



MONTANA
UNIVERSITY SYSTEM

Montana Research

2021 Interim Update

Joseph Thiel

May 2021



A BIG Year for MT Research

1st

Montana leads the region in research, with 2019 expenditures passing North Dakota and rising to ~1.5X Idaho, ~2X South Dakota and ~3.5X Wyoming

+25%

Year-on-year increase at MSU and UM in R&D award volume, a key leading indicator of future research expenditures

121

Patents issued to MUS researchers, 2010-2020



1st

Montana State University is the largest research university by R&D expenditures in the region, for the first time since 2010

90%

Growth in research expenditures at the University of Montana from 2014-2019



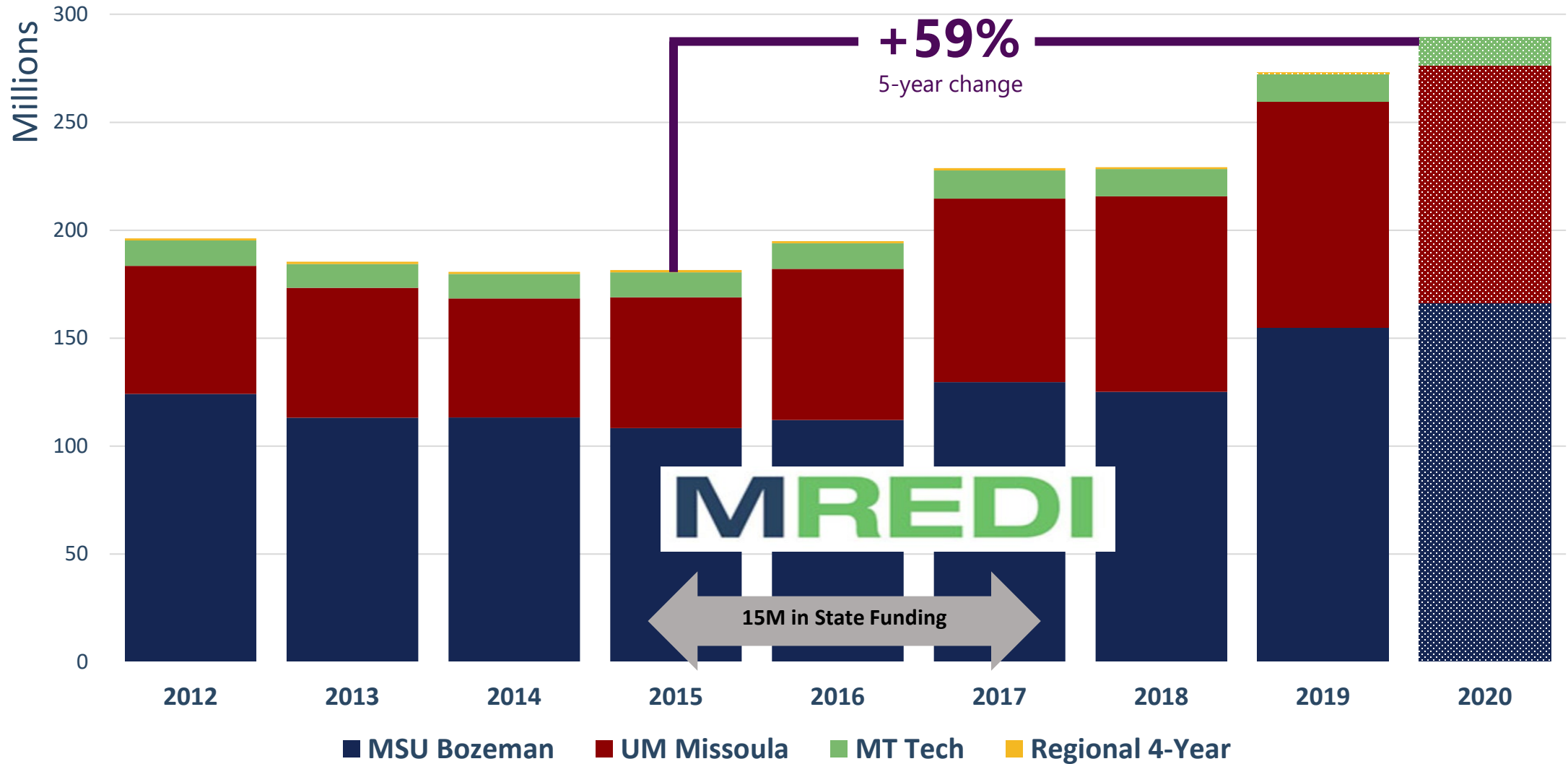
43

New startups commercializing MUS research, 2010-2020



Research Expenditures

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



2014

Montana's research spending per capita is **\$33 below** the national average. (33rd of 51)

