

Restructuring UW for Wyoming's Future

Edward Seidel, President, University of Wyoming

Proposal to the UW Board of Trustees

July 14, 2021



Objectives of today's discussion

- Motivation and overview for today's discussion
- State of Wyoming – opportunities and challenges (Alexander)
- Wyoming Innovation Partnership (WIP)
 - What is WIP? Why now?
 - What WIP will do – aspirations, pillars, and strategic initiatives – and UW Role (Shader/Allen, Farkas, Koprowski/Godby)
- Strategy and proposed 2-13 action plan for UW (Carman)
- UW Foundation: Fully Aligned with Proposed Plans (Blalock)



Motivation and Overview

Ed Seidel

UW is at an inflection point



Global and WY Job Landscape Changing

By 2030...when today's high school freshmen graduate

Automation will transform jobs

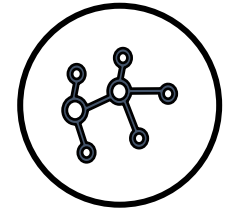
- 1/3 of tasks for 2/3 of jobs automated
- 26M (16%) of workforce will need to switch jobs

Technology adding significant new jobs; Employers demand new skills

- Technological skills, advanced IT, programming, basic digital skills (60% growth)
- Entrepreneurship and initiative taking (26% growth)
- Creativity and higher cognitive (9% growth)

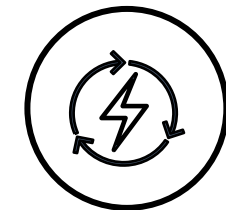
Many other jobs in significant decline

- Office, mechanical, extraction, etc



Technology

20-50M global jobs created by 2030



Energy transition and efficiency

20M global jobs created by 2030



Higher education is changing

UW MUST
embrace these
trends!
(But hasn't yet...)

B.S. Enrollment: growing at half the rate of last decade

- UW will have to compete (and brand ourselves) much more effectively to attract students

Digital Impact

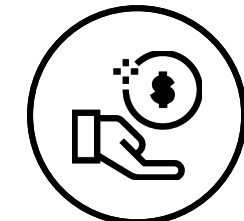
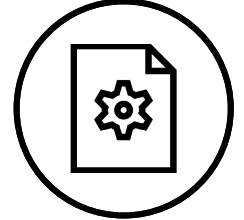
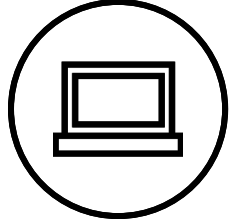
- Distance learning growing at 4% annually (2012-2018)
- Computing programs growing at 10% per year, faster than all other programs
- Universities cannot hire enough faculty to keep up with demand

State budgets declining precipitously

- UW state budgets down more than 1/3 in decade

Federal and non-federal R&D growing rapidly, also more competitive

- Universities rapidly diversifying revenue to federal, corporate, philanthropic sources



Students and States Changing Expectations

Demand More...

- Students expect us to provide 21st century skills for new careers
 - More digital, inclusive, interdisciplinary, entrepreneurial...
- States expect universities to be engines for innovation and economic development
 - Help grow existing markets, grow new ones, attract companies



Georgia Tech's Technology Square Phase III



Virginia Tech to open \$1B innovation campus 2 miles from Amazon HQ2

MIT Skoltech Initiative
Building the Future of the Skolkovo Institute of Science and Technology



UW is on unsustainable path...

Incremental change not sufficient...

UW Board of Trustees has asked me to budget shortfalls and present plan for UW...

Proposing major restructuring of UW for future...



