed practice, and to discuss and consider the relevance to their own work.

Building Institutional Capacity and Change | CURIE

ORGANIZER:

Bronwyn Bevan, University of Washington

Many ISE and science communication organizations are seeking to broaden and deepen their impact, especially with respect to equity and inclusion. Innovative and inspiring projects have been developed over the years, but many come and go with funding. Recently, NSF has invested in several long-term capacity-building efforts meant to effect change at the institutional and leadership levels in ways that can advance sustainable progress in broadening participation. In this session, we discuss capacity building needs *within* ISE institutions, *among* collaborating ISE institutions, and *beyond the walls* of ISE institutions. In group discussions, we will identify additional capacity-building issues and needs that remain unaddressed.

SESSIONS

TUESDAY MORNING – 10:00-11:15 A.M.

Designing for Equitable Early and Family STEM Learning | EDISON F

ORGANIZER:

Carrie Tzou, University of Washington - Bothell

What is the current state of research and practice around early and family STEM learning, and what are the compelling and challenging issues that those working with these audiences are facing? What conversations should we be having across early STEM learning and family STEM learning? In this session, we will explore what new types of partnerships, theories of learning, and modes and models of we need in order to design just and equitable experiences and environments for all learners.

Designing for Science in Natural Settings | WHITNEY

ORGANIZER:

Martha Merson, TERC

The possibilities for engaging public audiences in STEM learning in natural settings are numerous, with potential impacts on interest, curiosity, awe, knowledge gain, stewardship, and STEM identity. However, these effects are often difficult to quantify. What do we know about learning in and from authentic settings for scientific research, such as parks, field stations, and marine labs? Participants in this session 1) meet others, exchanging recommendations for existing resources; 2) describe how individual projects will contribute to the knowledge base, and 3) envision how findings will accrue and accumulate, affecting the sum total of what is known about learning in outdoor settings in two years.

Reaching New Audiences in Unexpected Places | EDISON E

ORGANIZER:

Mark Rosin, Guerilla Science

Informal STEM learning continues to blossom and thrive in increasingly diverse settings. How can we present science in ways that capture the attention, time, and interest of people engaged in everyday and non-science activities, from muddy music festival fields and deaf discos to street installations, and unusual digital channels? In this session we will lead a discussion of best practices, the challenges of defining and measuring impact, and defining a forward looking research agenda for the field.

Supporting Gender Equity in STEM, ISE, and Science Communication | WRIGHT

ORGANIZER:

Karen Peterson, National Girls Collaborative Project

Current models of gender inclusion—specifically those aimed at engaging girls and women in STEM—are breaking new ground. We'll look at the specific ways these models are contributing to advancing gender equity in ISE and how these strategies and program elements can be adapted by others. Participants will engage in both discussion and visioning to identify how the AISL community can address gender imbalances in not only who participates, but who will ultimately lead STEM education and engagement in the future.

SESSIONS

TUESDAY MORNING – 10:00-11:15 A.M.

Technology Enhanced Informal STEM Learning | BANNEKER

ORGANIZER:

H. Chad Lane, University of Illinois, Urbana-Champaign

The use of advanced technologies (AR/VR, visualization, AI, games, etc.) in informal learning contexts can greatly enhance learning experiences, but it also brings new challenges. This session will address questions related to the design, deployment, and study of technology use by practitioners and researchers across various informal learning contexts. How are these approaches being used, with which topics, and for which audiences? What are the opportunities for practice and research going forward? Panelists will focus on the potential of advanced learning technologies to improve informal STEM learning, research and evaluation, and the unique challenges that technology-based solutions present.

Teens and Community Engagement: Reimagining the Future | BELL

ORGANIZER:

Angela Calabrese Barton, Michigan State University

Teens from historically underrepresented groups engage with STEM across a variety of programs as they explore, understand, and transform their local communities in equitable and consequential ways. What are teens learning in these STEM programs, and are they able to transform that knowledge into something of personal value and use? Researchers and practitioners working in both community-based and design-based informal science learning settings, will share insights and tools from their AISL projects to foster dialogue on these questions.



SESSIONS

TUESDAY AFTERNOON – 1:30–2:45 P.M.

Addressing Current Socio-Scientific Issues #2: Climate Change | EDISON G

ORGANIZER:

Billy Spitzer, New England Aquarium

The challenges of engaging the public with socio-scientific or controversial topics vary depending on the issues and the audiences being addressed. Using the specific lens of climate change, how can cognitive and social science research inform the practice in ISE and science communication? In this session, participants will have the opportunity to learn about some of the key cognitive/social science research findings relevant to public engagement in climate change; hear how this research has been put into practice in diverse ISL settings; reflect and discuss how this knowledge could be applied in their own work; and identify potential future research needs.

