



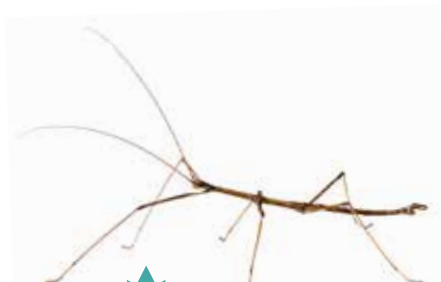
**naaee**

North American Association  
for Environmental Education

# 11<sup>TH</sup> ANNUAL RESEARCH SYMPOSIUM

**Environmental Education:**  
*Building Momentum for the  
Next Chapter*

October 7-8



**OTTAWA**  **2014**



# Welcome Bienvenue



## naaee

North American Association  
for Environmental Education

## 11<sup>TH</sup> ANNUAL RESEARCH SYMPOSIUM

### Environmental Education:

*Building Momentum for the  
Next Chapter*

## OTTAWA 2014

Dear Friends and Colleagues:

### Welcome to the NAAEE 11th Annual Research Symposium

Each year we come together as a community, taking two days out of our lives with hopes of revitalizing and extending our work. More than just a space for presenting our research, the Symposium is about collaboration. We are challenging everyone here — strand leaders and participants alike — to find where your work joins in the broad currents of EE research, and where you have an opportunity to make a distinctive and meaningful contribution. Take those ideas back into your work and cultivate them well, so that when we gather again you'll have even more to share.

Yours respectfully,

### Bob Coulter

Chair  
NAAEE Research Special  
Interest Group and  
Research Symposium  
Co-Chair

### Cathlyn Stylinski

Chair Elect  
NAAEE Research Special  
Interest Group and  
Research Symposium  
Co-Chair



## Schedule at a Glance

### Tuesday

<b>WELCOME &amp; INTRODUCTIONS</b> (Room 210)	9:00 AM–9:15 AM
<b>KEYNOTE</b> <b>Nicholas Ng-A-Fook:</b> Developing a Global Perspective for Educators (Room 210)	9:15 AM–10:30 AM
BREAK	10:30 AM–10:45 AM
<b>POSTERS I</b> (Rideau Canal Atrium)	10:45 AM–11:45 PM
BREAK	11:45 AM–12:00 PM
LUNCH (included with registration), Colonel By Foyer	12:00 PM–1:00 PM
<b>FACILITATED ISSUE DISCUSSION</b> Concurrent sessions (one per room) Breakout Rooms: 103, 104, 105, 106	1:15 PM–1:45 PM
<b>ROUNDTABLES I</b> (Room 102)	
BREAK	1:45 PM–2:00 PM
<b>FACILITATED ISSUE DISCUSSION</b> Concurrent sessions (one per room) Breakout Rooms: 103, 104, 105, 106	2:00 PM–2:30 PM
<b>Career Builder Session</b> 30-minute presentation (Room 108)	
<b>ROUNDTABLES II</b> (Room 102)	
BREAK	2:30 PM–2:45 PM
<b>POSTERS II</b> (Rideau Canal Atrium)	2:45 PM–3:45 PM
BREAK	3:45 PM–4:00 PM
<b>RECEPTION*</b> (Rideau Canal Atrium)	4:00 PM–6:00 PM

\*The NAAEE Research SIG would like to thank King's College London, and the *Canadian Journal of Environmental Education* and Faculty of Education, Lakehead University, Ontario, for their support of our Tuesday afternoon reception.

**Special thanks** to Justin Dillon and Connie Russell for making this possible.



Schedule at a Glance

**Wednesday**

<b>GRAD STUDENT &amp; FACULTY BREAKFAST</b> (Room 210)	7:30 AM–9:00 AM
BREAK	9:00 AM–9:15 AM
<b>FACILITATED ISSUE DISCUSSION</b> Concurrent sessions (one per room) Breakout Rooms: 103, 104, 106	9:15 AM–9:45 AM
<b>ROUNDTABLES III</b> (Room 102)	
BREAK	9:45 AM–10:00 AM
<b>FACILITATED ISSUE DISCUSSION</b> Concurrent sessions (one per room) Breakout Rooms: 103, 104, 105, 106	10:00 AM–10:30 AM
<b>Career Builder Session</b> (Room 108)	
<b>ROUNDTABLES IV</b> (Room 102)	
BREAK	10:30 AM–10:45 AM
<b>FACILITATED ISSUE DISCUSSION</b> Concurrent sessions (one per room) Breakout Rooms: 103, 104, 105, 106	10:45 AM–11:15 AM
<b>Career Builder Session</b> (Room 108)	
<b>ROUNDTABLES V</b> (Room 102)	
BREAK	11:15 AM–11:30 AM
<b>FACILITATED ISSUE DISCUSSION</b> Concurrent sessions (one per room) Breakout Rooms: 103, 104, 105, 106, 108	11:30 AM–12:00 PM
<b>Career Builder Session</b> (Room 108)	
<b>ROUNDTABLES VI</b> (Room 102)	
LUNCH	12:00 PM–1:00PM
BREAK	1:00 PM–1:15 PM
<b>WORKSHOPS</b> Concurrent sessions (one per room) Breakout Rooms: 103, 104, 106, 108	1:15 PM–2:45 PM
BREAK	2:45 PM–3:00 PM
<b>PLENARY</b> Bob Coulter, Cathlyn Stylinski et al. (Room 210)	3:00 PM–4:00 PM

## Tuesday

### KEYNOTE SPEAKER



### Nicholas Ng-A-Fook

#### Developing a Global Perspective for Educators

9:15 AM–10:30 AM  
(Room 210)

**Nicholas Ng-A-Fook**, PhD, is the Director of Teacher Education at the University of Ottawa. As a teacher educator and curriculum theorist, he is committed to integrating community service learning social action projects within his research. Nicholas' research within the broader international field of curriculum studies focuses on building educational partnerships with international and local Indigenous communities, like the Kitigan Zibi First Nations Algonquin community in Quebec, Canada. In 2007, he travelled with students to Raceland, Louisiana to work with the United Houma Nation, who suffered the devastating effects of Hurricane Katrina. As part of this international project, students worked with elders at a New Orleans Jazz Festival food booth, created podcasts to share their stories, and attended eco-justice workshops with indigenous community activists. Over the past three years, Nicholas has worked with colleagues to implement a research and knowledge mobilization project to extend pedagogical strategies, innovations in curriculum design, and resource development on environmental sustainability and social justice-oriented teaching and learning. Part of this project involved integrating several of the Ontario Ministry of Education priority areas, including collaborative partnerships, student engagement, diversity and equity, and environmental sustainability.

