

CURRICULUM VITAE

CLARITA LEFTHAND-BEGAY, MS, PhD

CONTACT

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ACADEMIC APPOINTMENT

2014-present Acting Assistant Professor, University of Washington, Department of American Indian Studies

EDUCATION

2014 University of Washington, Seattle, WA
School of Public Health and Community Medicine &
Institute for Risk Analysis & Risk Communication
Ph.D. in Environmental and Occupational Hygiene
Committee Chair: Elaine Faustman

2007 University of Washington, Seattle, WA
School of Public Health and Community Medicine
Master of Science in Environmental Health
Committee Chair: John Scott Meschke

2002 University of Arizona
Major: Biological Sciences
Minor: Chemistry
Bachelor of Science

ACADEMIC COMMITTEES AND UNIVERSITY SERVICE

2013-present Living Breath of Wəłəbʔaltx^w: Indigenous Ways of Knowing Cultural Food Practices and Ecological Knowledge Symposium

2010-present Intellectual House Working Group Committee

MAJOR GRANTS AND FELLOWSHIPS

- The 2008 Bullitt Environmental Fellow, August 2008, \$100,000 for two years
- Environmental Protection Agency (EPA) STAR Grant, August 2008, \$111,000 for three years, EPA Grant Number FP916982
- Tribes Natural Resource Department (Microbial Source Tracking Project), January 2007, \$22,000 for two years

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TEACHING

Summer 2012

- One 1.5 hour lecture in the UW Extension & Connex program consisting of college bound high school students alongside undergrads from the Heritage University, University of Washington, Eastern Washington University, Central Washington University, Seattle Pacific University and Yakima Valley Community College.
 - Topic 1: “Water quality, fish consumption and human health in Washington State”

Fall 2008

- Environmental Health 541/451: Ecology of Environmentally Transmitted Pathogens, 1-hour lecture “Vectorborne Infectious Diseases”
- Environmental Health 111: Exploring Environment and Health Connections, 1-hour lecture, “Environmental Justice”

Spring 2008

- Environmental Health 545: Water, Wastewater and Health, one hour lecture “Industrial Wastewater”

School Years 2006-2008

- Trained and mentored undergraduate and graduate students in the environmental health microbiology lab
 - Brandt Pein, Undergraduate
 - Christine Rohlik, Undergraduate & graduate
 - Eric Coker, Undergraduate & graduate

RESEARCH AND PROFESSIONAL INTERESTS

Research interests

- Examine and understand the water health disparities and outcomes within water insecure communities
- Examine and understand the water security gaps among communities in North and South America
- Examine and understand the impacts of climate change on vulnerable populations as a means to support viable adaption strategies including the use of traditional knowledge systems, and culturally appropriate capacity building measures
- Evaluate environmental and health policies that impede the access to ecosystem services

Professional interests

- Develop and teach curriculum about environmental justice issues within indigenous communities
- Develop and participant in activities and programs that focus on capacity development in communities in the United States and globally in order to improve human health, and to contribute to the reduction of health disparities
- Utilize a values-based approach with tribal governments and communities to identify their environmental health and water security goals
- Collaborate with initiatives that aim to retain and strengthen cultural values and indigenous knowledge systems

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RESEARCH EXPERIENCE

University of Washington

- **2009-Present:**
 - Designed, managed and executed a two-part dissertation project. In Part 1, a survey was designed that aimed to identify and rank barriers and opportunities to developing water quality criteria by tribal environmental managers. In Part 2, decision analysis was used to identify and organize water security priorities and values of two indigenous communities in the United States.
 - Applied a systems approach to examine water security (e.g., quality, quantity and accessibility) when conducting in-depth and focus group interviews among two case studies
 - Utilized structured decision making to identify and set culturally defined objectives and priorities to address water security issues
 - Ranked the barriers and opportunities experienced by two natural resource departments when seeking to apply for EPA's treatment in the same manner as state, and when developing their own water quality standards
 - Applied an ethical research standard that acknowledged the histories of indigenous communities, and developed MOUs that supported communication, transparency, and empowerment strategies among vulnerable communities
- **2008-2009:** Planned, performed and partially funded (EPA grant # FP916982) experiments that led to the development of a Q-RT-PCR method to detect viable bacterial cells in water using *Aeromonas hydrophila* as a model organism
- **2005-2008:** Designed, managed and executed efforts to fund and conduct a microbial source tracking research project with a Tribal nation in the Seattle region using male-specific coliphage and Bacteriodes 16s rRNA gene methodology
- **2006- 2008:** Performed and managed experiments for a microbial source-tracking project, using male-specific coliphage, in collaboration with the Indian Health Services and Squaxin Island Tribe

APTITUDES

- Qualitative and mixed-methods research design (e.g., surveys, questionnaires, focus groups and in-depth interviews)
- Decision analysis and structured decision making (e.g., value-focused thinking)
- Indigenous research methodologies and tribal institutional review board procedures and protocols
- Database modeling and building using Word and Python
- In-depth knowledge about environmental regulations and policies including policies that are specific to tribal nations (e.g., EPA's Clean Water Act, EPA's Indian Policy, Treatment in the same manner as State)
- Field work (e.g., collecting water samples from marine and fresh water following standard EPA protocols)
- Molecular biology, environmental health water microbiology and exposure sciences (e.g., Q-RT-PCR, microbial source tracking, bioassays, DNA sequencing, DNA and RNA extraction, bacterial culturing, etc.)

