

**Dr. SHANDIN H. PETE**  
(406) 370-4722 spete@eoas.ubc.ca

**Overview:** I am a methodologist, hydrologist and science educator with substantive interest in Indigenous research methodologies, ethnohydrological methods, social-political tribal structures, culturally congruent instructional strategies and indigenous philosophies. Most of my work in recent years has focused on realizing a unique Indigenous paradigm of research for science built on community engagement. This work has included extensive collaboration with tribal knowledge holders across Native communities and Indigenous academic scholars at institutions nationally and internationally.

**Present Positions:**

*Assistant Professor of Teaching*; Earth, Ocean and Atmospheric Science Department, University of British Columbia (2021 - present)

*Affiliated Faculty & Research Consultant*, Organismal Biology, Ecology, and Evolution Program, Flathead Lake Biological Station, University of Montana (2020 - present)

*Evaluator*, Mekinak Consulting (2020-present)

*Researcher*, Tribal Research Specialist, LLC, Arlee, MT (2020-present)

**Previous Positions:**

2019 - 2020 Director, Indigenous Research Center, Salish Kootenai College

2010 - 2020 Lecturer, Hydrology Department, Salish Kootenai College

2012 Teaching Assistant, University of Montana, School of Education and Human Science-Curriculum and Instruction Program

2008 - 2010 Adjunct Professor, Salish Kootenai College, Department of Environmental Science,

2010 - 2011 Lead Instructor, Salish Kootenai College & University of Montana, Big Sky Science Partnership Summer Institute – Geoscience Emphasis

2008 - 2009 Student Coordinator, Alfred P. Sloan American Indian Graduate Program, University of Montana

2004 - 2007 Graduate Research Assistant, University of Montana, Department of Geosciences

2002 - 2006 Land Surveyor Party Chief, WGM Group Inc., Missoula MT

1998 - 2000 Environmental Scientist Trainee, US Environmental Protection Agency, Confederated Salish & Kootenai Tribes, Environmental Protection Division-Water Quality

1992 - 1996 Forestry Technician, US Forest Service & Confederated Salish & Kootenai Tribes, Division of Fire

**Institutional Development:**

2010: Co-Founded the Salish Kootenai College Hydrology Associates and Bachelor's degree program

2013: Co-Founder of the Faculty Research Group at Salish Kootenai College

2019: Established the Indigenous Research Center at Salish Kootenai College

2018-2020: Served on Salish Kootenai College Faculty Association

2020: Developed and launched "Podcast IRC" in association with the Indigenous Research Center at Salish Kootenai College

**Education:**

**Ed.D.** Curriculum and Instruction, University of Montana - College of Education and Human Sciences, 2018. Dissertation Title "*Mediating Cultural Border Crossings*"

*Between American Indian Tribal College Students and Natural Resources Science Learning using Culturally Congruent Education.”*

**Completed Course Work Toward Ph.D** Geoscience, University of Montana 2006 - 2009

**M.S.** Geology, University of Montana, 2006. Thesis Title “*Characterization of pre and post re-naturalized surface water/groundwater exchange, Jocko River, Flathead Indian Reservation, Montana.*”

**B.S.** Environmental Science, Salish Kootenai College, 2000.

**B.A.** Native American Human Services, Salish Kootenai College, 2000.

### **Teaching Experience:**

Lecturer, Salish Kootenai College, Natural Resources Division - Hydrology Department

Introduction to Water Quality Monitoring

Water Resources

Water Quality Monitoring Design

Surveying and Maps

Field Hydrology

Physical Hydrology

Applied Hydrology

Fluvial Geomorphology

Tribal Waters

Surface Water & Groundwater Interactions

Groundwater

Weather and Climate (Co-Instructor)

Introduction to Soil Science

Introduction to Soils Lab

History of Tribal Government on the Flathead Indian Reservation (Co-Instructor)

Research Thesis Seminar

Senior Research Thesis Development

Senior Thesis

Teaching Assistant, University of Montana, College of Education and Human Science.

