



WILLOW NEWSLETTER-HAPPY SPRING! APRIL - MAY - JUNE 2021, ISSUE 3

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. Grant Preparation and Management Training program (RPGP) and, 3. Institutional Support Program. All components of the project are supported by a mixed-methods Social Science Research (SSR) approach.

WILLOW TEAM MEMBER PROFILE: SALENA HILL

Salena Hill, Ph.D. is a member of Willow's Social Science Research team (SSR). She has worked with our Institutional Support Program (ISP), participated in the qualitative data analysis (QDA) workshop series and data collection, and has continued to provide expertise to the project as a manuscript reviewer. Dr. Hill successfully defended her dissertation, "Education is your most powerful weapon: Gaining understanding from Apsaálooke knowledge," in June 2020 and received her

doctorate from University of Montana's Counselor Education Department in August 2020. She was then hired by American Indian Graduate Center as the Rising Native Graduates Program Manager where she managed an academic coaching program connecting AIGC alumni with Native undergraduate students pursuing a graduate education. In Fall 2020, Dr. Hill was selected to participate with the MUS Teaching Scholars program and this spring has

been co-facilitating a Faculty Learning Community titled, "Relationships and Representation: Fostering Partnerships for Equitable Indigenous Education." In February 2021, she accepted a position with the University of Montana as the Director of Inclusive Excellence. In this new role, Dr. Hill will work closely with students to promote diversity, equity, inclusion and anti-racism efforts to help foster an inclusive campus environment.

WILLOW'S RECENT DISSEMINATION EFFORTS

The Willow team is preparing to submit two abstracts to peer-review journals, one for the qualitative data analysis component (QDA) and one for our Research Publication and Grant Preparation program (RPGP).

The first proposed article will address the overall framework for the development and implementation of the Willow program, which is guided by the 6 Rs Indigenous Research principles – respect, relationship, representation, relevance, responsibility, and reciprocity.

The second proposed article is based on Willow's Social Science Research Aim #1 to Examine the Collective *Lived* Experiences of Native Faculty in Science, Technology, Engineering, and Mathematics (NAF-STEM). In order to identify factors impacting their professional satisfaction and success, we invited 17 NAF-STEM 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.

Both of the abstracts are being prepared to submit to the *Frontiers in Psychology Journal* for a special edition on *"Diversifying the STEM Fields: From Individual to Structural Approach."*

The Willow Qualitative Data Analysis (QDA) team has prepared an abstract and is drafting a manuscript, which will address several research aims. The intention of the manuscript is to share the story told in the Talking Circles using the participants' lived experiences on what can be done to improve NAF-STEM representation. QDA is using the Hermeneutics approach in their analyses of the qualitative data. This abstract has been submitted to the National Science Foundation (NSF) supported *ADVANCE Journal*, special issue: *"Collaborations, Collisions, and Connections."*

Willow's Collaborative Writing Project (CWP) led by Willow Fellows, has developed a manuscript titled, *"Lived Experiences of Native American STEM Faculty in Academia: Navigating Respect, Relationship, Reciprocity, and Responsibility."* 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. This manuscript is near completion and will be submitted to the peer-review *Journal of Higher Education (JHE)*.

A new 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. The manuscript is based on the interviews conducted to develop and implement Willow's Indigenous Mentoring Program for Native Faculty in STEM.

Dr. Ruth Plenty Sweetgrass-She Kills and Jennifer Harrington from Willow's Social Science Research (SSR) team presented the following poster at the National AGEP Alliance conference

on March 11, “An Investigation of Native STEM Faculty’s Experiences on Professional Advancement: Identifying Supports, Opportunities, and Challenges.”

An investigation of Native STEM Faculty’s Experiences on Professional Advancement: Identifying Supports, Opportunities, and Challenges

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Willow Alliance Project Overall Goal

To develop, implement, study, and disseminate a model enhancing the professional success of Science, Technology, Engineering and Math (STEM) instructional and research faculty who are enrolled in, and/or descendants of, and/or affiliated with, the nation’s Native American Tribes.

