

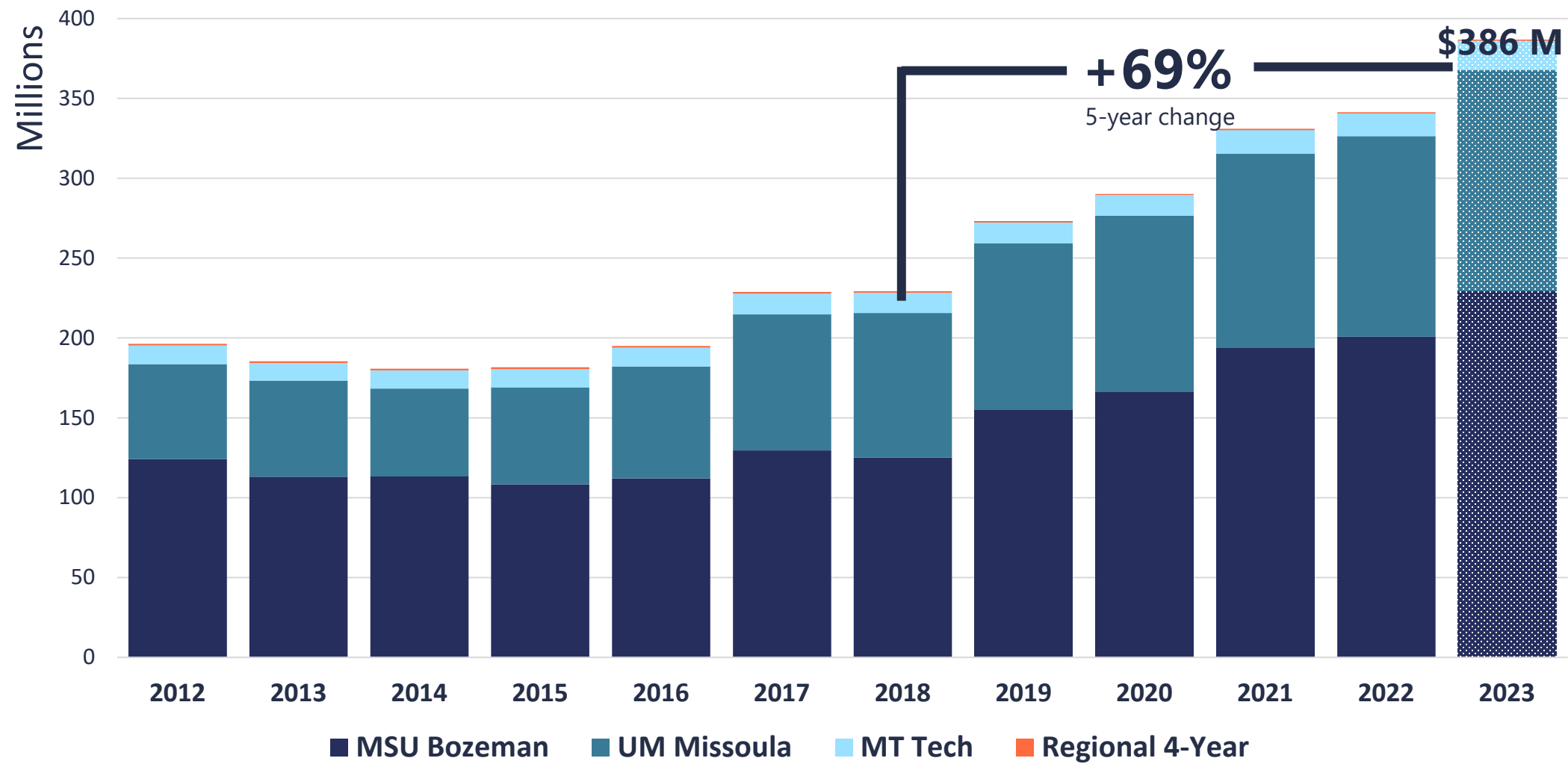


**MONTANA**  
**UNIVERSITY SYSTEM**

**Montana University System**  
**Research and Economic Development Update**  
**November 2023**

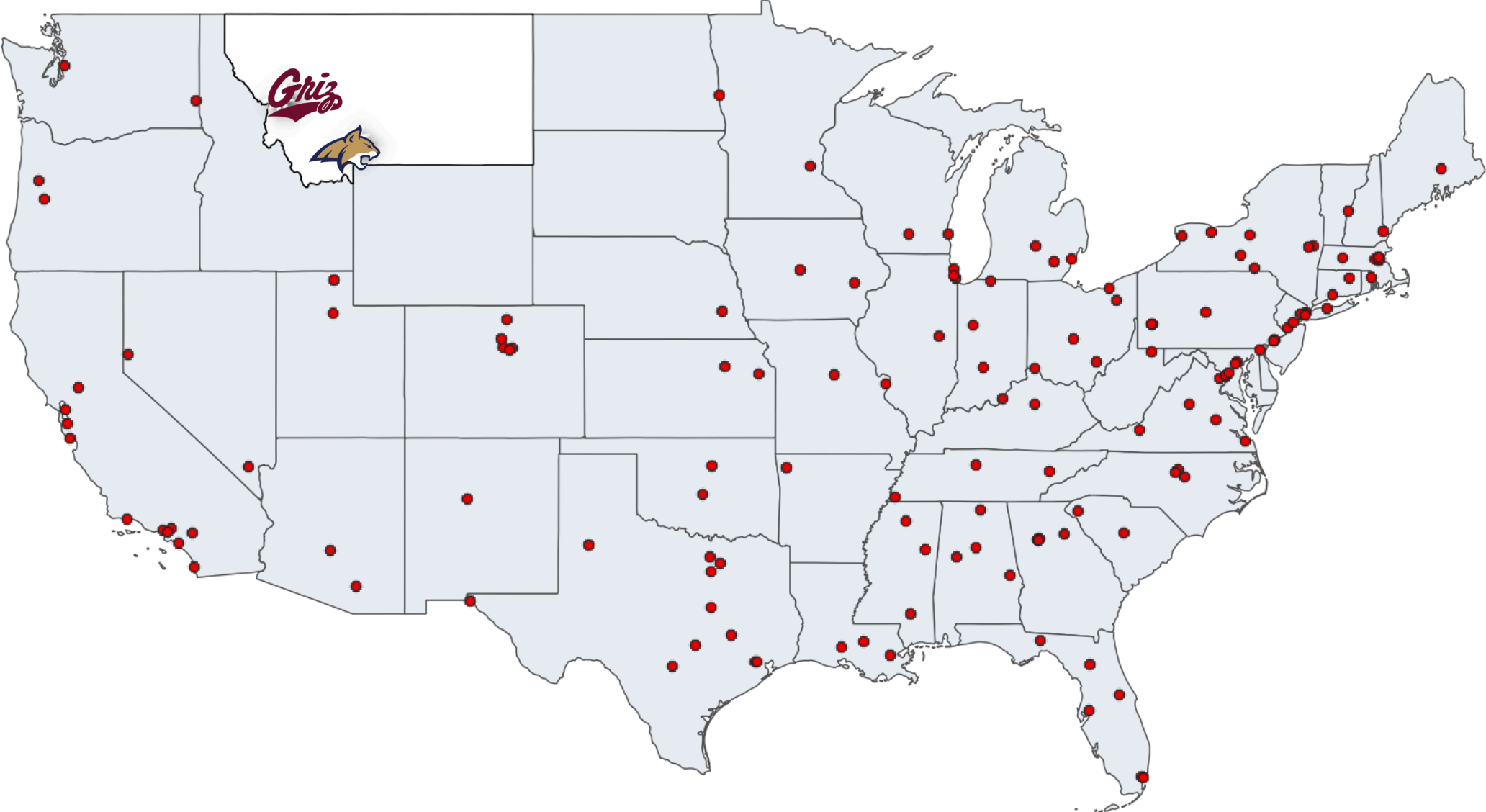
# Research Expenditures

(SOURCE: National Science Foundation HERD survey; values in nominal \$)



- ❖ MUS research has grown 108% since 2013.
- ❖ Montana has the 2<sup>nd</sup> fastest growing university research enterprise in the nation over the past decade.