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CONFERENCE AND PROGRAM PLANNING

- Co-coordinated “The Living Breath of Wə̀lə̀bʔaltxʷ” Indigenous Ways of Knowing Symposium at the University of Washington, Fall 2014, Seattle, WA
- Co-coordinated “The Living Breath of Wə̀lə̀bʔaltxʷ” Indigenous Ways of Knowing Cultural Food Practices and Ecological Knowledge Symposium at the University of Washington, May 1-2, 2013, Seattle, WA
- Created, funded and planned the Native Environmental Justice Summer Research Program in 2009
 - This program was a 2-week program designed for advanced undergraduate and graduate students
 - The agenda can be viewed at: <http://wiki.claritalb.org/MyStartingPage>
 - Participants included: 4 paid undergrads, 12 grad students, 6 faculty and 14 community volunteers

PUBLICATIONS

- 3 manuscripts in progress: (1) Cultural Water Security Values and Structured Decision Making; (2) Barriers and Opportunities of EPA’s Treatment in the same manner as state; (3) Reflection paper from First Stewards Symposium 2012
- Cangelosi, Gerard A., Kris M. Weigel, Clarita Lefthand-Begay, and John S. Meschke. 2010. "Molecular Detection of Viable Bacterial Pathogens in Water by Ratiometric Pre-rRNA Analysis." *Applied and Environmental Microbiology* no. 76 (3): 960-962. doi: 10.1128/aem.01810-09
- Lefthand-Begay, Clarita, Master thesis “Microbial Source Tracking in the Tulalip Bay”, June 2008, University of Washington, Seattle, WA. Chair: John Scott Meschke

PRESENTATIONS AND TALKS

- “What it means to be an Indigenous Scientist: My life and research experiences”
 - 1-hr presentation, National Indian Center for Marine Environmental Research & Education at the Northwest Indian College, November 4, 2014, Bellingham, WA
- “Employing an Interdisciplinary Approach to Food Security and Indigenous Health”
 - 1-hr co-presentation, 2014 Washington State Public Health Association Conference, October 14, 2014, Wenatchee, WA
- “Groundwater Sustainability: Indigenous cultural values, uses and sources”
 - Invited lunch presenter, 2014 Ground Water Protection Council Annual Forum, October 6, 2014, Seattle, WA
- “Water Security, Food Security, Health, and Self-Determination”
 - 1-hr panel presentation at the “The Living Breath of Wə̀lə̀bʔaltxʷ” Indigenous Ways of Knowing Symposium, University of Washington, September 26, 2014, Seattle, WA
- “Water Security, Climate Change and Indigenous Health”
 - 1-hour panel presentation at the 9th Annual Vine Deloria, Jr. Indigenous Studies Symposium, July 10-12, 2014, Northwest Indian College, Bellingham, WA
- “Using a value-based approach to inform environmental management decision making aimed to meet the water insecurity needs of two tribal communities”

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- Poster presentation at the 2014 Annual Ph.D. Symposium: The Centrality of Urban in the Anthropocene: Implications for Graduate Research and Education, May 6, 2014, Seattle, WA
- “Using a value-based approach to inform environmental management decision making aimed to meet the water insecurity needs of two tribal communities” (Poster #812)
 - Poster Presentation at the Salish Sea Ecosystem Conference, May 1, 2014, Seattle, WA
- “Building a Community-based Native Environmental Justice Program in Higher Education”
 - 1-hr presentation at the National Indian Education Association Conference, November 2, 2013. Rapid City, SD
- “Structured decision-making analysis of water values in Pacific Northwest and Southwest Tribal Communities”
 - 20-min presentation about my doctoral work. Navajo Nation Human Research Review Board, 2013 Navajo Research Conference, October 23, 2013, Window Rock, AZ
- “Self-determination, environmental health stewardship and water health disparities”
 - 15-min webinar series presentation. Invited by the National Institute of Environmental Health Sciences, Partnerships for Environmental Public Health (PEPH). Series titled, “Environmental Health Disparities and Environmental Justice”, August 21, 2013, Seattle, WA
- “Self-determination, environmental health stewardship and water health disparities”
 - 15-min panel presentation at the National Institute of Environmental Health Sciences’ Addressing Historical Inequities: Environmental Justice for Native Americans, July 29, 2013, Research Triangle Park, NC
- “Indigenous Women in the Sciences”
 - 1.5- hour panel presentation at the “The Living Breath of Wəłəbʔaltx” Indigenous Ways of Knowing Cultural Food Practices and Ecological Knowledge Symposium at the University of Washington, May 1-2 2013, Seattle, WA
- “Water security among Pacific Northwestern and Southwestern Tribal Communities”
 - Poster Presentation as an American Public Health Association (APHA) American Indian, Alaska Native and Native Hawaiian Caucus Student Scholar, October 2013, San Francisco, CA
- “If we are going to survive, we have to do something!”
 - 12-min presentation as Witness for West Coast Panel, First Stewards Symposium, July 20, 2012, Washington, DC
 - The role of the witness was to attend four panel discussions, synthesize the information and present material back to the audience and organizers on the last day. Report for First Stewards can be located at:
http://www.firststewards.org/uploads/1/4/1/6/14163043/fs_2012_witness_report_twg.pdf
- “A values-based approach to identifying disconnects between Tribal community values and

