

NIH علمنا 24



Conference Code of Conduct

Each person's attendance and contributions are valued for this conference. Together, we strive to have a positive and productive experience for everyone through an open exchange of ideas in a professional setting. Attitudes and behaviors that support this goal include:

- Be fully present when others are speaking, listening thoughtfully
- Be respectful of differing points of view
- Be mindful of how frequently you contribute to the discussion, allowing time for others to share
- Be concise, constructive, and meaningful when you speak
- Examine your assumptions and perceptions
- Be curious
- Laugh and enjoy each other

The Conference Organizing Committee will not tolerate behaviors that create an uncomfortable or unsafe space for anyone. Unacceptable behavior will result in a request to leave the conference. These behaviors include, but are not limited to:

- Harmful or prejudicial verbal or written comments or visual images
- Harassment, intimidation, or discrimination in any form
- Disruption of presentations during sessions

Anyone who experiences these, or other unacceptable behaviors is asked to report them to Louisa Stark or Kristin Bass, SciEd 2024 Conference Co-Chairs, either in-person or via email at louisa.stark@utah.edu or kristin@rockman.com. Unacceptable behaviors may also be reported to any member of the Conference Organizing Committee (see next page).

Conference Organizing Committee

Conference Co-Chairs

- Louisa A. Stark, PhD, Professor of Human Genetics, and Director, Genetic Science Learning Center, University of Utah Health
- Kristin M. Bass, PhD, Director of Research Development, Rockman et al Cooperative, Inc.

Strand Leaders

Broadening Participation Strand

- Luke H. Bradley, PhD, Professor of Neuroscience, University of Kentucky College of Medicine
- Michael Kennedy, PhD, Research Professor of Neurobiology, and Director, Science in Society, Northwestern University
- Megan A. Mekinda, PhD, Director for Education, Training, and Evaluation, University of Chicago Medicine Comprehensive Cancer Center

Curriculum Development Strand

- Sunita Chaudhary, PhD, Associate Professor of Surgical Oncology, Rutgers Robert Wood Johnson Medical School, and Director, Research Education, Rutgers University Cancer Institute
- William R. Folk, PhD, Professor of Biochemistry, University of Missouri
- Sarah Wojiski, PhD, Director of Education, The Jackson Laboratory

Informal Science Education Strand

- Molly L. Kelton, PhD, Associate Professor of Mathematics Education, Washington State University
- Carla Romney, DSc, MBA, Director of Research, CityLab, Boston University
- Nathan L. Vanderford, PhD, MBA, Associate Professor of Toxicology and Cancer Biology, University of Kentucky College of Medicine

Interactive Multimedia for STEM Learning Strand

- Amir Attia, PhD, Associate Professor of Graphic Design, The School of Computing and Design, California State University, Monterey Bay
- Georgia W. Hodges, PhD, Associate Research Scientist, Mary Frances Early College of Education, University of Georgia
- Brinley Kantorski, EdD, Director of Education and Multimedia Development, The Partnership in Education, Duquesne University

Project Administration Strand

- Jocelyn Dixon, MS, MPH, RDN, LDN, Assistant Director, Food-based Early Education (FEEd) Lab, North Carolina State University
- Anna Marsden, MBA, Senior Manager, Programs to Enhance Diversity, Huntsman Cancer Institute, University of Utah
- Katherine Nielsen, MA, MS, Director, Science and Health Education Partnership, University of California, San Francisco

Research and Evaluation Strand

- Alison Allen, MEd, Senior Research Associate and Research Manager, Rockman et al Cooperative, Inc.
- Adaeze Egwuatu, PhD, NASEM NRC Research Fellow, Walter Reed Army Institute of Research
- Alana D. Newell, PhD, Assistant Professor of Education, Innovation and Technology, and Center for Educational Outreach, Baylor College of Medicine

Research Experiences for Students and Teachers Strand

- M. Eileen Dolan, PhD, Professor of Medicine, and Deputy Director, University of Chicago Medicine Comprehensive Cancer Center
- Alyson Michael, MS, Senior Scientist, New Hampshire Academy of Science

Science Teaching and Learning Strand

- Jeanne Chowning, PhD, Associate Vice President, Science Education, Fred Hutchinson Cancer Center
- Debra L. Yourick, PhD, Director, Science Education and Fellowship Programs, Walter Reed Army Institute of Research

Teacher Professional Development Strand

- Maurice Godfrey, PhD, Professor, Munroe-Meyer Institute, University of Nebraska Medical Center
- Pamela A. Koch, EdD, Mary Swartz Rose Associate Professor of Nutrition and Education, Teachers College Columbia University
- Virginia C. Stage, PhD, RDN, Associate Professor of Nutrition Science, North Carolina State University

Ex Officio Members: NIH Program Officers

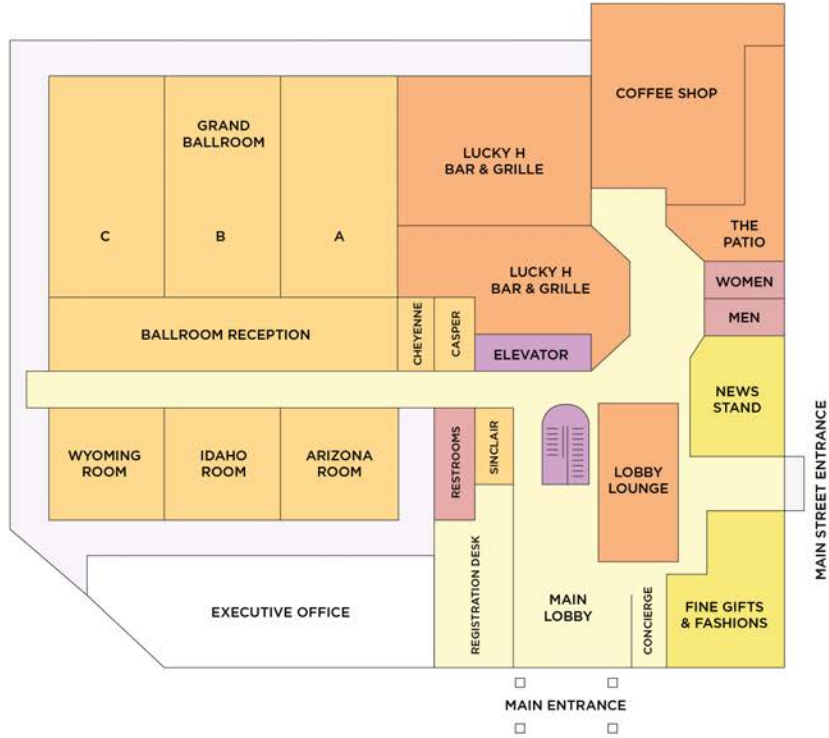
- Tony Beck, PhD, Program Director, Science Education Partnership Award (SEPA), Interactive Digital Media STEM SBIR/STTR, Division for Research Capacity Building, NIH National Institute of General Medical Sciences
- Sangeeta Ghosh, PhD, Program Director, NCI Youth Enjoy Science R25 Program, Diversity Training Branch, Center to Reduce Cancer Health Disparities, National Cancer Institute (NCI), NIH

Conference Support

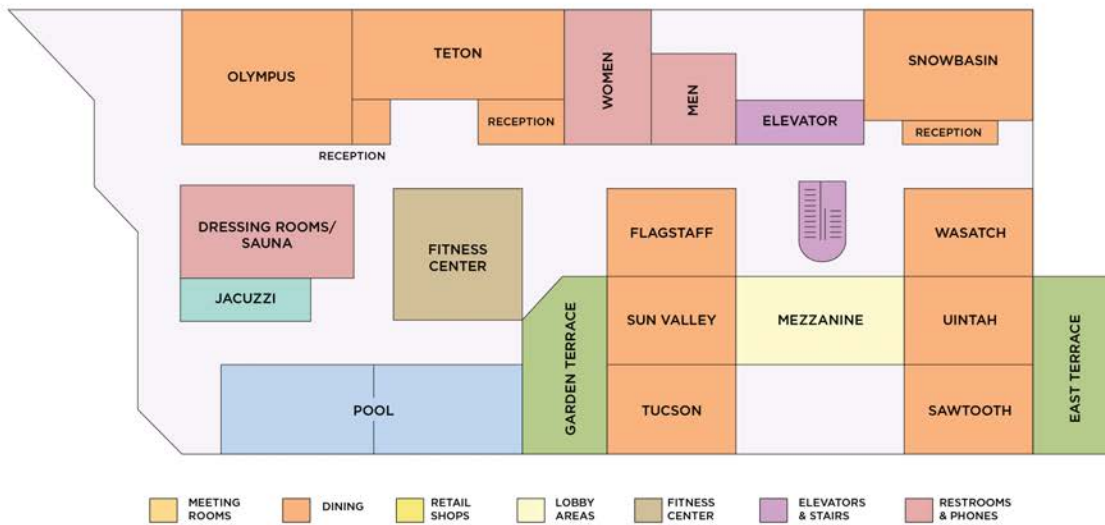
Partial funding for this conference was provided by grant number 5R13GM143826 from the National Institute of General Medical Sciences, the National Institutes of Health. The views expressed in written conference materials or publications and by speakers and moderators do not necessarily reflect the official policies of the Department of Health and Human Services; nor does mention of trade names, commercial practices, or organizations imply endorsement by the U.S. Government.

