



16TH Annual Research Symposium

OCTOBER 15-16

EDUCATING FOR A JUST AND SUSTAINABLE FUTURE



LXINGTON CONVENTION CENTER | KY

Welcome to the 16th Annual NAAEE Research Symposium!

Dear Friends and Colleagues:

We are very pleased to welcome you to Lexington, Kentucky for the 16th Annual NAAEE Research Symposium.

Since its inception in 2003, the NAAEE Research Symposium has had a goal of fostering dialogue and collaboration among members of the EE research field, including researchers, policy makers, and practitioners at all stages of their careers. This year's research symposium contributes to advancing EE towards a just and sustainable future through a dual focus on discussing research processes and impacts. In addition to dozens of poster presentations sharing completed or in-progress research projects, a range of panels, roundtable discussions, and workshops will provide multiple perspectives on how we do EE research, and to what ends.

Discussions related to **research processes** are aimed at sharing knowledge and new directions in research methodologies and methods, to build our capacity and expertise as a research field. For example, we'll engage in a range of topics including collaborating ethically across researcher-practitioner and researcher-policy maker roles, working with new theoretical approaches, Indigenous research protocols and methodologies, innovations in data collection or analysis, public forms of knowledge mobilization, and publishing tips.

Sessions on **research impacts** challenge us to increase the usefulness and effects of our research field in relation to EE policy and practice at a range of scales. For example, discussions on participatory and place-based action research, large scale comparative and collaborative approaches, making the most of program evaluations, connections to global initiatives such as the Sustainable Development Goals (SDGs), the value of blue sky research, the state of the field, next steps in key gaps and critical areas, and a range of other topics aim to help advance the contributions of our diverse and yet connected work.

We have crafted keynote speakers, discussion sessions, workshops, and poster presentations that showcase a range of innovative approaches to EE research processes and impacts. Aligning with the overall NAAEE conference theme for this year, we also invite you throughout to consider how a sustainable future is also a just future, and the ways in which we must work as a community to ensure both are at the heart of our work. This will require reflection, transformation, and collaboration.

We trust the Lexington gathering will not only be enjoyable, but will also spark innovation, action, and community building. We look forward to your participation!

Marcia McKenzie
Chair
NAAEE Research Symposium

Olivia Aguilar
Co-Chair
NAAEE Research Symposium



College and university sponsors of the 16th Annual NAAEE Research Symposium help further research in environmental education.

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The Center for Environmental Education and Sustainability at Western Kentucky University is proud to support the work of NAAEE.
More information about CEES at WKU is available at wku.edu/cees.

Stanford Social Ecology Lab
Research, education and extension for a sustainable future

A Note on Combined Sessions
For combined panel and roundtable sessions, we ask that the final speaker on the program also play the role of session chair and timekeeper. Please divide the overall session time by the number of speakers, leaving at least 15 minutes for discussion across the presentations at the end of the session.
Materials for timekeeping will be provided in each room and on each roundtable, and for a asking discussion. Thank you for your assistance with facilitating a dialogical research symposium.

Tuesday, October 15

9:00 AM-9:30 AM

Opening & Welcome

Patterson Ballroom

Presenters: Dr. Marcia McKenzie, University of Saskatchewan, Research Symposium Chair

Dr. Olivia Aguilar, Denison University, Research Symposium Co-Chair

9:30 AM-10:30 AM

Keynote

Dr. Oren Pizmony-Levy

Patterson Ballroom

Oren Pizmony-Levy is an Associate Professor in the Department of International and Transcultural Studies at Teachers College, Columbia University. He received his PhD from the Department of Sociology and the Department of Educational Leadership and Policy Studies at Indiana University in 2013. He grew up in Eilat, Israel and earned BA and MA degrees at Tel-Aviv University. Prior to graduate school in the United States, Oren worked in the Education Department of the Society for the Protection of Nature in Israel and served as the research coordinator at the Israeli Gay Youth Organization. Oren's research interests center on analysis of educational movements such as accountability (for example, international assessment of student achievement), environmental and sustainability education, and sexuality education. He examines these cases in a comparative or cross-national research design using quantitative and qualitative methods, and social network analysis. Oren is co-leading the Critical Friends Initiative for Sustainable Futures, which champions access to education that promotes learning, awareness, attitudes, and the skills needed to work individually and collectively in order to achieve a sustainable, regenerating world.



11:00 AM-12:00 PM

Roundtable Discussions

Patterson Ballroom

Collaborative Research for Equitable Access to Transnational EE Study Abroad
Going global with preparing EE for the future, our social practice theory research exposes transformational awareness and identity experiences, the importance of international EE collaboration, and affordances and constraints to overcoming access to EE study abroad programs.
Presenters: Allison Freed, University of the Ozarks; Aerin Benavides, The University of North Carolina-Greensboro; Lacey Denise Huffing, Georgia Southern University

Designing a Scalable Performance-Based Assessment Tool to Measure Environmental Literacy

This research will examine the effects of online peer mentoring and interventions to increase self-efficacy on online participants' post-course environmental literacy and stewardship practices. The results will address the environment and education Sustainable Development Goals and further the ability of online course providers to offer impactful online learning at scale.
Presenters: Amanda Siebert-Evenstone, Epistemic Analytics; Jennifer Klein, Mass Audubon; Kristen Scopnick, Mass Audubon; Kelly Shea, University of Rhode Island

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Schedule at a Glance

Tuesday, October 15

Location Note: **Patterson Ballroom** is in the Hyatt Regency Lexington; **Thoroughbred 1-5 and Elkhorn B-D** are in the Lexington Convention Center.

9:00 AM-9:30 AM	Welcome	Patterson Ballroom
9:30 AM-10:30 AM	Keynote Address Oren Pizmony-Levy	Patterson Ballroom
10:30 AM-11:00 AM	BREAK	
11:00 AM-12:00 PM	Roundtable Discussions	Patterson Ballroom
12:00 PM-1:30 PM	Panel and Presentations	Thoroughbred 2, 3, 5
1:30 PM-3:00 PM	Workshop	Thoroughbred 1
3:00 PM-3:15 PM	Panel and Presentations	Thoroughbred 2, 3, 4, 5
3:15 PM-4:30 PM	BREAK	
4:30 PM-6:00 PM	Poster Session	Patterson Ballroom
4:30 PM-6:00 PM	Reception and Award Ceremony	Patterson Ballroom

Wednesday, October 16

7:30 AM-9:00 AM	Graduate Student Breakfast	Thoroughbred 4
9:00 AM-9:15 AM	Welcome	Patterson Ballroom
9:15 AM-10:15 AM	Keynote Address Nicole Ardoin	Patterson Ballroom
10:15 AM-10:45 AM	BREAK	
10:45 AM-12:15 PM	Workshops	Thoroughbred 1, 2
12:15 PM-1:30 PM	Panel and Presentations	Thoroughbred 3, 4
1:30 PM-2:30 PM	Buffet Lunch	Elkhorn B-D
2:30 PM-2:45 PM	Roundtable Discussions	Patterson Ballroom
2:45 PM-3:45 PM	Panel and Presentations	Thoroughbred 1, 2, 3, 4, 5
3:45 PM-4:30 PM	BREAK	
3:45 PM-4:30 PM	Closing Keynote: Carolyn Finney	Patterson Ballroom
3:45 PM-4:30 PM	Symposium Closing	Patterson Ballroom

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Special Events

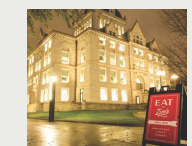
Monday, October 14

Note: These pre-symposium options for Research Symposium participants have additional fees and require registration in advance.



EE Research Field Session: Working For/Towards Justice and Sustainability in EE Research
Meet at the Old Fayette County Courthouse, 215 W. Main Street
2:00 PM-5:00 PM

Jim Embry (Lexington resident, ea360 Community Fellow, and founder of the Sustainable Communities Network) and Olivia Aguilar (Associate Professor of Environmental Studies at Denison University) will guide participants through a walk of downtown Lexington visiting gardens and cultural heritage sites attending to issues of justice and sustainability. Local practitioners and researchers will join us along the way to encourage thoughtful dialogue around what it means to do research for and towards justice and sustainability. The workshop will culminate in a facilitated discussion that asks participants to identify the multiple ways and contexts in which we can attend to issues of justice and sustainability in EE research. (Pre-registration required.)



Research Networking Dinner
Meet at Zim's Café, 215 W Main Street, Suite 25
7:00 PM-9:00 PM

Join in on a casual evening of food, fun, and conversation focused on EE research at Zim's Café, a local favorite with a menu inspired by the bounty from Kentucky farms. Diners will include the Research Symposium co-chairs, featured panelists, and many other colleagues, friends, and mentors. (Pre-registration required; check at registration desk for available space.)



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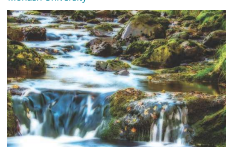
eeWORKS: Linking Citizen Science and Environmental Education with Research Evidence
We will share early findings and seek feedback on an in-progress systematic literature review investigating the overlapping outcomes of community and citizen science (CCS) and environmental education. We will discuss the nuances of this process and early findings on how practitioners design and participants engage in CCS for environmental learning.
Presenters: Amanda Lindell, University of California-Davis; Christopher Jadhav, University of California-Davis

Exploring Social Emotional Learning in Residential Environmental Education
What is social emotional learning (SEL) and what does it look like in residential environmental education? Our study explores how a group of eleven residential EE program providers currently think, talk about, and enact SEL principles and practices. We will discuss initial findings as well as the relationship between research on SEL and environmental learning.
Presenters: Mele Wheaton, Stanford University; Emily Williams, Stanford University



Measuring Science Dispositions Within the Context of Steadfast Environmental Education
A steadfast environmental education approach embeds content in experiences that appeal to broader audiences. But, because it integrates multiple interest domains, it presents challenges to research processes. Guided by our example science-art-design project, we will lead a discussion on research within a stability design and ways to address associated challenges.
Presenters: Cathlyn Sklynski, University of Maryland Center for Environmental Science; Kelly Redinger, Oregon State University Center for Research on Lifelong STEM Learning; Ruth Kermish-Allen, Maine Mathematics and Science Alliance

Researching Eco-Fascist Responses to Environmental Crisis
Fascist social movements are increasingly coordinated and visible. Recent violence has been motivated, in part, by concerns about global environmental crisis. This session focuses on how environmental concerns have animated, and are currently animating, fascist activities, and how environmental education researchers might engage these movements pedagogically, conceptually, ethically, and methodologically.
Presenters: Joseph Henderson, Paul Smith's College; David Long, Morehead State University; Alan Reed, Monash University



Strengthening the Field: A Call for Mixed Methods in Environmental Education Research
Evaluating the impact of environmental education is not only needed but also difficult to determine. This session argues for mixed methods research methodologies in environmental education by examining current literature and demonstrates how the implementation of both quantitative and qualitative approaches can lead to deeper insights than either methodology alone.
Presenter: Ann Rossmiller, The University of Cincinnati

Studying and Designing for Youth Agency in Citizen Science and Museums
We will discuss our research methods on youth learning and agency with environmental science through natural history museum-led citizen science, with the goal of exploring with colleagues how our research-practice partnership team can use our findings and a design-based research approach to re-design EE programs across settings.
Presenter: Maryam Ghadiri, University of California-Davis

11:00 AM-12:00 PM
Addressing Affect and Socio-Emotional Learning in EE Evaluation and Research
Thoroughbred 5

Pros and Cons of Affective Measures of Environmental Education Effectiveness
When researching, evaluating, and designing environmental education programs we often focus on knowledge, attitudes, and behavior changes. This session will challenge participants to look at current research processes (including their own) to identify the pros and cons of these measures of effectiveness, with particular emphasis on affective measures.
Presenter: Emily Kalczyk, Minnesota Zoo

Embedded Assessments of Social-Emotional Learning in Residential Environmental Education
How can we assess student outcomes in more direct and less intrusive ways? In partnership with a residential EE organization, we are developing 'embedded' measures of social-emotional learning outcomes that are unobtrusive, easy-to-administer and integrated into learning experiences. We discuss our design process, challenges, and feasibility of using such measures.
Presenters: Archana Kannan, Stanford University; Kathleen O'Connor, NatureBridge

Expanding the Research on Garden-Based Education: Culture and Teacher Voices
Thoroughbred 2
There is growing interest in research related to garden-based education (GBE) in schools; however, a critical examination of culture and teacher voices as they inform research and program development is missing. This panel highlights expansion opportunities in GBE research and explores with participants how to broaden the research.
Presenters: Dinaflora Williams, Portland State University; Sheila Williams Reid, University of Minnesota; Scott Morrison, Elon University

