

## 2023 Research Symposium Preliminary Schedule

This is a preliminary schedule, accurate as of September 12. Topics and times are subject to change.  
The final schedule will be available through the conference platform when it launches in October.  
The platform includes the opportunity to add sessions to your calendar.

All times are listed in Eastern Daylight Time.

Title	Summary	Presenters	Date	Start Time Eastern Daylight Time	End Time Eastern Daylight Time	Keywords	Delivery Method
<b>On-Demand (Prerecorded) Sessions</b>							
Benchmarking Climate Change Policy Across Canadian School Boards: A Few Leaders and Many Laggards	This session will provide an overview of the results of a national review of climate policies across all Canadian school boards.	Ellen Field, Faculty of Education, Lakehead University; Sidney Howlett, Lakehead University	October 9-20		24-hour access	Climate change education Leadership and capacity building	On-Demand (recorded)
Benefits, Barriers, and Strategies: Utilizing School Outdoor Learning Spaces	Thinking back on your high school classrooms, how often did you have a lesson outside? This research dives into the barriers high school teachers face when utilizing school outdoor spaces, in addition to strategies teachers have identified to overcome those barriers. This research could help educators overcome barriers in schools.	Erin Waddell, Western Carolina University	October 9-20		24-hour access	Middle & high school programs Graduate student research	On-Demand (recorded)
Can Netflix's "Our Planet" Impact Adolescents' Connection To Nature?	Is it possible for youth to build connection to nature without stepping outdoors? This study explored whether watching an episode of the nature documentary "Our Planet" can help develop connection to nature in 6th grade students. Using a qualitative methodology, we investigated if youth connect to nature through a screen.	Kathryn Blair Downs, Western Carolina University; Callie Schulte, Western Carolina University; Paul Stonehouse, Western Carolina University	October 9-20		24-hour access	Climate change education Justice, equity, diversity, inclusion, and accessibility Graduate student research	On-Demand (recorded)
Case Study: Higher Education Faculty Application of Environmental Literacy into Teacher Education Courses	This research highlights a six-month longitudinal case study involving Higher Education faculty. The Higher Education Environmental Literacy (HEEL) fellowship program focused on the advancement of faculty environmental literacy and its application within teacher education programs. Qualitative data was collected through a course syllabi artifact, pre-post self-reported survey, and participant reflections.	Chelsea McClure, Towson University	October 9-20		24-hour access	Adult education University programs Leadership and capacity building	On-Demand (recorded)
Climate Action Education: A Global View of Challenges and Best Practice	How does the role of teachers as climate educators work in practice around the world? In 2023, Take Action Global partnered with Shift Sustainability and EARTHDAY.ORG to research answers to this question. The study uncovered five key themes. This session serves to explore the results and expand the conversation.	Jennifer Williams, Take Action Global; Lindsay Zilly, TAG; Hila Davies, Take Action Global; Benny Keetos, Shift Sustainability	October 9-20		24-hour access	Climate change education Leadership and capacity building International EE	On-Demand (recorded)
Co-Learning Across Boundaries Between Education and Environment Through University Partnerships	University-community partnerships provide opportunities for university students to engage in transdisciplinary, cooperative learning for sustainability. This action-oriented research examines how transgressive co-learning emerges when students in a university course practice EE in collaboration with community partners. By transforming pedagogical practices, this study contributes to new models for co-learning of EE.	Emilly Sproles, McGill University	October 9-20		24-hour access	University programs Civic engagement Graduate student research	On-Demand (recorded)
Confluence: Linking Citizen Science and Environmental Education to Inspire Stewardship	Citizen Science and environmental education offer complementary approaches to move participants towards environmental literacy, yet little research exists on their intersection. This study shares results of an integrated EE and CS program to move youth campers from awareness to stewardship through engagement in a water quality monitoring citizen science project.	Dave Smalstone, West Virginia University	October 9-20		24-hour access	Civic engagement STEM	On-Demand (recorded)
Connection to Nature and Positive Youth Development Through Urban Agriculture	In this presentation we will explore how urban youth perceive their connection to nature through participation in an urban agriculture and youth development program. We will also explore how urban agriculture programs promote social connection and sense of belonging among program participants.	Casey Orshain, The Ohio State University; Manjike Hecht, The Ohio State University; Kristi Leikes, The Ohio State University	October 9-20		24-hour access	Gardening and food systems Graduate student research Middle & high school programs	On-Demand (recorded)
Connection to Nature, Climate Anxiety, and Hope	Research increasingly recognizes the benefits associated with a connection to nature. How individuals relate with nature may shape their perception and response to the threat of climate change. This presentation focuses on the development of research exploring the degree to which CTN exacerbates or ameliorates climate anxiety in young adults.	Severn B. Jackson, Florida Gulf Coast University; Danielle Frank Lawson, The Pennsylvania State University	October 9-20		24-hour access	Climate change education Leadership and capacity building Adult education	On-Demand (recorded)
Developing a Measurement for Self-Perceived Climate Action Competence	Join us to explore the development a scale assessing undergraduate self-perceived climate action competence. This measurement encompasses knowledge, efficacy, and action intention. Research in SDGs 13, Climate Action. We are happy to share our experience and get valuable feedback about the design of this scale and application in program evaluation!	Yu-Chi Tseng, National Taiwan Normal University; Chia-Yu Wang, National Taiwan University of Science and Technology; Taiwan, Shu-Chiu Liu, National Sun Yat-sen University; Shu-Sheng Lin, Department of Education, National Chiayi University	October 9-20		24-hour access	Climate change education University programs Leadership and capacity building	On-Demand (recorded)