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water quality standards in the Pacific Northwest and Southwestern United States”

- Poster Presentation at First Stewards Symposium, July 17-20, 2012, Washington, DC
- “Water Security and Sovereignty among Pacific Northwest and Southwestern Tribal nations”
 - 20-min presentation at the 7th Annual Vine Deloria, Jr. Indigenous Studies Symposium, July 12-14, 2012, Northwest Indian College, Bellingham, WA
- “The Opportunities and Barriers Experienced by Four Tribal Nations When Creating Water Quality Standards that are Culturally Grounded in Indigenous Community Values”
 - Poster Presentation for the Native Research Network’s 2012 National Conference "Asking Permission to Come Ashore: Journeys to Indigenous Health and Health Research", Seattle, WA
- “A Values-based approach to incorporating cultural values in water quality standards,” and Clarita’s professional and personal experiences
 - 2-hour presentation to undergraduate students attending the Muckleshoot Tribal College Speaker Series titled “Exploring contemporary social issues.” Auburn, WA, February 15, 2012
- “My Research Experiences”
 - 1-hour presentation to psychology undergraduates in the Center for the Study of Health and Risk Behaviors. Invited by Myra Parker, Ph.D., November 2011
- “A values-based approach to identifying disconnects between Tribal community values and water quality standards in the Pacific Northwest”
 - Poster Presentation: American Public Health Association (APHA), October 31, 2011, Washington, DC
- “Molecular Detection of Viable Bacterial Pathogens in Water By Ratiometric Pre-rRNA Analysis”
 - 1-hour talk: University of Washington Human Health and Oceans Center and NOAA's North West Fisheries Science Oceans and Human Health Center, January 26 2010, Seattle, WA
- “A Dream Realized: Forward Together with Hope”
 - 30-min talk: Graduate Student Speaker at Martin Luther King Jr. Tribute on January 15, 2009 in the UW Warren G. Magnuson Health Sciences Center lobby, Seattle, WA
- “Environmental Justice Issues in Indian Country”
 - 50-min presentation to undergraduate students selected for the Environmental Health Research Experience Program (EH-REP), July 2008, Seattle, WA
- “Microbial Source Tracking in the Tulalip Bay”
 - Poster presentation at the Society of the Advancement of Chicanos and Native Americans in Science, October 12, 2007, Kansas City, KS
 - Poster presentation: National Environmental Health Association, June 18, 2007, Atlantic City, NJ
 - Poster presentation: American Society for Microbiology, May 23, 2007, Toronto, ON
 - Poster presentation at the Northwest Indian College, February 16, 2007, Bellingham, WA

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- Oral presentation for the U-DOC High School Program, June 2006, Seattle, WA,
- Oral presentation for the STAR Undergraduates, June 2006, Seattle, WA

OTHER AWARDS AND SCHOLARSHIPS

- University of Washington's GO-MAP President's Graduate Scholar Award, Academic year 2005-2006, \$5000
- The American Public Health Association (APHA) American Indian, Alaska Native and Native Hawaiian Caucus Student Scholarship, October 2012: Travel expense award
- University of Washington Alumni Association Multicultural Alumni Partnership 2012 Scholarship: \$3,000 in September 2012
- Native Lands and Wilderness Council, 2012 Regional Gathering Celebrating the 30th Anniversary of the Mission Mountain Tribal Wilderness Flathead Indian Reservation: \$150 to cover registration fee, September 5-8, 2012
- Native American Students in Advanced Academics Outstanding Graduate Student award: \$250, June, 2007
- Association of Environmental Health Academic Program and Center for Disease Control's Research Competition Top Award: \$1000, and \$1000 travel expenses to AEHAP conference, April, 2007
- American Society for Microbiology Student Travel Grant Award: \$500, April, 2007