Goals of Proposed Restructuring

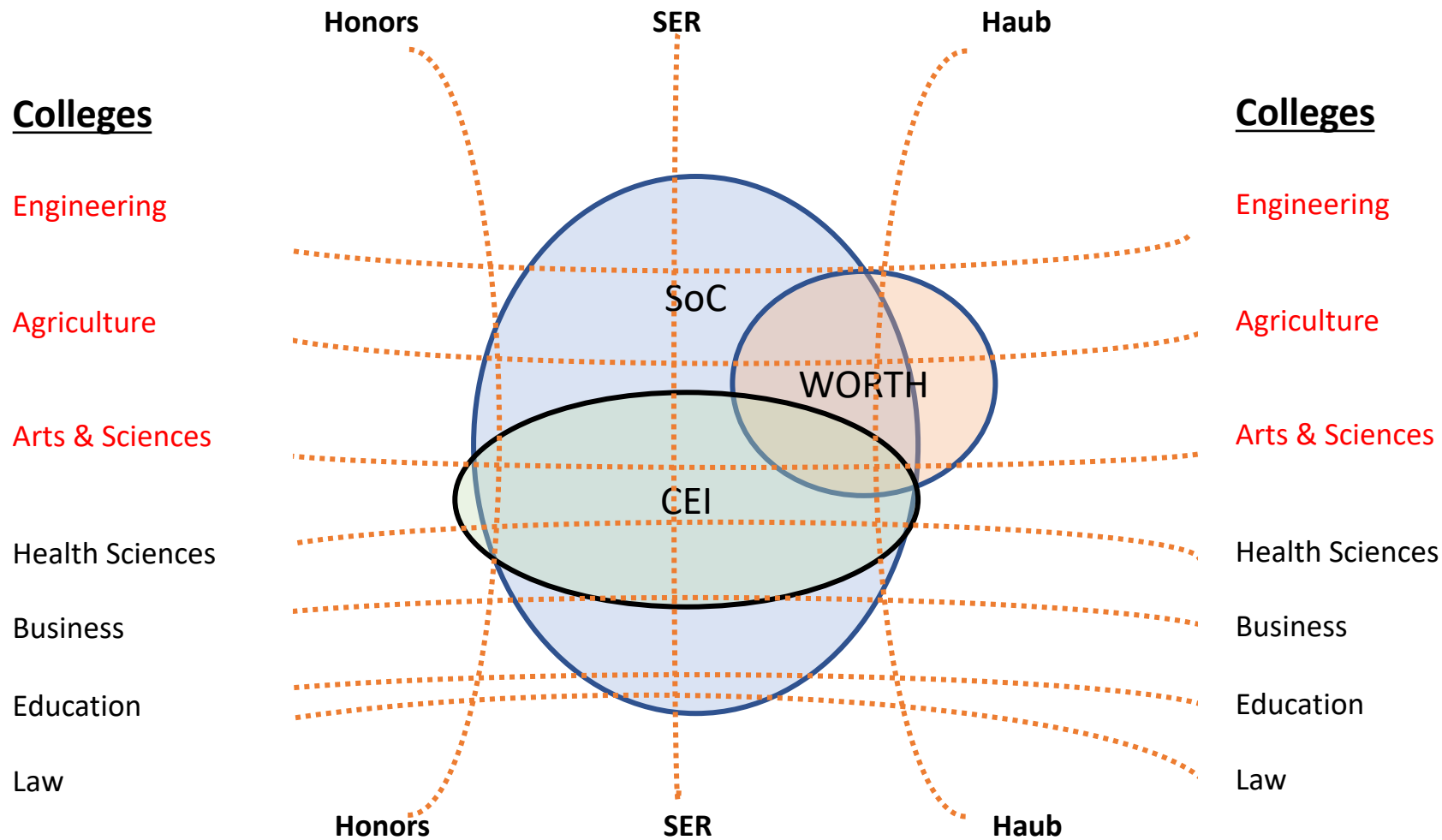
Position UW for future

- Enhance student experience and prepare for success of WY
 - Provide what students expect and deserve and what state needs
- Diversify and grow revenue streams
 - NSF, DOE, NIH, Commerce growing dramatically; UW not prepared
 - Corporate partnerships support students and help cover costs
- Better engine for innovation and economic development
 - UW college restructuring, new programs contribute to economy
- Cannot do it alone: Partnerships with community colleges
 - Wyoming Innovation Partnership (formerly WIN)

Respond to budget cuts

- Eliminate, consolidate programs
- Create smaller number of critical mass units with greater efficiencies
- Propose new units with sharper focus for future growth

Preview of New UW Proposed Structure



- Student success
- Program Growth
 - Revenue enhancement
 - Carnegie R1, Engaged Status
- Better Efficiencies
- Economic Impact



State of Wyoming: Key Specific Opportunities and Challenges facing WY

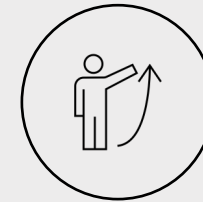
Vice Provost, Strategic Planning Anne Alexander



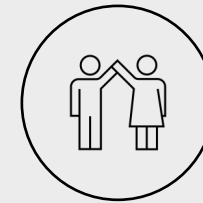
Challenges in the global & higher ed landscape are also aimed squarely at Wyoming. We can't assume they don't affect us. But, Wyoming has a strong heritage and foundation to build from.



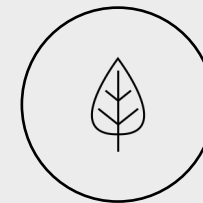
Entrepreneurial & pioneering spirit



Fierce pride & independence



Strong, hard-working communities

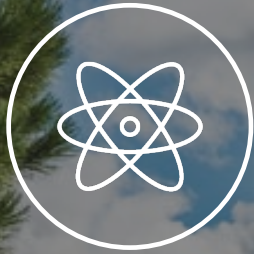


Natural beauty and outdoor recreation

Summary of economic opportunities and challenges for Wyoming



**Still recovering
from the 2008
Great Recession**



**70% of UW
grads leave
Wyoming**



**Core economic
sectors are
facing
disruption**



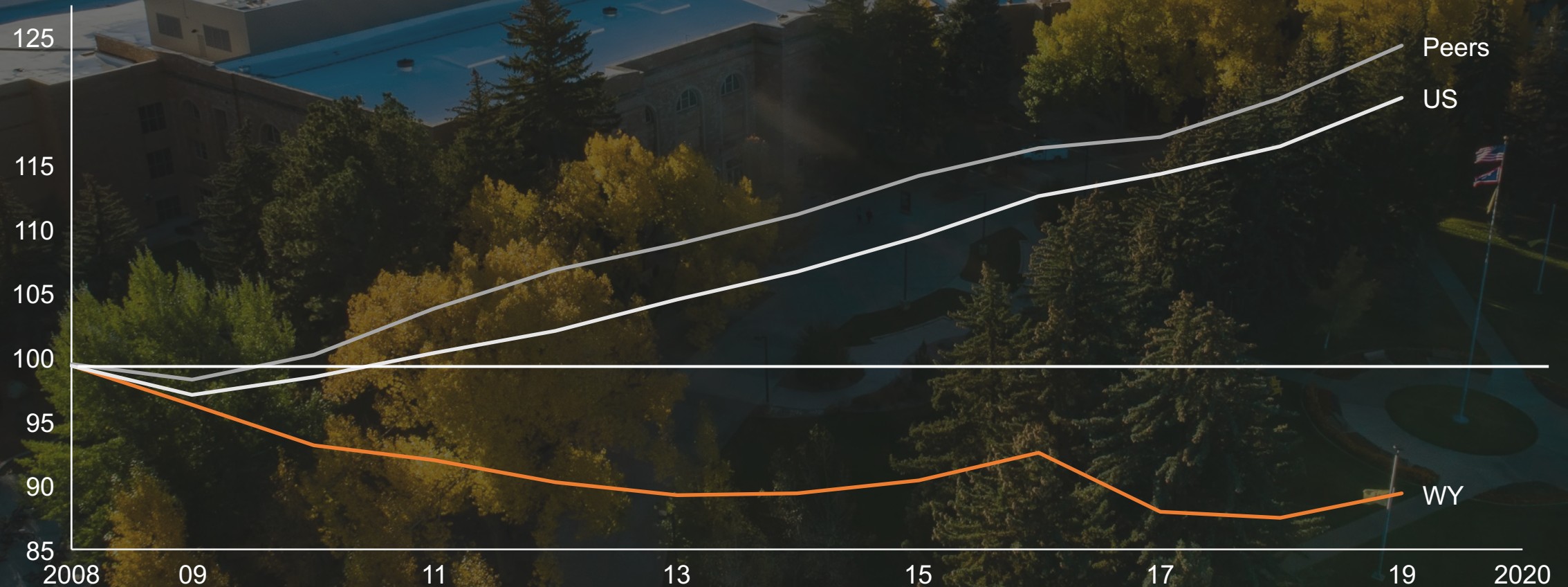
**7th nationally in
rate of
entrepreneurs,
but 50th in
academic and
business R&D**



