

SFU Archaeology Symposium - **Full Schedule**  
March 7, 2015

Vancouver Maritime Museum

**8:30-9:10 Registration, breakfast and mingling**

**9:10-9:20 Opening remarks**

**Morning Session 1**

**9:20-9:40**

Modelling Marine Oriented Hunter-Gatherer-Fisher Landscape/ Seascape Use and Territory with GIS: Two Coast Salish Examples

Jesse Morin, PhD<sup>1</sup>, Allison Hunt, BSc<sup>2</sup>, and Michael Blake, PhD<sup>3</sup>

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In this paper we use Least Cost Analysis (LCA) and GIS to model site catchments for villages from two Coast Salish tribes – Tsleil-Waututh and shíshál. Here, we use Tobler's Hiker Function (Tobler 1993) to model travel by land and develop a cost raster for travel by water in canoes. This model is then used to describe the site catchments for a number of villages. Comparison of the LCA model with recorded resource use patterns and modern hiking and canoeing times suggest that the model accurately describes traditional landscape and seascape use. The shape and size site catchments emphasize the importance of canoe travel in structuring Coast Salish daily foraging radii (~13 km). The large size site catchments of individual villages indicates that even one centrally-placed village could have exploited much of the tribal territory on a near-daily basis. Further, when all of a tribe's village catchment areas are considered together, they are found to closely correspond to the tribe's territory. Thus the model can also be used to predict the extent of past territories.

**9:40-10:00**

Methodology Employed in an Underwater Field-School Investigation into the Prisseanen Hedvig Sophia (1692) Wreck Discussed and its Associated Clay Tobacco Pipe Assemblage Revealed

Xenius Nielsen

University of Southern Denmark (Alum)

On the 24th of April 1715, the Swedish flagship Prisseanen Hedvig Sophia (1692) was scuttled in the Battle of Femern, between Denmark and Sweden, in the Bay of Kiel off Germany's Baltic coastline. Sea battles during the Great Northern War (1700-1721)

fought for dominance in the Baltic Sea and control of its maritime fairways. In 2008, it was designated as a protected wreck with an extensive inclusion zone that contained the battle's debris field. The Maritime Archaeology Masters Programme of the Southern University of Denmark (SDU) completed the preliminary underwater excavation of the hull remains, and the documentation of the battle's debris field during its 2011 field-school. Field-school participants learn preparation, organization and day-to-day running of field projects, and gained insight into the analysis of gathered data and the production of field reports. The total area under research was 6.4km with depths ranging from 5m to 15m. Three dive platforms allowed a total of 19 divers to conduct 203 dives with a total of 12571 minutes of bottom time. A 2m x 5m trench was excavated midship to investigate its hull construction, which resulted in 150 artefacts recovered and recorded. This year, 2015, the State Museum in Schleswig, Germany is commemorating the 300-year sinking of the Princess Hedvig Sophia with an exhibition of its artefacts and history. The final artefact study completed by SDU grad students offer information on aspects of life onboard a sailing man of war in the 17th-century. Prisseanen Hedvig Sophia's clay tobacco pipe assemblage offers insight into a sailor's personal items, the consumption and popularity of tobacco, and allude to socio-economic disparities onboard ship. A discussion will be presented on the results of my clay pipe analysis and historical research, along with an overview of the methodology employed in our 2011 underwater field-school investigation.

### **10:00-10:20**

#### **A reassessment of the impact of drought cycles on the Classic Maya**

**Chris Carleton<sup>1</sup>, Dave Campbell<sup>2</sup>, and Mark Collard<sup>1</sup>**

<sup>1</sup>Department of Archaeology, Simon Fraser University

<sup>2</sup>Department of Statistics and Actuarial Science, Simon Fraser University

The study reported here challenges the widely discussed hypothesis that cyclical droughts had a major impact on the Classic Maya. This hypothesis was developed by Hodell et al. (2001, 2005) on the basis of the results of time series analyses of cores from Lake Chichancanab in the Yucatán peninsula. Hodell et al.'s analyses indicated that the Maya region was affected by two drought cycles during the 1st millennium CE, one with a periodicity of 208 years and another with a periodicity of 50 years. The timing of the droughts was such, Hodell et al. argued, that they were likely responsible for several important sociopolitical events, including the collapse of Classic Maya society. In our study, we investigated two potentially important problems with Hodell et al.'s analyses: their use of interpolation to make their data regularly spaced, and their reliance on radiocarbon point estimates to generate age–depth models. We found that interpolation biased Hodell et al.'s results and that when it is avoided there is no evidence for a 208-year drought cycle in the Lake Chichancanab dataset. We also found that when the errors associated with the relevant radiocarbon dates are taken into account, there is no evidence for any drought cycles in the Lake Chichancanab dataset. Together, our analyses indicate that both the 208-year drought cycle and the 50-year drought cycle identified by Hodell et al. are methodological artifacts. The

corollary of this is that the drought cycle hypothesis lacks an empirical basis and needs to be treated with skepticism.

