



naaee

9TH ANNUAL
RESEARCH
SYMPOSIUM

October 9-10

41ST ANNUAL
CONFERENCE

October 9-13

“Doing” EE Research—Issues, Challenges, and Dilemmas

NAAEE Research Symposium Program



Welcome to the NAAEE 9th Annual Research Symposium

Dear Friends and Colleagues:

Welcome to Oakland and to the NAAEE Research Symposium. If you are a first time attendee, we wish you an especially warm welcome. Our aim is make the research symposium both educative and enjoyable.

Our focus this year is on exploring the process of “doing” environmental education research. Rather than focus on presenting the findings of finished studies we aim to devote our time to examining works in progress and to looking at the stories behind the research. The next two days are about assisting each other by sharing problems, ethical dilemmas, new (and forgotten) techniques, and the emotional response to undertaking research.

Justin Dillon

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

Charlotte Clark

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

PROGRAM OVERVIEW

TUESDAY

| | |
|-------------------|---|
| 9:00 AM–9:15 AM | WELCOME & INTRODUCTIONS Grand Ballroom EFGH |
| 9:15 AM–10:30 AM | PLENARY—Paul Hart Grand Ballroom EFGH |
| 10:30 AM–11:00 AM | BREAK |
| 11:00 AM–11:45 PM | POSTERS I Ballroom E |
| 11:45 AM–12.30 PM | POSTERS II Ballroom E |
| 12:30 PM–1:30 PM | LUNCH Junior Ballroom |
| 1:30 PM–2.30 PM | FORMAL PRESENTATIONS 30-minute presentations (two per room) Rooms 201–205 |
| 2:30 PM–3:00 PM | BREAK |

3:00 PM-4.30 PM WORKSHOPS
Rooms 201-205

6:00 PM-8:00 PM RECEPTION
Skyline Room

WEDNESDAY

8:00 AM-9:00 AM GRAD STUDENT & FACULTY BREAKFAST
Q&A WITH PAUL HART et al.
Convention Center Foyer

9:00 AM-10:00 AM FORMAL PRESENTATIONS
30-minute presentations (two per room)
Rooms 201-205

10:00 AM-10:30 AM BREAK

10:30 AM-11:15 PM ROUNDTABLES I
Grand Ballroom ABC

11:15 AM-12:00 PM ROUNDTABLES II
Grand Ballroom ABC

12:00 PM-12.30 PM FORMAL PRESENTATIONS
Rooms 201-203

12:30 PM-1:15 PM LUNCH
Junior Ballroom

1:15 PM-2:30 PM WORKSHOPS
Rooms 201-205

2:30 PM-2:45 PM BREAK

2:45 PM-4:15 PM INTERACTIVE PRESENTATIONS
30-minute presentations (three per room)
Rooms 201-205

4:15 PM-4:30 PM PLENARY—Justin Dillon, Charlotte Clark et al.
Grand Ballroom EFGH

PRESENTATION DETAILS

TUESDAY

Poster Sessions 11:00 AM-11:45 AM

A PHENOMENOGRAPHIC STUDY OF DIVERSE CHILDREN IN THE UNITED STATES

Minority children are changing the demographics in the United States, but their voices are not being heard. A phenomenographic study will identify the qualitatively different ways elementary school students understand the phenomenon of environmental education through the eyes of diverse children.

Presenter(s): Brissa Quiroz (The University of Texas at El Paso)

Room: Grand Ballroom E

A QUALITATIVE INVESTIGATION OF THE DEVELOPMENT OF SCHOOL GARDENS

This poster session will highlight a single case study used as the pilot in an ongoing research project as well as the additional garden sites currently under study.

Each site will be showcased with photos and preliminary findings.

Presenter(s): Kimberly Yates (Montana State University)

Room: Grand Ballroom E

A QUANTITATIVE ANALYSIS OF ENVIRONMENTAL EDUCATION IN ELEMENTARY TEACHER EDUCATION PROGRAMS

The NAAEE Guidelines for the Preparation and Professional Development of Environmental Educators describes competencies of environmental educators. What teaching methods and assessment strategies are teacher educators using to prepare preservice elementary teachers for their role in educating about the environment?

Presenter(s): Rebecca Franzen (Northern Illinois University)

Room: Grand Ballroom E

ANALYSIS OF AN EXHIBIT'S ABILITY TO MODIFY VISITORS' CONSERVATION PERCEPTIONS

This project assesses one exhibit's ability to influence visitor perceptions of conservation and the role the visitors play in conservation by using both qualitative and quantitative survey instruments. The exhibit researched was "Madagascar Journey," a new exhibit at the South Carolina Aquarium.

Presenter(s): Shannon Howard (South Carolina Aquarium)

Room: Grand Ballroom E

CLIMATE CHANGE EDUCATION FOR SECONDARY STUDENTS

The controversial nature of climate change can make it a difficult topic for the classroom. This research focuses on finding better ways to teach climate change so that students are engaged and are less likely to anchor to their previous conceptions

Presenter(s): Stephanie Hall (University of Florida)

Room: Grand Ballroom E

COMBINING CULTURAL AND ENVIRONMENTAL EDUCATION FOR MIDDLE-SCHOOLERS IN HAWAII

Incorporating cultural education with environmental education is arguably one of the most critical frontiers of environmental education practice. How does this work? We use survey and interview data to explore the effects of a cultural/environmental education program in Hawai'i.

Presenter(s): Rachele Gould (Stanford University), Nicole Ardoin (Stanford University)

Room: Grand Ballroom E

DATA EXPLORATION IN ECOLOGY

Does working with different types of ecological data improve students' knowledge, motivation, and engagement in science, data exploration and citizenship skills? Using a framework that targets key skills in data exploration, we will share our results to date.

Presenter(s): Gel Alvarado (Cary Institute of Ecosystem Studies), Cornelia Harris, Alan Berkowitz (Cary Institute of Ecosystem Studies)

Room: Grand Ballroom E

DETERMINING ENVIRONMENTAL LITERACY CORE CONCEPTS ADDRESSED IN FLORIDA EE PROGRAMS

Stop theorizing and start acting! Participate in innovative research by learning and applying national frameworks to EE programs. Offer your perspective to create a well-rounded analysis of the extent to which Southwest Florida is covering environmental literacy principles.