**Outdoor
recreation and
the rise of
remote work**

Wyoming is still recovering from the 2008 Great Recession

Real GDP, Indexed to 2008



Peers include: Idaho; Montana; Nebraska; North Dakota; South Dakota; Utah; West Virginia

Source: Moody's Analytics

70%+ of UW grads leave the state; greatly lagging regional peers

Percent of graduates that remain in-state after graduation¹

Percent of profiles



1. Of all job-seekers with an online profile between 2000-2021, percentage that remain in same state as institution at which they completed their degree for all degree programs and all award levels above Associate's

Wyoming's core sectors are facing disruption

Energy

Nuclear, wind, & solar
Blue & green hydrogen
Carbon capture
Innovation in other fuels

Agriculture

Innovative food
Farm Robotics
Soil microbiome

Tourism & Hospitality

Remote work
Sustainable up-value tourism

Our innovation pipeline – the flywheel that drives jobs and development and keeps our students here – is weak

Idea generation / R&D

Faculty, staff, students' creations and ideas are strong – institutional support for them is weak

Commercialization

Anemic UW system of IP support and tech transfer support

Start-up and company growth

Those 250 students leave WY after graduation

Innovation pipeline is weak

1-10 # 11-20 # 21-30 # 31-40 # 41-50

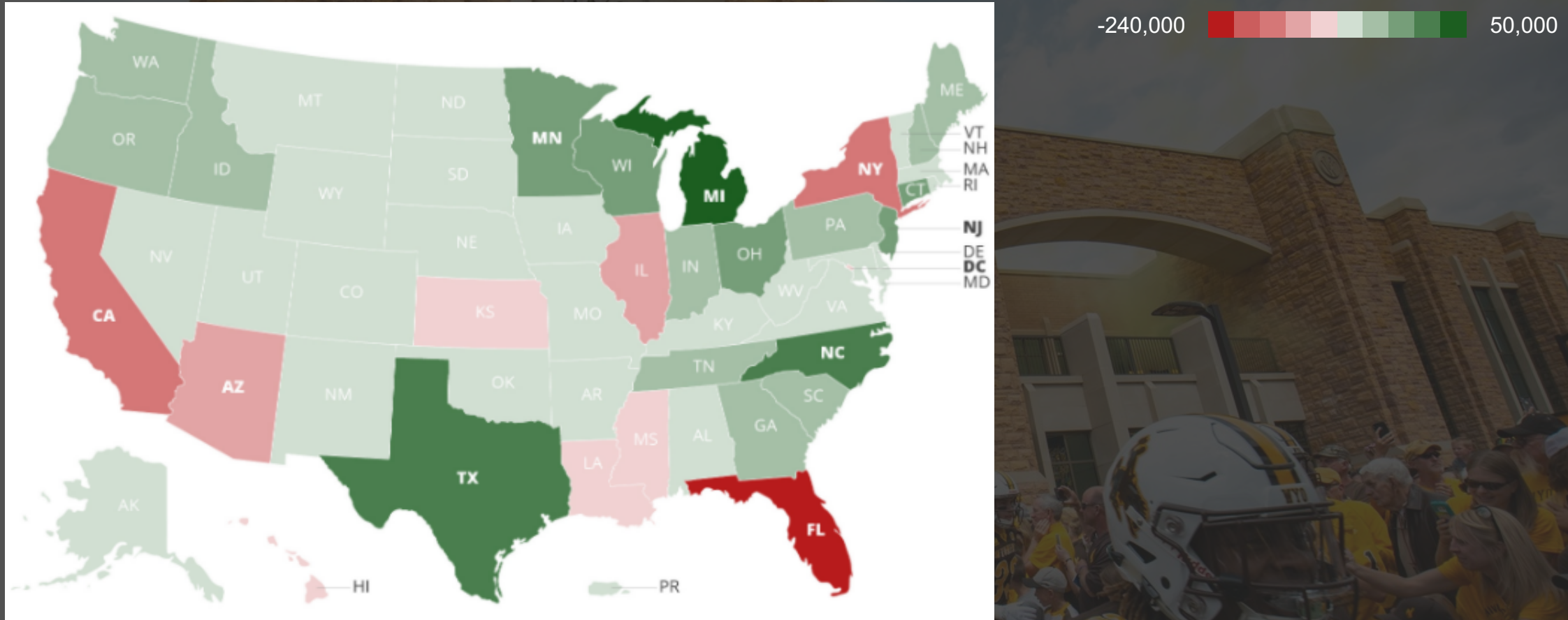
University/ Industry driven innovation

Idea generation / R&D	Commercialization	Start-up and company growth
Academic science/engineering R&D, percent of GDP 2019	Patents per 1 million people	Rate of new entrepreneurs ¹ 2019
50th	36th	7th
Business R&D as % of private industry output 2018	Small Business Innovation Research /Technology Transfer, per \$1m GDP 2019	5-year business survival rate 2018
50th	32nd	31st

1. Rate of 'new entrepreneurs' refers to the percent of the total number of new entrepreneurs who were not unemployed and not looking for a job as they started the new business

Wyoming's outdoor recreation and the rise of remote work

States that Gained and Lost Movers During Coronavirus¹, Feb - July 2020, Net movers



1. Data pulled from total USPS change-of-address requests filed between Feb. 1, 2020 and July 31, 2020. To calculate the data, we took the total number of moves to each state and subtracted the total number of moves from it

UW's role

Must pivot the academic portfolio and deeply rethink essential learning outcomes and student success support.

Must invest in the flywheel of innovation to create opportunities for graduates to stay in Wyoming.



W I P (*formerly WIN*)

Wyoming Innovation Partnership

Why WIP, What is it? Why Now?