# 2022 Carnegie "Very High Research" (R1) Institutions





62 new companies have spun out of the MUS  
research enterprise since 2006



**SOFTWARE**



**AG & THE ENVIRONMENT**







**Archer Biologicals**



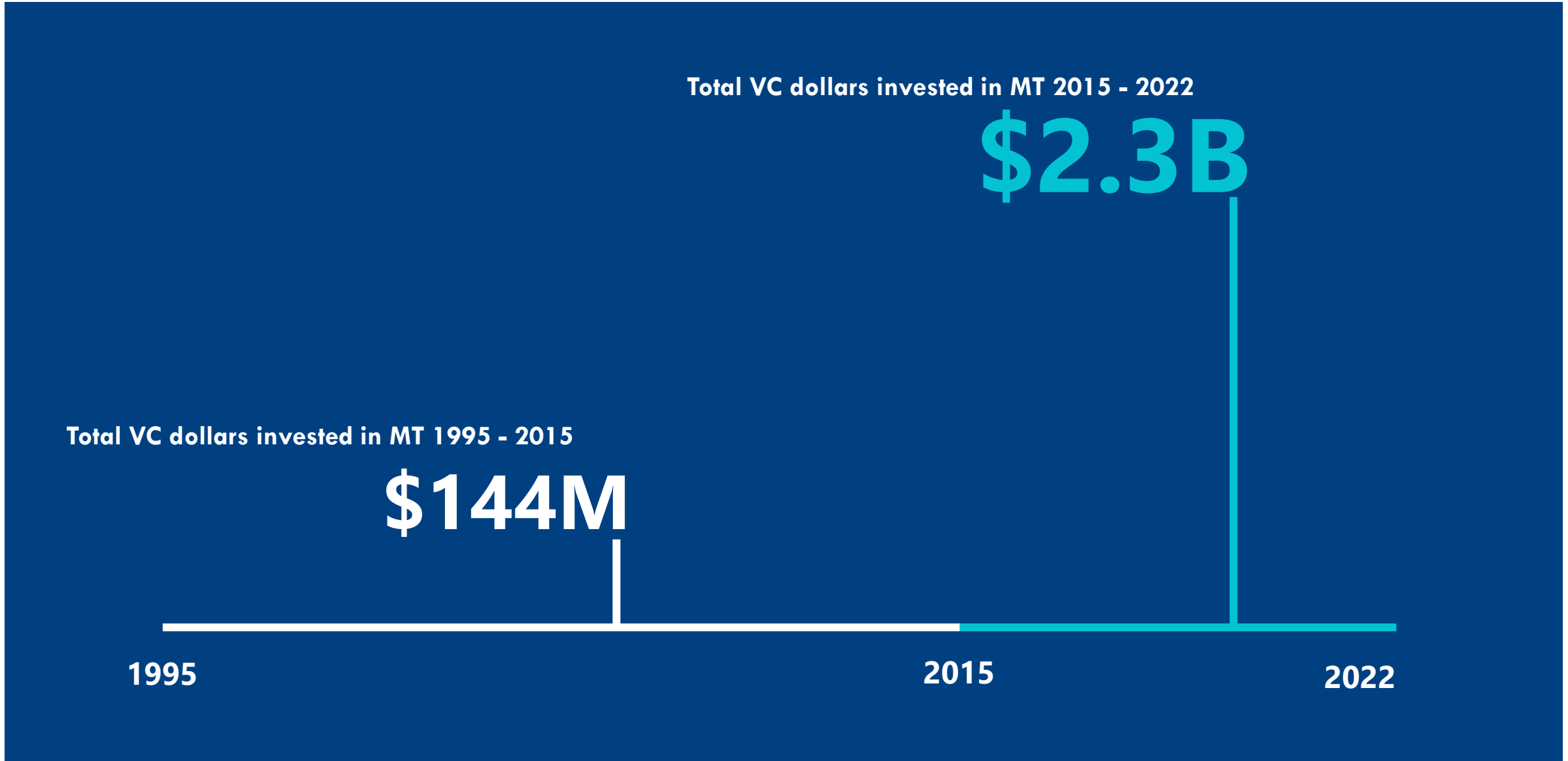
Montana Molecular

**OPTICS**



**EDUCATION**





# Office of Research & Economic Development

Supports You on Your Journey



**START HERE!**



**YOU**  
*Expertise and Ideas*



**Office of Research Development**  
*Proposal and Budget Development, Finding Funding, Team Building, RD Training Events*



**Economic Development Team**  
*TTO: Patents/Licenses  
Innovation Campus: Collaboration with Industry, Classified Research*