Exploration of Online Learning

Education Across Cultures (Co-Instructor)

Lecturer, University of Montana, Big Sky Science Partnership & Salish Kootenai College

Introduction to the Geosciences for K-8 Teachers (Co-Instructor)

Introduction to Weather, Climate, and Astronomy for K-8 Teachers (Co-Instructor)

### **Publications:**

**Pete, S.H.** 2020. “*Seliš ontological perspectives of environmental sustainability from oral traditions.*” *Current Opinion in Environmental Sustainability*, 43, p.71-76

**Pete, S.H.** 2020. “*SKC Research Center uses Indigenous methodologies in STEM*”. *Tribal College Journal*, 31(3), p.13

**Pete, S.H.** & Old Bull, S.A. 2019. “*Tribal College American Indian Faculty Perspectives On Sub-Oppression, Racial Microaggression*” In N.D. Hartlep & D. Ball (Eds.), *Racial Battle Fatigue in Faculty: Perspectives and Lessons from Higher Education*, 1<sup>st</sup> Edition (Chapter 11). London, United Kingdom: Taylor & Francis Group - Routledge

**Pete, S.H.** 2018. “*Mediating Cultural Border Crossings Between American Indian Tribal College Students and Natural Resources Science Learning using Culturally Congruent Education*” Dissertation, University of Montana, Missoula.

- Pete, S.H.** 2014. *Salish Language and Scientific Reasoning*. In F. David Peat (ed.) *The Pari Dialogues, Volume II – Essays in Indigenous Knowledge and Western Science*, Pari Publishing, Grosseto, Italy
- Pete, S.H.** 2006. *Characterization of pre and post re-naturalized surface water/groundwater exchange, Jocko River, Flathead Indian Reservation, Montana*. Masters Thesis, University of Montana, Missoula.

### Conference Presentations:

- Pete, S.H.**, 2021. “*Tribal Science: Advancing Local Science Philosophical Understandings*.” CFP: The Promise and Pitfalls of Citizen Science. American Philosophical Society Virtual Conference. April 2021.
- Pete, S.H.**, 2020. “*Seliš ontological perspectives of environmental sustainability from oral traditions*.” Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS), The National Diversity in STEM Virtual Conference. October 2020. Virtual.
- Walker, L., Harrington, J., Barnett, D., Kinch, A., Chase, S., Brown, B., Wu, K., Hall, R., **Pete, S.H.**, Schmitt, R. 2019. “*Predicting Job Satisfaction and Reasons for Staying in Faculty and Research Positions at Tribal and non-Tribal Colleges and Universities*.” Diverse Pathways in STEM: Achieving the Dream. AGEP National Research Conference, May 2019. Coeur d’Alene, ID
- Maja P., Brown, B., Windchief, S., Barnett, D., Walker, L., Swaney, R. A., **Pete, S.H.**, Wu K. 2018. *The Willow AGEP Alliance: Developing an Indigenous Mentoring Program for Native American Faculty in STEM*. Pathways to a Diverse Professoriate: AGEP National Research Conference, March 2018. Berkeley, California.
- Pete, S.H.** 2018. *Mediating Cultural Border Crossings Between American Indian Tribal College Students and Natural Resources Science Learning using Culturally Congruent Education*. 8<sup>th</sup> Biennial Ngā Pae o Te Māramatanga International Indigenous Research Conference, Tamaki Makaurau – Auckland, New Zealand.
- Pete, S.H.** 2018. *Mediating Cultural Border Crossings Between American Indian Tribal College Students and Natural Resources Science Learning using Culturally Congruent Education*. 2018 NSF TCUP Research Symposium. National Science Foundation, Alexandria, VA.
- Pete, S.H.** Aislinn HeavyRunner-Rioux A., Laurie Slovarp, L., Stewart, C. 2013. *Does Providing Notes Before Class Promote Learning in College Students?* University of Montana, Missoula. Poster presentation at the 11<sup>th</sup> annual Graduate and Faculty Research Conference. University of Montana. Missoula. Montana.
- Pete, S.H.** 2011 *Climate Literacy and Energy Awareness Network*. Professional and Educator Concurrent Session; 2011 AISES National Conference, Minneapolis, MN
- Pete, S.H.** 2008. *Assessing the thermal capacity of channel bed and morphological features in a gravel bedded river, Jocko River, Flathead Indian Reservation, Montana*. Poster presentation at the 30<sup>th</sup> Annual American Indian Science and Engineering Society National Conference. Anaheim, California.
- Pete, S.H.** 2005. *Characterization of pre and post re-naturalized surface water/groundwater exchange, Jocko River, Flathead Indian Reservation,*

Montana. Poster presentation at the 27<sup>th</sup> Annual American Indian Science and Engineering Society National Conference. Charlotte, North Carolina.

**Pete, S.H.** 2005. *Initial Results from the Characterization of pre re-naturalized surface water/groundwater exchange, Jocko River, Flathead Indian Reservation, Montana.* Poster presentation at the 2<sup>nd</sup> Annual River Center Conference. University of Montana, Missoula. Floodplains and Rivers: Connections and Reconnection

**Pete, S.H.** 2004. *Initial Results from the Characterization of pre re-naturalized surface water/groundwater exchange, Jocko River, Flathead Indian Reservation, Montana.* Poster presentation at the 26<sup>th</sup> Annual American Indian Science and Engineering Society National Conference. Anchorage, Alaska.

