

**Broader Impacts
Summit 2019**

Summary Brief



TABLE OF CONTENTS

BROADER IMPACTS SUMMIT 2019	3
Summary Brief.....	3
HIGHLIGHTS.....	3
AGENDA.....	4
SUMMIT THEMES	10
Summit Strands	10
Poster Session	11
Thursday Lunch: Topic Tables	11
ARIS Awards Ceremony.....	11
EVALUATION	13
Demographics.....	13
Evaluation Themes.....	13
Social Media Presence	15
FUTURE DIRECTIONS.....	16
ATTENDEE INSTITUTIONS	18

Broader Impacts Summit 2019

SUMMARY BRIEF

The seventh annual Broader Impacts Summit was held April 30-May 2nd, 2019, hosted by the University of Arizona at the Westward Look Wyndham Grand Resort and Spa.

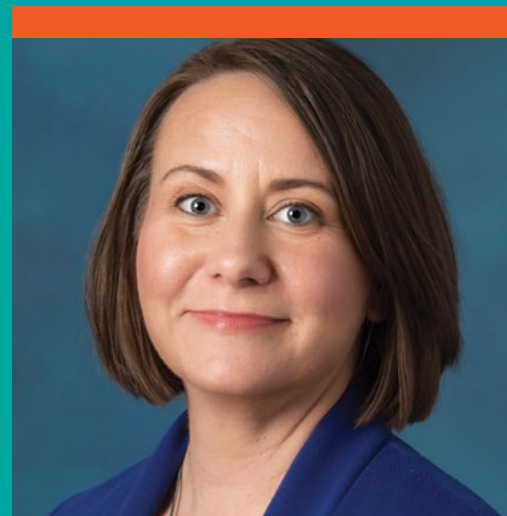
HIGHLIGHTS

The Summit was kicked off by a keynote address highlighting the past five years of NABI accomplishments and introduced the newly awarded Center for Advancing Research Impact in Society (ARIS). Dr. Susan Renoe (PI, NABI, ARIS) discussed the transition from NABI to ARIS and gave the community time to ask questions about the new center. Dr. Renoe's presentation and other presentations from the Summit 2019 sessions can be found on the [ARIS Youtube page](#).

Dr. Suzi Iacono (*top*), Head of the NSF Office of Integrative Activities, gave a keynote talk and provided data compiled on broader impacts trends in funded and non-funded proposals.

Dr. Lina Dostilio (*bottom*) delivered an engaging keynote, "Now, These are My People!" that highlighted the important work that members of engaged scholarship and broader impacts communities do.

On Wednesday evening, participants traveled to Biosphere II to tour the research center and listen to a panel discussion led by Cyverse.





AGENDA

Tuesday, April 30th

10:00 a.m.–12:00 noon **Registration**

Sonoran Ballroom Lobby

12:00 noon–1:00 p.m. **Lunch**

Sonoran Ballroom

12:30–1:45 p.m. **Welcome and Opening Keynote**

Sonoran Ballroom

- **Dr. Jeffrey Goldberg**, *Interim Senior Vice President for Academic Affairs and Provost, University of Arizona*
- **Dr. Marla Franco**, *Assistant Vice Provost of Hispanic Serving Institution (HSI) Initiatives and the Executive Director of Assessment, Research, and Grant Development, University of Arizona*
- **Dr. Susan Renoe**, *Assistant Vice Chancellor for Research, Extension, & Engagement, University of Missouri and PI, National Alliance for Broader Impacts (NABI) and the Center for Advancing Research Impact in Society (ARIS)*

2:00–3:30 p.m.