1:30 PM-3:00 PM
Workshop
Goals, Ambition, and Work-Life Balance: Taking the Next Step in Your Career
Thoroughbred 5

You have finished school and are setting into your EE career. Now what? We discuss setting new goals, assessing personal ambition, and pursuing leadership roles while avoiding burnout. We welcome participation from EE community members at all career stages, as this discussion will ideally include diverse perspectives.
Presenters: Susan Caplow, University of Montevallo; Kathayoon Azra Khalil, Seattle Aquarium; Kathryn Stevenson, North Carolina State University



1:30 PM-3:00 PM
Culturally Responsive Evaluation Leading to Increased Equity of Educational Outcomes
Thoroughbred 3

How can EE programs infuse evaluation efforts with culturally responsive evaluation (CRE) practices? To spark audience discussion, professional evaluators reflecting three geographic case studies (Colorado, Delaware River watershed, and Oregon) will describe their work to increase CRE with individual practitioners, with organizations, and collectively across organizations.
Presenters: Karly Askew, Karly Askew, PhD; Elizabeth McCann, Antioch University-New England; Steven Braun, eeRise; Rachel Becker-Klein, Two Roads Consulting; Corrie Calvin Williams, Blue Lotus Consulting & Evaluation, LLC; Jean Kayira, Antioch University-New England
Moderator: Charlotte Clark, Duke University

Practitioner Research and the Critical Friend: Moving CEE Toward ECEFS
Thoroughbred 5
Early childhood teachers are underprepared to engage children in true sustainability initiatives. Yet, through practitioner research, supported by a 'critical friend' teacher, go beyond EE activities implementation to employing research and theory-based projects, embracing a reflective process for self-study, support of their agency, and promotion of a sustainable world view.
Presenters: Victoria Carr, University of Cincinnati; Sue Elliott, University of New England; Rachel Koeneman, University of Cincinnati; Arliette Cui for Education, Research and Analysis; Sue Schlenker, University of Cincinnati; Leslie Kochanowski, University of Cincinnati

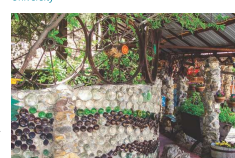
Research on Assessing Connection to Nature
Thoroughbred 2
NAAEE is developing a guide to help researchers and practitioners identify appropriate tools to assess connection to nature. The process has identified gaps and needs. This panel will discuss how research can be most useful in assessing our connections to nature.
Presenters: Louise Chawla, University of Colorado-Boulder; Gabby Salazar, University of Florida; Nicole Ardoin, Stanford University; Cathy Jordan, Children & Nature Network
Moderator: Martha Monroe, University of Florida

3:15 PM-4:30 PM
Poster Session
Patterson Ballroom

Assessing the Effectiveness of CitySprouts Early Start with STEM Initiatives
The CitySprouts Early Start with STEM Initiative project includes a yearlong series of site-based professional development workshops structured to build teachers' STEM knowledge and effective teaching strategies for STEM and social emotional competency. This research poster highlights the first round of evaluation data on these workshops.
Presenter: Jeffrey Perria, Lehigh University

Blending Deliberation and Informal Learning
Deliberative discussions engage participants in discussions of their opinions. For many environmental issues, however, opinions should be informed by information. But programs that provide information often stifle discussion! We are exploring how to accomplish both valid evaluation and effective teaching through the CIVIC program in Florida.
Presenters: Natalie Cooper, University of Florida; Martha Monroe, University of Florida

Building Capacity for Local Environmental Practice Through Online Learning
This research will examine the effects of online peer mentoring and interventions to increase self-efficacy on online participants' post-course environmental literacy and stewardship practices. The results will address the environment and education Sustainable Development Goals and further the ability of online course providers to offer impactful online learning at scale.
Presenters: Yue Li, Cornell University; Marianne Krasny, Cornell University; Alex Kudryavtsev, Cornell University



Community Gardens, Educational Workshops, and Family Sustainability
A mixed methods approach was employed examining the impacts of community garden based educational workshops in families' sustainable behavior. Data collected through surveys, observations, interviews, and drawings indicate that families benefited from those workshops through socialization, family recreation, increased gardening skills, and financial benefits. No direct changes in environmental behaviors were reported.
Presenter: Konstantinos Stavrianakis, Indiana University-Bloomington

Comparing Teaching Methods in an EE Field Trip Program
This research is a comparison of single day field trip program effectiveness using a teacher-centered methodology versus an inquiry-based methodology in the form of a 5E lesson plan. The focus was to better understand how and why students are learning in the field by utilizing methods from the classroom.
Presenter: Michelle Pearce, Environmental Educators of North Carolina

Critical Environmental Agency: Collaborating to Create a More Just Future
 Join us in discussing how, when students and teachers deepen conceptual knowledge, engage in identity and leadership, and develop critical consciousness of place, enhance sense of place, and move toward social action, they become empowered to envision a more just future to address emerging or chronic environmental problems their communities face.
 Presenters: Lacey Denise Huffling, Georgia Southern University; Heather Scott, Georgia Southern University; Roberta H. Hunter, Rutgers University

Designing for Youths' E-STEM Identities: The STEM Identity Profile Instrument
 We introduce the STEM Identity Profile Instrument, an inventory-style survey that yields a combination of E-STEM related affiliations (alumni, conservationist, linker, designer, inventor, and investigator). We used the instrument during out-of-school, E-STEM learning to shape curricular design and study how youth made sense of their E-STEM-linked identity work.
 Presenters: Tiera Worsley, University of North Carolina at Greensboro; Heidi Carlone, University of North Carolina at Greensboro

Development of Connection with Nature Scale for Taiwanese Adolescents
 Given the lack of specific scale for adolescents' nature connection in Taiwan, this study shares a three-dimensional scale with 11 items for junior high school learners. The results showed that the Connection with Nature Scale is an appropriate and acceptable tool to construct reliability, and criterion-related validity.
 Presenter: Yu-Chi Tseng, National Taichung University of Education

Education for Sustainability in the Holy City: Jerusalem
 What special characteristics does Education for Sustainability have in a city as diverse as Jerusalem? How do the secular and religious missions of teachers interact with EE? And what urban policy can make EE and ES successful under these conditions?
 Presenters: Naama Sadan, The Hebrew University in Jerusalem

Environmental Education Field Trips: How Many Visits Does It Take?
 Sometimes it can be difficult to know if one-time environmental education field trips make a meaningful difference for students. In this project, investigators sought to understand the relationship between repeated exposure to an informal science learning center and students' conservation ethic as part of a conservation education curriculum.
 Presenter: Lauren Watkins, Impact by Design, Inc.

Studying eSTEM: How Arts Interaction Sparks Engagement in Environmental Education in Pre-K-8 Classrooms
 This study explored teachers' visited Springs Eternal: Water, Hope, Change, an art exhibit, as part of a comprehensive professional development project focused on integrating EE across the curriculum. We will share the ways in which the teachers reacted and planned to try their teaching as a result of this visit.
 Presenters: Lauren Madden, The College of New Jersey

Using Citizen Science to Build STEM Networks for Underrepresented Students
 The Caribbean experienced two category 5 hurricanes in 2017. Following, our school embarked on a citizen science project with Harvard University and Virgin Islands National Park to create a STEM network and pathways for underrepresented students. We will discuss how citizen science can build STEM networks and pathways.
 Presenter: Melissa Rian Wilson, Gift Hill School

Waves of Emotion: Getting a Feeling for Ocean Education
 This project investigated the landscape of motivations, strategies, and goals of informal ocean science centers in Orange County, California. The objective was to understand how ocean education is put into action on the ground across the county, and how cohesive the expectations for outcomes are within the environmental education for sustainability framework.
 Presenter: Maureen Purcell, University of California-Irvine

Youth Interactions with Environmental Data in Informance
 How can producing data and analyzing large datasets support environmental learning and youth agency? Drawing on case studies from youth work with community and citizen science data, we will discuss youth interactions with data, how these interactions can be learning meaningful, and design implications.
 Presenter: Emily Harris, BSCS Science Learning

4:00 PM-6:00 PM
Research Symposium Reception
 Patterson Ballroom

1:30 PM-2:30 PM
Panels and Presentations



Assessing Environmental Behaviors Through the Environmental Stewardship Scale
 Throughout 3
 In this session, we introduce a new instrument aimed at measuring environmental behaviors. The General Environmental Stewardship Scale measures the intensity of commitment to environmental behaviors from common activities to transformative lifestyle changes. We will describe the scale's validation efforts and data analysis techniques.
 Presenter: Tina Phillips, Cornell Lab of Ornithology

Critical Community-Based Food Systems Research: Uncovering Tensions and Possibilities
 Throughout 5
 This panel explores the critical role of the research process in producing critical food systems education research that achieves environmental, economic, and social justice goals. Facilitators consider how to craft just collaborative processes with schools, activist groups, and community organizations.
 Presenters: Teresa Libero-Siddi, California State Polytechnic University-Pomona; Sarah Stapleton, University of Oregon; Dilaruz Williams, Portland State University

Editors' Panel: Publication Processes and Impact
 Throughout 1
 Join us for a candid discussion on the processes and impacts of publishing environmental education research in books, peer-reviewed journals, and nontraditional venues. Scholars with experience writing and editing books, as well as serving as editors and reviewers, will host the session.
 Moderators: Martha Monroe, University of Florida; Alin Reid, Monash University; Marcia McKenzie, University of Saskatchewan

Environmental Education in a Bahamian Primary School: Bridging Community and Conservation
 My research within the Bahamas focuses on the effects of implementing environmental education at the primary school level in an empowering and culturally relevant manner. The data demonstrates the students' ability to disseminate environmental knowledge across the island, a Caribbean example of children becoming environmental ambassadors bridging community and conservation.
 Presenter: Olivia Walton, University of New Haven

E-STEM Higher Education Experiences for Preservice Teachers: An Action Research
 We used a teacher-centered action research approach to evaluate the impact of an e-STEM intervention on conceptions of environmental issues and integrated STEM in preservice elementary school teachers. In this session we will discuss the intervention, the findings, and the reflective processes we used in order to identify areas of improvement.
 Presenter: Angela Burgess, Indiana University

Evaluating Conservation Education Outcomes in Schools in India's Western Ghats
 A new conservation education program for 10- to 13-year-olds is being implemented in India's Western Ghats to nurture an interest in wildlife and to teach students how to better coexist with nature. The benefits of the outdoor youth participation influences knowledge, attitudes, and empathy with wildlife, and if program cost influences.
 Presenter: Gaby Salazar, University of Florida

Examining the Social-Emotional Effects of Garden-Based Education
 School gardens are a space for children to (re)connect with nature. The benefits of the outdoor youth development include strengthening noncognitive skills that lead to success. This in-progress research project examines the social-emotional effects of garden-based education at a Title I elementary school in North Carolina.
 Presenters: Scott Morrison, Elon University

Exploring the Impact of Mid-Media Environmental Education on Home Practices
 Will a multimedia environmental education program using songs and animations have any impact on children and their families? Through the lens of social practice theory, this study explores impact on household domains like water, energy, and food, and factors that help or hinder any process of change.
 Presenter: Victoria Circus, The University of Sheffield

7:30 AM-9:00 AM

Graduate Student Breakfast
 Throughout 4

9:00 AM-9:15 AM

Welcome

9:15 AM-10:15 AM

Keynote

Dr. Nicole Ardoin

Patterson Ballroom



Nicole Ardoin, PhD, and the scholars in her Stanford Social Ecology Lab group research opportunities to engage individuals and communities in sustained pro-environmental practices over time. They consider the role of connection to place and environmental learning in everyday life in improving, supporting, and maintaining those practices. Nicole has a joint appointment in the Stanford Woods Institute for the Environment and the Graduate School of Education. She is the inaugural Emmett Family Faculty Scholar in the School of Earth, Energy, and Environmental Sciences and the Sykes Family Director of the Emmett Institute for Environmental Education, Youth, and Environments. On campus, she is an advisor for the Haas Center for Public Service, the Jasper Ridge Biological Station, and the John Gardiner Center for Youth and their Communities. Off campus, Nicole is an Associate Editor of *Environmental Education Research*, and a consulting editor for the *Journal of Environmental Education and Culture*, *Youth, and Environments*. She is a trustee of the George B. Storer Foundation and an advisor to the Blue Sky Funders Forum, the North American Forestry Institute, the Environmental Education, NatureRidge, Project Learning Tree, the Student Conservation Association, and Teton Science Schools. Nicole has a PhD in Natural Resources from the Yale School of Forestry & Environmental Studies.