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Educating the Experts: Development of a Climate Change Communication Workshop	Climate change research is often confined to the realm of academia where it fails to reach the most vulnerable communities. In order to empower scientists to enter these public engagement spaces, I have created a workshop curriculum proven to enhance scientists' confidence in and appreciation for public dialogue.	Katrina Vickery, Oregon State University	October 9-20	24-hour access		Graduate student research Climate change education Adult education	On-Demand (recorded)
Experiential Learning for Climate Literacy Through Film	The Tampa Bay region is experiencing high impact from climate change but demonstrates low preparedness. This project led innovative environmental communication through the creation of a film showcasing personal stories from around the Gulf. Results indicate a rise in knowledge and motivation in local leaders who viewed the film.	Rebecca Johns, USFSP	October 9-20	24-hour access		Climate change education Civic engagement Leadership and capacity building	On-Demand (recorded)
Explore Chinese Land-Body Connection with Art-Based Storytelling	As a Chinese immigrant, mother, outdoor educator, and middle-class researcher, I am constantly in the dialogue with different layers of my body, two lands, and two languages. Visual art allowed me to share my autoethnographic research with a broader audience, especially immigrants committed to being good relatives on the land.	Peng Liu Nelson, University of Minnesota Twin Cities	October 9-20	24-hour access		Arts Graduate student research Justice, equity, diversity, inclusion, and accessibility	On-Demand (recorded)
Food Sovereignty, Ecopedagogies, and Foraging: Transformative Pedagogies for Connection	We will discuss a course's use of pedagogy that was developed for elementary students that addressed local sources of food, foraging, food relationships and food sovereignty. Five classes were developed to talk about sourcing responsibly, reciprocity, safety; nutrition; go on a foraging field trip; and a culminating cooking competition.	Michaela Enweiler, UCLA	October 9-20	24-hour access		Elementary school programs Gardening and food systems Justice, equity, diversity, inclusion, and accessibility	On-Demand (recorded)
Growing Connectedness, Engagement, and Happiness in a Middle School Garden	Our presentation examines the relationship between learning outside and student outcomes utilizing an eleven week curriculum in a public school garden. We report findings of a mixed methods study involving interviews conducted with 25 sixth-graders. Results suggest the school garden project facilitated connectedness, engagement, and enjoyment among students.	William D Gblin, Culbreth Middle School; Heidi Hollingsworth, Ph.D., Elon University	October 9-20	24-hour access		Climate change education Middle & high school programs Gardening and food systems	On-Demand (recorded)
How "PoliticsFuture" supports Teacher-students' Readiness on ESD & GCED: An international evaluation	"Teacher-students' Readiness" aims to investigate Motivation, Skills and Opportunities to teach Education for Sustainable Development & Global Citizenship Education of teacher-students from 5 countries, who took part in "PoliticsFuture" online training. Key findings from this mixed-methods survey on students, curriculum developers and policy experts of SDG 4.7 will be presented.	Philipp Menna, Julius-Maximilians-University Würzburg	October 9-20	24-hour access		International EE Graduate student research University programs	On-Demand (recorded)
How Can Conservation Education During Whale Watching Sustain Pro-Environmental Behaviours?	My research findings suggest on board whale watching conservation education continue to use structured programs that equally involve the whales, the environment and the participants, but the focus should be on the affective domain and the emotional connection that it creates, rather than participant attitudes or the cognitive domain.	Sarah Board, Maritime Museum of British Columbia / UBC	October 9-20	24-hour access		Graduate student research Climate change education Civic engagement	On-Demand (recorded)
Integrating ESD In Geography Curriculum: Geography Teachers' Perception and Pedagogical Practices	The purpose of this presentation is to examine geography teachers' perception and practices while integrating ESD in high school geography curriculum. Through an empirical case of developing and conducting an ESD-integrated professional development, this paper discusses how to effectively teach sustainable development in geography classroom, through teachers' teaching experiences.	Sejung Huh, Texas State University	October 9-20	24-hour access		Middle & high school programs Graduate student research	On-Demand (recorded)
Investigating Student Agency And Empowerment In Assessing Sustainability Learning Outcomes	Sustainability education positions students at the center of the learning process, yet this is not often the case with how learning is assessed. This research describes an approach to strengthen student agency in assessment processes and reflects on how research in the field situates students in the learning process.	Jordan King, Arizona State University	October 9-20	24-hour access		Graduate student research University programs Young professionals	On-Demand (recorded)

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Measuring Change: The State of Environmental Education in Maine	The 2022 Census of Community-Based Outdoor and Environmental Learning in Maine captured data from 920 educators as a follow-up to the initial 2019 landscape study. We'll share about our data collection methods, collaborative and participatory processes, and what we're finding in Maine over the past three years.	Alexandria Brasili, Maine Mathematics and Science Alliance; Kelsie Dawson, MMSA; Olivia Griset, Maine Environmental Education Association	October 9–20	24-hour access		Justice, equity, diversity, inclusion, and accessibility Leadership and capacity building	On-Demand (recorded)
Measuring Elementary Students' Environmental Literacy in South Korea	This study focuses on developing and validating an environmental literacy (EL) instrument to measure the EL of elementary school students in South Korea. The paper discusses key issues related to the scope and measurement method of EL, and reveals the level of environmental literacy among Korean elementary students.	Jinyoung Kang, National Research Council for Economics, Humanities and Social Sciences	October 9–20	24-hour access		Elementary school programs International EE	On-Demand (recorded)