Workshop Session I

Identifying and Breaking Down Barriers to Participation in Undergraduate Research

- **Presenters:** Heather Haeger, Corin White, Carla Fresquez, Nizhoni Chow-Garcia, and Camille Smith, *California State University, Monterey Bay* Canyon Room

Designing and Implementing Innovative Broader Impacts Activities in Nontraditional Venues: The STEM Ambassador Program

- **Presenters:** Caitlin Weber and Nalini Nadkarni, *University of Utah* and Dennis Schatz, *Pacific Science Center* Cholla Room

Workshop: Broader Impacts through Social, Behavioral, and Economic Sciences Research

- **Presenters:** Jane Zavisca, *Associate Dean for Research and Graduate Studies, College of Social and Behavioral Sciences, University of Arizona*; Cecile McKee, *Professor of Linguistics, University of Arizona*; and Alan Tomkins, *Acting Director, Social and Economic Sciences Division, SBE Directorate, National Science Foundation* Ocotillo Room

Broader Impacts 101

- **Presenters:** Megan Heitmann, *Iowa State University*; Janice McDonnell, *Rutgers University*; and Jory Weintraub, *Duke University* Palm Room

3:45–5:15 p.m.

Lightning Talks

Canyon Room

How NSF Research Experiences for Teachers Programs Support University Broader Impacts

- **Presenter:** Carolyn Nichol and Matthew Cushing, *Rice University*

STEM Teacher Persistence, Retention, and Practices Related to Research Experiences: Preliminary Findings Connecting Student Development to Broader Impacts Opportunities

- **Presenter:** Austin Cruz, Dan Moreno, and Sanlyn Buxner, *University of Arizona* and Elsa Bailey, *San Francisco State University*

Stanford SeeME: Student-driven Outreach within an R1 Institution

- **Presenter:** Zachary del Rosario, *Stanford University, Department of Mechanical Engineering*

Science Storytellers: Where Public Engagement Meets Science Journalism

- **Presenter:** Jennifer Cutraro, *Science Storytellers*

Hospitality Counts and Venue Matters: Making Campuses Destinations for Explorations

- **Presenter:** Thomas M. Zinnen, *Biotechnology Center, University of Wisconsin Madison*

3:45–5:15 p.m.

Lightning Talks

Cholla Room

The Role of an Engagement Database as a Tool for Knowledge Transfer, Connectedness and Co-Creation

- **Presenter:** Oludurotimi Adetunji, *Brown University*

Evaluation of STEM Outreach—Tackling the Tough Questions

- **Presenter:** Karen Kinsman, *MS, PMP, UNM Health Sciences Center Office for Diversity, Equity and Inclusion/UNM STEM-H Center*

What Do Faculty Want? Institutional Supports to Boost Broader Impacts

- **Presenter:** Patricia Wonch Hill, Kiyomi Deards, Sandra Frerichs, and Julia McQuillan, *University of Nebraska-Lincoln*

Expanding Transdisciplinary Capacity: Creating Connections across STEM and Non-STEM Disciplines

- **Presenter:** Todd Nicewonger and Catherine Amelink, *Virginia Tech*

Linking Process and Impacts in the Evaluation of Collaborative Research

- **Presenter:** Alison Meadow and Tamara Wall, *Desert Research Institute* and Alexandra Horangic, *University of Arizona-Institute of the Environment*
-

Research Experiences and Teacher Retention, Persistence, and Practice: Triangulating Teacher Accounts with Observation and Student Data

- **Presenter:** Dan Moreno, Austin Cruz, and Sanlyn Buxner, *University of Arizona*; John Keller, *University of Colorado*; Larry Horvath, *San Francisco State University*; and Dermot Donnelly, *Cal State University Fresno*.....
-

3:45–5:15 p.m.

Lightning Talks

Ocotillo Room

Linking Southwest Heritage Through Archaeology: Using Critical Heritage Dialogues to Engage High School Students and Promote Higher Education Pursuits

- **Presenter:** Sara Chavarria and Barbara Mills, *School of Anthropology, University of Arizona*; Stanley Bond, *National Park Service, Department of the Interior*; and Corey Knox, *College of Education, University of Arizona*
-

Detailing the Construction of Undergraduate Latinx Women's and Black Men's Performativity of Race-Gender Identities in STEM

- **Presenter:** Alexandria Cervantes, Zander Alley, and Luis A. Leyva, *Vanderbilt University*
-

From Research Impact to Critical Community Engagement: Partnering for Justice

- **Presenter:** Caroline Duvieusart-Dery and Elizabeth Jackson, *Community Engaged Scholarship Institute, University of Guelph*
-

Engagement Begins at Home: Connections between Internal and External Engagement for Achieving Broader Impacts Goals

- **Presenter:** Clara Chaisson and Sarah Garlick, *Hubbard Brook Research Foundation*
-

Impact Multipliers: Fostering and Facilitating Community Engagement through Strategic Investments

- **Presenter:** Joe Miller, *University of Texas Corpus Christi*
-

Sharing a Passion for STEM with Deserving Young Audiences

- **Presenter:** Mitch Aiken, *Caltech*
-

3:45–5:15 p.m.