2019

Montana's research spending per capita grows to **\$2 above** the national average (18th of 51)



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2019

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+\$48 M

Additional research spending annually relative to national growth. Most of these \$ are from competitive federal grants.



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Growth in Montana Research Leads To:

Improved Economic Opportunity

Increased Community Impact

Access to Excellent Education



Economic Opportunity



PRIVATE INVESTORS

Funding for basic research

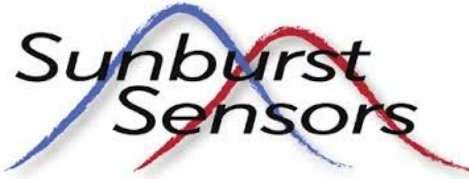
MREDI Fills the gap

Funding for license-ready technology



Economic Opportunity

AG & THE ENVIRONMENT



SOFTWARE



OPTICS



Archer Biologicals



Montana Molecular

EDUCATION



Economic Opportunity

BIOTECH

628+
Montana Bio Companies



3rd

In the nation for growth in academic
bioscience R&D, 2014-2019

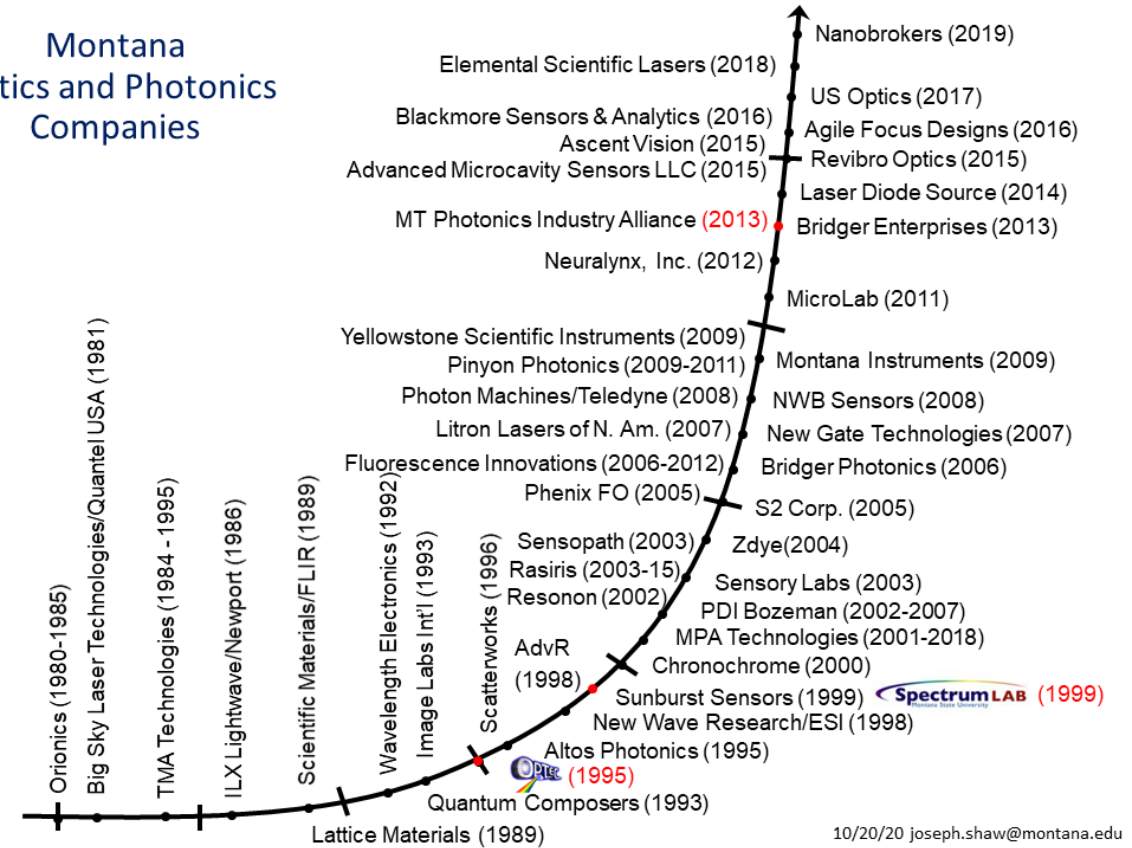
1st