Presenter(s): Cynthia Clair (Florida Gulf Coast University), Marguerite Forest (Florida Gulf Coast University)

Room: Grand Ballroom E

ENVIRONMENTAL EDUCATION STRATEGIES FOR THE DEVELOPMENT OF AXIOLOGICAL WATER LEARNING

In the search to contribute to skills and attitudinal values in learners, we implemented a successful teaching strategy for degree students with an emphasis on constructive pedagogy, using material prototypes for the management of water.

Presenter(s): Eunice Murua (Centro de Investigación en Alimentación y desarrollo)

Room: Grand Ballroom E

EVALUATING ENVIRONMENTAL EDUCATORS' LEVEL OF ADOPTION OF TECHNOLOGY

This session will present results of a national survey of environmental educators' use of instructional technology. Participants will examine the methodology used to evaluate environmental educators' use of technology, discuss the results, and participate in an interactive survey.

Presenter(s): Kris Irwin (University of Georgia)

Room: Grand Ballroom E

HOW ARE UNIQUE POPULATIONS CONNECTED TO NATURE?

Using accepted scales for connectedness to nature, the presenter analyzed several different unique populations to determine if differences exist between groups. Results are discussed including possible ways of increasing this connection in adults.

Presenter(s): Shelby Laird (Charles Sturt University)

Room: Grand Ballroom E

THE BLUE OAK PROJECT: MONITORING CALIFORNIA'S OAK WOODLANDS AND TRACKING VOLUNTEER EXPERIENCES

The Blue Oak Project is a collaborative monitoring effort aimed at understanding how management practices in working landscapes affect oak regeneration. This interactive conversation will focus on developing ways to meaningfully track volunteer data and learning outcomes in multi-site citizen-science programs.

Presenter(s): Erin Hardie (University of California, Davis), Heidi Ballard (School of Education, University of California)

Room: Grand Ballroom E

THE ROLES OF CIVIC ECOLOGY AND CITIZEN SCIENCE IN CONSERVATION ACTION

This presentation will summarize exploratory research into the outcomes of engaging youth in conservation action that integrates civic ecology with citizen science by combining habitat restoration and stewardship activities with biodiversity-monitoring practices.

Presenter(s): Lilly Briggs (Cornell University), Marianne Krasny (Cornell University), Nancy Trautmann (Cornell Lab of Ornithology)

Room: Grand Ballroom E

Poster Sessions 11:45 AM-12:30 PM

CHALLENGES OF ENVIRONMENTAL BEHAVIOR MODELING THROUGH ENVIRONMENTAL EDUCATION: A CASE STUDY OF STUDENTS IN IVORY COAST

Modeling in social sciences has greatly contributed to strengthening the link between exact sciences and social sciences. Although the main difficulty is to reconcile them epistemologically, environmental education in this production tries to overcome this failure by modeling students' environmental behavior.

Presenter(s): Kabran Djane (University of Cocody)

Room: Grand Ballroom E

EAGLE MOUNT'S HORTICULTURE PROGRAM: TRANSFORMING LIVES WITH HORTICULTURE THERAPY

Eagle Mounts horticulture program is unique because it has been designed for participants with disabilities. As a volunteer, researcher, and participant observer, I will display a variety of photos and literature discussing what this program does, and how it enhances the lives of its participants with horticulture therapy.

Presenter(s): Kimberly Yates (Montana State University)

Room: Grand Ballroom E

ECOPHILOSOPHY EDUCATION FOR PRIMARY SCHOOL STUDENT USING PICTURE BOOK

Dichotomous views are problematic now, so there's a need for holistic values, which are realizable through philosophy. Ecophilosophy stresses relationships, and Deep Ecology especially puts emphasis on changing values. So, I suggest ecophilosophy education for primary students by "doing philosophy" using a picture book.

Presenter(s): Hyojin Yi (Korea National University of Education)

Room: Grand Ballroom E

EXPLORING THE INTERSECTION OF CONSUMPTION AND CULTURE ON BLACK FRIDAY

This is a pilot study that used questionnaires to explore the motivations behind participation in Black Friday sales. It questions the meaning of sustainability from a socio-cultural perspective and discusses implications for environmental education. Presenter(s): Bryan Wee (University of Colorado Denver), Jason Abdilla (University of Colorado, Denver)

Room: Grand Ballroom E

IDENTIFYING AND EVALUATING DRIVERS OF ENVIRONMENTAL LITERACY IN NORTH CAROLINA

Do outdoor and environmental education work? We will discuss results from a study in support of North Carolina's Environmental Literacy Plan (ELP). Topics include how teacher environmental attitudes, use of environmental education, and time spent outside predict environmental literacy levels in North Carolina.

Presenter(s): Kathryn Stevenson (NCSU), Renee Strnad (North Carolina State University)

Room: Grand Ballroom E

INCLUDING INDIGENOUS KNOWLEDGE AND PEDAGOGIES IN SCIENCE-BASED ENVIRONMENTAL LEARNING PROGRAMS

In this session, the necessary components for environmental education programs that include Indigenous Knowledge and pedagogies will be considered, along with a possible means to evaluate the effectiveness of attempts to make environmental education programming more culturally relevant.

Presenter(s): Natalie Swayze (University of Winnipeg), Dawn Sutherland (University of Winnipeg)

Room: Grand Ballroom E

INTERACTIVE LEARNING IN AN ONLINE URBAN ENVIRONMENTAL EDUCATION COURSE

We discuss how environmental educators share their ideas in an online course, "Environmental Education in Urban Communities," developed by the EECapacity project. We use content analysis and social network analysis to evaluate the quality of ideas exchanged online.

Presenter(s): Yue Li (Cornell University), Marianne Krasny (Cornell University), Alex Kudryavtsev

Room: Grand Ballroom E

KNOWING "GREEN" THROUGH PROBLEM-BASED LEARNING

In order to meet the target—knowing "green" through problem-based learning—the results of a case study using the Natural Walkway Curriculum in Liberal will be presented along with a discussion of science inquiry and environmental education online.