Nature-Based Social-Emotional Learning: Forest Bathing as Pedagogy	Forest bathing, a nature-based mindfulness practice, is a promising pedagogy for social-emotional learning. In this mixed-methods study, forest bathing significantly increased adolescent mental well-being and connection to nature. Audience members will learn reasons to incorporate forest bathing in environmental education to increase well-being and motivation to care for the environment.	Jennifer Keller, Antioch University New England	October 9–20	24-hour access		Middle & high school programs Elementary school programs Graduate student research	On-Demand (recorded)
Nuclear Energy and Environmental Education: Exploring Canadian Perspectives	Nuclear energy is an underexplored and potentially controversial area of research within environmental education. In this presentation, I will present emerging findings from a comparative discourse analysis of Canadian nuclear energy curricula and news media coverage, identify future research opportunities, and invite discussion regarding nuclear energy discourse in environmental education.	Greg Lowan-Trudeau, University of Calgary	October 9–20	24-hour access		Climate change education STEM Civic engagement	On-Demand (recorded)
Pedagogical Documentation And Reflection in Outdoor Early Childhood Education	What tools best facilitate the inquiry and reflection cycle, specifically in an outdoor environment in which children are encouraged to lead the class with their interests? Data collected during weekly visits to an outdoor preschool in North Carolina, The Wildflower School will guide conversation centered around this essential question.	Sophie Iana Miller, Elon University	October 9–20	24-hour access		Early childhood	On-Demand (recorded)
Personal Environmental Efficacy: What Contributes and What That Could Mean	Personal environmental efficacy is the extent to which individuals feel their actions can affect the natural environment. Many factors contribute to this efficacy, but the construct is not fully understood. Motivation and self-efficacy theories inform this study, which seeks to better understand environmental efficacy and its relationships with other factors.	Katherine Cornwall	October 9–20	24-hour access		Climate change education Graduate student research Civic engagement	On-Demand (recorded)
Place-Based Mobile Learning for Climate Change Education with High School Students	The presented study examines the potentials of place-based mobile learning to teach and promote CCE. Therefore an intervention-based study with N = 303 high school students in Germany was conducted within the topic of climate change adaptation. The results show promising approaches to teaching the variables of knowledge and motivation.	Steffen Ciprina, Ruhr Universität Bochum	October 9–20	24-hour access		Climate change education Middle & high school programs	On-Demand (recorded)
Quantifying the Impact: Environmental Education Influences Students' Connection to Nature	Discover how research is elucidating how formal and non-formal environmental education impacts students' feelings of connectedness to nature. This cutting edge inquiry explores the impact that emotional connection, developed during formal and nonformal environmental education experiences, has on elementary and middle school age students' environmentally responsible behavior.	Dylan Burgerin, Towson University; Sarah Haines, Towson University	October 9–20	24-hour access		Elementary school programs Graduate student research Middle & high school programs	On-Demand (recorded)
Raising Students' Sustainable Living Awareness Through Education for Sustainable Development	Our lifestyle choices impact our world profoundly. Every one of us can do something to take care of our planet. Teaching sustainable living is crucial to find ways for everyone to have a better future. Therefore, this research aims to raise students' sustainable living awareness through education for sustainable development.	Atili Koculu, Yildiz Technical University	October 9–20	24-hour access		Elementary school programs International EE NGSS/Common Core	On-Demand (recorded)
Refining the Environmental Identity Development (EID) model through ongoing research	This session will present thematic and audio-video findings from 8 years of qualitative research with children from rural and non-rural Alaska to refine the emotional and behavioral attributes of children's environmental identity formation across cultural and geographical contexts.	Carie J Green, South Dakota State University	October 9–20	24-hour access		Early childhood Traditional knowledge International EE	On-Demand (recorded)

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Reimagining Sustainability: An Undergraduate Field-Based Course	Join me for a pre-recorded presentation on "Reimagining Sustainability," a transdisciplinary undergraduate course that explores sustainability from multiple perspectives. Discover the course's experiential teaching techniques and world views on bioregionalism and ecological literacy. Gain insight into innovative approaches to sustainability education and prepare students for the challenges of our world today.	Nathan Hensley	October 9-20	24-hour access		University programs	On-Demand (recorded)
Students as Scientists: How Citizen Science Intersects with Outdoor Learning	How does citizen science (CS) connect students to outdoor learning, classroom science, and their lives? We present qualitative data that explore the intersection of CS and outdoor learning, highlighting students' voices and experiences framed in experiential learning theory. We present the potential for CS in classrooms.	Jill McGowan, North Carolina State University, Sarah J Carrier, North Carolina State University	October 9-20	24-hour access		Elementary school programs Graduate student research	On-Demand (recorded)
Teachers' Barriers and Challenges to Implementing Environmental/Climate Change Education	Almost half of American youth reported negative emotions and inadequate preparation for climate change challenges (Hickman et al., 2023). Despite these statistics, less than half of teachers feel prepared to teach climate change (Wili, M., 2023). What barriers need to be addressed to support teachers preparing our youth for environmental challenges?	Melissa Schug, N/A	October 9-20	24-hour access		Climate change education Graduate student research Underserved audiences	On-Demand (recorded)