Designing for Computational Thinking in Informal STEM Learning Settings, Activities, and Experiences | EDISON E

ORGANIZER:

Mike Horn, Northwestern University

Computational thinking is being fostered in informal STEM learning settings, activities, and experiences. Questions and issues that may arise in the process include broadening participation in computing through informal learning experiences; creating novel forms of engagement and exploration; conceptualizing computational thinking / literacy in out-of-school spaces; and thinking about the intersection of computing and arts, science, and humanities in informal learning. This panel will discuss goals, challenges, and opportunities in fostering computational literacy and computational thinking across a variety of informal learning settings and experiences.

Equity and Inclusion Theory: Integrating STEM and Social Justice Perspective | BELL

ORGANIZER:

Edna Tan, University of North Carolina at Greensboro

Theorizing science engagement through a justice-oriented perspective changes what we notice, design and document in science communication/ISE. What are the ways in which STEM education researchers across informal settings frame issues of equity and justice? What kinds of research methodologies and partnerships with communities attend to dynamics pertinent to research centered on equity, justice and STEM engagement? This session invites participants to consider social justice-oriented perspectives in STEM research, including theoretical framing, methodological considerations, the nature of partnerships with communities, including tensions, conundrums, and considerations.

Learning about STEM in Rural Places | WHITNEY

ORGANIZER:

Jan Mokros, Science Education Solutions

Collaboration and knowledge sharing among projects engaged in rural STEM work can help us situate the work in an ecosystem perspective that encompasses informal and formal education; childhood through adult education; and economic development, as well as family and community education. Panelists in this session will share effective ways of building on rural communities' strengths and addressing their challenges and will facilitate a discussion about the diversity of rural communities and the places in these communities where STEM is taking root.

SESSIONS

TUESDAY AFTERNOON – 1:30–2:45 P.M.

Public Participation In Scientific Research (PPSR) / Citizen Science as a Force for Change | CURIE

ORGANIZER:

Heidi Ballard, University of California - Davis
PPSR / “citizen science” presents opportunities for authentic science engagement and science learning. Employing this approach in a more than cursory way raises fundamental questions about who determines what science is being done and for what purpose. How can addressing these questions, and engaging communities at the outset, create opportunities for new forms of science learning and new models of scientific research? This session will involve a discussion of these questions and others.

Supporting Scientists in Outreach and Engagement through Their Broader Impacts Work | EDISON F

ORGANIZER:

Susan Renoe, University of Missouri
Scientists are increasingly expected to include the public in their research, in part to fulfill the NSF Broader Impacts criterion but also to serve as a first contact and authentic voice for science. This session will explore how the ISE community works with established and emerging scientists to develop their public engagement skills—including how institutions incentivize public engagement by researchers—and will highlight programs and resources available to researchers. The interactive session will also discuss how scientists can develop and articulate an “impact identity” that encompasses both their research topics and personal characteristics/experiences that will make their public engagement more authentic.

Understanding Interest and Identity as Outcomes in Informal Science Learning and Science Communication | WRIGHT

ORGANIZER:

Martin Storksdieck, Oregon State University
Over the last 18 months, the CAISE Evaluation and Measurement Task Force has met to explore key constructs that ISE and science communication practitioners and researchers have identified as goals for learning and measuring in settings and experiences. This session will provide an overview of multiple perspectives on STEM identity and interest and share resources that are useful for developing projects and designing measurement strategies.

What Do We Mean When We Talk About Transmedia? | BANNEKER

ORGANIZER:

Ed Finn, Arizona State University
Audiences today are increasingly conversant with entertainment, advertising, and games that jump across contextual and media boundaries. When informal STEM and science communication experts talk about transmedia, what are we really talking about? This panel will establish a common language and baseline understanding of how social media, online communities, and public engagement intersect with transmedia. Panelists will share their experiences with transmedia research and engagement, discuss emerging opportunities and challenges, identify shared foundations and best practices, and explore promising directions for future research.

PROJECT SHOWCASE

Tuesday

The Project Showcase is an opportunity to meet colleagues, share your work, receive feedback on particular issues related to your work from colleagues in ISE and science communication, and gain a sense of the richness of the NSF AISL portfolio.

Your assigned affinity group, location, and presentation rotation assignment will be in a separate, printed Project Showcase Guide. CAISE will make these available Tuesday afternoon February 12.

PART 1: AFFINITY GROUPS | 5:00–5:30 P.M.

These small-group conversations will allow you to get to know each other's projects and challenges in a focused setting. We hope this interaction will seed useful conversations!

- Once everyone in your group has arrived, start by going around in a circle with brief introductions. Try giving a two-minute “elevator speech” that communicates the focus of your project, and the question, challenge, or claim you want to propose to your group.
- Any remaining time can be used as the group sees fit.

PART 2: SHOWCASE ROTATIONS | 5:45–6:15 P.M. AND 6:30–7:00 P.M.

