

CONNECTING WYOMING:

CREATING STATEWIDE ENGAGEMENT THROUGH DIGITAL ACTION

I. NAME(S) OF TEAM MEMBERS: STATE NAMES OF PI AND RESEARCH TEAM:

Co-Principle Investigators:

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UW planning participants:

Amy Banic, Computer Science, UW Center for Design Thinking; **Katie Christensen**, UW Art Museum; **Mark Clementz**, Geology and Geophysics, UW Geological Museum; **Nicole Crawford**, UW Art Museum; **Mariah Ehmke**, Agriculture & Applied Economics; **Andrea Graham**, American Studies; **Alyson Hagy**, Creative Writing; **Isadora Anderson Helfgott**, Global Engagement Office, History; **Tyler Kerr**, CEAS, UW CEAS Innovation WYrkshop; **Kelly Kinney**, English; **Bethann G. Merkle**, Wyoming Cooperative Unit, Zoology and Physiology; **Fabian Nippgen**, Ecosystem Science & Management; **Ginger Paige**, Ecosystem Science & Management; **Peter Parolin**, Honors College, English; **Peter Scott**, CEAS and COB; **J.J. Shinker**, Geology and Geophysics; **Laura Vietti**, Geology and Geophysics, UW Geological Museum

II. NATURE OF THE PROBLEM:

Grand Challenges Central Theme: Public Trust in Research and Information. Due to the trans- and interdisciplinary nature of this project, teams will be able to address all the remaining central themes, as well: Biodiversity and Earth System Change, Energy Transition and Economic Diversification, Rural Health Issues, and Quality of Democracy and Equality.

Nature of the Problem: Public trust in science, in the value of the arts and humanities, and in institutions of higher learning are strained across the nation. In addition, Wyoming citizens have limited access to the wide variety of dynamic research and information produced at the University of Wyoming, and cultural organizations are struggling during the pandemic. A closer connection and clearer, more frequent communication between UW and the Wyoming citizenry can alleviate these problems. Without more robust interactions with the citizens of Wyoming, we cannot hope to create confidence in the information that UW produces.

Project Narrative: The Grand Challenges planning funds will allow our trans- and interdisciplinary team to create the pilot program, “Connecting Wyoming: Creating Statewide Engagement through Digital Action” to address the lack of connectivity between UW, statewide cultural institutions, organizations, and the citizens they serve. The program integrates three categories of participants: UW students, UW scholars (researchers and teachers across disciplines), and Wyoming institutions and organizations (libraries, museums, historical societies, NGOs, research institutes, and more). We propose the creation of a student digital internship program in the digital and public humanities as a conduit for connecting research efforts (STEM, humanities, social sciences, arts) with the citizens of Wyoming. UW scholar and UW student digital intern collaborations will be referred to as UW scholar teams. The result will be trans- and interdisciplinary engagement through statewide digital action.

Connecting communities in the digital age: In partnership with one or more state organization, UW scholars will work with student interns to translate research into Digital Community Learning Modules (DCLMs), public programming in the form of webinars, interactive tours, podcasts, virtual workshops, live and online discussions, Q&S sessions, public response panels, and other innovative activities for communities across Wyoming. The digital format of content delivery has the potential to reach further into the rural populations that are the direct audiences for regional organizations and cultural institutions. This program will create reciprocal, real dialogue, not just UW talking at the public.

This program will provide students with robust digital communication skills, facilitate undergraduate research, create career opportunities, and promote student entrepreneurship at UW and across the state. Students will receive trans- and interdisciplinary mentoring, course credit, invaluable work experience, and will gain critical skills for the 21st-century workplace such as trans- and interdisciplinary and collaborative thinking, multi-modal communication, and enhanced digital technology literacy.

Now is the time to harness digital modalities to connect Wyoming. The possibilities for creating connections between undergraduate and graduate students, UW scholars, and communities across Wyoming are virtually endless.