The Impact of a Photo-Sharing Community on University Students' Place Attachment	We created an online photo-sharing community for university students to post course related photos taken on campus. We conducted a quasi-experiment and used surveys and interviews to explore the impact of such activities on students' place attachment, which provides implications for incorporating innovative teaching approaches in university courses.	Wangda Zhu, Cornell University; Yue Li, University of Wisconsin-Stevens Point; Ying Hua, Cornell University	October 9-20	24-hour access		University programs Graduate student research	On-Demand (recorded)
Three Sisters Agriculture and Traditional Knowledge: A Meta-Analysis	The Three Sisters method of raising corn, beans, and squash is a sustainable practice that has been used by Indigenous Peoples for centuries. The literature on this practice has not been examined systematically. This study investigates the utility of several indicators including indigenous and colonialist perspectives regarding this growing system.	Kristine Micheletti, Iowa State University	October 9-20	24-hour access		Graduate student research Justice, equity, diversity, inclusion, and accessibility Traditional knowledge	On-Demand (recorded)
Understanding How Zoo and Aquarium Visits Impact Plastic Usage Behavior	Learn how two new zoo and aquarium exhibitions were designed to communicate the effects of marine plastic and how these exhibitions impacted guests' behavior. We will discuss the evaluations of the exhibitions and what implications our findings have for the field of evaluation and interpretation at informal science institutions.	Amanda Lindell, Inform Evaluation & Research; Melissa Mair, Houston Zoo; Erica Kelly, Monterey Bay Aquarium	October 9-20	24-hour access		Civic engagement Climate change education	On-Demand (recorded)
<b>Live Sessions (October 12)</b>							
<b>Special Session — All times are Eastern Daylight Time</b>							
Meeting of the Minds: Early Career Mentoring and Networking	This session focuses on mentoring early career researchers. The session will be led by early career standouts in our field, offering advice on topics of special interest to the early career researcher. Breakout rooms will include publishing, setting a research agenda, grant funding writing, and working outside the academy.	Ruberta Howard Hunter, Michigan State University; Danielle Frank Lawson, The Pennsylvania State University; Alan Field, Monash University; Steven Braun, eeRISE LLC	Thursday, October 12	10:00 AM	10:50 AM	Leadership and capacity building Young professionals	live (via Zoom)
<b>Plenary Session — All times are Eastern Daylight Time</b>							
Research Symposium: Opening Keynote	Welcoming and Opening Keynote by Dr. Christina Kwauk	Symposium Co-Chairs: Scott Morrison, Elon University; Manjike Hecht, The Ohio State University; Dr. Christina Kwauk, Research Director, Unbound Associates	Thursday, October 12	11:00 AM	12:15 PM		live (via Zoom)
<b>Combined Panel #1A — All times are Eastern Daylight Time</b>							
Can Forest Science Participation Impact Elementary Students' Sense of Place?	We share our study of elementary students' place attachment, identity, and stewardship of their local forest as a result of participating in a year-long school forest monitoring project.	Jadda M. Miller, University of California Davis	Thursday, October 12	12:30 PM	1:45 PM	Elementary school programs	live (via Zoom)
Place-Based-Environmental Science-Education Program for Dumputse School Children Using Their Community Funds of Knowledge	This participatory action research attempted to examine our experience of ending an after-school-place-based-environmental-science-education program alongside with school children living near a dumpsite near an urban center in the central Philippines.	Vicente Callao Handa, Appalachian State University; Franz Ian D. Solomon, West Visayas State University; Rey Mark Clarence L. Sincir, West Visayas State University	Thursday, October 12	12:30 PM	1:45 PM	Justice, equity, diversity, inclusion, and accessibility STEM International EE	live (via Zoom)

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Taking STEM Outside for Student Wellbeing: A Pilot Study	We present findings from a pilot study exploring elementary students' self-reported wellbeing prior to and directly following participation in a 90-min, outdoor STEM activity. Preliminary findings demonstrate how outdoor STEM activities can support elements of student wellbeing, specifically their engagement and optimism.	Annette Schmidt, Arizona State University	Thursday, October 12	12:30 PM	1:45 PM	Elementary school programs STEM	live (via Zoom)
Teaching Climate Justice in the Anthropocene through Student Ethnography	Ongoing research into a group of Indian children in a Climate Education and Creative Writing program indicates that the children develop a more nuanced idea of the Anthropocene involving its disproportionate impacts on marginalized communities through Student Ethnography projects. This progress will be further evaluated once the course is completed.	Abubakar Mohammed Jamal, Universiti Teknologi Malaysia	Thursday, October 12	12:30 PM	1:45 PM	Climate change education Justice, equity, diversity, inclusion, and accessibility Arts	live (via Zoom)
<b>Combined Panel #18 --- All times are Eastern Daylight Time</b>							
Advancing Climate Change Education in Tertiary Education	Climate change education (CCE) is a critical strategy to tackle the climate crisis. CCE research and practice often focus on primary and secondary education, but what and how are tertiary institutions doing? Join Michèle Martin to learn about the University of Waterloo's approach and share your experiences with tertiary CCE.	Michèle Paule Martin, University of Waterloo	Thursday, October 12	12:30 PM	1:45 PM	University programs Climate change education Leadership and capacity building	live (via Zoom)
Creating a Tertiary Educators' Interdisciplinary Research and Practice Network	Universities have a crucial role in educating people to create a just world for all, but teaching for such change within their structures is challenging. This presentation situates the development of a community of practice of tertiary educators as they build relationships across disciplines, share pedagogies and teaching innovations.	Sally Birdsall, The University of Auckland	Thursday, October 12	12:30 PM	1:45 PM	Leadership and capacity building University programs	live (via Zoom)