**Centers/Institutes, Core Facilities**  
*Shared Research Interests, Instruments and Expertise*



**Office of Research Compliance**  
*Committees/Programs, Research Ethics, Training and more*



**Office of Sponsored Programs**  
*PI Training, Proposal Submission, Fiscal Management Reporting*

# OUTSTANDING STUDENTS: 2023

## Fulbright Scholarships:



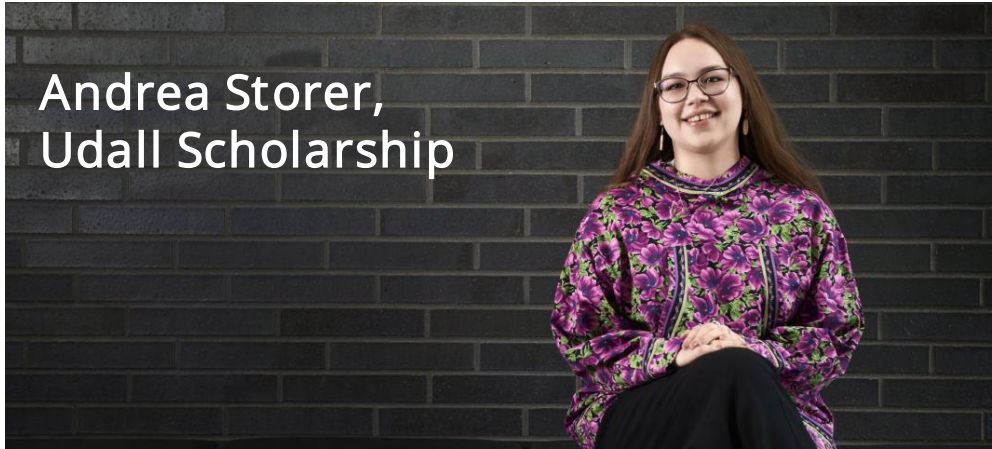
Olivia Gervacio  
Jakabosky



Mikaela Byer

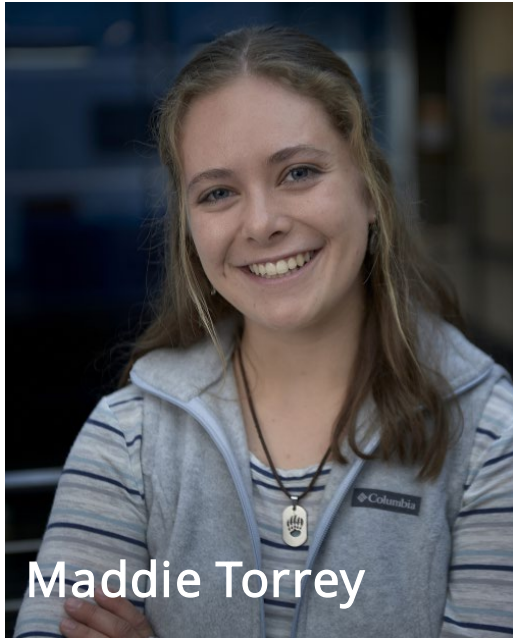


Kayla Hay

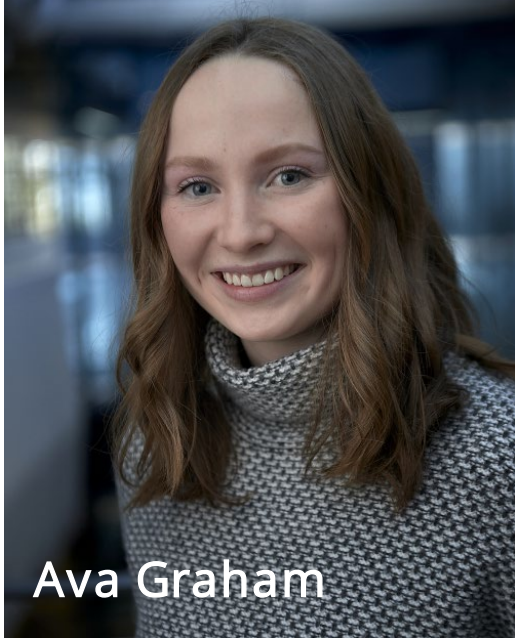


Andrea Storer,  
Udall Scholarship

## MSU Goldwater Scholarships: 86 in all



Maddie Torrey



Ava Graham



## GRADUATE EDUCATION: Fall 2023

Graduate Students: 2093

Doctoral Students: 727 (record high)