Presenter(s): Wang-Kun Chen (Jinwen University of Science and Technology)

Room: Grand Ballroom E

LIVING AND TEACHING IN THE THIRD SPACE: INTERCULTURAL ENVIRONMENTAL EDUCATION IN CANADA

This is a presentation and discussion of the findings of a recently completed doctoral study that explored the ecological identities, philosophies, and pedagogical practices of ten Indigenous and non-Indigenous intercultural environmental educators across Canada.

Presenter(s): Greg Lowan-Trudeau (University of Northern British Columbia)

Room: Grand Ballroom E

MERGING NEW SELVES—DEVELOPING ADOLESCENTS' ENVIRONMENTAL CONCERN THROUGH NATURE-BASED PROGRAM

Nature experience did promote environmental sensitivity and develop environmentalists. Researchers found that adolescents who participate in nature-based programs can expand self-boundary to environment by sensory dialogue between self and nature, so they become concerned about the environment.

Presenter(s): Yuchi Tseng (National Taiwan Normal University), Shun-Mei Wang

Room: Grand Ballroom E

STUDENTS' UNDERSTANDING OF WATER AS A COMPLEX SYSTEM

In this PowerPoint presentation, we will describe our inquiry into students understanding of water as a complex environmental system before and after participating in an environmental education program that teaches about both natural and human-engineered parts of regional water systems.

Presenter(s): Emily Evans (University of California, Davis), Heidi Ballard (School of Education, University of California)

Room: Grand Ballroom E

STUDYING COLLEGE STUDENTS' ENVIRONMENTAL DISPOSITIONS HIGHLIGHTS ENVIRONMENTAL EDUCATION RESEARCH CHALLENGES

We discuss three overlapping categories of EE research challenges: 1) sampling, 2) validity of current measures of attitudes and behavior and institutional sustainability, and 3) ethical dilemmas. We ground this conversation with examples and data from our in-progress research.

Presenter(s): Timothy Zimmerman (Rutgers University), Sarah Stapleton (Michigan State University)

Room: Grand Ballroom E

SUSTAINABILITY INSTRUCTION IN CALIFORNIA: HIGH SCHOOL TEACHER IDENTIFIED INFLUENCES

What influenced California high school teacher engagement with 2011-2012 socio-scientific sustainability instruction? Establishing an important California baseline, science and social studies teacher survey responses suggest the nature and range of environmental sustainability instruction occurring among regions and across the state.

Presenter(s): Jeanne Knapp (Merced County Office of Education)

Room: Grand Ballroom E

USING BOOK TALKS TO BOOST CHILDREN'S IDENTIFICATION OF NATIVE WILDLIFE

Book talks, in conjunction with multi-day environmental education experiences, can be an effective tool to enhance students' ability to recognize and identify native wildlife.

Presenter(s): Cathy Wissehr (University of Arkansas), Ryan Walker (University of Arkansas)

Room: Grand Ballroom E

USING PORTRAITURE TO UNDERSTAND CHILDREN'S EXPERIENCES IN THE ENVIRONMENT

Portraiture is a qualitative methodology blending art and science that allows the researcher to uncover the quality of children's experiences in their environment. This is a methodology that we should consider more often in environmental education research.

Presenter(s): Kelly Keena (University of Colorado Center for Children, Youth, and Environments; Mapleton Public Schools)

Room: Grand Ballroom E

USING STUDENT COLLECTED DATA TO DEVELOP VALUABLE STUDENT CLIMATE RESEARCH PROJECTS

Through the GLOBE Program, students are introduced to hands-on science that can be used to develop climate-focused research projects. Mechanisms of how to connect student collected data to research projects and examples of student climate projects will be presented.

Presenter(s): Jessica Mackaro (GLOBE)

Room: Grand Ballroom E

WHAT CHILDREN THINK ABOUT OCEAN CIRCULATION: AN EXPLORATORY STUDY

This exploratory study is one of a few investigations that offer insights into what students think about ocean sciences concepts. Findings suggest that students' mapping skills could be related to their understanding of the ocean on Earth.

Presenter(s): Lynn Tran (Lawrence Hall of Science/UC Berkeley), Sarah Pedemonte (Lawrence Hall of Science)

Room: Grand Ballroom E

Formal Presentations 1:30 PM–2:00 PM

A MULTICULTURAL INQUIRY-BASED APPROACH TO ENGAGE UNDERREPRESENTED STUDENTS

In this session we will describe our culture-rich teaching approach, “multicultural inquiry,” as related to environmental education. We will share our findings that include how a sample of students demonstrated enhanced learning of science and changed their views of science.

Presenter(s): Barbara Crawford (Cornell University), Xenia Meyer (UC Berkeley)

Room: 202

CLIMATE CHANGE AND CONCEPTUAL CHANGE: WHEN DO PEOPLE MAKE CONNECTIONS?

Climate science is both intellectually rich and pedagogically difficult, but environmental education can help learners understand its many connections. New mental models, hands-on activities, and field investigations can provide tools that help people understand climate on a variety of levels.

Presenter(s): Lloyd Goldwasser (California Institute for Biodiversity; University of California, Berkeley)

Room: 204

RESEARCH DESIGN FOR K-12 TEACHER PROFESSIONAL DEVELOPMENT IN ENVIRONMENTAL EDUCATION

We present a research model for K-12 teacher professional development in environmental education. We will share best practices, lessons learned, and spark discussion about how the “general” research design components can be applied to specific projects.

Presenter(s): Robert Bleicher (California State University Channel Islands)

Room: 201

DIGITALOCEAN: SAMPLING THE SEA—PRACTICAL INSIGHTS FROM AN INTERDISCIPLINARY PILOT PROJECT

The Ocean Literacy Principles, National Science Education Standards, and social media were integrated into a unique online curriculum about sustainable seafood by an interdisciplinary

team at UCSB. This presentation focuses on the pilot evaluation, the issues the developers faced, what worked, what did not, and lessons learned.

Presenter(s): Julie Robinson (George Mason University), Ronald Rice (University of California, Santa Barbara), Elizabeth Youngman (TERC), George Matsumoto (MBARI)
Room: 203

Formal Presentations 2:00 PM–2:30 PM

CONNECTING CLASSROOM LEARNING ENVIRONMENTS TO NATURE THROUGH EXPANSIVE FRAMING

Because many classrooms teaching about the environment are removed from natural settings, the use of expansive framing as an instructional strategy may help students connect across learning contexts. This presentation seeks feedback on the use of linguistic framing in EE.