Methodologies and Strategies of Research-Practice Partnerships

• Navigating a Research-Practice Partnership in an Urban Environmental Education Program
 What are the benefits and challenges of a research-practice partnership (RPP)? This presentation focuses on an RPP between university-based researchers and urban environmental educators. RPPs require increased time investment, ongoing negotiation, and flexibility. We will address strategies for meeting these challenges from both the researcher and practitioner perspectives.
 Presenters: Marjke Hecht, University of Pittsburgh; Tajil Nelson, Pittsburgh Parks Conservancy

• The Dynamic of Conducting Research in Early Childhood Education
 The research process in environmental education is dynamic. In this presentation, we will talk about the methodological evolution and the diverse roles of different parties in shaping and facilitating the development of the research process. We argue that as researchers we should be flexible and comfortable with this dynamic.
 Presenters: Ann Rossmiller, The University of Cincinnati; Yuchang Yuan, University of Cincinnati

Multimodal Critical Discourse Analysis: Renewable Energy Education, Media, and Beyond
 Throughout 2
 This presentation will explore multimodal critical discourse analysis, an illuminating methodology for examining the representation of salient issues through speech, text, and imagery in media, policy, and curricula.
 Presenters: Gregory Lowan-Trudeau, University of Calgary



Gaining Perspective: Insights From a Culturally Sustaining and Teaching Community Program Evaluations
 This workshop explores the program evaluations of a rural and urban camp performed through a lens of culturally sustaining critical pedagogy. The research engages how equity-focused environmental programs achieve their educational goals, and also contributes to the program and others like it by suggesting mechanisms through which culturally sustaining practices can actually be enacted.
 Presenters: Juan Miguel Arias, Stanford University

How Middle School Students Conceptualize Sustainable Learning in Farm-to-School Programming
 Farm to school (FTS) is a growing educational field, and an important way that environmental education can reach the K-12 school day (USDA 2015). Our project takes a new angle on FTS research, focusing on how this educational movement impacts student thinking around sustainable food systems.
 Presenter: Andie Bliscaglia, Grow It Know It

I Didn't Know What Science Was or Could Be: Citizen Science Promotes Student Engagement in Environmental Justice and Interest in STEM Education
 This qualitative study reports positive self-efficacy in science for youth who participated in an informal citizen science project. Authors explore the role of mentors and authentic science education to change students' perceptions of science.
 Presenters: Michele Koomen, Gustavus Adolphus College

'I Gotta Touch That': Attitudes Regarding Scary or Disgusting Science
 When we take our preservice teachers outside for ecological investigations, many complain about being "gross." As these individuals will one day teach students, it is important to understand their attitudes towards "disgusting" and "scary" sciences and how those attitudes affect their self-efficacy towards teaching about these concepts.
 Presenter: Nichole Naggett, Indiana University

Increasing Climate Change Concern of Parents Through Their Children
 As impacts associated with climate change grow increasingly complex, the need for a citizenry prepared to address them cannot be overstated. Come visit this poster, where we will discuss the exciting results of an experiment aimed at increasing parents' awareness of climate change through their children.
 Presenters: Danielle Alexis Lawson, North Carolina State University

10:45 AM-12:15 PM

Workshops

Making Sense of Environmental Education Research: Strategies for Access, Review, and Synthesis
 Throughout 1
 Environmental education research studies include a diversity of methodological orientations, themes, and outcomes. This workshop provides skill-building strategies for rigorous reviews of studies. Participants will learn how to (a) access large numbers of relevant studies, (b) develop reliable criteria for inclusion, and (c) synthesize to make research accessible beyond academia.
 Presenters: Dilaruz Williams, Portland State University; Cathy Jordan, Children & Nature Network; Michael Barnes, University of Minnesota-Twin Cities

Professional Development Workshop for Graduate Students or Early Career Professionals in EE
 Throughout 2
 Join us for a hands-on, three-session workshop organized by graduate students. The 20-minute stations include a CV/Resume station, a Social Media & Academia station, and a station on Time Management & Writing Groups. To maximize your time in this workshop, please bring a printed or electronically accessible version of your Resume/CV.
 Presenters: Jenna Hartley, North Carolina State University; ORSEIUS Environmental Protection Agency; Anne Armstrong, Cornell University; Nicole Evers, Arizona State University; Marjke Hecht, University of Pittsburgh; Roberta Hunter, Rutgers University; Steven Jackson, North Carolina State University; Danielle Alexis Lawson, North Carolina State University; Naama Sadan, The Hebrew University in Jerusalem

Frameworks and Theories of EE: Place-Based Politics, Cultural Constructivism, and Engaged Scholarship
 Throughout 3
 • **Place as Political Entity: Rethinking Place in Environmental Education**
 How do we cultivate environmental citizens beyond the environmental controversies and (not) politically? This presentation elaborates on the significance of embracing place as political entity in environmental education in order to build students the political competencies to wrestle with the complexity of place and politics of place in sustainability.
 Presenter: Yun-Hen Chan, Texas State University

• **Cultural Constructivism: Understanding the Context of Nature-Knowing**
 How do we truly know nature and make sense of an outdoor environment? Cultural constructivism is an epistemological approach to outdoor education that recognizes the power of one's unique culture in creating meaning out of what is perceived with the five senses. Nature-knowledge is directly situated and built within a cultural environment.
 Presenter: Steph Dean, George Mason University

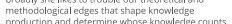
• **Bridging Political Ecology and the Learning Sciences, Towards Engaged Scholarship**
 This session presents a framework for augmenting our approach to environmental education research through a synthesis of political ecology, the learning sciences, and participatory methods. A survey of key examples highlights interdisciplinary use cases and themes that can support the development of new and innovative approaches to practicing engaged scholarship.
 Presenters: Lee Frankel-Goldwater, University of Colorado-Boulder

2:45 PM-3:45 PM

Closing Keynote

Dr. Carolyn Finney

Patterson Ballroom



Carolyn Finney, PhD, is a storyteller, author and a cultural geographer. She explores how issues of difference impact participation in decision-making processes designed to address environmental issues. More broadly she likes to trouble our theoretical and methodological edges that shape knowledge production and determine whose knowledge counts. Along with public speaking, writing, consulting and teaching, Carolyn has held faculty positions at Wellesley College, the University of California-Berkeley, and the University of Kentucky. She has been a Fulbright Scholar and a Canon National Parks Science Scholar, and received a Mellon Postdoctoral Fellowship in Environmental Studies.

She has served on the US National Parks Advisory Board for eight years, which assists the National Park Service in engaging in relations of reciprocity with diverse communities. Carolyn has been interviewed by media outlets including NPR, Sierra Club, Boston Globe, and National Geographic, and has written op-eds for Outside Magazine and Newswise. Her first book, *Black Faces, White Spaces: Reimagining the Relationship of African Americans to the Great Outdoors* was released in 2014 (UNC Press). The aim of her work is to develop greater cultural competency within environmental organizations and institutions, and challenge media outlets and their representation difference, and increase awareness of how privilege shapes who gets to speak to environmental issues and determine policy and action.

Carolyn is currently working on a number of projects including a new book (working non-fiction) that explores identity, race, lived experience and the construction of a black environmental imaginary, and a performance piece about John Muir (The N Word: Nature Revisited). This fall she is the Artist-in-Residence for the Kentucky Foundation for Women's Fall Residency Program and she is doing a two-year residency in the Franklin Environmental Center at Middlebury College as the Environmental Studies Professor of Practice.

The Influence of Children's Participation in Nature Activities
 This study divided the participants into an experimental group and a comparison group. The environmental and rural camp performed significantly better than the pre-test of "nature connection," "pro-environmental behavior," and "quality of life." The rural group "ecological self" and "appreciate nature" positively affect the pro-environmental behavior.
 Presenter: Tzuhiu Tseng, National Tsing Hua University

Intergenerational Learning Beyond the Immediate Family: Students as Environmental Change Agents
 This poster presents data from an investigation of intergenerational learning through marine debris programming. We hypothesize that student program participation will lead to increased knowledge of marine debris, environmental self-efficacy, and pro-environmental behaviors. We hypothesize that community members will report higher perceived importance of using scientific data in environmental decision-making.
 Presenters: Jenna Hartley, North Carolina State University; ORSEIUS Environmental Protection Agency

Learning from Environmental Education in India: Opportunities and Limitations
 India hosts a system of government-supported environmental education centers throughout the country, which conduct a diversity of programs for adults and children. This research analyzes India's programs and asks what can be learned from them by other developing countries as well as by environmental education practitioners in the U.S.
 Presenters: Rebecca Johns, University of South Florida-St. Petersburg; Rachelle Pontes, University of South Florida-St. Petersburg

A Mixed-Methods Approach to the Impacts of Field Trips on Urban Adolescents
 The impacts of a one-day wetland field trip on the environmental knowledge, feelings, and behaviors of a group of urban middle school students are explored. Changes in student connectedness to nature and willingness to carry out pro-environmental behaviors are quantitatively measured, while qualitative statements allow the student voice to come through.
 Presenter: Katherine Hoover, Texas Tech University

10:45 AM-12:15 PM

Panels and Presentations



Frameworks and Theories of EE: Place-Based Politics, Cultural Constructivism, and Engaged Scholarship
 Throughout 3
 • **Place as Political Entity: Rethinking Place in Environmental Education**
 How do we cultivate environmental citizens beyond the environmental controversies and (not) politically? This presentation elaborates on the significance of embracing place as political entity in environmental education in order to build students the political competencies to wrestle with the complexity of place and politics of place in sustainability.
 Presenter: Yun-Hen Chan, Texas State University

• **Cultural Constructivism: Understanding the Context of Nature-Knowing**
 How do we truly know nature and make sense of an outdoor environment? Cultural constructivism is an epistemological approach to outdoor education that recognizes the power of one's unique culture in creating meaning out of what is perceived with the five senses. Nature-knowledge is directly situated and built within a cultural environment.
 Presenter: Steph Dean, George Mason University

• **Bridging Political Ecology and the Learning Sciences, Towards Engaged Scholarship**
 This session presents a framework for augmenting our approach to environmental education research through a synthesis of political ecology, the learning sciences, and participatory methods. A survey of key examples highlights interdisciplinary use cases and themes that can support the development of new and innovative approaches to practicing engaged scholarship.
 Presenters: Lee Frankel-Goldwater, University of Colorado-Boulder

3:45 PM-4:30 PM

Symposium Closing

Patterson Ballroom

Presenters:

Dr. Marcia McKenzie, University of Saskatchewan, Research Symposium Chair

Dr. Olivia Aguilar, Denison University, Research Symposium Co-Chair



Stay connected to the group!
 Research and Evaluation SIG Group
 naee.org/eepr

Modeling an Inter-Institutional Faculty Development and Teaching Community
 The Trillium Sustainability Workshop is an annual daylong course to build capacity to teach sustainability across the curriculum. For the past decade, researchers at Duke have brought together with teaching responsibilities from institutions across North Carolina. We want to share our successes and inspire others to create similar networks.
 Presenters: Noelle Wyman Roth, Duke University; Charlotte Clark, Duke University

A Pilot Study of Validating Environmental Identity Scale in Taiwan
 Environmental identity is a self-definition about how environments become a meaningful part of who we are. The purpose of this study is to test and validate the revised Environmental Identity Scale (EIS; Clayton, 2019) in the Taiwanese context. I will share the result and discuss its influence on environmental behaviors.
 Presenter: Yu-Chi Tseng, National Taichung University of Education

Place, Practice, and Identity in a Positive Youth Development Program
 This poster presents preliminary results from a study using the positive youth development organization, Roping the Boat. The goal of the research is to explore the intersections of place, stewardship practice, and the development of group identities among youth participants.
 Presenters: Anne Armstrong, Cornell University



A Science Outcomes Study Using the "Growing Up Wild" Curriculum
 A multiple treatment split control research design with pre-test and posttests was utilized to determine if "Growing Up Wild" (GUW) activities, in conjunction with a nature-based field trip, impacted children's science outcomes. Children who participated in GUW activities attained significantly higher posttest scores. Gender and pretest scores were also predictors.
 Presenter: Meg Grull, University of Louisville

The Legacy of Carol Saunders: Conservation Psychology and Environmental Education