## **10:20-10:40 Coffee Break**

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### **Morning Session 2**

#### **10:40-11:00**

Late Pleistocene Megafauna and Early Human Presence in the Salish Sea and Olympic Peninsula: New Findings and Implications

Michael C. Wilson<sup>1,2</sup>, S.M. Kenady<sup>3</sup>, R.F. Schalk<sup>4</sup>, R.R. Mierendorf<sup>5</sup>, and C.E. Gustafson<sup>6</sup>

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Published records of megafauna from islands in and bordering the Salish Sea and from the Olympic Peninsula have indicated Late Pleistocene presence of now-extinct Jefferson's ground sloth, American mastodon, giant bison, and giant short-faced bear. Evidence for human hunting of megafauna comes from the Manis Mastodon Site on Olympic Peninsula (mastodon hunting ~12,000 14C yr BP) and the Ayer Pond Site (bison hunting ~12,000 14C yr BP). New studies reveal cutmark evidence for hunting of bison at the Manis Site ~10,800 14C yr BP, indicating that bison hunting continued in the region for over a millennium. In addition, a ground sloth from Orcas Island has been dated to ~11,100 14C yr BP, a time when (even for skeptics) humans were in the region. These finds underscore the overlap of human and megafaunal presence in the region and confirm hunting of terrestrial mammals; whereas a model of early-dispersing Pacific Northwest humans as coastal littoral foragers remains unsupported by direct evidence and is further challenged by the early Holocene absence of evidence for such an adaptation despite well-documented human presence. Acidic soils in the region greatly constrain opportunities for bone preservation to localized taphonomic "windows" in those wetlands where waters are buffered by underlying carbonate-rich shell-bearing glaciomarine sediments or calcareous bedrock. Hence the record could greatly understate the degree of human-megafaunal interaction in the region. Studies of relative sea-level changes indicate that some of these interactions were on islands, as in the San Juan group of northern Puget Sound. Waters in the adjacent straits were estuarine in the Late Pleistocene; fresh meltwaters overriding salt water probably allowed development of a winter floating ice pack, facilitating selective human and megafaunal dispersal.

**11:00-11:20****The Children's Cemetery of Astypalaia, Greece****Kirsten Boettger**

Vancouver Island University and University College London (Alum)

I am Kirsten Boettger and I graduated from Vancouver Island University in 2013 with a Bachelor of Arts in Anthropology. During the summer of 2013 I spend 5 weeks in Astypalaia, Greece working on the Kylindra children's cemetery. The experience taught me how to excavate, preserve and identify fragile juvenile remains. When I returned from the island I completed my own thesis on the excavation, preservation and identification of juvenile remains because there is little in the way practical knowledge on how to excavate those fragile remains.

The island of Astypalaia, Greece contains the world's largest children's cemetery. This is an important piece of archaeological research because it provides a massive sample of juvenile remains; remains which are often missed or destroyed in excavations due to their fragility. The field school in Astypalaia, Greece provided through the University College London presents a great opportunity for any archaeologist to learn how to deal with children's remains. My oral presentation will go over the discovery of the site and how the remains are being excavated as well as excavation and preservation techniques for such fragile remains. Many questions are still unanswered but this symposium provides a foothold to generate interest about the burial.

**11:20-11:40****Expedient Shell Scrapers in the Kingdom of Tonga: A Multi-Faceted Analysis of Potentially Modified *Anadara* Valves****Kody Huard**

Department of Archaeology, Simon Fraser University

Shell has played a significant role as a raw material for tool manufacture in the South Pacific. Archaeological research on Lapita (2850-2650 cal. BP) sites in the Kingdom of Tonga recovered an assemblage of *Anadara antiquata* valves with what appears to be deliberate edge modification. These were collected, but at the time of collection, the function of the shells was unknown. No other researcher had made mention of them in a significant way, and it was not certain whether or not they were tools.