Doctoral Degrees Awarded in AY2022-23: 104

***Indigenous and Rural Health Doctoral Program Enrollment: 21***



# OUTSTANDING FACULTY: 2022-23

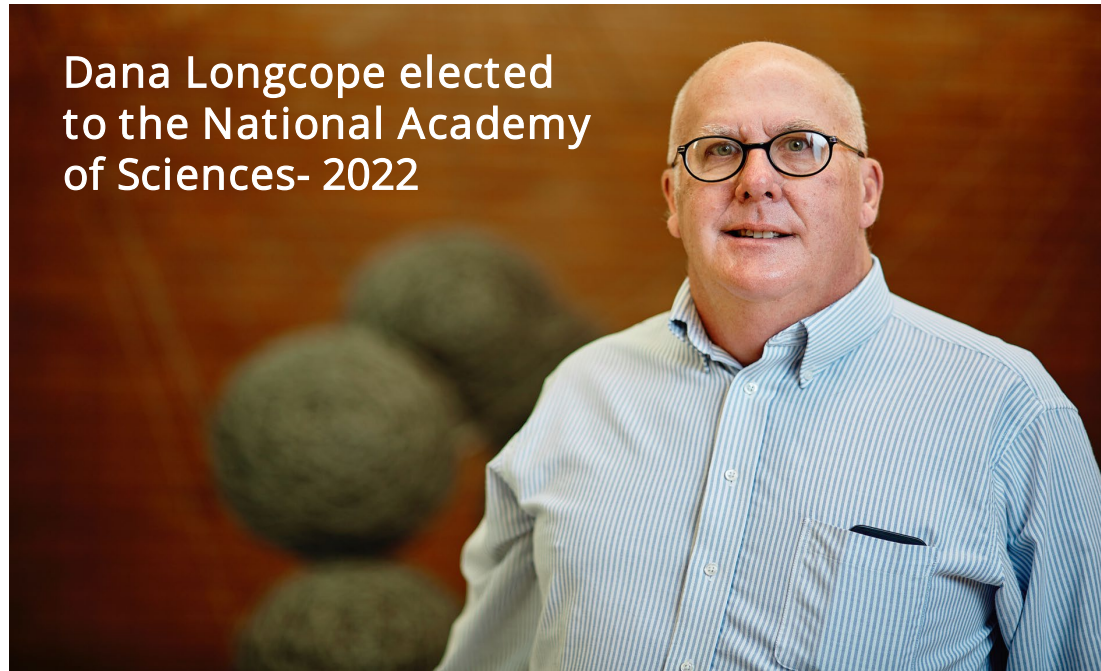


Liz Shanahan, political science professor and Associate Vice President for Research Development, elected to the National Academy of Public Administration- 2023

Joan Broderick elected to the National Academy of Sciences & The American Academy of Arts and Sciences- 2022



Dana Longcope elected to the National Academy of Sciences- 2022





# MSU INNOVATION CAMPUS

A VIBRANT MIXED-USE CAMPUS WHICH SUPPORTS THE GROUNDBREAKING RESEARCH TAKING PLACE AT MONTANA STATE UNIVERSITY

## MSU Technology Transfer 2023:

**328** Intellectual Property Licenses

**51** Patents

**63** Patents Pending

**12** Trademarks Registered

**4** Trademarks Pending



Industry - 88,000 SF



Applied Research Lab - 20,000 SF



Aurora Innovation - 78,000 SF

# Graduate Education

**2,787**

Fall 2023,  
Grad/Professional  
Enrollment

**31.3%**

Mountain Campus  
Students are  
Graduate/Professional

**153**

AI/AN Graduate  
Students – up 34%  
since 2021



# Student Scholarships



J. Kolter Stevenson, Amsterdam, is a Rhodes Scholar-elect for 2024 and Presidential Leadership Scholar at the University of Montana where he is majoring in International Business, Finance, Management Information Systems and Russian.

UM ranks 10th of all public institutions and 23<sup>rd</sup> among all institutions for Rhodes Scholarship recipients (29 with 5 finalists in the past 3 years) - the oldest and most prestigious scholarship for fully-funded, post-graduate study at Oxford University.

UM leads the nation in Udall Scholarship recipients. 47 UM students (+18 Honorable mentions) have been awarded this prestigious honor for their commitment to the environment, tribal policy, or Native health care.



Elani Borhegyi, 21, is a fourth-year student from Newton, Massachusetts studying Environmental Science and Sustainability. Borhegyi was awarded the Udall Scholarship during the spring semester of 2022.