Throughout 1
 Conservation psychology brings researchers from different disciplines together to understand how to motivate and facilitate behaviors that conserve and restore the natural world. This panel shares the legacy of Carol Saunders, who helped catalyze this field and who broadened the boundaries of environmental education through interdisciplinary contributions.
 Presenters: Amy Bowtell, Cheshire County Conservation District; Martha Monroe, University of Florida; Kathayoon Azra Khalil, Seattle Aquarium; Ruth Kemmis-Allen, Maine Mathematics and Science Alliance; Kathryn Stevenson, North Carolina State University
 Moderator: Louise Chawla, University of Colorado-Boulder

1:30 PM-2:30 PM

Roundtable Discussions

Patterson Ballroom

Addressing Affected and Socio-Emotional Learning in EE Evaluation and Research

• Building Researcher-Teacher Relationships: A Collaborative Approach to EE Professional Development
 This session will address the question of how we can improve EE in our schools through building researcher-teacher relationships in developing collaborative professional development sessions. The roundtable will involve sharing the process of conducting needs assessment interviews with teachers followed by discussion regarding the importance of relationship-building in EE collaborations.
 Presenters: Erica Blatt, Rowan University

• Toward a Framework for Teaching and Learning Outside
 Research suggests there are multiple benefits to being outside, yet many teachers are reluctant to venture from the classroom with their students. In response, we have been working on a framework that identifies and scaffolds where and how teaching and learning can happen in outdoor learning environments.
 Presenters: Scott Morrison, Elon University

3:45 PM-4:30 PM

Symposium Closing

Patterson Ballroom

Presenters:

Dr. Marcia McKenzie, University of Saskatchewan, Research Symposium Chair

Dr. Olivia Aguilar, Denison University, Research Symposium Co-Chair



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Searching for Situated Decoding of Gender in Forest Schools
 Within forest schools, the coexistence of traditionally feminine- and masculine-coded practices creates a unique domain for gender expression. This in-progress research project explores how forest schools might decode gender expectations and offer children more options for gender expression.
 Presenters: Abigail Decker, Elon University; Scott Morrison, Elon University

The Social Impact Measurement of Nature Education Organizations in China
 To attract audiences and sustain funding, nature education organizations need tangible accountability for the social impact created. My research develops a social impact measurement for nature education organizations in China. The results provide recommendations on how to measure and expand social impact on nature education organizations in China.
 Presenters: Mi Yan, Cornell University; Marianne Krasny, Cornell University

Statewide Census of Environmental Learning in Maine
 Maine conducted a "state of the state" initiative for environmental education in both formal and informal learning contexts. This poster will share our process for developing a survey and strategy to engage multiple audiences and findings from our state that are helping to inform needs for the field.
 Presenters: Alexandria Basili, Maine Mathematics and Science Alliance; Ruth Kemmis-Allen, Maine Mathematics and Science Alliance

Students of Color Identify Ways Environmental Faculty Can Advance Racial/Ethnic Diversity in Undergraduate Programs
 Concerns of students of color studying environmental science led to a grounded theory study on the experiences of students of color in undergraduate environmental programs. Results inform environmental programs how to improve their racial and ethnic diversity and, in turn, contribute to a more diverse environmental workforce and equitable environmental students.
 Presenter: Tania Schuler, Loyola University Chicago

Current and Emerging Trends in Early Childhood Environmental Education Research

Learn about the latest research published in the International Journal of Early Childhood Environmental Education, including a special issue on post humanist perspectives, share your own research interests, and discuss what's needed to continue to advance research in early childhood environmental education.
 Presenters: Betty Okoko, NAAEE; Yash Bhagwanji, Florida Atlantic University

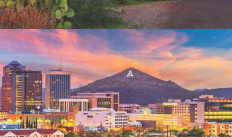
"New" Frameworks for EE Research: New Materialist, Post-Humanist, and Post-Qualitative Approaches
 • **Technique to Technicity: Becoming in Qualitative Inquiry Through Writing Techniques**
 In this discussion, I elaborate on techniques recently suggested in the literature to strengthen writing in qualitative and post-qualitative inquiry. I give examples of these techniques, discuss how they may add to the process of writing as inquiry, and engage the audience in thinking and using these techniques.
 Presenter: Nicole Bowers, Arizona State University

• The Promise of New Materialism in Sustainability Education Research
 Driven by compelling questions posed by an education for sustainability researcher from an international research team, participants in this session will engage in a thought-provoking conversation about new materialism and post humanism as aspirational frameworks for conducting ethically inclusive research in marginalized regional and rural communities.
 Presenter: Sherie McClam, Manhattanville College

Unpacking Environmental Literacy at the Community Scale
 Current perspectives on environmental literacy tend to focus on the individual. However, given the social nature of learning, environmental literacy needs to be better understood at the collective level. In this session, we will explore what environmental literacy may look like collectively and how we may examine its development.
 Presenters: Mele Watson, Stanford University; Archana Kannan, Stanford University

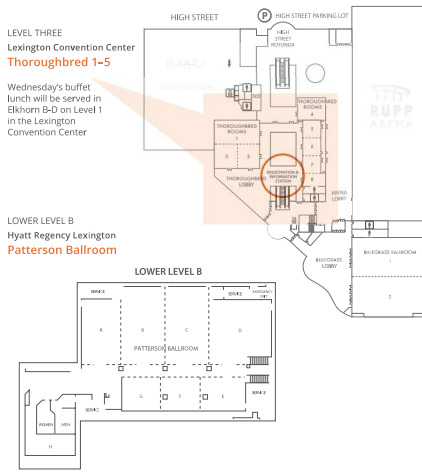
naee 49th Annual Conference
 October 14-17, 2020

17th Annual Research Symposium
 October 13-14, 2020
 TUCSON, ARIZONA



TUCSON2020
 naee.org

From bluegrass fields to saguaro forests
 "Susan had opened my eyes to the world and given me ... a taste for the sensory extravagance of red hot chiles and five-alarm smuts."
 —BARBARA NINGSVOLD



17



LEX2019

- Follow @TheNAEE on social media!
- Follow @TheNAEE on Instagram for NAAEE2019 photos and videos!
- Follow us on Facebook to stay connected to #NAAEE2019 trends and events!
- Access our conference mobile app via your app store. Download "CrowdCompass AttendeeHub" and search for "NAEE".

LEX2019

naaee North American Association for Environmental Education

kaee Kentucky Association for Environmental Education

48TH Annual Conference
OCTOBER 16-19

16TH Annual Research Symposium
OCTOBER 15-16

EDUCATING FOR A JUST AND SUSTAINABLE FUTURE

LXINGTON CONVENTION CENTER | KY

Schedule at a Glance. Check daily schedules (starting on page 55) for detailed information.

TIME	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
7:00				COFFEE WALK, YOGA 6:30-8:15	YOGA 7:30-8:15
7:30		RESEARCH SYMPOSIUM GRADUATE STUDENT/YEARLY CAREER BREAKFAST 7:30-9:00	HELEN DANER WELCOME 7:30-8:15		
8:00					
8:30			CONCURRENT SESSIONS 8:30-10:00	CONCURRENT SESSIONS 8:30-10:00	CONCURRENT SESSIONS 8:30-10:00
9:00	RESEARCH SYMPOSIUM 9:00-4:30				
9:30		RESEARCH SYMPOSIUM 9:00-4:30			
10:00			30 MINUTE COFFEE BREAK	30 MINUTE COFFEE BREAK	30 MINUTE COFFEE BREAK
10:30		WORKSHOPS (Full day, morning and afternoon)	CONCURRENT SESSIONS 10:30-11:10	CONCURRENT SESSIONS 10:30-11:10	CONCURRENT SESSIONS 10:30-11:10
11:00					10:30-12:00
11:30		FIELD TRIPS (Start and end times vary)	PLENARY SESSION Mona Chabi 11:30-12:00	PLENARY PANEL Educating for a Just and Sustainable Future 11:30-12:45	AWARDS LUNCHEON 11:30-12:30
12:00		WORKSHOP/ RESEARCH SYMPOSIUM LUNCH 12:00-1:30	EXHIBIT LUNCHEON Poster Sessions, Affiliates Welcome, State Auction and Raffle 12:30-2:15	LUNCH (on your own) 12:45-2:15 eEPED Group Meetings 1:15-2:00	
12:30			CONCURRENT SESSIONS 2:15-3:45	CONCURRENT SESSIONS 2:15-3:45	PLENARY PANEL EE 30 Under 30: Young Leaders Making a Difference
1:00					
1:30					
2:00					
2:30					
3:00					
3:30					
4:00					
4:30	RESEARCH SYMPOSIUM RECEPTION 4:30-6:00	ORIENTATION 4:45-5:15	CONCURRENT SESSIONS 4:00-5:30	CONCURRENT SESSIONS 4:00-4:40	
5:00		OPENING RECEPTION: EXHIBITS, SHIRTS, FARE, AND AUTHORS' CORNER 5:00-6:30	HHMI MOVIE NIGHT	MEETINGS & RECEPTIONS 5:00-6:00	
5:30			HHMI MOVIE NIGHT		
6:00		OPENING CEREMONY 6:30-9:30	eBLUE SOCIAL 5:30-7:00		
6:30					
7:00		KEYNOTE: John Ficker	Young Professionals Networking Reception and Brew 7:00-10:00	BOURBON & BLUES CELEBRATION AND AUCTION 7:00-9:30	
7:30					
8:00					
8:30					



LEX2019

On behalf of the NAAEE board, staff, and conference planning team, welcome to the 48TH Annual NAAEE Conference!

We're thrilled you can be here and hope you enjoy everything the conference and conference planning team has to offer. This year's theme, *Educating for a Just and Sustainable Future*, focuses on the power of education to create positive change leading to a more equitable and sustainable future.

This program is designed to help you navigate the conference and find the workshops, field trips, poster sessions, symposia, keynotes, and other presentations that best meet your needs and interests. You can also get the NAAEE 2019 conference app on your mobile device: download the free "CrowdCompass AttendeeHub" from your app store and then search for NAAEE.

You'll see dozens of volunteers wearing bright blue NAAEE t-shirts, who can help answer questions you might have. And if you need anything else, please come to the Registration Desk or the nearby Information Station for assistance.

48TH ANNUAL NAAEE CONFERENCE | LEXINGTON, KY 4

I loved being outside. We'd hold lightning bugs in our fingers and pretend they were diamond rings.

— Lorella Lynn
Butcher Hollow, Kentucky

Here are some highlights of the week:

- Our annual **Research Symposium**, highlighting current research in the field (Tuesday and Wednesday)
- An exciting conference kickoff featuring a welcome reception and a keynote presentation by John Ricker, president of Prescott College and former president of the National Audubon Society (Wednesday)
- The **Exhibit Fair**, showcasing new resources and programs in environmental education—we'll celebrate with a buffet luncheon on Thursday, which also includes the conference poster presentations and the **Affiliate Welcome**
- Engaging and provocative plenary presentations, including a talk by Mona Chabi, Data Editor for *The Guardian* (Thursday), and a series of **short flash talks**, moderated by Anupama Joshi, Executive Director of the Blue Sky Funders Forum, which will give you a taste of how five creative and passionate leaders are thinking about creating a just and sustainable future (Friday)
- Bourbon and Blues** on Friday—an engaging evening focused on Kentucky history and culture with a chance to make your own Derby hats and bow ties, sample bourbon, take part in NAAEE's annual auction, and dance to the music of the locally renowned The Dee Young Blues Band
- NAAEE's **annual business meeting** on Saturday morning, where you can learn more about the Association and have a chance to provide input
- An **Awards Luncheon** featuring the presentation of NAAEE's awards, including the Jesse Award, NAAEE's highest honor, and an inspiring panel of young leaders selected from NAAEE's EE 30 Under 30 honorees

Thanks to everyone who has made this conference possible—our committee chairs, the NAAEE board, Advisory Council, and staff, our amazing Affiliate network, hundreds of volunteers, our funders, our partners, and so many other supporters. We also want to thank the Kentucky Association for Environmental Education, NAAEE's Kentucky Affiliate and conference partner, and especially our conference co-chairs, Jim Embry and Ashley Hoffman, for their innovative and tireless efforts to bring Kentucky's unique contributions to the conference.

A final thank you goes to all of you for attending—we know it's a big commitment. We hope you develop long-lasting personal and professional relationships and have a chance to engage in many meaningful conversations throughout the week. When you bring a committed group together, magic happens—and we are looking forward to creating that magic together in Lexington.