This study investigates whether or not the recovered valves represent a type of expedient shell tool, and if so, how they can be differentiated from naturally fragmented *Anadara antiquata*. The techniques used to assist in making these determinations include morphometric analysis, a variety of experimental analyses, and a low power starch analysis.

Taken together, the results of these analyses provide a robust case for the consideration of the valves as scraping tools, and further, they provide guidelines for identification of such artifacts in the field.

**11:40-12:00****Continuity of targeted resource extraction in Burns Bog**

Emily Wilkerson

Stantec Consulting Ltd.

Excavations in 2013 at the Silda Archaeological Site (DgRr-40) by Stantec Consulting Ltd. documented a multi-component site (ca. 3710 RCYBP and 3780 RCYBP) that confirms an early exploitation of the Burns Bog ecotone in the Fraser Delta of British Columbia. Prehistoric use of this important and unique ecotone is not well known and the variety of lithics, botanical remains, paleoenvironmental data, and radiocarbon dates obtained were integrated to present a case for a targeted, resource driven, early occupation of the newly formed bog. Comparing these findings with the ethnographic record indicates a strong continuity in cultural practice for indigenous populations throughout time.

**12:00-12:10** – Morning wrap up/additional questions for morning presenters**12:10-1:10 Lunch break**

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**1:00-1:40** – **Poster Session (see poster abstracts below). Participants are free to explore the Museum.****Afternoon session 1****1:40-2:00****“Pit Stop” or Long-term Residence: An Archaeological View of Island Use in the Northeastern Salish Sea, British Columbia**Colleen Parsley<sup>1</sup> and Chris Springer<sup>2</sup><sup>1</sup>Department of Anthropology, University of British Columbia<sup>2</sup>Department of Archaeology, Simon Fraser University

The prevailing view among non-First Nation communities populating the islands of the Salish Sea region in southwestern British Columbia holds that these important places were used by the ancestral Coast Salish people as “pit stops” or for seasonal camps rather than long term settlement. This simplistic view has also enjoyed some currency within the archaeological community. We present archaeological data from two large archaeological sites—Shelter Point and Mahlohohm on Texada and Harwood Islands, respectively—in the northeastern Salish Sea that show a more profound relationship with the local islands. Evidence for permanent habitation in the archaeological records at these two sites indicates long term settlement. Using these sites as case studies, we present a more complex interpretation of shifts in past island use that considers island

size, changing sociopolitical relations among ancestral northern Coast Salish people, and the imposition of colonial power structures during the late nineteenth century.

**2:00-2:20**

**Pre-Contact Plateau Women: Water and their World**

Celia Nord

Department of Archaeology, Simon Fraser University (Alum)

In the Plateau culture area pre-contact women owned the 'fruits of their labour' which included excess foods and items they created. Whether they traveled from their home bases to trade these items, or traders came to them, water routes were commonly used. Southern Interior British Columbia, the focus of my research on women, is an area traversed by deep fjord-like lakes and major rivers and watersheds, all crucial to the survival of indigenous peoples in the past and today. The sockeye salmon still return to their Interior spawning grounds as they did in the past. The collection of water was often the labour of women, who also made the baskets to contain it for storage or drinking. Spiritual and cleansing ceremonies are inherently connected within the worldview and work of Plateau women in the past, all of which I will explore in-depth in my presentation through the archaeological record of Southern Interior British Columbia.

**2:20-2:40**

**Migration and Interaction in the Eastern Lapita Province: Exploration Using Ceramic Design Analysis**

Katie LeBlanc

Department of Archaeology, Simon Fraser University

The Lapita culture spans from Papua New Guinea in the west to Tonga and Samoa in the east, a range of over 4000 km. Several islands in this region were only settled by humans within the last 3000 years, but represent an area of open ocean that would have required extensive sea-faring knowledge to cross. The main tool used to understand this early migration is pottery. In particular, highly ornate dentate-stamped ceramic designs are used to characterize the Lapita culture. Because design is similar across the Lapita range, slight variations in design can be used to understand migration and interaction patterns. Most studies are based on a comparison of common design motifs. This approach, while often necessary, can be subjective. Here I present a new method for analyzing ceramics. This new approach quantifies the structural application and organization of design. I do this by using microscopy techniques, including 3D imaging, to more precisely measure the spacing between designs and the size of the tools used. The utility of both methods are explored using a dataset from Fiji and Tonga in the Eastern Lapita Province.