Presenter(s): Xenia Meyer (UC Berkeley)
Room: 203

ENVIRONMENTAL QUALITY OUTCOMES OF EE: FRAMEWORK FOR MEASURING ECOSYSTEM SERVICES

EE researchers are developing protocols for directly measuring environmental quality outcomes of EE. Ecosystem services provide one approach for measuring environmental quality; we apply it to monitoring EE situated in civic ecology practices in cities.

Presenter(s): Marianne Krasny (Cornell University), Alex Kudryavtsev, Keith Tidball (Cornell University)
Room: 202

UNDERSTANDING EDUCATORS' PERCEPTIONS OF CLIMATE CHANGE

Cooperative Extension Agents provide an important link between university scientists and citizens. Understanding Extension Agents' perceptions of climate change is important in the development of climate change programs. We will discuss results and programmatic implications of our large-scale perceptions survey.

Presenter(s): Martha Monroe (University of Florida), Deborah Wojcik (Stanford University), Richard Plate (University of Florida)
Room: 204

"I'M NOT A SNAKE PERSON": STUDENTS' IDENTITY BOUNDARY WORK

In an ethnographic study of diverse high school students' identity boundary work in a summer herpetology research experience, students, over time, engaged with nature and animals in ways that surprised themselves. What prompted these kinds of identity boundary shifts?

Presenter(s): Lacey Huffling (University of North Carolina-Greensboro)
Room: 201

Research Workshops 3:00 PM–4:30 PM

ECO-PORTRAITURE: WORKING WITH THE MORE THAN HUMAN WORLD AS CO-RESEARCHER

With an ear calmly bent toward the voice of the more-than-human world, come as we explore the delicate and dangerous transformations within research at the Maple Ridge Environmental School. Participants will be out of their seats and out of doors.

Presenter(s): Laura Piersol (Simon Fraser University), Veronica Hotton (Simon Fraser University), Vicki Kelly (Simon Fraser University), Michael Caulkins (Simon Fraser University), Michael Derby (Simon Fraser University), Jodi MacQuarrie (Simon Fraser University), John Telford (Simon Fraser University)

Room: 203

ENVIRONMENTAL EDUCATION AFTER THE JAPAN QUAKE ON MARCH 11, 2011

Since the tsunami and the nuclear accident, environmental educators in Japan have been searching for a path to rebuild environmental education as reflecting on what the disaster exposed. This workshop aims to build such a path in relation to resilience theory.

Presenter(s): Shinichi Furihata (Tokyo University of Agriculture and Technology), Sachi Ninomiya-Lim (Tokyo University of Agriculture and Technology), Toshiya Kodama (Azabu University), Hiromi Kobori (Environmental and Information Studies, Tokyo City University), Marianne Krasny (Cornell University)

Room: 201

FORMULATING ENVIRONMENTAL EDUCATION RESEARCH AGENDAS SPANNING RESEARCH AND PRACTICE

Join this session to discuss strategies for formulating and developing research questions to study environmental education within practical contexts. Explore one method in particular, the Delphi technique, used to engage researcher and practitioner communities in generating a research agenda.

Presenter(s): Amy Seakins (King's College London), Justin Dillon (King's College London)

Room: 202

WORKING TOGETHER FOR A SUSTAINABLE ENVIRONMENT: EE RESEARCH WITH INDIGENOUS COMMUNITIES

Calling for the inclusion of all voices, this workshop critically examines ethical concerns, relational considerations, and decolonizing approaches and methodologies that are useful for gaining an understanding of localized Indigenous knowledge accumulated through the long-term inhabitation of a particular place.

Presenter(s): Carie Green (Idaho State University), Karla Bradley (University of Idaho), Scott Frazier (Executive Director), Albert Ybarra (EE Consultant)

Room: 205

Graduate Student Professional Development Workshop

3:00 PM–4:30 PM

SKILLS DEVELOPMENT ON TRANSLATING ONE’S RESEARCH TO GENERAL AUDIENCES

Increasingly, graduate students are demanding transferable skills training during their academic experience. We lead an interactive hands-on workshop on research translation based on our UC Davis programs that prepare graduate student researchers to effectively communicate research to varied audiences.

Presenter(s): Kandace Knudson (UC Davis John Muir Institute of the Environment), Joyce Gutstein (UC Davis John Muir Institute of the Environment), Ania Truszczynski (UC Davis graduate group in population biology)

Room: 204

WEDNESDAY

Formal Presentations 9:00 AM–9:30 AM

EFFECTS ON STUDENT PARTICIPATION AND LEARNING OF INTERACTIONS WITH ENVIRONMENTAL SCIENTISTS IN TWO GLOBE PROJECTS

This presentation reviews two studies of web-mediated student-scientist interaction, carried out in international GLOBE Earth Systems Science Projects (ESSPs). We’ll describe our ongoing analysis of student participation, writing, knowledge, and attitudes, and examine how these outcomes vary with differences in scientist feedback.

Presenter(s): William Carlsen (Penn State University), Susan Krosunger (The Pennsylvania State University), Liz Goehring (PSU), Steven Kerlin (Northern Kentucky University), Kemi Jona (Northwestern University)

Room: 202

ENVIRONMENTAL IMPACTS AT NATURE PLAY AREAS AND SUSTAINABLE MANAGEMENT SUGGESTIONS

Natural play areas (NPAs) allow children to “break the rules” found at traditional conserved natural areas. However, play at NPAs causes measurable environmental impact. Through informed site selection and management guidelines, we can mitigate these impacts and sustainably run NPAs.

Presenter(s): Matthew Browning (Virginia Tech)

Room: 205

EXPANDING EE TO INVESTIGATE ENVIRONMENTAL LEARNING IN OUR EVERYDAY LIVES

Important environmental learning happens outside of formal settings and in the course of people’s everyday lives. This study explores how, where, when, and why people learn about the environment, with a focus on their motivations to pursue sustainable lifestyles.