Little America Hotel Maps

MAIN FLOOR



SECOND FLOOR



- MEETING ROOMS
- DINING
- RETAIL SHOPS
- LOBBY AREAS
- FITNESS CENTER
- ELEVATORS & STAIRS
- RESTROOMS & PHONES

SciEd 2024: Annual Conference for NIH Science Education Projects

NIH Science Education Partnership Award
NIH/NCI Youth Enjoy Science R25
Interactive Digital Media STEM SBIR/STTR

Little America Hotel
500 S. Main Street, Salt Lake City, UT
May 28 – 31, 2024

Twitter: #SCIED2024

Live Stream for sessions in the plenary room: SEPA YouTube channel:

<https://nihsepa.org/videos/scied-2024-live-stream/>

Viewers will be able to ask questions in the Q&A. You

Health Matters:

- Masks and Covid-19 test kits are available on request at the conference registration desk

Pre-Conference Zoom Sessions

Two pre-conference sessions will provide an introduction to the conference. The sessions will review the conference strands, types of sessions, conference schedule, and FAQs. After Q&A, attendees will be divided into breakout rooms, each hosted by an Organizing Committee member, to meet other attendees. The sessions are particularly intended for first-time conference attendees, but everyone is welcome to participate.

In order to accommodate all time zones, the pre-conference sessions will be held:

- Monday, May 13: 3-4 EDT & AST / 2-3 CDT / 1-2 MDT / 12-1 PDT / 11-12 AKDT / 9-10 HST
- Thursday, May 16: 4-5 EDT & AST / 3-4 CDT / 2-3 MDT / 1-2 PDT / 12-1 AKDT / 10-11 HST

Calendar invites with Zoom links will be sent to all those who have registered for the conference.

Tuesday, May 28: Pre-conference Opportunities

VENOMventure / aVENENOtura is a bilingual English/Spanish, escape-style, immersive game that introduces players to basic concepts about evolutionary trees and their medical relevance. Can your SciEd team solve the science puzzles to save the world? Reserve one of the limited time slots to play the game and find out!

Developed and hosted by the SEPA-funded project: *STEM Escape: Immersing Urban and Rural Families in a Biomedical Mystery*, University of California Museum of Paleontology, Berkeley

- Teams of 2-5 players; takes 20-40 minutes for the full experience
- Sign up here: www.bookeo.com/venomventure
- Available:
 - Tuesday, May 28, 4:00-8:00pm
 - Wednesday, May 29, 11:15am-noon and 2:45-3:30pm
 - Thursday, May 30, 11:15am-noon and 6:15-8:15pm
 - Friday, May 31, 8:15-11:15am



Tour of Huntsman Cancer Institute and the PathMaker Programs for Cancer Research

Attendees will tour the Huntsman Cancer Institute (HCI) research and hospital buildings and learn about the mission and vision of HCI. Attendees will also learn more about their NCI YES R25-funded program, plus meet participants, faculty mentors, and observe the 2-day lab training provided to student participants (this will be their first day).

- Date/Time: Tuesday, May 28, 3:00-5:00pm
- Tour length: ~1 hour plus 30 minutes transit each way
- Number of participants: Up to 20
- Cost: \$5 for an all-day public transit pass
- Register [here](#) to participate

On-your-own options in the downtown Salt Lake City area

- [Clark Planetarium](#)
 - Open: Su-Th 10-7; F-Sa 10a-10:45p
 - Free exhibits; IMAX and planetarium shows several times/day
- [Discovery Gateway Children's Museum](#)
 - Open: M, W-Su 10-6
- [Tracey Aviary](#)
 - Open: Daily 9-5
- [Family Search Library](#)
 - Open: M 9-6; Tu-Th 9-8; F-Sa 9-6
 - Tours – 90 minutes
- [Organ recitals in the Tabernacle](#)
 - M-Sa 12-1
- [Temple Square Tours](#)
- [Tabernacle Choir](#) rehearsal
 - Th, 7:30pm

Tuesday, May 28

5:00-7:00 **Conference Check-in & Networking Session**
Garden Terrace

VENOMventure STEM escape room available 4:00-8:00

Wednesday, May 29

All sessions meet in the Grand Ballroom, unless otherwise noted.

Session titles marked with an * will be live streamed on the SEPA YouTube channel

Breakout Session interactivity levels are defined at the end of the daily schedule

6:30-8:00am **Breakfast**

Meeting for New SEPA PIs

Tony Beck, PhD, Program Director, Science Education Partnership Award (SEPA), Division for Research Capacity Building, National Institute of General Medical Sciences (NIGMS), NIH

Room: Wyoming

7:00-8:00 Conference Check-in
Conference Registration Desk

8:00-8:20 *** Welcome and Conference Overview**

Louisa A. Stark, PhD, Professor of Human Genetics, and Director, Genetic Science Learning Center, University of Utah – conference co-chair

Kristin Bass, PhD, Director of Research Development, Rockman et al Cooperative, Inc – conference co-chair

Neli Ulrich, PhD, Executive Director, Comprehensive Cancer Center, Huntsman Cancer Institute, University of Utah Health

8:20-8:50 **Networking Activity:** Begin making connections!

8:50-10:00 *** Keynote Address: Opening Doors: Increasing Access and Success in K-12 STEM**

Kristen Hengtgen, PhD, Senior Analyst P-12 Policy, The Education Trust



10:00-10:15 Break

10:15-11:30 – **Concurrent Breakout Sessions 1**

Short Talks: Informal Science Education, and Research Experiences for Students & Teachers Strands

Interactivity Level = Low

Room: Arizona

STEM+M CONNECT: A Multi-Tiered Mentoring Program that Combines the Residential Experiences of Tufts Mini-Med School

Elizabeth Gene-Bacon, Revati Masilamani, Berri Jacque

Research Experiences for Students & Teachers; Broadening Participation

Research Experience for High School Students: Using a Cohort Model to Scaffold Scientific Content, Skills, and Confidence

Cathleen Drilling, Rosalind Palma Martins
Research Experiences for Students & Teachers; Broadening Participation

The Appalachian Career Training in Oncology (ACTION) Program: Students' Perspective on Experiences and Outcomes (30 minutes)

Nathan L. Vanderford, Holly Burke, and **undergraduate student participants**: Nolan Marcum, Olivia Thornsby, Matthew Sanders
Informal Science Education; Research Experiences for Students & Teachers

Writing Text for Informal Science Learning

Victoria Coats
Informal Science Education

Motivating Extended Engagement and STEM Learning in a Free-Choice Environment: Immersive Games Offer Playful Challenge

Teresa MacDonald, Anastasia Thanukos, Lisa White
Interactivity Level = High
Informal Science Education; Science Teaching & Learning
Room: Olympus

Aligning Multimedia to NGSS

Brinley Kantorski, Georgia Hodges, Kelly Bruzdewicz, Kristin Fenker
Interactivity Level = High
Instructional Multimedia; Curriculum Development
Room: Idaho

*** Meet the Trans-NIH SEPA Program Officers**

Katherine Neilsen, facilitator
Tony Beck, PhD, National Institute of General Medical Sciences (NIGMS)
Neeraj Agarwal, National Eye Institute (NEI)
Anissa F Brown, PhD, National Institute of Dental & Craniofacial Research (NIDCR)
Maria Carranza, PhD, National Institute on Aging (NIA)
Dorothy (Dottie) M. Castille, PhD, National Institute on Minority Health and Health Disparities (NIMHD)
(Jay) James Churchill, PhD, National Institute of Mental Health (NIMH)
Bryan Kim, Office of Data Science Strategy (ODSS)
Kathy Mann Koepke, PhD, Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
Marguerite Matthews, PhD, National Institute of Neurological Disorders and Stroke (NINDS)
Interactivity Level = Low
Program Administration
Room: Grand Ballroom

Short Talks: Research & Evaluation Strand

Interactivity Level = Low

Room: Wyoming

Causal Analysis of the Impact of the Hillman Academy on Student Postsecondary Outcomes

Alberto Guzman-Alvarez, Danielle Lowry, David N. Boone
Research & Evaluation; Research Experiences for Students & Teachers

Impact of Career Videos on Career Aspirations, Possible Selves, and Interest in Science of High School Students

Harini Kirshnan, Rebecca J. Peterson, Rochelle Cassells, Arthur Veneema, Louisa A. Stark
Research & Evaluation; Research Experiences for Students & Teachers

The Impact of the Metagenomics Education Partnership Project on Students: Self-Efficacy, Science-Identity, and Sense of Belonging

Sunha Kim, Weiyi Ding, Steve Koury, Sandra Small
Research & Evaluation; Broadening Participation

Utilizing Small Group Cognitive Labs for Effective Assessment Item Validation

Rebecca J. Peterson, Harini Krishnan, Dina Drits-Esser, Louisa A. Stark
Research & Evaluation

Exploring Issues of Power, Agency, and Justice in K-12 Science Classrooms Through 3 Cases of NGSS Curriculum Design and Enactment

Barbara Hug, Kristen Bergsman, Jeanne Chowning, Regina Wu, Irene S. Bayer, Consuelo Morales, Mon-Lin Monica Ko
Interactivity Level = High
Science Teaching & Learning; Curriculum Development

Room: Teton

11:30-12:45 **Lunch**

PBS Student Reporting Labs Working Group meeting

This is an opportunity for participants in the PBS NewsHour's STEM StoryMaker project and those interested in learning about it to meet and share their work.