- Next, all attending projects will showcase their work via two 30-minute rotations (with time for transition). If you are in group 1, you'll need to be ready at 5:45 p.m.--so quickly grab some refreshments, then head to your showcase space. If you are in group 2, make sure you're ready at your showcase space by 6:30 p.m.
- If you are not representing an AISL or SL+ project you are free to discover and engage throughout the showcase time. The Project Showcase Guide can be used to locate projects you'd like to explore.

NEED TO PRINT HANDOUTS?

Visit the FedEx Office Print & Ship Center at 2241 Eisenhower Ave. (6-minute walk from the Westin). Additionally, the hotel may be able to accommodate small requests. Unfortunately, CAISE is unable to make copies for you on site.

AFTER THE MEETING

- **Don't want to take your poster home?** AISL Program Director Ellen McCallie will gladly take them for use at NSF-related events--look for the drop-off box near the meeting registration table!
- **Update your project page on InformalScience.org.** We encourage you to upload a PDF of your poster and/or add the URL of your digital representation. Make sure you are logged into the website, and then click “Submit a Resource”. If you experience any difficulties, please email librarian@informalscience.org.

OPEN SPACE SESSIONS

Wednesday

Open spaces offer meeting participants the opportunity to nominate discussion topics in informal STEM learning and science communication. Some attendees may arrive with ideas in mind. For others, topics of interest and importance may emerge during a pre-meeting or concurrent session or through interactions with colleagues. Open space sessions are a time to continue to discuss issues and challenges with your colleagues on Wednesday afternoon (1:00–2:15 p.m.).

HOW ARE OPEN SPACE TOPICS NOMINATED AND SELECTED?

Near the meeting registration table, there will be a board where attendees can suggest topics and vote on ones they would like to discuss.

If you wish to nominate a topic, please complete a nominating form and post it to the open space sessions board. You may nominate as many sessions as you like. **Please note that while you do not need to lead the session you nominate**, you will be responsible for identifying a facilitator if the topic is chosen.

Meeting attendees will be able to nominate topics for open space sessions starting Tuesday morning, through the end of the Project Showcase. Please don't wait until the end of the day! Throughout Tuesday, meeting attendees can vote on their favorite Open Space topics by putting a stickie dot on the nominating form. The longer your nominated topic is posted, the more time your colleagues will have to vote for your open space idea.

ANNOUNCEMENT OF THE WINNING SESSION TOPICS

The eight most popular session topics and their locations will be announced and posted on Wednesday morning. Nominators of the chosen sessions will have the opportunity to pitch their sessions to their fellow attendees at lunch on Wednesday.

The process will be explained in detail during the plenary sessions on Tuesday, and CAISE staff will be available throughout the meeting to help with the process.



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NEIGHBORHOOD GUIDE

AMERICAN

Café Gallery & Market

2141 Jamieson Ave
(1/2 block)

Cold Stone Creamery

229 Swamp Fox Road
(4 blocks – 8 min. walk)

Foster's Grille

2004 Eisenhower Ave
(2 blocks)

Jerry's Subs & Pizza

510 John Carlyle St
(3 blocks – 7 min. walk)

Joe Theismann's

1800 Diagonal Rd
(5 blocks - 10 min. walk)

La Porta Restaurant

1600 Duke St
(4 blocks – 8 min. walk)

Pizzeria Venti

301 John Carlyle St
(3 blocks – 7 min. walk)

Plaza Gourmet at Carlyle

1940 Duke St (2 blocks)

Potbelly Sandwich

Works
401 John Carlyle St
(2 blocks)

Quiznos Sub / Einstein Bros Bagels

401 Dulany St (2 blocks)

Robeks Juice

1931 Ballenger Ave
(2 blocks)

Ruby Tuesday

200 Swamp Fox Road
(4 blocks – 10min. walk)

Starbucks

2040 Jaimeson Ave.
(Connected to hotel)

Subway

2361 Eisenhower Ave
(2 blocks)

Ted's Montana Grill

2451 Eisenhower Ave
(4 blocks – 8 min. walk)

ASIAN

Galae Thai

215 Swamp Fox Road
(4 blocks – 8 min. walk)

Pasara Thai

Restaurant
2051 Jamieson Ave
(1/2 block)

Sushi Naru

540 John Carlyle St
(3.5 blocks)

MEDITERRANEAN

Mezza

1725 Duke Street

Delia's Mediterranean Grill & Brick Oven

Pizza

209 Swamp Fox Road
(4 blocks – 8 min. walk)

Quattro Formaggi Italian Restaurant

1725 Duke St
(5 blocks - 10 min. walk)

SOUTHWESTERN/ MEXICAN AND SPANISH

Austin Grill

801 King Street

California Tortilla

301 Swamp Fox Road
(4 blocks – 8 min. walk)

La Tasca

607 King Street

San Antonio Bar & Grill

200 Swamp Fox Road
(4 blocks – 8 min. walk)

For more information on things to do and see in Old Town Alexandria, explore their website: www.visitalexandriava.com/old-town-alexandria



CONFERENCE ROOM MAP