Methodology: Our methodological approach is to utilize the five-stages of Design Thinking - **empathize** (understand community need), **define** (translate need into ideas), **ideate** (innovate on ideas to streamline solutions), **prototype** (translate ideas into tangible solutions), and **test** (user test locally, and then with state partners) - to gain public trust (and understanding) of the University through digital programming, disseminated through statewide community and partner organizations.

Four Pillars: This project directly addresses President Seidel’s priorities to make the University more:

- **Digital:** Our program of trans- and interdisciplinary UW scholar teams will develop digital resources and DCLMs to reach communities across the state.
- **Entrepreneurial:** Housed in the UW Center for Design Thinking (CDT), and organized in partnership with the Wyoming Institute for Humanities Research (WIHR), UW scholar teams will learn how Design Thinking methodologies can enrich entrepreneurial initiatives and how public humanities are integral to the state economy. In addition, students will witness the economic impact of community organizations and understand their role in the cultural sector of Wyoming.
- **Interdisciplinary:** UW scholar teams will consist of a scholar or group of scholars with intersecting research interests and students from different majors. All will learn about emerging digital trends, multi-modal digital communication tools, and Design Thinking methodologies.
- **Inclusive:** Preference will be given to UW scholar teams projects that demonstrate inclusivity and that actively engage underserved populations and organizations across Wyoming.

III. WORK PLAN: PROGRAM BUDGET AND TIMELINE:

EXPENDITURES	TIMELINE	COST
Co-PI Stipend: (\$1,500 x 2)	Spring 2021	\$3,000
UW scholar 3-day Planning retreat (12 people): catering (\$1,500), honoraria (10 people - \$500 each = \$5,000), books (\$350), supplies (\$150)	Late-spring, 2021	\$7,000
Public speaker series and workshops (spring-summer 2021): <ul style="list-style-type: none"> • Keynote address: Design Thinking and the Digital Humanities • Public sector digital engagement and interpretation • Interdisciplinarity and collaboration • Multi-media and digital design innovation 	Spring and early-summer, 2021	\$10,000
Total Request:		\$20,000

Work Plan: During the initial planning stage our team intends to complete the following tasks:

- **Planning retreat/workshop:** Host a planning retreat/workshop for UW participants to create a roadmap for the project by finding trans- and interdisciplinary threads in research and teaching; identifying key research and informational projects, community partners; and developing learning objectives for student digital interns.
- **“Get the word out” and raise awareness:** Funding will support promoting project to students, UW scholars, and community partners. We plan to host a public speaker series and workshops to engage the

UW community, and local and statewide communities and citizens on the power and potential of the digital humanities.

- **Recruitment:** Recruit undergraduate and graduate student digital interns to participate as part of trans- and interdisciplinary UW scholar teams. Recruit and build initial partnerships with state organizations to identify organization and audience needs and best implement digital programming (proposed for fall 2021).
- **Develop DCLMs:** Develop an innovative set of DCLMs through discussion with initial UW and statewide participants to best meet the needs of diverse and often rural audiences.

IV. UW INITIATIVES AND CONNECTIONS SHARED WITH WYOMING:

The two Co-PIs of this project represent the Wyoming Institute for Humanities Research (WIHR) and the UW Center for Design Thinking (CDT). As such, they already have access to a wide, trans- and interdisciplinary base of UW scholars and students, and established statewide networks of partnerships. Both Co-PIs already manage digital internships and are situated to expand their programming to the wider Wyoming community.

In addition, Wyoming already has significant digital and entrepreneurial resources scattered across the state. Additional digital training and resources, and statewide connections will be provided by the UW CEAS Innovation WYrkshop. Housed in the College of Engineering and Applied Science Engineering and Education Resource Building (EERB), the UW Innovation WYrkshop will provide support for this proposed project that includes access to a wide ranging library of digital learning modules, public access to all technology and equipment, connections to statewide innovation and makerspaces to support community partners and UW scholar teams that need to venture out into the state, and access to their Badge learning program housed in UW’s licensed Instructure platform. Please see equipment, Badges and workshops here: <https://www.wyrkshop.org/search-workshops>.