During his NAAEE Research Symposium presentation, he will discuss ways in which his work draws upon a social action framework to integrate ecojustice across the school curricula as part of the Developing A Global Perspectives for Educator program. Participants will gain ideas on how to create, implement, and evaluate various collaborative CSL social action curriculum projects as a form of eco-civic engagement within their research and classrooms.

## POSTERS I

10:45 AM–11:45 PM

### POSTER

#### 21st Century Agriculture: Integrating STEM for Inner City Youth

10:45 AM–11:45 AM

Rideau Canal Atrium

Researchers have found that many youth benefit from urban gardens and farming. Yet, for many youth they often can't participate for a variety of reasons. To address this we are bringing the farm to inside the school and after school centers through hydroponics.

Presenters:

Mike Barnett, Boston College

Dennis DeBay, Manhattanville College



### POSTER

#### A Funds of Knowledge Approach to Teaching About the Environment

10:45 AM–11:45 AM

Rideau Canal Atrium

This is a case study of elementary children and their household funds of knowledge on the environment. Fifty children from "low asset" urban Canadian households participated in the research and enrolled in a unique Funds of Knowledge program on the environment.

Presenters:

Samia Khan, University of British Columbia

Robert Vanwynsberghe, University of British Columbia

**POSTER****Children Voice Biophilia: Phenomenology of Being in Love with Nature**

10:45 AM–11:45 AM Rideau Canal Atrium

This phenomenological study investigated children's relationship with nature through NVIVO 9 based qualitative data analysis to create a visual descriptive model illuminating children's biophilic intellectual, moral, and emotional connection and potential implications of remaining in love with nature into adulthood.

Presenter: Darius Kalvaitis, Colby Sawyer College

**POSTER****Education Outside: Evaluating a District Program Model for Outdoor Classrooms**

10:45 AM–11:45 AM Rideau Canal Atrium

Greening schoolyards is an EE movement to change the formal education landscape. This session describes a large-scale, multisite implementation evaluation of a non-profit program intended to take school gardens to the next level: high-quality science learning experiences in outdoor classrooms.

Presenter: Juna Snow, University of California, Berkeley

**POSTER****Engaging Students in Climate Change Through Participation in Knowledge Building**

10:45 AM–11:45 AM Rideau Canal Atrium

Knowledge Building Communities (KBC) model creates the context to support students' environmental actions as they build knowledge about environmental issues. We explore the potential of this technology-supported model to bring elementary students into the global discourse about climate change.

Presenters:

Richard Reeve, Queen's University  
Azza Sharkawy, Queen's University

**POSTER****Environmental Learning in Everyday Life: Results from Community Listening Sessions**

10:45 AM–11:45 AM Rideau Canal Atrium

Guided by the overarching question: how, when, where, and why do adults learn about the environment in their everyday lives?, we analyze the results of 14 "Community Listening Sessions" held in diverse communities in the San Francisco Bay Area.

Presenters:

Nicole Ardoin, Simon Fraser University  
Rachelle Gould, Stanford University

**POSTER****Evaluating Environmental Interpretation for Conservation Organizations**

10:45 AM–11:45 AM Rideau Canal Atrium

Increasing number of conservation organizations are carrying out on-site interpretative programs as a component in their effort for conservation education. Using both quantitative and qualitative research method to evaluate the effectiveness of these programs informs management and conservation education strategy

Presenter: Qing Ren, State University of New York–College of Environmental Science and Forestry

**POSTER****Familial Ethical Consumerism: A Case Study**

10:45 AM–11:45 AM Rideau Canal Atrium

This study investigates the social phenomenon of "ethical consumerism" in an Ottawa family and discusses its potential environmental and educational value. It explores the causes behind the participants' varied degrees of commitment to environmental issues while consuming commodities and services.

Presenter: Vimal Chaudhary, University of Ottawa

**POSTER****How and Why Different Populations Visit/Support Nature Centers Differently**

10:45 AM–11:45 AM Rideau Canal Atrium

I'm investigating how minority leisure theory applies to 16 nature centers across the United States using interviews with center staff and web surveys sent to 64,000 community members.

Presenter: Matthew Browning, Virginia Tech

**POSTER****Indigenous Ways of Knowing, Digital Storytelling and Environmental Education**

10:45 AM–11:45 AM Rideau Canal Atrium

Presenting results from three unique case studies involving indigenous and non-indigenous students in non-formal learning contexts that highlight the intersection of digital media production and traditional knowledge for environmental learning.

Presenter: Jason Corwin, Cornell University

**POSTER****Integrating Motivated Reasoning into Climate Change Education**

10:45 AM–11:45 AM Rideau Canal Atrium

Communicating about climate change can be difficult, as the issue remains controversial and highly politicized. This study explores how to effectively communicate climate information to diverse audiences through the lenses of cultural and psychological predispositions.

Presenters:

Kristen Kunkle, University of Florida  
Martha Monroe, University of Florida

**POSTER****Reexamining Place-Based Socio-Ecological Education Through an Interdisciplinary University Honors Seminar**

10:45 AM–11:45 AM Rideau Canal Atrium

The aim of this session is 1) to present preliminary findings regarding undergraduate students' experiences participating in a field-based Honors Seminar exploring local socio-ecological systems, and 2) to spark discussion aimed at reexamining the purpose of place-based environmental education research.

Presenters:

Carrie Green, University of Alaska Fairbanks  
Paul Heintzman, University of Ottawa

**POSTER****The Essence of Childhood Outdoor Experiences**

10:45 AM–11:45 AM Rideau Canal Atrium

Childhood outdoor experiences are known to be important in shaping environmental sensitivity, but what about those experiences are essential and universal across individuals? In this session, the themes I found in my exploratory phenomenological study will be discussed.