Room: Wyoming

Evaluator's Lunch Conversation

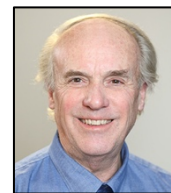
This is an opportunity for internal and external evaluators to get to know each other and share their work.

Room: Arizona

12:45-1:15 *** NIH Updates**

Update on the NIH Science Education Partnership Award (SEPA) Program

Tony Beck, PhD, Program Director, Science Education Partnership Award (SEPA), Division for Research Capacity Building, National Institute of General Medical Sciences (NIGMS), NIH



Update on the NCI Youth Enjoy Science Research Education Program

Sangeeta Ghosh, PhD, Program Director, Diversity Training Branch, Center to Reduce Cancer Health Disparities, National Cancer Institute (NCI), NIH [virtual]



1:15-1:30 Break

1:30-2:15 Poster Roundtables Session 1

See Poster Roundtable sessions and rooms at end of schedule

2:15-2:30 Break

2:30-3:45 Concurrent Breakout Sessions 2

Engaging Families in STEM Education Programs

Holly Burke, Michelle Johnson, Megan Mekinda, Regina Idoate, Aislinn Rookwood

Interactivity Level = High

Broadening Participation; Informal Science Education

Room: Wyoming

Incorporating Cutting-Edge Research into Curriculum and Instruction: Opportunities and Challenges

Dana Brown Haine, Lynn C. Chesnut, Kathleen M. Gray

Interactivity Level = High

Curriculum Development; Teacher Professional Development

Room: Olympus

*** Video Showcase**

Interactive Multimedia Strand

See list of titles and presenters at end of schedule

Interactivity Level = Low

Room: Grand Ballroom

Short Talks: Research & Evaluation Strand

Interactivity Level = Low

Room: Arizona

Diversity with Dignity: Re-examining Approaches of Diversity Initiatives

Paul Cotter, Ellen Chenoweth, Arleigh Reynolds

Research & Evaluation; Broadening Participation

The Impact of Hands-on Research Experience to URM Trainees

Valoree Solis
Research & Evaluation; Research Experiences for Students & Teachers

*Supporting the Personal and Academic Wellbeing of Our Student Volunteers
by Building Intra- and Inter-personal Assets*

Lindley McDavid, Sandra San Miguel, Loran Carleton Parker, Ann
Bessenbacher
Research & Evaluation

*High School Students' Scientific Identity Improves After Participating in a
One-Week SEPA STEM Summer Immersion Program*

Michelle Borrero, Edjean Calderón
Research & Evaluation

**Engaging Teachers and Students with Big Data Through the NIH *All of Us*
Research Hub**

Mathew Blank, Molly Malone, Alexa Wnorowski

Interactivity Level = Moderate

Research Experiences for Students and Teachers; Science Teaching & Learning

Room: Teton

Bridge Builders: Fostering Teamwork and a Sense of Belonging in STEM

Rachel Harris, Ren Rountree

Interactivity Level = High

Science Teaching and Learning; Curriculum Development


Room: Idaho

3:45-4:00 Break

4:00-4:45 **Poster Roundtables Session 2**
See Poster Roundtable sessions and rooms at end of schedule

5:00-9:00 **Exploring intersections between informal and formal science education**
[Natural History Museum of Utah](#)
Shuttles to the Museum at 5:00, 5:30, 6:00, 6:30, 7:00, 7:30
Dinner and time to explore *A Climate of Hope* and *Native Voices* exhibits
Shuttles back to Little America Hotel at ~5:15, 5:45, 6:15, 6:45, 7:15, 7:45, 8:15,
8:45
(Shuttle trips are 15 minutes each way)

Thursday, May 30

- 6:30-8:00 **Breakfast**
- 8:00-8:30 **Introduction to Day 2 & Networking Activity**
- 8:30-9:30 * **Keynote Address: *AI Goes to School: The Future of Learning Technologies in the Age of AI***
[James Lester, PhD](#), Goodnight Distinguished University Professor in Artificial Intelligence and Machine Learning; Director of the [National Science Foundation AI Institute for Engaged Learning](#); and Director of the [Center for Educational Informatics](#), North Carolina State University; *Dr. Lester is a former SEPA PI*
- 
- 9:30-9:45 Break
- 9:45-10:00 * **Short Talk: Integrating AI into a Data Science Focused, Informal Science Education Curriculum**
Theresa W. Gillespie, PhD, MA, BSN, FAAN, and Adam Marcus, PhD, Winship Cancer Institute, Emory University
- 10:00-10:45 **AI Data Activity and Table Discussions**
- 10:45-11:00 Break
- 11:00-11:45 **Poster Roundtables Session 3**
See Poster Roundtable sessions and rooms at end of schedule
- 11:45-1:00 **Lunch**
- Closed meeting for NCI Youth Enjoy Science R25 grantees**
Room: Wyoming
- 1:00-2:15 **Concurrent Breakout Sessions 3**
- Building Bridges: Engaging in Strategic Partnerships for Advancing Cancer Research and Education**
Emily McLaughlin
Interactivity Level = High
Broadening Participation
Room: Arizona
- Curriculum and Multimedia Showcase**
Curriculum Development; Interactive Multimedia
See list of titles and presenters at end of schedule
Room: Grand Ballroom

More Than Surveys: Strategies to Increase Student Engagement in Evaluation Through Participatory Methods

Rachel Scott, Sarah Mason, Marie Barnard, Tess Johnson, Sondra LoRe
Interactivity Level = High

Research & Evaluation Strand; Informal Science Education

Room: Idaho

Data Science Empowerment for SEPA Students: Engaging Students Through a Collaborative Portal of Big Data Applications Using Student Generated Experimental Results

Jake Luo, Mohammad Assadi Shalmani, Craig Berg, Michael Carvan, Renee Hesselbach, David Petering

Interactivity Level = High

Research Experiences for Students & Teachers; Science Teaching & Learning

Room: Olympus

Classroom-Based Communities of Practice to Promote Science Learning and Science Specific Disciplinary Literacy in Elementary School

Alana Newell, Misty Sailors, Jimmie Thomas, Molly Marek, Dolores Garay, Nancy Moreno

Interactivity Level = High

Science Teaching & Learning; Curriculum Development

Room: Wyoming

Independent High School Research: HRI Challenges Texas Schools to Try It Out

Gwen Stovall, Deanna Buckley, Bailey Williams

Interactivity Level = High

Teacher Professional Development; Curriculum Development

Room: Teton

2:15-2:30 Break

2:30-3:45 **Concurrent Breakout Sessions 4**

Persistence in STEM: Sharing Strategies and Resources

Katherine Nielsen, Jeanne Chowning, Dave Vannier

Interactivity Level = High

Broadening Participation; Research Experiences for Students & Teachers

Room: Snowbasin

Integrating Career Awareness and Exploration Into K-12 Classrooms

Erin E. Hardin, Melinda M. Gibbons

Interactivity Level = High

Curriculum Development

Room: Idaho

Game Design in the Classroom

Vanya Manthena, Jessica Henry, Yul A. Stites

Interactivity Level = High

Interactive Multimedia; Curriculum Development

Room: Wyoming

“What I’ve Learned Along the Way”: Reflections from SEPA/YES Program Leaders on Proposals to Publications and Everything in Between

Maurice Godfrey, Pamela Koch, Alana Newell, Nathan Vanderford; moderator: Jocelyn Dixon

Interactivity Level = Moderate

Project Administration

Room: Teton

*** Demographics in a Changing Landscape: Applied Contextual Considerations for Recruitment, Engagement, and Evaluation of Underrepresented Populations in STEM and Biomedical Research Training Programs**

Stephanie Paris, Shanthia Espinosa, Amanda Braley, David Boone, Kate Ayers, Alberto Guzman-Alvarez, Lisa Marriott

Interactivity Level = High

Research & Evaluation; Broadening Participation

Room: Grand Ballroom

Short Talks: Science Teaching & Learning, and Interactive Multimedia Strands

Interactivity Level = Low

Room: Arizona

EvolvingSTEM: A Three-Dimensional Evolution Curriculum that Uses Authentic Research to Improve Student Learning and Engagement

