

*Northwest Anthropological Conference*



*75th Annual*

2022

*March 9-12, 2022, Virtual*

# ABOUT THE COVER

Artist: **Jon Olney Shellenberger**  
Owner, Native Anthro

*I went with the Thunderbird petroglyph located at Columbia Hills. I wanted something that reflected power. At a time when we are completely without power to control our daily lives due to COVID-19, I thought it a good time to reflect on powers greater than ourselves. We, as Natives, have to learn things throughout our lives and therefore are in a constant state of learning. Even though we may not understand all things such as all petroglyphs or their meaning, they are there so that one day they will have meaning in our lives. To our elders, it wasn't about understanding everything. It was about understanding the right things at the right time. That is what Tribe's are trying to protect, the potential to understand and protect those opportunities for future generations.*

## DEDICATION

*NWAC 2022 is dedicated to the Tribal Elders we have lost recently. Anthropologists in the Pacific Northwest owe a tremendous debt to the Northwest Tribes for their generous sharing of knowledge. We remember the elders who have passed on with respect and gratitude. They will be missed.*

# PROGRAM



**Northwest  
Anthropological  
Association**

75<sup>th</sup> Meeting

March 9–11, 2022

Socio Events Online Platform

## CONFERENCE COMMITTEE

Sydney Hanson | Mackenzie Hughes | Lindsay Kiel | Christopher Noll | Mary Petrich-Guy | Molly Swords | Michelle Hannum | Stephanie Simmons | Anna Coon | Beth Mathews | Margaret Clark | Jenna Peterson

## CONFERENCE VOLUNTEERS

Stacie Sexton | Brandy Rinck | Chelsea Rose | Molly Carney | Renae Campbell | Scott Williams | Kirsten Jenkins | Kelly Bush | Steven Hackenberger | Andrea Shiverdecker | Anthony Tessandori | Douglas C. Wilson | Jason Cooper | Hannah Russell | Katy Matthews | Madeline Philips | Tim Mace

## NORTHWEST ANTHROPOLOGICAL ASSOCIATION

<i>President</i>	Christopher Noll
<i>Vice President</i>	Mary Petrich-Guy
<i>Treasurer</i>	Laura Putche
<i>Treasurer-elect</i>	Molly Swords
<i>Secretary</i>	Kristen Tiede
<i>Communications/Website</i>	Mackenzie Hughes
<i>State Organization Liaison</i>	Michelle Hannum

## FUTURE CONFERENCES

2023  
**Spokane, Washington**  
Eastern Washington University  
**April 12-15**

2024  
**Portland, Oregon**  
Warm Springs GeoVisions &  
Portland State University

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## CONFERENCE SUPPORT PROVIDED BY

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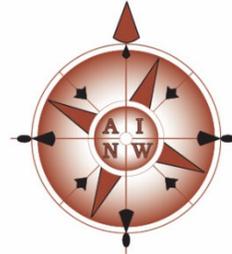
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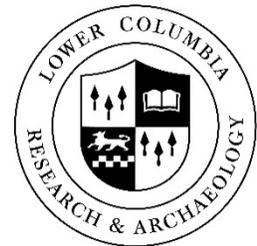
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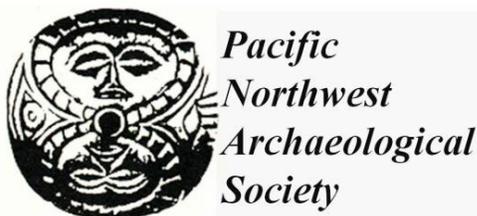
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# NORTHWEST ANTHROPOLOGICAL CONFERENCE

## ATTENDEE CODE OF CONDUCT

### OVERVIEW

The organizers of the Northwest Anthropology Conference (NWAC) are committed to facilitating a safe, respectful environment for all conference attendees. The organizers will work to provide a welcoming and inclusive experience for everyone, regardless of gender, gender identity and expression, age, sexual orientation, disability, physical appearance, race, ethnicity, religion (or lack thereof), marital status, pregnancy, parenthood, veteran status, or any other category. We do not tolerate harassment of conference participants in any form. Sexual language and imagery is not appropriate for any conference venue, including talks, workshops, parties, and/or social media. Conference participants violating these rules may be sanctioned or expelled from the conference at the discretion of the conference organizers. Please refer to the final section of this Code of Conduct for a list of definitions and impermissible conduct. This Code of Conduct applies to all NWAC events, including all conference venues, virtual or in-person, and any conference-related social activities during or after the NWAC Virtual Meeting.

### COVID-19, XENOPHOBIA, AND RACISM

Since December of 2019, the United States, along with the rest of the world, has been experiencing the COVID-19 pandemic. COVID-19 infections have surged repeatedly, along with heightened feelings of anxiety, isolation, and fear. Along with those feelings, the world has seen an increase in misinformation, xenophobia, and racism. This has resulted in physical, financial, emotional, and psychological harm to our Asian and Pacific Islander colleagues, and will not be tolerated during any NWAC event, including this year's virtual conference. Please only use the names provided by the World Health Organization (WHO), "coronavirus" or "COVID-19," when discussing COVID-19 topics.

### RULES AND GUIDELINES FOR DIGITAL DISCUSSION

The primary purpose of the NWAC is to encourage the exchange of ideas and information among members of the anthropological community. NWAC provides a venue for engaging in open dialogue and welcomes diverse perspectives and opinions. In order to maintain an environment that is welcoming, inclusive, safe and respectful we ask that participants adhere to the following:

- One speaker at a time. Please allow others to finish before speaking. Please do not interrupt or talk over others
- Please mute your microphone when not speaking or making a comment and utilize digital features, such as "Raise your hand," to allow for structured discussion
- If possible, silence email and text notifications to avoid interruptions
- NWAC leadership, session organizers, panel organizers, and breakout moderators will coordinate, refocus the group, and minimize crosstalk as needed
- This is a space where we believe the experiences of marginalized individuals (BIPOC, LGBTQIA2S+, the disabled community, social class, and so forth)
- If you are ever uncomfortable, or have a question or concern, and do not wish to speak out loud about it, feel free to send a private message to the program coordinator, session organizer, or NWAC leadership
- It is considered inappropriate to share the specifics of individuals' experiences, or attribute comments to individuals, when discussing the conference with those outside of the conference. Sharing ideas and experiences are fine, but be respectful of the privacy of your colleagues
- We will not allow microaggressive statements at any time during the conference. If someone makes a microaggressive statement by accident, be understanding when others take notice and call it out. If you hear such a statement occur that goes unnoticed or unaddressed, please reach out to NWAC leadership with pertinent details (i.e. time of the event, session title, names, etc.)

- We recognize that there are many identities among our group and individual conference attendees have many intersecting identities themselves. Attendees and organizers should not feel compelled to share these identities if they do not wish to do so. Furthermore, we will try to express our concerns and thoughts in ways that do not make assumptions about the identities of fellow group members
- Background images should be appropriate, and public domain or owned by Socio
- Avoid attire with offensive messaging or imagery (profanity, nudity, cultural appropriation/insensitivity, etc.)
- No political messaging
- If you're unsure if something will be allowed, consult above section

## **USE AND REPRODUCTION OF CONFERENCE CONTENT**

Your registration entitles you to access to the NWAC Virtual Event Platform for which you have registered. Any and all other costs associated with your attendance shall be borne solely by you, and the NWAC organizers shall have no liability for such costs.

Virtual NWAC Content: You acknowledge and agree that NWAC, in its sole discretion, reserves the right to change any and all aspects of the NWAC, including but not limited to, the NWAC name, themes, content, program, speakers, performers, hosts, moderators, venue, and time.

Use of Likeness: By participating in the NWAC you acknowledge and agree to grant NWAC the right at the NWAC to record, film, live stream, photograph, or capture your likeness in any media now available or hereafter developed and to distribute, broadcast, use, or otherwise globally to disseminate, in perpetuity, such media without any further approval from you or any payment to you. This grant to NWAC includes, but is not limited to, the right to edit such media, the right to use the media alone or together with other information, and the right to allow others to use or disseminate the media within the context of NWAC-related activities.

Limitations on Use: By registering for the NWAC you agree not to sell, trade, transfer, or share your access, unless such transfer is granted by the NWAC Planning Committee. If the NWAC Planning Committee determines that you have violated this policy, they may cancel your access, retain any payments made by you, and ban you from future NWAC events.

Recording, Live Streaming, and Videotaping: Participants may not record or broadcast audio or video of sessions at NWAC.

## **INCIDENT REPORTING AT THE CONFERENCE**

Conference attendees who experience or witness harassment as defined in this Code of Conduct and/or the Northwest Anthropological Association's Policy on Harassment; and/or who are aware that a conference participant has been (or is in the process of being) sanctioned for assault or harassment by an adjudicating body and can provide documentation of the outcome; are encouraged to report such information.

The incident reporting system is not intended to constitute legal advice. In the event of any conflict between this Policy and applicable laws or institutional policy, the applicable laws or institutional policy prevails. Members and institutions are encouraged to seek their own counsel for advice regarding any specific situation. NWAA is not an adjudicating body; however, there are processes in place to support members in getting their grievances addressed when unwanted behaviors occur in the context of NWAA sponsored events and activities (e.g. conferences, editorial activities, governance events). In accordance with the Northwest Anthropological Association (NWAA) Policy on Harassment Effective February 25, 2020, the NWAA Board of Directors will:

1. Receive complaints of harassment in the context of NWAA settings and activities.
2. Discuss the complaint with the alleged harasser and give them an opportunity to respond to the complaint if the complainant wishes for the Board to actively participate in resolving the complaint.
3. Record the dates, times, and facts of the incident and the results of the resolution process.
4. Be authorized to deem a complaint to merit no further pursuit by NWAA.
5. Make clear to any complainants that the Board is not providing legal advice and that the availability of the Board is not intended to substitute for a complainant's either making use of internal institutional mechanisms for addressing complaints, for consulting expert legal advice, or for seeking formal legal redress.
6. Make clear to all parties that NWAA can only promise confidentiality within the parameters of the law.
7. Prepare an annual report containing general information about the number and types of complaints received. This report will be made available to NWAA members.

Identification with documentation of prior adjudication needs to be provided to bar an individual from participating in NWAC events. If concerns about an individual are raised but documentation of adjudication cannot be provided, the review of the complaint will follow the procedures outlined above. Reports of incidents and prior sanctions can be made via the Northwest Anthropological Association website anonymous reporting page: [www.nwaconference.com/report](http://www.nwaconference.com/report).

Please contact any or all members of the [NWAA Board of Directors](#) to discuss any concerns.

#### **ACKNOWLEDGEMENT**

By registering for NWAC, you accept the obligation to treat everyone with respect and civility. You also accept the obligation to uphold the rights of all participants and attendees (including organizers, moderators, and ombudsmen) to be free from harassment. Attendees are bound by the Northwest Anthropological Association's (NWAA) Policy on Harassment (2020) and this conference's Code of Conduct. Attendees should also be aware that they are also bound by the codes of conduct at their home institution(s).

By registering for NWAC, you commit to maintaining respectful, ethical, and professional decorum throughout the conference. The organizers reserve the right to remove any individual(s) violating this Code of Conduct without warning or refund, and to prohibit attendance at future NWAC conferences. Should the organizers have concerns about an individual's attendance at this conference creating a safety (physical or mental) issue, the organizers may bar the individual from registering for and attending this or future conferences and related events.

Individuals proven to be harassers and/or assailants will be barred from participation in this conference. Late and/or day-of registrations will be rescinded immediately should information be received documenting a proven violation. Documented harassers/assailants should be identified to NWAC organizers by survivors or other reporters as early as possible. The organizers of this conference will not conduct their own investigation(s), but will allow investigations by law enforcement agencies, the RPA, the EEOC, universities, and employers.

# 15th Annual Cultural Resource Protection Summit May 25-26, 2022

## *From Colonialism to Collaboration*

The 2022 Cultural Resource Protection Summit marks our 15th gathering, and as we continue to consider carefully the health and safety of our Summit family and our Suquamish hosts, it will hopefully be our 1st “hybrid” Summit, as well, with both in-person and virtual elements anticipated. The Summit family is still hard at work fulfilling the mission we have had since the Summit’s inception: *The primary goal in organizing the annual Summit has been to facilitate amongst all affected parties an open, frank discussion about the intersection between cultural resources and land use. The Summit is designed to promote collaborative cultural resource planning as an effective means of finding resolution to issues before they escalate into emotionally-charged, divisive, and expensive stalemates or law suits.*

This year, the Summit agenda includes an engaging array of cutting-edge topics that will encourage attendees to examine our ongoing journey from colonialism to collaboration, and how that necessary shift might shape innovative solutions for today’s most pressing challenges to effective cultural resource protection. Panel discussions, *lightning talks*, and experiential activities will highlight useful examples of the links between CRM and responsible land use. We will also reserve time for great food, general socializing, and the 2nd Annual Summit Book Club! We are working hard to ensure the 15th Annual Summit will be another much-needed boost for our community in a hybrid setting that is likely here to stay.

Please join us either in-person at Suquamish or virtually on Zoom for two days of engaging conversation and reflection that will help you improve your technical skills while deepening your connection to why we do this work. Then, with renewed commitment, move forward with helpful tools for collaboratively protecting and caring for our irreplaceable cultural resources.

*-Registration is now Open! Visit [www.theleadershipseries.info](http://www.theleadershipseries.info) for adjusted rates and to register online*

*-Student Rates available! Email Mary Rossi ([mary@eppardvision.org](mailto:mary@eppardvision.org)) for information. Be sure to submit a contest form, too (see next item)*

*-Free Registration opportunity! Go to the Summit website and enter to win a free registration! One award will be made in each of these categories: Tribes, agencies, consultants, and students*

## THANK YOU TO OUR 2022 SPONSORS TO DATE!



# MEETINGS

## **Tribal Caucus (Invitation Only)**

Wednesday March 9, 2022  
Time 9:00 AM to 12:00 PM

## **Northwest Anthropological Association**

Friday March 11, 2022  
Time 12:00 PM to 1:20 PM

## **Association of Oregon Archaeologists**

Thursday March 10, 2022  
Time 5:00 PM to 7:00 PM

## **Association for Washington Archaeology**

Friday March 11, 2022  
Time 5:00 PM to 7:00 PM

# SESSION SCHEDULE

## Wednesday March 9, 2022

5:30 PM to 7:00 PM Looking Forward at the 75th NWAC Anniversary

## Thursday March 10, 2022

9:00 AM to 9:40 AM Opening Remarks  
9:40 AM to 12:00 PM Northwest Anthropological Conference Environmental Sustainability Forum  
10:20 AM to 3:20 PM Historical Archaeology  
10:20 AM to 12:00 PM Exploring the Legacy of Donald E. Crabtree: New Directions in Lithic Studies  
10:40 AM to 11:00 AM Current Geoarchaeological Research  
11:00 AM to 12:00 PM Applications of Theory in Archaeology  
11:00 AM to 12:00 PM Heritage Management  
1:00 PM to 5:00 PM Frameworks for Social Justice  
1:20 PM to 3:40 PM Issues in Contemporary Societies  
1:20 PM to 4:00 PM Archaeologies of Northwestern Military Communities  
1:20 PM to 5:00 PM Issues in Cultural Resource Management  
3:00 PM to 4:40 PM Puget Sound Anthropology and Bellevue College, Washington  
4:00 PM to 4:40 PM Current Research in Biological Anthropology

## Friday March 11, 2022

9:00 AM to 4:40 PM Asian Diaspora Archaeology in the Pacific Northwest  
9:00 AM to 3:00 PM Camas Contributions and Connections: Exploring the Legacy and Potential of Human-Camas Relationships  
9:00 AM to 11:40 AM Artifact Analysis  
9:00 AM to 12:00 PM Investigations of Human Relationships with the Landscape and Environment  
9:00 AM to 11:40 AM Legacy Archaeological Collections: Studies of Technology and Activity Areas  
1:20 PM to 3:00 PM Dynamic Archaeological Approaches Concerning a Progressive Arctic and Global Realm  
3:20 PM to 4:40 PM Chemical Analyses in Archaeological Research  
3:00 PM to 5:00 PM Examinations of Colonial Legacies  
1:20 PM to 3:20 PM Obsidian Hydration Dating Workshop

# AGENDA

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3/9/2022, Wednesday

## Student Paper Awards Presentation

Time: 5:00 PM to 5:30 PM

### Undergraduate Student Paper

**WINNER** Lark Cummings  
**RUNNER UP** Chesley Thompson

### Graduate Student Paper

**WINNER** Megan McGuinness  
**RUNNER UP** Jordan Thompson

## Student Paper Awards Contestants

Kailey Alessi (University of Idaho)	<i>A Cave Through Time: Historic Archaeology at Mammoth Cave, Kentucky</i> Session 4: Historical Archaeology; Thursday March 10, 10:20 AM
Lark Cummings (Eastern Washington University)	<i>Violence, Structure, and Agency in Labor Market Segmentation Among Mexican Migrant Farmworkers</i> Session 22: Examinations of Colonial Legacies; Friday, March 11, 3:20 PM
Colby Dragon (Whitman College)	<i>"It's always 1855 here": Experiencing the Past at Fort Nisqually Living History Museum</i> Session 8: Heritage Management; Thursday, March 10, 11:20 AM
Jacen Ellis (Eastern Oregon University)	<i>Interdisciplinary Research; Researching the Woodward Mammoth</i> Session 21: Chemical Analyses in Archaeological Research; Friday, March 11, 3:20 PM
Cynthia Hannold (University of Alabama)	<i>Maintaining Identity in the Columbia Plateau through the Production of Lithics</i> Session 17: Artifact Analysis; Friday, March 11, 9:40 AM
Linda Johnson (Reed College)	<i>Marielle Is Present: Living and Dreaming through Death in Brazil</i> Session 22: Examinations of Colonial Legacies; Friday, March 11, 3:40 PM
Riza McClurkin (University of Montana)	<i>Analysis of Projectile Point Chronology Through Lithic Typology on the Miller Flats</i> Session 17: Artifact Analysis; Friday, March 11, 9:40 AM
Megan McGuinness (University of Nevada, Reno)	<i>Calculating Return Rates for Habitats in the Great Basin</i> Session 7: Applications of Theory in Archaeology; Thursday, March 10, 11:00 AM
Andrea Shiverdecker (University of Montana)	<i>Conceptualizing Fluidity in Heritage Landscapes and Cultural Identity Through the Garnet Ghost Town</i> Session 18: Investigations of Human Relationships with the Landscape and Environment; Friday, March 11, 11:40 AM  <i>A Synergy of Abandonment: Archaeological Understandings of Abandoned Norse Arctic Settlements and North American Mining Ghost Towns</i> Session 20: Dynamic Archaeological Approaches Concerning a Progressive Arctic and Global Realm; Friday, March 11, 2:00 PM
Chesley Thompson (Eastern Oregon University)	<i>Impacts of COVID-19 to On-Campus Students Attending a Rural University in the Pacific Northwest</i> Session 10: Issues in Contemporary Societies; Thursday March 10, 1:20 PM
Jordan Thompson (University of Idaho)	<i>An Overview Vitrophyre Use in North Central Idaho: 12,000 Years of Rock Knockin' on The Lochsa</i> Session 5: Exploring the Legacy of Donald E. Crabtree: New Directions in Lithic Studies; Thursday, March 10, 11:20 AM

1: Panel

**Looking Forward at the 75th NWAC Anniversary**

Time 5:30 PM to 7:00 PM

Moderator: Mary Anne Davis

Panelists: Dr. Virginia Butler, Dr. Dennis Griffin, Dr. Steve Hackenberger, Jo Reese, Dr. Laura Putsche, Mary Rossi, Dr. Robert Sappington, and Dr. Douglas C. Wilson

*Abstract*

While the Northwest Anthropological Conference has seen changes in its seventy-five-year tenure, the remaining constant is the coming together of anthropological minds and hearts of the region. From the first Meeting of Northwest Anthropologists at Reed College in 1948, to this year's virtual pandemic platform, we persist. To ring in the auspicious anniversary of this meeting, we turn to local contributors to speak about their experiences of anthropology in the region, this conference, and their hopes for anthropology into the future. Join in afterwards for a virtual mixer - bring your own brews/beverages, brats, and benches to an informal screen-side social.

**Post-Plenary Social**

Time 7:00 PM to ...

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3/10/2022, Thursday

2: Address

**Opening Remarks**

Time 9:00 AM to 9:40 AM

3: Forum

**Northwest Anthropological Conference Environmental Sustainability Forum**

Time 9:40 AM to 12:00 PM

Chairperson(s): Mary Petrich-Guy and Molly Swords

*Abstract*

Please join the 75th Annual Northwest Anthropological Conference Environmental Sustainability Subcommittee for this open forum workshop addressing NWAC's environmental impacts.

In 2021 the United States rejoined the Paris Climate Agreement, an international treaty aimed at limiting global warming to address environmental, social, and economic ramifications. The United States Nationally Determined Contribution sets an economy-wide target of reducing its net greenhouse gas emissions by 50-52 percent by 2030. In recognition of conference contributions to carbon emissions and other issues related to global warming, the Environmental Sustainability Subcommittee and forum participants will brainstorm sustainability strategies for future NWACs. Following the conference, the Environmental Sustainability Subcommittee will incorporate achievable initiatives into a proposal to present to the Northwest Anthropological Association Board of Directors for adaptation in future NWAC meetings.