Presenter: Allison Freed, Michigan State University

**POSTER****The Influence of an Outdoor Education Course on Environmental Outcomes**

10:45 AM–11:45 AM Rideau Canal Atrium

This retrospective study investigated the significant life experience of a university outdoor education course with participants who took the course up to thirty years ago. The research explored the course's influence upon participants' change in environmental appreciation and environmental behaviors.

Presenters:

Jennifer Wigglesworth, Queen's University  
Paul Heintzman, University of Ottawa

**POSTER****Undergraduates in a Sustainability Semester: From Individual to Collective Action**

10:45 AM–11:45 AM Rideau Canal Atrium

At the beginning of a residential "sustainability semester," undergraduates' maintained their ideal sustainable lifestyles through individual consumer action. By the end, their strategies expanded to include collective action. This poster overviews a research plan to examine why this happened.

Presenter: Hannah Miller, Michigan State University

**POSTER****Using Biophilia to Explore University Students' Connections with Nature**

10:45 AM–11:45 AM Rideau Canal Atrium

Using a mixed methods design, we explore how university honor students' prior experiences influenced their views of ecology and sustainability and how the students' perceptions and meanings aligned with three tenets of Biophilia: environmental features, place-based relationships, and evolved human-nature relationships.

Presenter: Lacey Huffling, University of North Carolina–Greensboro

**POSTER****Wildlife Conservation Camp: A Look at Long-Term Effects on Campers**

10:45 AM–11:45 AM Rideau Canal Atrium

What effect does a wildlife conservation camp program have on students? What is memorable as participants embark on careers and adulthood? We will explore long-term effects of a high school environmental education program on participants.

Presenter: Kelsey Griffin, Tarleton State University

**POSTER****Urban Environmental Education Trends**

10:45 AM–11:45 AM Rideau Canal Atrium

Urban EE programs are diverse and pursue different goals. In this poster, we try to conceptualize urban EE by reviewing and analyzing academic literature. Through this review, we found five broad trends of urban EE.

Presenters:

Alex Kudryavtsev, Cornell University  
Marianne Krasny, Cornell University

## FACILITATED DISCUSSIONS

1:15 PM–1:45 PM

### Effective Climate Change Education: Making Hope Happen

1:15 PM–1:45 PM Room 103

Why do some people more actively engage in climate change and work toward solutions? Perhaps it is because they have greater hopefulness. So, what exactly is hope and how can we nurture it through environmental education programs?

Presenters:

Christine (Jie) Li, University of Florida  
Martha Monroe, University of Florida

### Emergent Indigenous Research Methodologies

1:15 PM–1:45 PM Room 104

This session addresses emerging Indigenous research methodologies in environmental science and education. The session builds upon result processes and results in the Yellowstone and Altai Mountain systems and the work of indigenous faculty and students.

Presenters:

Michael Brody, Montana State University  
Art Bangert, Montana State University  
Shane Doyle, Montana State University  
Christine Rogers-Stanton, Montana State University

### Immersive Community-Based Research: Findings and Dilemmas at an Environmental School

1:15 PM–1:45 PM Room 105

The Maple Ridge Environmental School is a public school rooted in place-based and ecological principles. We invite discussion around four research stands: experiences necessary for ecological relationality, dispositions of “eco-teachers”, resilience of dominant culture, and the complexities of decolonization-reinhabitation.

Presenters:

Michael Whitefield Derby, Simon Fraser University  
Carlos Ormond, Simon Fraser University  
Sean Blenkinsop, Simon Fraser University  
Laura Piersol, Simon Fraser University

### Understanding How Students and Teachers Connect Daily Life to Ecology

1:15 PM–1:45 PM Room 106

This presentation will facilitate a discussion regarding the significance of connecting students’ daily lives with ecological understanding in our teaching about the environment in both formal and informal settings.

Presenters:

Yael Wyner, City College of New York  
Erica Blatt, College of Staten Island

## ROUNDTABLE I

1:15 PM–1:45 PM

### An Eco-Phenomenological Journey: Beginning and Ending In Wonder

1:15 PM–1:45 PM Room 102

Living during a time referred to as the “mystery paradigm,” a state of affairs where the proliferation of information makes things paradoxically less clear, this preliminary investigation explores the nature of mystery and its implications for environmental educators.

Presenter:

Douglas Karrow, Brock University





## FACILITATED DISCUSSIONS

**Environmental Education Research****Post-Dissertation: Expanding the Agenda**

1:15 PM–1:45 PM

Room 102

I just finished my dissertation about the communication of values, beliefs, and norms in live animal education programs, and I am interested in discussing strategies (for me and in general) for developing dissertation work into a long-term research agenda.

Presenter:

Susan Caplow, University of North Carolina–Chapel Hill

**How Needs Assessment Can Inform Expanded Environmental Education Programming Efforts**

1:15 PM–1:45 PM

Room 102

Limited resources prevent us from identifying gaps in our environmental educational programming efforts. This facilitated discussion explores a front-end evaluation method to develop or realign educational programming at your site while meeting the needs of your community.

Presenter:

Carly Swatek, University of Wisconsin–Stevens Point

**Tree Tongues, Social Justice, and Gaian Methods: Research as Regeneration**

1:15 PM–1:45 PM

Room 102

From Lorax toward liberation, research can catalyze coevolution, resilience, and regeneration. How can we move research from power-over to embedment in emergent living systems, enhancing life-bringing planetary capacities? Join a lively interaction with speaking trees, biocultural thriving, and earth interviews.

Presenter:

Marna Hauk, Institute for Earth Regenerative Studies



2:00 PM–2:30 PM

**Methodological Forensics: Exploring Intra-Actions in Environmental Identity Across Research Methods**

2:00 PM–2:30 PM

Room 103

We suggest that more attention be directed at processes of “doing” research. Using the case of doctoral dissertation research focused on identity construction we describe strategies for applying theories and methodologies in the process of framing methods and doing research.

Presenters:

Catherine Hart, University of Regina

Paul Hart, University of Regina

**Mitigation and Adaptation of Digital Tools in Environmental Education**

2:00 PM–2:30 PM

Room 104

Whether technology is a friend or foe to environmental learning is a complicated question. We argue that the use of miniaturized mobile devices and commonplace digital tools come with significant costs and an appropriate stance toward such tools is mitigation and adaptation.