**2:40-3:00****Defending British Columbia Archaeology****M. F. Luder, Ph.D.**

The past decade has borne witness to a troubling rise in anti-archaeology rhetoric, globally and in British Columbia. Problematically, British Columbia archaeologists have not responded to the criticism, leaving the mistaken impression that such critiques are factual, in part or whole. Those perpetrating the attacks are framing archaeology—thus archaeologists—as, for example, “imperialist,” “colonialist,” “capitalist,” “elitist,” “paternalistic,” “scientistic,” and “unethical.” Not only are such claims wholly unfounded, they are anti-science, anti-commerce, and anti-democratic, thus anti-Canadian. Left unchecked, such claims will impede our ability to serve as the province’s only impartial, science-based arbiters of the past. I therefore call on archaeologists across British Columbia to publicly and emphatically denounce such defamatory claims, now and when they arise in the future. It is our ethical duty as academics, as professionals, as scientists, and as British Columbians, to actively defend against those bent on degrading and destroying our fair craft.

**3:00-3:20 Coffee break**

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**Afternoon session 2****3:20-3:40****3D Vertebral morphology, locomotion, and human spinal health****Kimberly A. Plomp<sup>1,5</sup>, Una Strand Vidarsdottir<sup>2</sup>, Darlene Weston<sup>3,4</sup> And Mark Collard<sup>1,5</sup>**<sup>1</sup>Human Evolutionary Studies Program, Department Of Archaeology, Simon Fraser University<sup>2</sup>Biomedical Center, University Of Iceland<sup>3</sup>Department Of Anthropology, University Of British Columbia<sup>4</sup>Department Of Human Evolution, Max Planck Institute For Evolutionary Anthropology<sup>5</sup> Department Of Archaeology, University Of Aberdeen

Recently, we investigated the relationship between locomotion, spinal pathology, and the 2D shape of the final thoracic and first lumbar vertebrae in humans, chimpanzees, and orangutans. The pathology we focused on was Schmorl’s nodes - depressions on the vertebral body resulting from vertical intervertebral disc herniation. We found that pathological human vertebrae share more similarities in shape to chimpanzees than healthy humans do, suggesting that disc herniation may be influenced by a particular vertebral shape that is more susceptible to the stress placed on the spine during bipedalism.

To further explore this possibility, we investigated the 3D shape of human, chimpanzee, and orangutan first lumbar vertebrae. The analysis of 3D landmarks enables a more detailed exploration of shape than is possible with 2D analyses. The results should contribute to the understanding of why humans are so often afflicted by back problems and may also have diagnostic value for clinical medicine.

**3:40-4:00****Northern Fur Seal Populations; Questions in Research**

Cara Halseth

Department of Archaeology, Simon Fraser University

The northern fur seal (*Callorhinus ursinus*) is particularly abundant at many Northwest Coast archaeological sites; suggestive of both past distribution and importance for human populations. Today, the northern fur seal population is in decline. A study of the genetic diversity of northern fur seals over time is important for understanding both the past (genetic diversity and human-seal interactions) and the present (conservation biology). The modern northern fur seal distribution shows a general migration to northern latitudes to breed on offshore islands. However, archaeological harvest profiles indicate the presence of young seals at sites all along the coast. This suggests that historic migration and breeding may not have conformed to the general pattern seen today, with several prehistoric local breeding populations hypothesized. My presentation will review past research on northern fur seals, identify a core set of questions coming from that research, and suggest potential research directions (or studies/investigations).

**4:00-4:20****Liminal Boundaries and Offering Sites: Rivers, Lakes and Wetlands as Depositional Contexts in Viking Age England**

Ben Raffield

Department of Archaeology, Simon Fraser University

Department of Archaeology, University of Aberdeen

This paper will focus on the disposal of weapons in rivers, lakes and wetlands in 9th-11th century England. Finds were mapped geographically to identify spatial patterns of deposition across the landscape. It is proposed here that these finds reflect outside cultural influences, namely the presence of the Vikings, who conquered and settled substantial tracts of England during the late 9th century (an area that would later become referred to as the 'Danelaw'). Whilst wetland and riverine depositions have been extensively studied in Scandinavia, it is only recently that finds from the British Isles have come under intensive scrutiny. The locating of so many weapons has raised questions as to why such valuable and practical tools would have been disposed of in this manner. Given the context of conflict and territorial consolidation in which many may have been deposited, these finds can shed new light on changing ritual attitudes to landscapes.