Lightning Talks

Palm Room

Networking, Collaborating, Integrating: Strengthening Our Collective Impacts through Better Connectivity at a Global Scale

- **Presenter:** Jim Woodell, *PhD, Consultant USA*
-

Herding Cats and Leading Horses to Water

- **Presenter:** Esther De Smet, *Ghent University, Belgium*
-

The Australian Research Impact Agenda: Capacity Building for Assessment and Funding

- **Presenter:** Tamika Heiden, *Knowledge Translation Australia*
-

Supporting Knowledge Mobilization at York University

- **Presenter:** Krista Jensen, Michael Johnny, and David Phipps, *York University, Canada*
-

5:15–6:15 p.m.

Dinner

Sonoran Ballroom

6:15–8:00 p.m.

Taste of Tucson

Sonoran Rooftop Terrace



Wednesday, May 1st

7:00–9:00 a.m.

Registration

Sonoran Ballroom Lobby

7:00–8:00 a.m.

Breakfast

Sonoran Ballroom

- Sponsored by University of Arizona STEM Learning Center and Northern Arizona University

8:15–9:45 a.m.

Panel

Sonoran Ballroom

Water Ways: Connecting Research to Community

- **Broader Impacts Practitioner: Betsy Wilkening**, Coordinator for Arizona Project WET, Water Resources Research Center, Cooperative Extension, University of Arizona
- **Community Partner: Dr. L. Rene Corrales**, Middle School Mathematics and Science Instructor, Santa Cruz Catholic School and Pedagogical Content Knowledge Instructor, UA South
- **Researcher: Dr. Benjamin Ruddell**, Associate Professor in the School of Informatics, Computing, and Cyber Systems at Northern Arizona University, the President of Ruddell Environmental consulting, and the Director of the FEWSION project.
- **Community Partner: Sean Ryan**, Professional Development Coordinator, Center for Science Teaching and Learning at Northern Arizona University
- **Panelist: Obiageli Sneed, Ed.D.**, Senior Instructional Designer, Arizona State University - Future H2O
- **Panel Moderator: Dr. Kevin Bonine**, Director, Education and Outreach, Biosphere 2; Director, Outreach Initiatives, College of Science, University of Arizona

9:45–11:15 a.m.

Poster Session

Sonoran Rooftop Terrace

11:15 a.m.–12:15 p.m.

Regular Session I

Gameful STEM Learning: A University Community Partnership

- **Presenters: Corey Knox and Dante Laurretta**, University of Arizona, Planetary Sciences and **Karin Marborough**, Boys and Girls Clubs of Tucson Canyon Room

Personability, Scalability, and Modularity: A Research Center's Strategy to Leverage Resources for Maximum Exposure to STEAM

- **Presenters: Christopher Parsons**, NSF/NASA Center for Chemical Evolution Cholla Room

Broadening our Broader Impacts: Building Infrastructure for Creative Outreach through Informal Science Institutions

- **Presenters:** **Kalie Sacco**, *Lawrence Hall of Science, University of California Berkeley*; **James Bell**, *Center for Advancement of Informal Science Education*; and **Kari Roberts**, *National High Magnetic Field Laboratory*..... *Ocotillo Room*

Demystifying Assessment and Evaluation: Creating a Roadmap that Connects Project Goals to Project Activities and Outcomes

- **Presenters:** **Michelle Higgins and Sara Kobilka**, *University of Arizona STEM Learning Center* *Palm Room*

12:30–1:45 p.m.

Lunch and Keynote

Sonoran Ballroom

Now, These Are My People! Community Engagement Professionals and the Work of Broader Impacts

- **Dr. Lina Distilio**, *Associate Vice Chancellor for Community Engagement, University of Pittsburgh*

2:00–3:00 p.m.