Social Science Research Aims

1. Explore the personal, relational, and collective experiences of Native American STEM faculty (NAF-STEM) that enhance or inhibit their professional development and career advancement.
2. Examine the underlying institutional issues that impact promotion and advancement of Native American STEM faculty.
3. Explore approaches that NAF-STEM use to increase their promotion and advancement in academia.
4. Examine the environmental differences in how support is provided to NAF-STEM at Tribal Colleges and non-Tribal Colleges and universities.
5. Assess the effect of STEM departmental institutional climates on NAF- and non-NAF-STEM professional development, promotion, and advancement experiences.

The Willow Alliance: Program Components

Circle Methodology Current Status

- 17 NAF-STEM participated in 10 Circles.
- Authorship protocol developed and implemented for NAF-STEM to participate in a new level of engagement and representation. Change in relationship: from interviewee to collaborator.
- Qualitative research workshop developed for interviewees with varied experience to assist with data analysis, interpretation and dissemination.
- Thematic analysis of the transcripts to:
 - Identify barriers and supports for NAF-STEM
 - Develop recommendations for improved institutional environments
 - Improve NAF-STEM representation across campuses

Qualitative Research Workshop

Week 1: Revisiting the Question – What is Science?
Week 2: There is No Qualitative Method in Science. But there is Grounded Theory, Phenomenology, Hermeneutics or Content Analysis
Week 3: Contrasting the Hermeneutic Approach, Content Analysis Approach and Ethnographic Approach Qualitative Analysis Methods
Week 4: Contrasting Hermeneutic Approach contrasted with a Researcher Coding Approach
Week 5: Practice analysis of interviews from prior studies
Week 6: Group works on analysis of a Talking Circle for the Willow Project
Week 7: Group works on a second Talking Circle for the Willow Project

Guiding Principles for Willow AGEP Collaboration and Research

6 R's Practice Framework (Baskin, 2005; Chisla, 2012; Kirkness & Barnhardt, 1991; Restoule, 2006; Kovach, 2009; Stanton, Hall, & Ricciardelli, 2017)
Communities of Practice (Wenger, 2011)
Cross-Cultural Digital Storywork (Stanton et al., 2017)

Circle Methodology
 Interview Guide Themes and Selected Interview Guide Questions

- 1. Connecting**
What is important for us to know about who you are, your ancestors, and where you come from as an Indigenous person?
What is important for us to know about your academic journey and your academic advisors, mentors, and/or intellectual ancestors?
- 2. Reframing**
Experiences and goals?
Definitions of success?
- 3. Survival**
Frequency (if any) and pressure to change
What additional policies should exist?
- 4. Sharing**
Incorporating into teaching
- 5. Negotiating**
Support from institution?
Institutional policies that foster respect
What additional policies should exist?
- 6. Representation**
In your service equivalent to other faculty? (Institutional and departmental)
Do service obligations impact you personally?
- 7. Remembering**
Difference in teaching, research and service roles? (NAF and non-NAF)
If yes, how?
- 8. Envisioning**
What do you propose as best practices for supporting new Native American faculty or research associates in STEM?
- 9. Networking**
Trusting peer relationships and the benefits.
Trusting mentoring relationships the benefits.
- 10. Claiming or Reclaiming**
What professional avatars related to your Indigenous identity, values, and/or culture?
- 11. Creating**
What something you developed or created in your career that you are most proud of or see the most rewarding?
- 12. Writing**
What types of tools do you use to share Indigenous knowledge (such as personal interaction, writing, PowerPoint, visual media, software, or press coverage)?

Institutional Climate Study

Study focus

- Organizational culture at Native American faculty (NAF) current academic institution
- NAF will provide valuable knowledge and information by completing the survey
- Topics focus on how research and teaching faculty perceive current organizational culture and how administrative leaders might support them.

National Institutional Climate Study Methods
 Identification of survey constructs: literature, circle data, IMP interviews
 Recruitment of participants: NAF-STEM from the U.S.
 If you are interested in participating, contact Ruth Hall at rhall@nhsc.edu.