Presenter(s): Nicole Ardoin (Stanford University), Deborah Wojcik (Stanford University)

Room: 203

GROUNDING THE CRITICAL PEDAGOGY OF PLACE: EVIDENCE FROM THE FIELD

This presentation explores the relationship between place-based education and critical pedagogy using evidence from Restore/Restory, a program in which university students investigated a

community place-based conflict through audio story collection.

Presenter(s): Kathryn Hayes (UC Davis)

Room: 204

PRESERVICE ELEMENTARY TEACHERS' INTENTIONS AND OBSTACLES IN TAKING STUDENTS OUTDOORS

This study investigates how the nature experiences of undergraduate preservice elementary teachers have influenced their intentions for taking their own students outdoors, and the obstacles they perceive they will face in doing so once they enter the elementary school classroom.

Presenter(s): Erica Blatt (College of Staten Island)

Room: 201

Formal Presentations 9:30 AM-10:00 AM

INITIAL TESTING OF A COMMUNITY ENVIRONMENTAL EDUCATION CONCEPTUAL MODEL

The researcher will present data from a pilot study that seeks to define the multiple dimensions and possible outcomes associated with a conceptual model that would allow researchers to analyze the nature, outcomes and value of community environmental action.

Presenter(s): Olivia Aguilar

Room: 203

LINKING CALIFORNIA NATURALISTS AND CITIZEN SCIENCE: EXPANDING PARTICIPATION AND INVESTIGATING SCIENCE LEARNING

What do people really learn when they participate in citizen science, and how can we measure this? We present preliminary research on environmental learning impacts for participants in regional networks of California Naturalist trainings and citizen science programs, particularly for under-represented audiences.

Presenter(s): Heidi Ballard (School of Education, Univ. of California), Emily Evans (UC Davis)

Room: 202

LONGITUDINAL STUDY OF A GREEN SCHOOL AS A LEARNING LABORATORY

Research methodologies and preliminary results will be discussed about a 6-year study of a "green" middle school. The school features a system of over 20 green technologies. The concept of a green school as a learning laboratory will be explored.

Presenter(s): Steven Kerlin (Northern Kentucky University), Billy Bennett (Eastern Kentucky University)

Room: 205

ONTOLOGICAL REALITY AND QUALITATIVE RESEARCH: CULTURE, MATERIALITY, AND ENVIRONMENTAL EDUCATION

Qualitative methodologies are becoming increasingly popular in environmental education research. In this session I address the ontological implications of using qualitative methods to research environmental education by focusing on how to examine the relationship between learning, culture, and materiality.

Presenter(s): Joseph Henderson (University of Rochester)

Room: 204

STUDENT TEACHERS' CONCEPTIONS OF NATURE: WHO'S AFRAID OF IT?

This preliminary study identifies the conceptions of nature held by preservice teachers in Canada and Brazil. It also critically analyzes the possible implications of our findings for the successful implementation and development of school-based environmental education initiatives.

Presenter(s): Giuliano Reis (University of Ottawa)

Room: 201

Roundtables 10:30 AM-11:15 AM

A CONVERSATION: HOW CAN QUANTITATIVE METHODS CONTRIBUTE TO PLACE-BASED RESEARCH?

Using a quasi-experimental evaluation of a place-based education program as a backdrop, this session poses the question, how can quantitative tools contribute to scholarly understanding of place-based education, a necessarily localized and context-specific endeavor?

Presenter(s): Kathryn Hayes (UC Davis), Heidi Ballard (School of Education, Univ. of California)
Room: Grand Ballroom ABCD

AN EXAMINATION OF CLASSROOM TEACHER/ENVIRONMENTAL EDUCATOR PARTNERSHIPS

This presentation will utilize a PowerPoint format to describe a study conducted to explore the nature of the relationship between a formal and nonformal environmental educator as they planned and implemented an environmental education unit in an elementary classroom setting.

Presenter(s): Ingrid Weiland (University of Louisville)
Room: Grand Ballroom ABCD

BECOMING A HUNTING ANIMAL: NARRATIVES OF ECOLOGICAL LEARNING

This presentation seeks to broaden current perspectives on sustainable food and ecological learning by focusing on the educative potential of hunting for food. Narratives from an emerging dissertation study will be discussed in the wider context of ecological/food literacy.

Presenter(s): Joel Pontius (University of Wyoming), David Greenwood, Jessica Ryan
Room: Grand Ballroom ABCD

BECOMING CITIZENS OF TURTLE ISLAND

In an environmental education course for preservice teachers, the researcher engaged in an autobiographical inquiry of her own journey of becoming a citizen of Turtle Island (referring to North America and also to the Earth) along with her preservice teachers.

Presenter(s): Xia Ji (University of Regina)
Room: Grand Ballroom ABCD

CHECK US OUT! RESEARCH GREEN CORPS: WORK/STUDY HIGH SCHOOL PROGRAM

Longitudinal research analysis of Green Corps, a high school urban agriculture work-study program, based on skills, knowledge and behavioral changes will be explored. Presentation will include discussion of methods and outcomes, and alternative approaches that other out-of-school program have used.

Presenter(s): Geri Unger (Cleveland Botanical Garden)
Room: Grand Ballroom ABCD

COMMUNICATING VALUES AND IDENTITY IN LIVE ANIMAL INTERPRETIVE EXPERIENCES

For my dissertation, I plan to compare the process of communicating values and identity in live animal interpretive public programs at three different organizations and explore how shifts in values and identity interact with behavioral norms and intentions.

Presenter(s): Susan Caplow (UNC-Chapel Hill)
Room: Grand Ballroom ABCD

CONNECTIONS: ECOLOGY AND EMPOWERMENT, AN ART BASED INQUIRY

Uncovering embedded biological knowledge is challenging, with cross-cultural assessments often inaccessible, however art making provides a universal language to explore diverse ways of knowing. This study will explore international student population differences utilizing art based assessments measuring their local environmental connection.

Presenter(s): Nicole Weber (Lesley University)
Room: Grand Ballroom ABCD

DEVELOPING SHORT-TERM HIGH SCHOOL STEWARDSHIP PROGRAMS FOR BEHAVIOR CHANGE

How do we authentically engage and empower youth to be lifelong environmental stewards through short-term programs? We seek feedback and discussion regarding the most effective youth development strategies delivered in the classroom and field over a series of days.