Regular Session II

“You Never Know What’s Out There Unless You Have the Courage to Explore” Summer Research Bridge Program for All

- **Presenters:** **Emily Vercoe and Lisa Abeyta**, *Wyoming NSF EPSCoR* *Canyon Room*

Greater than the Sum of Its Parts: Institutional Partnerships to Increase Broader Impacts Capacity

- **Presenters:** **Eve Klein and Dennis Schatz**, *Institute for Learning Innovation*; **Michelle Kortenaar**, *Sciencenter*; **Julie Risien**, *Oregon State University*; and **Ann McMahon**, *University of Washington-Bothell* *Cholla Room*

Achieving Broader Impacts at Two-year Hispanic Serving Institutions through Strategic STEM Planning and Faculty Professional Development

- **Presenters:** **Cynthia Pickering, Caroline VanIngen-Dunn, Anna Tanguma-Gallegos, and Anita Grierson**, *Arizona State University/Science Foundation Arizona Center for STEM* *Ocotillo Room*

STEM Extension: Strong Connections Aiding Students with Disabilities in STEM

- **Presenters:** **Timothy Gould and Jessica Kim-Schmid**, *Penn State, Eberly College of Science, Office of Science Outreach* *Palm Room*

4:00–5:00 p.m.

Travel Time to Biosphere 2

5:00–8:00 p.m.

Dinner, Activities, and Panel

Biosphere 2

Thursday, May 2nd

7:00–9:00 a.m.

Registration

Sonoran Ballroom Lobby

7:00–8:00 a.m.

Breakfast

Sonoran Ballroom

8:00–9:30 a.m.

Workshop Session II

Interactive Workshop: Strategic Curriculum Design to Empower Graduate Students and Leveraging University of Wyoming’s Models to Training Next-Generation Broader Impacts Practitioners

- **Presenters:** **Bethann Merkle**, *Wyoming Science Communication Initiative and Wyoming Migration Initiative, University of Wyoming* *Canyon Room*

Practice- and Research-Informed Strategies to Cultivate an Inclusive STEM Ecosystem

- **Presenters:** **Susan Meabh Kelly**, *science + education collaboratory*; **Connie Walker**, *National Optical Astronomy Observatory*; and **Janet Warburton**, *Arctic Research Consortium of the United States Cholla Room*
-

Linking and Leveraging: An Agile Approach to Building Connectedness and Achieving Impact

- **Presenters:** **Rena Cotsones**, *PhD, Northern Illinois University* and **Jim Woodell**, *PhD, Consultant US Ocotillo Room*
-

Assessing and Building Institutional Capacity for Public Engagement and Broader Impacts

- **Presenters:** **Emily Therese Cloyd**, *American Association for the Advancement of Science Palm Room*
-

9:45–10:45 a.m.

Keynote

Sonoran Ballroom

- **Dr. Suzi Iacono**, *Head of Office of Integrative Activities (OIA), National Science Foundation*
-

11:00 a.m.–12:00 noon

Regular Session III

4-H LIFE: Incorporating STEM Education in a Materials Restricted Setting for Children of Incarcerated Parents

- **Presenters:** **Lynna Lawson**, *University of Missouri 4-H Center for Youth Development..... Canyon Room*
-

Nurturing Nature: Connecting STEM Research, Education and Social Justice to Broaden Participation in STEM

- **Presenters:** **Lenora Crabtree** and **Adam Reitzel**, *University of North Carolina Charlotte..... Cholla Room*
-

Unveiling Impact Identities: From Concept to Engagement of Researchers and Universities

- **Presenters:** **Julie Risien**, *Oregon State University Center for Research on Lifelong STEM Learning*; **Kevin Niemi**, *University of Wisconsin*; **Ann McMahon**, *University of Washington-Bothell*; and **Travis Tangen**, *Wisconsin Institutes of Discovery..... Ocotillo Room*
-

STEM Challenges as Broader Impacts Programs

- **Presenters:** **Matt Johnson**, **Kathleen Hill**, **Amber Cesare**, and **Gabe Knowles**, *Penn State University Palm Room*
-

12:00 noon–2:00 p.m.