Abigail Matela, Vaughn Cooper

Science Teaching & Learning; Broadening Participation

SCI PALS: A Structured Approach to Incorporating Socioscientific Reasoning in Pre-Collage STEM

Don DeRosa, Carla Romney, Carl Franzblau, Stuart Beard

Science Teaching & Learning; Curriculum Development

Climate Change, Air Quality, and Human Health

Amir Attia, Asa Bradman, Brenda Eskenazi, Eros Gonzalez-Lopez, Enid Ryce, Juliana Schuster, Corin Slown, Kenneth Tran

Science Teaching & Learning; Curriculum Development

wēlamàlsēwakàn “good health”: Creating Health Education Materials in Native American Languages

Amy Lyons Ketchum

Interactive Multimedia; Broadening Participation

Translating Ideas into Instructional Materials
Mark Hoelzer, Heather Ryan
Interactive Multimedia

Short Talks: Teacher Professional Development, and Program Administration Strands

Interactivity Level = Low

Room: Olympus

Redefining Professional Development: A Teacher Perspective of the PHAGES SEPA Project

Sarah Urban, Jean Placko

Teacher Professional Development; Science Teaching & Learning

Broadening Participation of SEPA Programs Through Expanded Partnerships and Mentoring Relationships

Charlie Wray, Sarah Wojiski

Broadening Participation; Teacher Professional Development

Integrating Preservice Teachers into Instructional Time for HSTA-AL Students: A Valuable Learning Experience in STEM Education

Paige Johnson, Robin Bartlett, Michele Montgomery, Leahrose Mami, Jerodine Guyton

Teacher Professional Development; Project Administration

Broadening Participation in STEM + Health for Rural Spanish-English Bilingual Communities

Jafeth E. Sanchez, Ruben K. Dagda

Broadening Participation; Project Administration

Engineering a Regenerative Medicine & Biofabrication "Ecosystem" in New Hampshire

Carmela Amato-Wierda, Eleanor M. Jaffee, Alison Allen, Amy Booth

Science Teaching & Learning; Broadening Participation; Project Administration

3:45-4:00 Break

4:00-5:15 **Concurrent Breakout Sessions 5**

Partnering with Teachers of Middle School Science, Mathematics, English Language Arts and Special Education to Support Their Diverse Learners by Use of a STEM Multimodal Text Set Targeting NGSS Engineering Standards

William Folk, Delinda Van Garderen

Interactivity Level = High

Curriculum Development; Broadening Participation; Research & Evaluation; Science Teaching & Learning; Teacher Professional Development

Room: Arizona

Citizen DNA Barcode Network: Applying Hands-on DNA Barcoding Techniques with Citizen Scientists in Informal Settings

Jeffrey Petracca, Chris Fernandez-Marco, David Micklos

Interactivity Level = High

Informal Science Education; Science Teaching & Learning

Room: Idaho

Crafting Robust Curriculum Assessments: Using Backwards Design to Develop Instruments that Enhance the Publishability of Research and Evaluation Findings

Rebecca J. Peterson, Harini Krishnan, Molly Malone, Louisa A. Stark

Interactivity Level = High

Research & Evaluation; Curriculum Development

Room: Teton

*** Optimizing Teacher Immersive Research Experience**

M. Eileen Dolan, Megan Mekinda, Anna Marsden, Liz Morales, Hari Nakshatri, Jasmine McDonald, Mary Beth Terry, Marian LaForest, and **teacher panelists:**

Deb Smith, Mi Pohahau

Interactivity Level = Moderate

Research Experiences for Students & Teachers; Curriculum Development

Room: Grand Ballroom

Near-Peer Mentor Training Compilation: SciEd Community Collaboration

Debra Yourick, Kathleen Umayam, Adaeze Egwuatu, Holly Brown, Emily Kuehn

Interactivity Level = Moderate

Science Teaching & Learning Strand

Room: Olympus

Short Talks: Teacher Professional Development Strand

Interactivity Level = Low

Room: Wyoming

Observing Pill Bugs to Develop Phenomena-Based Professional Development for Preschool Teachers

Tammy Lee, Virginia C. Stage

Teacher Professional Development; Science Teaching & Learning

PEAS Learning Community: How Does It Work in Early Education Classrooms?

Archana V. Hegde, Virginia C. Stage, Jocelyn Dixon

Teacher Professional Development; Research & Evaluation

STEAM Teacher Professional Development in an Underserved Elementary School

Michael Daugherty, Marcia Shobe, Yvette Murphy-Erby, Leah Cheek

Teacher Professional Development; Curriculum Development

From Recruitment to Retention: Building Relationships, Community & Models

Karen Avery

Teacher Professional Development

Dinner on Your Own

Friday, May 31

- 6:30-8:00 Breakfast
- 7:00-7:45 **Town Hall Discussion**
Tony Beck, PhD, Program Director, Science Education Partnership Award (SEPA), Division for Research Capacity Building, National Institute of General Medical Sciences (NIGMS), NIH
- 8:15-11:15 **VENOMventure / aVENENotura** is a bilingual English/Spanish, educational, escape-style game designed to introduce players to basic concepts about evolutionary trees and relatedness in the context of a narrative-embedded immersive game.
Developed and hosted by the SEPA-funded project: STEM Escape: Immersing Urban and Rural Families in a Biomedical Mystery, University of California Museum of Paleontology, Berkeley
- Teams of 2-5 players; takes 20-40 minutes for the full experience
 - Sign up via their online registration system at www.bookeo.com/venomventure

Breakout Session Interactivity Level Definitions

High: The session will be highly interactive with multiple activities designed to engage participants, such as small group discussions and report-outs, interactive polls, brainstorming exercises, or hands-on activities. Participants are actively participating, contributing, and collaborating with each other. They may also be actively reflecting on their knowledge and experiences, or considering how they might be able to use what they are learning in their own work.

Moderate: The session will have some interactive elements, such as several open-ended questions or large group discussions. There may also be some brief or spontaneous opportunities for self-reflection.

Low: The session will have a few interactive elements, such as a Q&A session at the end, or show of hands poll. Attendees will mostly be listening to lecture style content.

Video Showcase

Wednesday, May 29 – 2:30-3:45pm
Room: Grand Ballroom

Title	Presenters
<ul style="list-style-type: none"> • Appalachia's Burden 	Nathan Vanderford, University of Kentucky
<ul style="list-style-type: none"> • N.O.V.E.L. Board Game Trailer • What is a Pathogen? 	John Pollock, Brinley Kantorski & Kelly Bruzdewicz, Duquesne University
<ul style="list-style-type: none"> • Outreach Design Education - Design Hackathon for Middle School Students 	Aaron Kyle & Happi Adams, Duke University
<ul style="list-style-type: none"> • Digital Storytelling with Indigenous Cancer Patients and Families in the Northern Plains Region 	Mariah Abney, Promising Hope Productions; Regina Idoate, Liliana Bronner & Maurice Godfrey, University of Nebraska Medical Center
<ul style="list-style-type: none"> • Data Symphony • Illuminating With Technology 	Kagan Breitenbach & Max Kelly, University of Utah
<ul style="list-style-type: none"> • The Atomic Circus Explores Macroscopic Water Contamination 	Amanda Obery, Central Washington University; Matt Queen, Montana State University Billings
<ul style="list-style-type: none"> • Science Career Inquiry - Exploring Native Cultural Experiences (SCI-ENCE): Mālama the Farmer 	Kau'ionālani Mead, Ho'ōla Music and Cultural Arts
<ul style="list-style-type: none"> • Agricultural Pesticide Mapping 	Amir Attia, California State University Monterey Bay (CSUMB); Asa Bradman, UC Merced; Brenda Eskenazi, Eros Gonzalez-Lopez, Enid Ryce, Juliana Schuster, Corin Slown & Kenneth Tran, CSUMB

