



WILLOW NEWSLETTER-HAPPY SUMMER! JULY- AUGUST 2021, ISSUE 4

The Willow Alliance for Graduate Education and the Professoriate (AGEP) is a collaboration between University of Montana in Missoula and Salish Kootenai College in Pablo, Montana, to develop, implement, and study a Model for the professional success of faculty and instructional staff in science, engineering, technology, and mathematics (STEM), who are enrolled in, and/or descendants of, Native American tribes. The WILLOW Alliance project is funded by the National Science Foundation (NSF) and aims to increase success of Native American STEM faculty (NAF-STEM) and advance knowledge about issues impacting their career progression in STEM fields. The project has three intervention components: 1. Indigenous Mentoring Program (IMP), 2. Research Publication and Grant Preparation program (RPGP) and, 3. Institutional Support Program (ISP). All components of the project are supported by a mixed-methods Social Science Research (SSR) approach using Indigenous Research Methodologies (IRM)* and an Indigenous Evaluation Framework (IEF).**

WILLOW TEAM MEMBER PROFILE: JENNIFER HARRINGTON

Jennifer Harrington is an enrolled member of the Turtle Mountain Band of Chippewa Indians. She has worked as a Research Specialist with the Willow mixed-methods Social Science Research team (SSR), in data collection and analysis. Jen has presented for Willow at the American Indian Science and Engineering Society (AISES) Leadership Conference on the SSR work.

She also participated in the Qualitative Data Analysis (QDA) workshop series facilitated by Dr. Mike Patterson. Jen has worked with multiple components of

Willow-AGEP, including the Indigenous Mentoring Program (IMP) and the Institutional Support Program (ISP).

In January of 2021, Jen successfully defended her master's thesis: "Tribal Consultation policy and practice: A case study of the Confederated Salish Kootenai Tribes and nmisuletk^w (the Middle Fork of the Clark Fork River) as a Tribal Trust Resource."

Jennifer is currently the Director of the Native American Natural Resource Program in the W. A. Franke

College of Forestry and Conservation at the University of Montana, Missoula. She provides support to the College's Native American students with applications, scholarships, internships, tutoring, financial assistance, and academic advising.



WILLOW'S RECENT DISSEMINATION EFFORTS

Willow has submitted a manuscript to a **Frontiers in Psychology** journal special edition, "Diversifying the STEM Fields: From Individual to Structural Approach." The article, *A Research Publication and Grant Preparation Program for Native American Faculty in STEM: Implementation of the Six Rs Indigenous Research Guiding Principles*, focuses on Research Publication and Grant Preparation (RPGP) with implementation of the 6 Rs: respect, relationship, representation, relevance, responsibility, and reciprocity. The following excerpts are from the article Abstract and Introduction: Faculty members in science, technology, engineering, and mathematics (STEM) disciplines are typically expected to pursue grant funding to support their research or teaching agendas. Providing effective professional development programs on grant preparation & management is crucial.

This study shares the design & implementation of such a program for Native American faculty in STEM (NAF-STEM) from two tribal colleges and one public, non-tribal, Ph.D. granting institution during a three-year period.

The role of NAF-STEM and their interactions with the program, as members of the community formed by their participation, impacted the program. Through reciprocity, NAF-STEM and the program research team continually refine the program through their mutual engagement. Results of the program offer lessons on the implementation of 6 Rs in professional development at institutions of higher education.

One of the project senior personnel who helped develop the idea of the project is a member of the Hidatsa tribe, who are also known as the "*People of the Willows*" because they traditionally lived along the river where willows were abundant. As the project was conceptualized, the vision developed of NAF-STEM as similar to willows: a group of people who were abundant and thriving, who also played a critical role in their ecosystem.

In many Native American cultures, willows symbolize inner wisdom; an open mind with the stability and strength of age and experience. They represent flexibility and adaptation - not only to survive, but to thrive in some

of the most challenging conditions and environments. Willow's brown **branches** symbolize structure, support, and a sense of responsibility. The **roots** symbolize being grounded, stable, and nurturing. The green **leaves** symbolize nature, fertility, and harmony.

In addition, willows are also traditionally used as a medicine and widely utilized in restoration for stream stabilization. The vision of the project was to create a model that supported NAF-STEM to become like the willows: abundant, contributing to a more diverse and enriched ecosystem, and a medicine for our people.

The Willow model's three interconnected components focus on support for NAF-STEM: Indigenous mentoring program (**branches**), institutional support program (**roots**), and research publication and grant preparation (**leaves**).

The creation process of the model was Native American-led by members on the team and guided by specific tenets of Indigenous Research Methodologies (IRM).

The Willow team is also working on an article based on Willow's Social Science Research Aim #1 to Examine the Collective *Lived* Experiences of NAF-STEM. In order to identify factors impacting their professional satisfaction and success, 17 NAF-STEM were invited from tribal colleges and non-tribal institutions to share their lived experiences in 10 Talking Circles.

