Organization of Biological Field Stations
55th Annual Meeting

September 14-21, 2020

Virtual Meeting

Hosted by Flathead Lake Biological Station
Monday, September 14th

WORKSHOP DAY #1

11:00 am - 2 pm EDT

Workshop #1: UFERN 1
Undergraduate Field Experiences Research Network (UFERN) Framework to Improve Field Program Design and Evaluation
Hosts: Kari O’Connell, Kelly Hoke, and Mike Giamellaro

Workshop #2: EDI 1
Data Cleaning and Archival Bootcamp
Hosts: Jason Tallant, Kristin Vanderbilt, Suzanne Grosseman-Clark, Aaron Ellison

3:00 pm - 6 pm EDT

Workshop #3: EDI 2
Data Cleaning and Archival Bootcamp
Hosts: Jason Tallant, Kristin Vanderbilt, Suzanne Grosseman-Clark, Aaron Ellison

Workshop #4: UFERN 2
Undergraduate Field Experiences Research Network (UFERN) Understanding and Evaluating Outcomes of Undergraduate Field Learning Experiences
Hosts: Erin E. Shortlidge, Stephanie Shaulskiy, Kari Bisbee O’Connell, Alison Jolley, Chris Lorentz, Emily Geraghty Ward

Tuesday, September 15th

WORKSHOP DAY #2

11:00 am - 2 pm EDT

Workshop #5: Improving Field Station Climate: Responding to Harassment
Hosts: Ann Kelly, Elizabeth Long

3:00 pm - 6 pm EDT
**Workshop #6:** The Virtual Field: How to Create an Ecosystem Exploration Video from Conception to Post Production

**Hosts:** Claudia Luke, Hillary Swain, Kari O’Connell, Sarah Oktay

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**Wednesday, September 16th**

**WORKSHOPS AND SESSIONS**

**11:00 am - 2 pm EDT**

**Workshop #7:** Partnership agreements for University Field Stations on US Federal Lands

**Hosts:** Russell Bradley, Jeffrey Clary

**2:30 pm - 4:00 pm**

**OBFS Board of Directors Meeting Session I** (open to all)

**4:30 pm - 6:00 pm**

**Opening Reception/New Member/Ice Breaker**

**Host:** OBFS Outreach Committee and Member Services Group

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**Thursday, September 17th**

**MEETING - SESSIONS**

**11:00am - 11:15 am EDT**

**Opening Remarks**

Chris Lorentz

**11:15am - 12:30 pm EDT**

**Plenary Session**

**Plenary talk:** Nia Morales

**Title:** Field studies for the 21st century: Re-imagining a rite of passage in a changing world

**1:30 pm - 3:00 pm EDT**

**Concurrent Sessions 1: Outreach at Biological Field Stations: Opportunities and Impacts**

**Hosts:** Rhonda Struminger

**Concurrent Session 2: Gender-inclusive Facilities at Field Stations**

**Hosts:** Anne Kelly

**Concurrent Session 3: Friend-Raising and Fund-Raising at Biological Field Stations**
Hosts: Brian Kloeppel, Sarah Oktay, and Paul Foster

4:30 pm - 6:00 pm EDT

Lightning Talks

Hosts: Jason Wallace

Friday, September 18th

11:00 am - 12:30 pm   EDT

Concurrent Sessions 4: Women of The Wild: Leadership at Field-Based Institutions

Hosts: Victoria McDermott

Concurrent Session 5: The Virtual Field Project: A Panel Discussion

Hosts: Claudia Luke

Concurrent Session 6: OBFS Strategic Planning

Hosts: Chris Lorentz

1:00 pm - 3:30 pm EDT

Human Diversity Award Presentation, OBFS Business Meeting, and Strategic Plan Discussion

1 pm - 1:30 pm: Human Diversity Award Presentation

1:30 pm-2:15 pm: OBFS Business Meeting (Open to All!)