Andy Mephram / Montana Kaimin

# Notable Faculty



Jim Elser, National Academy of Sciences



Anna Prentiss, American Academy of Arts and Sciences

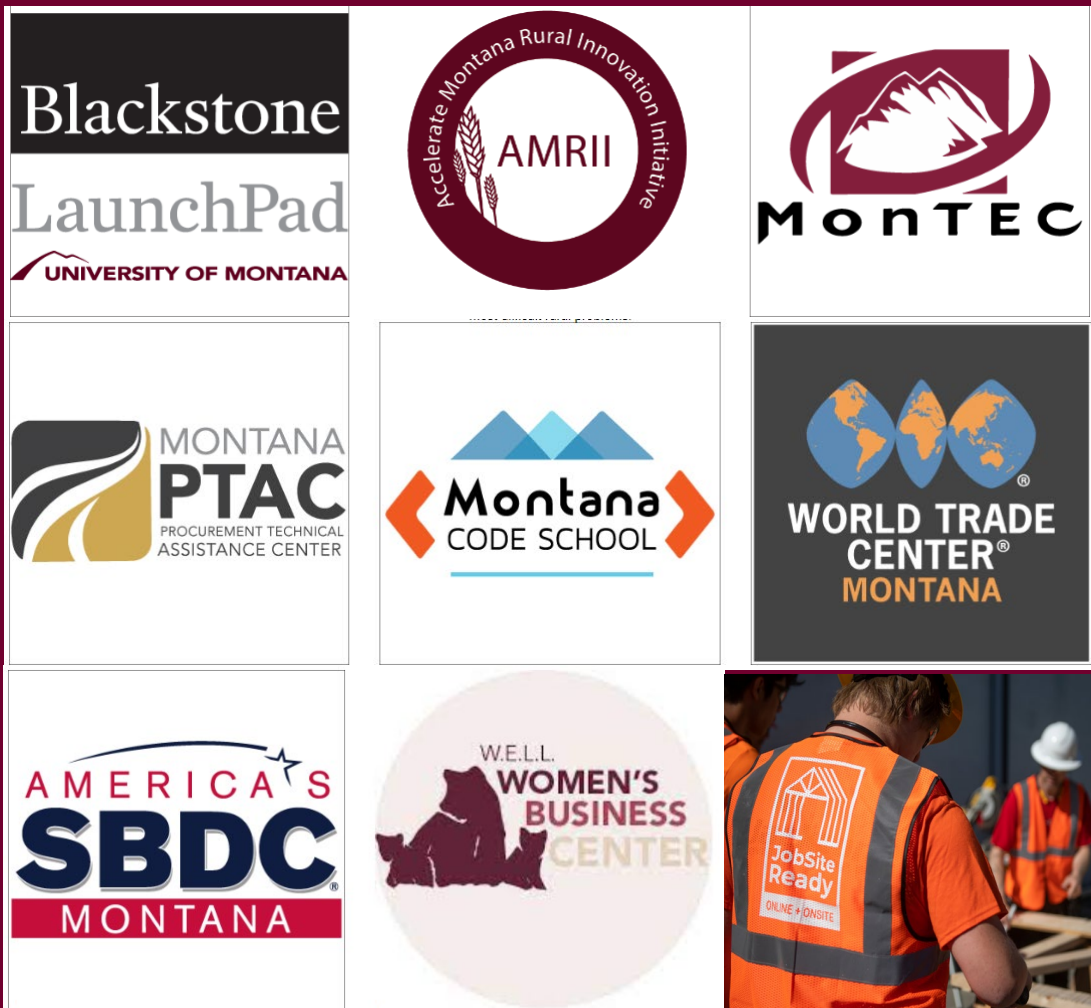


Doug Emlen, National Academy of Sciences



Jon Byington,  
Commissioner,  
National  
Conference of  
Commissioners on  
Uniform State  
Laws

# Economic and Workforce Development

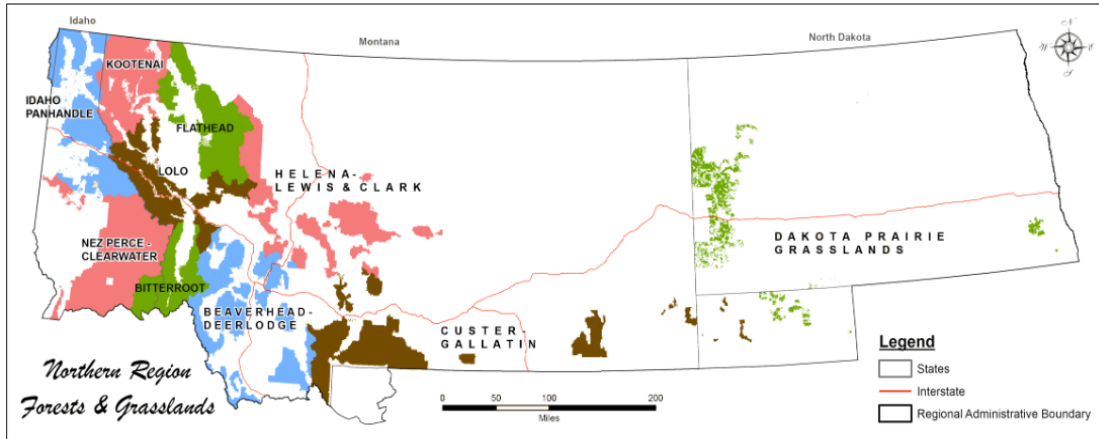


Accelerate Montana has had contacts/programs with 103 MT cities and 28 out-of-state individuals in the past year (WBC, NWL, SBDC, APEX/PTAC, and Rapid Training)