Environmental and Sustainability Education Programs at AAUs: A Review of the Field	A survey of AAU colleges of education examined the extent to which these institutions are engaged in environmental and sustainability education. Results indicate that within the most prestigious universities, ESE is a small, but growing, subfield of education, primarily in teacher preparation. AAUs are well-positioned to have a large impact.	Samantha Lindgren, University of Illinois Urbana-Champaign; Jon Hale, University of Illinois Urbana-Champaign; Jorda Cunnery, University of Illinois Urbana-Champaign	Thursday, October 12	12:30 PM	1:45 PM	University programs Justice, equity, diversity, inclusion, and accessibility Leadership and capacity building	live (via Zoom)
Outdoor Campuses in Higher Education: Resources, Opportunities, and Best Practices	Outdoor campuses are intended as sites for high-impact outdoor environmental experiences. This project explores resources and best practices in higher education (using Colorado institutions as a focus) for maximizing access to and engagement with such campuses. We explore opportunities for leveraging outdoor campuses for both academic and community environmental education.	Aidan Luter, Colorado College; Juan Miguel Arias (he/his), Colorado College	Thursday, October 12	12:30 PM	1:45 PM	Justice, equity, diversity, inclusion, and accessibility Leadership and capacity building University programs	live (via Zoom)
<b>Combined Panel #1C --- All times are Eastern Daylight Time</b>							
Costs, Benefits, and Environmental Action: Why Marginal Analysis Matters	Environmental education programs often highlight the total benefits from the collective action of many. But economic theory and evidence suggest that individual behavior is responsive to marginal cost-benefit analysis. Greater emphasis in teaching marginal economic analysis may allow environmental educators to achieve more success engaging people in responsible environmental behavior.	Tom Rhoads, Towson University	Thursday, October 12	12:30 PM	1:45 PM	Traditional knowledge	live (via Zoom)
Integrating Humanistic Perspectives into Environmental Sciences using the STEM Futures Framework	Learn about the STEM Futures framework, a course design tool for STEM that integrates three knowledge domains—foundational, humanistic, and meta-knowledge. Explore an environmental case study developed using the tool that illustrates how traditional and indigenous practices can be applied to contemporary watershed management.	Sharon Locke, Southern Illinois University Edwardsville; Kathleen Vingsathorn, Southern Illinois University Edwardsville	Thursday, October 12	12:30 PM	1:45 PM	University programs STEM Traditional knowledge	live (via Zoom)
Supporting Elementary Teachers' Citizen Science Instruction	Elementary teachers face many challenges for including reform-based science instruction in their classrooms, and some teachers have chosen to enhance their science instruction by introducing students to citizen science (CS) projects. We present two teachers' implementation of CS using educative curriculum support materials in their 5th grade classrooms.	Sarah J Carrier, North Carolina State University; Jill McGowan, North Carolina State University	Thursday, October 12	12:30 PM	1:45 PM	Elementary school programs	live (via Zoom)

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Why Comparative Policy Research Matters for Environmental and Sustainability Education	If effective communication and education are key responses to environmental challenges, then comparative knowledge of implemented policies in this area is critical. This presentation argues that comparative policy research constitutes an important leverage point for fostering change in education policy and practice for environmental and sustainability education, including climate change.	Kristen Hargis, University of Saskatchewan; Marcia McKenzie, University of Melbourne	Thursday, October 12	12:30 PM	1:45 PM	Climate change education International EE Leadership and capacity building	live (via Zoom)
<b>Panel — All times are Eastern Daylight Time</b>							
Natural Leaders: Supporting Diverse College Students in Environmental Leadership	This panel of former students in an undergrad environmental leadership development program, Earth Grant, will present participatory research findings on student strategies for environmental leadership, and common barriers experienced. The following participant discussion will center best practices for equitable, relevant, and actionable environmental leadership education with post-pandemic-era young adults.	Leona F Davis, University of Arizona; Maya Taintor, University of Arizona; Kendra Martinez, Tulane University; Zephani Melichar, University of Arizona; Brennan Breen, University of Arizona	Thursday, October 12	12:30 PM	1:45 PM	Justice, equity, diversity, inclusion, and accessibility Leadership and capacity building University programs	live (via Zoom)
<b>Panel — All times are Eastern Daylight Time</b>							
Students as Environmental Leaders: Understanding Human Impacts on Coastal Ecology	This interactive session aims to share results, experiences, and lessons from environmental educators, education researchers, and policy experts on how a student-centered summer course can empower students to act as environmental leaders. Attendees will be engaged in a hands-on activity replicating student experiences from the summer course.	Hamza Malik, UMass Dartmouth & Lloyd Center for the Environment; Rachel Stronach, Lloyd Center for the Environment; Stephen B Witzig, UMass Dartmouth; Chad J McGuire, UMass Dartmouth	Thursday, October 12	12:30 PM	1:45 PM	Civic engagement Middle & high school programs STEM	live (via Zoom)
<b>Workshop — All times are Eastern Daylight Time</b>							
Grounded Theory Methodology in Action: Utilizing Member Checking to Co-Construct Knowledge	Using a recently conducted Grounded Theory inquiry as a case study, participants will take a "behind the scenes" look at topics often discussed briefly in qualitative research, including model building and member checking, as a means of authentically co-constructing knowledge and deepening community interest and investment in research.	Claire Curren Underwood, University of MN Duluth; Julie Ernst, UMD	Thursday, October 12	12:30 PM	1:45 PM	Graduate student research Justice, equity, diversity, inclusion, and accessibility Young professionals	live (via Zoom)
<b>Combined Panel #2A — All times are Eastern Daylight Time</b>							