The UW Center for Design Thinking (CDT) serves to help position the University of Wyoming at the forefront of Design Thinking, critical making, and trans- and interdisciplinary research, scholarship, and entrepreneurship. The Center for Design Thinking (CDT) aims to drive

hands-on and collaborative learning to develop innovative solutions to complex problems; design new and thoughtful technologies; explore emergent design practices and develop new economic drivers and entrepreneurial initiatives for the University and state. The CDT is a collaboration – co-led by Professor’s Brandon S. Gellis, Visual and Literary Arts Department, and Amy Banic, Department of Computer Science – that seeks to engage faculty, researchers, students, entrepreneurs, and citizens to help guide innovation, education, research, and outreach opportunities.

Along with WIHR, the CDT will play an integral part in this proposed project; it will serve as the UW main campus hub for UW scholar teams to meet, work, collaborate, and conduct research exchange exercises; provide space and digital resources for digital interns to develop, record, and present DCLMs virtually and in-person; serve as a central meeting space for this program’s team; provide space for in-person and virtual digital and public humanities workshops for K-12, community colleges, and community members; and serve as a centralized hub for visiting community partners and citizens.



The Wyoming Institute for Humanities Research (WIHR) strives to be an engine for producing interdisciplinary research in the humanities; a community for faculty, students, and the public; and a model of democratic education fit for our land-grant university.

WIHR is a natural hub for faculty and students to share ideas and make scholarly and curricular connections. The Institute also pursues public outreach that aids the programmatic outcomes of this proposal and will eventually be, with the UW Center for Design Thinking, the permanent home for “Connecting Wyoming and the World.” A strong advocate of public humanities work, WIHR seeks to engage the communities of Wyoming through diverse programming. Humanities scholarship, curriculum,

and public outreach has made WIHR a cultural leader in Wyoming, with an extensive network of partners across the state and around the world.

V. PROGRAMMATIC OUTCOMES

Connecting Wyoming has the potential for creating a sustained and meaningful impact in Wyoming. Our ultimate goal is ongoing innovation in research, teaching, and community engagement. We believe that this program has the ability to change the way that UW scholar teams work together, and the way that UW engages Wyoming. As the program grows, professional networks will also expand—for our students, our scholars, and the cultural institutions of Wyoming. All digital programming and DCLMs will be provided open access to the public.

CONNECTING WYOMING: PROGRAMMATIC OUTCOMES		
<i>ENRICHING DIGITAL STUDENT ENGAGEMENT</i>	<i>ENRICHING UW SCHOLARS AND RESEARCH</i>	<i>ENRICHING WYOMING COMMUNITIES</i>
Develop Digital Tools: Industry-Oriented Skills for the 21 st Century Job Market	Promote UW Scholarship Across Wyoming	Connect WY Partners to UW Scholarship: Access to cutting-edge research
Develop Digital Programming: Digitally Connect Statewide Learners	Translate UW Research to Statewide Audiences	Boost Public Trust & Understanding through UW scholar teams' digital programs
Turn Knowledge into Action: Work with UW scholars to Understand and Communicate Research	Work with UW Interns to develop Digital Learning Resources	Connect WY citizens with UW Technology, Resources and Partners
Develop Professional Networks: Turning Digital Internships into Careers	Connect People: Create New Research and Learning Opportunities	Encourage Citizen Scientists, Artists, Humanists, and Scholars
Enhance Wyoming's Cultural Economy through Innovation and Entrepreneurship	Promoting Innovation in Teaching: Create New Transdisciplinary Pedagogies	Enhance Partner Institution Reach, Visibility, and access to Global Audiences

VI. SUSTAINABILITY

Additional funding opportunities:

We (CDT and WIHR) will pursue additional UW and external funds during the pilot program to ensure program longevity. We seek to create a permanent funded home and staff position for this work.