Presenters:

Michael Brody, Montana State University

David Greenwood, Lakehead University

Robert Justin Hougham, University of Wisconsin

**A Needs Assessment Model for EE Professional Development**

2:00 PM–2:30 PM

Room 105

A model for developing an environmentally-focused professional development program through a needs assessment technique directly involving teachers will lead to discussion of the importance of involving stakeholders in EE program development as we expand the settings in which EE is enacted.

Presenter:

Erica Blatt, College of Staten Island

### **Participatory Methods in EE Research: Some Possibilities, Promises, and Challenges**

2:00 PM–2:30 PM Room 106

In this session, I will lead a discussion about the possibilities for participatory methodologies within environmental education research. Key questions include: Why engage in participatory research? What challenges/struggles arise in this process? How might EE benefit from participatory research?

Presenter:

Sarah Riggs Stapleton, Michigan State University

### **ROUNDTABLE II**

2:00PM–2:30PM

#### **Engaging College Students Using Environmental Sustainability in Diverse Content Areas**

2:00 PM–2:30 PM Room 102

We will present the findings from a survey and share our journey in collecting additional data. This work aims to present a broad view of the multiple ways in which environmental education can be used in multiple content areas.

Presenters:

Carol C Johnston, Mount St. Mary's College  
Irene U. Osisioma, California State University - Dominguez Hills  
Manisha Manisha Javeri, California State University– Los Angeles

### **ROUNDTABLE**

#### **Environmental Learning and Community Need: Ideas from a Multiple-Site Case Study**

2:00 PM–2:30 PM Room 102

In efforts to increase environmental awareness and concern, environmental education opportunities emerging from community need may be particularly motivating and engaging. This roundtable will use examples from a multiple-site case study to discuss environmental learning and behavior in community contexts.

Presenters:

Nicole Ardoin, Stanford University  
Rachelle Gould, Stanford University



#### **Familiarity and Participation in EE Programs (Iranian-Indian Community in Bay Area)**

2:00 PM–2:30 PM Room 102

An exploratory study of Iranian/Indian parents' familiarity, perception and preferences as well as potential barriers and incentives to have their kids participate in the out-of-school environmental programs.

Presenters:

Zahra Golshani, University of Illinois at Urbana - Champaign  
Athayoon Azra Khalil, Stanford University

#### **Informal Versus Formal Education: Issues When the Education Moves Inside**

2:00 PM–2:30 PM Room 102

This discussion will focus on the boundaries of informal and formal education in classroom-based environmental education, and the importance of their relationship as an opportunity to incorporate more environmentally-conscious lessons into school curricula.

Presenter:

Faith Weeks, Purdue University

## What Does the Sign Say? Interpretive Research on Signs and Sign Systems

2:00 PM–2:30 PM

Room 102

Signs and sign systems communicate powerful messages about a culture's environmental values and practices. We explore the use of interpretive research approaches to study sign messages and meanings in three settings: schools, zoos and a school/park signage project.

Presenters:

Bonnie L Shapiro, University of Calgary

Katherine Fogelberg, Texas Christian University

Polly L. Knowlton Cockett, University of Calgary



## Career Builder Session



### Navigating Your First Job Search

2:30 PM–3:00 PM

Room 108

Presenters:

Martha C. Monroe, University of Florida

Connie Russell, Lakehead University

## POSTERS II

2:45 PM–3:45 PM

### POSTER

#### Building an Appreciative Culture to Create a Nature Inspiration Center

2:45 PM–3:45 PM

Rideau Canal Atrium

Learn about the use of Appreciative Inquiry in the creation of the Canadian Museum of Nature's new Nature Inspiration Center, and the museum's approach to connecting people to nature. A presentation by York University MES graduate of her Major Research Project.

Presenter: Olivia Seillier, Canadian Museum of Nature

### POSTER

#### Creating a New Model of Citizen Science in Urban Greening

2:45 PM–3:45 PM

Rideau Canal Atrium

In order to overcome the challenge of citizen science, social and natural approaches need to be integrated while web-based tools and direct monitoring experience should be utilized. This approach would foster implementation of science, education, and conservation in urban greening.

Presenters:

Hiromi Kobori, Tokyo City University

Ryo Sakurai, Yokohama National University

Naoya Komatsu, Tokyo City University

Warren Kitamura, Tokyo City University

### POSTER

#### Creating Contexts for Sustainability Teaching

2:45 PM–3:45 PM

Rideau Canal Atrium

In this session we hope to solicit feedback on our study exploring the interplay of teacher identity and the development of self-efficacy in sustainability teaching, within the context of a University post-baccalaureate course for formal educators.

Presenters:

Natalie Swayze, University of Winnipeg

Dawn Sutherland, University of Winnipeg

**POSTER****Designing, Implementing, and Evaluating the Impact of Environmental Sensor Networks**

2:45 PM–3:45 PM Rideau Canal Atrium

We create an air quality sensor network across multiple cities with the data results being displayed on interactive touchscreens in public locations. Our goal is to engage citizens in learning and discussing scientific issues in locations that they normally would not expect to see science.

Presenter: Mike Barnett, Boston College

**POSTER****Enhancing Environmental Sensitivity by Creating Aesthetic Experiences for Learners**

2:45 PM–3:45 PM Rideau Canal Atrium

Environmental sensitivity has been identified as a very important affective predictor to environmental behaviors. However, the construction of concept remains unclear during past 30 years. This study tries to discuss another approach to define and promote environmental sensitivity by creating aesthetic experiences in nature.

Presenters:

Yu-Chi Tseng, National Academy for Educational Research

Shun-Mei Wang, Graduate Institute of Environmental Education, National Taiwan Normal University

**POSTER****Environmental Education in the 21st Century: Struggles in Reorienting Teacher Education to Address Sustainability**

2:45 PM–3:45 PM Rideau Canal Atrium

The presentation aims at examining the potential directions and issues emerging from an international research project that seeks to investigate how young children interact with captive animals—i.e. dolphins and reptiles—in Portugal and Canada.