An Educational Experiment in Public Dialogue: Researching Climate Interventions with Young People	This live online session uses question cards developed in research workshops with young people, scientists and policymakers to explore different responses to climate change, from socio-political actions to technoscientific responses. We argue that dialogue that produces questions encourages constructive disagreement, and has the potential to depolarise discussion of controversies.	Lynda Dunlop, University of York; Elizabeth Rushton, University of Stirling	Thursday, October 12	2:45 PM	4:00 PM	Climate change education Civic engagement Arts	live (via Zoom)
Evaluating Experiential Coral Restoration Impacts on Diver Perceptions of Reef Threats	Does experiential learning about coral restoration improve diver awareness of the root causes for coral reef decline, and can it catalyze further action for their protection? I'll present methods and preliminary results from an 8-month dataset collected from a wide range of volunteer divers and dive professionals in Honduras's Bay Islands.	Sierra Garcia, Fulbright-National Geographic Storytelling Fellow	Thursday, October 12	2:45 PM	4:00 PM	International EE Adult education Climate change education	live (via Zoom)
Exploring Environmental Sensitivity of African American and Hispanic American College Students	This presentation explores the methodology, results, and implications of a two-phase mixed-methods dissertation study. Through surveys and interviews the development of environmental sensitivity were explored in this underrepresented population within the EE field. Conference participants will be invited to discuss how this study impacts the research field in EE.	Danielle Pastor, Florida Institute of Technology; Thomas J. Macronkowski, Florida Institute of Technology	Thursday, October 12	2:45 PM	4:00 PM	Underserved audiences Graduate student research Elementary school programs	live (via Zoom)
Sociocritical Perspectives on Renewable Energy Education in Canada	In this presentation, we will present emerging findings from a critical ethnographic study of the experiences and perspectives of sociocritical renewable energy educators in the province of Alberta and other regions of Canada. We will also identify future research opportunities and invite discussion regarding sociocritical approaches to renewable energy education.	Greg Lowan-Trudeau, University of Calgary; Teresa Anne Fowler, Concordia University of Edmonton	Thursday, October 12	2:45 PM	4:00 PM	STEM Climate change education Justice, equity, diversity, inclusion, and accessibility	live (via Zoom)
<b>Combined Panel #2B — All times are Eastern Daylight Time</b>							

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Locus of Responsibility: Measuring the Perception of Climate Change Action	The development process of the new measurement tool for the Locus of Responsibility is detailed, highlighting findings from the initial analysis and the ongoing project. Broader implications of how individuals perceive of the responsibility for climate change action are discussed, including links to self-efficacy and mental health.	Katherine Cornwall	Thursday, October 12	2:45 PM	4:00 PM	Climate change education Graduate student research Civic engagement	live (via Zoom)
Social Studies' Advocates for Environmental and Sustainability Education	Social studies scholars have advocated for making a case that environmental issues are social issues, not just the purview of natural science education. This proposal aims to systematically review social studies' advocates for environmental and sustainability education, particularly focusing on the values or assumptions the authors hold in their articles.	Yun-Wen Chan, Texas State University	Thursday, October 12	2:45 PM	4:00 PM	Traditional knowledge Civic engagement	live (via Zoom)
The Handprint Initiative: Empowering Teachers and Students Towards SDGs Actions	The Handprint Initiative is an action-oriented educational approach based on the development of the key competencies for sustainability. It's aim is to empower teachers and students so they become changemakers by actively participating in the decision-making processes of our society	Wendy Quetzal Morel Schramm, The Handprint Initiative/Humboldt University; Pablo Andres Ruz Salmeron, The Handprint Initiative/X Eleva Group	Thursday, October 12	2:45 PM	4:00 PM	International EE Leadership and capacity building Middle & high school programs	live (via Zoom)
The MNT Program: Designing Nature-based Social Interventions for Teen Parents	Describing findings from the school-based Meeting in Nature Together (MINT) study with teen parents that cultivated belonging, calm, and increased connection to others and to nature. Learn lessons, challenges, and strategies for developing nature-based interventions for hard-to-reach individuals at risk for loneliness, including teen parents and adolescents in general.	Ashby Lavelle Sachs, Barcelona Institute for Global Health, University of Colorado, Boulder	Thursday, October 12	2:45 PM	4:00 PM	Graduate student research Middle & high school Underserved audiences	live (via Zoom)
<b>Combined Panel #2C — All times are Eastern Daylight Time</b>							
Expanding the Transactive Learning Model to Climate Education Through Mixed Reality Game Design	This presentation outlines findings gained qualitative research observations during the UN Green Game Jam. Design teams created game designs to empower climate action. We propose a new framework for understanding how mixed reality games for climate action can create cycles of change between real world, game world, and player.	Clayton Whittle, Project Learning Tree, Penn State University; Trevin York, Dire Lark Games	Thursday, October 12	2:45 PM	4:00 PM	Climate change education	live (via Zoom)
How Does Environmental Education in Social Media Work?	Social media offers new ways of online learning. Especially sustainability topics are presented and discussed on online platforms like Instagram and TikTok. In my study, I investigate how and why young adults learn about sustainability topics in social media. For the investigation I designed a new scale called SMUS.	Annika Bush, Bielefeld University	Thursday, October 12	2:45 PM	4:00 PM	International EE Adult education Climate change education	live (via Zoom)
TikTok About Environmental Science: The Case of Youth-Led Environmental Education and Activism on TikTok	This study explores how youth use one prominent environmental science page on TikTok to educate, inspire action, and challenge dominant power structures embedded in environmental issues. Findings indicate that youth on this TikTok page engage in a variety of promising strategies for translating education into sustained environmental action.	Monica Blaisdell, Drexel University	Thursday, October 12	2:45 PM	4:00 PM	Civic engagement Climate change education Leadership and capacity building	live (via Zoom)