With warm regards from your conference leadership team:

Charlotte Clark Board Chair
Judy Braus Executive Director
Lori Mann Conference Manager

48TH ANNUAL NAAEE CONFERENCE | LEXINGTON, KY 5

ENVIRONMENTAL EDUCATION WEEK

WHEREAS, the beauty of Lexington-Fayette County's natural resources - from the horse farms, to our streams and to the majestic Kentucky River - must be protected for future generations; and

WHEREAS, to sustain the stewardship land and water ways of our great city requires the stewardship of every person, as well as future generations; and

WHEREAS, stewardship is not possible without a strong sense of connection to the natural world and an understanding by our individual and collective responsibilities to protect it; and

WHEREAS, environmental education increases student engagement in science, improves student achievement in core subject areas, and increases student awareness about how they can help restore the health of the natural environment; and

WHEREAS, there is a need to engage individuals and organizations throughout our region to sustain a high quality of life through education, conservation, and the restoration and protection of natural resources.

NOW, THEREFORE, I, Linda Gorton, Mayor of Lexington in the state of Kentucky, do hereby declare October 14-19, 2019, as

ENVIRONMENTAL EDUCATION WEEK IN LEXINGTON.

Linda Gorton
MAYOR

48TH ANNUAL NAAEE CONFERENCE | LEXINGTON, KY 6

THANK YOU LEX2019

Sponsors of the 48TH Annual NAAEE Conference

PRESENTING SPONSORS

ee360

Platinum

hmm | Tangled Bank Studios | Project Learning Tree

GOLD

EPA | United States Environmental Protection Agency | Disney Nature

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GRAY FAMILY FOUNDATION | eeBLUE | Prescott College | sodexo

GREEN

INDIANAPOLIS ZOO | sca

BLUE

BEREA COLLEGE | Columbia Gas | LEXINGTON

ORANGE

VOICEPLAY | LEXINGTON Parks & Recreation | REI COOP | Wegner CPAS | globio

IN KIND

48TH ANNUAL NAAEE CONFERENCE | LEXINGTON, KY 7

LEX2019

Welcome from the home team!

It is such an honor to host this gathering of environmental educators from across the globe and to have the opportunity to showcase our wonderful state and the amazing work happening in our environmental education community.

Lexington is the Horse Capital of the world, surrounded by over 400 horse farms with green pastures and beautiful Thoroughbreds nourished by the limestone in the soil. If you wish to see horses up close, Keeneland racetrack holds its Fall Meet October 4-26. The Isaac Murphy Memorial Art Garden and the Kentucky Horse Park Museum provide an understanding of the vast contributions of African Americans in establishing horse racing in Kentucky.

But we are more than just horses; Lexington also has natural areas nearby, including McConnell Springs, Raven Run Nature Sanctuary, and Floraciff Nature Sanctuary. You can also take advantage of pre-conference workshops and field trips or participate in an early morning coffee walk for a unique opportunity to explore the natural and cultural history of the local area. And if time allows, plan to visit other beautiful natural areas outside of Lexington, such as Red River Gorge, Cumberland Falls, or Mammoth Cave National Park.

Join us Thursday morning for a welcome from Helen Daner, chair of the Kentucky Native American Heritage Commission, to learn about the history of this region, which once served as the home for the Cherokee, Shawnee, Chickasaw, and Yuchi peoples.

You will find some excellent restaurant and brewery options within walking distance of the convention center. And you'll certainly want to stop at one of the distilleries along the Kentucky Bourbon Trail and learn about the bourbon-making process that plays such a rich role in Kentucky's history and economy.

We hope you feel and see firsthand the passion and dedication our educators bring to the field. Kentucky is proud not only to have a strong Affiliate organization (KAE) but also to have a state agency dedicated to environmental education (the Kentucky Environmental Education Council, KECE). We are one of the few states with an NAAEE-accredited Professional Environmental Educator Certification, an environmental education endorsement program for formal educators, and an Environmental Education Leadership Corps.

The work of KAE and KECE has been augmented by numerous other groups such as Lexington's Environmental Commission, which has since 1969 provided its citizens with environmental education and many opportunities for engagement in community activities.

All of our universities are deeply committed to environmental education. Berea College has been *Educating for a Just and Sustainable Future* since its founding in 1855 when it became the first college in the South to admit women and African Americans while being devoted to environmental stewardship. We are proud that all across our beautiful state, environmental education is recognized and supported broadly as a vitally important effort.

Jim Embry
Conference Co-Chair
Sustainable Communities Network

Ashley Hoffman
Conference Co-Chair
Kentucky Association for Environmental Education

See pages 129-132 for suggested restaurants and places to visit in and near Lexington.

48TH ANNUAL NAAEE CONFERENCE | LEXINGTON, KY 8

Cal Water H2O Challenge

The Cal Water H₂O Challenge is coming back for YEAR 6!

A FREE, educational competition tackling California's water issues

In addition to our annual project-based learning classroom competition for grades 4-6, Cal Water is excited to announce a NEW challenge:

NEW THIS YEAR! A media competition about caring for water

Open to students in grades K-12

Learn more at calwater.com/challenge

naaee

48TH ANNUAL NAAEE CONFERENCE | LEXINGTON, KY 9

Achieving great things for our community



When a group of people comes along who have the courage and vision to turn dreams into reality, they make the future bright for everyone.

We proudly celebrate the achievements of the 2019 NAAEE 30 Under 30 award winners.

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Many fun options of environmental education and excellence in environmental education

Education we need for the world we want

There has never been a greater need for environmental education—or a greater opportunity. The world is facing unprecedented environmental, social, and economic challenges—from a changing climate and loss of species and habitats, to decreasing access to nature, the unequal distribution of resources, and other threats to our well-being. Environmental education has the potential to transform lives and society by addressing these challenges through helping to create a motivated and committed citizenry. Environmental education informs, inspires, and enlightens. It builds human capacity, influences attitudes, and can lead to action. And most importantly, it can help people make informed decisions about the environment that lead to informed stewardship and a more sustainable society.



For nearly five decades, the North American Association for Environmental Education has worked to strengthen and expand the field of environmental education, with a growing network of support including:

- 20,000+** MEMBERS AND SUPPORTERS
- 56** STATE AND REGIONAL AFFILIATES
- 30+** COUNTRIES



Cultivating Collaboration

Annual Conference: NAAEE has convened an annual conference for environmental education professionals since 1972. Averaging more than 1,000 participants each year, the event is designed to promote innovation, networking, and learning.

Early Childhood Environmental Education: In 2013, NAAEE launched the National Start Alliance—a coalition of educators, parents, and organizations focused on linking early childhood education with EE to connect young children with nature and enhance opportunities for creative play and learning.

Global Environmental Education Partnership: In partnership with US EPA and the Taiwan Environmental Protection Administration, NAAEE is creating a vibrant learning network designed to build capacity for environmental educators around the world.

Serving as a Champion: **EE Advocacy:** Since its inception, NAAEE has helped lead policy and outreach efforts in North America. NAAEE highlights key opportunities to get involved in strengthening public support for environmental education.

Civic Engagement: NAAEE collaborates with the civic engagement education community to strengthen leadership and support initiatives that will advance our collective work to create a more engaged and environmentally literate citizenry.

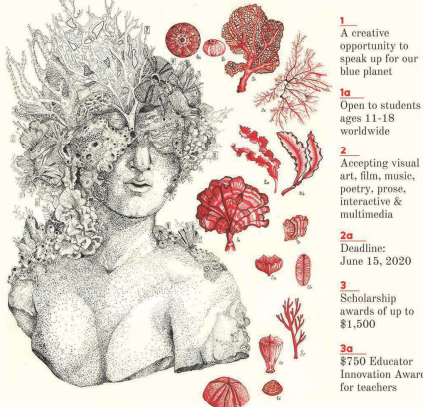
Investing in Leadership: **EE 30 Under 30:** Each year, NAAEE awards 30 high-potential leaders under 30 years of age who are creating change in their communities using EE. We provide professional development and networking to build their capacity in the field.

Broadening the Conversation: NAAEE, through a cooperative agreement with US EPA, and seven partner organizations, is leading an ambitious five-year initiative called ee360 to support a diverse cadre of environmental education leaders who are better prepared to increase environmental literacy and advance civic engagement.

Connect with NAAEE today and join us in creating a more sustainable future together.

naaee.org

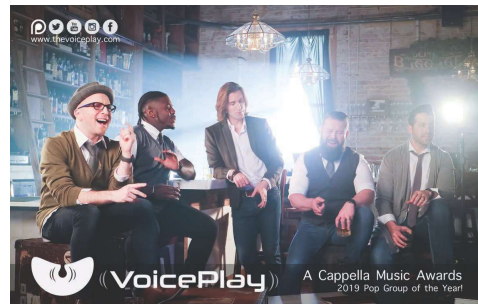
Bow Seat's 2020 OCEAN AWARENESS CONTEST



- 1** A creative opportunity to speak up for our blue planet
- 1a** Open to students ages 11-18 worldwide
- 2** Accepting visual art, music, poetry, prose, interactive & multimedia
- 2a** Deadline: June 15, 2020
- 3** Scholarship awards of up to \$1,300
- 3a** \$750 Educator Innovation Awards for teachers

Climate Hope: Transforming Crisis

Visit bowseat.org/contest for details, classroom resources, and to submit



Division of Natural Areas
Eastern Kentucky University

The Division of Natural Areas at Eastern Kentucky University is a proud sponsor of the 48th Annual NAAEE conference.

To learn more visit naturalareas.eku.edu

Berea College
FORESTRY OUTREACH CENTER

The Forestry Outreach Center is a proud partner of all ages and backgrounds to help us create a more sustainable future through a dual focus on discussing research processes and impacts. In addition to dozens of poster presentations sharing completed or in-progress research projects, a range of panels, roundtable discussions, and workshops will provide multiple perspectives on how we do EE research, and to what ends.

Chair: Marcia McKenzie, University of Saskatchewan
Co-Chair: Olivia Aguilar, Denison University

Conference Basics

Registration & Check-In Hours

Monday	1:00 PM-2:30 PM, 5:00 PM-7:00 PM
Tuesday	7:30 AM-10:30 AM, 5:00 PM-6:30 PM
Wednesday	7:00 AM-10:30 AM, 12:00 PM-6:30 PM
Thursday	7:30 AM-10:30 AM, 1:30 PM-6:00 PM
Friday	7:30 AM-10:30 AM, 1:30 PM-6:00 PM
Saturday	8:00 AM-10:30 AM

Location: Thoroughbred Bridge

Information Station

Tuesday	7:30 AM-1:30 PM
Wednesday	7:00 AM-6:30 PM
Thursday	8:00 AM-6:30 PM
Friday	7:30 AM-6:00 PM
Saturday	10:00 AM-12:30 PM

Have questions about the conference? Want to sign up for the Community Service Project or Fundraising Roundtable? Volunteers are here to help. The Information Station is located near the registration counters on the Thoroughbred Bridge.

General Information

Accessibility Assistance
NAAEE strives to make our conference accessible to all attendees. Please request accommodations at the registration desk or ask any staff member for assistance.

Auction Items
Please bring auction items to the Bluegrass Lobby, where volunteers will be ready to accept your donation. (If the office is not open, please leave donations at the Information Station.)

Bidding on silent auction items begins during the opening reception on Wednesday evening in the Bluegrass Lobby. The live auction will be held and the silent auction will close during the gala on Friday evening. Some sections of the silent auction close Thursday.

New this year! Bid anywhere anytime! Silent auction bidding will be online, so you can raise your bid wherever you are! Sign up at 23auctions.com/NAEEAuction2019. No mobile device! Volunteers at the auction tables can assist with online bidding.

Exhibit Fair 5:00 PM-6:30 PM
Wednesday 9:00 AM-5:00 PM
Thursday 9:00 AM-2:30 PM
See page 135 for a list of exhibitors.

Field Trips
If you are registered for a field trip on Wednesday, meet your vans at the High Street Rotunda entrance to the convention center. Please arrive 15 minutes before departure times, which are listed on page 58.

Jobs and Resumes
You can upload your resume, build your ePROfile, search for jobs, or post job listings in ePRO. NAAEE's online hub for professional development in EE. Visit NAAEE's exhibit in the Bluegrass Lobby for more information or a demonstration.

Lunch on the Go
Grab-and-go concessions will be available in the Bluegrass Lobby on Friday from 12:30 PM to 2:00 PM.

Mobile App
Our conference mobile app allows you to search the conference program, build your own schedule, network with other attendees, and more. Download "CrowdCompass AttendeeHub" from your app store and then search for "NAAEE." Need support? Ask at the Information Station.