Curriculum and Multimedia Showcase

Thursday, May 30 – 1:00-2:15pm

Room: Grand Ballroom

Table #	Title of Curricula or Multimedia	Grade Levels	Presenters
1	More PEAS Please! Teacher Guide: Teaching Preschool Teachers the Practices of Science	Pre-school	Virginia C. Stage & Jocelyn Dixon, NC State University; Archana V. Hegde & Tammy D. Lee, East Carolina University
2	Kindergarten Curriculum Collaborative Teacher Study	Kindergarten	Hailey Wolfe, St. Jude Children's Research Hospital
3	Using SuperPower Packs to Provide Virtual Role Models and Self-Guided STEM Activities	K-4	Lindley McDavid, Purdue University; Wesley Downing & Spencer Downing, Edgelea Elementary School
4	Membrane Jungle	3-5	Molly L. Kelton & Alison White, Washington State University; Patti Saraniero, Moxie Research
5	Research-Practice Design Partnerships in Rural Biomedical & STEM Education	5	Amanda Obery, Central Washington University; Matt Queen, Montana State University Billings
6	Amplifying Youth Voice Through Hands-on Activities Designed with and for Young Microbiologists	5-8	Christine Marizzi, Robert Frawley & Benjamin Dubin-Thaler, BioBus; Lindsay Barone, Lindsay Barone Research; Philip Meade, Frans Cuevas & Florian Krammer, Icahn School of Medicine at Mount Sinai
7	Multimodal STEM Text Sets to Help Learners with Differing Abilities and Disabilities Improve Understanding of Science, Math and Engineering, and Reading and Argumentation Skills	6-8 and above	William Folk & Delinda Van Garderen, University of Missouri, Columbia
8	Exploring Biodiversity through a Bioblitz	6-8, 9-12	Amir Attia, California State University Monterey Bay (CSUMB); Asa Bradman, UC Merced; Brenda Eskenazi, Eros Gonzalez-Lopez, Kariya Hunter, Enid Ryce, Juliana Schuster, Corin Slown & Kenneth Tran, CSUMB
9	Dangers of Vaping Quick Lab: Realistic Lab Skills Paired with a Relevant Personal Health Topic	6-12	Cathleen Drilling, Masonic Cancer Center, University of Minnesota
10	N.O.V.E.L.- Newly Observed Variant of Extreme Lethality, a board game	6-12	Brinley Kantorski, John A. Pollock & Kelly Bruzdewicz, Duquesne University

11	Winning Words for Success	6-12	Kim Soper, Ben Ehlers, Vector Crush, Liliana Bronner & Maurice Godfrey, University of Nebraska Medical Center
12	Mobile Lab Experiences and TRIPs (Teacher-Research Institute Partnerships) to Inspire Middle School Students	7-8	Becky Carter & Alex Chang, Seattle Children's
13	Genetic Tech Investigations	9-12	Kristin Fenker & Molly Malone, University of Utah
14	Small Town, Big STEM video series	9-12	Erin E. Hardin, University of Tennessee Knoxville
15	Guiding Students Through their First Research Project: Instructor Toolkit	9-12	Willa Johnson & Ellen Chenoweth, University of Alaska Fairbanks
16	MYHealth Thematic Thrills! Unleashing the Fun in Qualitative Analysis	9-12	Morenikeji Ojubanire, Hasan Khan, Bianca Barraza, Samantha A. Chuisano, Juniar Lucien & Melissa DeJonckheere, University of Michigan
17	Teaching the Genome Generation™: Human Genetic Variation Virtual Lab Experience	9-12	Alexa Wnorowski, Sarah Wojiski & Charlie Wray, The Jackson Laboratory
18	Cultivating Diversity in Biomedical Sciences: A Focus on a Drug Discovery Curriculum at an HBCU School of Pharmacy	10-12	Anjan Nan & Yen Dang, University of Maryland Eastern Shore

Poster Roundtables

All poster roundtable session rooms are on the 2nd floor

Note: Most Strands have several sets of poster roundtables. "Set" refers to the order of sets for each Strand within the 3 poster roundtable sessions (not the session number itself).

Session Topic Summary and Room Finder:

Rooms	<u>Posters 1:</u> Wednesday, May 29 1:30-2:15pm	<u>Posters 2:</u> Wednesday, May 29 4:00-4:15pm	<u>Posters 3:</u> Thursday, May 30 11:00-11:45pm
Flagstaff	Broadening Participation	Broadening Participation	Interactive Multimedia
Sun Valley	Informal Science Education	Informal Science Education	Informal Science Education
Tucson	Research Experiences for Students & Teachers	Research Experiences for Students & Teachers	Curriculum Development
Snowbasin	Research & Evaluation	Research & Evaluation	
Wasatch	Science Teaching & Learning	Science Teaching & Learning	Broadening Participation
Uintah	Curriculum Development		Research Experiences for Students & Teachers
Sawtooth	Teacher Professional Development	Teacher Professional Development	Teacher Professional Development

Poster Roundtables Session 1: Wednesday, May 29, 1:30-2:15pm

Table #	Title	Authors	Funder
Broadening Participation, set 1 of 3 – Flagstaff Room			
1	League of VetaHumanz	Sandra San Miguel, Lindley McDavid, Loran Carleton Parker, Wilella Burgess, Grace Craig G, & Aubree Buck, Purdue University	SEPA
2	Impact of Science Communication Workshops on Scientists' Ability to Engage High School Students	Gwen Alexander, St. Jude Children's Research Hospital; Shelby Montague, Lausanne Collegiate School; Jaime Sabel, University of Memphis; Sondra LoRe, Spear Consultants; Amy	SEPA

		Cook, University of Memphis; Kate Ayers, St. Jude Children's Research Hospital	
3	A virtual multi-university collaboration to engage underrepresented high school students in cancer research and care	Megan Mekinda, University of Chicago; Holly Burke, University of Kentucky; Eileen Dolan, University of Chicago; Rebecca Fairchild, University of Pennsylvania; Sarah Hawley, University of Michigan; Cauleen Noel, University of Pennsylvania; Rachel Privett, University of Michigan; Nathan Vanderford, University of Kentucky; Kristen Wynn, University of Texas at Austin	American Cancer Society
4	Improving middle grade STEM interest and increased learning using GN and DOC	Andrij Holian, Paulette T. Jones, Rebecca Burg & Garion T. Holian, University of Montana; Scott Warren, University of North Texas	SEPA
5	Teen Wellness Connection	Katherine Nielsen, Rachel Harris & Sabine Jeske, UC San Francisco; Linda Morrell, Mingfeng Xue & Mark Wilson, UC Berkeley; Michelle Phillips, Phillips & Associates	SEPA
6	Science Career Inquiry-Exploring Native Cultural Experiences (SCIENCE) Program	Kau'ionalani Mead, Ho'ola Music and Cultural Arts	SEPA
Curriculum Development, set 1 of 2 – Uintah Room			
1	ALL for Science: Authentic Literacy and Language for Science	Nancy Moreno, Baylor College of Medicine; Misty Sailors, WestEd; Alana Newell & Dolores Gray, Baylor College of Medicine; Molly Marek, University of Texas; Travis Kelleher, Michelle Moore, Jimmie Thomas & Kat Katherine Harris, Baylor College of Medicine	SEPA
2	Frontiers in Cancer Research	Jeanne Chowning, Regina Wu & Kristen Bergsman, Fred Hutch	SEPA
3	NeuroLab: Bridging neuroscience and big data literacy in the high school science classroom using a collaborative, NGSS-responsive approach to unit development	Ralph Imondi, Integrative Biosciences Program at Coastal Marine Biolabs; Kristin Bass, Rockman et al.; Linda Santschi, Integrative Biosciences Program at Coastal Marine Biolabs	SEPA
4	The Biology of Climate Change: Impacts on Human Health and the Science of Solutions	Kristin Fenker & Louisa Stark, University of Utah	SEPA

Informal Science Education, set 1 of 3 – Sun Valley Room			
1	Collaborative Scientific Inquiry as a Strategy to Achieve Cardiometabolic Assessments in School Aged Children	Rodrigo Tocuyo, Dimas Broco, Jaime Fuster, Ingrid Rodriguez, Lucia del R. Martínez & Maribel Campos Rivera; University of Puerto Rico Medical Sciences Campus	SEPA
2	Empowering Latina STEM Girl Ambassadors Through Role Models, Leadership, and STEM-Related Experiences	Greetchen Díaz-Muñoz & Liz Hernández-Matías, Ciencia Puerto Rico; Giovanna Guerrero-Medina, Ciencia Puerto Rico and Office of Diversity, Equity and Inclusion, Yale School of Medicine	SEPA
3	Reflections on Blending Arts and Biomedical Science to Facilitate Systems Thinking	Robert William Danielson, Molly Louise Kelton, Jeb P. Owen, Alison Joanne White, AnaMaria Diaz Martinez, David Garcia, Elizabeth Grace, Kristin Saba Fisher, Kellen Pautzke, Washington State University; Emma Stacy, Georgia State University; Braelyn Young, West Virginia University	SEPA
4	Co-Designing Public Health Exhibits and Programs at a Science Museum	Franklin Aucapina, Satbir Multani & Dana Schloss, New York Hall of Science	SEPA
5	Latinx High School Students' Reflections about a University Summer Research Program Support the Use of Asset Bundles in Designing Programs for Broadening STEM Pipelines	Perla C. Perez, Denise N. Delgado, Josefina Tinajero, Thomas Boland & Osvaldo F. Morera, University of Texas at El Paso	
6	STEAM in Action: Co-created environmental health science for Learning, Justice and Action	Jennifer Richardson, Sanlyn Buxner & Mónica D. Ramírez-Andreotta, University of Arizona	SEPA
Research & Evaluation, set 1 of 2 – Snowbasin Room			
1	Cultivating Project Resilience: Moving Through Disruption to Reimagination	Rebekah Davis, NC State University; Dana Haine, Lynn Chesnut & Kathleen Gray, University of North Carolina at Chapel Hill	SEPA
2	Mapping Your Success - Program Evaluation Design	Sondra LoRe PhD, SPEAR (STEM Program Evaluation, Assessment & Research) Consultants	SEPA
3	MYHealth Summer Launch: Increasing Researcher Identity in High School Students through a 10-Day Summer Camp on Health Research	Juniar Lucien, Annika Agni, Jennifer Arroyo, Bianca Barraza, Ashley Durden, Hasan Khan, Cindy Ko, Rafee Mirza, Morenikeji Ojubanire, Arulvel Rajeswaran, Olivia Terry, Samantha A.	SEPA