Presenter(s): José Luis Martinez (Earth Team)

Room: Grand Ballroom ABCD

DEVELOPMENT OF SELF AND PLACE IN RESIDENTIAL ENVIRONMENTAL EDUCATION

This dissertation research in progress is an ethnographic case study of residential EE programs that seeks to understand how students develop a sense of self, sense of place, and sense of self-in-place during a residential EE experience.

Presenter(s): Kathleen O'Connor (Stanford University)

Room: Grand Ballroom ABCD

DEVELOPMENTAL EVALUATION FOR INNOVATIVE EE PROGRAMS

The inquiry approach, developmental evaluation, supports the dynamic vision of facilitating change when the path is not direct. Principles will be illustrated using the case of BEETLES, an innovative project aiming to deliver professional development to outdoor environmental education programs.

Presenter(s): Juna Snow (Lawrence Hall of Science, University of California, Berkeley)

Room: Grand Ballroom ABCD

ENGAGING PRIVILEGED YOUTH ACTIVISTS IN PARTICIPATORY ACTION RESEARCH

Typically, Environmental PAR is done with oppressed groups of people and used to empower these groups to work towards social and ecological change. If the privileged, dominant-culture citizens' freedom is tied to the freedom of the oppressed, then shouldn't we be liberating ourselves through PAR by being allies?

Presenter(s): Karen McIver (Saskatchewan Outdoor and Environmental Education Association)

Room: Grand Ballroom ABCD

ETHNO-CULTURAL PEDAGOGICAL CONTENT KNOWLEDGE IN ALTAI-YELLOWSTONE CONTRASTING MOUNTAIN SYSTEMS

Based on prior work in the Altai and Yellowstone ecosystems, we will describe the conceptions of ethno-cultural pedagogy and pedagogical content knowledge and discuss criteria for synthesis into ethno-cultural pedagogical content as it applies to ecological and cultural sustainability

Presenter(s): Michael Brody

Room: Grand Ballroom ABCD

EXPLORING ENVIRONMENTAL EDUCATION FROM A RURAL EDUCATION PERSPECTIVE

Participants are invited to consider the unique pairing of environmental education with rural education (schooling) where a literature review raises questions about how socioeconomic class defines, conceptualizes, and problematizes environmental education and its research.

Presenter(s): Douglas Karrow (Brock University), Xavier Fazio (Brock University)

Room: Grand Ballroom ABCD

PARADIGM SHIFT NEEDED IN ENVIRONMENTAL EDUCATION: RESEARCH IN THE AMERICAS

Eco-pedagogy, by its definition, develops critical understanding of connections between environmental degradation and social injustices. Through research in Brazil, Argentina, and Appalachia, a transformation of environmental education into eco-pedagogy emerged as a need for necessary change.

Presenter(s): Greg Misiaszek (UCLA Paulo Freire Institute, CSULB)

Room: Grand Ballroom ABCD

Roundtables 11:15 AM-12:00 PM

DEVELOPING ENVIRONMENTAL LITERACY IN A CALIFORNIA PARTNERSHIP ACADEMY MODEL

This two-year case study is investigating how informal and nonformal learning situations are being incorporated in 16 formal high school sites, and how interactions between students and teachers/mentor/community partners are facilitated, potentially influencing students' development of environmental literacy.

Presenter(s): Anne Stephens (UC Davis and California Department of Education), Heidi Ballard (School of Education, University of California)

Room: Grand Ballroom ABCD

HELPING VOLUNTEERS UNDERSTAND MARINE RESERVE PROCESSES THROUGH DIALOGIC PROFESSIONAL DEVELOPMENT

Volunteers, as front-line communicators, need quality professional development opportunities. A lecture and a dialogue, both with an Oregon marine reserve focus, were designed to reveal and clarify volunteer misconceptions. Results indicate the importance of dialogic communication between volunteers and experts.

Presenter(s): Michelle Mileham (Oregon State University)

Room: Grand Ballroom ABCD

IDENTITY-RELATED MOTIVATIONS OF VISITORS AT EE EVENTS: SNAKES SELL SCIENCE!

What motivates visitors to attend community events focused on environmental education, specifically herpetology (the study of reptiles and amphibians)? We examine the identity-related motivations of visitors with the goal of learning what sparks interest, emotion, and engagement in science.

Presenter(s): Lacey Huffling (University of North Carolina-Greensboro), Tess Hegedus (University of North Carolina at Greensboro), Heidi Carlone (The University of North Carolina at Greensboro), Melony Allen (University of North Carolina at Greensboro), Mary Ash (University of North Carolina, Pembroke), Catherine Matthews (UNCG), Terry Tomasek (Elon University)

Room: Grand Ballroom ABCD

IMPLICATIONS OF MESSY PRIOR ECOLOGICAL KNOWLEDGE FOR ENVIRONMENTAL CONSERVATION EFFORTS

Our pilot study examined aquarium visitors' knowledge about shark reproduction and shark conservation. We found complicated notions of biology and ecology that may hinder conservation efforts. We discuss the implications of messy prior knowledge for environmental education efforts broadly.

Presenter(s): Timothy Zimmerman (Rutgers University), Jessica DeVault (Rutgers University)

Room: Grand Ballroom ABCD

LESSONS FROM ARGENTINA, BRAZIL, AND APPALACHIA: PEDAGOGIES OF HOPE

The presentation will unpack many of the teaching techniques that ecopedagogues from Brazil, Argentina, and Appalachia (U.S.) use in their classrooms to have students construct possible solutions to extremely complex socio-environmental problems by critically and dialectically deconstructing them.

Presenter(s): Greg Misiaszek (UCLA Paulo Freire Institute, CSULB)

Room: Grand Ballroom ABCD

OUTCOMES OF A NATIONAL ENVIRONMENTAL EDUTAINMENT PROGRAM IN HIGH SCHOOLS

We present results of the first longitudinal evaluation of a nationwide environmental edutainment presentation produced by the Alliance for Climate Education. Results from 1,270 diverse students demonstrate how a single edutainment presentation can advance environmental education on a large scale.