4: General Session

**Historical Archaeology**

Time 10:20 AM to 3:20 PM

- 10:20 *A Cave Through Time: Historic Archaeology at Mammoth Cave, Kentucky*  
Kailey Alessi ([she/her] Department of Culture, Society and Justice, University of Idaho)
- 10:40 *Archaeological Investigations of "Alaska" at Tule Lake Segregation Center in Northeastern California*  
Caitlin Bishop, MA ([she/her] California State University, Chico and National Park Service JACS Grant)
- 11:00 *From Imari to the Texian Campaign: A Preliminary Analysis of Ceramic Artifacts from the Martinez Adobe Site, Pinole, California*  
Ericha Sappington, MA (ArchaeoLogical Research Consultants)
- 11:20 *Commensality at the Coloma, MT Mining Community*  
Jenn Ogborne, PhD (Historic St. Mary's City)
- 11:40 *Changing Conceptions of History in Fur Trade Archaeology in the Pacific Northwest*  
Douglas Wilson, PhD ([he/him] Portland State University/National Park Service)
- 12:00 **Lunch**
- 1:20 *Moscow High School: An Idaho Ceramics Analysis*  
JayCee Iannelli (University of Idaho)
- 1:40 *College life and archaeology: exploring the trash from a college dormitory*  
Gréta Kühne ([she/her] University of Idaho)
- 2:00 *Women Homesteaders of Washington's Channeled Scablands: Summary Statistics and Spatial Patterns for 5 Counties*  
Beth Mathews, MA ([she/her] Antiquity Consulting)
- 2:20 *49ers and 49th: Sociopolitics and the Prospect of Gold in the Boundary Country of Washington Territory and New Caledonia*  
Jamie Litzkow, MA ([she/her] Bureau of Land Management, Spokane District)
- 2:40 *Results of Pedestrian Survey at Equality Colony (1897-1907) Near Bow, Skagit County, Washington*  
Emma Dubois, BA ([she/her/hers] Equinox Research and Consulting International Inc.)
- 3:00 *Investigating the Built Environment of Fort George Wright, Spokane, Washington: A Historic Archaeological Approach*  
Conlan Vance, MA ([he/him] Eastern Washington University)

5: Symposium

**Exploring the Legacy of Donald E. Crabtree: New Directions in Lithic Studies**

Time: 10:20 AM to 12:00 PM

Chairperson(s): Robert Lee Sappington

*Abstract*

Donald E. Crabtree (1912-1980) is widely known as the Dean of American Flintknapping. His efforts and experiments in flintknapping have greatly enhanced our understanding of the manufacture of stone tools. The Alfred W. Bowers Laboratory of Anthropology (AWBLA) at the University of Idaho houses the Crabtree Collection, a unique representation of his global impact and his lifelong work with lithic technology consisting of over 10,000 artifacts, correspondence, and related papers. Crabtree's work and the lithic tools he created emulated the knowledge of Indigenous people throughout the world, including North and South America, Europe, Australia, and Japan. Crabtree paved the way for experimental archaeology, and he would be amazed with how the field has developed. His work covered replication, sourcing, and most of what we understand as required for lithic studies today.

In this symposium, presenters will discuss Crabtree and the efforts the personnel at the AWBLA are making in the preservation of the collection. We also welcome other papers on lithic studies and technology as we look at the ongoing legacy of Crabtree.

10:20 *A Look at Donald Crabtree's Influence on Archaeology Through his Correspondence*

Chloe Dame ([she/her] University of Idaho)

10:40 *The Donald Crabtree Collection and the University of Idaho*

Tim Mace, MA ([he/him] University of Idaho)

11:00 *Creating Digital Accessibility of the Donald Crabtree Collection*

Allison Fashing ([she/her] University of Idaho)

11:20 *An Overview Vitrophyre Use in North Central Idaho: 12,000 Years of Rock Knockin' on The Lochsa*

Jordan Thompson, BS ([she/her] University of Idaho)

11:40 *Discussion*

6: General Session

**Current Geoarchaeological Research**

Time: 10:40 AM to 11:00 AM

10:40 *Geoarchaeological and Geophysical Investigations at Fern Ridge, Foster, and Detroit Reservoirs, Upper Willamette Valley and Western Cascade Mountains, Oregon*

Teresa Wriston (Desert Research Institute), JD Lancaster (Desert Research Institute), Molly Casperson (US Army Corps of Engineers, Portland District), Loren Davis (Oregon State University), Jillian Mahoney (San Diego State University), James B. Fuddy, Jr. (San Diego State University), and Alex Nyers (Northwest Archaeometrics and Northwest Research Obsidian Studies Laboratory)

7: General Session

**Applications of Theory in Archaeology**

Time: 11:00 AM to 12:00 PM

- 11:00 *Calculating Return Rates for Habitats in the Great Basin*  
Megan McGuinness ([she/her] Great Basin Paleoindian Research Unit, University of Nevada, Reno)
- 11:20 *The Human Ecodynamics of Northern Māori Fisheries*  
Reno Nims, MS ([he/him] University of Auckland; Portland State University)
- 11:40 *Hunting Social Networks in the Salish Sea: Before and After the Bow and Arrow*  
Adam Rorabaugh, PhD, RPA ([he/him] Simon Fraser University, Washington State Department of Fish and Wildlife)

8: General Session

**Heritage Management**

Time: 11:00 AM to 12:00 PM

- 11:00 *Bringing Back the Forgotten: Calispell Valley Archaeological Project*  
Tara McLaughlin (Kalispel Tribe)
- 11:20 *"It's always 1855 here": Experiencing the Past at Fort Nisqually Living History Museum*  
Colby Dragon ([she/her] Whitman College)
- 11:40 *The Role of Women in Modern Milwaukie History 1950-2015*  
Emilia Gonzalez-Clements (Milwaukie Historical Society) and Stella Tompkins, BA ([she/her] Partners for the Common Good)

9: Training

**Frameworks for Social Justice**

Time: 1:00 PM to 5:00 PM

Chairperson(s): Brandy Rinck

*Abstract*

This symposium is a training workshop by Richard Kim of Cultures Connecting. The workshop will engage participants in interactive activities and dialogue to explore the dynamics of difference while challenging them to grow their awareness of self and knowledge of others. Most people who perpetuate “-isms” do so because of their lack of understanding rather than ill-intent. This workshop focuses on understanding and honoring diversity by exploring our socialization around those differences that we may not fully realize. Using culturally relevant professional development, participants will be guided through deep consideration of race and racism to better explore areas of power, privilege, and oppression (i.e., gender, sexual orientation, class, religion, ability, language, age) in their own lives and in the lives of others. By using their expanded awareness of self and knowledge of others, participants will develop skills to work more effectively across cultures. Real life examples applicable to anthropology and cultural resources management will strengthen teachings of actionable skills and new strategies for equitable engagement.

Presented by Richard Kim, M.Div. ([he/him] Cultures Connecting)

10: General Session

**Issues in Contemporary Societies**

Time 1:20 PM to 3:40 PM

- 1:20 ***Impacts of COVID-19 to On-Campus Students Attending a Rural University in the Pacific Northwest***  
Chesley Thompson ([she/her] Eastern Oregon University)
- 1:40 ***Climate Change, COVID, and Coffee***  
Julia Smith, PhD ([she/her] Eastern Washington University)
- 2:00 ***Re-Examining Principles in Architectural Design: The Importance of Social Connectedness***  
Ann Wozniak, AIA, NCARB, LEED AP BD+C, NCIDQ ([she/her] Boise State University)
- 2:20 ***The Black Cabinet: Visual Ethnography of a Writing Center***  
Jessi Boyer (Boise State University)
- 2:40 ***Xiongnu Chiliad Notions***  
Penglin Wang, PhD ([he/him] Central Washington University)
- 3:00 ***"Bare Life": Policy Response to the Influx of Rohingya in Bangladesh***  
Sayema Khatun, MS ([she/her] University of Wisconsin, Milwaukee)
- 3:20 ***"How Thin the Line Is": Safeguarding Orthodoxy at a U.S. Islamic School***  
Aaron Weiss, PhD (The College of Idaho)

11: Symposium

**Archaeologies of Northwestern Military Communities**

Time: 1:20 PM to 4:00 PM

Chairperson(s): Katrina Eichner

*Abstract*

There has been a recent uptick in the archaeological exploration of military occupation in U.S. northwestern states, coupled with a renewed focus on how forts contributed to racial/ethnic, gendered, and classed relations throughout the region. With the establishment of an American presence in the 19th and 20th centuries, the U.S. Army employed a diverse population of troops and camp followers who interacted with ancestral Native communities and other Euro-American, Chinese, and Canadian settlers. Recent scholarship recognizes these sites as settler colonial sites enmeshed in multiple identity discourses and contexts that demand sophisticated and nuanced consideration. Throughout this session we will highlight the innovative, ongoing work that historical archaeologists are conducting throughout the American west, highlighting the collaborations they have established with descendant communities, local tribes, and historically marginalized stakeholder groups.

- 1:20 ***Preliminary Archaeological Research at Fort Sherman, Idaho***  
Katelyn Kitch ([she/her] University of Idaho) and Katrina Eichner, PhD ([she/her] University of Idaho)
- 1:40 ***Examining the Historical and Archaeological Record at Fort Hoskins and Fort Yamhill***  
Mairee MacInnes (University of Idaho)

- 2:00 ***Fort, Camp, and College: Exploring the Cultural Heritage of Fort George Wright at the Mukogawa US Campus, Spokane, WA***  
Amanda Gardner (NWMAC; AHS) and Brian Buchanan, PhD (Eastern Washington University)
- 2:20 ***Material Expressions of Social, Cultural and Economic Values Amongst 19th Century U.S. Army Commissioned Officers: Examples from Fort Yamhill and Fort Hoskins, Oregon 1856-1866***  
Justin Eichelberger, PhD (National Park Service, Lake Roosevelt National Recreation Area)
- 2:40 ***Segregation Under Duress: Social and Physical Space at Miner's Fort, a Rogue River War Fortification on the Oregon Coast***  
Mark Tveskov, PhD (Southern Oregon University)
- 3:20 ***The Doctor's Lithics: Exploring the disconnections of Euroamerican experimentation in stone tool manufacturing on a western military fort.***  
Mark Warner, PhD (University of Idaho)
- 3:40 ***Discussant***  
Laurie Wilkie

12: General Session

**Issues in Cultural Resource Management**

Time: 1:20 PM to 5:00 PM

- 1:20 ***Bring the Inside Outside and the Outside Inside***  
Ashton Satterlee, MA (Appaloosa Museum and Heritage Center Foundation INC.) and Lauren McCearry (Appaloosa Museum and Heritage Center Foundation INC.)
- 1:40 ***Hanford Site Q & A***  
Keith Mendez, MA ([he/him] Hanford Mission Integration Solutions) and Stephanie Simmons, MS, RPA ([she/her] Hanford Mission Integration Solutions)
- 2:00 ***A Review of Precontact Sites on Northwest Oregon Bureau of Land Management, Following the 2020 Labor Day Fires***  
Bryce Danner, MA (Bureau of Land Management, Northwest Oregon District)
- 2:20 ***Sink or Swim, Archaeology and Aquatic Restoration on the Malheur National Forest***  
Emily Modelski, MA ([she/her] Malheur National Forest, Blue Mountain Ranger District)
- 2:40 ***Greenwood Cemetery, Cle Elum, WA: History, Mapping and Ground Radar***  
Natasha Lipsky ([she/her] Central Washington University), Jamie Mickus (Central Washington University), Steven Hackenberger (Central Washington University), Nicole Jastremski (Central Washington University), Patrick McCutcheon (Central Washington University), and Karisa Terry (Central Washington University)
- 3:00 **Break**

- 3:20 ***DStretch Analysis of Portable Rock Art: Its Current Uses and an Experimental Application to Stone Artifacts from WWU's Jorgensen Collection***  
Brinn Marri, BA ([she/her] Western Washington University, Antiquity Consulting) and Jerrica Croft ([she/her] Western Washington University)
- 3:40 ***Sustainable Solutions for Environmentally Responsible Stewardship of Collections***  
Natalie Bankuti-Summers, MA, RPA ([she/her] Washington State Parks and Recreation Commission, Stewardship Program)
- 4:00 ***Engaging Youth in Archaeology and Cultural Resources – Examples from the Kalispel Natural Resources Department***  
Kendra Maroney, MA ([she/her] Kalispel Tribe of Indians)
- 4:20 ***Afternoon Creek Rockshelter 45WH698 (Newhalem WA) prehistoric artifacts: a path forward***  
Slobodan Mitrovic, PhD, RPA (Sauk-Suiattle Indian Tribe)
- 4:40 ***Supporting Traditional Plant Gathering: Lessons Learned from the Pasco Pump Lateral 5.8 Wasteway Project***  
Karina Bryan, MA ([she/her] Bureau of Reclamation)

13: Symposium

**Puget Sound Anthropology and Bellevue College, Washington**

Time: 3:00 PM to 4:40 PM

Chairperson(s): Nancy Gonlin

*Abstract*

Early in 1966 Bellevue Community College first opened its doors from a high school to serve the burgeoning population of the East Side of Seattle with evening classes. One anthropologist was recruited on a part-time basis, while another, Mr. John Osmundson, an archaeologist, was hired part-time to teach NW history. A year and a half later, Osmundson and cultural anthropologist, Dr. David Jurji, were hired as full-time faculty to play a critical role in developing and presenting curriculum that satisfied the college's mission of delivering an affordable and broad liberal arts education to the general populace. Fifty-six years after its initial opening, as an accredited, public, open-access, community-based, and coeducational institution, Bellevue College remains a primary provider of higher education in Western Washington for over 27,300 students, 44% of whom are full-time. Today, six Bellevue College anthropologists offer the most diverse curriculum of any community college in the state with 19 transferrable courses. We boast experts in each of the four fields of anthropology, making it possible for our students to earn an "Anthropology Concentration," consisting of a core course in each of the four fields, in addition to their AA degree. Currently, faculty see their role as greatly expanded from the initial foray into anthropology. Technological and pedagogical changes accompanied by theoretical and societal shifts have dramatically impacted anthropology on a national and local level. Bellevue College anthropologists reflect upon their changing roles and responsibilities through individual case studies and their contributions to anthropology in the Puget Sound.

- 3:00 ***Archaeology's Evolution at Bellevue College, Washington***  
Nancy Gonlin, PhD, RPA ([she/her] Bellevue College)
- 3:20 ***Project-Based Learning of Linguistics at Bellevue College, WA***  
Katharine Hunt, PhD ([she/her] Bellevue College)

- 3:40 ***Intersectionality: Connecting with Students and Current Events***  
Stephanie Brommer, PhD ([she/her] Bellevue College)
- 4:00 ***Diversity as Concept and Practice: Reflections on the Teaching of Anthropology***  
Jaime Holthuysen, PhD ([she/her] Bellevue College)
- 4:20 ***From Bones to Clones: The Evolution of Biological Anthropology at Bellevue College, WA***  
Anthony Tessandori, MA ([he/his] Bellevue College)

14: General Session

**Current Research in Biological Anthropology**

Time: 4:00 PM to 4:40 PM

- 4:00 ***Factors influencing intestinal parasites in black-and-white ruffed lemurs (*Varecia variegata*) in Mangevo, Ranomafana National Park, Madagascar***  
Eliette Noromalala, MS ([she/her/hers] Primate Behavior and Ecology Program, Central Washington University), A.K. Binder ([she/her] Primate Behavior and Ecology Program, Central Washington University; Department of Biological Sciences, Central Washington University), A.L.Baden ([she/her] Department of Anthropology, The Graduate Center of the City University of New York; The New York Consortium in Evolutionary Primatology; Department of Anthropology, Hunter College of the City University of New York), G.A. Stryker ([she/her] Department of Biological Sciences, Central Washington University), and K.I. Gabriel ([she/her] Primate Behavior and Ecology Program, Central Washington University; Department of Psychology, Central Washington University)
- 4:20 ***Examination of Late 18th and Early 19th Century Identity Through Burial at the Silo of Charlemagne in Roncesvalles, Spain***  
Maddie Philips (University of Idaho)

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3/11/2022, Friday

15: Symposium

**Asian Diaspora Archaeology in the Pacific Northwest**

Time 9:00 AM to 4:40 PM

Chairperson(s): Chelsea Rose and Renae Campbell

*Abstract*

This marks the fourth annual session highlighting Asian diaspora research in the Pacific Northwest. Papers will cover a range of topics from project updates to new research findings and represent the variety of institutions, agencies, and individuals working to inventory, interpret, preserve, and promote the history and contributions of the Asian diaspora in our region and beyond. The papers will be followed by a reflection and facilitated discussion on the work happening in the region and where we can go from here.

- 9:00 ***Japanese Gulch Village and the Tactics of Consumption in a “Knife-Fork Land”***  
Renae Campbell ([she/her] Asian American Comparative Collection, University of Idaho)

- 9:20 ***The Churn: Overlapping Asian Diasporic Communities in Oregon's Blue Mountains at the Dawn of the 20th Century***  
Don Hann ([he/him] Oregon Chinese Diaspora Project, Malheur National Forest [retired])
- 9:40 ***Tunnel Vision: Archaeology and Remote Sensing at the Oregon and California Railroad's Buck Rock Tunnel***  
Chelsea Rose ([she/her] Southern Oregon University Laboratory of Anthropology), and Terrance Christian ([he/him] Bureau of Land Management, ORWA)
- 10:00 ***Once Again Revisiting the Chelan Falls, Washington Chinese Store and the Alleged 1875 Massacre of Chinese Miners***  
Eric Gleason, BA ([he/him] Friends of The Dalles Chinatown)
- 10:20 **Break**
- 10:40 ***A Golden Thread: Reconnecting Boise Idaho with Chinese Mining History and Heritage***  
Pei-Lin Yu, PhD ([she/her] US Army Corps of Engineers, Walla Walla District), Jordan Bennett, Renae Campbell, Stephen Cox, Clint Cuzzo, Gayle Dixon, Nicole Herzog, Andy Louie, Terry Panhorst, Carol McDonald, and Morgan Zedalis
- 11:00 ***Small Towns And Mining Camps: An Analysis Of Chinese Diasporic Communities In 19th-Century Oregon***  
Jocelyn Lee (Stanford University)
- 11:20 ***"Oregon Chinese Diaspora: Artifact Analysis of Several Mining Camps on the Malheur National Forest"***  
Tatiana Watkins ([she/her] Malheur National Forest, Oregon Chinese Diaspora Project, University of Idaho)
- 11:40 ***Artifact As A Stethoscope***  
Sam Roxas-Chua Yao [he/him]
- 12:00 **Lunch**
- 1:20 ***The Bones About It: An Analysis of the Dalles Chinatown Faunal Assemblage***  
Katie Johnson ([she/her] Southern Oregon University Laboratory of Anthropology)
- 1:40 ***Chinese fishers at Point Alones, David Starr Jordan, and the building of the Smithsonian's Fish Collection***  
J. Ryan Kennedy ([he/him] University of New Orleans) and Brian M. Kemp ([he/him] University of Oklahoma)
- 2:00 ***At Home in the Valley - Chinese Agricultural Laborers at 35MA417***  
Cathy Bialas ([she/her] Historical Research Associates, Inc.) and Jessica Curteman ([she/her] Oregon Department of Transportation)
- 2:20 ***Archaeological Excavations in Downtown Portland at Site 35MU197***  
Michele Punke (Historical Research Associates, Inc.) and Janna Tuck (Historical Research Associates, Inc.)

- 2:40 ***Searching for Salem's Early Chinese Community***  
Kimberli Fitzgerald (City of Salem)
- 3:00 **Break**
- 3:20 ***Longevity The Archaeology of a Chinese Gift Store and Restaurant in Eugene, Oregon's, Market District***  
Marlene Jampolsky ([she/hers] Museum of Natural and Cultural History, University of Oregon), Chris Ruiz ([he/him] Museum of Natural and Cultural History, University of Oregon), and John C. Krier ([he/him] Museum of Natural and Cultural History, University of Oregon)
- 3:40 ***Tracking "Thunder" in Portland's Chinese Restaurants***  
Laurie A. Wilkie (UC Berkeley), Jeffrey A. Seckinger (UC Berkeley), and Kelly N. Fong (UCLA)
- 4:00 ***Protection of Body and Soul: Inscriptions and Motifs of Chinese Spiritual Items***  
Christine McFarlane (Asian American Comparative Collection, University of Idaho)
- 4:20 ***Discussant***  
Douglas Ross ([he/him] Albion Environmental)

16: Symposium

**Camas Contributions and Connections: Exploring the Legacy and Potential of Human-Camas Relationships**

Time: 9:00 AM to 3:00 PM

Chairperson(s): Molly Carney and Katy Matthews

*Abstract*

*Camassia* sp. is a genus of blue to white flowering, bulbous perennial plants commonly found from the Pacific coast to the eastern margins of the Rocky Mountains. These edible bulbs were a readily available plant food source for the people who have lived in these regions since time immemorial, with people frequently traveling hundreds of kilometers to harvest, trading the bulbs far outside its habitat, and storing specially prepared camas for meals throughout the year. Even William Clark, newcomer to this land, recognized the importance of this plant by noting the significance of "Quawmash roots as a great present." In this session we aim to take a closer look at this genus, exploring the ways people interacted with camas in the past and how we can facilitate those interactions in the future. We welcome papers from practitioners, activists, and scholars across backgrounds, bringing together a deep perspective on this plant and its contributions to life throughout the greater Northwest.