Ed Seidel





- Students come from entire state
 - Many from community colleges
 - About 6K per year
- Responsibility to prepare all for careers in this new world
- Align all Higher Ed (UW and CCs)
 - Better prepare our students
 - Stronger pipeline & enrollment
- Together we can better support WY economy
 - Develop joint programs targeted to grow key job future markets
 - Grow opportunities at home

Wyoming Innovation Partnership

- Address these trends to strengthen and grow Wyoming's economy to enable a more resilient tax base, create more better opportunities for WY students



Support from the state and Governor

8

Higher ed institutions

35K+

Students

6K

Employees (staff and faculty)

55K+

Alumni in Wyoming

\$80M

In research funding

Why WIP and why now?

WIP can start the “flywheel” for the Wyoming economy...



Talent production



Idea generation (R&D, commercialization)



Corporate partnerships



Support for SMBs and Entrepreneurs

...with key partners in Wyoming...



State of Wyoming



Industry partners



Schools

...capitalizing on near-term federal funding

\$1B+

American Rescue Plan
\$126M requested for WIP; additional for UW

\$80B+

Expected in the U.S.
Innovation and Competition Act
Research and commercialization

U.S. Innovation and Competition Act

Historic Shift in Federal Funding Ecosystem

Major proposed authorizations

\$29B+

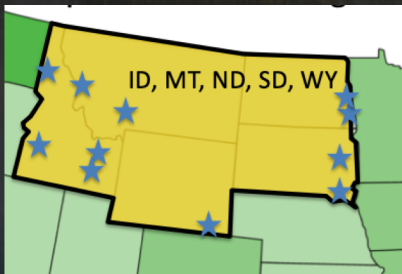
National Science Foundation
Directorate for Technology and
Innovation

\$52B+

National Science Foundation
Non-Applied Technology

\$13B+

Commerce Department R&D
Capacity Funding



10 “technology focus areas” for NSF

1. Artificial intelligence and machine learning
2. High-performance computing, semiconductors, advanced hardware and software
3. Quantum information science and technology
4. Robotics, automation, and advanced manufacturing
5. Natural disaster prevention or mitigation
6. Advanced communications technology
7. Biotechnology, medical tech, genomics, and synthetic biology
8. Data storage and management, including cybersecurity
9. Advanced energy and nuclear technologies
10. Advanced materials science

UW will build from an incredible foundation



Seven colleges, SER, Haub, and Honors



Tier I Engineering



High Bay Research Facility



Enzi STEM Building, Engineering Building, and Science Building



Energy Innovation Center



Partnership with NCAR Supercomputing Center



Science Initiative



Growth and innovation ecosystem

- Impact 307
- Makerspaces



AMK Ranch



UW Foundation \$750M+ Endowment

Incredible alumni and business leaders, across the UW Board of Trustees, the UW Foundation Board, and the community, who are ready to be champions

WIP Supports Wyoming's Economic Sectors

Prioritized focus for WIP / UW in the near-term



Oil & Gas
production



Fossil fuel innovation
(carbon capture and storage,
blue hydrogen)



Agriculture-tech



Renewable energy (nuclear,
wind, solar, renewable
natural gas, green hydrogen)



Advanced
manufacturing



Healthcare

New programs proposed at UW and WIP



Entrepreneurship and
building new economy



Hospitality and
tourism



Computing / digital
applications across sectors

What WIP Will Do

Specific strategic Initiatives

Ed Seidel, John Koprowski, Bryan Shader, Gabrielle Allen, Steve Farkas



What we are trying to achieve: WIP's aspiration by 2030

Strengthen and grow Wyoming's economy to enable a more resilient tax base, and to create more and better opportunities for Wyomingites *in Wyoming*

New businesses are started and supported

1K New businesses supported by WIP

New jobs are created across key industries

7-10K New jobs created across key industries

Displaced Wyomingites are reskilled and transitioned to new jobs

2K Wyomingites reskilled and transitioned to new jobs

More UW graduates stay in WY

35% College graduate retention (240 more young people staying in WY each year; current retention rate: 28%)

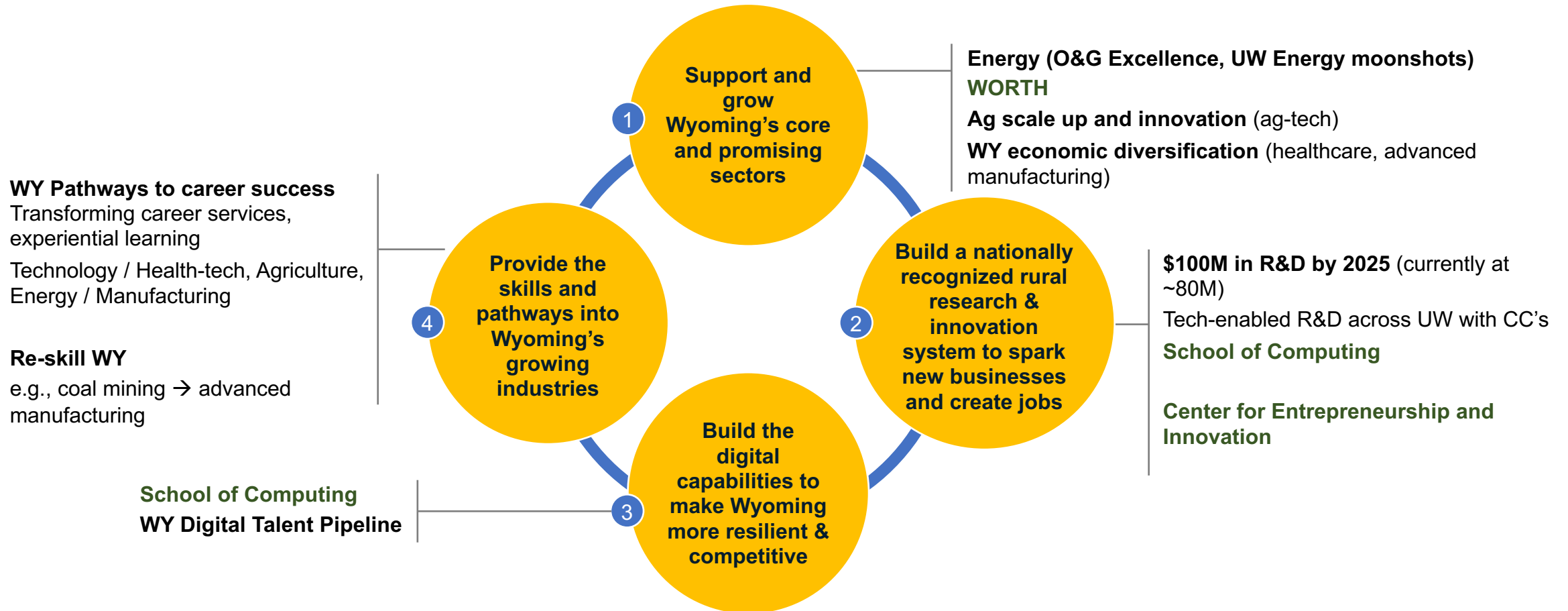
All WIP graduates armed with digital skills for future economy