### Invited Lectures & Panels

**2021** “*How Flexible are Worldview Boundaries Between Academic Science and Indigenous Community Science: An instructional approach to worldview congruency for STEM learning.*” Research Seminar – University of British Columbia - Department of Earth, Ocean and Atmospheric Science – Vancouver, BC CAN

**2020** “*Heart of the Monster, Buffalo Trails and River Crossings: Intersecting ancient Salish hydrological knowledge with modern hydrological tools.*” Invited Lecture – University of Montana W.A. Franke College of Forestry and Conservation - Department of Society & Conservation - Spring 2020 Graduate Seminar. Missoula, MT.

“*Pathways to Food, Energy and Water Systems (FEWS) Degrees*” Panelist – University of California, Berkeley, The Blum Center for Developing Economies, Tribal College & University Partnerships in Indigenous Co-Innovation at the Nexus of Food, Energy, and Water Systems (Co-InFEWS) Workshop. Berkeley, CA.

“*Collecting Oral Histories in Indian Country - Ep 41*” Panelist – Heritage Voices, Archeology Podcast Network. Cortez, CO.

“*Indigenizing Science Speaker Series*” Panelist – Oregon State University Chapter of the American Indian Science & Engineering Society. Corvallis, OR.

“*A Review of Salish Astronomical Knowledge*” Invited Lecture – Indigenous Studies Seminar, American Philosophical Society. Philadelphia, PA.

“*Visual Representations of Culture: A conversation to mark American Indian and Alaska Native Observance*” Panelist – US Department of Agriculture, US Forest Service Office of Civil Rights: Diversity, Equity and Inclusion Branch. Washington, DC.

“*Native Science to Action: How Indigenous Perspectives Inform, Diversify, and Build Capacity in Environmental Science and Policy*” Chair & Panelist – 101<sup>st</sup> Annual American Geophysical Union Fall Meeting. Virtual.

**2019** “*Native Science to Action: How Indigenous Perspectives Inform, Diversify, and Build Capacity in Environmental Science and Policy*” Chair & Panelist – 100<sup>th</sup> Annual American Geophysical Union Fall Meeting. San Francisco, CA.

*“Cross-Cultural Perspectives on Death, Dying and Grief: A Panel Discussion”*  
Panelist – University of Montana Graduate School, Humanities Institute and the  
Institute of Health and the Humanities. Missoula, MT.

*“Earth and Environmental Sciences Graduate Program Diversity Roundtable”*  
Panelist – University of Minnesota Twin Cities, College of Science &  
Engineering, Newton Horace Winchell School of Earth and Environmental  
Sciences. Minneapolis, MN.

*“Cultural Border Crossings: Mediating Tribal Worldview and Natural Resources  
Science Learning with Culturally Congruent Education for American Indian  
Tribal College Students.”* Guest Lecture – 6th Annual Tribal Colleges and  
Universities Faculty Research Convening. Denver, CO.

*“Defrauding Imposter Syndrome”* Panelist – Native America Calling, Live Radio  
Broadcast. Albuquerque, NM.

*“Sustainable Indigenous Water Practices”* Panelist – 14<sup>th</sup> Annual Vine Deloria Jr.  
Indigenous Studies Symposium. Northwest Indian College. Bellingham, WA.

*“Water in the Native World: An intersection of hydrology and traditional  
knowledge”* Panelist – Fourth GeoScience Alliance National Conference.  
Phoenix, AZ.

**2018** *“Heart of the Monster: Salish Ethnohydrological Observation”* Guest Lecture –  
Salish Kootenai College Faculty Seminar. University of Montana, Missoula.

**2017** *“Traditional Salish and Kootenai Mourning and Death: Norms in the 21st  
Century.”* Oral Presentation – Institute of Health and Humanities, Telling Our  
Stories of Death, Dying and Grief Community Seminar. Missoula, MT.

**2016** *“STEM Education in the Tribal College and University System: Mediating  
Cultural Border Crossings using Culturally Congruent Instruction.”* Oral  
Presentation – 2016 Tribal College STEM Summit. University of Idaho, Moscow  
ID.

*“Salish Knowledge of the Stars”* Guest Lecture – 2016 University of Montana –  
University Center “Stories Under The Stars” Lecture Series. Missoula, MT.

