Idaho EPSCoR Annual Meeting 2020

Day 3 – Seed Funding Update

- Year 2 WFD – UI Tribal Visiting Faculty (Dennis Becker and Yolanda Bisbee)
- Year 2 WFD – ISU Sho-ban Cooperative Tribal Faculty (Colden Baxter)
- Year 2 Large Research – Microbiomes (Leonora Bittleson)
- Year 3 Solicitation – Rick Schumaker

IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

Year 2 WFD Award - Visiting Tribal Scholar

The University of Idaho is hiring a Visiting Tribal Scholar to build capacity among Native American students and Signatory Tribes to support Indigenous scholarship and mentoring. In collaboration with the College of Natural Resources, scholars will be hired for up to two years and shall:

- Provide instruction and mentoring within the College of Natural Resources inclusive of and responsive to Indigenous Knowledge and Indigenous methodologies.
- Foster relationships among University of Idaho, cooperating agencies, regional institutions and Tribes to implement mutually beneficial research and/or management actions.
- Engage in meaningful community service and outreach efforts with Native American communities in the region and serving as the point of contact for Tribal initiatives.
- Assist in the development and submission of grant proposals to sustain the program.

Visiting Tribal Scholar

Program Evaluation Measures (examples):

TEACHING AND ADVISING:

- Number of instructors in which the scholar engages in ongoing mentoring activities.
- Change in the number of Native American Students graduating from UI degree-granting programs.

OUTREACH AND EXTENSION

- Number of new tribal student recruiting initiatives in conjunction with non-university partners.
- Number of proposals submitted to secure support for VTS program efforts.
- Number and duration of community service and outreach efforts established with Signatory Tribes.

SCHOLARSHIP AND CREATIVE ACTIVITIES

- Number of joint research and/or management projects the VST establishes.

Visiting Tribal Scholar

Timeline:

- In-person interviews completed Dec 8-9, 2020
- Target start January 2021
- Up to 2-year term
- Phase I – work with college leadership on priorities
- Phase II – Tribal outreach and listening
- Phase III – implement priority initiatives
- Seek additional funding for future VTS cohorts

Year 2 WFD Award

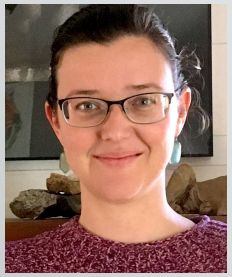
ISU – ShoBan Cooperative Tribal Faculty

Sagebrush Mechanism: Year 2 Large seed grant

Time travel with the sagebrush microbiome:
connecting microbial composition with chemistry and adaptive capacity over three magnitudes of time

Team

PIs



Leonora Bittleston
BSU

Kathryn Turner
ISU

Carolyn Dadabay
College of Idaho

PhD students

Jacob Heil
BSU

Therese Balkenbush
ISU

Collaborators

Bruce Finney, ISU
Jen Forbey, BSU
Trevor Caughlin, BSU
Donna Delparte, ISU
Peter Olsoy, ISU
Megan Cattau, BSU
Rick Williams, ISU

Rationale

- Microbes can have large effects on eukaryotic hosts
- Leaf microbiomes linked to plant secondary metabolites, herbivore defense, pathogen tolerance, drought tolerance, nutrient content, and growth rates
- Microbiome is part of the plant's extended phenotype and has high potential to drive evolutionary feedback

Sagebrush Mechanism: Large seed grant

Aims

1. Characterize co-occurrence patterns of leaf chemotypes, stable C and N isotopes, and microbial communities.
2. Characterize variation in microbial communities among individual plants and leaves.
3. Connect the microbiome to plant taxonomy and phenotype to understand adaptive capacity.