- Provost’s Strategic Investment Fund
- NEH Digital Humanities Advancement Grant/ NEH Humanities Initiatives at Colleges and Universities/ NEH Media Projects Grant—to develop the Rural Connections Wyoming Program
- Teagle Foundation Grant—to connect UW with the Wyoming Community Colleges in pursuit of public humanities development across Wyoming
- Mellon Foundation Grant—to create a permanent foundation for the long-term success of the program (WIHR)
- NSF – research on/with digital and emerging technologies for research and pedagogy; and iTest funding

EXAMPLE PROJECT & DIGITAL PROGRAMMING IDEAS		
<i>UW SCHOLARS AND RESEARCH (EXISTING AND PROPOSED)</i>	<i>WY INSTITUTION PARTNERS (EXISTING AND PROPOSED)</i>	<i>INTERN PROJECTS AND OUTCOMES (HYPOTHETICAL)</i>
An undergraduate dual majoring in American Studies and Outdoor Leadership accepts a digital internship working with a hydrogeologist and watershed hydrologist team, and the Hot Springs County Library, located in Thermopolis, WY.	Residents near Hot Springs County Library, located in Thermopolis, WY.	With the guidance of the UW geologist, the intern decides the best digital resource to reach Hot Spring County residents during fall and winter is to create a live-webinar series on the geological and hydrothermal significance of that area.
An undergraduate student majoring in History has been invited to work with a cultural anthropologist and human geographer team, and the Shoshone Tribal Cultural Center in Fort Washakie to develop a series of digital programs between tribal members and UW scholars about infrastructure issues related to indigenous populations.	Tribal members, indigenous residents, residents and international visitors to the Shoshone Tribal Cultural Center and their Website.	The UW scholar team and Shoshone Tribal Cultural Center director believe a two-prong digital approach will work best for this project and allow UW scholars to share their research findings. The digital intern will host a live-Q&A panel between tribal members and UW and state scholars to be broadcast online and develop a professional-video for the Shoshone Tribal Cultural Center and Website.
A recent graduate of the UW BFA in Graphic Design program has shown a strong comprehension and interest in computer science and 3D visual design approaches. She has been accepted as a PhD computer science student. To earn extra income during the summer and expand her learning and teaching skills, she has been hired to develop a free mobile application (App) as the main digital tool of a statewide engagement project based in the Shell 3D Visualization Center in the School of Energy Resources.	Cultural institutions near each research field site, statewide audiences, tourists, and anyone interested to download the App. The App will be published for free, globally on the Apple iOS and Android App Stores and will be downloadable from the Shell 3D Visualization Center Website and project partners.	The App will need to be robust, present research and data from 5-key field sites across Wyoming and be scaled small enough that it and data can be downloaded on mobile devices, not needing continual access to cellular data. Often users will not have access to data in rural parts of Wyoming. The App needs to be stable and efficient; it will be used as proof of project success for the project funders and further grant and donor proposals.
An undergraduate student majoring in Marketing has been hired as a lab technician in a Wyoming Cooperative Fish and Wildlife Research Unit lab to assist with a graduate research project and to co-develop a virtual conference on raptor populations, in conjunction with the Wyoming Falconers Association and the Wyoming Game and Fish Department.	Wyoming Falconers Association members, Wyoming Game and Fish Department researchers and constituents; conference participants, donors, legislators and the Public.	The Marketing student will get to learn about different aspects of ornithological research, help process observational and biological data. The undergraduate and graduate student will work together with UW ECTL, to develop an online conference platform, sessions, presentation recording and archiving for all audiences. Presentations/papers will be archived on a conference Website.

CONNECTING WYOMING

STUDENTS CREATING STATEWIDE ENGAGEMENT THROUGH DIGITAL ACTION

CENTER FOR
DESIGN THINKING
UNIVERSITY OF WYOMING

WYOMING
INSTITUTE FOR
Humanities
RESEARCH
UNIVERSITY OF WYOMING

GRAND CHALLENGES CENTRAL THEME: PUBLIC TRUST IN RESEARCH AND INFORMATION

NATURE OF THE PROBLEM:

- Public trust in science, in the value of the arts and humanities, and in institutions of higher learning are strained across the nation.
- Wyoming citizens have limited access to research & information produced at UW.
- Public trust in the University is weakened, in part, by this disconnect.