**4:20-4:30 Wrap up/additional questions for afternoon presenters****5:00 – 6:30 Reception at *Corduroy* - 1943 Cornwall Avenue**

## **Poster Abstracts (presented 1:00-1:40)**

### **Mountain Top to Ocean Floor: The Eco-cultural History of Hauyat**

**Julia Jackley<sup>1</sup>, Dana Lepofsky<sup>1</sup>, Nancy J. Turner<sup>2</sup>, Jennifer Carpenter<sup>3</sup>**

<sup>1</sup>Department of Archaeology, Simon Fraser University

<sup>2</sup>Department of Environmental Studies, University of Victoria

<sup>3</sup>Heiltsuk Integrated Resource Management Department

The Mountain Top to Ocean Floor Project is a collaborative undertaking by the Heiltsuk First Nation, Simon Fraser University, and University of Victoria, that seeks to document and explore the unique cultural and ecological history of Hauyat, a landscape in Heiltsuk traditional territory on the Central Coast of British Columbia. Over the millennia Hauyat has been transformed by a complex web of relationships between people, plants, animals and ecosystems. The rich and deep history of this place is known through Heiltsuk oral history and is also reflected in the number and diversity of archaeological sites and eco-cultural features. Ranging from the lower intertidal to the subalpine, the landscape has been modified to include clam gardens, fish traps, root gardens, berry patches, orchards, settlements, rock art, and defensive sites. These features are suggestive of long-term resource management systems that likely worked together to provide food, materials, and medicines for past communities.

### **The Sociopolitical landscapes of Hacienda “El Progreso”, 1887-1904: Historical Ecology of the Galápagos Islands**

**Fernando Astudillo<sup>1</sup>, Peter W. Stahl<sup>2</sup>, and Florencio Delgado<sup>3</sup>**

<sup>1</sup>Department of Archaeology, Simon Fraser University

<sup>2</sup>Department of Anthropology, University of Victoria

<sup>3</sup>Colegio de Ciencias Sociales y Humanidades, Universidad San Francisco de Quito, Cumbáya, Ecuador

Hacienda El Progreso was one of the largest and most advanced companies of Ecuador during the late 19th century. It covered most of the southwestern highlands of San Cristobal Island in the Galápagos archipelago. Sugar cane, alcohol, and coffee were the main products exported to coastal South America. As a result, vast areas of the island were deforested in order to create agricultural parcels and grasslands required for large scale production. This industrial scale enterprise was owned and managed by Ecuadorian businessman Manuel J. Cobos and ceased operations after his murder in 1904. During its active years (1887-1904), a series of cultural events modified the natural landscape of the island and formed a unique political landscape around the earlier plantation. Today, the preserved remains of Cobos' house constitute the only extant heritage site in the Galápagos.

It is believed that the Galápagos archipelago was unoccupied by humans before its discovery in 1535. Historical Ecology is concerned with an understanding of the effects of initial human activities (Balee 2006). This approach is currently applied in a study of Hacienda El Progreso's history and its resulting ecological effects on San

Cristobal Island. This poster presents an overview of the first field season in El Progreso. The field work was undertaken in order to understand the spatial patterning of the original hacienda lands and to explore the living memories of Cobos' times.

### **Ancient DNA Analysis of Middle and Late Period Archaeological Fish Remains from the Kamloops Locality, British Columbia**

**Thomas C.A. Royle**

Department of Archaeology, Simon Fraser University

EeRb-144 is a large Early (>7000 years BP) to Late Period (3500 to 200 years BP) archaeological site located in the Interior Plateau region of southcentral British Columbia, near modern-day Kamloops. A multi-year excavation of the site conducted as part of the Secwepemc Cultural Education Society-Simon Fraser University Archaeological Field School has recovered a large number of fragmented fish remains. This fragmentation has generally precluded the classification of these remains through traditional zooarchaeological analysis to a taxonomic level lower than class. As such, this study employed ancient DNA analysis to assign species identifications to a sample of fish remains from EeRb-144 that date to the Middle (7000 to 3500 years BP) and Late Period. The results of this analysis suggest the Middle and Late Period fisheries at EeRb-144 harvested a variety of a locally abundant fish species but focused on largescale sucker (*Catostomus macrocheilus*).