Presenter(s): Matthew Lappe (Alliance for Climate Education), Melissa Saphir (Alliance for Climate Education)

Room: Grand Ballroom ABCD

PLACE-BASED EDUCATION, SOCIAL JUSTICE, AND YOUTH IN UNDERSERVED COMMUNITIES

Social justice, ethical action, and youth as agents through the participation of teachers are examined. This project posits community focused action research and collaborative outreach. Place-based ethical practice is defined as agency with an environmental education objective of social equity.

Presenter(s): Sara Garcia (Santa Clara University), Kathy Machado (Santa Clara Valley Water District)

Room: Grand Ballroom ABCD

PROPOSAL OF FRAMEWORK AND GUIDELINE OF EDUCATION FOR SUSTAINABLE DEVELOPMENT

By placing sustainability at the center of social, ecological and economic education, the National Institute for Educational Policy Research has developed the innovative framework and guideline for Education for Sustainable Development (ESD) to prevail all over Japan.

Presenter(s): Masakazu Goto (National Institute for Educational Policy Research of Japan), Yasuhiko Okamoto (Okayama University of Science), Naoyuki Tashiro (National Institute for Educational Policy Research of Japan), Masahisa Sato

Room: Grand Ballroom ABCD

TRADITIONAL ECOLOGICAL KNOWLEDGE OF ABORIGINAL HUNTING SCHOOLS IN TAIWAN: A SOCIAL CONSTRUCTION

Learn how the social meanings of traditional ecological knowledge in aboriginal hunting schools can be applied to environmental education programs/activities.

Presenter(s): Hui-Nien Lin (I-Shou University)

Room: Grand Ballroom ABCD

TREMONT'S COOPERATIVE TEACHING MODEL: CONNECTING TEACHERS TO THE OUTDOOR CLASSROOM

A detailed look at how residential environmental learning centers can engage classroom teachers in onsite instruction. We present a grounded theory for Tremont's cooperative teaching model and discuss implications for teacher professional development.

Presenter(s): Ryan Walker (University of Arkansas), Cathy Wissehr (University of Arkansas)

Room: Grand Ballroom ABCD

USING VISUAL METHODOLOGIES TO UNDERSTAND YOUNG CHILDREN'S RELATIONSHIPS WITH NATURE

React to data and lessons learned from an exploratory study of preschool children's drawings and photographs as a means of understanding their relationships with nature. Discuss best practices for using visual methodologies in environmental education research with young children.

Presenter(s): Laura Dell (University of Cincinnati)

Room: Grand Ballroom ABCD

WHAT IS BEING DONE IN COMMUNICATION, EDUCATION, AND PARTICIPATION FOR BIODIVERSITY CONSERVATION?

Biodiversity is essential for life maintenance, but over the past 50 years biodiversity loss has accelerated greatly due to an unprecedented human impact on ecosystems. What is the role played by environmental communication, education, and participation in dealing with this problem?

Presenter(s): Amanda Jimenez (Universidad Autonoma de Madrid)

Room: Grand Ballroom ABCD

YOU CAN LEAD A HORSE TO WATER... RESEARCH ENGAGEMENT AMONGST SECONDARY SCIENCE TEACHERS

A pilot study indicates that secondary science teachers in Northern Ontario undertake elements of environmental education in their practice; however, soliciting their participation in direct research becomes problematic. What are the barriers to participation, and how can they be overcome?

Presenter(s): Astrid Steele (Nipissing University)

Room: Grand Ballroom ABCD

Formal Presentations 12:00 PM-12:30 PM

RESIDENTIAL ENVIRONMENTAL EDUCATION: INNOVATIONS IN MEASURING OUTCOMES

Few evaluations of residential EE programs focus on what happens during the learning experience. We conducted a literature review and expert interviews to identify “slippery” outcomes that happen during a program’s process, and we developed and field-tested innovative metrics for measuring them.

Presenter(s): Kathleen O’Connor (Stanford University), Kelly Biedenweg, Nicole Ardoin (Stanford University), Maria DiGiano (N/A)

Room: 202

STEM AND EE: MODELS AND METHODS TO BRIDGE THE GAP

The Island Institute has received grants from the Environmental Protection Agency and The National Science Foundation, to design, implement and evaluate a cyber-enabled, community-focused STEM education model. This presentation will discuss the development of the model, evaluation methodologies used to understand impacts, challenges faced, and overarching research questions.

Presenter(s): Ruth Kermish-Allen (Island Institute)

Room: 203

USING IDENTITY AS AN ANALYTIC TOOL IN EE RESEARCH

Identity could be a powerful construct in EE research. However, little consensus exists in the environmental literature about how to conceptualize and theorize identity. I will summarize social identity frameworks from science and general education and explore their applicability to EE.

Presenter(s): Sarah Stapleton (Michigan State University)

Room: 201

Research Workshops 1:15 PM-2:30 PM

AN INTRODUCTION TO SOCIAL NETWORK ANALYSIS

Social network analysis (SNA) allows researchers to better understand relationships. This workshop provides an introduction to the theory and concepts of network analysis and a demonstration of some of the software programs used to analyze SNA data.

Presenter(s): Deborah Wojcik (Stanford University)

Room: 203

NAVIGATING THE CHOPPY SEAS OF ETHICS IN COMMUNITY RESEARCH

Join us in some interactive storytelling of the challenges we face in our work as researchers at Maple Ridge Environmental School Project. We hope to shed light on

the moral complexities of community research and provide insights for ethical navigation.
Presenter(s): Laura Piersol (Simon Fraser University), Michael Caulkins (Simon Fraser University), Veronica Hotton (Simon Fraser University), Vicki Kelly (Simon Fraser University), Michael Derby (Simon Fraser University), Jodi MacQuarrie (Simon Fraser University), John Telford (Simon Fraser University)
Room: 205

PARTICIPATING IN THE EER COMMUNITY OF PRACTICE POST-GRADUATION

The purpose of this workshop is to help those entering academia become aware of obstacles to and opportunities for research after graduation. The workshop will be presented by recent PhD graduates at diverse institutions around the country.
Presenter(s): Olivia Aguilar, Erica Blatt (College of Staten Island), Daniel Capps (Cornell University), Xenia Meyer (UC Berkeley)
Room: 201

RESEARCH TRANSLATION: ENVIRONMENTAL EDUCATION BY ANOTHER NAME?