Presenters:

Carlos Ormond, Simon Fraser University

Patrick Robertson, University of British Columbia

**POSTER****Exploring Characteristics of Educative Curriculum**

2:45 PM–3:45 PM Rideau Canal Atrium

What characteristics do teachers identify to improve educative curriculum materials to build their pedagogical content knowledge in climate change education? The session will show the preliminary results from semi-structured phone interviews and discuss the next phase of study that links to teachers' self-efficacy.

Presenters:

Christine (Jie) Li, University of Florida

Martha Monroe, University of Florida

**POSTER****How Can Indigenous Youth Contribute to Water Worldviews and Education?**

2:45 PM–3:45 PM Rideau Canal Atrium

My Masters research focuses on formal and informal education related to water ethics (water worldviews) and the human relationship with water. Specifically I explore the role that indigenous youth can play in contributing to water education in Canada.

Presenter: Kristy Franks, Concordia University

**POSTER****Influences on Interest in Climate Change and Forests**

2:45 PM–3:45 PM Rideau Canal Atrium

This poster presents a path model predicting seventh-grade students' desire to learn about climate change and forests before and after an educational intervention on these topics. It includes discussion of both the predictive factors and the model development process.

Presenters:

Jennifer Carman, University of Michigan

Michaela Zinta, University of Michigan

Erin Burkett, University of Michigan

Anita Kraemer, eeEvaluations

**POSTER****Interspecies Human Encounters as Learning Opportunities in/for Environmental Education**

2:45 PM–3:45 PM Rideau Canal Atrium

The presentation aims at examining the potential directions and issues emerging from an international research project that seeks to investigate how young children interact with captive animals—i.e. dolphins and reptiles—in Portugal and Canada.

Presenters:

Rute Monteiro, University of Algarve

Giuliano Reis, University of Ottawa

**POSTER****Learning Outdoors and Urban Children's Relationship with the Environment**

2:45 PM–3:45 PM Rideau Canal Atrium

This investigation aims to explore the relationship between curriculum based science learning outside the classroom and socio-economically disadvantaged urban, children from ethnic minorities' identity with the world in which they live.

Presenter: Rachel Cook, Kings College London

**POSTER****Measuring Practice Innovations in Environmental Education Programs**

2:45 PM–3:45 PM Rideau Canal Atrium

This study conducts pre- and post-surveys to examine how educators add new elements (goals, participants, resources, places, and/or activities) that respond to global or local situations and interests to their environmental education practices.

Presenters:

Yue Li, Cornell University

Marianne Krasny, Cornell University

**POSTER****Motivating Students Through Their Desire to Make a Difference**

2:45 PM–3:45 PM Rideau Canal Atrium

Our university course's assignment builds on students' desire to want to make a difference by having them develop social science based recommendations for enhancing campus sustainability. Learn about and help interpret exploratory findings on the benefits of this assignment.

Presenter: Lindsey MacDonald, University of Michigan

**POSTER****Out of Place: A Learning Experiment in Environmental Education**

2:45 PM–3:45 PM Rideau Canal Atrium

Does environmental education work outside of the direct context of the environment and can a facilitated experience fill the "place" of the direct experience in an environment's place? We invited elementary and middle school students to an environmental education event to find out if "place" matters.

Presenter:

Melissa Orzechowski, Northern Michigan University

**POSTER****Perceived Outcomes of Participation in Park Interpretive Programs: Qualitative Data**

2:45 PM–3:45 PM Rideau Canal Atrium

This study investigated environmental and recreational outcomes of participation in selected park interpretive programs. Participants completed a questionnaire that asked open-ended questions regarding the interpretive program, its influence on environmental concern, and recreation satisfaction with the interpretive experience.

Presenters:

Sarah Padbury, University of Ottawa

Paul Heintzman, University of Ottawa

**POSTER****The E4E School-as-a-Community Project**

2:45 PM–3:45 PM Rideau Canal Atrium

What are the benefits of engaging an entire school in an EE project rather than the familiar model of single grades visiting an outdoor centre? Explore a university-school partnership to develop environmental citizenship and social capital.

Presenters:

Astrid Steele, Nipissing University

Jeff Scott, Nipissing University

**POSTER****What Are They Saying About the Water in the Tunnel?**

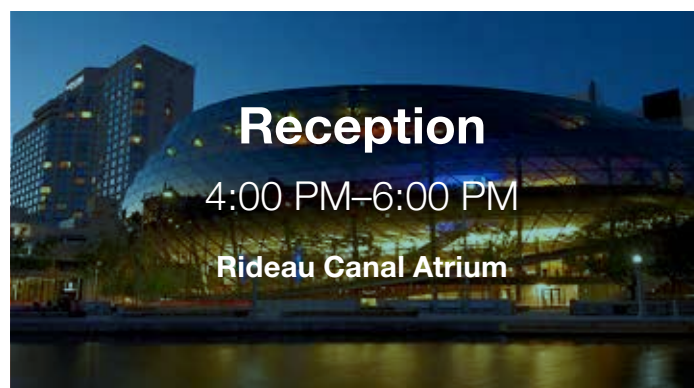
2:45 PM–3:45 PM Rideau Canal Atrium

The presenters will facilitate a discussion regarding the spontaneous conversations students have during a field trip to Natural Tunnel State Park and how the conversations may inform teaching in other EE programs.

Presenters:

Kandace Haigler, Texas Tech University

Patricia Patrick, Texas Tech University



## Wednesday

### Graduate Student Breakfast

7:30 AM–9:00 AM

Rideau Canal Atrium

#### FACILITATED DISCUSSIONS

9:15 AM–9:45 AM

##### **When Do Mobile Technologies Support Outdoor Learning? EcoMOBILE as a Case Study**

9:15 AM–9:45 AM [Room 103](#)

EcoMOBILE will serve as a case study to explore mobile technologies for engaging young people in their local environments through collecting and sharing environmental data. We'll discuss the challenges and benefits of participatory data collection and technology-enabled outdoor learning experiences.

Presenter: Amy Kamarainen, New York Hall of Science

##### **Creating Hybrid Space to Develop Environmental Literacy in Secondary Students**

9:15 AM–9:45 AM [Room 104](#)

This research considers the development of environmental literacy in high school students by examining how secondary educators are creating and using hybrid spaces where students can engage in dialogue and practice their skills in taking action toward the environment.