100%

UW has increased annual R&D

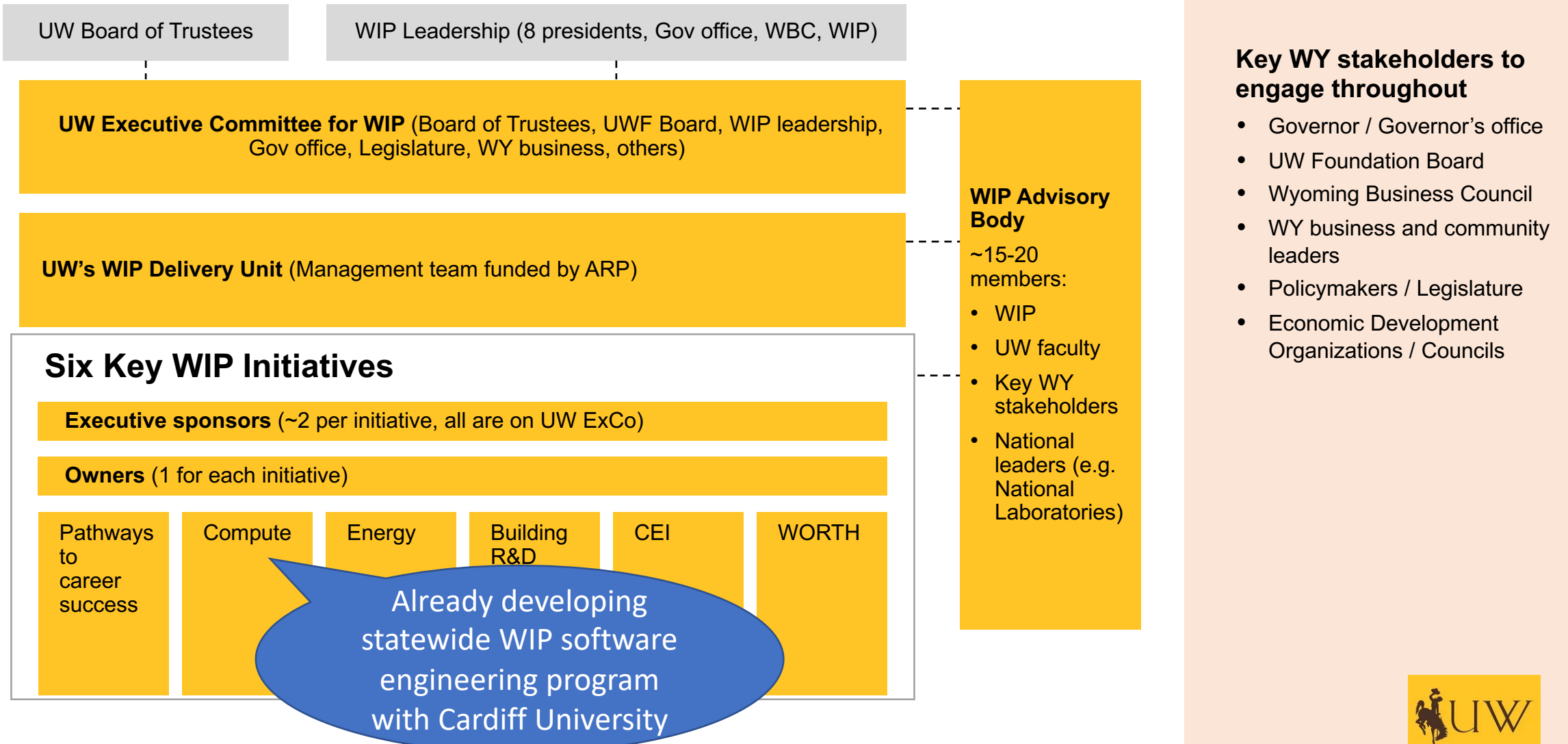
\$200M in additional yearly R&D spending by 2030 (\$100M additional by 2025)

How we will achieve aspirations: WIP's strategies & initiatives



Opportunity for BoT and Community

Execution Plan for UW-led WIP Initiatives



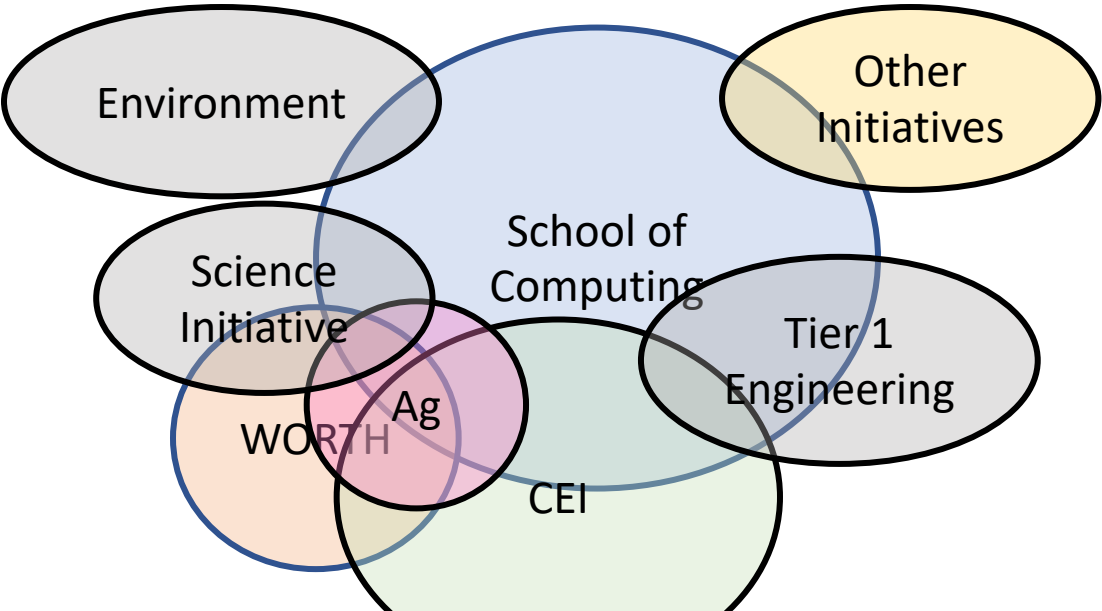
Three Specific UW Initiatives that will Support WIP