		Chuisano, & Beatrice Palazzolo, University of Michigan Department of Family Medicine; Alison Allen, 4Rockman, et al Cooperative Lisa M. Vaughn, Cincinnati Children's Hospital Medical Center/University of Cincinnati College of Medicine; Shanna Stryker, University of Cincinnati Department of Family and Community Medicine; Tammy Chang & Melissa DeJonckheere, University of Michigan Department of Family Medicine	
4	STEM Assessment and Reporting Tracker (START)	Stephanie E. Paris, Shanthia N. Espinosa, Amanda B. Braley & Lisa K. Marriott, Oregon Health & Science University	SEPA
Research Experiences for Students & Teachers, set 1 of 3 – Tucson Room			
1	UMB RAMP: UMB Research And Mentoring Program to develop skills and promote interest in STEM fields through hands-on exposure to academic research among West Baltimore Youth	Anna Pudder, Linda Horn, Cara Felter, Bret Hassel, & Elizabeth A. Dennis, University of Maryland School of Medicine	SEPA
2	Environmental Neuroscience for All: A participatory science program and platform for students, teachers, scientists, and communities	Suzanne Dikker & Camillia Matuk, New York University	SEPA
3	New York City Virus Hunters – A Community Science Initiative	Christine Marizzi, BioBus; Philip Meade & Florian Krammer, Icahn School of Medicine at Mount Sinai	SEPA
4	Bioinformatics research using existing data sets: a program for high school students	Kristine M. Wylie, Lauren Johnson & James Skeath, Washington University	SEPA
5	Statewide cancer research training for youth and enhancements when paired with a peer-based Leadership Training Program in Cancer Research Mentoring	Amanda Braley, Lisa K. Marriott, Susan Shugerman, Lynda Crocker Daniel, Azalea Martinez, Kaitlin Greene & Dest, Alex, Oregon Health & Science	NCI YES R25
6	The CIRCLE Program: A Distance Research Opportunity for Students Underrepresented in Science & Health Careers	Kelley Withy, Erica L. Davis & Zachary Oglesby, University of Hawai'i at Manoa ;	SEPA
Science Teaching & Learning, set 1 of 2 – Wasatch Room			
1	Strengths and Challenges in Scientific Argumentation Students with Disabilities Experience	Delinda van Garderen & William Folk, University of Missouri	SEPA
2	ESTA Environmental Science Through Art: Bringing state-of-the-	Amir Attia, California State University Monterey Bay	SEPA

	art environmental health education to youth in agricultural communities	(CSUMB); Asa Bradman, UC Merced; Brenda Eskenazi, Eros Gonzalez-Lopez, Kariya Hunter, Enid Ryce, Juliana Schuster, Corin Slown & Kenneth Tran, CSUMB	
3	St. Jude Virtual STEM Academy	Kyly Bichsel, Tingting Yang, Amanda Etherington, Torreon Johnson & Kate Ayers, St. Jude Children's Research Hospital	St. Jude Virtual STEM Academy
4	EMPOWER: Enacting Materials to Promote OWnership, Engagement and Relevance	Monica Ko, University of Colorado at Boulder; Barbara Hug, University of Illinois Urbana-Champaign	SEPA
Teacher Professional Development, set 1 of 3 – Sawtooth Room			
1	Early Implementation and Outcomes of Pathways for Authentic Teaching of Health Sciences (PATHS) Program	Lisa Abrams, Elizabeth Edmonson, Hillary Parkhouse, Yonella Demars & Georgia Youngquest, Virginia Commonwealth University	SEPA
2	The High School Research Initiative: PD for Rural Teachers, Inquiry Curriculum, and More	Gwen Stovall, Deanna Buckley & Bailey Williams, The University of Texas at Austin	SEPA
3	Hexacago Health Academy 2.0: Teacher Professional Development for Game Design and Systems Thinking	Vanya Manthena, Yul A Stites, Madeline Quasebarth, Jessie Henry & Lee Hasselbacher, Ci3 at University of Chicago; Patrick Jagoda, University of Chicago	SEPA
4	The ABC Project: The CoronaCURE in a Nutshell, a primer for teacher research experiences in bioinformatics	Jessica Siltberg-Liberles, Janelle Nunez-Castilla & Laird Kramer, Florida International University	SEPA

Poster Roundtables Session 2: Wednesday, May 29, 4:00-4:45pm

Table #	Title	Authors	Funder
Broadening Participation, set 2 of 3 – Flagstaff Room			
1	Lessons Learned Working with Undergraduates to Engage Middle Schoolers	Jamie Cornish & Nora Smith, Montana State University; Becky Hammack & Tugba Boz, Purdue University	SEPA
2	The Great Diseases: Bridging biomedical career exploration, competency building and mentoring	Berri Jacque, Karina Meiri, Valerie Solon, Revati Masilamani, Elizabeth Genne-Bacon, Carla Maisonet & Katie Malanson, Tufts University School of	SEPA

		Medicine; EmilyKate McDonough; Russ Faux , Davis Square Associates; Kelly Gordon, Denise Puopolo & Amber Kell, Boston Public Schools; Jasmine Juo & Wen Sailer, Brookline Public Schools	
3	Exploring Big Data with <i>All of Us</i> Data Browser	Molly Malone & the Genetic Science Learning Center Team, University of Utah	NIH All of Us Research Program
4	Encouraging Excellence: Health Science Education in Native American Communities	Liliana Bronner, Kim Soper, Shrawan Kumar, Robert Pawloski, Jolene Johnson & Maurice Godfrey, University of Nebraska Medical Center	SEPA
5	SciTrek: How Science Works	Norbert Reich, University of California Santa Barbara	SEPA, DoD
6	The Brain Explorer Academy: Empowering Underserved High School Students for STEM Success Through Neuroscience Education	Raymond D. Villareal, Morgan Coburn & Manuella Oliveira Yassa, University of California, Irvine	SEPA
Informal Science Education, set 2 of 3 – Sun Valley Room			
1	From virtual exhibits to a mobile game: Engaging learners with evolution beyond the walls of scientific collection	Lisa White & Anastasia Thanukos, University of California Museum of Paleontology; Teresa MacDonald, University of Kansas Natural History Museum	SEPA
2	Project SCORE (Student Centered Outcomes Research Experience) – The Experience of the Near-Peer Mentor	Tess Johnson, Caroline Compretta, Allison Ford-Wade, Erin Dehon, Murrell Godfrey, Dylan Barker, Lorna Fornea, Makenna Riley, Savannah Wehman, Breanna Wade, Quest Whalen, Elizabeth Gordineer & Marie Barnard, University of Mississippi	SEPA
3	Distance Learning Experiences that Promote Lab and Data Science for K-12 Students	Keisha Burnett, Jacen Moore, Rebecca Reynolds & Marcia Sharp, University of Tennessee Health Science Center; Simpfronia Taylor, University of Tennessee at Martin Ripley Center	SEPA
4	Science Journeys	Rachel Smilow, Naomi Luban (also George Washington University), Annika Hvide, Nicholas Apato & Lisa Bochey, Children's National Hospital	SEPA

5	Citizen DNA Barcode Network: A Community-based Infrastructure for Monitoring Biodiversity and Disease Vectors	Jeffry Petracca, Cris Marco, Daniel Jacobs, Sue Lauter & David A. Micklos, Cold Spring Harbor Laboratory DNA Learning Center	SEPA
6	BioBridge Prepares Students to Bridge into High School Biology through Cancer Research Education	Michelle S. Johnson, University of Alabama at Birmingham; Kathy C. Haynie, Haynie Research and Evaluation; Lalita A. Shevde, University of Alabama at Birmingham	SEPA; NCI YES R25
Research & Evaluation, set 2 of 2 – Snowbasin Room			
1	UPWARDS Program: Finding Value in Training Programs for Underserved Students	Khandan Keyomarsi, Stephanie S. Watowich, Hannah Wingate, Kara Lewis & Valoree Solis Jahan-Tigh, MD Anderson Cancer Center	NCI YES R25
2	Community-engaged research partnerships for building capacity and training in inclusive data science	Stephanie E. Paris, Shanthia N. Espinosa, Amanda B. Braley, Aaron Raz Link & Lisa K. Marriott, Oregon Health & Science University	SEPA
3	The Impact of the Metagenomics Education Partnership Project on Students	Sunha Kim, Weiyi Ding, Steve Koury & Sandra Small, University at Buffalo	SEPA
4	Qualitative Program Assessment using Photovoice: Underrepresented high school students continue to develop autonomy, competency, and relatedness across the tiers of the Knight Scholars Program	Dierdre McKay, Eastern Oregon University and Oregon Health and Sciences University; Connie Tran, Alex Vazquez-Cortes, Bridget Bugla, Tiffany Bui, Kaisa Holt, Anthony Phan, Clare Hansen & Amy Lin, Portland State University and Oregon Health and Sciences University; Amanda Braley, Knight Cancer Institute Oregon Health and Sciences University; Lisa Marriott Portland State University and Oregon Health and Sciences University.	NCI YES R25; Kuni Foundation
Research Experiences for Students and Teachers, set 2 of 3 – Tucson Room			
1	The Metagenomics Education Partnership: Harnessing the Power of Microbial Genome Sequencing and Big Data with High School Students and Teachers	Stephen T. Koury, Sunha Kim, Sandra Small, Jonathan Bard, Norma Nowak & Weiyi Ding, University at Buffalo	SEPA
2	Immersive research experiences for educators: Lessons for the classroom	Megan Mekinda, University of Chicago; Michael Dixon, Dewey School of Excellence; Sonia Hernandez, University of	NCI YES R25