Highest success rate for NIH
SBIR/STTR grants



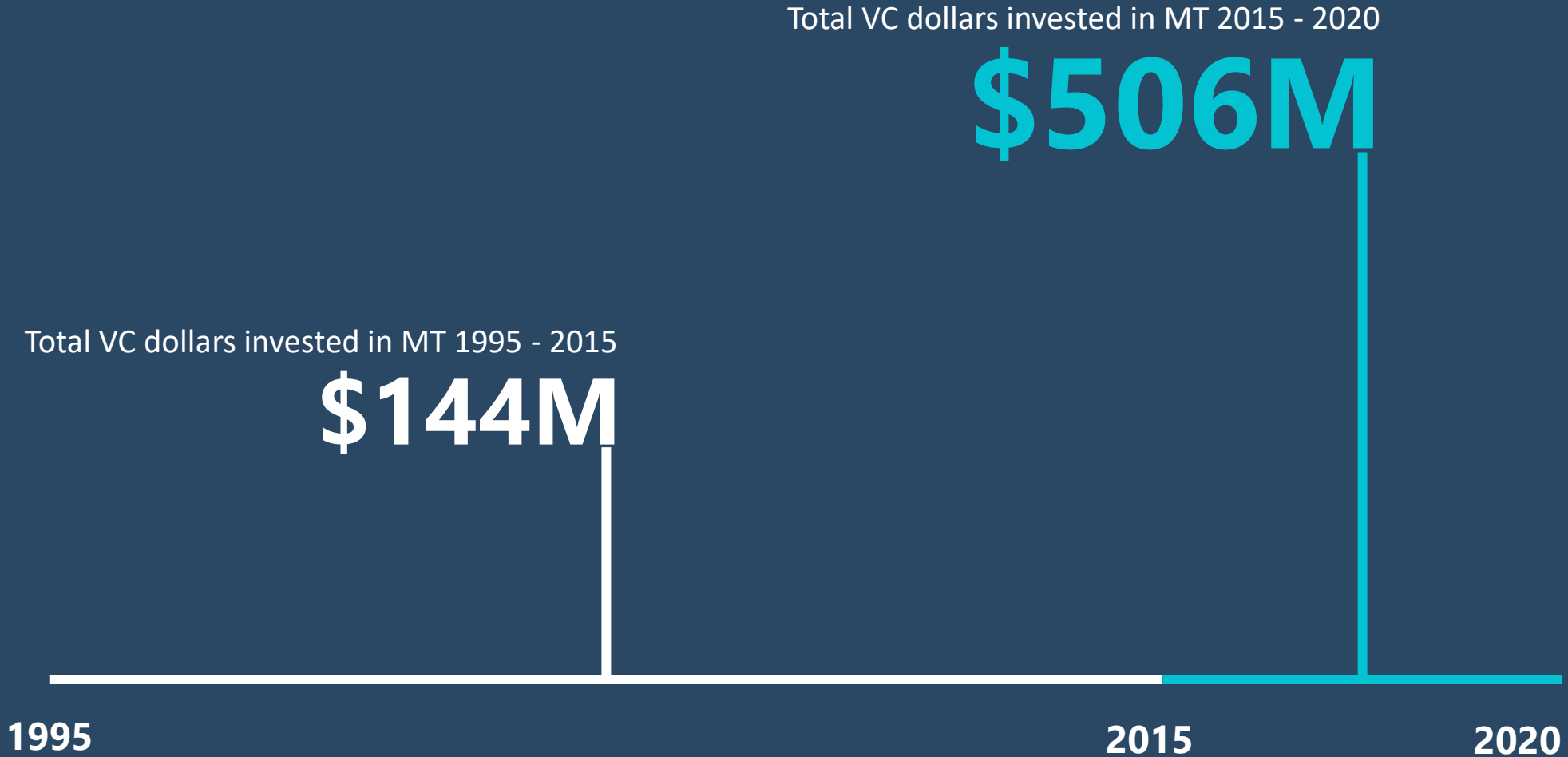
OPTICS

Montana
Optics and Photonics
Companies



10/20/20 joseph.shaw@montana.edu

Economic Opportunity



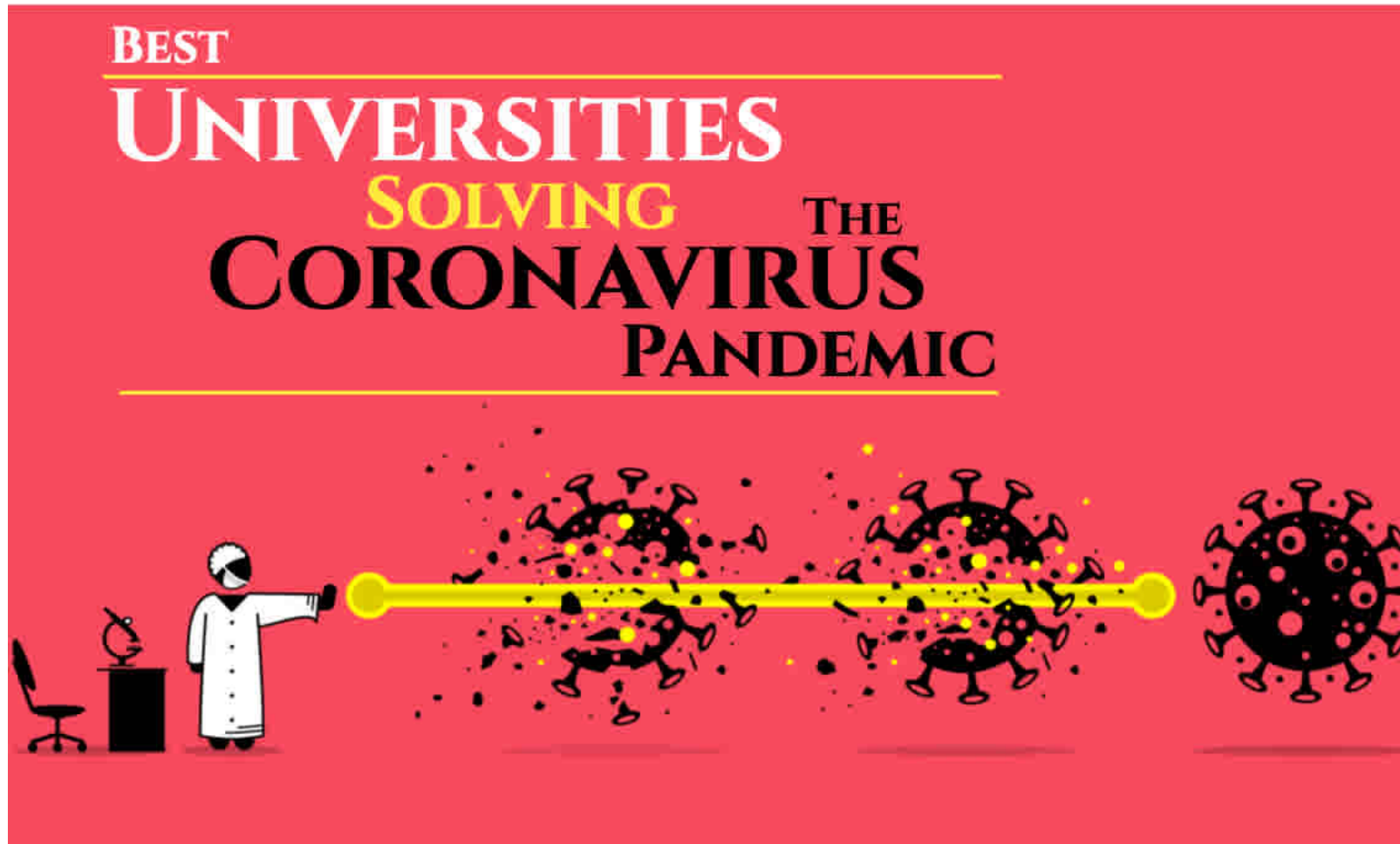


Wastewater providing clues to coronavirus in Bozeman

By Perrin Stein Chronicle Staff Writer May 10, 2020



Community Impact



Community Impact



200,000+

COVID-19 tests conducted by MSU and UM in a partnership with the state to expand access to surveillance testing