- President’s report (Chris Lorentz)
- Secretary’s report (Lesley Knoll)
- Treasurer’s report (Paul Wetzel)
- Congressional Visits Day report (Lisa Busch and attendees)
- Committee Reports (Committee Chairs)
- Short Presentation about 2021 Annual Meeting Host
- Review of 2021 and 2022 Annual Meeting Hosts
- Other business

2:15 pm-3:30 pm: Strategic Plan Discussion

3:45 pm - 4:30 pm EDT
Plenary Session

Plenary talk: Peter McCartney

Title: *Updates from the National Science Foundation Field Stations and Marine Labs (FSML) Program*

4:30 pm - 4:45 pm EDT

Concluding Remarks
Chris Lorentz, OBFS President

5:30 pm 7:30 pm EDT

Auction and Social Time

Monday, September 21st

11:00 am - 12:30 pm EDT

OBFS Board of Directors Meeting Session II (open to all)
- Finalization of the Board’s budget
- Unfinished business
- New business
- Comments by OBFS members
- Nomination period closes
Appendix I—Workshop Descriptions

Workshop #1: UFERN 1

Name: Undergraduate Field Experiences Research Network (UFERN) Framework to Improve Field Program Design and Evaluation

Hosts: Kari O’Connell, PhD, Kelly Hoke, MS, and Mike Giamellaro, PhD

Contact person: Kari O’Connell; kari.oconnell@oregonstate.edu

Date/Time: Monday, September 14 from 11:00 am - 2:00 pm EDT

Participants: Min 10, Max 30

Description:
Undergraduate field learning experiences have a long history of preparing students for careers in field-based sciences, yet what constitutes an effective field learning experience is not clearly defined. Field learning experiences vary from short field “labs” integrated into university courses, weeks or months-long courses at field stations and marine labs, traveling geology courses, to weeks-long research opportunities.

The Undergraduate Field Experiences Research Network (UFERN) is building an interdisciplinary network of researchers and practitioners focused on improving undergraduate field learning experiences. UFERN has developed a framework that highlights the suites of factors that influence student outcomes of field learning experiences. The framework can be a resource to help design more inclusive learning experiences, guide research about field learning, or evaluate student outcomes.

During the workshop, we will introduce the framework, and participants will apply it to an undergraduate field program (e.g., research experience for undergraduates, field course, field trip) using the elements of the framework, Design Factors, Student Context Factors, and Student Outcomes. Individually or in pairs, participants will map their own undergraduate field programs onto the framework and identify what elements of the framework they see in their current program, and what elements in their programs they are motivated to change based on working with the framework. This interactive workshop will emphasize improving student experiences and outcomes, with a particular focus on access and inclusion. The workshop will also give UFERN valuable feedback on the usefulness of the framework in a diversity of settings.

Workshops #2 and #3: EDI 1 and EDI 2

Name: Environmental Data Initiative: Data Cleaning and Archival Bootcamp (EDI 1 and EDI 2)

Hosts: Jason Tallant, Kristin Vanderbilt, Suzanne Grosseman-Clark, Aaron Ellison

Contact person: Jason Tallant; jtallant@umich.edu
**Time:** Monday, September 14 from 11:00 am - 2:00 pm (EDI 1) and 3:00 pm - 6:00 pm EDT (EDI 2)

**Participants:** Min 6, Max 12

**Description:**

Modern science has mandated the curation and re-use of environmental data. The Environmental Data Initiative (EDI) was funded by NSF to accelerate curation, archiving, and publishing of environmental data. EDI and its partners assist researchers from field stations, individual laboratories, and research projects of all sizes to archive and publish their environmental data. EDI provides a secure data repository and data curation support for ecological research projects with emphasis on NSF funded programs such as OBFS and member stations.

EDI, LTER, and OBFS partners are offering a workshop with two sections. Participants may choose to attend one or both parts of the workshop. The target audience for the first day are personnel who need to understand the process of data archiving, but will not be engaged in the technical aspects of processing data for archive. The second part is appropriate for personnel who intend to publish data themselves in the future.

The topics to be covered in the workshop are:

1. Organizing data into publishable units (What is a dataset, raw vs. processed data?)
2. Creating clean data for archiving (What are publishable data? Concepts of a single table and clean data)
3. Describing data with metadata (Metadata content and scope, the Ecological Metadata Language EML)
4. Descriptive metadata, version control, and provenance - similarities and differences
5. Your data in the EDI repository (video)
6. Citing your data (data catalog on website)

EDI 1 (Monday, September 14, 11:00 am – 2:00 pm) offers a high level overview of data management and a description of the data publishing process (data documentation, data formatting, data repositories).