- 9:00 ***Growing the Camas Collaborative: Restoring camas prairies to support indigenous communities throughout western Washington***  
Sarah T. Hamman, PhD ([she/her] Ecostudies Institute), William Thoms ([he/him] Confederated Tribes of the Chehalis Reservation), and Joyce LeCompte, PhD ([she/her] Camassia Resource Stewardship)
- 9:20 ***Coast Salish Native Agriculture: Increasing the Presence of Camas on the Swinomish Reservation***  
Joyce LeCompte, PhD ([she/her] Camassia Resource Stewardship), Todd S. Mitchell ([he/him] Swinomish Indian Tribal Community Department of Environmental Protection), Jen Willup ([she/her] Swinomish Indian Tribal Community Department of Environmental Protection), Dean

Dan ([he/him] Swinomish Indian Tribal Community Department of Environmental Protection), and Nicole Casper ([she/her] Swinomish Indian Tribal Community Department of Environmental Protection)

- 9:40 ***Restoration Strategies for Propagation of *Camassia quamash* on the Weippe Prairie***  
Katy Matthews (Nez Perce National Historical Park)
- 10:00 ***Camas Nursery Protocol***  
Mary James (University of Idaho)
- 10:20 **Break**
- 10:40 ***Plant-Pollinator-People Entanglements: Study of Camas-Bee Interactions in the West Kootenay, British Columbia***  
Rowan Rampton (University of Calgary), Brenda Beckwith (Selkirk College, Kootenay Native Plant Society), and Valerie Huff (Kootenay Native Plant Society)
- 11:00 ***Camas as a keystone cultural species and the long-term indigenous ecological management of camas places***  
Linda Storm, PhC ([she/her/hers] U.S. Environmental Protection Agency and University of Washington) and Rue Hewett Hoover ([she/her/hers] Wetland Biologist, Nez Perce Tribe)
- 11:20 ***Kalapuyans and Camas***  
David Lewis (Oregon State University)
- 11:40 ***Soil chemistry and its applications determining historic camas cultivation***  
Emma Lowther ([she/her] University of Victoria)
- 12:00 **Lunch**
- 1:20 ***Plant Management in the Precontact Pacific Northwest: A Camas Case Study***  
Molly Carney ([she/her] Washington State University)
- 1:40 ***Use of a Species Distribution Model to Examine Camas in Southern Idaho***  
Royce Johnson (Boise State University)
- 2:00 ***Assessing the Taxonomic Value of Camas Microfossils and their Potential to Inform the Archaeological Record of Western North America***  
Tiffany J. Fulkerson (Washington State University), John C. Blong (Washington State University), Molly Carney (Washington State University), Tiffany Kite (Washington State University), and Shannon Tushingam (Washington State University)
- 2:20 ***Discussion***

17: General Session

**Artifact Analysis**

Time 9:00 AM to 11:40 AM

- 9:00 ***Analysis of Projectile Point Chronology Through Lithic Typology on the Miller Flats***  
Riza McClurkin ([they/them/theirs] University of Montana Department of Anthropology)

- 9:20 ***Discussion of the Analytical Contribution of 1/8-inch (0.32 Centimeter) Lithic Debitage at the Sunrise Ridge Borrow Pit Site (45PI408), Mt. Rainier National Park, Washington***  
David Davis ([he/him] Central Washington University) and Patrick T. McCutcheon, PhD ([he/him] Central Washington University)
- 9:40 ***Maintaining Identity in the Columbia Plateau through the Production of Lithics***  
Cynthia Hannold, MA ([she/her] The University of Alabama)
- 10:00 ***Recent Advances in Obsidian Hydration Dating***  
Alexander Rogers, MA, MS, RPA (Maturango Museum [emeritus])
- 10:20 **Break**
- 10:40 ***Chemical Sourcing and Technological Analysis of Volcanic Glass Lithics from the Grissom Site (45KT301)***  
Nikolai Simurdak, BS ([they/them] Central Washington University) and Patrick T. McCutcheon, PhD ([he/him] Central Washington University)
- 11:00 ***A Can of Worms? Part II***  
William Schroeder, PhD, RPA
- 11:20 ***The Implications of Salish Spindle Technology***  
Kim Simmons

18: General Session

**Investigations of Human Relationships with the Landscape and Environment**

Time: 9:00 AM to 12:00 PM

- 9:00 ***Living Landscapes of SGang Gwaay: Strengthening the Land and People in a Changing Climate***  
Jenny Cohen, MA ([she/her/they/them] Parks Canada), Camille Collinson, Nadine Wilson, Mary Hart, and Ian Sellers
- 9:20 ***A Quarter of a Million Salal Berries and Potential for 2.5 Million Acorns from Central Northwest Coast Archaeological Wet Sites—Time to Recognize their Past Plant Food Significance***  
Dale R. Croes, PhD ([he/him] Washington State University) and Bethany K. Mathews, MA, RPA ([she/her] Antiquity Consulting)
- 9:40 ***Salmon in Tsleil-Wat: an application of ZooMS on archaeological salmonid remains from t̓əmt̓əmix̓t̓ən (Tum-tumay-whueton)***  
Meaghan Efford, MA ([she/her] University of British Columbia, Institute for the Oceans and Fisheries)
- 10:00 ***A Field of Possibili-Tea: Native Medicine in an Economic Landscape***  
Faith Webster, MS ([she/her] Quinault Indian Nation, Department of Natural Resources), Justine James, Samantha Chisholm, David Ryan, Lia Frenchman, and Naomi Brandenfels
- 10:20 **Break**

- 10:40 ***Reinterpreting Indigenous Contributions to the 1855 Pacific Railroad Survey at One of Oregon's Newest Heritage Trees***  
David-Paul Hedberg, MA ([he/his] Outdoor History Consulting) and Mike Boero (USFS, Descutes National Forest)
- 11:00 ***Cultural Histories & Culturally Modified Trees of the Youngs Rock Rigdon Project, Middle Fork Ranger District, Willamette National Forest***  
Stephen Todd Jankowski, MS (Willamette National Forest)
- 11:20 ***Fruit trees, orchards and historic sites: Documenting fruit trees on historic sites and how they contribute to site evaluations***  
Rene Burk, MAIS ([she/her] Oregon State University)
- 11:40 ***Conceptualizing Fluidity in Heritage Landscapes and Cultural Identity Through the Garnet Ghost Town***  
Andrea Shiverdecker, MA, PhD Student ([she/her] University of Montana)

19: Symposium

**Legacy Archaeological Collections: Studies of Technology and Activity Areas**

Time: 9:00 AM to 11:40 AM

Chairperson(s): Steven Hackenberger

*Abstract*

Faculty, research affiliates, and students continue to collaborate on curation and study of legacy archaeological collections. In the symposium we share updates on the Tryon Creek Site, Hells Canyon (35WW288). An overview and history are shared (Hackenberger). Excavations lead by Frank Leonhardy (University of Idaho) in the early 90s were sponsored by the Hells Canyon NRA and the Wallowa-Whitman National Forest. We also include contributions to the study of the Sanders Site collection (45KT315) excavated by William Smith (Central Washington University) in the early 70s. Two studies revisit the lithic debitage and technological indicators (Miller-Atkins, Crow), one project focuses on bone tools (Walton), and three presentations cover stratigraphic and spatial analysis of artifact types (LaPlante, Walton, Wyatt). The technology studies include advances in artifact identification (platform and raw material type; bone tool and breakage), and the assemblage and activity area studies (artifact types and features) provide new insights into changes in subsistence and food processing.

- 9:00 ***Legacy Archaeological Collection Studies, Hells Canyon and Yakima Uplands: Symposium Introduction***  
Steven Hackenberger, PhD ([he] Central Washington University)
- 9:20 ***Heat-Treatment and Debitage within Hells Canyon: An Exploratory Analysis from Tryon Creek (35WA288)***  
Galen Miller-Atkins, MA, RPA ([he/him] Statistical Research, Inc.)
- 9:40 ***Lithic Raw Material Types within Tryon Creek (35WA288, House 2)***  
Raelynne Crow, Undergraduate Student ([she/her] Central Washington University) and Aidan Gallagher (Independent)

10:00 ***Analysis of the Bone Tool Assemblage of the Tryon Creek Site (35WA288) in Hells Canyon, Oregon***

Lauren Walton, MS ([she/her] Statistical Research, Inc.), Brandon McIntosh PhD Candidate ([he/him, they/them] Statistical Research, Inc.), and Steve Hackenberger, PhD ([he/him] Central Washington University)

10:20 **Break**

10:40 ***Legacy Archaeological Collections: Studies of Technology and Activity Areas***

Noella Wyatt ([she/her] Central Washington University)

11:00 ***Activity Area Analysis for the Sanders Site (45KT315), Yakima Uplands***

Emily LaPlante, Undergraduate Student ([she] Central Washington University) and Steven Hackenberger ([he] Central Washington University)

11:20 ***Discussion***

20: Symposium

**Dynamic Archaeological Approaches Concerning a Progressive Arctic and Global Realm**

Time: 1:20 PM to 3:00 PM

Chairperson(s): Andrea Shiverdecker

*Abstract*

Diversity and excellence are synergized together in a collaborative explorative discussion panel into contemporary and forward-thinking archaeological methodologies and approaches to at risk arctic communities. Graduate students from the University of Montana have joined to share current research endeavors into the arctic climate and its results on communities and archaeological records, while producing revolutionary processes to aid archaeological understandings and processes globally. Presentations vary from statistical analysis and spatial organizations, establishing changes in wealth and cooperation of house pit 54 in Bridge River, BC; to an introduction of a universal theoretical research model to assist archaeologist globally in the study and understandings of landscapes of abandonment. Indigenous lifeways and methods for increased advocacy and awareness are drawn upon, while highlighting the strengths of the diverse future of archaeological findings from the University of Montana's Department of Anthropology graduate scholars under Dr. Anna Prentiss.

1:20 ***Uncovering Cooperation in Housepit 54, Bridge River, British Columbia***

Megan Denis, MA, PhD Student ([she/her] University of Montana)

1:40 ***Modern Impacts on Traditional Subsistence Hunting in the Canadian Arctic***

Riza McClurkin ([they/them/theirs] University of Montana Department of Anthropology)

2:00 ***A Synergy of Abandonment: Archaeological Understandings of Abandoned Norse Arctic Settlements and North American Mining Ghost Towns***

Andrea Shiverdecker, MA, PhD Student ([she/her] University of Montana)

2:20 ***Issues in Culture Heritage Studies and Anthropology: Reflecting on the Challenges Posed by the 'Inconvenient Indian'***

Alysha Edwards, Graduate Student ([she/her] University of Montana)

2:40 ***Panel Discussion***

21: General Session

**Chemical Analyses in Archaeological Research**

Time: 3:20 PM to 4:40 PM

- 3:20 ***Interdisciplinary Research; Researching the Woodward Mammoth***  
Jacen Ellis ([he/him] Eastern Oregon University)
- 3:40 ***A Pilot Study to Determine Protein Residue on Low-Fired Ceramic Sherds***  
Joanne Mack, PhD (University of Notre Dame), John Fagan, PhD (Archaeological Investigations Northwest), Cam Walker, PhD (University of Oregon Natural History Museum), and Jack Swisher, BA (University of Oregon Natural History Museum)
- 4:00 ***New Evidence of Ancient Tobacco Use from Two Upper Skagit Valley Sites***  
William Damitio, MA (Washington State University), Kim DiCenzo, Shannon Tushingham, Mario Zimmermann, Sam Neunzig, Anna Berim, and David Gang
- 4:20 ***Historic Bottle Contents Analysis from an Early 20th Century Privy Sample in Arlington, Washington***  
Meghan Caves ([she/they] University of Idaho)

22: General Session

**Examinations of Colonial Legacies**

Time: 3:00 PM to 5:00 PM

- 3:00 ***Unrequited Justice - Navigating Settler Colonial Violence and Gendering***  
Dianne Baumann, PhD ([she/her] University of Idaho)
- 3:20 ***Violence, Structure, and Agency in Labor Market Segmentation Among Mexican Migrant Farmworkers***  
Lark Cummings ([he/him] Eastern Washington University)
- 3:40 ***Marielle Is Present: Living and Dreaming through Death in Brazil***  
Linda Johnson (Reed College)
- 4:00 ***Interpellation as Coping Strategies: Responses to Colonialism and Social Identities***  
Andrea Shiverdecker, MA, PhD Student ([she/her] University of Montana)
- 4:20 ***Toward an Ethnohistory of Paper in the Indigenous Pacific Northwest***  
Robert Walls (American Indian Studies Research Institute, Indiana University)
- 4:40 ***Skinwalker***  
Nicholas Kager [he/him/they/them]

23: Workshop

**Obsidian Hydration Dating**

Time: 1:20 PM to 3:20 PM

*Abstract*

The goal of this workshop is to provide insight into the theory and methods of obsidian hydration dating (OHD). It should help enable the archaeologist to perform OHD analyses, and enable the manager to ask the right questions. The workshop will cover the basic principles of obsidian hydration and the models employed in dating; how to develop an appropriate effective hydration temperature (EHT); various methods of computing a hydration rate; guidelines for data analysis; and numerous cautions. The workshop includes working through a numerical example of an OHD analysis. Mathematics will be kept to a minimum, but cannot be avoided entirely. Electronic copies of key references will be provided.

Presented by Alexander (Sandy) Rogers, MA, MS, RPA (Curator Emeritus, Maturango Museum)

## ABSTRACTS

Kailey Alessi ([she/her] Department of Culture, Society and Justice, University of Idaho)

### ***A Cave Through Time: Historic Archaeology at Mammoth Cave, Kentucky***

Mammoth Cave, located in southern Kentucky, is the longest known cave in the world, with 420 miles of mapped passages. In addition to being a geological wonder, it has been visited by humans for thousands of years. Many projects have focused on the prehistoric archaeology of the Historic Entrance to the cave, but none have focused exclusively on the historic archaeology of this site. This presentation will seek to shed some light on the overlooked history and archaeology of the cave's historic period. The chronology of human modifications at the Historic Entrance, from saltpetre mining in the early 1800s to the development of tourist infrastructure during the twentieth century will be considered. The synthesis of historic documents and archaeological site reports allows for a greater understanding of how people modified and interacted with the cave environment during the nineteenth and twentieth centuries.

Natalie Bankuti-Summers, MA, RPA ([she/her] Washington State Parks and Recreation Commission, Stewardship Program)

### ***Sustainable Solutions for Environmentally Responsible Stewardship of Collections***

It has been established that the landscapes which humans inhabit are negatively impacted by waste materials and, though it may be a relatively small impact, cultural resource collections management does contribute to it. The topic of 'sustainable collections' usually regards to the ethical obligations we have as archaeologists when it comes to collections, however, in this presentation I will be exploring sustainable collections in regards to environmental impact by examining alternatives to the physical elements of collections management such as housing, conservation, and facility homeostasis. With this presentation, I will explore the ways in which facility managers can maintain their facility's humidity and temperature using alternative electricity sources such as hydro electric or solar power. Additionally, I will introduce various replacements for materials such as ethafoam, plastic artifact bags, and other materials that collections managers, academics, and field archeologists alike use to maintain stable housing for the artifacts they are charged with preserving. I will create a case study utilizing a collection of artifacts from the Washington State Parks and Recreation Stewardship Collections Facility. The analysis of this collection's housing procedures will highlight the cost of traditional methods and materials used in museology, whose numbers will then be compared to estimates of the cost to conduct an equivalent project with the more sustainable replacements outlined above. The goal of this presentation is to influence any stewards of artifacts of cultural patrimony to begin making changes in the ways in which they conserve their collections in an environmentally responsible way.

Dianne Baumann, PhD ([she/her] University of Idaho)

### ***Unrequited Justice - Navigating Settler Colonial Violence and Gendering***

Conversation about violence by and against American Indian peoples too often focuses on men as perpetrators while ignoring the complexity of settler colonialism and gender's intersection with violence. This article scrutinizes the entangled roles of settler colonialism and gendering in influencing this epidemic of violence. Through personal story, anecdote, and the harsh realities of unrequited justice I examine how some Blackfeet citizens, and by extension, American Indian peoples, navigate colonial gendering and violence. While this article contains elements of pain, the focus centers pushing beyond 'survance' to an understanding of 'thrivance' and what it entails, including the need to create communities of support, while identifying and upending the distressing strategy of 'settler moves to innocence'. This article contributes to gender studies, feminist studies, and settler colonial studies; but most importantly it recognizes and connects how healing and understanding are key to whole and harmonious American Indian communities.

Cathy Bialas ([she/her] Historical Research Associates, Inc.) and Jessica Curteman ([she/her] Oregon Department of Transportation)

***At Home in the Valley - Chinese Agricultural Laborers at 35MA417***

As part of archaeological investigations for an Oregon Department of Transportation interchange project, Historical Research Associates, Inc. (HRA) recently excavated a farmstead on French Prairie next to I-5 revealing the occupation of Chinese families and laborers. Research is ongoing, but initial analysis of their domestic debris provides a window into the home life of Chinese hop laborers living in the Willamette Valley in the early 1900s. HRA sampled residential foundation remains and discovered a small cache of personal domestic items including Asian ceramics, medicine and liquor bottles, and gaming pieces.

Caitlin Bishop, MA ([she/her] California State University, Chico and National Park Service JACS Grant)  
***Archaeological Investigations of "Alaska" at Tule Lake Segregation Center in Northeastern California***

Tule Lake Segregation Center in Newell, CA was a place of incarceration for over 18,000 Japanese Americans yet remains one of the most understudied sites from WWII. This research focuses on an area of the segregation center known as "Alaska", which was built to accompany the incoming incarcerated that were further displaced after the Loyalty Questionnaire was conducted by the War Relocation Authority in 1943. Approximately ten acres of Alaska including Blocks 81, 82, parts of Blocks 83 and 56 were surveyed in May 2019. Non-invasive methods of pedestrian survey, ground penetrating radar, and analyzing a preexisting collection from 1970 were utilized to establish site integrity. Determining the integrity of this historic incarceration site will inform Heritage Management Plans for stakeholders and agencies that currently own divisions of the original segregation center and support this research (USBR, BLM, NPS JACS grant, and the Tule Lake Committee). Preserving culturally sensitive sites like Alaska within Tule Lake Segregation Center is imperative to reclaiming the narrative of the Japanese American incarceration experience and accurately representing our nation's history.

Jessi Boyer (Boise State University)

***The Black Cabinet: Visual Ethnography of a Writing Center***

"Pedagogical conventions of university writing centers overlap with the context-driven disposition of anthropologists, particularly ethnographers. This paper assumes the insider/outsider perspective of a first-year writing center intern learning writing center theory and practice in the new remote-services paradigm. A result of the COVID 19 crisis was the move to virtual writing tutoring worldwide. Consequently, much of the culture previously associated with writing centers has been rendered invisible to newcomers, who can be regarded neither as total outsiders nor as true insiders.

A comparative analysis of artifacts representing the Boise State Writing Center's online and physical spaces is approached through metaphorical binary: the abandoned versus the disembodied. This approach provides perspective on the centrality of physical space in writing center pedagogy and design. This critical reading of online vs. in-person tutoring experiences revisits issues historically addressed in terms of spatial geography: accessibility, and community, and student-centered practice."

Stephanie Brommer, PhD ([she/her] Bellevue College)

***Intersectionality: Connecting with Students and Current Events***

Applying the framework of intersectionality to the holistic field of anthropology recognizes the impacts of social structures and institutions on individual identities, allowing Bellevue College anthropology students to make connections that personally resonate with their lives. As inequalities and injustices of race, gender, sexuality, and class currently in the news are addressed in the classroom, Bellevue College students, ranging from teens to midlife, can apply intersectionality to recognize the complexities and intersections of individual and group privileges and oppressions, as well as their own human experiences. In the evolution of anthropological thought and practice, this framework, coined 33 years ago in 1989, has informed and shaped the discipline in ways that resonate with the identity politics, social injustice,

systemic racism, and gender diversity and fluidity recognized today. Conceived through the work of Black women scholars and activists, intersectionality addresses power relations and social inequalities experienced through the intersections of multiple identities. Teaching the lens of intersectionality is a key tool feminist anthropologists bring to their students.

Karina Bryan, MA ([she/her] Bureau of Reclamation)

***Supporting Traditional Plant Gathering: Lessons Learned from the Pasco Pump Lateral 5.8 Wasteway Project***

The Bureau of Reclamation and Tribal partners developed creative mitigation in response to the Pasco Pump Lateral 5.8 Wasteway Project, a new construction project north of Pasco that adversely affected a historic property of traditional religious and cultural importance known as Tamántawla. The original inhabitants of Tamántawla used the area as both a residential site and as a resource gathering area. Because much of the area has become private property, access to the landform and the associated traditional resources has been greatly curtailed. Reclamation's action further reduced the integrity of Tamántawla and diminished access to traditional resources by disrupting the Columbia River shoreline. Based on this understanding, Reclamation and Tribal partners developed a plan to mitigate adverse effects by finding ways to enhance Tribal member access to traditional resources. The resulting three-pronged approach aims to provide Tribal members with the information they need to continue traditional gathering practices in the lower Columbia Basin. Part one is development of a traditional plant foods atlas to provide Tribal members with locations of traditional plant resource stands and notes on access, developed by Reclamation and managed by each of the Tribes. Part two is development of a traditional plant foods identification app to aid practitioners with identify resources in the field. Finally, and in collaboration with the Tribes, Reclamation undertook a traditional plant foods inventory of 500 acres of Reclamation land in Franklin County to provide additional location, stand quality, and access information about traditionally gathered resources available for Tribal use.

Rene Burk, MAIS ([she/her] Oregon State University)

***Fruit trees, orchards and historic sites: Documenting fruit trees on historic sites and how they contribute to site evaluations***

Fruit trees are living artifacts, and features. Orchards contribute to historic site's integrity and setting. Fruit trees are poorly documented by archaeologists, because they are not arborist or botanist. Therefore, the extent of rare varieties is unknown across the nation on historic sites.

Rena Campbell ([she/her] Asian American Comparative Collection, University of Idaho)

***Japanese Gulch Village and the Tactics of Consumption in a "Knife-Fork Land"***

Japanese Gulch Village was home to a community of Japanese millworkers and their families between 1903 and 1930. Located just outside of Mukilteo, Washington, residents had access to a wide range of options for acquiring goods. This presentation uses Japanese-manufactured ceramics, recovered from the site in 2007, to explore the ways that village residents negotiated among purchasing options to respond to local prejudice, increase communal wellbeing, and pursue individual desires formed within a changing transpacific context.

Molly Carney ([she/her] Washington State University)

***Plant Management in the Precontact Pacific Northwest: A Camas Case Study***

Throughout western North America, there are numerous oral histories and substantial ethnographic evidence illustrating how plant species, communities, and even landscapes were extensively managed and manipulated. Camas (*Camassia* spp.) is one such plant, common from throughout western North America, with numerous records describing its role as a staple food for many communities. Deep time supporting archaeological evidence for such management practices, however, has remained elusive. In this presentation I draw on niche construction and traditional ecological knowledge to investigate Holocene relationships between people and plants in two Northwest valleys. I integrate

paleoethnobotanical, palaeoclimatological, and geoarchaeological methodologies and datasets to demonstrate people began deliberately managing camas by 3,500 BP by selectively harvesting mature plants. These findings confirm and expand upon Indigenous traditional ecological knowledge as well as offer an alternative explanatory framework to management studies globally.

Meghan Caves ([she/they] University of Idaho)

***Historic Bottle Contents Analysis from an Early 20th Century Privy Sample in Arlington, Washington***

During the summer of 2021, I visited the Burke Museum of Natural History and Culture in Seattle, Washington, to reanalyze a privy assemblage excavated by Northwest Archaeological Associates, Inc. (NWAA). As part of the recorded Teager/Weimer site (45SN409), the privy was excavated in 2008 as mitigation preparing for the City of Arlington's wastewater treatment facility upgrade. I requested samples of contents from four bottles that had not been a part of the original contents analysis conducted by the Department of Medicinal Chemistry at the University of Washington included in NWAA's report. The samples were analyzed at the University of Idaho Department of Chemistry, which has completed numerous historical artifact residue and contents chemical compositional analyses. The results of archival research on these four vessels and the results of contents analysis are presented here, revealing unique and interesting insights into container reuse, patent medicine marketing, and consumer practices at the turn of the 20th century in Western Washington.

Jenny Cohen, MA ([she/her/they/them] Parks Canada), Camille Collinson, Nadine Wilson, Mary Hart, and Ian Sellers

***Living Landscapes of SGang Gwaay: Strengthening the Land and People in a Changing Climate***

In December 2018, a hurricane-force storm caused significant damage at SGang Gwaay Llnagaay, a UNESCO World Heritage Site and Haida Heritage Site on a small island at the southern end of Haida Gwaii, British Columbia. Archaeological mitigation and excavation by a team from Parks Canada Terrestrial Archaeology and Gwaii Haanas National Park Reserve, in partnership with the Haida Watchmen program and Haida Gwaii Museum, has focused on areas directly impacted by fallen trees. These include wooden house remains and a variety of activity areas around the village site. Preliminary results of our ongoing archaeological investigations have revealed significant insights into 19th century Haida household activity and the broader cultural landscape of the island dating beyond 5,200 YBP. Taking into account relative sea-level history, Haida knowledge systems, and current climate change issues, these insights will support community planning as part of a larger multidisciplinary cultural and ecological restoration project.