Nursing Mothers
The Thoroughbred Show Office (near Thoroughbred 3) is available for nursing mothers. There is a refrigerator in the room.

Volunteer Check-in
The Volunteer Office is in Thoroughbred 6. Registered volunteers should check in at the office 15 minutes prior to the start of their shifts.

Wi-Fi Access
Free Wi-Fi is available in the hotel's public areas and meeting rooms. Take advantage of the access to send a few tweets using #NAEE2019 to share your favorite session or let folks know what you think of the conference!

Continuing Education Hours (CEHs)

NAAEE has partnered with the University of Wisconsin-Stevens Point (UWSP) for attending the Annual Conference and Research Symposium. Participants can receive a certificate documenting their continuing education hours by completing an application form that verifies session attendance and submitting the form, along with a \$30 processing fee, to UWSP Continuing Education and Outreach. You can pick up an application form at the Information Station. Ten contact hours of professional development equals 10 CEHs.

For more information, contact [Tyler Pozdinski](mailto:Tyler.Pozdinski@uwsp.edu), Tpozinski@uwsp.edu

Follow @TheNAAEE on social media!

Follow us on Facebook to stay connected to #NAEE2019 trends and events!

Follow @TheNAAEE on Instagram for NAAEE2019 photos and videos!

Access our conference mobile app via your app store: Download "CrowdCompass AttendeeHub" and search for "NAAEE."

Conference Strands

- Six cutting-edge thematic strands characterize this year's conference:
- Building Leadership for Environmental Literacy**
 - Strategies for building leadership and infrastructure to further EE on the state and provincial levels, and for advancing efforts to motivate the public to take informed actions on environmental and other civic issues.
 - Strand Leader: Dave Chase, DRC Consulting, LLC
 - Connecting with Nature**
 - Cultivating partnerships and providing universally accessible outdoor education experiences that connect people of all ages and backgrounds to nature.
 - Strand Leader: Joan Kayira, Antioch University New England
 - Conservation and Environmental Education**
 - Achieving conservation goals through education, communication, social marketing, and ecotourism strategies; including public participation in scientific research and place-based community action.
 - Strand Leader: Michelle Eckman, Connecticut Audubon Society
 - Educating for Sustainable Communities**
 - Creating sustainable, equitable, and resilient communities through partnership building, informed civic engagement, and personal decision making, systems thinking, connecting community and environment, and understanding historical impacts on communities of color.
 - Strand Leader: Lee Frankel-Goldwater, University of Colorado-Boulder
 - Green Schools and Preparing for 21st Century Careers**
 - Using environmental education to transform education, enhance student achievement, conserve resources, prepare students for green careers, support national and international education trends, link schools and communities, and build support for environmental education in formal education.
 - Strand Leader: Jennifer Ortega, Humboldt State University
 - Linking Research and Practice to Increase Impact**
 - Using research to inform how we design, develop, refine, and promote environmental education programs for maximum effectiveness, and using practice to inform research.
 - Strand Leaders: Justin Hougham, University of Wisconsin-Extension and Steve Kerlin, Stroud Water Research Center

Concurrent Session Formats

Conference participants will see a wide variety of session types listed in the conference program. The different formats help us maximize the diversity and number of presenters. Session formats vary in length and degree of depth and interaction.

Workshop (full or half day)
Workshops are in-depth sessions that actively develop specific professional competencies and have widespread potential for implementation. Workshops are scheduled on Wednesday, prior to the formal start of the conference. Onsite registration is accepted as space allows; fees apply.

Symposium (90 minutes)
Symposia are panel discussions presenting different perspectives on a topic or question related to one of the focus points for each strand. Panels generally include at least three panelists and a moderator.

Hands-on Presentation (90 minutes)
Hands-on sessions provide participants with the opportunity to engage in teaching activities and interactive discussions about a particular topic.

Traditional Presentation (40 minutes)
Traditional presentations focus on a single topic or program, typically including a talk or media presentation followed by a short discussion.

Roundtable Discussion (40 minutes)
Roundtable discussions emphasize spirited discussion between the presenter(s) and session attendees. Presenters briefly introduce the baseline question they wish to explore, and then open the discussion for input and exchange of ideas. Multiple roundtable discussions occur simultaneously in one large room.

Poster Presentation (40 minutes)
Posters are two-dimensional printed presentations illustrating research studies, programs, or other work. Posters are fixed to bulletin boards for conference participants to review at leisure. In addition, all presenters will be available during the Exhibit Fair Luncheon on Thursday to share their posters, answer questions, and interact with attendees.

Bright Spot (10 minutes)
Bright spots are succinct talks that celebrate specific triumphs and showcase things that work. Each presenter has 10 minutes to highlight important research findings, and successful and innovative family programs, school programs, community partnerships, conservation achievements, and more. Two or three loosely related bright spots are presented back-to-back during each 45-minute time block.

Finding Sessions of Interest

Equity and Inclusion

NAEE strives to dedicate at least 15 percent of our concurrent sessions within each strand to advancing equity and inclusion in EE. These sessions explore ways to strengthen our field through strategies and programs that, among others, help diversify our audiences as well as our workforce, build cultural competence, support environmental justice, engage with new audiences, forge new and lasting partnerships, honor traditional knowledge, and increase our reach and relevance throughout society. Sessions marked with this icon have been identified using criteria developed by a team from NAEE's Equity and Inclusion eePRO group as helping to meet this goal.

Young Professionals

NAEE has planned several sessions specifically targeted to the needs of those who are in the early stages of their career. These include a skill-building clinic, presentations by NAEE's EE-30 Under 30 honorees, and sessions about or for young professionals as identified by their presenters.

Sessions marked with this icon are suggested for early-career professionals. See page 32 for more information.

Affiliate Network

Sessions marked with this icon are offered by and for leaders and members of the state and provincial organizations that comprise the NAEE Affiliate Network. See page 30 for more information.

ee360 Partners

Sessions marked with this icon are offered by NAEE and our partner organizations in the ee360 Initiative, a cooperative agreement between NAEE and US EPA. See page 28 for more information.

Keywords

In addition, search on these tags in the mobile app to find sessions of particular interest in these areas:

- Arts
- Capacity building
- Early childhood
- Elementary school programs
- Gardening
- International EE
- Middle & high school programs
- NGSS/Common Core
- Spirituality
- STEM
- Traditional knowledge
- Underserved audiences

Forest Service Mission

To sustain the health, diversity, and productivity of the Nation's forests and grasslands to meet the needs of present and future generations.

The National Conservation Education Program works with partners and States to coordinate development and delivery of high-quality, science-based education about natural resources to pre-K through high school students, their educators, and their families.

<http://www.fs.fed.us>
USDA is an equal opportunity employer, supplier, and lender.

Academy of Natural Resources

Learn about diverse natural resources, discover trends in their management, and experience activities that bring that knowledge to the classroom by attending this engaging professional development opportunity.

For more information visit michigan.gov/ANR

Prescott College Center for NATURE & PLACE

"Take learning beyond the classroom!"

Prescott's early education teacher preparation program focuses on empowering educators with the tools they need to nurture children's sense of curiosity and wonder. Our hybrid online program allows you to earn a Bachelor of Arts in Masters of Education from wherever you call home.

Interested? Prescott.edu/NPECE

220 Grove Avenue • Prescott, AZ 86301 • 877-353-2100 • prescott.edu

PROJECT LEARNING TREE AWARD-WINNING CURRICULUM

"Targets NGSS Standards"

"Super engaging!"

"Easy to use!"

"Extremely well thought out and thorough!"

Winner of multiple Teachers' Choice Awards from Learning Magazine

shop.plt.org

Project Learning Tree is an initiative of SFL.

HHMI MOVIE NIGHT AT NAAEE

OUR GORONGOSA

Our Gorongosa tells the eye-opening story of an iconic national park that is creating a new vision for conservation in the 21st century. A vision as invested in elevating the lives of the people — and especially the women — outside the park as it is protecting the animals within it.

Join us for complimentary drinks and snacks
Thursday, October 17 at 5:30 p.m. (film starts at 6:00 p.m.)
Bluegrass Ballroom 2

Columbia Gas
A NISource Company

Enhancing our environment

Nutrien Solutions

Future Site of Monarch Waystation

Contractors grow with trees™

FORELL INNOVATION

The Bee & Butterfly Habitat Fund
A Nature Conservancy Solution.

SCA Alum meet-up on Thursday!

SCA alums are invited to join us at HopCat from 5:30-7 p.m. for a FREE HAPPY HOUR to be followed by the official NAEE Young Professional Networking event. Attend for your chance to win SCA swag and network with other alums in the field.

RSVP at http://bit.ly/SCA_NAAEE2019

Also, be sure to find the SCA table near the registration desk to get your SCA ALUM RIBBON to add to your name badge and other FREE SWAG!

Email pmaliza@thisiscas.org for more info.

Networking Opportunities

Stay Connected through eePRO!

NAEE's professional development hub, eePRO, is the online place to connect, share, and learn! You can find resources, learn about new ideas and professional development opportunities, connect with people with similar interests, and continue the inspiring conversations that get started here at the conference. You can also attend NAEE's monthly webinars, and discover new workshops and other training opportunities, the latest research, and much more.

Sign up today at naee.org/eePRO/join-eePRO.

eeJOBS ➔
eeJOBS: Leading EE Job Listing Service

eeNEWS ➔
eeNEWS: Latest News From NAEE and the EE Community

eeLEARN ➔
eeLEARN: Online Learning Modules

eeRESEARCH ➔
eeRESEARCH: Connecting Research and Practice

eeWEBINARS ➔
eeWEBINARS: Bringing New Ideas and Innovation to the Field of EE

eeWORKS ➔
eeWORKS: Research Reviews and Communication Tools

As part of ee360, NAEE is continuing to build out this series of online learning modules exploring the foundations of environmental education with the newest module, Equitable and Inclusive EE. Coming soon to naee.org/eePRO/learning/eelearn!

Want to help test the module? Ask at the NAEE Pavilion in the Bluegrass Lobby.

eeinspire
Sparkling Innovation in environmental education

naee.org/webinar-series/eeinspire

eePRO Group Meetings
Friday, 1:15 PM–2:00 PM

- Advocacy, Policy, and Civic Engagement
Throughout 1
- Climate Change Education
Regency Ballroom 1
- Connecting to Nature
Heritage Ballroom 3
- Conservation and Behavior Change
Heritage Ballroom 3
- Data Literacy
Heritage Ballroom 2
- Early Childhood EE
Throughout 4
- Equity and Inclusion
Heritage Ballroom 1
- E-STEM
Throughout 1
- Global EE
Throughout 1
- Guidelines for Excellence
Regency Ballroom 2
- Higher Education
Regency Ballroom 3

Join the Discussion: eePRO Groups

At the center of eePRO's group discussion platform are the 15 eePRO Groups—special interest groups created by and for our members and supporters. These forums offer the opportunity to discuss important subjects with experts, peers, budding environmentalists, and more. Enthusiastic moderators keep the discussions active, positive, inclusive, and informative.

Most of the eePRO groups will meet during Friday's lunch break—and whether you're a current member or want to develop new networking opportunities—you are encouraged to bring your lunch and join in! You can pick up a quick "to go" lunch at the concession stand in the Bluegrass Lobby the convention center.

LOCAL CULTURE
Kentucky Dulcimer (mountain dulcimer)
In 1880 Edward Thomas of Knott County, Kentucky began building and selling dulcimers. Due to its modest volume, it was mostly used as a parlor instrument suited for small home gatherings.

naee National Association for Environmental Education
SEPA United States Environmental Protection Agency

Thanks to the US Environmental Protection Agency for supporting eePRO maintenance and enhancements through ee360.

Meetings & Gatherings

Affiliate Network Dinner
Tuesday, 7:00 PM–9:30 PM, HopCat Lexington (410 W. Short Street)
Informal networking dinner for affiliate leaders, pre-registration and payment required.
Coordinator: Brenda Metcalf

Call Water H2O Challenge: Leadership Summit
Thursday, 8:30 AM–11:00 AM, Mary Todd Lincoln by Invitation.
Coordinator: Chris Hutton

eeBLUE Social
Thursday, 5:30 PM–6:45 PM, Patterson E-G
Join NOAA and NAEE for an informal reception highlighting our eeBLUE partnership to advance ocean education and environmental literacy. Enjoy light hors d'oeuvres and a cash bar. Everyone welcome.
Coordinator: Bronwen Rice

eePRO Group Meetings
Friday, 1:15 PM–2:00 PM
Several eePRO Groups are meeting over a brown bag lunch. See page 25 for groups and locations.