Excellent Education

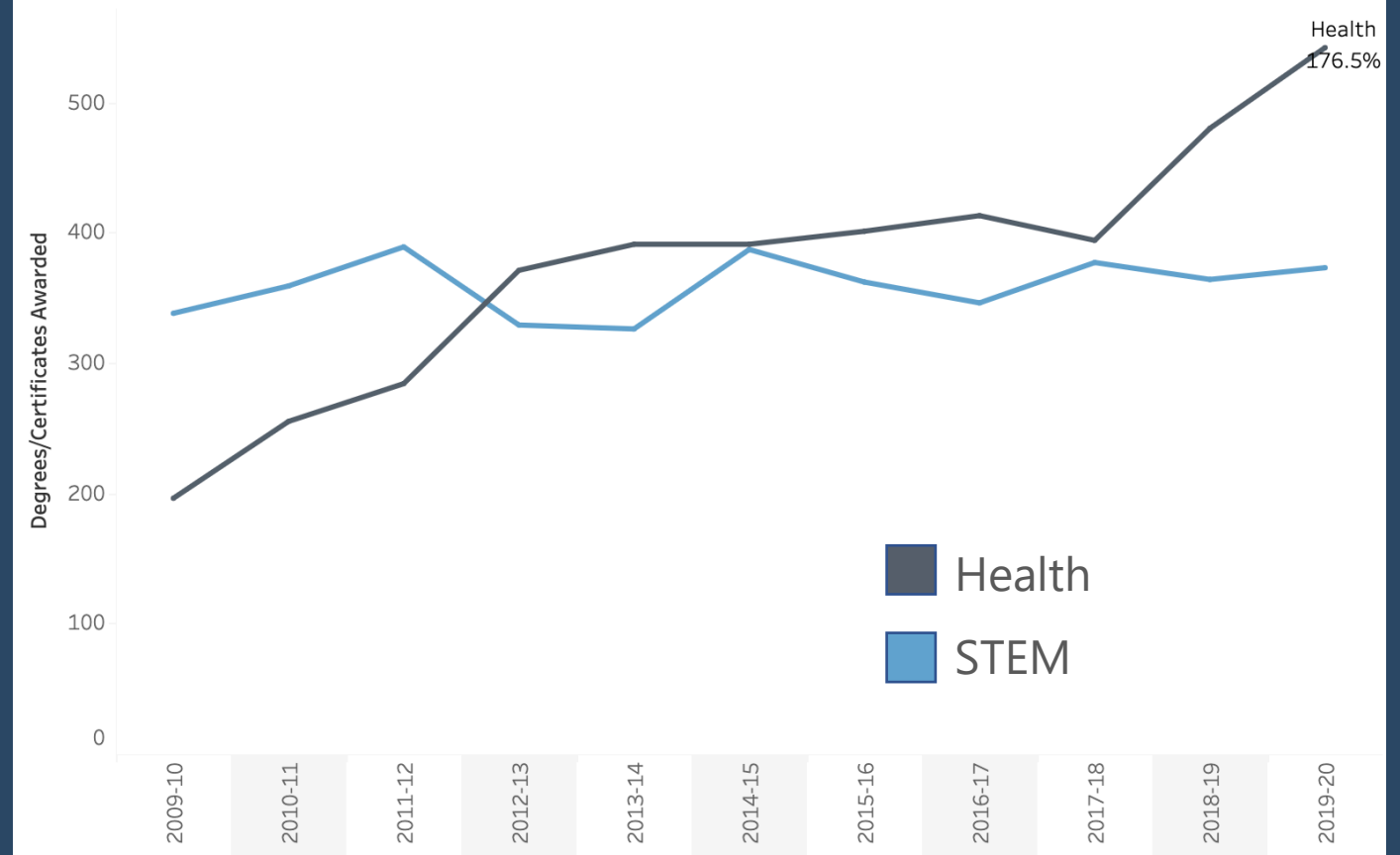
- ❖ Research enhances the quality of graduate education experiences
- ❖ As MUS research expands, we also can expand graduate education opportunities for Montanans
- ❖ Graduate students drove the MT testing and vaccination push