Dale R. Croes, PhD ([he/him] Washington State University) and Bethany K. Mathews, MA, RPA ([she/her] Antiquity Consulting)

***A Quarter of a Million Salal Berries and Potential for 2.5 Million Acorns from Central Northwest Coast Archaeological Wet Sites—Time to Recognize their Past Plant Food Significance***

Three Central Northwest Coast wet sites have begun to highlight the significance of berries and nuts, particularly salal and acorns, to ancient subsistence practices. At the Ozette site (45CA24), located on the Olympic Peninsula of Washington, mudslide encased houses dating to approximately 300 years ago produced flotation samples of 250,000 seeds of Salal (*Gaultheria shallon*; and/or its close look-alikes of genus *Vaccinium*). At the Sunken Village site (35MU4), located on Sauvie Island, Oregon, over 100 hemlock-lined acorn leaching pits dated to 150-700 years ago have been recorded. It is estimated that these leaching pits may represent processing of 2,500,000 acorns (*Quercus garryana*) in a season. Finally, at the Q<sup>w</sup>u<sup>w</sup>g<sup>w</sup>əs site, located at Mud Bay on Eld Inlet, Washington, reanalysis of macrobotanical artifacts lead to the discovery that acorns were also abundant in the site midden. Acorn remains were seven times more common than hazelnut (*Corylus cornuta*) remains here, indicating that acorns might have been the most ubiquitous plant food at this south Salish Sea site. In this paper we argue that salal and acorn ecofacts from the Central Northwest Coast represent substantial resources in the diets of this region.

Raelynne Crow, Undergraduate Student ([she/her] Central Washington University) and Aidan Gallagher (Independent)

***Lithic Raw Material Types within Tryon Creek (35WA288, House 2)***

The Tryon Creek (35WA288) assemblage from Hells Canyon is curated and studied at Central Washington University under an agreement with the USFS. Debitage analysis was originally conducted in the early 90s by University of Idaho students working with Dr. Sappington. A reevaluation of the raw material and debitage categories and counts in House 2 demonstrates the overall reliability of the first analysis. Our re-evaluation was done by reviewing catalog data, Excel spreadsheet data, and sample bags of debitage. We illustrate the distribution of selected raw material types across levels and occupation zones. In previous studies this was done by counts and relative frequency; for the first time we map types of debitage by density according to the volume of excavation units produced by Dr. Leonhardy's interest in cultural stratigraphy and features.

Lark Cummings ([he/him] Eastern Washington University)

***Violence, Structure, and Agency in Labor Market Segmentation Among Mexican Migrant Farmworkers***

Medical anthropologists have long used the concept of structural violence to investigate the suffering of marginalized groups. Following Paul Farmer (1999, 2004), anthropologists such as Nancy Scheper-Hughes (1992), Philippe Bourgois (2001, as well as Bourgois and Scheper-Hughes 2003) and Seth Holmes (2012) have critically analyzed the ways that unfair political economic structures create injury and illness with comparable effects to a gunshot or a stab wound. This research has expanded beyond the concept of structural violence to include a whole spectrum, or violence continuum. As productive as this research has been, it has primarily emphasized patterns of violence that move downwards from social structure, thus leading to an overly deterministic approach that conceals the role of agency. This paper uses the case of the migrant farmworker experience in labor markets to advocate for a renewed analysis of the violence continuum that appreciates the role of violent practices in the production of structure, as well as vice versa, in a process of mutual causality that has not been emphasized. This concept of violence is first outlined in detail, and subsequently explored through examination of labor market segmentation among migrant farmworkers in the United States adding to the work already done by medical anthropologists using the traditional version of the violence continuum paradigm (Holmes 2012).

Chloe Dame ([she/her] University of Idaho)

***A Look at Donald Crabtree's Influence on Archaeology Through his Correspondence***

Donald Crabtree, a famed, self-educated flintknapper and experimental archaeologist, intensely influenced the field of archaeology through many avenues including frequent flintknapping demonstrations, friendly correspondence with enthusiasts, other archaeologists, and flintknappers, a lithic technology field school, constant research and more. To understand Crabtree's impact on the archaeology field, this paper details the work of Crabtree's mentee and fellow archaeologist Emma Lou Davis through their correspondence. After attending Crabtree's lithic technology field school, Davis and Crabtree formed a professional relationship. Davis sought archaeological advice on her own research and partnership on future Paleoindian projects. Eventually their professional relationship developed into a true friendship. This was not an uncommon story as many of Crabtree's correspondents included other archaeologists who went on to have prolific careers. Such relationships provided a road to share knowledge and advice, drew more academic interest to the field, encouraged deeper research, and fueled an appreciation for archaeology and flintknapping.

William Damitio, MA (Washington State University), Kim DiCenzo, Shannon Tushingam, Mario Zimmermann, Sam Neunzig, Anna Berim, and David Gang

***New Evidence of Ancient Tobacco Use from Two Upper Skagit Valley Sites***

Analysis of residues from ancient stone smoking pipes have provided evidence of the past use of a variety of plants in both the Interior and Coastal Northwest. Reconstructing the temporal and geographic

distribution of the use of native tobacco species (*Nicotiana* sp.) has been of particular interest due to the plants' importance to the Indigenous peoples of the region. Previous research has demonstrated ancient Indigenous tobacco use as far north the central Columbia Plateau, while pipes tested from nearer the coast have consistently tested negative for tobacco. In this paper, we present the results of chemical residue analyses of fragments of two pipes from pre-Contact sites in the Upper Skagit Valley. Nicotine, an alkaloid produced by all tobaccos, was detected in residues extracted from both fragments, strongly suggesting that the pipes were used to smoke tobacco prior to their deposition. Metabolomic analysis has not yet been able to provide a species-level identification, however, research on these specimens is ongoing. We are particularly interested in characterizing additional smoke plants and additives to tobacco-based smoking mixtures as suggested by the region's ethnographic and ethnohistoric record. The newly confirmed nicotine positives push the earliest archaeological evidence of ancient Indigenous tobacco utilization further west and north than we have yet seen and is the first such evidence within the Cascade Range. These data contribute to a developing picture of a long term and widespread relationship between the Indigenous peoples of the Northwest and tobacco.

Bryce Danner, MA (Bureau of Land Management, Northwest Oregon District)

***A Review of Precontact Sites on Northwest Oregon Bureau of Land Management, Following the 2020 Labor Day Fires***

The temperate forests of the western Cascades are some of the most difficult landscapes to identify archaeology sites in the Pacific Northwest. Although devastating, the 2020 Labor Day fires gave a unique chance for Northwest Oregon Bureau of Land Management archaeologists to perform surveys in the Cascades with visibilities considered more typical in the desert. In 2021, surveys were undertaken to make way for several timber salvage harvests across much of the district. During one of the post-fire surveys, along the Molalla River, Oregon, we documented a site, consisting of several leaf shaped projectiles with use-damage, as well as multiple other tools that are consistent with Early Archaic (8,000-6,000 years B.P.) assemblages. While research is ongoing, this site appears to represent hunting locations, with people utilizing the diverse landscape to constrict and kill large game. This presentation will discuss the post-fire surveys and explore the preliminary research for this and other sites.

David Davis ([he/him] Central Washington University) and Patrick T. McCutcheon, PhD ([he/him] Central Washington University)

***Discussion of the Analytical Contribution of 1/8-inch (0.32 Centimeter) Lithic Debitage at the Sunrise Ridge Borrow Pit Site (45PI408), Mt. Rainier National Park, Washington***

The unknown potential for information via attribute analysis of 1/8-inch (0.32) cm mesh-sized lithic debitage from a high-elevation site with a lithic assemblage that consists of mainly debitage is largely missing from the programmatic literature. The Sunrise Ridge Borrow Pit Site (45PI408), located on the slopes of Mount Rainier, WA provides the ideal opportunity to evaluate the analytical contribution of 1/8-inch mesh-sized lithic artifacts in relation to  $\geq 1/4$ -inch ( $\geq 0.63$  cm) mesh-sized lithic artifacts in a mountain environment. The results of the attribute analysis of all 0.32 cm mesh-sized lithic debitage ( $n = 9,086$ ) were combined with and compared to the results of the analysis of just the  $\geq 0.63$  cm ( $n = 3,672$ ) mesh-sized lithics at 45PI408. Data resampling was employed to investigate specific instances of change in sample representativeness. As predicted by the programmatic literature, results include increases in pressure flake platform type, obsidian raw material type, and terminal reduction class type. The combined lithic size class sample changed certain descriptions and places researchers on more solid statistical and interpretative ground. Results support previous site interpretations and are consistent with expectations set forth in regional land use models.

Megan Denis, MA, PhD Student ([she/her] University of Montana)

***Uncovering Cooperation in Housepit 54, Bridge River, British Columbia***

There is a significant amount of literature regarding the theory of cooperation, as well as ethnographies and data from modern populations that clearly show cooperation, yet it is difficult to tease that

information out of the archaeological record. My dissertation will focus on Bridge River's Housepit 54 in British Columbia, Canada. Times of fluctuating resource availability should result in the inhabitants of the house utilizing different approaches to social organization. By examining different measures of wealth and privatization, it may be possible to determine the level and mechanisms of cooperation the ancestors of the modern St'át'imc Nation engaged in at different times in the village's history. If successful, this method could be used in other areas of the world to similarly determine when cooperation was a beneficial strategy and which mechanism was the most useful.

Colby Dragon ([she/her] Whitman College)

***"It's always 1855 here": Experiencing the Past at Fort Nisqually Living History Museum***

Stories about the past are rooted in time and place. Living history is a type of immersive storytelling that affirms history's groundedness in time and place by offering a chance to imagine and experience what life would have been like in the past. Based on interviews and ethnographic fieldwork conducted at Fort Nisqually Living History Museum (FNLHM), a reconstructed nineteenth century Hudson's Bay Company trading outpost, this project examines how living history interpreters portray historic lifeways, rendering the past more intelligible to themselves and to others. Drawing on anthropological theories of performance, embodiment, and placemaking, living history is revealed to be a cultural performance of embodied placemaking. Living history creates embodied, historical places out of our modern landscape through an immersive trifecta of the built environment, movements of interpretation, and sensorial experiences.

Emma Dubois, BA ([she/her/hers] Equinox Research and Consulting International Inc.)

***Results of Pedestrian Survey at Equality Colony (1897-1907) Near Bow, Skagit County, Washington***

Founded in 1897, Equality Colony was intended to promote socialism as an ideal economic model and to provide its members the opportunity to live in a community that acted as an exemplar of those values. Since the colony's dissolution in 1907 the land has been used for farming, gravel extraction, and residential development. While the approximate location of the community is known, there are no standing structures to indicate a more precise location. This poster presents the archaeological survey results of four properties near Bow, Washington that were once part of Equality Colony. The project goals were to locate physical remains within the colony's estimated boundary, determine the artifacts' ages, and explore their potential relationships to Equality. About 11.3 acres were surveyed and 15 diagnostic artifacts were observed and mapped. Some artifacts, such as ox shoes, are especially likely to be associated with Equality Colony.

Alysha Edwards, Graduate Student ([she/her] University of Montana)

***Issues in Culture Heritage Studies and Anthropology: Reflecting on the Challenges Posed by the 'Inconvenient Indian'***

In present day cultural heritage studies (anthropology), we can recognize the progress made towards meaningful and ethical research through inclusive relationships in academia with communities that traditionally, would be the subject of research in anthropology and archaeology. Recognizing this, while my experience in academia is limited, here I offer observations and critiques to what are considered 'issues in cultural heritage studies'. Here it can be argued, the issue is within anthropology- as a discipline struggling to move beyond traditional styles of academic research, where the Aboriginal desire for representation and consultation has challenged and continues to challenge what is or was considered the study of culture. Here, I discuss political and theoretical issues relevant to heritage ownership, representation, Indigenous knowledges, the 'crisis of accumulation', and the growing development of Indigenous studies and the implications for anthropology.

Meaghan Efford, MA ([she/her] University of British Columbia, Institute for the Oceans and Fisheries)

***Salmon in Tsleil-Wat: an application of ZooMS on archaeological salmonid remains from t̄amt̄m̄ix̄ʷt̄ən (Tum-tumay-whueton)***

Salmon have been some of the most important populations of interest to Tsleil-Waututh communities for millennia, for food, ceremony, and community. The Inlet is an important spawning habitat of chum salmon (*Oncorhynchus keta*) and chinook salmon (*Oncorhynchus tshawytscha*), and archaeological and ecological evidence demonstrates that chum could be found in abundance in the Inlet until recently. This paper reports a new analysis of salmon remains from Tsleil-Wat in Tsleil-Waututh Nation, now also known as Burrard Inlet in British Columbia, Canada. The remains come from excavations performed in the 1970s and 80s at t̄amt̄m̄ix̄ʷt̄ən (Tum-tumay-whueton), an important village site for the Nation. Using ZooMS (Zooarchaeology by Mass Spectrometry), we unpack which species were not only preferred by t̄amt̄m̄ix̄ʷt̄ən residents but also stewarded by them over millennia. The consistent overrepresentation of chum compared to other salmonids in the archaeological record at t̄amt̄m̄ix̄ʷt̄ən through the years illustrates the intentional and sustainable harvest of a species that has a lower fat content (improving preservation by smoking) and less pressure from other predators, including killer whales. Archaeological, ecological, and Tsleil-Waututh sciences come together to tell the story of salmon in Tsleil-Wat from before European contact and the following colonization of the area starting in approximately 1792 CE. This work is performed at the direction of and with permission from Tsleil-Waututh Nation through their Cumulative Effects Monitoring Initiative.

Justin Eichelberger, PhD (National Park Service, Lake Roosevelt National Recreation Area)

***Material Expressions of Social, Cultural and Economic Values Amongst 19th Century U.S. Army Commissioned Officers: Examples from Fort Yamhill and Fort Hoskins, Oregon 1856-1866***

During the 19th century the U.S. Army officer corps was comprised of a collection of highly educated socio-cultural and socio-economic elites. Although individual officers may have held their own individual social, cultural and economic values each officer tended to behave in accordance with a set of shared norms distinctly defined by the socio-cultural and military hierarchies. These shared norms were used to create and maintain a socio-economic class within this military hierarchy that was reflected in their material cultural. This paper examines how commissioned officers and their families used this material cultural to express and reinforce these values at Fort Yamhill and Fort Hoskins, two mid-19th century U.S. Army posts in Western Oregon.

Jacen Ellis ([he/him] Eastern Oregon University)

***Interdisciplinary Research; Researching the Woodward Mammoth***

This presentation will explore the benefits and limitations of interdisciplinary research between anthropology/archeology and physical science professions, such as chemistry, through discussion of research on the Woodward Mammoth. In addition, there will also be provided a range of generalized data and minor interdisciplinary research into the Woodward Mammoth, which was donated to Eastern Oregon University in 2019. The research project discussed in this presentation entails strontium analysis and determining whether it can be measured within the tusk of the Woodward Mammoth, as well as identifying if there is a large enough difference of the strontium ratio between the tusk and the soil surrounding it. With this research being multidisciplinary in nature, it was relevant to consider what the differences and similarities are between such interdisciplinary research and other more monodisciplinary research. Especially when dealing with a myriad of different ideas, theories, and themes pertaining to whichever specific research structure is being conducted. Specifically, the relationship between chemistry and archeology/anthropology is the most relevant in evaluation.

Allison Fashing ([she/her] University of Idaho)

***Creating Digital Accessibility of the Donald Crabtree Collection***

After being hidden for decades, the Donald E. Crabtree Comparative Collection has finally received its time to shine. In May 2021, the University of Idaho Library and the Alfred W. Bowers Laboratory of

Anthropology were awarded one of the Council on Library and Information Resources (CLIR) grants for Digitizing Hidden Special Collections & Archives. This project includes the 2D and 3D digitization of artifacts associated with the life of Crabtree, who was born and raised in Southern Idaho and became fascinated by stone tools very early on in his life. From a young age, Crabtree began attempting to recreate what he saw and never stopped, creating and experimenting with flintknapping until he died in 1980. At the end of the grant term in 2023, a website hosted by the U of I Library's Center for Digital Initiatives and Learning (CDIL) will give visitors a chance to have a "Virtual Lithics Lab" experience with this collection, look into the life of Donald E. Crabtree, and engage with the questions and challenges associated with flintknappers appropriating the knowledge, skills, and techniques of Native and Indigenous people.

Kimberli Fitzgerald (City of Salem)

### ***Searching for Salem's Early Chinese Community***

Did Salem, Oregon, have a Chinatown during the late 1800s? A local advisory committee made up of local historians and key stakeholders including representatives from the Chinese Consolidated Benevolent Association, the Hoy Yin Association, Friends of the Salem Pioneer Cemetery, Willamette University, and members of Salem's Chinese community completed a three-year investigation to answer to this question. We not only discovered that Salem did in fact have a Chinatown, represented for many years by community leader George Lai Sun, our archaeological team uncovered a funerary table in Salem's Pioneer Cemetery, one of the only physical remnants of the early Chinese Community in Salem. The project committee then worked with Salem's Chinese community to reinstate the funerary table's use in the Qingming festival. Through the outreach associated with this project and the renewed celebration of the Qingming festival, many of Salem's Chinese-American citizens have found a way to meaningfully connect to the long history of Chinese people in Salem.

Tiffany J. Fulkerson (Washington State University), John C. Blong (Washington State University), Molly Carney (Washington State University), Tiffany Kite (Washington State University), and Shannon Tushingham (Washington State University)

### ***Assessing the Taxonomic Value of Camas Microfossils and their Potential to Inform the Archaeological Record of Western North America***

Archaeologists in western North America have often relied on indirect evidence for geophyte ("root") use (e.g., earth ovens, groundstone tools) to construct sequences of resource intensification and support hypotheses about the relationships between central place storage, sedentism, and population growth. Far fewer have attempted to use direct microbotanical data to explore these dynamics, despite the capacity for plant microfossils to illuminate key aspects of diet and human-plant interactions that may otherwise not be visible in the archaeological record. In the Northwest, camas (*Camassia quamash*) is widely regarded as one of the most highly valued and nutritious foods and figures prominently into Late Holocene settlement-subsistence models, yet very little is known about the geophyte on a microscopic level and its capacity to be identified through microfossils. In this presentation, we describe our work towards understanding the microfossils that are produced by camas and the diagnostic potential of starch grains, phytoliths, and calcium oxalate crystals for identifying camas in the archaeological record, which could contribute to a more comprehensive and multiscale understanding of human-camas relationships through time. We conclude by discussing the critical importance of community collaboration and Traditional Ecological Knowledge for informing archaeological and paleoethnobotanical work, as well as the capacity for paleoethnobotanical research to contribute to current-day health and food safety and security programs and conservation efforts.

Amanda Gardner (NWMAC; AHS) and Brian Buchanan, PhD (Eastern Washington University)

***Fort, Camp, and College: Exploring the Cultural Heritage of Fort George Wright at the Mukogawa US Campus, Spokane, WA***

In the spring of 2021, Eastern Washington University began a multi-year investigation of Fort George Wright at the Mukogawa US Campus. It was founded in the late 19th century as a regimental headquarters and named after George Wright, a notorious military leader that committed numerous atrocities against native peoples of the region in the late 1850s. Unlike earlier forts in the region, Fort Wright's elegant neo-Georgian buildings and formalized landscape reflects the changing nature of the military and the region by the 20th century. The site operated, at various times, as a fort, a jail, a center for the CCC, a convalescent center during WWII, and a location of higher education. These diverse functions left a lasting imprint on the physical nature of the fort and the social fabric of the Inland Northwest. This paper presents how the archaeological remains at the fort reflect the complex history of the region.

Eric Gleason, BA ([he/him] Friends of The Dalles Chinatown)

***Once Again Revisiting the Chelan Falls, Washington Chinese Store and the Alleged 1875 Massacre of Chinese Miners***

Scattered historical sources tell the story of an early Chinese Store and small rural Chinese community located on the left bank of the Columbia River opposite the mouth of the Chelan River, a site now covered by waters impounded behind the Rocky Reach Dam. A single newspaper report from 1892 tells of an 1875 massacre of numerous Chinese miners at their nearby placer mines by several local bands of Native Americans. In this paper we attempt to add clarity to the story of the store and the massacre.

Nancy Gonlin, PhD, RPA ([she/her] Bellevue College)

***Archaeology's Evolution at Bellevue College, Washington***

Archaeology as a science is relatively new, yet profound changes, especially within the past few decades, have occurred within this field of anthropology that has been traditionally a white Eurocentric male pursuit. For the first time in its history, there are higher numbers of women archaeologists than men and diversity across the board has increased, as registered by the Society for American Archaeology. Some of the changes are due to legislation, such as NAGPRA, while other shifts are seen in the social sciences in general. Research agendas are becoming decolonized and now oriented to include descendant communities and other interested parties. Pedagogy goes beyond methodological, descriptive, and sensational finds to consider activism, environmentalism, and social justice. At Bellevue College, expanded offerings on the indigenous heritage of the Americas as well as a course which considers the impact of our species from a global evolutionary perspective align well with the institution's mission of diversity and sustainability. Advances in technology permit students to actively engage on a tactile level through the 3D printing of artifacts; sophisticated computer programs have facilitated visualization of remains; communications allow students to see professionals in the field; and archaeoacoustics enhance the entire sensory experience. Disappearing modern nights stand in stark contrast to dark nights of the past, another dimension that is incorporated into the college's archaeology offerings. The evolution of archaeology on an international basis is reflected in the microcosm of Bellevue College, Washington.

Emilia Gonzalez-Clements (Milwaukie Historical Society) and Stella Tompkins, BA ([she/her] Partners for the Common Good)

***The Role of Women in Modern Milwaukie History 1950-2015***

The Milwaukie Historical Society (Oregon) identified a gap in the archives concerning women and their contributions to the town and its environs from 1950 to the present. This paper presents the findings from a research project centered on women identified by the society board. Oral history interviews were conducted for three distinct purposes: 1) gather historic information about the community, 2) identify collaborators' personal and professional contributions, and 3) collect perspectives and suggestions on the Milwaukie Historical Society and Milwaukie Museum. Of the 18 potential collaborators, 12 agreed to

participate. Two elder women were identified as "heritage-keepers" because of their deep roots in the town and their long-term volunteering in both the society and museum. The rest were selected as "movers-and-shakers" because of their public participation in the life of the community. Project deliverables included a book, archival materials for future researchers, data for a museum display, and a Women's History Timeline to be coordinated with the official Milwaukie Historical Timeline on the town's website. The impacts of these women's contributions are highlighted.