PROPOSAL NARRATIVE:

Connecting Communities in the Digital Age:

- Develop transdisciplinary UW scholar teams (UW scholars and digital-student interns)
- Partner with statewide cultural institutions, research institutes, and organizations to develop Digital Community Learning Modules (DCLMs)
- Develop cultural exhibits, immersive and Augmented Reality (AR) exhibits, webinars, virtual panels, podcasts, K-14 activities, videos, and more
- Translate academic research into tangible and accessible information
- Communicate with Wyoming citizens to inform and build trust

UW PRESIDENT SEIDEL'S PRIORITIES:

DIGITAL:

Our program of trans- and interdisciplinary UW scholar teams will develop digital resources and DCLMs to reach communities across the state. All DCLMs will be made available for public access.

ENTREPRENEURIAL:

This is a partnership between UW Center for Design Thinking (CDT) and the Wyoming Institute for Humanities Research (WIHR)

This program will ensure that UW scholar teams learn how Design Thinking and Public Humanities methodologies can:

- Promote collaborative engagement and knowledge transfer
- Work directly with community partners, cultural institutions, businesses, non-profit organizations, etc., to develop and implement digital programming
- Prepare students for competitive career and graduate education opportunities

TRANS- AND INTERDISCIPLINARY:

UW scholar teams will consist of a scholar or group of scholars with intersecting research interests and students from different majors. All will learn about emerging digital trends, multi-modal digital communication tools, and Design Thinking methodologies.

INCLUSIVE:

Preference will be given to UW scholar teams projects that demonstrate inclusivity and that actively engage underserved populations and organizations across Wyoming.

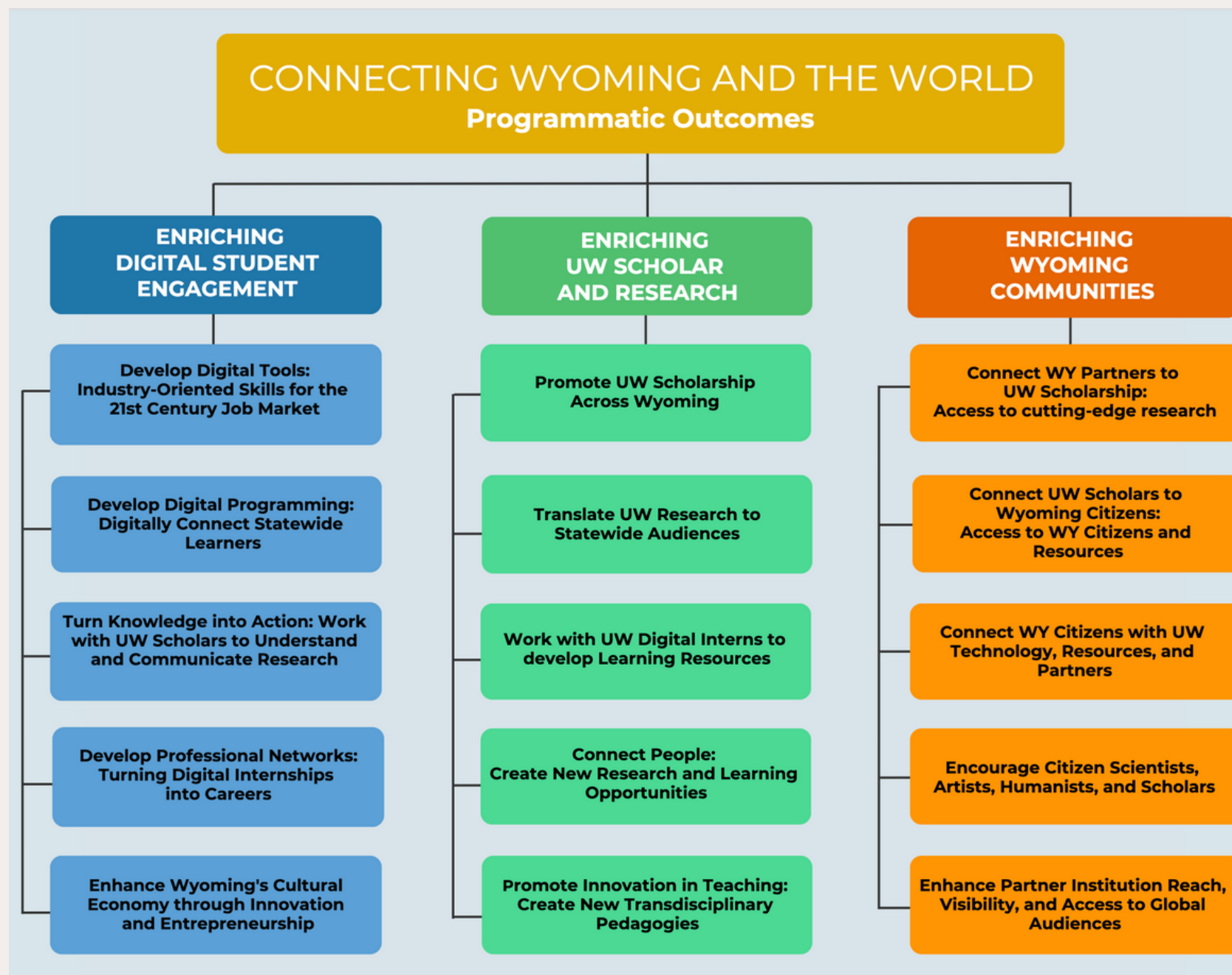
THIS PROJECT WILL CREATE TRANS- AND INTERDISCIPLINARY ENGAGEMENT THROUGH STATEWIDE DIGITAL ACTION.