Environmental Professionals of Color Annual Meeting
Friday, 10:30 AM–11:10 AM, Throughout 4
The Environmental Professionals of Color (EPOC) annual business meeting is open to EPOC members and potential members. Join us as we co-create a space to talk about what's on our minds, our challenges and successes, our hopes, and ways we can support one another.
EPOC is a program of the Center for Diversity & the Environment.
Coordinator: Queta González

Environmental Education Research Editors' Meeting
Thursday, 8:30 AM–10:00 AM, Mary Todd Lincoln Working meeting for journal editors. By invitation.
Coordinator: Alan Reid

LOCAL WILDLIFE
The Bluegrass State
Kentucky is known as the Bluegrass State. Bluegrass is not really blue—it's green. In the spring Bluegrass produces blue-flowered birds that when seen in large fields give a blue cast to the grass.

eePRO Group Meetings
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EPOC is a program of the Center for Diversity & the Environment.
Coordinator: Lori Mann

NAEE 2020: Share Your Ideas!
Saturday, 9:20 AM–10:00 AM, Ekhorn B
Join NAEE's board chair, executive director, board members, and staff for a discussion on the current state of the organization and future directions for NAEE. Topics will include strategic planning, a financial report, and your questions. We welcome your input!
Coordinators: Charlotte Clark, Judy Braus

Queer Environmental Educators Network (QEEN) Gathering
Thursday, 4:50 PM–5:30 PM, Heritage Ballroom 1
Join us for the first-ever gathering of QEEN, the Queer Environmental Educators Network, for LGBTQ+ identified educators.
Coordinator: Rochelle Gandour-Road

Student Conservation Association Alumni Networking Event
Thursday, 5:30 PM–7:00 PM, HopCat Lexington (410 W. Short Street)
Please join SCA staff and alumni as we gather to share stories from our service experience and professional accomplishments since. Pre-registration through SCA required.
Coordinator: Patricia Maliza

Southeastern Environmental Education Alliance Meeting
Friday, 5:00 PM–6:00 PM, Regency Ballroom 1
Members of the southeast state Affiliates will meet to discuss current activities and opportunities for collaboration. Member states include Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee.
Coordinator: Ashley Hoffman

University of Michigan School for Environment and Sustainability Gathering
Friday, 5:00 PM–6:00 PM, Regency Ballroom 3
University of Michigan SEAS alumni are invited to attend a casual happy hour with drinks and light appetizers. This is a great opportunity to connect and catch up with fellow alumni. Current and prospective students are welcome.

Young Professional Networking Dinner & Drinks
Thursday, October 17th, 7:00 PM, HopCat Lexington (410 W. Short Street)
Network with other young professionals over drinks and dinner at HopCat Lexington, a top beer bar with famous fries! Meet at the restaurant.
Coordinators: Elise Trelogan, Danni Wooldrum

YP

Community Service Project
Friday, 12:45 PM–2:45 PM
Transportation and a box lunch provided. Meet at the High Street Rotunda.

Isaac Murphy Memorial Art Garden Tree Planting
Each year, NAEE works with a local organization to organize a community service project through which conference participants can give back in a meaningful way to our host community. This year's conference coincides with Lexington's Tree Week, October 13–20, 2019, a celebration of Lexington's trees and all the ways trees impact our lives. The week celebrates and synthesizes the roles trees play through creative, informative, and fun-filled activities, including community tree planting; educational programs for youth and adults; a Kentucky tree climbing competition; tree walks; tours and hikes; tree care and tree benefits; trees in art and culture; and tree roles in our bodies, minds, and spirits.

As part of Tree Week, project participants will help plant trees at the recently established Isaac Murphy Memorial Art Garden. The park honors the contributions of African-Americans in the horse racing industry, including Isaac Murphy, a three-time Kentucky Derby winner whose home once sat on this exact site overlooking the Kentucky Association Race Track in Lexington's East End. Considered the greatest jockey of the 19th century, Murphy's legacy (as well as other African Americans) had been largely ignored in equine history until recently.

Three years ago, the first signature piece of art was placed in the art garden, which now needs additional trees to reduce the urban heat island effect by reflecting sunlight and providing shade for visitors, to increase community biodiversity, and to enhance the natural beautification.

Participation is limited to the first 20 people to sign up at the Information Station.



ee360 Pre-Conference Meetings and Workshops

Tuesday

ee360 Community EE Fellows Leadership Workshop 1:00 PM-5:00 PM, Kentucky By invitation.

The Road to NAAEE Higher Education Accreditation: A Map for Success 8:30 AM-4:30 PM, Ekhorn A Registration required.

Train-the-Trainer Workshop: NAAEE's Community Engagement Guidelines for Excellence 8:30 AM-4:30 PM, Heritage Ballroom 3 Registration required.

Building Inclusion by Exploring Wild Fragility and Emotional Intelligence 8:30 AM-12:00 PM, Regency Ballroom 1 Registration required.

Designing for Change: Connecting Environmental Education Research and Practice 8:30 AM-12:00 PM, Regency Ballroom 2 Registration required.

Introducing the Newly Revised K-12 Environmental Education Guidelines for Excellence 1:00 PM-4:30 PM, Regency Ballroom 2 Registration required.

Where Civic Experience and Environmental Education Connect 1:00 PM-4:30 PM, Heritage Ballroom 1 Registration required.

ee360 Conference Sessions

Learn About NAAEE's New EE Evaluation Portal! 8:30 AM-10:00 AM, Heritage Ballroom 1

Using Virtual Reality To Inspire Learning About New Zealand's Marine Environment 8:30 AM-10:00 AM, Ekhorn C

We're Updating and Revising—Environmental Education Materials: Guidelines for Excellence 8:30 AM-9:10 AM, Throughbred 2

A Conversation on Higher Education Accreditation 9:20 AM-10:00 AM, Throughbred 5

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NAEE's Nationwide Effort to Strengthen the Field: ee360

Flexing the Guidelines Trainer Bureau Model A Pilot 10:30 AM-11:10 AM, Hyatt Suites

Hoop 2 Farm 10:30 AM-11:10 AM, Ekhorn D

Alphabet Soup: Establishing Common Ground Through Definitions 2:15 PM-2:55 PM, Throughbred 1

Designing Inclusive Professional Development for Educators 2:15 PM-2:55 PM, Throughbred 2

A Community Action Program for Teen Volunteers 3:05 PM-3:45 PM, Ekhorn C

Updated and Revised—K-12 Environmental Education: Guidelines for Excellence 4:00 PM-4:40 PM, Throughbred 1

Using the Guidelines for Excellence in College Classrooms 4:00 PM-4:40 PM, Throughbred 5

A Toolkit for Starting an Early Childhood Nature-Based School 4:50 PM-5:30 PM, Ekhorn C

Digging Deeper: How an App Can Teach Sustainable Decision Making 4:50 PM-5:30 PM, Ekhorn D

EE Certification: The Benefits of Being Certified 4:50 PM-5:30 PM, Throughbred 1

Youth Summits: Inspiring Stewardship and Civic Engagement 4:50 PM-5:30 PM, Throughbred 2

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Friday

Diversity, Equity, and Inclusion: Strengths & Growing Edges at Multiple Scales 9:30 AM-10:30 AM, Throughbred 1

Asset-Based Communities and Timebanking 10:30 AM-11:10 AM, Ekhorn D

Sadhu for Green: Discovering Environmental Connections in the Khmer Community 10:30 AM-11:10 AM, Ekhorn C

eEPRO Group Meetings 1:15 PM-2:00 PM, Locations vary, see page 25

Climate Change Education: Connecting to Nature Conservation and Behavior Change Data Literacy

Equity and Inclusion Early Childhood EE E-STEM Global EE

Guidelines for Excellence Higher Education

Empower Youth Through Social Enterprise, Sustainability, and Collaboration 2:15 PM-2:55 PM, Throughbred 1

Hurricane Sandy's Sustainability Through Education with Place (STEP) Teacher Cohort 3:05 PM-3:45 PM, Ekhorn D

School Pollinator Garden Project 2:15 PM-2:55 PM, Ekhorn A

Using eRESEARCH to Bridge the Research-to-Practice Gap 2:15 PM-2:55 PM, Ekhorn B

Shell Day & Community Approaches to Ocean and Coastal Accreditation 3:05 PM-3:45 PM, Ekhorn D

The Importance of Youth Voice in Education 3:05 PM-3:45 PM, Throughbred 1

Water, Wind, and Fire: How to Rock Community and Citizen Science 4:00 PM-4:40 PM, Berea

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NAEE and the Affiliates: A Force for Nature

NAEE and its 56 Affiliate organizations form the largest network of environmental educators in North America. Together, we are a driving force for creating a more environmentally literate citizenry through education. We have been working together for decades to build a robust and dynamic community of EE professionals and partners who understand the value and power of EE to ensure an equitable, sustainable, and vibrant world.

Each year, the NAAEE conference features a number of sessions designed by Affiliates for Affiliates. This year, all Affiliate-focused sessions will take place in the Hyatt Suites, making it easier for participants to find content that meets the unique needs of Affiliate organizations. Morning sessions will feature traditionally styled conference presentations, while afternoon sessions will offer open space discussion and more free-form networking and learning opportunities. Specific topics for afternoon sessions will be crowdsourced and co-created with the affiliate network as the conference unfolds.

Look for this symbol marking Affiliate sessions in the daily listings.

Affiliate Sessions

Wednesday

Affiliate Workshop: Systems Thinking and Strategic Planning 8:30 AM-4:30 PM, Hyatt Suites Registration required.

Thursday

Making your Affiliate Flourish: Fundraising and Sponsorships 8:30 AM-9:10 AM, Hyatt Suites

Affiliates Bringing Back the BEETLES 9:20 AM-10:00 AM, Hyatt Suites

Having the Guidelines Trainer Bureau Model A Pilot 10:30 AM-11:10 AM, Hyatt Suites

Affiliate Network Open Space 2:15 PM-3:45 PM, Hyatt Suites

Exploring the Status and Needs of the Affiliate Network 4:00 PM-4:40 PM, Hyatt Suites

Affiliate Heads Together 4:50 PM-5:30 PM, Hyatt Suites

Friday

Strategic Planning for Affiliates 8:30 AM-9:10 AM, Hyatt Suites

Governance: Boards Making a Difference 9:20 AM-10:00 AM, Hyatt Suites

EE Certification and NAAEE Accreditation: Here's What's New! 10:30 AM-11:10 AM, Hyatt Suites

Affiliate Committee Working Session 2:15 PM-3:45 PM, Hyatt Suites

Fill Your Dance Card! 4:00 PM-4:45 PM, Hyatt Suites

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Saturday

Affiliates and Advocacy

8:30 AM-10:00 AM, Hyatt Suites

Introduction to Crowdfunding: Using Your Team to Fundraise 9:20 AM-10:00 AM, Hyatt Suites

EE Associations: Making the Most of Membership 10:30 AM-11:10 AM, Hyatt Suites

Talking About EE: Crafting Messaging with Affiliates 11:20 AM-12:00 PM, Hyatt Suites

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LOCAL WILDLIFE

Swamp Rabbit

The swamp rabbit, or swamp hare, is a large, long-eared, cottontail rabbit found in the wetlands of western Kentucky. They are at home in water, with webbing between their toes to help them swim and walk through mud.

naee

North American Association for Environmental Education

Participation is limited and space will be filled on a first-come, first-served basis. Sign up at the Information Station.

Thursday	2:15 PM-2:55 PM
Thursday	4:00 PM-4:50 PM
Friday	9:20 AM-10:00 AM
Friday	10:30 AM-11:10 AM
Friday	3:05 PM-3:45 PM

Sixth Annual Environmental Education Evaluation Clinic Thursday, 2:15 PM-3:45 PM, Patterson Ballroom B Do you have questions about evaluation or assessment? Bring them to NAAEE's sixth annual Evaluation Clinic, where you can ask questions of the experts and contribute your own relevant experience. Learn from evaluation experts as well as peers through informal, roundtable conversations. See page 82 for the list of expert presenters. Coordinated by Kathryn Stevenson.

With a background that spans environmental, higher education, and policy organizations, Lea Harvey is committed to building the capacity of the nonprofit sector to be a force for positive change. Across more than two decades, Lea has held fundraising and senior management roles at organizations like World Wildlife Fund, BoardSource, and Resources for the Future. She currently leads her own fundraising consultancy, LLH Strategy Advisors, LLC, based in Northern Virginia, and also serves as Director of Foundation and Corporate Relations for her alma mater, Sweet Briar College.