Presenters:

Anne Kinney Stephens, University of California–Davis  
Heidi Ballard, University of California

##### **What Can We Learn from Significant Life Experience Research?**

9:15 AM–9:45 AM [Room 106](#)

Significant Life Experience (SLE) research is often cited when promoting experiences outdoors or the importance of mentors. We will present findings that may question the basic assumptions behind SLE research to spark a discussion on avenues for future research.

Presenters:

Kathryn Stevenson, North Carolina State University  
Sarah J Carrier, North Carolina State University

## ROUNDTABLE III

9:15 AM–9:45 AM

##### **A Toolkit for Evaluating Small-Scale Environmental Education Programs**

9:15 AM–9:45 AM [Room 102](#)

Many small-scale environmental education organizations struggle to access high-quality evaluation. This roundtable explores the possibility of developing a toolkit that would build the capacity of small-scale organizations to evaluate their own programs with rigor.

Presenter:

Bernadette Chi, University of California–Berkeley

##### **Promoting Democracy, Citizenship, and Justice through Environmental Education**

9:15 AM–9:45 AM [Room 102](#)

The presentation identifies current issues that emerged from articles recently accepted for the forthcoming special issue of the Brazilian Journal of Research in Science Education entitled, “Environmental discourses in science education: contributions to democracy, citizenship and social justice.”

Presenters:

Giuliano Reis, University of Ottawa  
Alandeon W. Oliveira, State University of New York

##### **Sense of Place and Engagement in Community Food Systems**

9:15 AM–9:45 AM [Room 102](#)

Sense of place has been shown to be an important motivating factor in civic engagement. This project specifically explores the relationship between sense of place and engagement in community food systems through qualitative research using a narrative inquiry methodology.

Presenter: Jeremy Solin, Wisconsin Center for Environmental Education

## Supporting Informal Educator Professional Development Focused on Complex Environmental Issues

9:15 AM–9:45 AM

Room 102

This session will explore the use of communities-of-practice and other approaches to enhance informal educators' practice focused on complex, often controversial, environmental issues. Discussion topics will be shaped by findings and challenges from an ongoing climate-change-education research project.

Presenters:

Cathlyn Stylinski, University of Maryland Center for Environmental Science

Joe E. E. Heimlich, Ohio State University Extension

## Starting Off Right: Building a Research Base for Early Childhood EE

9:15 AM–9:45 AM

Room 102

NAAEE has two relatively new initiatives related to early childhood EE: the Natural Start Alliance and the International Journal of Early Childhood Environmental Education. As we move forward, we want to base our activities on good quality research. We'll use this session as an opportunity to learn about existing and developing research, and to start the process of developing a research strategy.

Presenter: Christy Merrick, North American Association for Environmental Education

## FACILITATED DISCUSSIONS

10:00 AM–10:30 AM

### The Institutionalization of Environmental Education in Preservice Teacher Preparation Programs

10:00 AM–10:30 AM

Room 103

I will discuss the role that external factors, such as state EE policies, and the role that internal factors, such as institutional values and practices, play in influencing the inclusion of EE in teacher preparation programs.

Presenter: Dennis Sanchez Rosemartin, University of Arizona



## Using Phenomenology to Conduct Environmental Education Research: Experience and Issues

10:00 AM–10:30 AM

Room 104

Recently, we applied a phenomenological methodology to study environmental education at an outdoor education centre. In this session we reflect on our experience of doing phenomenological research and critique the merits and challenges of adopting phenomenology to investigate EE.

Presenters:

Joanne Nazir, University of Toronto

John Wallace, Ontario Institute for Studies in Education

Erminia Pedretti, University of Toronto

## Technology and Place—Keys to Elementary-Appropriate Climate Change Education

10:00 AM–10:30 AM

Room 105

In WeatherBlur, students, fishermen, and scientists study the local impacts of climate change through an online learning community. Learn and discuss how this technology-rich, place-based approach introduces climate change to K-8 students through a developmental continuum of experiences.

Presenters:

Ruth Kermish-Allen, Island Institute

Rachel E. Thompson, Island Institute

Karen Peterman, Karen Peterman Consulting Co.

## Could Biophilia Be Construed as an Educational Theory?

10:00 AM–10:30 AM

Room 106

The audience will be engaged with the proposition that the biophilia hypothesis should be construed as an educational theory. The underlying assumption is that biophilia essentially refers to bioculturally-reared complex learning rules that can guide curriculum and teaching decisions.

Presenter: Ugar Parlar, University of Calgary

## ROUNDTABLE IV

10:00AM–10:30AM

### Connecting Local Environmental Action Projects to Global Ethical Principles

10:00 AM–10:30 AM

Room 102

What connections can you make between global Earth Charter principles and local environmental actions? This presentation will examine how the Earth Charter can provide philosophical and practical frameworks for empowering people to engage in local actions with a global purpose.

Presenter: Kim Charmatz, Florida Gulf Coast University



### Environmental Education and Field Trips: Can We Bridge the Gap?

10:00 AM–10:30 AM

Room 102

The presenters will facilitate a discussion regarding the significance of pre-, during, and post-activities in field trip design. The current research proposes to identify the educational tools that bridge teaching and learning in both formal and informal EE settings.

Presenters:

Jillian Weinstein, Texas Tech University

Patricia Patrick, Texas Tech University

### Hiking the Trail from Research Findings to Implications for Practice

10:00 AM–10:30 AM

Room 102

This study explores hikers' experiences of nature while through-hiking the Appalachian Trail. This research will lead to greater understanding of the paths that bring people to interact with nature. Using concept mapping, we will explore how implications emerge from research.

Presenter: Vanessa Klein, Kent State University

## Career Builder Session



### Picking a Journal—Preparing Your Manuscript

10:00 AM–10:30 AM

Room 108

Presenters:

Justin Dillon, King's College London

Paul Hart, University of Regina

## FACILITATED DISCUSSIONS

10:45 AM–11:15 AM

### “Eco-Mind” as a Theoretical/Analytic Framework for Environmental Education Research

10:45 AM–11:15 AM

Room 105

Adopting an “eco-mind” moves away from environmental messages “of lack and separateness” toward “re-aligning our [ecological] relationships” (Lappé; 2011). What if we approached environmental education research with an “eco-mind?” We will lead a group inquiry about “eco-mind” as theoretical/analytic framework.