[https://www.youtube.com/watch?v=bALAg\\_13rD8](https://www.youtube.com/watch?v=bALAg_13rD8)

# NSF Engines Type 1: Advances in Precision Forestry and Rangeland Technologies

## Region



## Vision

Become a national model for use of PFRM to maximize the economic benefit of federal, tribal and private forests and rangelands while minimizing ecological impacts such as fire, drought and flood

## Funding

\$1M over 18 months

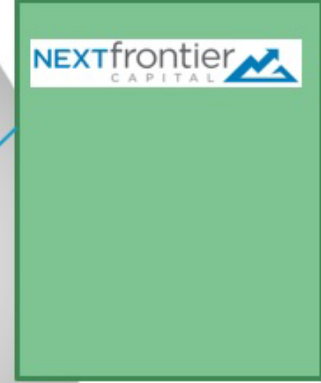
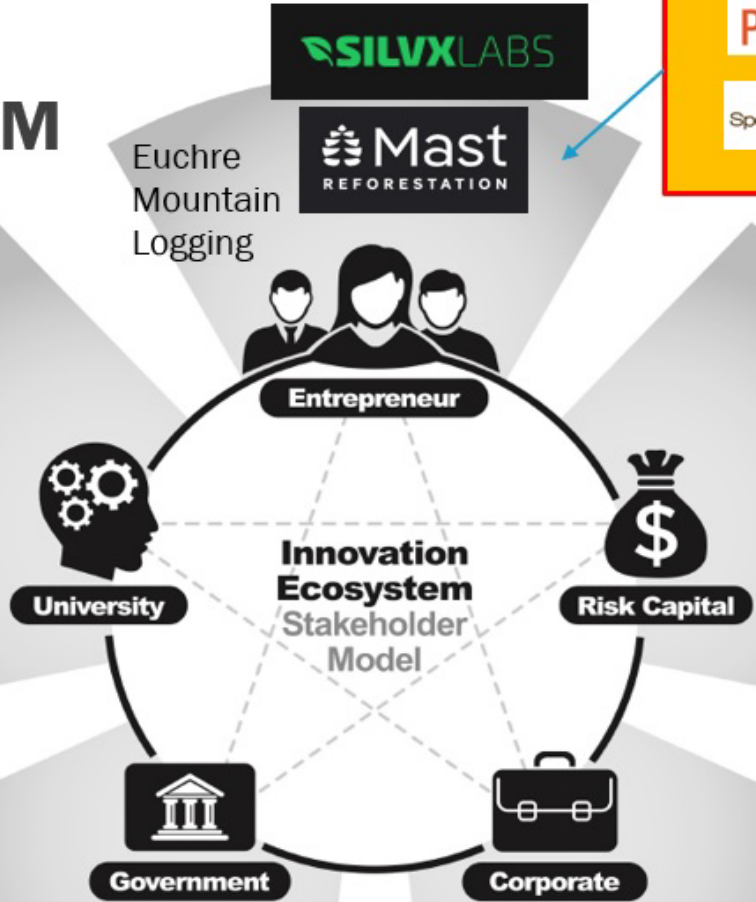
## Partners:

Mountains and Plains University Innovation Alliance (MPUIA)  
American Indian Higher Education Consortium (AIHEC)  
Cobell Institute of Land and Culture  
Aaniih College Nic?-Mni Water Center  
Rocky Mountain Research Station (USFS)  
USFS Northern Region (Region 1)  
BLM (Montana/Dakotas)  
The Nature Conservancy  
Montana Wood Products Association  
NRNP Mesonet/State Climate Offices  
UM Fire Center  
Accelerate Montana (aMT)  
Montana Innovation Alliance (MTIA)  
Next Frontier Capital

## Universities:

UM, SKC, U Wyoming, Idaho State University, U Idaho, South Dakota State, Boise State, Aaniih College, Chief Dull Knife College, MSU, MTU