<b>Panel — All times are Eastern Daylight Time</b>							
Climate Change-Responsive Social Studies, History, and Citizenship Education	How can social studies, history, and citizenship education prepare youth for the "wicked problem" of climate change? We share experiences, sources of inspiration, and research ideas gathered through interviews with experts and curriculum analysis to reimagine the future of social studies, history, and citizenship education that activates climate action.	Heather E. McGregor, Queen's University; Rebecca S. Evans, Queen's University	Thursday, October 12	2:45 PM	4:00 PM	Climate change education International EE Civic engagement	live (via Zoom)
<b>Panel — All times are Eastern Daylight Time</b>							
Social-Ecological Justice-Oriented Environmental Education with Human and More-than-Human Beings	Researchers working with teachers and students on three different social-ecological justice-oriented environmental education programs present their work and frameworks. Participants will then explore selected data from these projects and investigate how each framework affords understandings of the relationships between human and more-than-human beings and social-ecological justice.	Marijke Hecht, The Ohio State University; Roberts Howard Hunter, Michigan State University; Heidi B. Carlone, Vanderbilt University; Tessaly Jen, Vanderbilt University	Thursday, October 12	2:45 PM	4:00 PM	Civic engagement Justice, equity, diversity, inclusion, and accessibility STEM	live (via Zoom)
<b>Workshop — All times are Eastern Daylight Time</b>							

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Title	Summary	Presenters	Date	Start Time Eastern Daylight Time	End Time Eastern Daylight Time	Keywords	Delivery Method
Investigating Analysis Methods for Wearable Cameras in EE Research	Wearable cameras provide insight of a child's perspective. Workshop presenters will discuss how to analyze the video captured by these cameras, including organizing data, coding by hand, using qualitative software, transcribing capturing speeds and frames, and producing videos and subtitling.	Carie J Green, South Dakota State University; Ugochukwu Victor Ezekunne, South Dakota State University	Thursday, October 12	2:45 PM	4:00 PM	Justice, equity, diversity, inclusion, and accessibility Early childhood	live (via Zoom)
<b>Combined Panel #3A — All times are Eastern Daylight Time</b>							
Climate Education Using Project Based Learning in India	The presentation highlights the cognitive, affective and behavioral outcomes of a project-based learning climate education module on Indian children. The module integrated scientific-technical learning about climate change, with climate justice, arts-based expression and climate action. Children authored storybooks on climate change and undertook climate action within their communities as an outcome of the module.	Aneesa Jamal, Universiti Teknologi Malaysia	Thursday, October 12	4:15 PM	5:30 PM	Climate change education Justice, equity, diversity, inclusion, and accessibility Middle & high school programs	live (via Zoom)
Long-Term Impacts of a Climate Change Train-the-Trainer Program	This presentation will highlight the results of a study analyzing the long-term impacts of a climate communication train-the-trainer program. We will discuss the components that may lead to successful and sustainable train-the-trainer programs as well as the value of these programs to the environmental education field.	Megan E Ennes, University of Florida	Thursday, October 12	4:15 PM	5:30 PM	Climate change education Leadership and capacity building	live (via Zoom)
Researching Climate Hope and Eco-Knowley in Coastal Ecuador	This mixed-methods study examines how and to what extent high school teachers and students in coastal Ecuador experience eco-anxiety and/or climate hope. This presentation will share initial findings from summer 2023 dissertation field research, and discuss implications for future mixed-methods studies on climate hope in Latin America.	Neela Nandyal, University of Minnesota	Thursday, October 12	4:15 PM	5:30 PM	International EE Graduate student research Climate change education	live (via Zoom)
Resilience Education: Environmental Education for Hope, Action, Justice, and Community	This session explores how resilience education offers a promising pathway forward for education on environmental challenges. We explore a co-designed resilience curriculum to look at opportunities to challenge dominant narratives in EE, fostering more holistic, hopeful, actionable, and justice-oriented learning opportunities for young people.	Kelsey Tayne, North Carolina State University; Aurora McCollum, Duke University; Marine Lab; Kathryn Stevenson, NC State University; Liz DeMottis, Duke University; Patrick Jeffs, The Resiliency Solution	Thursday, October 12	4:15 PM	5:30 PM	Civic engagement Climate change education Middle & high school programs	live (via Zoom)
<b>Combined Panel #3B — All times are Eastern Daylight Time</b>							
A CPAR Investigation of Black Youth Nature-Relatedness in Nature-Based Programs	This session will discuss a critical participatory action research (CPAR) study on Black youth nature-relatedness in selected nature-based education and recreation programs of Richmond, Virginia. Findings will provide insights for environmental education practitioners and researchers on successes and challenges in engaging racially diverse communities in nature-based programs to promote environmental awareness and stewardship.	Sydney Iman Murray, University of Utah Environmental Humanities Graduate Student	Thursday, October 12	4:15 PM	5:30 PM	Graduate student research Justice, equity, diversity, inclusion, and accessibility Underserved audiences	live (via Zoom)
Educator Innovations in Climate Action Curriculum	Come learn about how and why 50 different educators from 5 different countries adapted their curriculum to enable and empower student climate action. The study identifies teacher motivations and frameworks for how they are innovating, as well as insights for those working to design curriculum or scale educator training.	Clare Slatisky, Columbia University	Thursday, October 12	4:15 PM	5:30 PM	Climate change education Middle & high school programs Leadership and capacity building	live (via Zoom)