Lunch and Topic Tables

Sonoran Ballroom

2:00–3:00 p.m.

Regular Session IV

Building Inclusive Environments: Three Key Practices and One Lesson Learned from an Upward Bound Watershed Science Summer Course for Underserved Youth

- **Presenters:** **Sara Olsen** and **Natasha Wingerter**, *University of Idaho* and **Kirsten LaPaglia**, *STEM Access Upward Bound, University of Idaho Canyon Room*
-

Connecting New BI Professionals with Best Practices and Each Other

- **Presenters:** **Maiken Bruhis**, *Stanford University..... Cholla Room*
-

Connecting Across Campus, STEM and Educational Research Partnerships

- **Presenters:** **Diane Rover**, **Erin Doran**, and **Megan Heitmann**, *Iowa State University..... Ocotillo Room*
-

GETBIO: The Gateway for Education, Training, Broader Impacts and Outreach

- **Presenters:** **Michael D. Gonzales**, **Carol Lushbough**, **Etienne Gnimpieba**, and **Bill J. Conn**, *University of South Dakota*; and **Ann Stapleton**, *University of North Carolina Wilmington..... Palm Room*
-

5:00 p.m.

Closing Dinner and Awards Ceremony

Sonoran Ballroom

7:00 p.m.

Trivia Night

- **Sponsored by March for Science Southern Arizona**



SUMMIT THEMES

SUMMIT STRANDS

The 2019 Summit theme was “Exploring Broader Impacts Through Connectedness.” The Summit Planning Committee developed strands for presenters to choose from, with the intention of providing well-rounded content for all NABI members. Strands included five broad categories through which connectedness and broader impacts were explored:

1. **Connecting Education Research and BI to Project and Program Goals.**

Example topics included programs that connect theory to practice, utilize best practices, and support knowledge transfer; connecting to audiences through outreach (traditional, one-way relationships) and engagement (two-way relationships); and connecting with educational research in BI.

2. **Connections that Provide Inclusive and Equitable Access to STEM.**

Example topics included connections to STEM within rural or urban environments, on-ramping into STEM pathways and connections between STEM pathways, and digital access; connections to role models, mentors, and careers; connections that build inclusive environments and a sense of belonging; connections to informal education settings; and connections that broaden participation for underrepresented populations in STEM, including first-generation students, students from low-income backgrounds, learners with disabilities, and LGBTQ+ learners.





3. **Connectedness Through Intentional, Strategic Design**

Examples of topics included connections through deliberate communication plans; internal and external institutional/organizational/educational collaborations; programs and projects that incorporate “systems thinking;” program scaling, building capacity, and supporting sustainability; mapping STEM pathways, pipelines, and ecosystems; and connections between BI professionals and project PIs.

4. **Connecting Assessment and Evaluation to Partners, Projects, and Program Goals**

Examples of topics included processes that connect to best practices in assessment and evaluation, connections to partners whose scholarship complements the assessment and evaluation plan, and using assessment and evaluation to produce evidence of BI project impact.

5. **Other**

This category included other creative ideas which might not necessarily fit within any of the four core strands but are relevant to BI practitioners.

POSTER SESSION

The poster session allowed for participants to share program successes and tell their own BI stories. Most people who attended found the session useful in some degree. This also allowed for additional time to network among peers.

THURSDAY LUNCH: TOPIC TABLES

On Thursday, Summit attendees were given the opportunity to self-select their interest areas or networking opportunities through a “Topics Table” themed lunch. During Summit registration, attendees were invited to list any topics they would like to discuss with like-minded attendees. A parking lot was also provided during the first two days of the Summit to allow for just-in-time topics. Examples of topics included: Summit 2020, Broadening Participation, Starting a BI Office, ARIS regional chapters, and the ARIS steering committee hosted tables focused on the transition from NABI to ARIS and ARIS training initiative feedback.

ARIS AWARDS CEREMONY

On Friday evening, the Summit was capped off with an awards ceremony honoring the 2019 ARIS Broader Impacts Champions: Neal Lane, Shirley Malcom, Dahlia Sokolov, Wanda E. Ward, and special awardees Suzi Iacono and Karen Cone.