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WILLOW SOCIAL SCIENCE RESEARCH PRESENTATION POSTER FOR NATIONAL AGEP ALLIANCE CONFERENCE

WILLOW ACTIVITIES

Willow has finalized the [institutional work climate survey](#) for NAF-STEM for national distribution. It is currently being sent to over 400 potential survey respondents.


Willow’s Institutional Support Program (ISP) has narrowed down the list of institutions to include in discussions of potential policy/practices to support NAF-STEM and is focusing on institutions with established relationships to Willow members.

Willow has developed an authorship protocol which facilitates inclusion of Indigenous participants as research partners and authors. The co-authorship protocol is currently under Legal review, to ensure each component is following the same criteria for authorship for all products generated from Willow, and to address language for potential future collaborations. Existing authorship protocols are being examined at our Alliance institutions.

Willow team members have collaborated on a proposal entitled, “*Broadening Career Pathways in Food, Energy, and Water Systems (FEWS) with and within Native American Communities – Native FEWS Alliance,*” with the University of Arizona and the University of California Berkeley.

Willow team members attended a number of AGEP project presentations in March. One addressed NSF's recent announcement on AGEP Program Language Clarification and the **AGEP Program Goal Statement**: "To increase the number of historically underrepresented minority faculty in STEM," and recognizing that the use of the term "historically underrepresented minority" reflects language from Congress, while NSF is discontinuing this and similar terms in their programming.

Willow will schedule a meeting with administrators from our Alliance institutions in the coming months to share our findings on NAF-STEM experiences and obtain insights on recommendations for potential policies and best practices to support NAF-STEM.



On January 20, 2021, the Biden administration issued White House Executive Order 13985: "Advancing Racial Equity and Support for Underserved Communities Through the Federal Government."

"It is...the policy of my Administration that the Federal Government should pursue a comprehensive approach to advancing equity for all, including people of color and others who have been historically underserved, marginalized, and adversely affected by persistent poverty and inequality. Affirmatively advancing equity, civil rights, racial justice, and equal opportunity is the responsibility of the whole of our Government. Because advancing equity requires a systematic approach to embedding fairness in decision-making processes, executive departments and agencies. Agencies must recognize and work to redress inequities in their policies and programs that serve as barriers to equal opportunity."

NATIONAL SCIENCE FOUNDATION (NSF) AGEP CHANGE-MAPPING WEBINAR PRESENTATION SLIDE

NSF-AGEP CHANGE MAPPING WEBINAR

In February, the National Science Foundation's (NSF) Alliances for Graduate Education and the Professoriate (AGEP) sponsored a webinar on their evaluation methods and **Change Mapping for Alliances**. The scope of the webinar focused on a global view of the AGEP Alliance landscape while exploring two complementary perspectives.

The goal of the webinar was to examine individual alliances' change models and ask questions on how each Alliance Model is assessing their project's goal components. Discussion revolved around how change model analysis helps the individual alliances reflect on their Models with theory of change, barriers to success, level of change, and focus of

change. Breakout sessions allowed participants to explore their own interpretation of change mapping for their respective alliances. NSF-AGEP encouraged the participating Alliance teams to continue having conversations on this topic, as they move forward in adaptation and expansion of their programs and products.

WILLOW QUOTE OF THE MONTH

*“The ability to have the type of question-oriented conversation found in peer review also requires that we have formed effective relationships... **Relationships** that help us understand we are a community comprised of individuals with different perspectives working together to enhance our collective understanding so we can better serve and support people and the world in which we live.”*

-Dr. Michael Patterson, Fall 2019
Willow Qualitative Discussion Group



The primary sponsor for the Willow Alliance for Graduate Education and the Professoriate (AGEP): A Model to Advance Native American Faculty in Science, Technology, Engineering, and Math (NAF-STEM) is the National Science Foundation (NSF), Directorate for Education and Human Resources (EHR), Division of Human Resource Development (HRD). This is an AGEP-T: Alliances for Graduate Education and the Professoriate - Transformation under these HRD grant numbers: #1723248 - University of Montana (UM), #1723006 - Salish Kootenai College (SKC), and #1723196 - Sitting Bull College (SBC). Any opinions, findings, and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.