**2014** *“Research on American Indian Science Education.”* Oral Presentation – 2014  
NSF Undergraduate Research in TCUP Institutions

*“The Importance of Building Research Capacity at Tribal Colleges: What Does  
Research Mean at a Tribal College?”* Oral Presentation – 2<sup>nd</sup> Annual North  
Dakota Tribal College Research Symposium

*“The Importance of Building Research Capacity at Tribal Colleges: What Does  
Research Mean at a Tribal College?”* Oral Presentation – 2014 NSF-TCUP  
Leaders’ Forum, Washington, DC.

**2011** *“Promoting Cultural Leadership Through Traditional Salish Scientific Education  
– Using Tools From Western Science”* Guest Lecture – Northwest Indian College  
Speaker Series

**2009** *“Promoting Cultural Leadership Through Traditional Salish Scientific Education  
– Using Tools From Western Science – Faculty Preparation Training for the  
Student to Academic Professoriate for American Indians (SAPAI) Program*

*“Scientific Knowledge Conveyed Through Native languages – An assessment and evaluation of scientific thought delivered in the Salish Language as a model for Tribal College student recruitment and retention in a STEM field”* Guest Lecture – 31<sup>st</sup> Annual American Indian Science & Engineering Society National Conference. Tempe, AZ.

*“Characterization of pre and post re-naturalized surface water/groundwater exchange, Jocko River, Flathead Indian Reservation, Montana.”* Guest Lecture – Writing Retreat for Student to Academic Professoriate for American Indians (SAPAI) Program

## **Grants and Awards:**

### **Active Grants**

March 2021 – March 2022 (PI 100%)

“Enhancement of Cross-Disciplinary STEM Research and Education at Salish Kootenai College”

US Department of Defense – Research and Education Program for Historically Black Colleges and Universities and Minority-Serving Institutions Equipment/Instrumentation  
Annual Direct Cost: \$600,000

Total Direct Cost: \$600,000

April 2021 – January 2022 (PI 100%)

“A Review of Salish Astronomical Knowledge”

Humanities Montana – Research Fellowship Grant

Annual Direct Cost: \$4,000

Total Direct Cost: \$4,000

May 2018 – May 2021 (Senior Personnel 5.4%)

“Co-development of a survey instrument to elicit Native American preferences for preventing dreissenid mussel invasion of Flathead Lake Montana”

USDA – Agriculture and Food Research Initiative (AFRI)

Annual Direct Cost: \$74,330

Total Direct Cost: \$148,660

August 2020 - May 2021 (Senior Personnel 5.5%)

“Indigenizing STEM Curriculum Project”

American Indian Higher Education Consortium

Annual Direct Cost: \$45,454

Total Direct Cost: \$45,454

### **Previous & Completed Grants**

October 2019 – September 2024 (Co-PI 50%)

“Salish Kootenai College Indigenous Research Center”

US NSF – HRD Tribal Colleges and Universities Program

Annual Direct Cost: \$570,000

Total Direct Cost: \$2,846,000

August 2017 – September 2022 (PI 100%)

“Collaborative Research: The Willow AGEP Alliance: A Model to Advance Native American STEM Faculty”

US NSF – HRD Alliances for Graduate Education and the Professoriate

Annual Direct Cost: \$79,178

Total Direct Cost: \$316,714

September 2017 – August 2018 (Co-PI 1%)

“A Symposium on Indigenous Water Knowledge and Hydrologic Science”

US NSF – Integrative and Collaborative Education and Research

Annual Direct Cost: \$86,466

Total Direct Cost: \$86,466

September 2017 – October 2017 (Co-PI 50%)

“Traditional Salish and Kootenai Mourning and Death: Norms in the 21<sup>st</sup> Century”

University of Montana – Institute of Health and the Humanities

Annual Direct Cost: \$500

Total Direct Cost: \$500

April 2017 – August 2017 (PI 100%)

“UM-SKC Water Quality Research – Nitrogen:Phosphorous Variation in a Constructed Wetland, Flathead Indian Reservation, Montana”

US NSF – Montana EPSCoR – Tribal College Sub-Award

Annual Direct Cost: \$40,000

Total Direct Cost: \$40,000

October 2012 – September 2016 (Co-PI, 47%)

“Research on American Indian Science Education (RAISE) Project”

US NSF – Tribal Colleges and Universities Program – Broadening Participation in Research

Annual Direct Cost: \$45,431

Total Direct Cost: \$287,125

October 2013 – September 2016 (Co-PI, 3%)

“Transforming Indigenous Geoscience Education and Research (TIGER)”

US NSF – Transforming Undergraduate Education in Science, Technology, Engineering and Mathematics – Type 2 Project