Experiments

1. Across **one year**, among individual plants and leaves at **Dry Creek**
2. Across **9 years**, among plants and subspecies at **Orchard Common Garden**
3. Across ~**100 years** using **herbarium collections**

Sagebrush Mechanism: Large seed grant

First Experiment

Six months of culturing from inside and outside of leaves across 3 plant individuals at Dry Creek

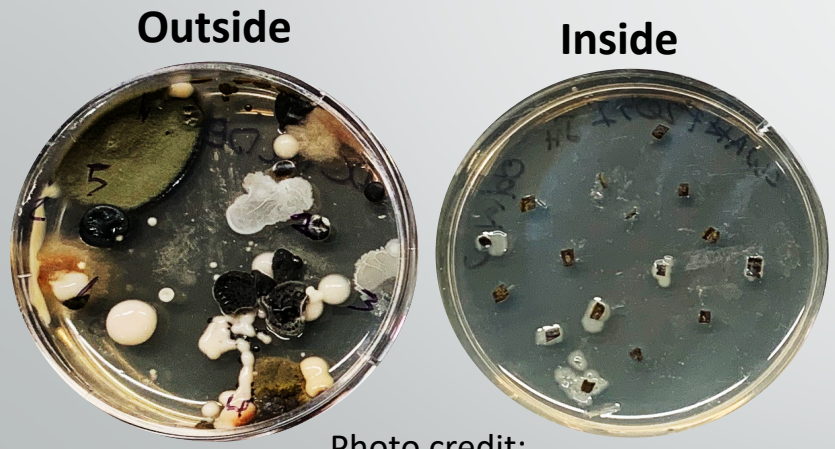
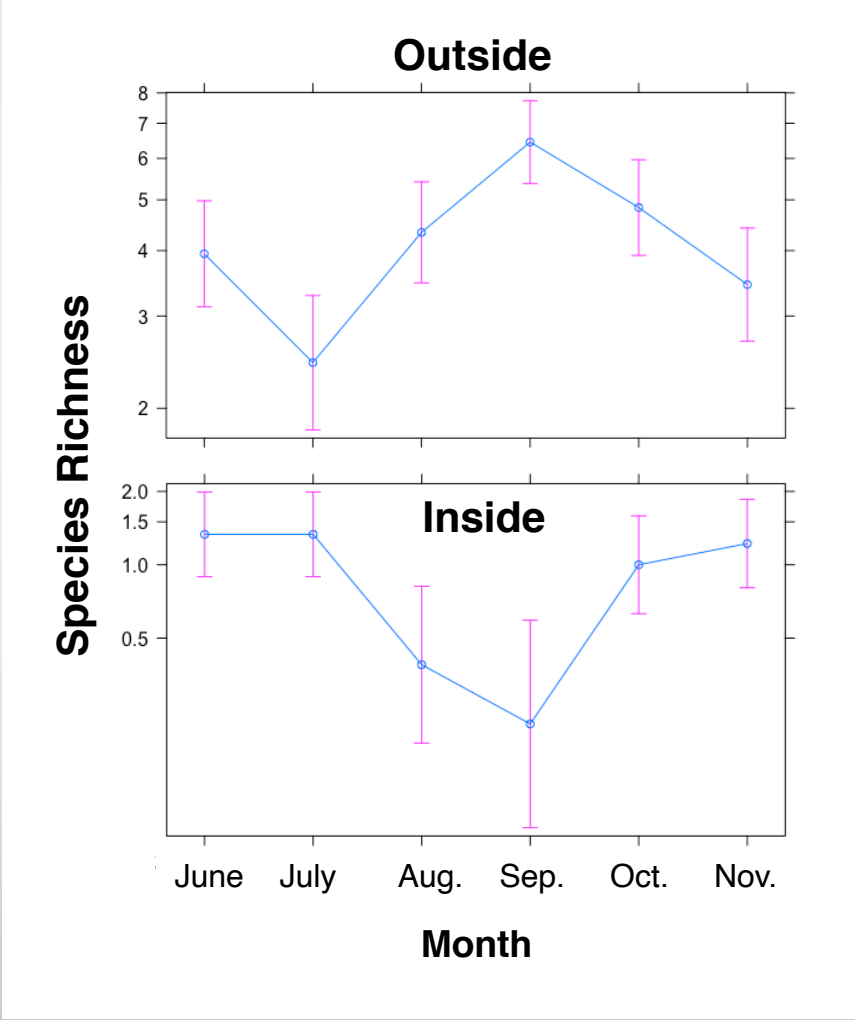