A social activist and strategist, Krishna Roy designs and implements laser-focused nonprofit management, fundraising, and communications programs to support social causes. She has created groundbreaking campaigns, produced award-winning videos, built unlikely partnerships, and raised millions of dollars. Krishna serves on several boards including the OceanGate Foundation, Trust for Architectural Easements, and Sound Principles.

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Especially for Young Professionals

NAEE has planned sessions and activities specifically targeted to the needs of those who are in the early stages of their career. These include an expanded skill-building clinic, presentations by NAAEE's EE 30 Under 30 honorees, sessions identified by presenters as appropriate for young professionals, networking opportunities, and the awe-inspiring dipping panel on Saturday.

Look for this symbol marking sessions for young professionals sessions in the daily listings.

Conference Buddies If you're new to the conference and signed up through registration for a conference buddy, meet your partner immediately after the conference orientation on Wednesday at 5:15 PM in Throughbred 4 to set a meeting time and head to the opening reception.

Making the Most of the NAAEE Conference Wednesday, 4:45 PM-5:15 PM, Throughbred 4 Young professionals and first-time conference participants are welcome to join this brief orientation to the NAAEE conference, including keys to selecting sessions of interest, scheduling, networking opportunities, and more.

EE 30 Under 30 Bright Spots Thursday-Saturday, Ekhorn C Eighteen of NAAEE's 2019 EE 30 Under 30 honorees are presenting bright spots about their inspiring work throughout the conference. Look for sessions marked "EE 30 Under 30 Honorees" in the daily session listings.

Young Professional Networking Dinner & Drinks Thursday, October 11th, 7:00 PM, HopCat Lexington (410 W. Short Street) Network with other young professionals over drinks and dinner at HopCat Lexington, a top beer bar with famous fried meat at the restaurant; no-host event.

EE 30 Under 30: Young Leaders Making a Difference 12:00 PM-2:30 PM, Bluegrass Ballroom 2 To close the conference on a high note, NAAEE has brought together four inspiring young leaders from our EE 30 Under 30 honorees to share their stories and perspectives on how to develop leadership in the field of environmental education.

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YP

Young Professionals Clinic

Thursday, 8:30 AM-11:10 AM, Patterson Ballroom Whether you're a student, just getting started on your career path, or in your first professional position, this clinic will help build essential skills that will help you now and in the future. Choose from sessions in two tracks: Job Seekers and Early-Career Educators.

Track 1—Job Seekers, Patterson Ballroom B **Searching an Effective Job Search** 8:30 AM-9:10 AM Too often, a job hunt involves hours of sifting through irrelevant posts on job search sites. This session will help you devise a more effective process, starting with strong application documents and culminating with strategies to better leverage your time, talents, and knowledge in discovering promising opportunities. Michael Cronk

Need to Know Networking 9:20 AM-10:00 AM This program covers the four "Need to Know Networking" tips. Networking is essential throughout our entire lives, both with our careers and personally. This session will help overcome the "networking" tips. Networking is essential throughout our entire lives, both with our careers and personally. This session will help overcome the "networking" tips. Networking is essential throughout our entire lives, both with our careers and personally. This session will help overcome the "networking" tips.

Nat'l Int Acing the Interview and Getting Paid 10:30 AM-11:10 AM An effective application can land you an interview, but the interview gets you the job. Learn best practices for preparing for and executing an effective interview. Additionally, entering salary negotiations, upon receiving an offer, requires research to provide evidence for your demands; tips and strategies will be provided to assist your efforts. Michael Cronk

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Track 2—Early Career Educators, Patterson C

Fundraising Essentials: Message, Momentum, and Mindset 8:30 AM-9:10 AM Like it or not, every nonprofit employee is also a fundraiser and must build the relationships that enable their organizations to thrive. In this session, you'll learn how to craft fundraising messages and winning proposals, while creating the donor connections, forward energy, and rapport that make gifts happen. Terri Thompson

Transformational Leadership 9:20 AM-10:00 AM Using a transformational leadership model, we will explore how we want to show up as rising leaders in our organizations and the field of EE. Through facilitated activities we will experiment with tools that guide the cultivation of an abundance mindset moving us towards authentic leadership. Eileen Everett, Olivia Grist, and Charissa Jones

Game-Changing Communication 10:30 AM-11:10 AM Take a look at the often overlooked power of how body language, first impressions, and business attire communicate far more than our words. Communicating with coworkers, colleagues, bosses, and staff is essential to every step of the career journey, and this program covers the ten habits of exceptional communicators. Terri Thompson

Presenters: Michael Cronk serves as the Associate Director of Career Development at Transylvania University, a private, liberal arts college, in downtown Lexington, KY. Michael has 16 years of experience in teaching effective job search and application strategies. Additionally, Michael serves as board chair for Bluegrass GreenSource, an environmental nonprofit serving 16 counties in central Kentucky.

For more than 15 years, Eileen Everett has worked as an environmental educator, personally teaching more than 25,000 New Mexican students around the state through mostly outdoor, multi-day programs. She deeply values an abundance mindset, education designed for all students, and a more equitable and inclusive world. Eileen has strong nonprofit experience, having worked in the social sector for over 15 years and served as an Associate Facilitator for the Santa Fe Community Foundation's Emerging Social Sector Leaders Program.

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Wings Over Water by Montana Natural History Center

Wings Over Water (WOW) brings research into the hands of middle and high school students through the study of their local Ospreys. The program builds environmental project-based learning into the classroom as mentors and research guides. Their students then begin a rich curriculum that crosses physics, biology, chemistry, math, engineering, conservation, and technology. Students lead the entire process of scientific discovery: asking and answering their own questions, presenting results, and taking action in their communities to solve problems and answer essential E-STEM questions.

YOUTH ENERGY SQUAD The Youth Energy Squad (YES) grows the next generation of green leaders in metro Detroit by engaging young people in projects that make their homes, schools, and communities more sustainable for everyone. Each year, hundreds of YES students lead change through 60+ school green teams. These teams meet weekly to address a place-based sustainability issue central to their community and to inspire action in their audiences. Students gain skills in E-STEM, hone their personal and professional leadership styles, and are exposed to green careers—all while making a tangible impact in metro Detroit.

Terri Thompson is a nationally renowned speaker, author, and entrepreneur specializing in helping individuals succeed. Her programs are dedicated to inspiring and challenging students to achieve their own brand of wild success. Using humor and real-life lessons, it is Terri's goal to bring out the best in every person in her audience. Terri has delivered her powerful presentations to thousands across the country.

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Partners and Supporters

Thank you to our partners and supporters!

This conference wouldn't be possible without the dedication of all the people on this list, as well as their employers and families. These amazing volunteers gave generously of their time and talents. There are also hundreds of others, not listed here, who pitched in to help along the way. Thanks to all of you for your hard work and willing spirits. You've brought this conference to life!

Conference Co-Chairs

Ashley Hoffman Kentucky Association for Environmental Education
Jim Embry Sustainable Communities Network

Conference Committees

Auction Billie Hardin, Henrietta Sheffield
Awards Brenda Metcalf
Field Trips Jim Embry, Ashley Hoffman, Brittany Wray
Program Production Katy McLaughlin
Research Symposium Olivia McKenzie, Marcia Aguilera
Scholarships Becca Franzen, Rochelle Gaudour-Rood
Awards Sylvia Hadnot, Jenny Hubbard-Sanchez, Eannine Huss, Ruth Kermish-Allen
Dotter Shuman Rachel Sowards, Elena Takaki, Alex Porpora, James Vaughn, Bruce Young
Volunteers Wesley Bullock and our wonderful team of more than 75 onsite volunteers!

naee

North American Association for Environmental Education

- **Board Leadership for Environmental Literacy** Dave Chase
- **Connecting with Nature** Jean Kayra
- **Conservation and Environmental Education** Michelle Edman
- **Educating for Sustainable Communities** Lee Frankel-Golwater
- **Green Schools and Preparing for 21st Century Careers** Jennifer Ortega
- **Linking Research and Practice to Increase Impact** Justin Hougham, Steve Kerlin

Young Professionals Initiative

Maya Alexander, Mayasha Choudhury, Lauren Gibson, Olivia Grist, Nina Hamilton, Charissa Jones, Lori Mann, Drew Price, Melissa Hopkins Taggart, Elise Treggan, Anne Ull, Danny Wooldums

Conference Proposal Reviewers

Thank you to nearly 100 colleagues who diligently reviewed more than 600 proposals submitted to our 2020 conference, helping to shape the conference program. If you would like to volunteer to review proposals in 2020, watch for announcements in eeNEWS, NAAEE's email bulletin. We look forward to working with you to create another outstanding program in Tucson.

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Conference Scholarships

NAEE is proud to have provided funds to help more than 225 professionals and students attend the 2019 conference in Lexington. Our deepest thanks go to the following organizations, whose support made this possible. We share the important goal of making the conference, and the field of EE, more equitable and inclusive.



We are especially grateful to the many NAAEE members who contribute to scholarships through their William B. Stapp Scholarship Auction purchases and as part of their conference registration.

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Cal Water H2O Challenge

NAEE has joined with the California Water Service to enhance the 6th Annual Cal Water H2O Challenge, a project-based competition for schools seeking to create fourth, fifth, and sixth grade students' understanding of water-based science principles.

We are proud to recognize Emily Akimoto's fourth-grade class at Sierra View Elementary in Chico, California as the 2019 grand prize winner for their project titled "Protecting Paradise."

Ashley's students felt a call-to-action after the Camp Fire devastated parts of the Chico community and neighboring towns including Paradise, California. The students researched and tested local waterbodies, installed wattles and plants to preserve Butte Creek, and informed the local community on rebuilding efforts. The impact: cleaner water, fresh greenery, an informed community, and an outlet for student growth and remediation. Emily's class received a \$3,500 classroom grant and a science field trip to Yosemite National Park with NatureBridge.

The UL Innovative Education Award

In partnership with Underwriters Laboratories Inc. (UL), NAAEE announced the six recipients (pictured above) of the fifth annual UL Innovative Education Award. The award recognizes and supports nonprofits using science and technology as a pathway to engage students in addressing environmental concerns. Please join us in congratulating these extraordinary programs.

Grand Prize Winner: \$100,000 Recognition Grant
Pine Job Environmental Education Center by Florida Atlantic University

Pine Job Environmental Education Center was one of the first environmental education centers in Florida and one of the oldest in the country. Dedicated to environmental research and disseminating highly effective educational programs and services for pre-K through post-secondary students that cultivate environmental literacy and engaged citizens, FAU Pine Job offers a cadre of 14 programs emphasizing strong academic learning, creating lasting social relationships, and moving students of all ages along a progressive continuum toward E-STEM literacy.

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Second Tier Winners

\$25,000 Recognition Grants

EE STEM—Environmental Tribal Youth Camps The EE STEM—Environmental Tribal Youth Camps provide Native American youth in New Mexico the opportunity to engage with cultural leaders in environmental projects designed to increase their knowledge of both traditional and scientific knowledge. The camps cover environmental issues and how these issues impact tribal communities in particular. By making Western science relevant to Native American youth and by emphasizing existing traditional knowledge, youth become more engaged in learning E-STEM subjects to be better stewards of their ancestral lands.

CareerCLUE Solar One's CareerCLUE is a unique summer youth employment program that provides pre-credit academics, professional development, and engagement in environmental sustainability through career exploration and service learning. The program explores E-STEM through four units—Energy, Water, Materials Science, and Food—and is co-taught by a Solar One environmental educator and a licensed New York City science teacher. Through experiential learning, the program builds student knowledge and imparts the mix of skills necessary to thrive in the green careers of the 21st century.

Third Tier Winners \$25,000 Recognition Grants

Maine Environmental Changemakers Network The Maine Environmental Changemakers Network is a youth-led, statewide, intergenerational network that connects young Mainers who are passionate about the environment with peer and professional mentors, training, and the resources needed to implement their environmental action in their communities. Youth and adults collaborate supporting the advancement of youth who are passionate about E-STEM, environmental education, and sustainable social change, building a hopeful community committed to mentorship, innovation, and the sharing of environmental ideas.

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For more information, visit naee.org/innovateeducation



LOCAL WILDLIFE

Mammoth Cave Mammoth Cave, the world's longest cave, was first promoted in 1816, making it the second oldest tourist attraction in the United States. Niagara Falls, New York, is first.

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