Steven Hackenberger, PhD ([he] Central Washington University)

***Legacy Archaeological Collection Studies, Hells Canyon and Yakima Uplands: Symposium Introduction***

Faculty, research affiliates, and students continue to collaborate on curation and study of legacy archaeological collections. In the symposium we share updates on the Tryon Creek Site, Hells Canyon (35WW288). This symposium introduction shares an overview and history of excavations lead by Frank Leonhardy (University of Idaho) in Hells Canyon and excavations of the Sanders Site (45KT315) by William Smith (Central Washington University). Numerous undergraduate and graduate research projects have been completed on both collections, and other collections housed at CWU. Drs. McCutcheon and Lubinski have supervised many of the collection projects. My concentration has been on Tryon Creek where I collaborated with Dr. Leonhardy, and on the Sanders Site where I have completed follow-on studies with Dr. Smith. Active study and management of these collections, supported by agencies and tribal cultural resource programs, are vital for our discipline and Native American cultural heritage.

Sarah T. Hamman, PhD ([she/her] Ecostudies Institute), William Thoms ([he/him] Confederated Tribes of the Chehalis Reservation), and Joyce LeCompte, PhD ([she/her] Camassia Resource Stewardship)

***Growing the Camas Collaborative: Restoring camas prairies to support indigenous communities throughout western Washington***

Over the past 200 years camas prairie cultural ecosystems and the Indigenous stewardship practices that maintained them have been severely disrupted, due to initial Euro-American colonization and ongoing settler colonialism. This has resulted in the alienation of Tribal communities from the camas prairies, the invasion of non-native species, the expansion of intensive agricultural production, and land conversion related to urban development. It is estimated that just three percent of the historic camas prairie ecosystems remain today. The fragmented prairies and woodlands that do remain exist within a patchwork of private and public land ownership, making access for Tribal stewardship difficult, if not impossible. The Camas Collaborative was formed in 2018 by a transdisciplinary group of ecologists, educators, anthropologists, archaeologists, historians, ethnobotanists, and conservationists from academic, Tribal, non-profit and government agencies to identify the primary challenges to both harvesting camas and integrating Tribal priorities and practices into prairie management. Over the past four years we have held two collaborative workshops to learn about barriers to harvest and stewardship of camas prairies and hosted 10 camas harvesting days on public lands with over 150 attendees. In partnership with the Chehalis Tribe, we supported a Tribal restoration crew and worked with Tribal members to return fire and native seed to Chehalis Tribal lands. This work inspires us to rethink our understanding of historic and current human relationships with camas prairies and support active Indigenous stewardship of the important cultural resources that exist there.

Don Hann ([he/him] Oregon Chinese Diaspora Project, Malheur National Forest [retired])

***The Churn: Overlapping Asian Diasporic Communities in Oregon's Blue Mountains at the Dawn of the 20th Century***

Chinese born emigrants engaged in placer gold mining were a significant percentage of the population in Grant County, Oregon in the late 19th century. By the first decades of the 20th century they made up a much lower percentage of the population, but small Chinese companies and numerous individuals persisted. In 1907 the first documented Japanese railroad workers entered the county as employees of the Sumpter Valley Railroad. They prospered working for the railroad and associated timber companies until

the backlash against Japanese Americans that occurred during the second World War. The skills and labor provided by Chinese and Japanese emigrants were critical to the success of the mining and timber industries, which were the largest employers and economic drivers in eastern Oregon. The differing strategies employed by Chinese and Japanese emigrants to navigate the challenging, and often hostile, social and legal environment of the United States in the early 20th century will be discussed.

Cynthia Hannold, MA ([she/her] The University of Alabama)

***Maintaining Identity in the Columbia Plateau through the Production of Lithics***

With a few notable exceptions, lithic studies have focused broadly on artifact typologies and methods for manufacture and use while neglecting analysis about the individuals and groups who produced and utilized them. Great work has been done over the past fifty years in Columbia Plateau archaeology, yet much of this archaeology continues to be tied to functionalist perspectives. Using a 2019 dataset from my analysis of net sinkers at sites along the Lower Snake and Clearwater rivers as well as several archaeological experiments performed to identify manufacturing techniques for notched, perforated, and grooved stone sinkers, I look at ways in which identity may have been created and maintained through the manufacturing processes of these tool types. Further, I identify some theoretical frameworks employed in other regions to interpret lithic, and subsequent social, production and reproduction. This approach highlights human-centered methods of analysis that can significantly contribute to our understanding of past life in the Columbia Plateau.

David-Paul Hedberg, MA ([he/his] Outdoor History Consulting) and Mike Boero (USFS, Descutes National Forest)

***Reinterpreting Indigenous Contributions to the 1855 Pacific Railroad Survey at One of Oregon's Newest Heritage Trees.***

An early scientific survey in the Pacific Northwest, the U.S. Pacific Railroad Survey of 1855 not only charted the feasibility of railroad routes over Oregon's Cascade mountains but also cataloged the geology, flora, fauna and interactions with Indigenous peoples of the region. The expedition and its official report furthered the United States' pursuit of empire and conquest of the west and led to an exaggerated characterization of the American scientists as conquering heroes. Like most of these euro-american expeditions, Indigenous people offered critical information, hospitality, goods, and services to the explorers. Seldom are these Indigenous people credited or named— both in official reports and in historical interpretations. However, a growing body of ethnohistorical scholarship aims to recenter Indigenous contributions to these expeditions by offering a critical reading of the information in these historical scientific reports and crafting a contextualized interpretation with archeological and ethnographic sources.

In 2021 the Oregon Heritage Tree Program, in cooperation with the U.S. Forest Service, listed a Ponderosa Pine that was blazed by one of the members of the 1855 expedition in its registry. Seeking a fuller historical interpretation of the expedition, and the tree, a careful analysis of historical documents revealed multiple unnamed Indigenous people that guided the expedition through the Cascades and along pre existing Indigenous trails. Through an official plaque at the tree and a short documentary film, a reinterpretation of the expedition and the tree reveals this deeper history to the public.

Jaime Holthuysen, PhD ([she/her] Bellevue College)

***Diversity as Concept and Practice: Reflections on the Teaching of Anthropology***

For over half a century, the Anthropology Department at Bellevue College has educated students on various cultures, languages, past civilizations, and our shared human history. The greater Seattle area, in particular the “Eastside,” where the college resides, has undergone tremendous change. From the post-war boom to the surge in the tech industry, the influx of residents reflects an increasingly globalized world. The current student population demonstrates a diverse makeup in terms of race/ethnicity, and over 6% of students are international students coming from 57 countries outside of the United States. Our students bring their unique experiences and perspectives, and these contributions in turn shape our campus. As one

of the primary goals of anthropology is to demonstrate the value and necessity of diversity, our discipline is perfectly positioned to create a meaningful and reflexive experience, to have students think critically about the world that surrounds them. Essential questions are: how can we truly incorporate concepts of diversity in teaching pedagogy and practice, while also making anthropology relevant to students' everyday lives? These central themes will be discussed using case studies of two popular cultural anthropology courses at Bellevue College: American Life and Culture, and Food, Drink and Culture. Insights from an educator perspective, incorporating student experience and feedback, inform an examination of how Bellevue College's Anthropology Department has grown ideologically and pedagogically in tandem with a changing student population.

Katharine Hunt, PhD ([she/her] Bellevue College)

***Project-Based Learning of Linguistics at Bellevue College, WA***

The Anthropology Department at Bellevue College, unlike departments at many community colleges, has offered a class in linguistics for several years. The course has evolved over time from having a primary focus on structural linguistics to instead having a greater emphasis on cultural and social aspects of language. This change in focus has resulted in the course attracting more students and students from a wider range of majors. The majority of those enrolled will not be majoring in anthropology or linguistics, and are taking the course to fulfill a humanities or social science requirement. However, many are attracted to this particular class because of their own language experiences. Typically more than 50% of students in the course are bilingual, come from bilingual families, or have partners whose families are bilingual. Integrating an individual research project into the course has proved to be a successful strategy for ensuring that the course engages these students while also meeting the needs of anthropology majors. Students with bilingual backgrounds typically choose to incorporate their own linguistic experiences into the project, as they survey or interview family members and friends about topics such as code-switching, language loss, linguistic identity, and family dynamics around language use. The projects allow students to reflect on and validate their personal experiences with language and connect their research findings with course themes.

JayCee Iannelli (University of Idaho)

***Moscow High School: An Idaho Ceramics Analysis***

Moscow High School is a community institution with a well-known history and (semi) monumental buildings. Lost are the lives of the people who occupied the high school grounds before the current high school's existence. Before the current building was constructed there were at least eight houses that stood on what is today the Moscow High School grounds. These homes' material remains have been buried beneath the current high school grounds. Archaeologists tested in the vicinity of five of those structures revealing a series of surprisingly complex site formation processes as well as recovering a considerable domestic assemblage associated with the late 19th to early 20th century residents.

Mary James (University of Idaho)

***Camas Nursery Protocol***

*Camassia quamash* also known as common camas, is a Native bulb culturally significant to many Indigenous Peoples of the northwestern United States. Camas is one of many traditional first foods and to many Indigenous Peoples camas is not just a plant, but a relative. Camas reconnects the relationship of cultural heritage and thus allows for the restoration of Indigenous People mentally, emotionally, physically and spiritually through traditional ecological knowledge (TEK). Camas is not only culturally significant, but also ecologically significant, as it plays a role significant in the ecosystem. Camas ecosystems have deteriorated over many decades due to the introduction and expansion of agricultural practices on Native prairies in the Inland Northwest. Extreme events such as climate change, wildfire, pollution, and erosion also contribute to the further decline of these important ecosystems. Restoration of these depleted lands is needed to protect this sacred relative. This study is examining how the length of time camas bulbs stay in cold storage during dormancy, affect bulb development the following growing

season. Through this research, I am working to create a camas growing protocol to aid nursery propagation of common camas and assist with accelerating restoration across thousands of acres in the Northwest. When completed, it will be distributed to Indigenous Native plant nurseries that can be used towards efforts in camas restoration.

Marlene Jampolsky ([she/hers] Museum of Natural and Cultural History, University of Oregon), Chris Ruiz ([he/him] Museum of Natural and Cultural History, University of Oregon), and John C. Krier ([he/him] Museum of Natural and Cultural History, University of Oregon)

***Longevity The Archaeology of a Chinese Gift Store and Restaurant in Eugene, Oregon's, Market District***

Recent construction in downtown Eugene revealed Chinese ceramics associated with a Chinese restaurant and gift shop, operated by Wing Kee Westfall and Marie Westfall from about 1912 to 1928. In local newspaper advertisements and articles, the couple appears to have successfully marketed their businesses to a largely Euro-American clientele. American consumers began to embrace exoticized Asian goods and food during the nineteenth century, practicing a form of orientalism. Conversely the American public rejected many Asian immigrants, enacting restrictive Chinese exclusion laws, codified in the 19th and early 20th century. Notably, merchants were often the only group of Chinese immigrants that were continued to be allowed into the country. The Westfalls appear to have created two thriving businesses in a community that was almost exclusively Euro-American. In addition, Marie Westfall's story illustrates the changing roles of Chinese women in the United States and abroad.

Stephen Todd Jankowski, MS (Willamette National Forest)

***Cultural Histories & Culturally Modified Trees of the Youngs Rock Rigdon Project, Middle Fork Ranger District, Willamette National Forest***

A cultural resource inventory was conducted on 6700 acres for the proposed Youngs Rock Rigdon Project EIS, Middle Fork Ranger District, Willamette National Forest. In total, 4,903 acres completed where the vast majority of new sites and site addenda are comprised of archaeological features. More specifically, 80 new culturally modified trees (CMTs) were identified. In review of these, 54 CMTs are identified as from the pre-contact era and 26 are identified from the historic era. Also, 136 new rock features were identified being primarily from the pre-contact era and appear to be related to indigenous occupation, activities, or traditions. Lastly, six new lithic scatters and two historic era sites were identified. This presentation focuses on CMTs located from survey results.

Katie Johnson ([she/her] Southern Oregon University Laboratory of Anthropology)

***The Bones About It: An Analysis of the Dalles Chinatown Faunal Assemblage***

The 1880s Wing Hong Hai Company store marks the last remaining building from The Dalles Chinatown. Excavations at the site recovered over 20,000 artifacts related to the site's history as a Chinese laundry, merchandise store, and residence. The analysis of the faunal materials from the site provided rich information related to the daily lives of the men who lived and worked at the site, allowing researchers to enter into broader discussions of what it was to be a Chinese American in late 19th century Oregon.

Linda Johnson (Reed College)

***Marielle Is Present: Living and Dreaming through Death in Brazil***

Following her assassination, Marielle Franco rose to martyrdom for many Afro-Brazilian women who aligned themselves with several of the identities she represented as a councilwoman in Rio de Janeiro—mother, queer, Black, favelada, woman. The struggle for representation undertaken by Franco herself and the women she inspired challenged the state's symbolic power and encouraged community involvement. In place of focusing on the violent act of her assassination and anchoring the argument on the rallying power of the violence committed against her, this paper focuses on her convictions and the actions she took which created lasting bonds with other feminist activists. Rather than let these bonds be dissolved by

death and the damaging narratives into which it can be integrated, the environments Black feminists create to preserve and respect the connections they have made to Marielle are explored through digital ethnography and first-hand captured images of spaces erected in her memory. In particular, the occupation of a city stairwell with radical Black feminist street art will be documented with research conducted through January 2022. The occupiers' graffiti questions the authority of the government in Black spaces and talks of revolution. Despite the city government's consistent attempts to reclaim the space, the activists assert two essential truths: Marielle is still present and they will not be silenced. Does their destabilization of state narratives constitute a project of decolonization? What would such a project look like for sub-citizens marked with death?

Royce Johnson (Boise State University)

***Use of a Species Distribution Model to Examine Camas in Southern Idaho***

Camas (*Camassia quamash*) is well documented as a traditional food source throughout the Northwest United States and Canada. Research on the Northwest Coast has provided a vast amount of literature about the importance of camas as a traditional food source and the potential for impressive rates of return. This research on the Northwest Coast has been used as an analogue to talk about the use of camas in Southern Idaho. However, differences exist in the environment and the foraging patterns between these two areas. This paper examines those differences and how they can affect the productivity and use of camas. These differences demonstrate a need for a more critical evaluation when looking at the use of camas in Southern Idaho during prehistory.

Nicholas Kager [he/him/they/them]

***Skinwalker***

Since time immemorial, my people have walked these lands. "Schint" means human being in snchitsu'umshtsn, Coeur d'Alene language. "Schitsu'umsh" means those who are found here. "Coeur d'Alene" means "heart of an awl." "Indians" is the generic Eurocentric term for 500+ individual Indigenous Sovereign Nations. Deemed "domestic dependent nations," with the federal/tribal relationship resembling "that of a ward to his guardian" by this nation's first "chief justice" the problematic John Marshal. We have been called "merciless Indian savages" by President Thomas Jefferson in the lauded document The Declaration of Independence. For the last 500 plus years my people have clung to existence through plagues of disease, invaders, forced religion. My ancestors have stared into the very eye of genocide; my living seed is proof of their will. My ancestors and I come from this land. We can feel its sacred energy and marvel in awe at its ferocity and generosity. We are no strangers to duality. In the wake of colonization, our souls struggle to find balance. I am a Skinwalker, for I walk in both worlds. Because of the ongoing genocide against my people, I was estranged from them since birth. I was raised as a "suyapi," a white person. I am Schint and I am a citizen of the United States. I am Nicholas Robert Kager and I am Schitsu'umsh and a member of the Coeur d'Alene nation. In this paper I will speak on my shifting identity and that of those dearest to me.

J. Ryan Kennedy ([he/him] University of New Orleans) and Brian M. Kemp ([he/him] University of Oklahoma)

***Chinese fishers at Point Alones, David Starr Jordan, and the building of the Smithsonian's Fish Collection***

In 1880, David Starr Jordan led an ambitious U.S. Fish Commission survey of California's coastal fisheries to catalog the fish species and fishing communities found throughout the Pacific Coast. Jordan, a world-renowned ichthyologist and scientific racist, paid particular attention to Chinese fishers, who he blamed for decreasing fishing productivity. However, despite lobbying to curtail Chinese fishing activities, Jordan happily procured specimens from Chinese fishers to build his scientific collections, including specimens now housed in the Smithsonian's Fish Collection. And when promoting Stanford University's newly built Hopkins Seaside Laboratory in Monterey Bay, California, Jordan advertised that a "constant stream of objects of interest comes in from the Chinese fishing camp at Point Alones."

Ongoing zooarchaeological and ancient DNA research focused on the Chinese community at Point Alones now sheds light on the lives of Chinese fishers and their complicated relationships with scientists like Jordan. This paper presents data documenting the diversity of fishes caught by Chinese fishers at Point Alones, including Wolf-eel (*Anarrhichthys ocellatus*), a species never before identified at a California archaeological site. Further, comparison of the species identified at Point Alones and those housed in the Smithsonian's Fish Collection from Jordan's 1880 survey hints at the long-unrecognized yet critical role that Chinese fishers played in building the nation's early scientific collections. Ultimately, this research aims to highlight how Chinese fishers' expert knowledge, gained through years of fishing California's waters, was foundational not only to their economic success but also to scientific understandings of the numerous species they caught.

Sayema Khatun, MS ([she/her] University of Wisconsin, Milwaukee)

***"Bare Life": Policy Response to the Influx of Rohingya in Bangladesh***

After the atrocious military crackdown unleashed in Myanmar on August 25, 2017, 723,000 Rohingya fled to Bangladesh and more than 43,000 Rohingya parents are reportedly lost. UNICEF said the children currently living in the refugee camps witnessed a "hell on earth" during and after the crackdown and aid groups warned of a humanitarian catastrophe in the camps. The UNHCR described the situation as the "world's fastest-growing refugee crisis" and eventually Bangladesh has become the host of one of the largest refugee camp settlements in the world overnight. The unprecedented crisis, followed by a massive humanitarian response Bangladesh had ever experienced after the liberation war of 1971, forced Bangladesh to allow another influx of international aid agencies, UN bodies, and NGOs for emergency humanitarian operation. As Redfield and Bornstein argue, the recurring dramas presented in the international media feature as "humanitarian crises," creates mediated experience of "distant suffering" (Redfield & Bornstein 2011: 4) which activates an extensive complex of interstate entities and nongovernmental organizations (NGOs) seeking to supply aid to the victims, appear to be at play in full scale. Viewing this huge number of death and chronic near-death situations as "Thanatopolitics" Agamben's idea of "bare life" in a "state of exception" appears to be a particularly useful analytical tool for understanding the aftermath of this industrial-scale death. Following Akhil Gupta's take on Agamben (2012: pp.1-25), and Ananya Vajpeyi's expansion of it (2007), I adopt this framework for studying evolving policy through which refugees and relief camps were set and operated jointly in GO-NGO engagement as a humanitarian response. Assuming this might slowly facilitate the restoration of Rohingya's rights as a human subject, I undertake an empirical study to examine it.

Richard Kim, M.Div. ([he/him] Cultures Connecting)

***Framework for Social Justice***

Cultures Connecting's mission is to provide culturally relevant professional development and consulting services to individuals and organizations committed to excellence through equity and social justice. This training includes workshops that will help participants increase awareness of self and others, while expanding their knowledge of common challenges when relating across differences in values, beliefs, attitudes, biases, privileges, stereotypes, communications styles, perspectives, and experiences that may be different than their own. Facilitated conversations in large group and in breakouts with other participants during the workshops will increase everyone's understanding of how the many diverse people participating in the Northwest Anthropology Community understand and experience racism, power, privilege, and oppression. Participants should come away from this training with increased awareness, greater knowledge, and strategies for effectively engaging across cultures. This workshop will help participants explore ways they can take actions to dismantle institutional racism in their places of work and within their individual communities. The Association for Washington Archaeology, who are sponsoring this training, hopes that workshop participants will be inspired to make positive changes to create cultures of respect and to promote justice in their work. Future conversations around race, racism,

diversity, equity, and inclusivity in Washington Archaeology will build off the information provided and obtained during this training workshop.

Katelyn Kitch ([she/her] University of Idaho) and Katrina Eichner, PhD ([she/her] University of Idaho)

***Preliminary Archaeological Research at Fort Sherman, Idaho***

Fort Sherman was a late 19th century military fort established on the ancestral lands of the Coeur d'Alene tribe at hñch'mqinkwe, the largest village in the region. The army's goals in the northern Idaho were to remove indigenous people in order to facilitate American settlement in the West and to protect expanding railroad and telegraph construction along the northern border. The historic remains of the fort are currently located on North Idaho College grounds. Through collaboration with NIC and the CdA tribe, military residences were excavated by the University of Idaho's IPA field school in June 2021. This paper presents the preliminary results of the excavations at the Non-Commissioned Officer's quarters and the Married Men's quarters and focuses on the cross-cultural interactions that took place in the at the fort.

Gréta Kühne ([she/her] University of Idaho)

***College life and archaeology: exploring the trash from a college dormitory***

In 2014 the University of Idaho conducted a brief archaeological project on campus prior to the construction of a new university building. While that project was occurring, campus facilities inadvertently uncovered a small area of trash, deposited some time in the early 20th century. The assemblage consisted primarily of ceramics and glass, noting, in particular, the presence of several patent medicine bottles and Japanese and Chinese porcelains. While the context for recovery was not optimal, the trash was clearly associated with one of the university dorms and represents a small, but interesting piece of student life at the University of Idaho.

Emily LaPlante, Undergraduate Student ([she] Central Washington University) and Steven Hackenberger ([he] Central Washington University)

***Activity Area Analysis for the Sanders Site (45KT315), Yakima Uplands***

The Sanders Site, excavated in the 1970's by Dr. William Smith (CWU) is located on the Yakima Army Training Center (YTC) in Johnson Canyon. The tools, features and associated faunal remains from this site give insight into diet, hunting, food processing, environment, and seasonal use of this area. The heaviest occupations with features and activity areas date to 3000 years ago during the Frenchman Springs Phase, a time period marked by significant changes in climate and food resources. This research builds on prior studies by examining evidence of features and mapping artifacts in the activity area for Block 1504, a roughly 10x10 meter area. By conducting spatial analyses, I want to learn more about the butchering and cooking of specific animals, such as Bighorn. We are also learning about other types of food processing and stone tool making around hearths. These analyses should help us learn more about the beginning of semi-sedentary settlement and connections between river sites and upland base camps. This poster outlines methods and shares research progress on the spatial analyses. Results will also include an ancillary evaluation of excavation sample sizes for this site and similar sites.