EVALUATION

DEMOGRAPHICS

73 individuals responded to the optional demographic information.

- **83.6%** identified as female;
- **8.6%** identified as Hispanic/Latino;
- **2.9%** identified as Asian;
- **89.9%** identified as White;
- **2.9%** identified as Black or African American
- **2.9%** identified as American Indian or Alaskan Native

EVALUATION THEMES

After the summit, participants were invited by email to complete an online evaluation. Eight-five participants completed the online evaluation (47% response rate). Survey respondents reported they attended the summit to learn about BI at other institutions and BI best practices (with many participants mentioning they plan to bring ideas and information back to their own institutions) and to network with other BI professionals.

Key findings (presented in Figures 1 and 2) include:

- 95% of respondents reported the content of the summit was useful for the work they do in BI.
- 95% of respondents agreed or strongly agreed the summit enhanced their professional development, and 91% agreed or strongly agreed the content will enhance their own (or their institution's) capacity to engage in high-quality BI activities or BI research
- Respondents reported network growth and strengthening of network connections: 86% reported the summit increased the size of their professional network, and 79% reported the summit strengthened connections with those already in their network
- 82% of respondents would likely attend another Summit in the future.
- 79% have been working on BI for more than 3 years with 18% indicating that they have been working on BI for 10 years or more.

Figure 1. General Summit Feedback

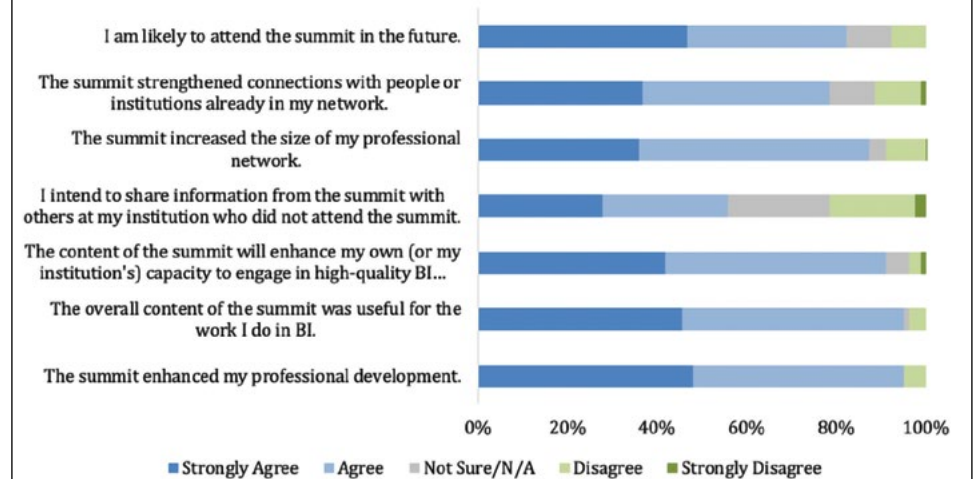
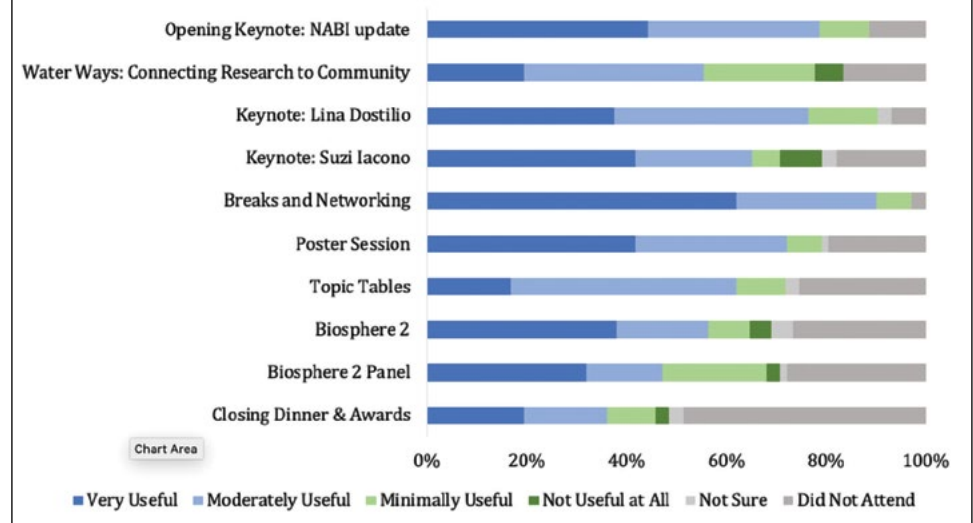