EDI 2 (Monday, September 14, 3:00 pm – 6:00 pm) we delve into the details of publishing a dataset in the EDI Data Repository. Several example datasets with metadata will be available so that participants can work through the data publishing process themselves. Participants will understand what they need to do to obtain support from EDI to publish their data.

**Workshop #4: UFERN 2**

**Name:** Undergraduate Field Experiences Research Network (UFERN) Framework to Improve Field Program Design and Evaluation

**Hosts:** Erin E. Shortlidge, Stephanie Shaulskiy, Kari Bisbee O’Connell, Alison Jolley, Chris Lorentz, Emily Geraghty Ward

**Contact person:** Erin Shortlidge; eshortlidge@pdx.edu
Date/Time: Monday, September 14 from 3:00 pm - 6:00 pm EDT

Participants: Min 10, Max 40

Description:

Learning in a field setting can be a transformative experience for students that promotes the development of skills, concepts, interests, and scientific literacy. Thus, undergraduate field experiences (UFEs) have the potential to reach new generations of scientists. UFEs range from short field labs embedded in on-campus university courses to residential months-long research-focused experiences, and all are thought to enhance student outcomes. However, the differences among UFEs make it challenging to document generalizable outcomes. Evidence suggests that UFEs play a valuable role in undergraduate STEM education, yet, little empirical data exists on the outcomes of many specific field experiences.

This workshop will present a tailored model for anyone interested in investigating student outcomes from undergraduate field experiences (UFE). The model is geared towards individuals, groups and/or organizations wanting to evaluate, assess and/or conduct research about their UFE. We will help participants consider the critical alignment of UFE activities to the actual and intended outcomes for students and practitioners. This model is meant to be used both as a guide and a mechanism for reflection, allowing stakeholders to iterate and refine an undergraduate field experience to better serve the students, meet the intended outcomes, or change and build upon data collection methods or tools already in place.

In order to illustrate the utility of the model in a variety of settings, we provide practical examples of evaluating UFEs in several settings, from a summer undergraduate research experience at a field station to an accessible field course for geoscience students with disabilities. We will also connect workshop participants to an online resource of published assessment tools for practitioners to use when assessing UFE outcomes. Additionally, we will identify and present opportunities where the ecological community may strengthen assessment efforts based upon the existing pool of published assessment tools.

Workshop #5: Advance GEO

Name: Improving Field Station Climate: Responding to Harassment

Hosts: Ann Kelly, Elizabeth Long

Contact person: Elizabeth Long; elong@mohonkpreserve.org

Date/Time: Tuesday, September 15 from 11:00 am - 2:00 pm EDT

Participants: Min 10, Max 30

Description:

Field research experiences can be defining moments in people's careers. For geology undergraduate majors they are also required; 99% of the 300 geology undergraduate majors at U.S. institutions surveyed in 2008 required a field course (Drummond and Markin 2008). Time in the field can inspire students to pursue a career in research. On the other hand, unsafe field environments can have devastating personal and professional
consequences. Identifiable conditions contribute to unsafe field environments where harassment, bullying and discrimination can occur.

Field environments pose unique challenges:

- new, unfamiliar, unknown or nonexistent rules of conduct and reporting mechanisms;
- reduced independence for access to transportation, food, medical resources, etc.;
- distance from personal support networks at home;
- unfamiliar cultural norms or language;
- long days with physically strenuous work and exhaustion;
- exposure to harsh environmental conditions and potential greater risk of environmental hazards, or unfamiliar risks compared to the home base location.

In many disciplines, there is also a culture of ‘Vegas Rules’ (What happens in the field, stays in the field), where people behave differently than would be acceptable at home. Existing power dynamics that are clearly defined on campus or in the office can become blurred in the field. The common practice of shared living accommodations may also afford little privacy and remove the clear boundaries between work and personal lives. Power dynamics can also become more stark, with one person holding access to the keys to the vehicle or satellite phone.