Participants were asked what factors they identify with their professional satisfaction and success. Titled, *6 Rs Guiding Principles for Indigenous Research in Examining Experiences of Native American Faculty in Science, Technology, Engineering and Mathematics*, the study was guided by the same Indigenous Research Methodologies guiding principles: respect, relationship, representation, relevance, responsibility, and reciprocity.

An inclusive authorship protocol grew from this component of the project, offering invitation to the participating NAF-STEM to further engage in the analysis of data, development of manuscript, and publication authorship. This inclusive authorship approach created a change in relationships for the participants from a more frequently used expert-expertise model of an interviewee (extractive) to a collaborator (inclusive) model. This shift is intended to promote indigenous research methodologies to a discourse of inclusive ways of conducting research **on** NAF-STEM to **with** NAF-STEM.

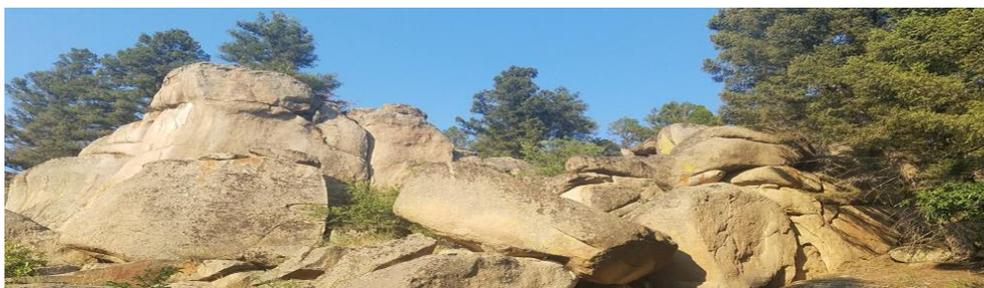
A workshop was developed for NAF-STEM in social science qualitative research. The 6 Rs were defined and redefined and expanded upon, based on the research literature to incorporate how they are intertwined, and complement and inform one another. Preliminary themes that emerged from the first stage of analysis were organized under the 6 Rs.

Results of the study will help Willow identify supports, opportunities, and challenges tribal colleges and universities (TCUs) and predominantly white institutions (PWIs) provide NAF-STEM, which are associated with their professional satisfaction and success, as well as emphasize the significance of incorporating the 6 Rs as decolonizing research methods.

Willow's Collaborative Writing Project (CWP) manuscript, led by Willow Fellows, "*Lived Experiences of Native American STEM Faculty in Academia: Navigating Respect, Relationship, Reciprocity, and Responsibility*," has been

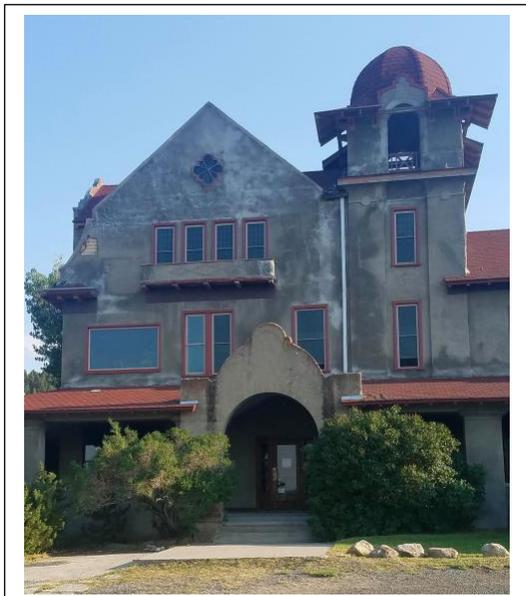
submitted to the peer-review Journal of Higher Education (JHE). The authors' compiled data based on Native American faculty responses to questions about their professional satisfaction and success, ranging from their inspiration for joining the

professoriate, to their unique challenges and transitions, their research and teaching approaches, as well as advice or strategies they use to sustain themselves or thrive in their positions.



Limestone formation near Boulder Hot Springs in southern Montana

WILLOW SUMMER WORKSHOPS



Boulder Hot Springs historic Inn, spa and retreat center
First constructed in 1863, the building has undergone many renovations and is now completely refurbished with antique furnishings reminiscent of its traditional and original splendor.

Kwataqnuq Resort on Flathead Lake in Polson, Montana



Willow had two workshops this summer. The Fellows' retreat was held at Kwataqnuq, a Confederated Salish and Kootenai (CSKT) tribally-owned and operated resort in Polson, on the south shore of beautiful Flathead Lake, the largest natural freshwater lake west of the Mississippi River. The workshop concluded with a field tour of the National Bison Range on The Flathead Indian Reservation, newly restored to federal trust ownership for the CSKT. The Willow team gathered in July at Boulder Hot Springs, a natural mineral-rich geothermal springs and spa in the Elk Horn Mountains' Peace Valley.