Figure 2. Special Sessions Usefulness



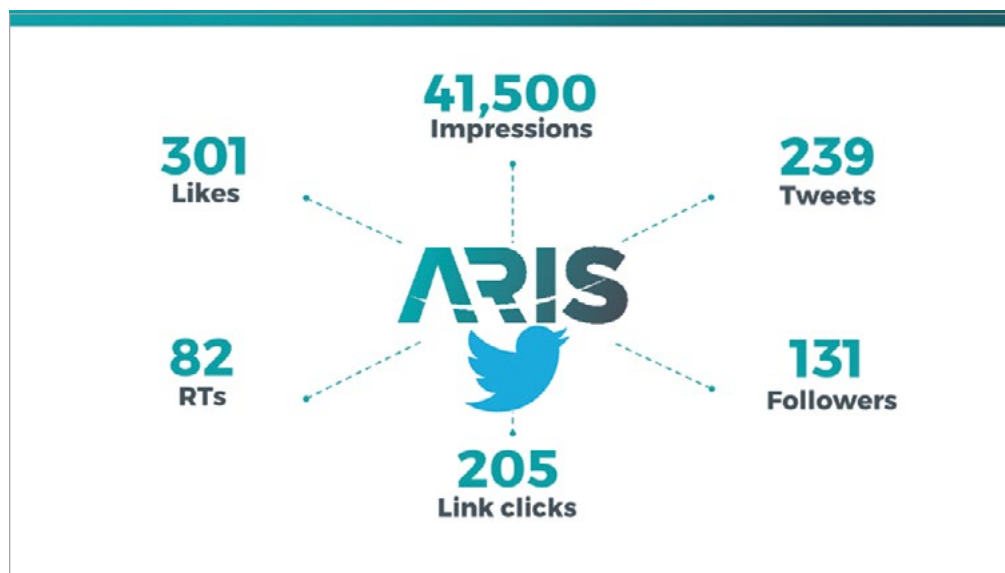
Evidence of the importance of community-building and networking, 90% of participants listed the breaks and networking as very or moderately useful. The majority of participants also reported the following special sessions were very or moderately useful: the NABI update presented in the opening keynote (79%), the keynote by Dr. Lina Dostillio (76%) and the poster session (73%). When asked which sessions were most meaningful to them, participants mentioned Broader Impacts 101, Lightning Talks, Biosphere, Social Justice to Broaden Participation, and STEM Ambassadors. Attendees also appreciated the talks from Dr. Suzi Iacono and Dr. Julie Risien and discussions around Impact Identities. Several participants mentioned appreciating concrete examples and take-aways, emphasizing the value of practical information and resources. Nearly 50% of respondents said that they did not attend the last session of the Summit, the Closing Dinner and Awards.

In open comments, several participants expressed their satisfaction with the conference and the ability to learn from and meet others in the field. Recommendations included more information networking opportunities and breaks, improved food options, modifications to the format of the Lightning Talks, and separate tracks for experienced professionals and those who are new to BI.

SOCIAL MEDIA PRESENCE

A key component to the Summit 2019 social media presence was the professional video hired to provide content during and after the event. While on-site, they captured more than 31 hours of coverage, from keynotes to panels to individual interviews. We posted full keynotes and panels as well as created compilations of the Summit. These videos have been instrumental to telling our stories to get new members/attendees and educate a wider audience about broader impacts.

In just 50 days from when we launched our social media account to June 18, here are our highlights on YouTube and Twitter.