Deans John Koprowski, Rob Godby

Profs Bryan Shader, Gabrielle Allen

Assistant VP Economic Development and Innovation Steve Farkas, Dean Rob Godby

UW programs that support the entire state through WIP; all from pillar groups, faculty; CCs collaborating

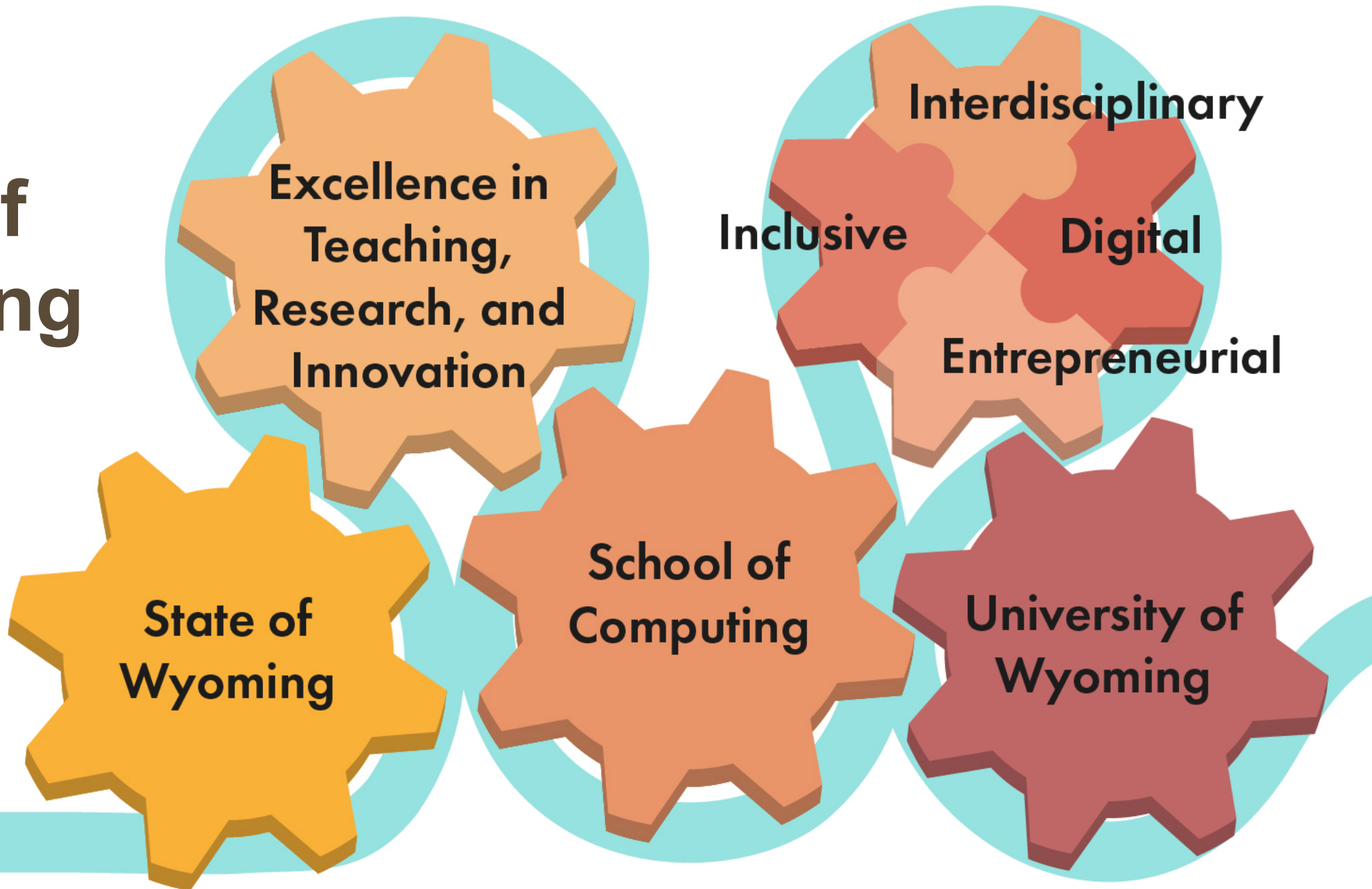


Entrepreneurial	Digital	Interdisciplinary	Inclusive
			
Entrepreneurship, Economic & Workforce Development	Data & Computational Sciences, AI & Technology	Interdisciplinary Education & Research	Accessible, Affordable, & Inclusive Education



School of Computing (SoC)

Bryan Shader
Gabrielle Allen



Why a SoC?

Do I have enough computing experience to get the job I want?

For our students!
All disciplines, all industries, all aspects of society need computing.

I took a basic programming class as a freshman, I didn't realize I would need more.