Joyce LeCompte, PhD ([she/her] Camassia Resource Stewardship), Todd S. Mitchell ([he/him] Swinomish Indian Tribal Community Department of Environmental Protection), Jen Willup ([she/her] Swinomish Indian Tribal Community Department of Environmental Protection), Dean Dan ([he/him] Swinomish Indian Tribal Community Department of Environmental Protection), and Nicole Casper ([she/her] Swinomish Indian Tribal Community Department of Environmental Protection)

***Coast Salish Native Agriculture: Increasing the Presence of Camas on the Swinomish Reservation***

The Swinomish Department of Environmental Protection (DEP) is committed to the health and welfare of the Swinomish Indian Tribal Community (SITC). A key component of this work is safeguarding access to First Foods for current and future generations. In this presentation, we discuss development and implementation of the DEP's "Generations Camas Management Plan," a holistic approach to increasing access to, and consumption of camas. In 2020 the DEP began planting 36,000 camas bulbs in the

Swinomish agricultural lands to test the viability of camas production in different soil moisture regimes, and the effectiveness of non-toxic treatments to control weeds in the test plots. This cultivation approach is inherently regenerative, and mimics habitats created and maintained through the cultivation practices of ancestral Swinomish. The DEP is also experimenting with culinary methods of camas preservation and preparation to simplify the cooking process and increase its appeal to the modern palate. In 2022 we will expand the project to better understand and plan for the effects of climate change on camas growth and reproduction in the SITC agricultural lands and other camas populations on the reservation.

Jocelyn Lee (Stanford University)

***Small Towns And Mining Camps: An Analysis Of Chinese Diasporic Communities In 19th-Century Oregon***

Chinese Diaspora archaeology has focused historically on urban contexts or in-depth case studies, with minimal comparative studies. To expand such research, this paper will present a multisited analysis in Oregon using archaeological assemblages from the Jacksonville Chinese Quarter and four remote Chinese mining camps, museum material collection from a Chinese store in John Day, and store ledgers written in Chinese and English dating to the late-19th century. By situating the research in the framework of race, this paper seeks to understand the ways that race and racialization impacted market access and affected consumption choices for Chinese immigrants in different classes. Chinese communities had well established organizations in a complex network which contributed to controlling market access as well as serving to protect Chinese immigrants from impacts of racialization. These networks helped Chinese immigrants maintain a connection not only to other Chinese communities, but also to the homeland through various services including transfer of goods and people.

David Lewis (Oregon State University)

***Kalapuyans and Camas***

Camas was a primary food of the Kalapuyans of the Willamette Valley. Beginning in the 1830s settlers began taking land and farming the valley, by 1851 all of the land was claimed by settlers. The farming plowed up camas fields and tribes began to starve. Camas lost its primary status for more than 100 years and native peoples adapted to American lifeways, recently tribal descendants are working to understand the role that camas played in tribal lifeways. Studies are commencing to understand when Camas became prominent, how to prepare the camas, and we are beginning to explore how intentional our people were in spreading the food around our lands. Genetic studies are proposed to begin to understand how related surviving fields are in the region, why camas have different colors in the valley and the role camas may have played in trade, and seasonal encampments.

Natasha Lipsky ([she/her] Central Washington University), Jamie Mickus (Central Washington University), Steven Hackenberger (Central Washington University), Nicole Jastremski (Central Washington University), Patrick McCutcheon (Central Washington University), and Karisa Terry (Central Washington University)

***Greenwood Cemetery, Cle Elum, WA: History, Mapping and Ground Radar***

We are investigating the history of the Greenwood Cemetery, mapping graves, and conducting ground penetrating radar surveys (GPR). The cemetery, near South Cle Elum, was an active burial place from 1903 until 1923 when it was abandoned due to flooding. Some bodies were relocated to the new cemetery which is the Laurel Hill Memorial Park. The graveyard is now officially under the care of the City of Cle Elum and is maintained with the help of the Roslyn Ronald Cle Elum Heritage Club. We are mapping marked and unmarked grave features and trying to distinguish between graves with remains and graves without remains. A photographic record of features and markers has been compiled. Graves will be matched using burial records by name as possible. Several survey grids (20x20 meters) are placed around graves located in clusters between large trees. GPR transect lines are collected for each grid using a pulse EKKO Pro “Smartcart” with 500 MHz transducers. Radar images of features are represented in profile and slice views. Using the data and images we can predict whether burials may be intact or removed. We

are working with the Roslyn Heritage Club, collecting oral history, and will be using genealogy to locate decedents. We are presenting in local high schools and inviting students to dive headfirst into history, archaeology, and careers. Our project is supported by the CWU Dr. Corrine Farrell Merit Scholarship Program.

Jamie Litzkow, MA ([she/her] Bureau of Land Management, Spokane District)

***49ers and 49th: Sociopolitics and the Prospect of Gold in the Boundary Country of Washington Territory and New Caledonia***

The existence of placer gold in the tributaries of the Upper Columbia was generally known among fur traders, naturalists, missionaries, and indigenous peoples well before the boundary country gold rushes of 1858-1859. News of such discoveries, however, was withheld for a myriad of reasons, primary among them was the calculated weaponization of such knowledge as a strategy for the appropriation of native space via westward expansion. The resultant sociopolitical pressures of these gold rushes had devastating effects on Native American and First Nations peoples that reverberates through the present day.

Emma Lowther ([she/her] University of Victoria)

***Soil chemistry and its applications determining historic camas cultivation***

Soil chemistry mapping has a long established history of identifying archaeological sites and is particularly useful when typical archaeological markers—artifacts, house depressions, or midden deposits—may be low or absent. Phosphorous, calcium, and soil pH are all known to be affected by human settlement. Under long-term cultivation archaeological soils also begin to show lasting changes in their physical and chemical attributes, e.g. terra preta in the Amazon basin and plaggic soils in northern Europe. Cultivated camas meadows offer the possibility of applying these methods to test if cultivated fields can be distinguished by their chemical signatures from adjacent uncultivated soil. This research tested physical and chemical properties of soil in a known cultivated camas meadow in Lekwungen territory. The results were not clear cut and indicate the exciting challenges in studying Indigenous landscapes that were designed to enhance—rather than change—the functioning of Northwest Coast ecosystems.

Tim Mace, MA ([he/him] University of Idaho)

***The Donald Crabtree Collection and the University of Idaho***

A lifetime of interest, passion for knowledge, and drive to create, lead to an extraordinary collection. Personal documents, photos, books, and thousands of lithic specimens are now housed at the University of Idaho in care of the Alfred W. Bowers Laboratory of Anthropology. How did this collection come to the University of Idaho? What kind of legacy does this provide for the lab and students at the university?

Mairee MacInnes (University of Idaho)

***Examining the Historical and Archaeological Record at Fort Hoskins and Fort Yamhill***

Between the years 1856 to 1866, the Forts of Hoskins and Yamhill monitored and policed the newly created reservations. As with any bureaucratic institution, a plethora of records were left behind. As historical archaeologists, we rely on both documentary and archaeological evidence to piece together the story of an archaeological site. This work intends to examine how the archaeological and historical records compare and contrast with each other? While originally I was planning to do a case study on clothing at Fort Yamhill and Hoskins, using both digitized historical administrative records and the archaeological data and artifacts, lab closures mean I have not had access to the latter half of the datasets. In some ways, this is perhaps fortunate, because through researching ways around this I discovered that Justin Eichelberger's 2019 Dissertation already addresses many of the subjects I was interested in and has proven an invaluable source of data and information. As such I have turned to more examining how the larger historical and archaeological datasets and sources intersect and relate.

Joanne Mack, PhD (University of Notre Dame), John Fagan, PhD (Archaeological Investigations Northwest), Cam Walker, PhD (University of Oregon Natural History Museum), and Jack Swisher, BA (University of Oregon Natural History Museum)

***A Pilot Study to Determine Protein Residue on Low-Fired Ceramic Sherds***

Using Crossover Immunoelectrophoresis (CIEP) to determine protein residue on a sample of ten Siskiyou Utility Ware sherds, Salmonidae (*Oncorhynchus*) protein residue was found on three of the ten sherds. All ten sherds had been recovered from professionally excavated archaeological sites located along the Upper Klamath and Middle Rogue Rivers in Southwest Oregon. Siskiyou Utility Ware dates to within the last 2000 years within Southwest Oregon (Jackson and Klamath Counties) and north-central California (Siskiyou, Shasta, and Modoc Counties). Additional sherds from north-central California and Southwestern Oregon will be analyzed within the next year.

Kendra Maroney, MA ([she/her] Kalispel Tribe of Indians)

***Engaging Youth in Archaeology and Cultural Resources – Examples from the Kalispel Natural Resources Department***

The Covid-19 pandemic has drastically changed in-person interactions and typical outreach and educational events. The Kalispel Natural Resources Department and Cultural Resources Program strived to stay engaged in education throughout this difficult time and focused on delivering stand-alone content to share with local youth. The goal was to produce materials that integrated the Tribe's Salish language with natural and cultural resources to reflect Kalispel values. Bi-lingual information cards, activity books, and posters were created. These items were distributed to the Kalispel Language Survival School, the Camas Early Learning Center, as well as to the local schools and made digitally available to promote use at home or in the classroom. These efforts are examples of how archaeology, natural resources, language, and culture are connected and shared within a community.

Brinn Marri, BA ([she/her] Western Washington University, Antiquity Consulting) and Jerrica Croft ([she/her] Western Washington University)

***DStretch Analysis of Portable Rock Art: Its Current Uses and an Experimental Application to Stone Artifacts from WWU's Jorgensen Collection***

Due to rock art generally not being a prominent focus of archaeological research in the Pacific Northwest, methods for studying rock art are significantly lacking compared to other regions. For our paper, we chose to research the use of the mobile application DStretch, an image enhancing software, in the study and analysis of rock art in Pacific Northwest archaeology. Through the lens of previous research into both Pacific Northwest rock art (specifically portable rock art) and DStretch itself, we aim to provide a thorough context for future research in the region. We then applied all of this to our own analysis of portable rock art (both known art and potential new finds) from the Jorgensen collection at Western Washington University. Our study concluded that DStretch was quite useful in visualizing etched and/or painted art on stone artifacts. Combining this conclusion with what we have learned about the work others have done with DStretch in the Pacific Northwest, we can conclude that DStretch is a quite useful tool in lab (and field) research on art/decoration on stone artifacts.

Beth Mathews, MA ([she/her] Antiquity Consulting)

***Women Homesteaders of Washington's Channeled Scablands: Summary Statistics and Spatial Patterns for 5 Counties***

Western historians estimate that nearly a quarter of all American homesteaders were women and that most women's homesteading occurred after 1900, shortly before American homesteading was at its peak in the 1910s. An analysis of western Washington homestead records concluded that female sole women comprised only 3.5% of homesteaders, and that homesteading peaked in the late 1880s and sharply declined in 1899. How does this compare to the homesteading history of the Channeled Scablands, where the Homestead Act requirement to farm presented distinctive challenges? This poster presents summary

data of women's homesteading history in Washington's Channeled Scablands and explores the temporal and spatial patterns of women's homesteading history.

Katy Matthews (Nez Perce National Historical Park)

***Restoration Strategies for Propagation of *Camassia quamash* on the Weippe Prairie***

*Camassia quamash* (camas) is a plant that is well-known throughout its native habitat in the Pacific Northwest of the United States, despite the growing decline of its preferred habitat type across the region. This plant requires specific site conditions to ensure a successful growing season. Its habitats, often referred to as camas prairies, were important traditional harvest sites for many Indigenous cultures. In the 19th century federal land policies removed many tribes and first nations from their ancestral homelands and transferred ownership of those lands to early Euro-American settlers. Ultimately, these land uses proved particularly destructive to wetland prairies, including camas prairies. The decline of wetland areas across North America has resulted in significant loss of a habitat type that provides valuable ecosystem functions, while also reducing and degrading culturally significant landscapes. Camas' cultural and ecological significance make it an ideal species to focus on for wetland restoration projects. Weippe Prairie, a well-recognized traditional harvest area used by the Nez Perce people within the Palouse Bioregion, of north-central Idaho, provides an ideal site to both study and restore camas prairie habitat. This study identified site characteristics and evaluated different restoration techniques to aid in creating a restoration protocol that can be used to rehabilitate camas prairies across the Pacific Northwest.

Riza McClurkin ([they/them/theirs] University of Montana Department of Anthropology)

***Analysis of Projectile Point Chronology Through Lithic Typology on the Miller Flats***

The Miller Flats are located in Hinsdale County, south of Lake City, Colorado and have been more or less continuously used for about 10,000 years. In early July of 2019, our team of archaeological field school students did surface surveys of the Miller Flats and identified tips and bases of twenty-two projectile points of various raw materials. We identified points, when possible, based on bifacial flake scarring and general shape while bases specifically were identified by their notches, ears, or stems. I served as lithic illustrator for our group, and I plotted and drew each projectile point specimen we found in the field. Of the twenty-two points we located, and I drew, eight were diagnostic to type, and ranged in age from 9,500 to 200 years old. This paper discusses those projectile points and the archaeological chronology they represent as well as the backgrounds of typology and the arguments as to its usefulness and accuracy.

***Modern Impacts on Traditional Subsistence Hunting in the Canadian Arctic***

The tradition of arctic hunting is long and well documented, as both a means of food and an intrinsic link to culture. However, within the last centuries, that way of life has been threatened, and on many levels. While killing prey animals is the source of Arctic peoples' entire livelihood, many people in western cultures see hunting as either a kind of sport or as murder. Most harmful is the idea that taking any animal life is at best unnecessary, and that the rights of animals trump the rights of arctic communities and their traditions.

Christine McFarlane (Asian American Comparative Collection, University of Idaho)

***Protection of Body and Soul: Inscriptions and Motifs of Chinese Spiritual Items***

The relationship between inscriptions and symbolic meanings appearing on Chinese artifacts and the artifact type on which those inscriptions and symbols appear has been the subject of little study. This research examines four common intentions inscribed and/or symbolized on Chinese objects, "long life," "wealth," "protection from harm," and "general good fortune," to make connections between the objects associated with each of the intentions of spiritual wishes and protection. An investigation of historical and contemporary documents, artifact analysis, and examples from curated collections explores the correlation between Chinese folk religious and mythological symbols and their appearance on amulets, talismans, and personal spiritual items. This research further considers who would have used these

objects, and the change of symbols used over time. It also provides an index of what imagery/phrases are prominent on certain spiritual objects.

Megan McGuinness ([she/her] Great Basin Paleoindian Research Unit, University of Nevada, Reno)

***Calculating Return Rates for Habitats in the Great Basin***

Today, the Great Basin hosts the same habitats that existed during the terminal Pleistocene/early Holocene. Though the distribution and size of these habitats have changed, similar food resources that occur there today would have been available to early people. Researchers have established calculations for important resources; however, analyzing which resources were more favorable to people within these habitats has yet to be done. This paper looks at four habitats—wetlands, riparian zones, lakes, and uplands—and seven food resources found in the Great Basin. Within each habitat, I quantify resources to form an abundance rate or a proxy of caloric return rates multiplied by resource density. Lake habitats have the highest abundance rate based on predictable and abundant food resources available throughout the year. This information offers a way to predict the habitats that people should have initially settled and later expanded into as human populations increased during the terminal Pleistocene/early Holocene.

Tara McLaughlin (Kalispel Tribe)

***Bringing Back the Forgotten: Calispell Valley Archaeological Project***

As the world expands into the digital age, where everything is readily available with the swipe of finger, it only makes sense to move archaeology in the same direction. Numerous collections, like that of the Calispell Valley Archaeological Project (CVAP), have become largely forgotten due to the inaccessibility of information. Bringing attention to zombie sites by implementing digital databases and open source materials provides researchers and students previously unknown information, thus expanding their knowledge and ours. The purpose of digitalization is to make information more readily available to those who need or want to develop upon it. Our purpose as conservationists is to share our knowledge and engage others in collaborative outcomes.

Keith Mendez, MA ([he/him] Hanford Mission Integration Solutions) and Stephanie Simmons, MS, RPA ([she/her] Hanford Mission Integration Solutions)

***Historic Preservation of Locke Island within the Hanford Reach, Benton County, Washington***

Due to unforeseen circumstances, the presentation “Historic Preservation of Locke Island within the Hanford Reach, Benton County, Washington” has been replaced with a general Q & A about cultural resource management at the Hanford Site. The Hanford Site in Benton County, Washington is home to the U.S. Government’s legacy of nuclear fuels production from the Manhattan Project and Cold War and is currently the focus of major environmental cleanup efforts. Keith Mendez and Stephanie Simmons have combined over 20 years of experience working with the Hanford Site Cultural Resources Program. Their experience includes implementing regulatory compliance and historic preservation as contractors to the US Department of Energy. Please submit questions for Keith and Stephanie in the audience chat.

Galen Miller-Atkins, MA, RPA ([he/him] Statistical Research, Inc.)

***Heat-Treatment and Debitage within Hells Canyon: An Exploratory Analysis from Tryon Creek (35WA288)***

Tryon Creek (35WA288) is an ancestral Nez Perce dwelling within present-day Hells Canyon National Recreation Area in northeastern Oregon. The site consists of several household features located on an alluvial terrace 40 meters west of the Snake River. House 2 represents the least impacted and most thoroughly excavated of the pithouse features. House 2 consists of multiple occupation events, ranging from 1600-500 B.P. While some earlier efforts have focused on Tryon Creek’s place within the wider region as well as qualitative spatial analyses of the faunal and lithic components, little research has focused primarily on fully exploring the lithicdebitage within House 2. Previous research has shown that flake attributes such as platform width and thickness may vary with mobility and resource procurement strategies. Here, these attributes are thoroughly explored within one unit of House 2. Special attention is

paid to how the frequency of heat-treatment and flake production cost/benefit may vary by raw material type. Several significant differences are found between levels and occupation events but it remains unknown as to the role post-depositional processes may play.

Slobodan Mitrovic, PhD, RPA (Sauk-Suiattle Indian Tribe)

***Afternoon Creek Rockshelter 45WH698 (Newhalem WA) prehistoric artifacts: a path forward***

The upper Skagit River, as a geographical entity, has been claimed by one Northwest tribe largely on the basis of a single text, without taking notice of other documents. Elements of confirmation bias and circular reasoning were very much at play in the process. These are the same elements that surface in the context of the pivotal ethnography that created the snag in the first place, June Collins's Valley of the Spirits. In her book she had lumped together the (federally) acknowledged entities of Sauk-Suiattle Indian Tribe and Upper Skagit Indian Tribe under one name – Upper Skagit. This generated much confusion.

Collins's view has been influential for over fifty years in the so-called 'gray literature' – numerous cultural resource management reports to state and federal agencies for which the research criteria have a different focus. Her text is the only book-length ethnographic account of the Skagit River drainage, and as such gets freely cited. The most recent case in point is one tribe's exclusive claim to the prehistoric artifacts found close to Seattle City Light facilities in Newhalem, WA.

Collins's major work is also due a more charitable reading, because her book does well as a general survey, covering the major anthropological points of interest through first-hand accounts (household, kinship, language, myth, oral histories, spirituality, subsistence, etc.). The moderate view would be that the undue name-lumping can be easily resolved by regarding the term 'Upper Skagit' as a toponym rather than (exclusively) as an ethnonym.

Emily Modelski, MA ([she/her] Malheur National Forest, Blue Mountain Ranger District)

***Sink or Swim, Archaeology and Aquatic Restoration on the Malheur National Forest***

The Forest Service is a multi-use agency that works to maintain and improve the health, diversity, and productivity of the nation's forests. This requires collaboration with other federal agencies and resource specialists to plan and implement projects on Forest Service managed lands. Sometimes this means protecting archaeological resources through avoidance and sometimes it means mitigation. This poster looks at some of the Aquatic restoration projects on the Malheur National Forest, reinstating floodplain function and resiliency, and how we as archaeologists protect our cultural resources or mitigate for potential effects to Historic Properties. In the past, restoration has included heavy equipment use, tree tipping, removal of sections of railroad grades, and planting riparian plants. While site avoidance is preferable during these projects, it isn't always possible, and mitigation provides an opportunity to meet restoration goals and adhere to the National Register of Historic Places (NHPA) section 106. This includes identifying contributing and non-contributing elements to the NRHP, consulting with the State Historic Preservation Office (SHPO), and allowing removal of non-contributing elements while protecting contributing elements for avoidance. This may also include site testing and/or funding for archaeological research projects on the Forest. The goal of this poster is to provide an example of what working for a federal agency as an archeologist looks like and how we collaborate with other specialists to reach our mutual goals while representing our resources.

Reno Nims, MS ([he/him] University of Auckland; Portland State University)

***The Human Ecodynamics of Northern Māori Fisheries***

Archaeological fishbone assemblages are created by the dynamic interactions between fish stocks and human fishers, both of which are enmeshed in broader, dynamic socioenvironmental contexts that are continually transformed and sustained by people and non-human entities. To understand the archaeological history of fisheries, it is therefore necessary to carefully consider multiple factors that could have influenced the historical trajectories of fish stocks and fishing practices. In this paper I

simultaneously evaluate the roles that climate change, human harvest pressures, and Māori fishing methods played in shaping the Māori fisheries of northern North Island, Aotearoa / New Zealand from the earliest Polynesian arrivals (ca. thirteenth century) to the start of the nineteenth century. Integrating paleoclimate records, fisheries biology, archaeological landscape histories, and archaeological assemblages of fish remains – while carefully controlling for recovery and identification biases where appropriate – demonstrates that Māori fishing practices were much more variable after 1500 cal CE despite the apparent resilience of earlier fishing practices. Weaving all available lines of evidence together ultimately suggests that multiple, historically contingent factors affected the local trajectories of northern Māori fisheries over time.