MUS Degrees & Certificates Awarded by Discipline

Currently Displaying Graduate and Professional Degrees

Academic Year consists of Summer, Fall, and Spring terms (ex: 2018-19 includes Summer 2018, Fall 2018, Spring 2019)

Certificates of Completion, Technical Studies and Applied Science at the 2-year level are included



Excellent Education



- ❖ MSU-Billings marketing students, led by professor **A.J. Otjen** and in partnership with Riverstone Health, developed the “Montana Together Again” campaign encouraging vaccination for COVID-19.



- ❖ MSU-Billings junior **James Unzaga** was announced as a recipient of the 2021 **Barry Goldwater Scholarship** for his work with **Dr. Matt Queen** on carbon tetrachloride, a common environmental contaminant.

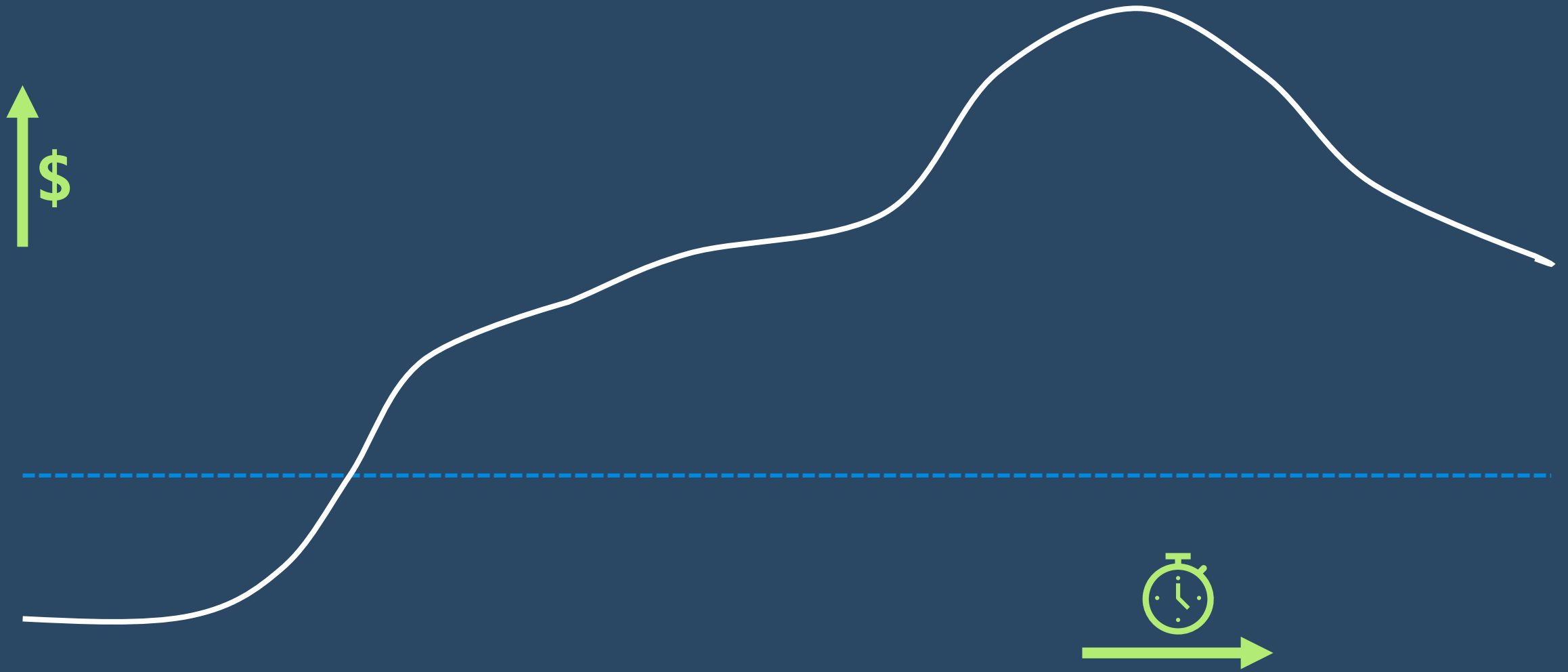


RISKS & PRIORITIES

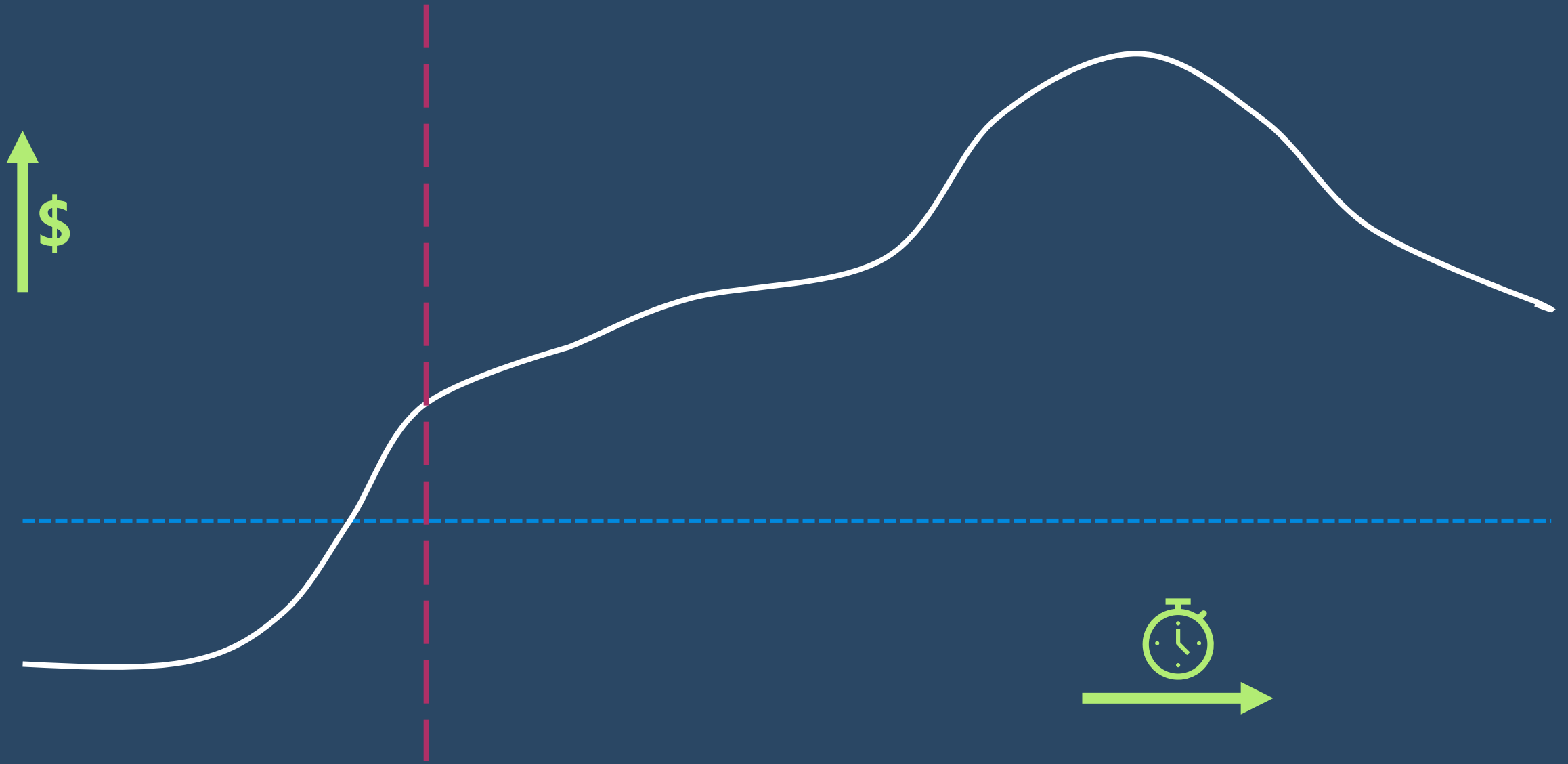
1. Sustain and expand tech transfer and commercialization
2. Recruiting and retaining highly productive junior faculty, graduate students, and post-docs



Life-cycle of research faculty



Life-cycle of research faculty



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