On top of this, enduring harsh, rugged conditions is often considered a rite of passage, to the exclusion of anybody who does not fit the image of what a "real field scientist" looks like. While to many, camping and hiking are fond childhood memories, field experiences can be intimidating and stressful to people with limited exposure to the outdoors, whether for cultural, economic, accessibility or many other reasons. These factors and cultural norms contribute to the persistent low diversity in field oriented disciplines like the geosciences. In many geographic areas, people of color also experience racial and life-threatening harassment from members of communities where they are doing fieldwork. In this context, harassment, bullying and discrimination create an unsafe environment and hence become a safety concern.

This interactive session will describe academic practices and institutional structures that allow for sexual harassment and other hostile behaviors to persist, discuss initiatives to address harassment as research misconduct, and provide training in personal intervention strategies to protect and support targets of harassment. As a result of this session, participants will be able to identify: (1) different ways in which sexual and other types of harassment can manifest in research environments; (2) strategies for bystander intervention; and (3) resources for cultural change in academic institutions and professional societies. This workshop is specially geared towards practitioners at field stations, performing fieldwork, and doing education and research in remote/isolated locations.
Workshop #6: Virtual Field

**Name:** The Virtual Field Project: A Mitigation Strategy for the COVID-19 Pandemic

**Hosts:** Claudia Luke, Hillary Swain, Kari O’Connell, Sarah Oktay

**Contact person:** Claudia Luke; lukec@sonoma.edu

**Date/Time:** Tuesday, September 15 from 3:00 pm - 6:00 pm EDT

**Participants:** Min 5, Max 40

**Description:**

The COVID-19 pandemic is causing massive disruptions in higher education. Faculty across disciplines are struggling to quickly transition to virtual classrooms. Nowhere has this been more difficult than in the field sciences, where first-hand experience with the complexity of the natural world is essential for learning identification, observation, and research skills. In response to research and educational land closures, a FSML coalition has begun working together to develop digital experiences at these sites that boost observation and research skills.

Supported by a National Science Foundation RAPID grant (NSF # 2031815), a team of 50 field sites in 26 states and 6 countries launched the “Virtual Field Project” this past summer to:

1. Create ecosystem exploration videos to teach students to find and observe evidence of key ecological concepts.
2. Host live-streaming cross-site events with researchers to discuss the process of field research with students.
3. Share existing virtual materials and events with faculty at universities across the U.S. produced by a variety of organizations. A virtual field portal will act as a signpost, catalog, and calendar for faculty, students, and community.
4. Evaluate the efficacy of virtual field materials to set the stage for further cross-site virtual field learning initiatives

In this workshop we will share techniques and best practices for creating a field exploration video that can be used for classes with tips on equipment, editing videos, and incorporating Ecological Society of America’s Four Dimension Ecological Education Framework. Bring your smartphone or Go Pro or video camera, we will have time during the workshop to go outside and film your neighborhood using the advice presented.

Workshop #7: Federal Partnerships

**Name:** Partnership agreements for University Field Stations on US Federal Lands

**Hosts:** Russell Bradley, Jeffrey Clary

**Contact person:** Russell Bradley; russell.brady@csuci.edu

**Date/Time:** Wednesday, September 16 from 10:00 am - 2:00 pm EDT

**Participants:** Min 8, Max 30
Description:

Some field station sites are operated by universities in partnership with federal agencies on US federal lands. There is massive variation between the nature of agreements across these field stations on federal lands. Increased communication and transparency on this issue would help stations plan their strategic long-term agreements with federal partners. Both university and agency partners could greatly benefit from lessons learned at sites across the US. This could greatly benefit long term strategic planning for these sites.

This workshop will bring station directors, management staff, faculty leaders, and their agency counterparts together to focus on the range of contracts, cooperative agreements and MOUs that exist between universities and land management agencies. We will examine challenges and opportunities, and find synergies where different stations can learn from each other. The program will involve presentations from multiple sites, followed by facilitated discussion. Deliverables include a summary of agreements across relevant OBFS member stations and identification of key challenges and opportunities regarding these arrangements.