Eliette Noromalala, MS ([she/her/hers] Primate Behavior and Ecology Program, Central Washington University), A.K. Binder ([she/her] Primate Behavior and Ecology Program, Central Washington University; Department of Biological Sciences, Central Washington University), A.L. Baden ([she/her] Department of Anthropology, The Graduate Center of the City University of New York; The New York Consortium in Evolutionary Primatology; Department of Anthropology, Hunter College of the City University of New York), G.A. Stryker ([she/her] Department of Biological Sciences, Central Washington University), and K.I. Gabriel ([she/her] Primate Behavior and Ecology Program, Central Washington University; Department of Psychology, Central Washington University)

***Factors influencing intestinal parasites in black-and-white ruffed lemurs (*Varecia variegata*) in Mangevo, Ranomafana National Park, Madagascar***

Ecological factors such as feeding behavior and climatic seasonality might influence intestinal parasite infection and patterns in non-human primates. Here, we examined if frugivory levels and climate (i.e., temperature and rainfall) were associated with parasite patterns in black-and-white ruffed lemurs (*Varecia variegata*). Feeding data using 5-min focal sampling, climate data, and fecal samples from *V. variegata* (n=23) at the Mangevo site were collected from March through May 2019. Microscopic examination of fecal flotation and sedimentation were done to identify and count parasites. Nematoda (*Callistoura vauceli*, *Strongyloides* sp.) Ciliophora (*Balatidium* sp.), Coccidia (*Emeria* sp.), and Amoebozoa (*Entamoeba* sp.) were identified in fecal samples with nematodes being the most prevalent. Non-parametric Wilcoxon signed-rank tests revealed significant differences between March and May for percentage of frugivory, parasite species richness, larval nematode counts, *Callistoura vauceli* and *Strongyloides* sp. egg counts, minimum and maximum temperature, and average rainfall ( $W_s \geq 57$ ,  $ps < .05$ ). Spearman correlations conducted on data from March through May revealed that larval nematode counts were negatively correlated with frugivory and with minimum temperature ( $\rho_{hos} = -.346$  and  $-.353$ , respectively,  $ps < .05$ ). *Callistoura vauceli* egg count was negatively correlated with maximum and minimum temperatures ( $\rho_{hos} = -.347$  and  $-.461$ ,  $ps < .05$ ). There was a trend for lower minimum temperatures to be associated with increases in parasite species richness ( $\rho = -.277$ ,  $p = .08$ ). Temperature and frugivory played an important role in parasite infection, particularly larval nematode counts. Currently, we are using Polymerase Chain Reaction to evaluate a full-year period.

Jenn Ogborne, PhD (Historic St. Mary's City)

***Commensality at the Coloma, MT Mining Community***

In the late nineteenth and early twentieth centuries, many companies in the American West specializing in extractive industries provided their employees with housing and boarding arrangements, sometimes for additional fees or as a part of their employment contracts. These provisions were part of larger processes and changing policies associated with managerial capitalism, focusing on the control or the manipulation of laborers' daily lives. The control of the food supply within company towns, its importation and subsequent distribution, created new sets of dependent relationships between the company elite and laborers; not only were workers dependent on their employers for their wages, but also for their basic food needs. These communities can therefore offer interesting perspectives. from which to explore the idea of commensality, the act of coming together to eat. Nuanced exploration of food purchasing records of companies and individuals combined with artifacts excavated in a boardinghouse-related midden

provide the basis to reconstruct commensal groups established in the Coloma mining town in the 1890s and early 1900s. While feasting is often the approach taken when discussing commensality, particularly in the context of labor, the examination of daily commensality offers a different kind of insight into the different permutations of asymmetrical company-employee social relationships that occurred in this period.

Maddie Philips (University of Idaho)

***Examination of Late 18th and Early 19th Century Identity Through Burial at the Silo of Charlemagne in Roncesvalles, Spain***

The years around 1800 were a time of turmoil throughout Europe, as the newly created French Republic attempted to enforce republican ideals through warfare across the continent. This presentation examines articulated ossuary burials contemporary to the period, from Roncesvalles, Spain, to understand how burial practice is affected by the confluence of identity and relationships. Specifically examined are the themes of cultural expectations surrounding death, and the conflict between those expectations and necessity during times of instability. Previous scholarship suggests that many social hypotheses can be better understood through bioarchaeological analysis, but few sources have looked at sites from this era with the same use patterns or historical significance, since the ossuary is popularly thought to have been specifically constructed on Charlemagne's behalf after his military loss, immortalized in the Chanson de Roland. To understand how historical context intertwines with an individual's identity to influence their treatment in death, this research examines skeletons dating from this era in an area that hosted several military conflicts. By examining this site, one can view how the conflict between personal relationships and efficiency affected burial practices. In turn, this examination helps to clarify the effects of political instability on cultural and social structures.

Michele Punke (Historical Research Associates, Inc.) and Janna Tuck (Historical Research Associates, Inc.)

***Archaeological Excavations in Downtown Portland at Site 35MU197***

Historical Research Associates, Inc. (HRA), conducted archaeological testing and evaluation of previously recorded archaeological site 35MU197 in downtown Portland, Oregon. The site's location at the margins of New Chinatown and Portland's first Japantown led to a sort of Venn diagram of occupation, where people of Chinese, Japanese, and European origin intersected, living and working side-by-side during the late 1800s and early 1900s. The presentation will discuss the history of the site and discuss how its archaeological record illustrates the historic-period use of the location.

Rowan Rampton (University of Calgary), Brenda Beckwith (Selkirk College, Kootenay Native Plant Society), and Valerie Huff (Kootenay Native Plant Society)

***Plant-Pollinator-People Entanglements: Study of Camas-Bee Interactions in the West Kootenay, British Columbia***

The plight of pollinators has received much attention in recent years, with much focus on "Saving the Bees." However, the native bees most in need of saving cannot be saved by planting seed mixes composed entirely of introduced garden plants. These bees may only be saved through provision of suitable habitat containing healthy populations of the particular native floral resources they are coadapted with. To accomplish this, humans, plants, and pollinators are required in concert to create functioning ecosystems. This study, based in south-central British Columbia, examines how native bees support the reproduction of a culturally important food plant, *Camassia quamash* (common camas, itxwa), and how the plant management actions of Indigenous Peoples may have contributed to maintaining the conditions needed for plants, pollinators, and humans to exist in perpetuity.

Alexander Rogers, MA, MS, RPA (Maturango Museum [emeritus])

### ***Recent Advances in Obsidian Hydration Dating***

Major advances have been made in in the past decade in understanding and applying the basic science of obsidian hydration dating (OHD). Drawing on advances in geochemistry and glass science, mathematical models for OHD have been developed and published which are based on the physics and chemistry of obsidian hydration. Although MS Excel is adequate for computation in many cases, computer codes have been assembled and published which ease the burden of computation for large data sets. If these improved methods are used, OHD is capable of reliably placing obsidian artifacts within the correct archaeological period, and of answering interesting anthropological questions. In this paper we address three significant aspects of these advances: the form of the age equation; the role of intrinsic water within obsidian in determining the hydration rate; and the ability to compute age accuracy as well as age itself. Finally we briefly summarize an example of OHD application in eastern California.

### ***Obsidian Hydration Dating Workshop***

The goal of this workshop is to provide insight into the theory and methods of obsidian hydration dating (OHD). It should help enable the archaeologist to perform OHD analyses, and enable the manager to ask the right questions. The workshop will cover the basic principles of obsidian hydration and the models employed in dating; how to develop an appropriate effective hydration temperature (EHT); various methods of computing a hydration rate; guidelines for data analysis; and numerous cautions. The workshop includes working through a numerical example of an OHD analysis. Mathematics will be kept to a minimum, but cannot be avoided entirely. Electronic copies of key references will be provided.

Adam Rorabaugh, PhD, RPA ([he/him] Simon Fraser University, Washington State Department of Fish and Wildlife)

### ***Hunting Social Networks in the Salish Sea: Before and After the Bow and Arrow***

Archaeologists have paid substantial attention to the social transformations coinciding with the widespread adoption of bow and arrow technologies. Social network analysis (SNA) is used to examine stone tool assemblages from the Salish Sea. SNA while widely applied a wide range of problems in lithic technologies has been an underutilized approach in the Pacific Northwest. Based on an application of cultural transmission theory, ethnography, and Coast Salish ontology, that haft styles reflect corporate group connections. Changes in the social networks are examined as reflected in haft styles from 3500 to 1000 BP, a time of shifts towards large plank house villages and the emergence of hereditary forms of social inequality in the region. Five social networks were constructed, each covering a 500-year period, to assess shifts in regional connections through time. There appears to be increased elaboration of social networks throughout the Salish Sea until 1600 BP, when the bow and arrow become widely adopted. These data suggest SNA of lithic haft styles shows a shift in hunting organization from a collective corporate group level activity to an individualized pursuit. The findings show the utility of SNA to address oscillations in Salish Sea society over time. New directions for future studies to examine shifts in corporate group relations in other aspects of precontact Coast Salish society are also provided.

Chelsea Rose ([she/her] Southern Oregon University Laboratory of Anthropology), and Terrance Christian ([he/him] Bureau of Land Management, ORWA)

### ***Tunnel Vision: Archaeology and Remote Sensing at the Oregon and California Railroad's Buck Rock Tunnel***

This public archaeology project is reconstructing the social, economic, and technical history of the Oregon and California Railroad's Siskiyou Line, as it is revealed through the story of the abandoned Buck Rock Tunnel. Using archaeology and remote sensing, this landscape-scale investigation has identified portions of the original tunnel, railroad grade, and associated work camps, providing a better understanding of the ways Chinese migrants accessed, lived and worked at this remote site. Because the Buck Rock Tunnel was abandoned mid-construction, we can glean otherwise invisible technical insights about the tunneling methods and technology employed by laborers and project engineers. This

information allows for the historical discussion of railroad construction to shift from the high-level realm of financiers and capital to the story of the people on the ground; helping to humanize the industrial aspects of railroad construction by providing insight into the people who made it possible, namely, Chinese railroad workers.

Sam Roxas-Chua Yao [he/him]

***Artifact As A Stethoscope***

Sam Roxas-Chua Yao is one of three resident artists in the Creative Heights artist residency and curatorial project, awarded by the Portland Chinatown Museum. In “Artifact as a Stethoscope” Roxas-Chua Yao will share highlights from his recent trip to Astoria, The Dalles, and John Day, Oregon. As a poet, open-form calligrapher, and sound artist, Roxas-Chua will present his observations. He will share the experiences he gathered using a variety of communication methods, such as audio field recordings, calligraphy using ink made from collected material, and poetry inspired by site surveys and subject matter experts. Also, the presentation will include photography and video. Sam’s unique way of expressing his observations using such tools as hydrophones and contact mics, assist him in conveying possible new layers in the story of the artifact. This is his stethoscope. His approach to translating inanimate objects into art will be an insightful experience for us all.

Ericha Sappington, MA (ArchaeoLogical Research Consultants)

***From Imari to the Texian Campaign: A Preliminary Analysis of Ceramic Artifacts from the Martinez Adobe Site, Pinole, California.***

The Martinez Adobe site (CA-CCO-355) is located in California, northeast of San Francisco. This site was originally developed in the early 1830s as a cattle ranch called El Rancho Pinole and was home to the family of retired Spanish commandant Don Juan Ygnacio Nicanor Martinez. The family resided in three small adobes that were known collectively as Los Adobes of Pinole Viejo from 1836 to the 1870s. An archaeological investigation was conducted at the site between 1974 and 1978, and the artifacts collected include ceramic tablewares and other vessel types whose origins have been traced to Asia, England, and France. Those of English and French origin can be attributed more specifically to manufacturers in the Staffordshire region of England, and Montereau, France. Imari-style ware with a hand-painted floral design and a matching set of British transferware printed with images depicting the Texian Campaign are among the more unique pieces in the artifact assemblage. The presence of these ceramics on a mid-nineteenth century site in northern California that was occupied both before and after the time period of early California statehood are of significant archaeological interest and have the potential to be useful in a more comparative analysis of contemporary California sites.

Ashton Satterlee, MA (Appaloosa Museum and Heritage Center Foundation INC.) and Lauren McCearry (Appaloosa Museum and Heritage Center Foundation INC.)

***Bring the Inside Outside and the Outside Inside***

Creating a native plant garden, Spotted in the Wild: Native Palouse Prairie Plants has helped expand the Appaloosa Museum to incorporate more of the outdoor space for public learning. The landscape of the Palouse helped shape the qualities the Nez Perce need in the Appaloosa. Showing a little bit of what the area that the Appaloosa horse was bred in creates a more immersive experience. Being able to explain the importance of the native plants and their connection to the past and present is important. This has also allowed for more public involvement, with the ability of the public to name the garden. All of this has brought up some interesting things. From the public misunderstanding what native means, to how to incorporate the garden with the rest of the museum. Working through these issues has been and still is ongoing. Here we discuss the challenges and rewards of this new adventure. Bringing the inside outside and the outside in is harder than first thought.

William Schroeder, PhD, RPA

***A Can of Worms? Part II***

In 2021, based on archival and recently published research, a revised food and beverage can typology and chronology was presented at NWAC. As canning technologies evolved over time, so did can opening technologies. There are empirically discernible differences between puncture- or lever-knife-type and rotary-type openings on cans. For example, rotary-type openers left a cleaner circumferential cut as opposed to the jagged edge resultant from the use of a lever-knife-type opener. If terminus ante and post quem dates, United States Patent and Trademark Office records, and empirically discernible differences or characteristics on opened cans are observed and accepted, then a can opener and opening technology chronology is possible, yet it may not be ‘clean cut.’ Due to technological overlap and time lag, shelf-life, and consumer habits, cans of various types may have been opened, contents consumed, and subsequently discarded after the production of such a can type ceased. Nevertheless, it is possible to perform an applied archaeological exercise using antique and vintage can openers on contemporary cans in order to observe, describe, and distinguish characteristics of cuts made by various common household and commercial can openers so that one may diagnose the age of a can or cans in an historical archaeological context with better accuracy. Case in point: a can opened by means of a rotary-type opener can only have been accomplished after 1920, not before. This paper presents preliminary results from such an experiment and provides additional archival and biographical information about the inventions and their inventors where possible.

Andrea Shiverdecker, MA, PhD Student ([she/her] University of Montana)

***A Synergy of Abandonment: Archaeological Understandings of Abandoned Norse Arctic Settlements and North American Mining Ghost Towns***

Landscapes of abandonment create an awe of mystique for humans from all walks of life. The most asked question is, ‘What caused this place to be abandoned?’. Taking an evolutionary theoretical concept of how colonialist commodification through imperialist capitalism created a World System Theory, the Table of Historical Abandonment model is born. This four-prong approach simplifies the causations of not only settlement sustainability, but of the culminating internal and external factors that ultimately lead to abandonment in a historical archaeological context. This model can provide insight into avenues of research into unknown realms of historical archaeology by making missing avenues of thought known as a needed echelon to be explored. A synergy is created between what is known of the abandoned mining Garnet Ghost Town outside of Missoula, Montana and what were the causations for the Norse abandonment of Greenland, showing an introductory exploration into the development and utilization of the Table of Historical Abandonment Model.

***Conceptualizing Fluidity in Heritage Landscapes and Cultural Identity Through the Garnet Ghost Town***

The role of defining what constitutes heritage has been a question that has been debated since the ideas of culture became known to humans. Labeling heritage sites and fitting their cultural value on the parameters set forth by organizations such as UNESCO and the Department of the Interior comes at a discourse in relation to the vastness of identifying significances to heritage sites. From members of the community to visitors from foreign countries, the identifying ties and relevance to heritage sites is as diverse as the people visiting them. By breaking down and analyzing the evolution of cultural identities and cultural relevance at the Garnet Ghost Town of Garnet, Montana; a new concept in bringing awareness to fluidity in heritage landscapes and cultural identity is explored. From Indigenous lands to a turn of the century mining boom town and then abandoned, Garnet continues to evolve through its identity to include the site becoming a dark tourism hotspot for those who identify with cultural and historical relevance of believed to be paranormal activities. As the dynamics that play into how humans identify and feel interconnectedness to heritage landscapes is recognized for its fluidity of the attributing cultural identity for these landscapes, their prevalence for preservation and protection and redefining the current

parameters on what makes a heritage landscape becomes a necessity for exploration and realignment for inclusivity of the broad spectrum of cultural identities.

### ***Interpellation as Coping Strategies: Responses to Colonialism and Social Identities***

As we look to understand notions of ideology and social identities, Marxist theorist Althusser explored how one internalizes a subject's identity when encountering varied cultures through processes of social interactions, which are thus embodied in major social and political ideologies. Through literary exploration into Lisa Stevenson's ethnography *Life Beside Itself*, ideas into how Interpellation is used as a coping method for balancing unequal social identities resulting from the long history and implications of colonialism is traversed. How are social identities of negative connotations used as ways to not only subjugate, but used as ways of social understanding and a balancing of previous implications of colonialism? What can anthropologists learn from the various theoretical expansions on interpellation in order to prepare oneself for these social interactions?

Kim Simmons

### ***The Implications of Salish Spindle Technology***

There are numerous ethnographic, academic and archaeological information sources for how the diverse spindles of Salish Sea peoples were used to produce yarn for weaving. These sources often are focused on explaining the artifact and artistic result within a regional scope.

Global communities of people who practice fiber and textile traditions like processing and spinning plant and animal fibers can give context and technical precision to the discussion. As practitioners the focus is understanding the traditional techniques and the technology or toolkit. With this viewpoint and within a more global context the innovation of these Salish Sea textile traditions are illuminated and will be specifically discussed.

Nikolai Simurdak, BS ([they/them] Central Washington University) and Patrick T. McCutcheon, PhD ([he/him] Central Washington University)

### ***Chemical Sourcing and Technological Analysis of Volcanic Glass Lithics from the Grissom Site (45KT301)***

The Grissom site (45KT301) is a large site with archaeological remains spanning pre-contact to historic periods. Past research by Vassar (2012) and Parfitt (2013) sought to understand stone tool type variation, distribution, and diversity across space and time in the site. This has included an effort to chemically source lithics made from volcanic glass using x-ray fluorescence. Volcanic glass deposits have unique chemical fingerprints that are identified through the presence and quantity of trace elements, allowing stone tools made of volcanic glass to be sourced to their depositional origin. Combined with technological analysis, chemical sourcing reveals patterns of trade and exchange by showing how volcanic glass sources are represented in the site. This project filled gaps left by previous research and completed source analysis, showing extensive movement of distant sources into the site and heavy processing of two local sources. Since Parfitt's (2013) work, two new sources have been identified and source diversity within the Grissom site can be understood more clearly. Concentrations of bifaces, cores, and flakes from different sources indicate variance in the technological use of those sources. Representation of sources across the site, alongside non-volcanic glass lithic artifact counts, also demonstrate areas of intensified tool production and variation in production dependent on toolstone material and volcanic glass source.

Julia Smith, PhD ([she/her] Eastern Washington University)

### ***Climate Change, COVID, and Coffee***

Coffee production faces a group of challenges that before COVID were daunting, including climate change, increased pressure from diseases and pests, and the ways in which small farmers are struggling around the world. COVID has intensified all of those and added more stresses, as farmers struggle to get their coffee harvested, rosters struggle to get samples of coffee they might buy, and consumers stay home.

The specialty coffee market, largely supported by sales in coffee shops of coffee by the cup, has been particularly hard hit. Many roasters may not survive this crisis; coffee producers are struggling to make ends meet in this volatile and insecure market. This talk explores those issues and how farmers are responding to them in Latin America, using data from producing countries like Costa Rica and Colombia, as well as consuming countries like the United States.

Linda Storm, PhC ([she/her/hers] U.S. Environmental Protection Agency and University of Washington) and Rue Hewett Hoover ([she/her/hers] Wetland Biologist, Nez Perce Tribe)

***Camas as a keystone cultural species and the long-term indigenous ecological management of camas places***

The genus *Camassia* includes multiple species and subspecies of wild edible plants that have been tended, harvested, managed and maintained for thousands of years by multiple North American indigenous peoples. *Camassia* spp. are cultural keystones that reflect the long-term interactions between people and plants in the places where they grow. My research focuses on the complex co-evolutionary relationships between people and plants, with a specific case study which reconstructs the historical ecology and ethnoecology of the Upper Chehalis River basin prairies. These camas prairie places include both wetland and dryland ecosystems, including wet meadows and Mima mound prairies. Coast Salish peoples' long-term indigenous traditional ecological management of the land led to production of abundant and diverse ethnobotanical wild plants for foods, fibers, and medicines as well as sustained ecosystems and habitats upon which many other animals relied upon for food and forage. The legacy of long-term camas cultural ecosystem tending with highly sophisticated fire management, harvesting and processing techniques, maintained biodiversity on species, patch, and landscape scales. In the Georgia Basin-Puget Trough-Willamette Valley ecoregion, without ongoing indigenous management, these places become dominated by later successional stage forest. Today, many Pacific Northwest tribes are recovering and restoring their camas places and incorporating traditional foods into their diets for health and well-being. This presentation will share about the historical ecology and cultural significance of camas places and provide examples of current Pacific Northwest tribes' restoration of their culturally significant camas places.

Anthony Tessandori, MA ([he/his] Bellevue College)

***From Bones to Clones: The Evolution of Biological Anthropology at Bellevue College, WA***

The past fifty years have introduced major changes in the heart and substance of biological anthropology. These changes have shifted our view on human evolution with a wide array of new species. Important species such as *A. afarensis* and *H. ergaster* were yet to be discovered. New discoveries and models of genetics and evolution have changed our view of the human genetic tree and human diversity. Many of the foundational theories and mathematical models were established prior to 1972. The application and experimentation occurring post-1972 have provided meaningful material for biological anthropology classes. This paper will focus on what we did not know in 1972 that is now standard subject matter of biological anthropology today.

Jordan Thompson, BS ([she/her] University of Idaho)

***An Overview Vitrophyre Use in North Central Idaho: 12,000 Years of Rock Knockin' on The Lochsa***

Archaeological investigations in the 1990s defined the Clearwater River region of the Southern Plateau as a unique cultural and archaeological entity. Excavations throughout the region have revealed vitrophyre to be an important lithic resource for the ancestral Nez Perce, discovered in at least 17 key sites dating back 12,000 years. Vitrophyre is a natural igneous glass, formed of pyroclastic flow deposits containing large-grain phenocrysts of ash and pumice. Much like obsidian, vitrophyre creates sharp cutting edges for tool production and retains a chemical signature that can be traced to a parent source. A combination of ongoing lithic analysis, geochemical analysis, and simple experimentation have provided an understanding of this understudied resource and its uses to gain insight into past human behavior. By comparing vitrophyre sources at two known locations with the archaeological record, we can explore how

people interacted with and interpreted their environments, tracing resource procurement, settlement, subsistence, and social activities.

Chesley Thompson ([she/her] Eastern Oregon University)

***Impacts of COVID-19 to On-Campus Students Attending a Rural University in the Pacific Northwest***

Social disruption has been experienced worldwide due to COVID-19. Through the use of oral history and online surveys sent to all on-campus students, the impacts of COVID-19 for students at a rural university in the Pacific Northwest can be gauged and thoroughly analyzed. A mixed methods approach to understanding these impacts allows for a rich and broad understanding of how students have experienced social disruption at different points in their academic career. Students that offered an oral history were led through the events of COVID-19 as they unfolded in the United States as well as local events due to COVID-19 that caused disruption. The survey offered students the opportunity to gauge the impact that COVID-19 had on different areas of their lives using Likert scale responses. Analysis offered insight into stresses due to financial instability, decreases in social and physical wellbeing, and how social disruption can lead to a change in one's perception of the passage of time.