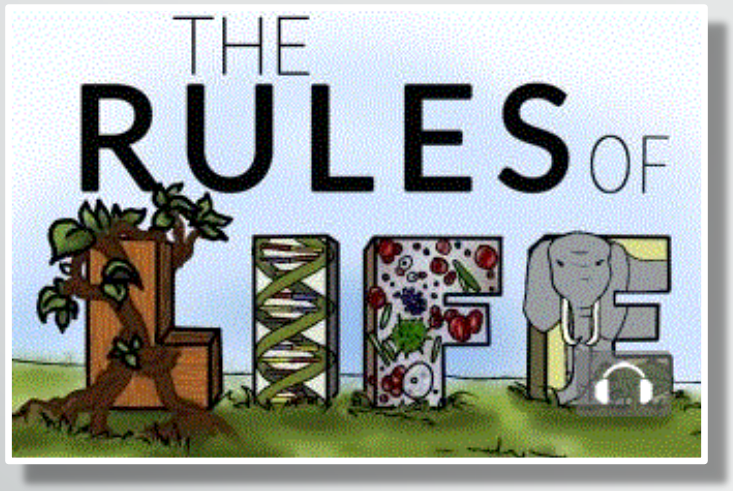
Photo credit: Jacob Heil

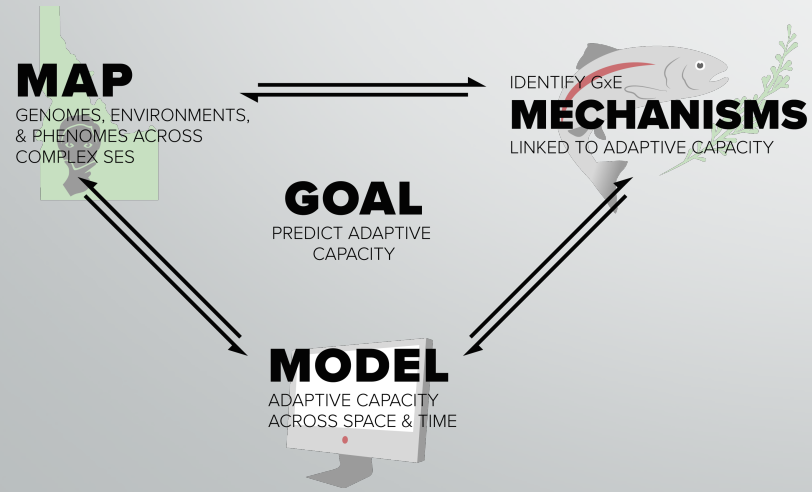


For more info

Visit Jacob Heil's poster: "Change in the sagebrush leaf microbiome over time" and listen to his lightning talk

Year 3 Seed Funding solicitation:





Purpose

"Seed Funds are intended to catalyze projects in emerging areas that are clearly related to (but do not duplicate) the research and education scope of the current EPSCoR RII Track-1 GEM3 award. Proposers should clearly identify the areas to be investigated and their relevance to and synergy with the GEM3 project as a whole."

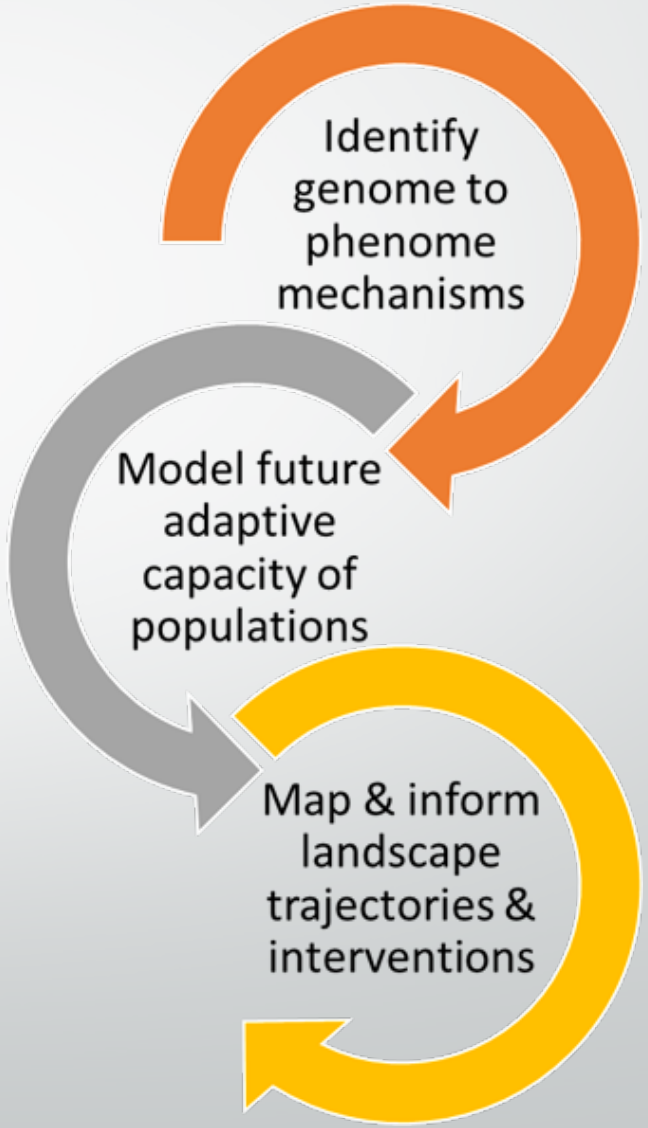
*"..to discover and predict how **plants, animals, and people** interact and adapt to changing environments.."*