FUTURE DIRECTIONS

The next Broader Impacts Summit will be hosted by the Duke University and will take place in Durham, NC, April 28-30, 2020.



2019 SUMMIT PLANNING COMMITTEE

Kevin Niemi

University of Wisconsin, Madison

Megan Heitmann

Iowa State University

Michelle Higgins

University of Arizona, 2019 Co-Chair

Sara Kobilka

University of Arizona, 2019 Co-Chair

Sara Chavarria

University of Arizona, 2019 Co-Chair

Kimberly Sierra-Cajas

University of Arizona

Joelle Clark

Northern Arizona University

Sunanda Vittal

Arizona State University

Tirupalavanam Ganesh

Arizona State University

Stacy Esposito

Arizona State University

Tara Morley

Arizona State University

Kevin Bonine

University of Arizona

Jessica Kim-Schmid

Penn State University

Michael Gonzales

University of New Mexico

Michael Thompson

Independent Contractor

Stacey Forsyth

University of Colorado Boulder

Suzi Taylor

Montana State University

Diana Elder

Northern Arizona University

Jen Fields

University of Arizona

Matt Johnson

Penn State University



ATTENDEE INSTITUTIONS

*denotes EPSCoR state

American Association for the
Advancement of Science

APLU

Arabidopsis Biological
Resource Center, OSU

Arizona State University

Association of American Universities

Association of Science-
Technology Centers

Bermuda Institute of Ocean Sciences

University of Wyoming*

Boys & Girls Clubs of Tucson

Brown University*

California State
University, Monterey Bay

Caltech

Carleton University

Case Western Reserve University

Center for Advancement of Informal
Science Education (CAISE)

Center for Chemical Evolution

Center for Science Teaching
and Learning, Northern
Arizona University

Center for Sustainable Polymers

Collaborative for Insight and Impact

Columbia Engineering

Cornell University

CSUMB Undergraduate Research
Opportunities Center

CU Science Discovery

Dartmouth College

Duke University

Georgia Southern University

Ghent University

HHMI

Hubbard Brook Research Foundation

Hurricane Island Center for
Science and Leadership

Indiana University - NSSE

Indiana University Bloomington

Institute for Learning Innovation

Iowa State University

Knowledge Translation Australia

Lawrence Hall of Science

MG Consulting

Miami University

Michigan State University

National High Magnetic
Field Laboratory

National Optical
Astronomy Observatory

National Science Foundation

Nevada System of Higher
Education - EPSCoR

North Dakota State University*

Northern Arizona University

Northern Illinois University

Northwestern University

Oregon State University

Pacific Science Center

Penn State University

Princeton University

Purdue University

Rice University

Rutgers University

science + education collaboratory

Science Friday Initiative

Science Storytellers

Sciencenter

Society for Science & the Public

Stanford University

STEM CORE - University of Oregon

Texas A & M
University-Corpus Christi

The Kavli Foundation

The Ohio State University

The University of Texas at Austin,
Women in Engineering Program

Tuscon Unified School District

Twin Cities Public Television, Inc.

UC Berkeley

UNC Charlotte Cato
College of Education

Univ. of Tennessee at Chattanooga

University of Arizona

University of Arizona Museum of Art

University of Colorado Boulder

University of Guelph

University of Idaho*

University of Illinois

University of Illinois At
Urbana-Champaign

University of Kentucky*

University of Massachusetts, Lowell

University of Michigan / Alliance for
the Arts in Research Universities

University of Missouri

University of Nebraska – Lincoln*

University of Pennsylvania

University of Rhode Island*

University of South Florida

University of Southern California

University of Utah

University of Wisconsin Madison

University of Wyoming*

UNM HSC Office for Diversity, Equity
& Inclusion/STEM-H Center

UT Marine Science Institute

UW Bothell

Vertigo Ventures

Virginia Commonwealth University

Virginia Institute of Marine Science

Virginia Tech

WARF @Discovery

Wichita State University*

Wyoming EPSCoR*

Yale Science Diplomats

York University



National Alliance for Broader Impacts

Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation. This work is supported by the National Science Foundation under grant MCB-1408736.

© Copyright 2019

National Alliance for Broader Impacts • All Rights Reserved.