Rachel Sailor: rsailor@uwyo.edu
Brandon S Gellis: bgellis@uwyo.edu

STAGE 1: PLANNING

This project has the potential for creating a sustained and meaningful impact across Wyoming

Digital modalities for enriching community engagement has become a necessity during the recent pandemic. The University is positioned to harness digital engagement resources to connect to Wyoming, prepare students for career opportunities, convert knowledge into action, and to continue to grow connections globally as future technologies evolve.



17 Collaborative UW scholars from:

- College of Agriculture and Renewable Resources
- College of Arts & Sciences
- College of Engineering and Applied Science
- Haub School for Environment and Natural Resources
- Honors College
- UW Art Museum
- UW Center for Design Thinking (CDT)
- UW Geological Museum
- UW Innovation WYrkshop (CEAS)
- Wyoming Institute for Humanities Research (WIHR)

Stage 1 Work Plan (through mid-summer 2021):

During this initial stage, funding will support our team to:

- Host a planning retreat/workshop for all interested UW scholar participants we will:
 - Find interdisciplinary threads in research and teaching
 - Identify key research and informational projects, community partners
 - Develop clear learning objectives for student digital interns
 - Brainstorm DCLMs strategies and dissemination methods
- Host public speaker series and workshops to engage the UW community, local and statewide communities, and citizens
- Promote the project to:
 - Students
 - Community partners
 - UW scholars
 - And other UW initiatives - to explore additional collaborative opportunities
- Recruit:
 - Undergraduate and graduate student digital interns
 - State organizations for partnerships
 - Identify organization and audience needs to best implement digital programming, especially those of underrepresented and rural communities

Long-term Objectives:

Our ultimate goal is ongoing innovation in research, teaching, and community engagement.

We believe that this program has the ability to change the way that UW scholars and student interns work together, and the way that UW engages Wyoming.

As the program grows, professional networks will also expand—for our students, our scholars, and the cultural institutions of Wyoming.