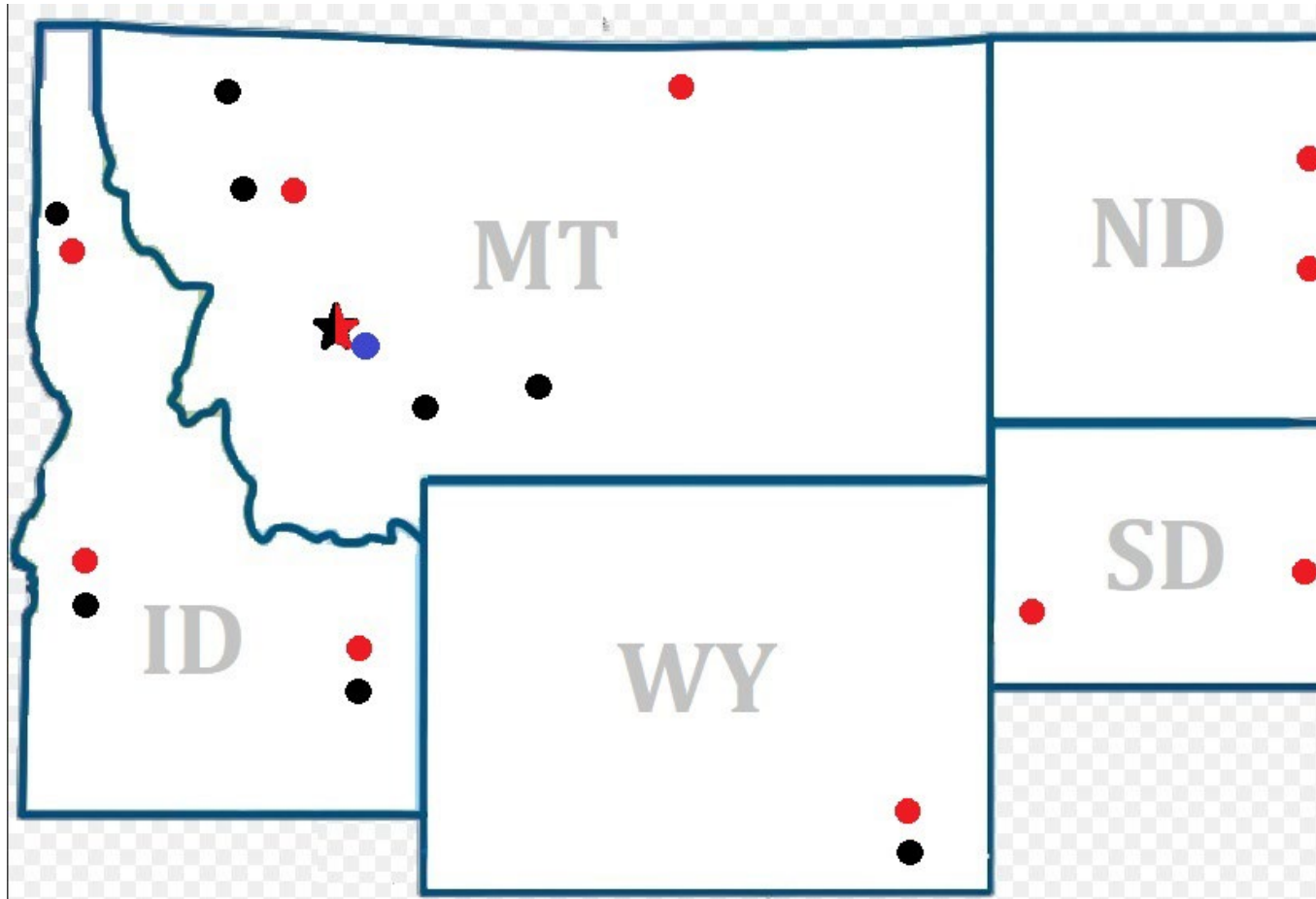
# INNOVATION ECOSYSTEM



- Non-profit Partners:**
- Clarkfork Watershed Education Program
  - The Nature Conservancy
  - AccelerateMT
  - Cobell Institute of Land and Culture
  - FireCenter
  - MT Innovation Alliance
  - MT Wood Products Association
  - Mountains and Plains University Innovation Alliance
  - State Climate Office/Mesonet
  - Savory Institute
  - Bureau of Business and Economic Research



# UM Hub and Spokes



Black = NIH Reach Evaluation and Commercialization Hub (REACH)

Red = NSF Engines

Blue = ARPA-H Customer Experience spoke and Investor Catalyst spoke

# Expanding Innovation in the Northern Plains / Northern Rockies

- ❖ Headwaters Tech Hub : 1 of 31 designations nationally
- ❖ NSF Engines Planning Grants : 3 of 44 awarded
- ❖ Additional NSF Engine Implementation competition to NDSU for advanced agriculture : 1 of 16 finalists nationally