I will engage the group to explore relationships between “research translation” in the natural sciences and “EE,” “community engagement,” or “community outreach” in the social sciences. This exploration illuminates possibilities for transdisciplinary research and collaborative publication beyond the EE field.
Presenter(s): Charlotte Clark (Duke University)
Room: 202

WALKING THE TALK: EMBODYING CULTURAL AND ECOLOGICAL PERSPECTIVES IN RESEARCH

An interactive workshop designed to explore the embodiment of cultural and ecological perspectives in environmental education research, the role of marginalized cultures, shallow vs. deep ecological approaches, and the combination of traditional and contemporary approaches to research.
Presenter(s): Greg Lowan-Trudeau (University of Northern British Columbia)
Room: 204

Interactive Presentations 2:45 PM–3:15 PM

AN ONGOING DELPHI STUDY ON BIODIVERSITY CONSERVATION AND ENVIRONMENTAL EDUCATION

This presentation aims to discuss an ongoing Delphi study on biodiversity conservation and environmental education, being carried out with a group of university researchers, undergraduates and graduate students engaged in both areas, coming from the biological sciences and teaching fields.
Presenter(s): Flavia Thiemann (UFSCar), Haydée de Oliveira (Federal University of Sao Carlos)
Room: 201

BUILDING TEACHER AGENCY FOR ENVIRONMENTAL EDUCATION

Environmental educators face the challenge of constructive engagement with teachers whose goals differ from the “official” program model. In this session, discuss preliminary findings from an action research project documenting evolution in teachers’ thinking through collaboration with EE center staff.
Presenter(s): Bob Coulter (Missouri Botanical Garden), Michael Duffin (PEER Associates, Inc.)
Room: 205

CLIMATE CHANGE FROM THE INSIDE OUT: HOW TO EXPLORE INTERIORITY

Scharmer (2009) refers to a lack of inner awareness as a blind spot for many of today's change makers. My major question is: how might we learn about, inform, navigate and research this "blind spot"?

Presenter(s): Kim Wallace (N/A)

Room: 204

COLLABORATIVE RESEARCH: BALANCING PRIORITIES, MEETING EXPECTATIONS

We will explore the benefits and challenges of collaborative approaches to inquiry involving researchers, teachers, and community-based environmental educators as a way to strengthen ties between hands-on field experiences and science learning in the classroom.

Presenter(s): Erin Hardie (University of California, Davis), Heidi Ballard (School of Education, University of California)

Room: 202

DECOLONIZING COLLABORATIVE INQUIRY: INDIGENOUS EXPERIENCES AND ECOLOGICAL-CUTURAL SUSTAINABILITY

Participants will discuss collaborative inquiry in the context of decolonization at the Absaroka Second Crow Agency, Montana, USA. We will discuss the experience, purpose and goals of decolonization and the interaction of research and native knowledge in collaborative inquiry for sustainability.

Presenter(s): Michael Brody

Room: 203

Interactive Presentations 3:15 PM–3:45 PM

ARE WE INSULAR? INVESTIGATING CO-PUBLICATION NETWORKS OF EE RESEARCHERS

Are we preaching to the choir? We present findings from a co-publication network analysis about the extent to which EE researchers demonstrate insularity and facilitate discussion about possible implications for the EE field and the future of EE research.

Presenter(s): Deborah Wojcik (Stanford University), Charlotte Clark (Duke University), Nicole Ardoin (Stanford University)

Room: 202

BUILDING AND BRIDGING COMMUNITIES OF PRACTICE FOR HABITAT CONSERVATION IN WORKING LANDSCAPES

The concepts of "communities of practice" and "boundary crossing" provide a framework for examining a unique case of collaborative research between growers and conservation professionals seeking new strategies for meeting both conservation and agricultural production goals.

Presenter(s): Erin Hardie (University of California, Davis), Heidi Ballard (School of Education, University of California)

Room: 201

ESTABLISHING HOPE: DESPAIR ABOUT THE FUTURE AS A BARRIER TO ENVIRONMENTAL ACTION

An overwhelming number of students have a despairing vision for the future of the planet. The factors that create this loss of hope are discussed with ideas of how to create a positive vision of hope.

Presenter(s): Richard Jurin (University of Northern Colorado)

Room: 204

EXPLORING THE LIFELONG INFLUENCE OF ENVIRONMENTAL EDUCATION ON PROGRAM PARTICIPANTS

This research study explores the experiences of past participants in place-based environmental education programs using personal narrative as a framework for exploring participants' significant life experiences and the formation of an environmental stewardship identity.

Presenter(s): Corrie Colvin Williams (Children, Youth & Environments Center, University of Colorado)

Room: 203

LEARNING, COLLABORATIONS AND STEWARDSHIP: THE SOCIAL DRIVERS OF RESILIENT SYSTEMS

Meeting environmental regulatory benchmarks and moving towards sustainability and resiliency in coupled social-ecological systems necessitates cooperation of individuals, communities, and political institutions. This presentation focuses on research to understand the underlying social and educational drivers critical to meeting these objectives.

Presenter(s): Dan Calvert (Oregon State University)

Room: 205

Interactive Presentations 3:45 PM–4:15 PM

HOW CAN WE INCREASE CONNECTEDNESS TO NATURE?

For over a decade, researchers have developed and used various measures of connectedness to nature trying to identify possible ways of increasing this connection in adults. Is this even possible or should researchers in environmental education be focusing efforts elsewhere?

Presenter(s): Shelby Laird (Charles Sturt University)

Room: 203

LEARNING FROM CITIZEN SCIENCE PROGRAMS IN NORTHERN CALIFORNIA: DEVELOPING MODELS AND COLLABORATIONS

We discuss an inventory of Public Participation in Scientific Research programs in Northern California, a typology across a range of approaches, and future collaborative research with those programs focused on practices that may lead to environmental science learning and stewardship.

Presenter(s): Heidi Ballard (School of Education, University of California), Colin Dixon (UC Davis)

Room: 201

Dakota Press Ad



10th Annual NAAEE
Research Symposium
and Conference

October 9-12, 2013 Baltimore, MD

Thank you to East Bay Regional Park District for their support of the NAAEE Conference and for the design and printing of this program.