		Chicago; Rosemary Huggins, University of Chicago; Alex Hurtado, Trinity High School; Joseph O'Hara, Lindblom Math and Science Academy; Eileen Dolan, University of Chicago	
3	We Are Our Medicine	Regina Idoate, Maurice Godfrey, Joyce Solheim & Aislinn Rookwood, University of Nebraska Medical Center; Mark Gilbert, University of Nebraska Omaha; Rachel Mindrup, Creighton University; Steve Tamayo, Bluebird Cultural Initiative; Brigitte McQueen, The Union for Contemporary Art	NCI YES R25
4	HSTA TEAMS for Community Health: Teaching Educators and Adolescents Mentoring and Science (TEAMS) to Improve Community Health	Cathy Morton & Summer Kuhn, West Virginia University HSTA	SEPA
5	Rural secondary students produce publication-quality research results on locally endangered orchids	Jesse Mast & Alyson Michael, NH Academy of Science	SEPA
6	An Overview of a Wraparound STEAM Program in an Arkansas Delta Rural Community	Marcia A. Shobe, Yvette Murphy-Erby, Michael Daugherty & Leah Cheek; University of Arkansas	SEPA
Science Teaching & Learning, set 2 of 2 – Wasatch Room			
1	Facilitating sustainable partnerships for STEM education and accessible pathways for STEM students using an evidence-based model	Debra Yourick, Kathleen Umayam, Emonie Hall, Swati Ramadorai, Laura Tenenbaum, Adaeze Egwuatu, Walter Reed Army Institute of Research	SEPA
2	Engaging One-Health Role-Models to Increase STEM Competency and Motivation in Middle School Students	Julie Harlin & Torri Whitaker, Texas A&M University	SEPA
3	Creating Resources Uplifting Nutrition, Culture, & Health at Lunch (CRUNCH Lunch)	Pamela Koch, Teachers College, Columbia University	SEPA
4	Successes and Challenges of XULA-MOLE's Teacher Professional Development Workshop	Mehnaaz Ali & Abha Verma, Xavier University of Louisiana	SEPA
Teacher Professional Development, set 2 of 3 – Sawtooth Room			
1	Teachers and Students for Community Oriented Research and Education Linking Industry Partners, Faculty, and Teachers (TSCORE-LIFT)	Maria Alonso Luaces & Maya Baughn, University of Kansas Medical Center; Karin Chang, University of Missouri Kansas	SEPA

		City; Megha Ramaswamy, University of Washington	
2	A STEM professional development program for teachers within the context of asthma: successes, challenges, and opportunities	Orestes Quesada & Michelle Borrero, University of Puerto Rico-Río Piedras; Edjean Calderón & John Ramirez, CoopSEI	SEPA
3	Phenomenal Genome - bringing complex genetics to classrooms and museums	Hilleary Osheroff & Kristina Yu, Exploratorium	SEPA
4	Teaching the Genome Generation: Cultivating High School Genomics Through Teacher Education	Erica Gerace, Christina Vallianatos, Alexa Wnorowski, Sarah Wojiski & Charlie Wray, The Jackson Laboratory	SEPA

Poster Roundtables Session 3: Thursday, May 31, 11:00-11:45am

Table #	Broadening Participation, set 3 of 3 – Wasatch Room		
1	The START Program: Building a Diverse STEM Pipeline Through Authentic Research and Mentorship	Luke H. Bradley, Molly McAndrew Tuck, Julie A. Bradley, Anthony Sinai & Margaret Mohr-Schroeder, University of Kentucky	SEPA
2	Professional portfolio mentoring enhances biomedical workforce training and longitudinal research across NIH training initiatives	Shanthia N. Espinosa, Stephanie Paris & Aaron Raz Link, Oregon Health & Science University; Alex Vazquez-Cortes & Connie Tran, Portland State University and Oregon Health and Science University; Sipelii Motutama, Oregon Health & Science University; Dierdre McKay, Eastern Oregon University and Oregon Health and Science University; Amanda Braley & Lisa K. Marriott, Oregon Health & Science University	SEPA
3	Bringing Data Science to Underrepresented Boston Youth: the LEAH Knox Scholars Program	Paul Gregg; Daisy Ortega; Martine Francois, et al., Health Resources in Action	SEPA
4	ASSET, Engaging Students in Hands-on Science Using Protozoa	Douglas Chalker & Kati Prince, Washington University in St. Louis; Donna-Cassidy Hanley & Theodore Clark, Cornell University	SEPA
Curriculum Development, set 2 of 2 – Tucson Room			
1	Working with Community Partners to Sustain a Program After	Irene S. Bayer & Maria G. Salinas, Michigan State University; Tania Jarosowich, Censeo Group;	SEPA

	Funding Ends: Challenges and Successes	Consuelo J. Morales, Michigan State University	
2	Empowering Youth as Vaccine Champions: A Pharmacy-Led Curriculum to Address COVID-19 Vaccine Hesitancy	Yen Dang & Anjan Nan, University of Maryland Eastern Shore	SEPA
3	The ABC Project: Dive into one lesson that integrates bioinformatics into high school biology	Jessica Siltberg-Liberles, Janelle Nunez-Castilla, Laird Kramer, Rocio Benabentos & Shaileen Barberena, Florida International University	SEPA
4	Engineering Solutions for Better Health: Genetic Technology & Biomedical Engineering for Secondary Classrooms	Louisa A. Stark & the Genetic Science Learning Center team, University of Utah	SEPA
5	STEM Under the BIG Top	Amanda Obery, Central Washington University; Matt Queen, Montana State University Billings	SEPA
6	Mystery of the Crooked Cell 2.0: CityLab's Next Generation Socioscientific Approach to Gene Editing	Don DeRosa, Carla Romney & Carl Franzblau, Boston University; Stuart Beard, Boston University	SEPA
Informal Science Education, set 3 of 3 – Sun Valley Room			
1	Building the Pipeline of Rural Underrepresented Students in Nursing Science-The HSTA-Alabama Program	Robin Bartlett & Michele Montgomery, University of Alabama, Bethany Hornbeck, APIS Creative, Alan McKendall, Sherron McKendall	SEPA
2	Eradicating Misconceptions about Viruses using Multimodal Trace Data in an Intelligent Game-based Environment across Educational Contexts	Barrie Robison & Terence Soule, University of Idaho; Roger Azevedo, University of Central Florida	SEPA
3	Adapting and Scaling the Biotinkering Approach through a Community of Practice (CoP) Model	Prinda Wanakule, The Tech Interactive; Anja Scholze, Scholze Consulting; Monika Mayer, Monika Mayer Consulting; Mindy Porter & Scott Family Amazeum; Dana Schloss, New York Hall of Science; Holly Truitt, Holly Truitt Consulting; Caitlin Nealon, The Tech Interactive	SEPA
4	The Appalachian Career Training In ONcology (ACTION) Program: An NCI-Funded Youth Enjoy Science Program	Nathan L. Vanderford & Holly Burke, University of Kentucky	NCI YES R25
5	Wildfire and Human Health in a Changing Climate	Victoria Coats, Cecilia Nguyen & Scott Randol, OMSI; Nelda Reyes, AB Cultural Drivers	SEPA