### **Developing Optimal Sampling Strategies for DNA Analysis of Museum Collection Bone Artifacts**

**Kelly Brown**

Department of Archaeology, Simon Fraser University

Due to the destructive nature of current ancient DNA (aDNA) analysis techniques museum curators have been hesitant to subject their collections to this kind of analysis. My research aims to develop and apply minimally destructive protocols (MDP) for extracting aDNA from bone artifacts curated in museum collections. These protocols will be optimized through experimentation, and will focus on successfully extracting small amounts of aDNA from the artifacts while limiting any internal and/or external damage. This research is being conducted in the hopes that an optimal, MDP will render previously inaccessible museum collections available for archaeological research.

### **Evil Place, Beautiful Place: The Memory and Materiality of St. Mary's**

**Sarah Lison**

Department of Archaeology, Simon Fraser University

St. Mary's Indian Residential School was the last functioning residential school in BC, with operations running from 1863-1985. Though the school grounds are now a part of the Fraser River Heritage Park, and the school buildings themselves no longer stand, many former students retain powerful memories of their experiences which range from

fondness to trauma. With little physical presence remaining, the legacy of St. Mary's will be determined by acts of remembrance or willful forgetting. By conducting excavations on the school grounds and inviting native and non-native locals to participate, I will facilitate discussion over how St. Mary's is currently and will be viewed in social memory, and by linking the experiences of former students to the material culture we uncover, potentially create new perspectives on its history.

### **Assessing manner of fall-related deaths through patterning of skeletal injuries**

**Luísa Marinho**

Department of Archaeology, Simon Fraser University

In a forensic investigation, there are considerable limitations to assessing manner of death from human skeletal remains, namely distinguishing an accidental from a suicidal or homicidal fall. The main goal of this research is to clarify the pattern of skeletal injury resulting from falls and its association to the cause of the fall, by bringing together expertise on skeletal trauma and injury biomechanics. This project wishes to fill an important gap in the literature by extensively examining how falling trauma patterns are globally affected. This will result in more reliable methods to assess the manner of death of fall-related cases.

### **Hybrid Epistemologies: Traditional Knowledge and Archaeology in British Columbia**

**Eric Simons**

Department of Archaeology, Simon Fraser University

I intend to examine the relationship between archaeology and Traditional Knowledge (TK) in BC. Through a better understanding of how these two ways of knowing the past have historically interacted, and by gathering a range of BC archaeologists' thoughts about the potential for interaction with TK in the present, I seek to identify what opportunities exist for productive collaboration/integration in the future.

### **Assessing the Productivity of Ancient Clam Gardens on Northern Quadra Island.**

**Ginevra Toniello**

Department of Archaeology, Simon Fraser University

Clam gardens represent a form of ancient mariculture that had a huge impact on past ecological and social landscapes. The construction of clam gardens not only increased the area of clam habitat but also enhanced shellfish ecology, ultimately aiding in clam growth. Expanding our understanding of these features will allow us better understand human-environment interactions, including social responses to food stress that may have resulted in the intensification of shellfish harvesting.

## **Stringing Them Along: Ground Stone Disk Beads of the Salish Sea Region from 4500-1100 BP**

**Megan Harris**

Department of Archaeology, Simon Fraser University

Ground stone disk beads occur frequently in the archaeological record in the Salish Sea region in a number of different sites and contexts. Despite the vast number beads recovered, research has been limited to observations of frequency and morphological changes within a site without considerations to the social connotation of these beads in this region. Studying the morphology and lithic raw material of beads from particular contexts allows archaeologists to understand the social implications of ground stone disk beads in the Salish Sea region from 4500-1100 BP.

## **Microfauna at Charlie Lake Cave: Late Pleistocene/Early Holocene Environmental Reconstructions in Northeast British Columbia**

**Roxanne Pendleton**

Department of Archaeology, Simon Fraser University

In recent years, the discussion of human migration into the Americas has shifted from favoring inland migration southwards to a coastal migration route where people later expanded northward throughout the continent as the ice retreated. Extensive palynological, geological, paleontological, and archaeological studies support this northward movement, however late Pleistocene environmental conditions and early human adaptations within the interior continue to be unknown. Small mammals provide an excellent opportunity to explore early environments because their small bodies, short life spans, and relative abundance in the record means they are more sensitive indicators of environmental conditions. In this thesis, I will analyze the small mammal assemblage from Charlie Lake Cave in Northeast British Columbia from discrete stratigraphic contexts dating from 10,500 cal BC to 9000 cal BC. This research promises to further our understanding of the late Pleistocene/early Holocene environments and human adaptations to dramatically changing landscapes.