IDAHO EPSCoR

Seed Funding:

Small Research

Up to **$50,000** direct cost for one year: The primary purpose of these awards will be to support the ideas of early career faculty who are initiating new research on topics related to GEM3; established faculty pursuing new research directions are also eligible. The award will provide support for exploratory and/or high-risk, high-return research for which preliminary data are needed to write competitive grant proposals.



IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

Seed Funding:

Large Research

Up to **$150,000** direct cost total for no more than two years: These awards will support collaborative research in topics related to GEM3. Proposing teams must include faculty from at least two Idaho academic institutions and at least two disciplines (e.g., biology, geosciences, social science). Projects also must integrate research across at least two GEM3 components (Modeling, Mechanisms, Mapping). Collaboration with tribal, state or federal agency, or industry collaborators is encouraged.

IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

Workforce Development

Up to **$30,000** direct cost for one year: These awards will provide support to strengthen education, workforce development, internship and/or training opportunities related to GEM3, including with agency, underrepresented community, or tribal collaborators. Proposed activities must be coordinated with ongoing GEM3 programming.

Seed Funding:

Emerging integration of science consistent with the scope of the GEM3 vision and supported activities, e.g.,

- cross taxa integration;
- integration across scales;
- disciplinary integration (i.e., interdisciplinary or transdisciplinary research), and;
- integrative or convergent methodologies

GEM3 Reverse Site Visit Response report and the GEM3 integration and convergence frameworks.

Encouraged for 2021

Seed Funding:

Expectations

Results of Seed Funding should enable the **submission of proposals** to NSF and other funding agencies, and/or result in **conference presentations** and **publication** of papers in peer reviewed journals, and/or other **data products** or innovations.

It is also an important mechanism to **broaden participation** of institutions, faculty, and students from underrepresented groups.

RII Track-1 topical area selected as having the best potential to improve future R&D competitiveness. - ***NSF 20-571***

IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

Seed Funding

Due Date:

February 19, 2021

Maximum Number of Awards:

Small Research: 3 to 6
Large Research: 1 to 2
Workforce Development: 2

https://www.idahogem3.org/seed-funding

https://idahoepscor.piestar-rfx.com/opportunities

IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

Idaho EPSCoR Annual Meeting 2020

Day 3 – GEM3 Priorities and Next Steps

IDAHO EPSCoR

GEM3
Genes by Environment
Modeling · Mechanisms · Mapping

GEM3 Priorities

- Ensuring your safety and well-being during COVID
- Thank you for everyone who has contributed to our Nov mid-annual reporting
- Keep in touch – collaborate, communicate, critique
  - Continue the great dialog from the working groups
- Keep an eye on our RSV follow-up plans
- Continue to build out the integration frameworks
  - Situate where your work fits in here and where it connects to other efforts

IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

GEM3 Next Steps

- Year 4 Site Visit – Fall 2021
- 2021 Annual Meeting
  - **Tentatively Dec 7-9, 2021 in Coeur d'Alene**

IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping

Idaho EPSCoR Annual Meeting 2020

Jean'ne M. Shreeve Research Excellence Award

IDAHO EPSCoR

GEM3 Genes by Environment Modeling · Mechanisms · Mapping