6	Environmental Health Investigators: Developing STEM & health appreciation and career awareness with a diverse group of middle school students	Andreia F. Dexheimer, Charlie Blake, Amanda Jane, Mariam Sani, Pratigyan Bhusal & Ozaveshe Paul Amune, Southern Illinois University Edwardsville; Carol E. Colaninno, Emory University; Candice L. Johnson & Jennifer L. Zuercher, Southern Illinois University Edwardsville; Ben K. Greenfield, University of Southern Maine; Georgia Bracey & Sharon M. Locke, Southern Illinois University Edwardsville	SEPA
Interactive Multimedia, set 1 of 1 – Flagstaff Room			
1	Enhancing Educational Multimedia: Insights from Successful Videos, Games, and Apps	John A. Pollock, Brinley Kantorski & Kelly Bruzdewicz, Duquesne University	SEPA
2	Adventures in Drug Discovery: Integrating Data Science into the Science Curriculum	Charles Xie & Dylan Bulseco, Institute for Future Intelligence; Kent J. Crippen, University of Florida	SEPA
3	High School Students Positively Engage With and Rate Augmented Reality Educational Activities	Heather Ryan & Mark Holezer, 3D Molecular Designs	Interactive Digital Media STEM SBIR/STTR
4	Natural Disasters & Health	Charles Wood, Debbie Tyrrell, Manetta Calinger, Jackie Shia, Lori Kudlack & Laura Ondeck, Wheeling University	SEPA
5	Gamifying epigenetic science for teaching environmental health literacy	James Stafford, Nzumbe Inc.; Lisa K. Marriott, Stephanie E. Paris & Diana Rohlman, Oregon State University; Mitchell Turker, Abinaya Ravishankar & Michael Rountree, Nzumbe Inc.	National Institute of Environmental Health Science (NIEHS)
Research Experiences for Students & Teachers, set 3 of 3 – Uintah Room			
1	A School-based Citizen Science Project to Communicate Findings from Drinking Water Tests and Improve Human Health	Jane E. Disney, MDI Biological Laboratory; Brian Jackson & Ramsey Steiner, Dartmouth College; Amy Steckler, Caitlin Oliver-Olsen, Ashley Taylor, Alexis Garretson & Cait Bailey, MDI Biological Laboratory; Karen Bieluch, Dartmouth College; Bill Zoellick, consultant	SEPA

2	Opening WINDOWS for high school learners to see and explore dentistry and dental research careers	Kirsten Lampi, Oregon Health and Science University	Institutional Support
3	Learning and Discovery in Experimental Environmental Health Science: On the Path from Data to Knowledge	David Petering, Craig Berg, Michael Carvan & Renee Hesselbach, University of Wisconsin-Milwaukee	SEPA
4	Frugal Science Academy	Janet Standeven, Georgia Institute of Technology	SEPA
Teacher Professional Development, set 3 of 3 – Sawtooth Room			
1	Seeds to STEM: Cultivating Early Nutrition, Literacy, Numeracy and STEM Skills in Teachers, 3-5 Year Olds, and Families Through an Asset-based Curriculum in Two Major Cities	Jacqueline Genovesi, Kaitlyn DeIDuca, & Mariah Romaninsky, Academy of Natural Sciences	SEPA
2	Cultivating Interest, Expanding Expertise, Shifting PD Norms	Carmela Amato-Wierda & Amy Booth, University of New Hampshire; Alison Allen, Rockman et al.; Eleanor Jaffee, Insights Evaluation, LLC	SEPA
3	More PEAS Please! Improves Science Knowledge, Language, and Dietary Quality among Preschoolers	Virginia C. Stage & Jocelyn B. Dixon, NC State University; Tammy D. Lee & Archana V. Hegde, East Carolina University	SEPA
4	ESTELE: Developing the Next Generation of Science Teacher Leaders	Michael Kennedy & Maranda Don, Northwestern University	SEPA

Common Acronyms and Abbreviations

Abbreviation	Federal Agency
HHS	U.S. Department of Health & Human Services
AHRQ	Agency for Healthcare Research and Quality
CDC	Centers for Disease Control and Prevention
CMS	Centers for Medicare & Medicaid Services
FDA	U.S. Food and Drug Administration
HRSA	Health Resources & Services Administration
IHS	Indian Health Service
NIH	National Institutes of Health
PHS	Public Health Service <ul style="list-style-type: none"> • SAMHSA - Substance Abuse and Mental Health Services Administration
NIH	National Institutes of Health ICOs – NIH Institutes, Centers and Organizations

Abbreviation	Code	NIH Institute or Center
NCATS	TR	National Center for Advancing Translational Sciences CTSA – Clinical and Translational Science Awards
NCCIH		National Center for Complementary and Integrative Health
NCI	CA	National Cancer Institute <ul style="list-style-type: none"> • YES – Youth Enjoy Science Research Education Program
NEI	EY	National Eye Institute
NHGRI	HG	National Human Genome Research Institute Genome – commonly used name for NHGRI
NHLBI	HL	National Heart, Lung, and Blood Institute
NIA	AG	National Institute on Aging
NIAAA	AA	National Institute on Alcohol Abuse and Alcoholism
NIAID	AI	National Institute of Allergy and Infectious Diseases
NIAMS	AR	National Institute of Arthritis and Musculoskeletal and Skin diseases
NIBIB	EB	National Institute of Biomedical Imaging and Bioengineering
NICHHD	HD	Eunice Kennedy Shriver National Institute of Child health and Human Development
NIDCD	DC	National Institute on Deafness and Other Communication Disorders
NIDCR	DE	National Institute of Dental and Craniofacial Research
NIDDK	DK	National Institute of Diabetes and Digestive and Kidney Diseases
NIDA	DA	National Institute on Drug Abuse
NIEHS	ES	National Institute of Environmental Health Sciences
NIGMS	GM	National Institute of General Medical Sciences
NIMH	MH	National Institute of Mental Health

NIMHD	MD	National Institute on Minority Health and health Disparities
NINDS	NS	National Institute of Neurological Disorders and Stroke
NINR	NR	National Institute of Nursing Research
NLM	LM	National Library of Medicine
CC		NIH Clinical Center
CIT		Center for Information Technology
CSR		Center for Scientific Review <ul style="list-style-type: none"> • CSR manages for annual SEPA and SEPA SBIR/STTR STEM Games reviews
FIC		Fogarty International Center

NIGMS – National Institute of General Medical Sciences

DRCB	Division for Research Capacity Building Dr. Ming Lei, Director	
IDeA	Institutional Development Awards <ul style="list-style-type: none"> • INBRE – IDeA Networks of Biomedical Research Excellence • COBRE – Centers of Biomedical Research Excellence • IDeA Program Infrastructure for Clinical and Translational Research (IDeACTR) • STTR Regional Technology Transfer Accelerator Hubs for IDeA States 	
NARCH	Native American Research Centers for Health	
SCORE	Support of Competitive Research Program	
SEPA	Science Education Partnership Award Program	
TWD	Division of Training, Workforce Development, and Diversity Dr. Alison Gammie, Director	
Bridges	Bridges to the Baccalaureate Bridges to the Doctorate	
BUILD	Building Infrastructure Leading to Diversity Career Development Awards	
IMSD	Initiative for Maximizing Student Development	
IRACDA	Institutional Research and Academic Career Development Awards	
K99 → R00	Pathway to Independence Award	
MARC U*STAR	Undergraduate Student Training in Academic Research	
NRMN	National Research Mentoring Network	
NRSA-Fs	Individual Predoctoral National Research Service Award Fellowships	
NRSA-F32	Individual Postdoctoral National Research Service Award	
NRSA-T32	Institutional Predoctoral National Research Service Award	
PREP	Postbaccalaureate Research Education Program	

RISE	Research Initiative for Scientific Enhancement
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NIH Grant-Associated Terms

AOR	Authorized Organization Representative
ASSIST	Application Submission System & Interface for Submission Tracking
COI	Conflict of Interest
DUNS	Data Universal Numbering System
EIN	Entity Identification Number
F & A	Facilities and Administrative Costs (also referred to as Indirect Costs)
FOA	Funding Opportunity Announcement
FOIA	Freedom of Information Act
FSR	Financial Status Report (SF-269 or 269A)
FTE	Full-Time Equivalent
GMO	Grants Management Officer
GMS	Grants Management Specialist
NoA	Notice of Award
PA	Program Announcement
PAR	Program Announcement Reviewed in a Institute
PO	Program Official
RFA	Request For Applications (Grants)
RPPR	Research Performance Progress Report
SBIR	Small Business Innovation Research
SRG	Scientific Review Group
SRO	Scientific Review Officer
STTR	Small Business Technology Transfer

NSF – National Science Foundation

AIISL	Advancing Informal STEM Learning
ATE	Advanced Technological Education
CSforAll:RPP	Computer Science for All
DR-K12	Discovery Research PreK-12
DRL	Research on Learning in Formal and Informal Settings
ECR	EHIR Core Research
EHR	Education and Human Resources
ITEST	Innovative Technology Experiences for Students and Teachers
S&CC	Smart and Connected Communities
STEM+C	STEM + Computing K-12 Education

America's Seed Fund

EA	Educational Technologies and Applications <ul style="list-style-type: none">• STEM Games SBIR/STTR
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Other Federal Agencies Involved in STEM Education

ED	U.S. Department of Education <ul style="list-style-type: none">• IES – Institute of Education Sciences• STEM Games SBIR/STTR
NASA	National Aeronautics and Space Administration
NOAA	National Oceanic and Atmospheric Administration
USDA	United States Department of Agriculture <ul style="list-style-type: none">• NIFA – National Institute of Food and Agriculture