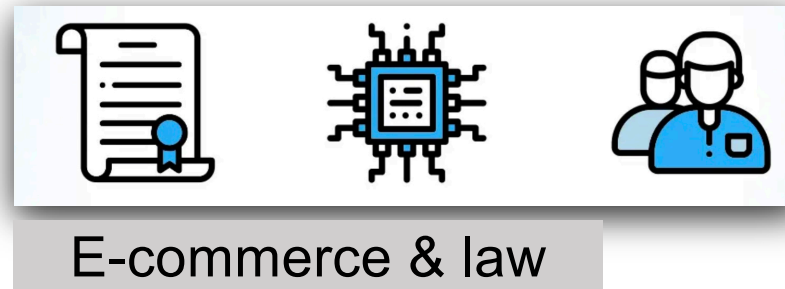
My friends at other universities know much more about computing than I do.

No one advised me on taking more computing classes or getting more computing experiences.



Why a SoC?

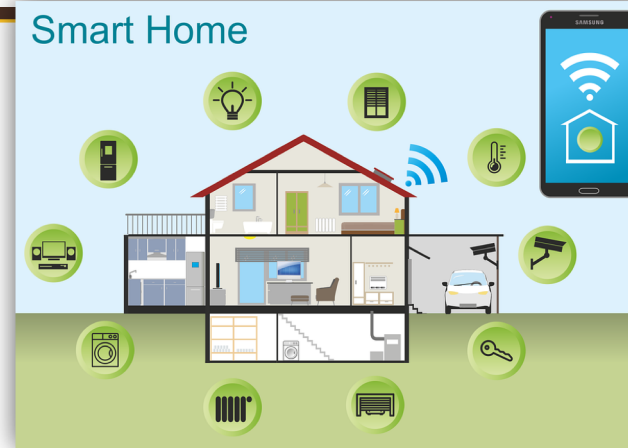
To prepare all students
for 21st century careers



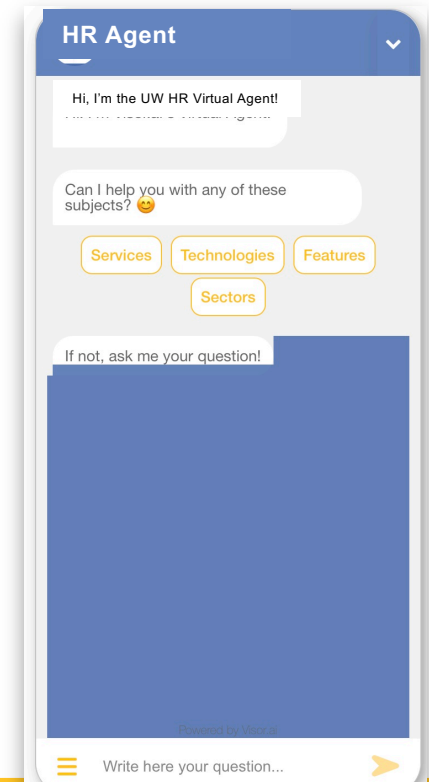
Agriculture



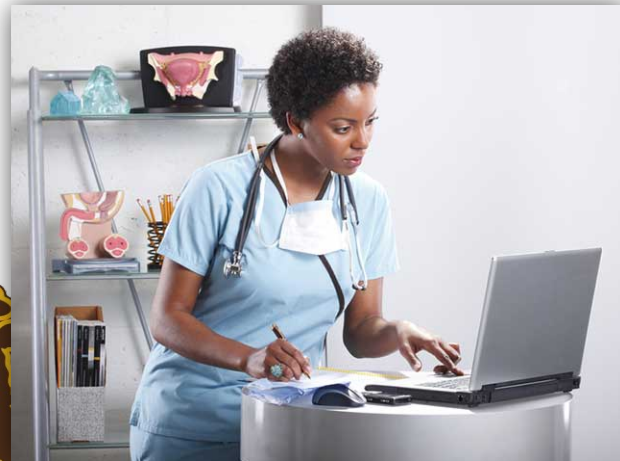
Natural disaster response



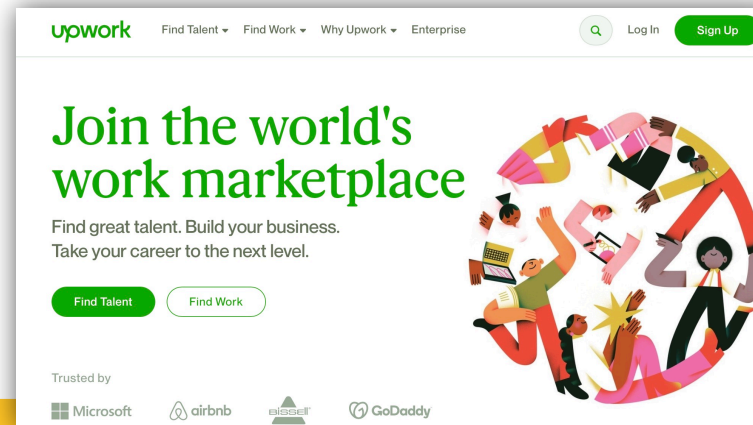
Architecture, Construction



Social sciences



Health care



Arts, Ag & marketing

Why a SoC?

- “Computing”/Digital Literacy crucial tool for our all students, all research, all economy sectors
 - ***UW needs a critical mass across all disciplines!***
- New data science technologies (AI/ML, blockchain) transforming every academic discipline, industry, and aspect of society
- Access to world-class professors, research, infrastructure, training critical for Wyoming
- There are strategic areas where Wyoming can lead!