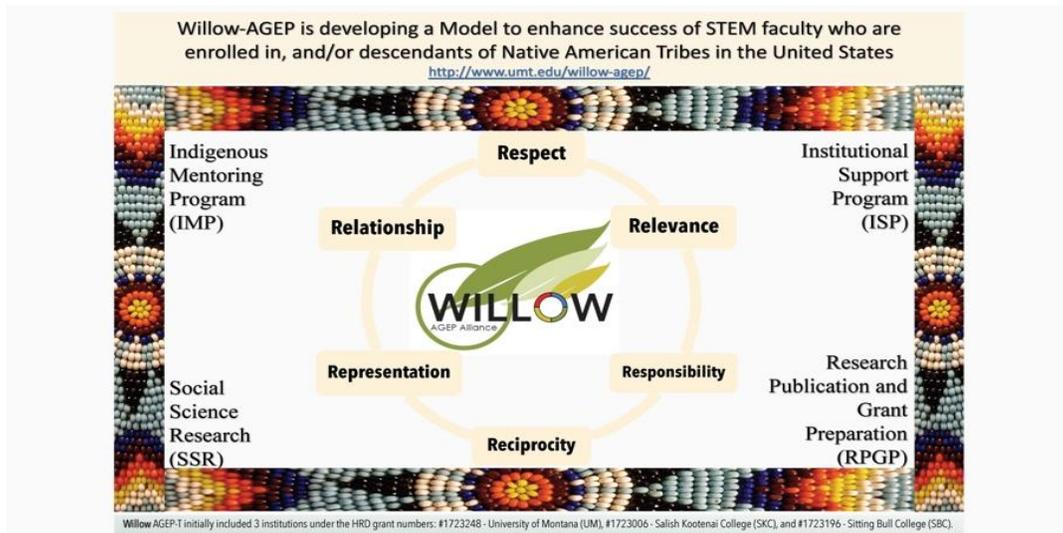
WILLOW ACTIVITIES

This fall, the Willow Qualitative Data Analysis (QDA) team will resume work on a manuscript addressing several research aims using the Hermeneutics approach in their analyses of the qualitative data. This manuscript intends to share the stories told in the Willow Talking Circles using participants' lived experiences on what can be done to improve representation of Native American Faculty in Science, Technology, Engineering, and Math (NAF-STEM).

The manuscript titled, "Exploring personal, relational, and collective experiences and mentorship connections that enhance or inhibit professional development and career advancement of American Indian/Alaska Native faculty in STEM fields: A qualitative study," has been submitted to the Journal of Diversity in Higher Education for peer-review. This manuscript is based on the interviews conducted to develop and implement Willow's Indigenous Mentoring Program for Native Faculty in STEM.

This past June 2021, Willow presented a Celebration Slide at the National Science Foundation (NSF) Alliance for Graduate Education and the Professoriate (AGEP) annual National Research Conference, which allowed the AGEP community to reflect on and affirm accomplishments of the 26 AGEP Alliance Model projects for the past year. An objective of the NSF-AGEP program is to broaden diversity in the research work place. NSF-AGEP are building on prior research toward their racial and ethnic equity program goals, to "*increase the number of historically underrepresented minority faculty* (the term used currently by Congress) *in STEM.*" AGEP populations are graduate-level students with greater potential to enter a faculty position within the project time frame (doctoral candidates), as well as postdoctoral scholars and faculty, who are Native American, Native Alaskan, Native Hawaiian, Native Pacific Islanders, African American, and Hispanic American.

The Willow-AGEP Celebration Slide below highlights Willow's multifaceted program components and the 6R's guiding principles of Indigenous Research Methodologies. *



Willow Celebration Slide



Looking northeast toward the Mission Mountain Range on the Flathead Indian Reservation at the top of the National Bison Range

Terms:

* Indigenous Research Methodologies (IRM) – According to, Resources & Suggested Readings: Cultural Humility and Supporting Native Students Workshop (Pretty Paint, Feb. 2021), Indigenous Methodologies are, *“The approaches and methods, rules and postulates employed by Indigenous research aimed to ensure that indigenous research be carried out in a more respectful, ethical, correct, sympathetic, useful and beneficial fashion.”*

According to the Intercontinental American Indigenous Research Association (iAIRA), Indigenous Research Methodologies are *“based in the paradigms, philosophies, knowledge systems, values and beliefs of Indigenous communities, engaged in research — to any and all research carried out with Indigenous peoples”*...quoting Kovach (2010); Wilson (2008); and Smith (1999).

** Indigenous Evaluation Framework (IEF) – According to, the American Indian Higher Education Consortium (AIHEC 2009), IEF Strategies for Grounding the Evaluation in Traditional Ways of Knowing and Core Values include, *“Indigenous knowledge creation in context; respect for place-based programs and connections to family and community; consideration of the whole person in assessment and recognition of their gifts, and sovereignty, which supports ownership and builds capacity.”*

WILLOW QUOTE OF THE MONTH

“Indigenous knowledges...reside in the land, in the life that constitutes the ecologies in which we participate, and dwells within the Earth’s environments.” -Dr. Daniel Wildcat, RED ALERT! Saving the Planet with Indigenous Knowledge, 2009