(Re)Making Sense of Place in Outdoor Adventure and Environmental Education	Explore a recent study on the development and implementation of a critically renovated sense of place (SOP) curriculum and practice in outdoor education. Findings will be presented as lessons learned to assist educators in the analysis of their own SOP pedagogy and practices and to encourage SOP curricula toward anticolonial aims.	Ozell Goodman, Prescott College	Thursday, October 12	4:15 PM	5:30 PM	Justice, equity, diversity, inclusion, and accessibility Leadership and capacity building University programs	live (via Zoom)
Situating Black Histories and Place Relations on Katiapaya Lands	"Liberal multiculturalism is pervasive in flattening the important historical and cultural differences between disimilarity oppressed groups" (Saranillo 2015). This presentation will reflect on the productive tensions of theorizing Indigenous and Black place and land relations in the Pacific Northwest through a curriculum development project.	Maya Revell, University of Oregon	Thursday, October 12	4:15 PM	5:30 PM	Justice, equity, diversity, inclusion, and accessibility Underserved audiences Graduate student research	live (via Zoom)
<b>Combined Panel #3C — All times are Eastern Daylight Time</b>							

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Educators' Fight for Statewide Climate Education Legislation in Oregon	In Oregon, a small group of educators has organized since 2020 to crowd-source and introduce statewide climate education legislation. As a core member of this group, I would like to share some of our process and lessons learned as well as consider the potential role of academics in grassroots climate education activism.	Sarah Stapleton, University of Oregon	Thursday, October 12	4:15 PM	5:30 PM	Climate change education Civic engagement Leadership and capacity building	live (via Zoom)
Immersive Nature Experiences and Adolescents' Coping with Climate Change	What is the relationship between immersive nature experiences and adolescents' coping with climate change? What features of immersive nature experiences could be applied to schools to foster efficacy and agency in a changing climate? This session discusses adolescents' constructive climate change coping patterns following wilderness excursions of 9-45 days.	Aligail Hope Brown, Cornell University	Thursday, October 12	4:15 PM	5:30 PM	Climate change education Middle & high school programs Graduate student research	live (via Zoom)
Landscape Review of Nonformal EE in Illinois: Challenges and Opportunities	A survey of nonformal environmental education providers in Illinois examined the field post-COVID. Nearly all organizations reported actively seeking new audiences on smaller budgets, and 75% requested resources for making EE more inclusive in Illinois. Organizations participated in professional development to co-develop a communications toolkit to better engage their communities.	Samantha Lindgren, University of Illinois Urbana-Champaign; Brooke Bourds, Environmental Education Association of Illinois	Thursday, October 12	4:15 PM	5:30 PM	Justice, equity, diversity, inclusion, and accessibility Underserved audiences Leadership and capacity building	live (via Zoom)
Lessons from a National Study of EE Field Trip Programs	We observed 400+ fieldtrip programs for adolescent youth and tracked 68 programmatic characteristics and measured student outcomes immediately afterward. We identified 12 program characteristics associated with learning outcomes. We share results and valuable lessons regarding research design, methods, and analyses for researchers wishing to engage in large-scale comparative studies.	Robert B Powell, Clemson University; Marc Stern, Virginia Tech; Troy Frenstley, University of North Carolina at Wilmington	Thursday, October 12	4:15 PM	5:30 PM	Middle & high school programs	live (via Zoom)
<b>Panel — All times are Eastern Daylight Time</b>							
Journal Editors Panel: The Changing Landscape of Publishing in EE/ESE	Join this panel session concerning emerging topics in EE/ESE publication. Editors of six EE/ESE journals will introduce their publications and share commentary on changes they're seeing within the publications landscape (AI, changing incentives for publishing among diverse academics, open access, etc.). Time will be reserved for comments, questions, and discussion.	Noelle Ardoin, Stanford University; Alberto Arenas, University of Arizona; Yash Bhagwani, Florida Atlantic University; Victoria Carr, University of Cincinnati; Beth A Covill, University of Montana; Brian A. Day, Journal of Applied Environmental Education & Communication; Alan Reed, Monash University; Emily Root, Canadian Journal of Environmental Education	Thursday, October 12	4:15 PM	5:30 PM	International EE Justice, equity, diversity, inclusion, and accessibility Young professionals	live (via Zoom)
<b>Panel — All times are Eastern Daylight Time</b>							
Exploring Climate Change Teaching Strategies: Emergent Trends and Typologies of Practice	This panel explores research on climate change teaching strategies with a focus on: 1) emergent trends of teaching practices from a Canadian survey (n=109), 2) a heuristic that maps teacher practice based on teacher interviews (n=30), 3) teacher beliefs about climate activism within classrooms, and 4) explores strategies for supporting students' climate emotions.	Ellen Field, Faculty of Education, Lakehead University; Sidney Howlett, Lakehead University; Andrea Drewes, Rider University; Anh Thu Nguyen, Bissett School of Business, Mount Royal University; Paul Berger, Associate Professor, Faculty of Education, Lakehead University	Thursday, October 12	4:15 PM	5:30 PM	Climate change education Elementary school programs Middle & high school programs	live (via Zoom)
<b>Workshop — All times are Eastern Daylight Time</b>							
Mapping ee360+ and Justice40	In this workshop, researchers Justin Meyer, Joe Heinrich, and Laura Weiss from COSI's Center for Research and Evaluation will describe the strategy behind using maps and geolocated zip code data to show impact in disadvantaged communities, as well as demonstrate how to create Justice40 maps in QGIS software.	Justin Reeves Meyer, COSI; Joe E. Heinrich, COSI; Laura Weiss, COSI CRE	Thursday, October 12	4:15 PM	5:30 PM	Justice, equity, diversity, inclusion, and accessibility	live (via Zoom)
<b>Plenary Session — All times are Eastern Daylight Time</b>							
Research Symposium Closing	Reflections from Research Symposium Co-Chairs, Dr. Scott Morrison and Dr. Marijke Hecht	Symposium Co-Chairs: Scott Morrison, Elon University; Marijke Hecht, The Ohio State University	Thursday, October 12	5:45 PM	6:15 PM		live (via Zoom)