Presenters:

Nicole Beeman-Cadwallader, Project Lead The Way

Cassie Quigley, Clemson University

### Anthropological and Sociological Researchers Interested in Environmental Education

10:45 AM–11:15 AM

Room 104

This discussion is a gathering place for anthropological and sociological researchers interested in environmental education. While much current research in environmental education is grounded in traditional education research paradigms, anthropologists and sociologists have a role to play in environmental education.

Presenter: Lyndsay Moffatt, University of

Prince Edward Island



### Design and Analysis of Large-Scale EE Status and Needs Surveys

10:45 AM–11:15 AM

Room 106

How can we best develop and analyze large-scale surveys of environmental education organizations? Discussion of methodologies will help us understand the status and needs of EE organizations to better support their operations and increase the capacity of EE.

Presenter: Stephen Kerlin, University of Wisconsin - Stevens Point

### Exploring the Relationship between Politics, Economics, and Environmental Education Research

10:45 AM–11:15 AM

Room 103

Environmental processes and education are not isolated from larger economic and political structures and processes. However, analyzing these relations is problematic. In this session we explore how we might theorize the relationship between the political, economic, cultural, and environmental.

Presenters:

David Hursh, University of Rochester

Marcia McKenzie, University of Saskatchewan

David Greenwood, Lakehead University

Joseph A Henderson, University of Rochester

### Design and Analysis of Large-Scale EE Status and Needs Surveys

10:45 AM–11:15 AM

Room 106

How can we best develop and analyze large-scale surveys of environmental education organizations? Discussion of methodologies will help us understand the status and needs of EE organizations to better support their operations and increase the capacity of EE.

Presenter: Stephen Kerlin, University of Wisconsin–Stevens Point

## ROUNDTABLE V

10:45 AM–11:15 AM

### Exploring EE Curriculum Integration

10:45 AM–11:15 AM

Room 102

What connections can you make between global Earth Charter principles and local environmental actions? This presentation will examine how the Earth Charter can provide philosophical and practical frameworks for empowering people to engage in local actions with a global purpose.

Presenter: Astrid Steele, Nipissing University

### Friend or Foe: Using Social Media to Follow Up Outdoor Learning

10:45 AM–11:15 AM

Room 102

Can the thoughtful use of social media address the well-documented challenges in transferring outdoor environmental learning to the school context and developing action competence? This session discusses the potential dilemmas and challenges in using social media to overcome “nature-deficit disorder.”

Presenter: Alan Warner, Acadia University

### Sentient Ecology and Environmental Learning

10:45 AM–11:15 AM

Room 102

We articulate Tim Ingold’s notion of “sentient ecology,” suggesting that what we perceive as environment is not a ready-made surface to be occupied, but rather is a complex meshwork of adaptive entanglement. Ingold’s articulation holds crucial lessons for environmental education research.

Presenters:

Ugur Parlar, University of Calgary

Bonnie L Shapiro, University of Calgary

### The Ecosystem of Education

10:45 AM–11:15 AM

Room 102

In this session, we will discuss the findings of my recent research on differential approaches to social learning. Discussion will center on the implication of these results and establishing generalizability beyond the study sample.

Presenter: Kathayoon Azra Khalil, Stanford University

## Career Builder Session



### Serving as a Journal Peer Reviewer

10:45 AM–11:15 AM

Room 108

Presenters:

Constance Russell, Lakehead University

Nicole Ardoin, Stanford University

## FACILITATED DISCUSSIONS

11:30 AM–12:00 PM

### **Incorporating Current Learning Theories into Environmental Education Research**

11:30 AM–12:00 PM Room 103

Some environmental education research does not align with current learning theories, which acknowledge the necessary, active, social, and participatory role students play in creating environmental education curriculum. How might environmental education research reflect this current understanding of student learning?

Presenter:

A. Elizabeth Beattie, University of British Columbia

### **Expanding Focus: Complexity in Evaluation When a Project Goes National**

11:30 AM–12:00 PM Room 104

This session discusses the challenges in a multi-year evaluation of a project to develop a professional learning program for residential outdoor science schools. The train-the-trainer style program is shifting from statewide to nationwide field-testing of its materials and summer institute.

Presenters:

Bernadette Chi, University of California–Berkeley

Juna Snow, University of California–Berkeley

### **The Dilemma of “Doing” Research: Action Orientated, Self-Focused Methodologies**

11:30 AM–12:00 PM Room 105

“Theory separated from concrete doing and making is empty and futile” (Dewey, 1929, p. 281). Our session will explore this notion by considering the dilemma of action orientated, self-focused methodologies. Come with questions or stories and a desire to engage in methodological conversations.

Presenter: Peta White, Deakin University

## ROUNDTABLE VI

11:30 AM–12:00 PM

### **Environmental Education and Complexity Science: A Complementary and Evolving Relationship**

11:30 AM–12:00 AM Room 102

This presentation will explore—interactively with the audience—the similarities and complementary insights of environmental education and complexity science. It will draw upon the work of a number of influential Canadian educational thinkers to build bridges between these two discourses.

Presenter: Giuliano Reis, University of Ottawa

### **Insights from Pilot Testing NOAA B-WET’s Grant Program Evaluation System**

11:30 AM–12:00 AM Room 102

What are evaluation systems? How should they be designed to maximize strengths and minimize limitations? How might they benefit environmental education researchers? Let’s discuss these questions within the context of NOAA B-WET’s evaluation system which we designed and recently pilot-tested.

Presenters:

Michaela Zint, University of Michigan

Bronwen Rice, NOAA

Anita Kraemer, eeEvaluations

### **Researching and Developing Student Agency**

11:30 AM–12:00 AM Room 102

Framed by a current doctoral study aimed at exploring how youth, nationally recognized as eco-civic leaders, perceive their own sense of agency, how can this research “do”—develop student capacity to enact change—what it is researching “about?”

Presenter: Lisa Glithero, University of Ottawa

### **The Political Dimension of Environmental Education: Some Highlights from Brazilian Research**

11:30 AM–12:00 AM Room 102

Through a meta-analysis of research we try to point out meaning-making process as regards to political dimension of environmental education or to the relationship between environmental education and the process of political literacy stressed in theses and dissertations carried out in Brazil.