Mark Tveskov, PhD (Southern Oregon University)

***Segregation Under Duress: Social and Physical Space at Miner's Fort, a Rogue River War Fortification on the Oregon Coast***

Miner's Fort was located at the mouth of the Rogue River on the southern Oregon Coast. In 1856, some 100 people were besieged within the fort by Indigenous forces as part of the Rogue River War. Archaeology, geophysical survey, ethnohistory, and oral history revealed the architectural structure of the fort, the spatial distribution of material remains therein, and the complex identities and negotiations of those trapped inside. Settler families, African-Americans, armed militiamen, and local Indigenous people all found themselves under extreme duress in the close confines of the fort. This paper presents this story through the lens of recent scholarship on frontier fortifications that emphasize their critical role in shaping the course of, and discourse over, settler colonialism.

Conlan Vance, MA ([he/him] Eastern Washington University)

***Investigating the Built Environment of Fort George Wright, Spokane, Washington: A Historic Archaeological Approach***

This presentation will discuss an investigation into the built environment of Fort George Wright in Spokane, Washington. This fort was active from 1898 until 1957, when it was declared surplus by the United States government. It was bought by the Sisters of the Holy Names in 1960, renovated, and turned into Fort George Wright College. In 1990, Mukogawa Women's College bought it and turned it into a satellite campus for English language instruction and immersion. A quantitative methodology was developed to analyze the spatial organization of the built environment of Fort George Wright and compared these results to other regional military fortifications to create an empirical database. This was to see if social stratification affected these built environments and if so, in what ways? To see if the built environment of Fort George Wright reflected late Victorian ideals of social division, a spatial analysis of the fort's plan at different periods was conducted using Visibility Graph Analysis. The results of this analysis were compared to similar studies of contemporary fortifications in Washington State. This investigation demonstrated that an analysis of the physical arrangement of space at Fort George Wright can provide insights into how individuals might have perceived and utilized their space.

Robert Walls (American Indian Studies Research Institute, Indiana University)

***Toward an Ethnohistory of Paper in the Indigenous Pacific Northwest***

This presentation will suggest how we might consider an ethnohistory of paper as material culture, a tool increasingly used at the intersection of settler and Indigenous societies in the Pacific Northwest during the nineteenth and early twentieth centuries. While studies have focused on wood, rock, metal, glass, textiles and ceramics in trade, art, and religion, there has been surprisingly little attention given to paper. Yet,

arguably, no fabricated substance has impacted the life of Indigenous people in the past two-hundred years more than this relatively fragile and perishable material form. Paper has been integral to the wider settler-colonial project, used for both dispossession and administration—as in treaties, land transaction documents, jargon dictionaries, school resources, and territorial maps—and to implement radical change—as in the scriptural books and ephemera of Christian missionizing. My presentation will enumerate a few select examples of the use of paper in contexts of trade and intercultural communication, and its role in transforming ancient culture and territory into documents that were then deposited in distant settler archives and now subject to discussions regarding digital reproduction. However, my goal is to suggest future pathways for research, on more local levels, by briefly illustrating examples of how Indigenous people used paper to create meaningful objects and connections for their own designs, from political resistance and reformulations of identities to artistic innovations. It is high time that anthropologists recognized paper and its connections to Indigenous lifeways and the evolving materiality of power in the Northwest.

Lauren Walton, MS ([she/her] Statistical Research, Inc.), Brandon McIntosh PhD Candidate ([he/him, they/them] Statistical Research, Inc.), and Steve Hackenberger, PhD ([he/him] Central Washington University)

***Analysis of the Bone Tool Assemblage of the Tryon Creek Site (35WA288) in Hells Canyon, Oregon***

Previous investigations of the Tryon Creek site (35WA288) in Hells Canyon, Oregon, have focused on the spatial patterns of various cultural materials in an effort to define task-specific activity zones. To date, little attention has been paid to the composition and distribution of bone tools across the site or how these data may illuminate discrete behavioral patterns and relationships to other activities represented at the site. This paper describes the probable function and distribution of bone tools across the site, and compares the distribution to the wider assemblage in order to gauge the manner in which bone tools fit into previously conceived activity zones.

Penglin Wang, PhD ([he/him] Central Washington University)

***Xiongnu Chiliad Notions***

As a dominant power in ancient Inner Asia Xiongnu organized its armed forces by decimally multiplying a basic unit of ten fighters up to a division of ten thousand and thus appointed each echelon's commander with its corresponding numeral. This practice was illustrated with the first recorded Xiongnu ruler titled Touman (頭曼 ?-209 BCE) meaning 'ten thousand' as reflected in Altaic languages. This presentation investigates the chiliad origin of the titles of the eighth, tenth, and twelfth rulers across three generations of the Xiongnu royal family: Xulihu (响犁湖), Hulugu (狐鹿姑), and Xulüquanqu (虛閭權渠). A careful and thoughtful phonetic analysis of the three Chinese-transcribed titles shows their considerable similarity and common origin in the chiliad numeration represented by Greek khilioi 'thousand' having a connection with Mongolic hilegü ~ hilügü ~ hülegüü 'too much or many' and hilegüken 'in excess'. Morphemically, the three titles consist of the common root xuli-, hulu-, and xülü- and the suffix -hu, -gu, and -quanqu (-quan-qu). The root is from Greek khilioi, which was diffused into Mongolic and suffixed with -gü ~ -güü, with the -gü suffixed further with -ken. Like Xiongnu Touman for a myriad commandership, these three rulers could serve as chiliad commanders, which then got stuck to their title or name. The name recurred to Kitan as Hulie (湖烈) or Keling (頰領) and to Mongol as Hülegü (Hulagu, Hulegu, 旭烈兀 xuliewu).

Mark Warner, PhD (University of Idaho)

***The Doctor's Lithics: Exploring the disconnections of Euroamerican experimentation in stone tool manufacturing on a western military fort.***

A salvage excavation of the front porch of the Ft. Boise (ID) surgeon's quarters resulted in the unexpected recovery of a small amount of lithic debitage. Given the context that they were recovered in the presence of obsidian flakes originally posed something of an interpretive challenge. Further archaeological analysis

and documentary research indicates that the debitage was likely produced by members of the doctor's household. Such a finding raises a second question of understanding this behavior as it implies some profound cognitive dissonance on the part of the makers. On the one hand, they are part of the military presence whose mission is subjugating indigenous peoples in the 19th-century west, but yet simultaneously the doctor and his family are actively investigating the material technologies of the Indians whose lives are being destroyed.

Tatiana Watkins ([she/her] Malheur National Forest, Oregon Chinese Diaspora Project, University of Idaho)

***Oregon Chinese Diaspora: Artifact Analysis of Several Mining Camps on the Malheur National Forest***

In the late nineteenth century, members of the Chinese diaspora operated mining companies that occupied many gold-bearing deposits in Grant County, Oregon, including within the confines of the now Malheur National Forest. One of the many companies that leased claims was the Ah Yee Mining Company, operating in the late 1860s and early 1870s. Data recovery of camps associated with this company and area underwent excavation in the summer of 2021. This paper analyzes the artifacts recovered from each site and the narratives built based on the evidence provided. This project also aids in confronting misconceptions to present an accurate record of Chinese and Chinese American contributions to Oregon's early history.

Faith Webster, MS ([she/her] Quinault Indian Nation, Department of Natural Resources), Justine James, Samantha Chisholm, David Ryan, Lia Frenchman, and Naomi Brandenfels

***A Field of Possibili-Tea: Native Medicine in an Economic Landscape***

'Indian Tea', 'Swamp tea', 'Labrador Tea' (*Rhododendron groenlandicum*) is a traditional medicinal resource for the peoples of the Pacific Northwest. This resource is being adversely impacted by logging practices and climate change. This case study, at the Quinault Indian Reservation, looks at the conflicting priorities of conservation of a tribally important medicinal plant and critical tribal income from logging.

This story shows how the Section 106 process, when used to identify resources, can also create opportunities for education and outreach. This is an ongoing case study, and the outcome is unknown; it has the potential to form new traditional knowledges in climate change adaptation that could be integrated into modern natural resources management practices.

Aaron Weiss, PhD (The College of Idaho)

***"How Thin the Line Is": Safeguarding Orthodoxy at a U.S. Islamic School***

Based on interviews conducted during 18-months of ethnographic fieldwork at a U.S. Islamic school, this presentation will examine a variety of religious understandings among its community members and select struggles to establish differing beliefs as normative. Certain Muslims disagreed on where to draw the boundaries of religious orthodoxy and which sources of knowledge were authoritative, at times censoring books espousing competing perspectives. Colliding hermeneutical positions coalesced into an interpretive equilibrium, the general ideological climate of the school.

Laurie A. Wilkie (UC Berkeley), Jeffrey A. Seckinger (UC Berkeley), and Kelly N. Fong (UCLA)

***Tracking "Thunder" in Portland's Chinese Restaurants***

When Fawn and Wai Sue Louie of Berkeley, California, started their Chinese restaurant supply business in 1952, one of their earliest customers was in Portland, Oregon: Chinese Village Restaurant, located at 520 S.E. 82nd Ave. To date, 11 other Chinese restaurants in Portland have been identified as F.S. Louie Company customers. This contemporary archaeology project uses archival and material collections to discuss the social, familial, spatial and temporal relationships that materialize to explore how these Portland restaurants developed a business relationship with a California-based supply company.

Douglas Wilson, PhD ([he/him] Portland State University/National Park Service)

***Changing Conceptions of History in Fur Trade Archaeology in the Pacific Northwest***

The first archaeologists to practice historical archaeology in the Pacific Northwest conducted work at fur trade fort sites. These projects were often couched within the framework of nationalism and colonialism prevalent at the time. Many of the earliest archaeological practitioners recognized and documented a tribal presence, but often relegated this presence to an "other" or their interests were more attuned to promoting a broader scientific research ambition for a region. This divergence contributes to the separation of historical and precontact archaeology that still plagues archaeological practice in the Pacific Northwest. This paper explores the close connections between the earliest terrestrial and maritime fur trade sites and the indigenous landscapes in which they were (and are) embedded. Through exploring the context of sites, I argue that archaeologists may break down more effectively the essentialized conceptions of colonialism to allow more nuanced interpretations. Fundamental to this is to expose the long historical connections between past and present peoples associated with colonial places.

Ann Wozniak, AIA, NCARB, LEED AP BD+C, NCIDQ ([she/her] Boise State University)

***Re-Examining Principles in Architectural Design: The Importance of Social Connectedness***

Although the mechanisms behind social interaction and cooperation are extensively studied in the behavioral ecology and anthropology fields, they have not been readily applied to architecture. The evolutionary need for cooperation suggests that humans have evolved psychological mechanisms that allow adaptive responses to pro-social environments. Moreover, research suggests environments that encourage human interaction and connection are favored by humans, asserting our evolved psychology links human evolutionary history to positive fitness related outcomes. Incorporating social connection design elements into the built environment can create healthier and more favorable responses for building occupants.

Teresa Wriston (Desert Research Institute), JD Lancaster (Desert Research Institute), Molly Casperson (US Army Corps of Engineers, Portland District), Loren Davis (Oregon State University), Jillian Mahoney (San Diego State University), James B. Fuddy, Jr. (San Diego State University), and Alex Nyers (Northwest Archaeometrics and Northwest Research Obsidian Studies Laboratory)

***Geoarchaeological and Geophysical Investigations at Fern Ridge, Foster, and Detroit Reservoirs, Upper Willamette Valley and Western Cascade Mountains, Oregon***

River valleys often expose important archaeological sites but are challenging for cultural resource managers given that evidence of their past use can be destroyed by channel path or flow changes, obscured by dense vegetation, or deeply buried. Within reservoirs, these challenges are compounded by seasonal inundation, shoreline alterations, and variation in artifact and feature exposure, erosion, and/or movement.

We are using an interdisciplinary approach to model and search for submerged archaeological sites in the river valley reservoirs of the Upper Willamette Valley and Western Cascade Mountains managed by the Portland District of the US Army Corps of Engineers (USACE). This ongoing project is multi-phase and includes review of previously recorded archaeological sites in the Upper Willamette Drainage Basin, creation of an archaeological research design and context, geomorphological mapping, modeling archaeological landscape sensitivity, sub-bottom profiling (i.e., sonar), and coring at the Fern Ridge, Foster, and Detroit Reservoirs. In addition, we are testing the capability of Water Column Noise (WCN) in the sub-bottom profiling data to identify submerged archaeological sites in substrates that vary from very rocky to fine-grained deposits.

Ongoing core and sediment sample analyses will also provide information about the age and character of the landforms, periods of past landscape stability, and paleoenvironmental information. This geoarchaeological and geophysical data will inform and calibrate the archaeological sensitivity of our

landscape model with the goals of helping the USACE manage and protect archaeological sites as well as providing stratigraphic and environmental contexts for future research.

Noella Wyatt ([she/her] Central Washington University)

***Legacy Archaeological Collections: Studies of Technology and Activity Areas***

The Tyron Creek (35WA288) assemblage from Hells Canyon is curated and studied at Central Washington University under an agreement with the USFS. In prior studies, only projectile points from House 2 were analyzed. In this study, an examination of projectile point styles within Houses 5 and 8, as well as the two trenches, were considered. Further, during this process, point types previously analyzed were re-examined to clarify styles based on base type, as well as reviewing material types. This re-evaluation was done by reviewing the separate Inventory and Field Forms and individual bags of lithics. Many artifacts were found within the collection that maintained enough form to determine base types even though incomplete, thus adding to the total numbers of point types found in the collection. It is the purpose of this study to include many points that were previously not recognized. This study will compare base and material types instead of sizes located within levels and occupation zones.

Pei-Lin Yu, PhD ([she/her] US Army Corps of Engineers, Walla Walla District), Jordan Bennett, Renae Campbell, Stephen Cox, Clint Cuzzo, Gayle Dixon, Nicole Herzog, Andy Louie, Terry Panhorst, Carol McDonald, and Morgan Zedalis

***A Golden Thread: Reconnecting Boise Idaho with Chinese Mining History and Heritage***

Boise is the largest town in Idaho, where thousands of Chinese joined the gold mining rush in the 1860s-1880s. From Boise's now-vanished Chinatown to Garden City (named for extensive Chinese gardens) the city has a storied history. Yet as of 2019 there was no Boise museum exhibit dedicated to the story of Idaho's Chinese miners. This paper describes the inspiration, creation, and collaborative development of a new exhibit on Chinese gold miners at the Idaho Museum of Mining and Geology, inspired and informed by one of Boise's oldest Chinese gold mining families.

# 75<sup>th</sup> Northwest Anthropological Conference

## Instructions for Submitting Papers for Publication in the 2022 Northwest Anthropological Conference Proceedings.

The 2022 NWAC Proceedings will be coordinated and published by the *Journal of Northwest Anthropology* on September 1, 2022. The 2021 NWAC Proceedings can be seen at <https://www.northwestanthropology.com/nwac-proceedings>.

### Submission Date

Manuscripts will be submitted electronically, as **both a PDF and Word document**, to Victoria Boozer at [Victoria.boozer@northwestanthropology.com](mailto:Victoria.boozer@northwestanthropology.com). The deadline for submittal is **11:59 pm, Tuesday, 31 May 2022**.

### Whose Papers Can Be Included?

Only papers that were presented at the 2022 NWAC can be included in the Proceedings. At least one author of a paper must have registered for the conference, and the paper must have been presented.

### Is There a Word or Page Limit?

There is no word or page limit per se; although, we ask that papers not exceed 7,000 words (roughly 15 single-spaced pages). The proceedings are designed to include the paper that was presented at the conference. That is, do not send in a lengthy manuscript that was prepared for publication in a professional journal, and which was then used as the basis for the 15-minute NWAC Conference presentation. The paper presented in the NWAC Proceedings should mirror the oral presentation given. Conference proceedings are not the place to publish large datasets.

### Should all My Slides Be Included?

No. Only include those images that are required to support the statements made in the paper. Minimize the number of illustrations to those that are necessary.

### Can the Paper Be Revised After the Conference?

Yes, in fact, the purpose of the post-conference deadline is to provide the presenters time to revise their paper based upon comments made by colleagues during and after the presentation. Nevertheless, the submitted paper should not be materially different from the presented paper.

## Are the Papers Peer Reviewed?

No.

## Will the Papers be Edited Prior to Publication?

Papers will be copy edited, but no substantial technical editing will be done. If a submitted paper is poorly edited and not understandable, it will not be included in the Proceedings.

## Can Poster Presentations be Included in the Proceedings?

Yes, though these can present publication challenges. Submittals will not be reformatted, but rather published as received. Therefore, it behooves the submitter to transform the poster presentation to something that can be readable on 8.5 by 11 inch pages.

## Are Papers Submitted to the Student Paper Competition Included in the Proceedings?

They can be, but student papers submitted to the competition must be submitted to the proceedings just like any other paper. The winning student papers will be published in a future issue of the *Journal of Northwest Anthropology*.

## Additional Questions?

Write [jona@northwestanthropology.com](mailto:jona@northwestanthropology.com) or [Victoria.boozier@northwestanthropology.com](mailto:Victoria.boozier@northwestanthropology.com).

## Style Guidelines

Manuscripts should be prepared following the ***JONA Style Guide***.

It should be noted that paper submissions for the NWAC Proceedings are required to insert figures and tables immediately following their respective callouts in the article. Figures should also be included as separate files, as the original figure files (.jpeg or .png) will be needed to achieve the highest quality of the images when the paper is published.

- **Cover Page:** A cover page will include all authors' names. In addition, all authors must provide an email address. The timely and accurate publication of your manuscript may depend on the editors having access to these addresses. If you are going to be out of the country, on sabbatical, in the field, etc., an alternative address must be provided. Failure to do so may result in the paper being rejected.
  - *Title:* The title of your article is flush left, in upper- and lower-case letters with all major words capitalized. Keep the title short but meaningful.

- *Name*: Your name(s), exactly as you want it to appear, is flush left. If your name has unusual capitalization or spacing (Mac, De, Van, etc.), be sure that these items are clearly indicated.
- *Abstract*: The word “Abstract” should follow your name, be flush left, and entirely in capital letters. The abstract text follows as a new, un-indented paragraph. The abstract will not exceed 150 words, although exceptions can be made if necessary. It should summarize the contents, significance, and conclusions of the paper and not be written to serve as an introduction to the paper.
  - The Cover Page should be formatted as follows (please view the last page of this document for an example of a previously submitted Cover Page):

**Title of Paper** (Times New Roman, bold, size 14)

Name(s) of Author(s) (Times New Roman, regular, size 12)

Affiliation(s)/Correspondence(s) (Times New Roman, regular, size 12)

Email Address(es) (Times New Roman, regular, size 12)

**ABSTRACT** (Times New Roman, bold, all capital letters, size 12)

Abstract Text (Times New Roman, regular, size 12)

- **Text** (introduction, main text, discussion, and/or conclusions): All submissions must be formatted with 1-inch margins on all sides of the 8.5 by 11-inch document. Poster submissions must follow these guidelines for printing purposes. The text should be submitted in Times New Roman font, size 12, not justified, and single-spaced. The paper should not include headers, footers, or page numbers.
  - *Main Text Headings*:
    1. *Primary headings*—Primary-level headings will be typed flush left with initial capital letters on all major words (excluding prepositions, articles, and short conjunctions).
    2. *Secondary headings*—Secondary-level heads should be typed like primary headings and italicized.
    3. *Tertiary headings*—Tertiary-level heads will be typed like primary headings and underlined (this is the only place in your paper where underlining should be used).
    4. *Quaternary headings*—Quaternary-level heads will be flush left in all capital letters.

- Authors should review the *JONA* Style Guide for proper formatting of headings and sub-level headings throughout their papers, along with formatting figure captions and table titles.
- **Acknowledgments** (optional): The heading “Acknowledgments” is flush left in all capital letters. The use of the Acknowledgments section is optional. Personal pronouns are appropriate in the Acknowledgments.
- **References:** The References Cited pages will be required to be formatted according to *JONA* guidelines. The References should be entered in Times New Roman font, size 12. Please visit the following link to access the *JONA* Style Guide: <https://www.northwestanthropology.com/submit-manuscript>.
- General Tips for Manuscripts:

### ***JONA* TIPS FOR MANUSCRIPTS:**

1. En dashes: En dashes are slightly longer than a hyphen and represent a range in numbers. For example, 10–15 pages, 2,000–3,000 years, 1770–1800 are all instances in which an en dash, rather than hyphen, is used. However, the hyphenation of words still requires the placement of the hyphen, for example: well-known, long-lasting, face-to-face. Please keep this in mind when writing and editing a manuscript, and please ensure the hyphenation of words is consistent throughout each article.
2. In-text references are listed chronologically, rather than alphabetically. If there are citations from the same year, then they are listed alphabetically. For example:
  - a: (Croes 2009; Angelbeck 2010; Moss 2011; Stapp 2013; Carney 2016)
  - b: (Angelbeck 2009, 2010; Croes 2009; Grier 2009; Moss 2011; Stapp 2013)
 \* Please note that semicolons separate entries by different authors, while commas separate entries by the same author.
4. Pay close attention to words being spelled, capitalized, or hyphenated inconsistently. Consistency is key. Please check the Style Guide or consult with *JONA* staff to ensure proper standardization.
5. We do use the Oxford comma!
6. Please ensure that each in-text citation is listed on the References Cited and that each entry on the References Cited is called-out in the text. This is the costliest of time and funds for the copy-editing process.
7. Please use “curly quotation marks” (“”) rather than "straight quotation marks" (").
8. Please make sure each figure and/or table are called-out in the text.
9. Do use written ordinal century designations. Please write eighteenth, not 18th, or nineteenth, not 19<sup>th</sup>, for example.
10. Please make sure that all of the ORIGINAL figures are with the manuscript when submitted. Also, please ensure that all permissions for figures and personal communications are enclosed.
11. Please ensure the References Cited pages match the Style Guide. This is another costly and time-consuming part of the copy-editing process.

# **Mapping Railgrades and Dirt Roads from Drone Imagery Using Deep Learning**

Dale Hamilton and Gabriel Johnson

Northwest Nazarene University Department of Mathematics and Computer Science

Insert email addresses here

## **ABSTRACT**

Northwest Nazarene University's FireMAP research team is in the process of developing a deep learning approach to finding various archaeological features. This approach is being constructed through the use of a mask region-based convolutional neural network (Mask R-CNN) using Google's TensorFlow. Over the past two summers NNU has been gathering hyperspatial drone imagery containing these archaeological features. This aerial imagery is then fed into the Mask R-CNN in hopes of making a more dynamic approach. In the past the only way to map out these features was through a manual approach. This research project hopes to create a dynamic approach to finding and accurately mapping old roads and rail grades so that these maps can remain historically accurate.