Annual Direct Cost: \$125,040

Total Direct Cost: \$375,122

July 2012 – June 2013 (PI, 100%)

“Increasing Traditional Salish Scientific Knowledge in the Science Curriculum”

American Indian College Fund – Mellon Faculty Research Fellowship, Annual Direct Cost: \$34,000

Total Direct Cost: \$34,000

September 2011 – May 2012 (PI, 100%)

“Increasing Traditional Salish Scientific Knowledge in the Science Curriculum”

American Indian College Fund – Nyswander-Manson/Blanchard Pre-Dissertation Faculty Grant,

Annual Direct Cost: \$10,000

Total Direct Cost: \$10,000

February 2011 – February 2012 (Co-PI, 50%)

“Expansion of Technology into the Hydrology Curriculum at Salish Kootenai College”

NASA – Montana Space Grant Consortium Educational Enhancement Solicitation

Annual Direct Cost: \$20,125

Total Direct Cost: \$40,251

February 2011 – February 2012 (PI, 100%)  
“NSF SBIR Phase II Community College Request”  
NSF SBIR Phase II Grant: 2008-33610-04514  
Annual Direct Cost: \$40,000  
Total Direct Cost: \$40,000

July 2011 – December 2011 (PI, 100%)  
“National Collaboration to Strengthen the Advanced Environmental Technology  
Education at Tribal Colleges”  
National Partnership for Environmental Technology Education  
Annual Direct Cost: \$8,999  
Total Direct Cost: \$8,999

September 2008 – July 2010 (PI, 100%)  
“Characterization of Fluvial and Parafluvial Function Related to Thermal Exchange  
Processes”  
Montana EPSCoR – Large River Ecosystems Tribal College Sub Award  
Annual Direct Cost: \$18,000  
Total Direct Cost: \$36,000

**Awards:**

Mellon Faculty Enhancement Fellow, American Indian College Fund, Salish Kootenai  
College, University of Montana; 2015-2018, Award Amount \$40,000.00

Mellon Faculty Research Fellow, American Indian College Fund, Salish Kootenai  
College, University of Montana; 2012-2013, Award Amount \$34,000.00

Alfred P. Sloan Fellows, University of Montana, Department of Geosciences, 2005-2008.  
Award Amount: \$36,000.00

Inland Northwest Research Alliance Fellow, University of Montana, Department of  
Geosciences - 2005-2007. Award Amount: \$50,000.00

NASA Montana Space Grant Consortium Fellow, University of Montana, Department of  
Geology, 2003-2005. Award Amount: \$31,100.00

American Indian Science and Engineering Society, Second place for best scientific poster  
presentation at 2005 National Conference, Charlotte, North Carolina.

American Indian Science and Engineering Society, Placed top three overall for best  
scientific poster presentation at 2004 National Conference, Anchorage, Alaska.

US Environmental Protection Agency Minority Academic Institute Fellow, University of  
Montana, Department of Geology, 2000-2001. Award Amount: \$10,384.00

American Geological Institute Scholar, University of Montana, Department of Geology,  
2000-2001, 2008-2009. Award Amount: \$2,000.00

**Honors:**

US Environmental Protection Agency Cooperative-Opportunity Educational Fellow,  
Salish Kootenai College and the Confederated Salish and Kootenai Tribes  
Environmental Protection Division, 1997-2000.



NASA Montana Space Grant Consortium Scholar, Salish Kootenai College,  
Environmental Science Program, 1998-2000.

American Indian Science and Engineering Society – US Environmental Protection  
Agency Tribal Land Scholar, Salish Kootenai College, Environmental Science  
Program, 1999-2000.

Milt Gossett Foundation Scholar, Salish Kootenai College, Environmental Science  
Program, 1995-1997.

US Forest Service Junior Fellow, Lolo National Forest and the University of Montana,  
Department of Forestry, 1992-1993.

**References:**

Dr. Regina Sievert – Program Director, Human Resource Development, National Science  
Foundation and Science  
[rsievert@nsf.gov](mailto:rsievert@nsf.gov), (703) 292-2808

Dr. Adrian Leighton – Division Chair & Director, Salish Kootenai College Natural  
Resources Division & the Center for Tribal Research and Education in Ecosystem  
Science  
[adrian\\_leighton@skc.edu](mailto:adrian_leighton@skc.edu), (406) 275-4800

Dr. Ke Wu – Associate Professor, Department of Mathematical Science, University of  
Montana [ke.wu@mso.umt.edu](mailto:ke.wu@mso.umt.edu), (406) 243-4818