Presenter: Luiz Carvalho, Environmental Protection and Education Association

### **Career Builder Session**



#### **Preparing Your First Book Proposal**

10:45 AM–11:15 AM Room 108

Presenters:

Justin Dillon, King’s College London

Constance Russell, Lakehead University

## WORKSHOPS

1:15 PM–2:45 PM

### Creating an EE Community to Support Your Research Needs

1:15 PM–2:45 PM

Room 102

Do you feel like the only EE student at your University? Join us for a discussion about finding your EE community. We will reflect on what has worked as well as the challenges to forming a cross-disciplinary EE reading group at our University.

Presenters:

Allison Freed, Michigan State University  
Hannah Miller, Michigan State University  
Sarah Riggs Stapleton, Michigan State University  
Matt Ferkany, Michigan State University

### Best Practices for Team Research Projects—A Gallery-Walk Exercise

1:15 PM–2:45 PM

Room 103

Working in research teams (more than three researchers) can benefit research, but is challenging logistically and pedagogically. This session will use a “gallery-walk” structure to suggest “best practices” for teams spanning (a) geographical distance, (b) disciplinary spread, (c) time, or (d) size.

Presenters:

Charlotte Clark, Duke University  
Rachelle Gould, Stanford University  
Noelle Wyman Roth, Duke University  
Deborah Wojcik, Stanford University  
Nicole Ardoin, Stanford University

### Using NVivo10 Qualitative Research Software for Your Project

1:15 PM–2:45 PM

Room 104

Presenters will consult with attendees to tailor discussion and demonstration on using NVivo10 qualitative analysis software to organize, analyze, and represent non-numeric data (text, web, audio, video, image). This is particularly relevant for early stage research—degrees or projects.

Presenters:

Charlotte Clark, Duke University  
Noelle Wyman Roth, Duke University



### Alternative Outcome Measures in EE

1:15 PM–2:45 PM

Room 105

Two trends—rising social inequity and climate change—suggest program outcomes not commonly measured in EE research. We will discuss approaches to researching alternative outcomes, including social capital, sense of place, social learning, ecosystem services, and adaptive capacity.

Presenters:

Marianne Krasny, Cornell University  
Nicole Ardoin, Stanford University

### Moving from Evaluation to Research

1:15 PM–2:45 PM

Room 106

Many students in EE are motivated to improve practice, for which evaluation skills are useful. But evaluation alone is not research. This workshop will help students identify research questions and theories that relate to improved practice. Bring your ideas and questions!

Presenters:

Martha Monroe, University of Florida  
Joe Heimlich, Ohio State University Extension  
Christine (Jie) Li, University of Florida

## Beyond “The Same Old Song”: Turning Theory into “Doing” (Praxis)

1:15 PM–2:45 PM

Room 108

Environmental education research is now part of an increasingly diverse educational research landscape. This presentation illustrates, using the example of interviewing, how our actual “doing” or methods can be improved by framing/grounding practice in methodology and theory.

Presenters:

Paul Hart, University of Regina

Catherine Hart, University of Regina

## Closing Plenary

3:00 PM–4:30 PM

Bob Coulter and Cathlyn Styliniski

Room 210

In our closing session, we will look back and ahead. The program co-chairs will facilitate an evaluation of the Research Symposium with an eye to the format and content for next year.

We will discuss the question of how science, science education, and environmental education (EE) can interact to foster research in environmental education. In particular, the presenters argue a convergence of science and EE in relation to sustainability and citizen science. In this highlight of the symposium closing session, participants will have an opportunity to discuss the relationship of science and EE from their own research experiences and what they observed here at the symposium.

This also serves as the official annual meeting of the Environmental Education Research Special INterest Group (EESIG) of NAAEE, and we will elect a President-Elect for the SIG (who also serves as the co-chair with Cat of the 2014 Research Symposium).



SAN DIEGO

Join us next year for the

## 12th Annual Research Symposium

October 14–15, 2015

San Diego, CA

Your contributions to NAAEE help support conference scholarships. Please visit [naaee.net/contribute](http://naaee.net/contribute).

**Thank you for your support!**



Environmental education we need for the world we want.



**There has never been a greater need for environmental education—or a greater opportunity.** Our country is facing unprecedented environmental, social, and economic challenges—from the world’s changing climate and loss of species and habitats, to declines in civic engagement, decreasing access to nature, and other threats. 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.



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## NAAEE: Be the change



**For more than four 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:

- **More than 16,000 members and supporters**
- **54 state and provincial Affiliate organizations**
- **30 countries around the world**

Today, as we build on this foundation, NAAEE looks forward to strengthening our core and stimulating new thinking that will best meet the environmental and social challenges of the next decade.

### Building a network

**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, learning, and dissemination of best practices. Held in a different city each year, the 2015 conference will take place in San Diego.

**Early Childhood EE Alliance:** In 2013, NAAEE launched the Natural 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.

### Strengthening the field

**EE Advocacy:** NAAEE has helped lead policy and outreach efforts on behalf of the field since its inception. NAAEE sponsors a monthly Action Network Call to highlight key opportunities for people across the country to get involved in local, state, and national issues, from supporting the **No Child Left Inside (NCLI) coalition** and the implementation of State Environmental Literacy Plans to strengthen public support for environmental education.

**EE Resources:** NAAEE's National Project for Excellence in EE has produced the **Guidelines for Excellence** series, the most widely accepted guidelines for environmental education around the globe. The online **EE Linked networks** provide up-to-date environmental education research, curriculum guides, professional development opportunities, and job postings.

### Inspiring innovation

**E-STEM Initiative:** NAAEE is leading a research effort to examine how environmental education and STEM (Science, Technology, Engineering, and Math) learning intersect and can be mutually supportive.

**Broadening the conversation:** With support from the U.S. EPA, NAAEE has collaborated with the Cornell Civic Ecology Lab and others on **EECapacity**, a project aimed at bringing new voices, innovation and ideas together, including youth and community development professionals to broaden the reach and impact of environmental education.

**Connect with NAAEE today and join the movement to create a more sustainable future together.**



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