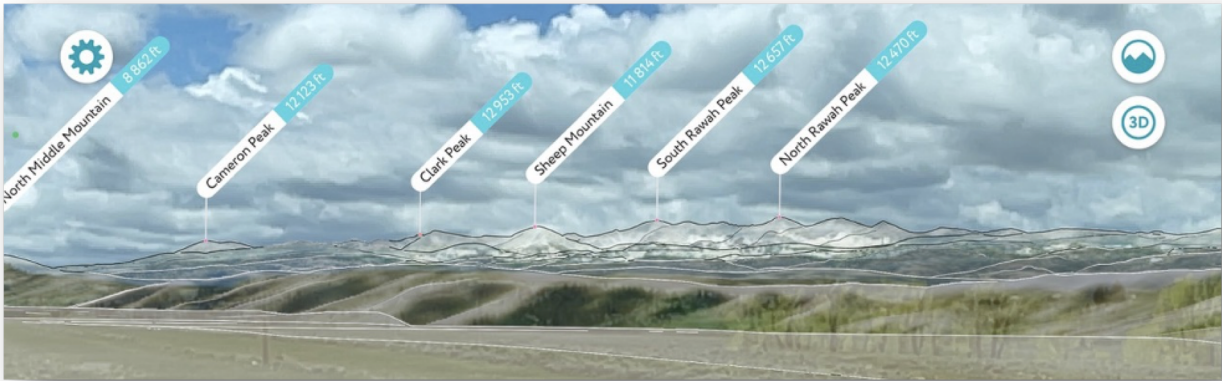
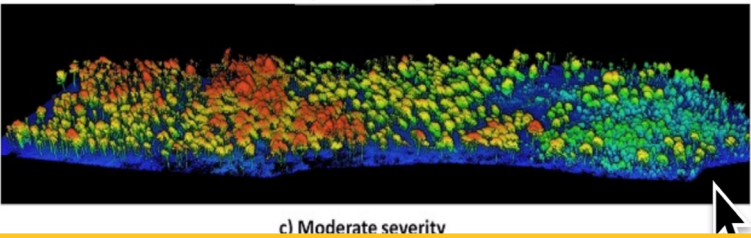


Why a SoC?

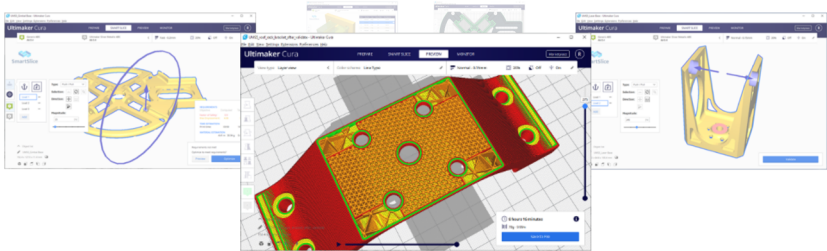
For Wyoming Workforce & Economic Development



Wildfire management



Smart Tourism



Smart Materials & 3D Printing



AI for resource management

Why a SoC?

To empower data and computational research driven by applications of Wyoming interest

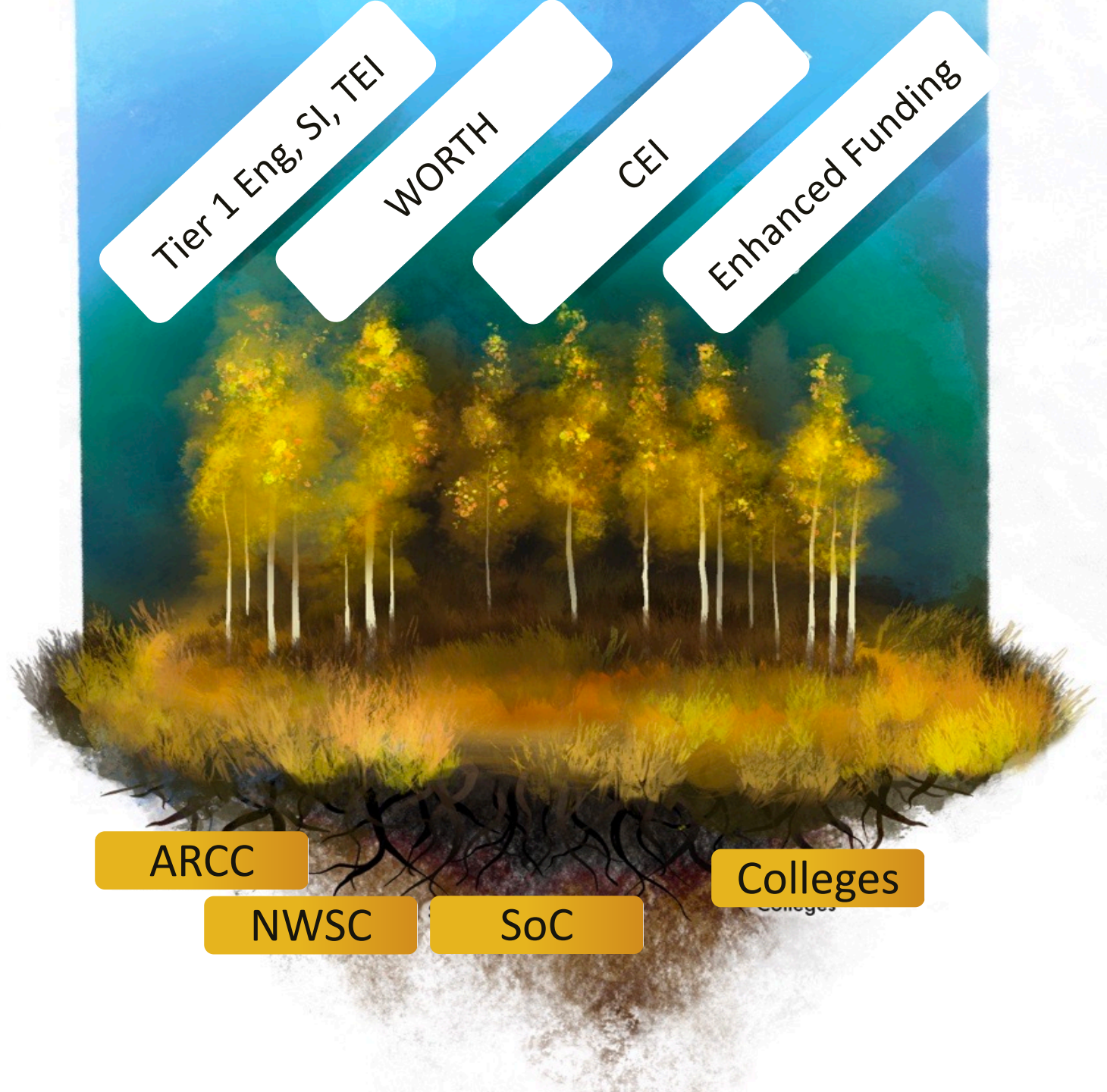
Wildfire Management & Healthy Forests

Computing Opportunities:

- Predictive fire models. Where to send fire fighters, stage equipment, when to evacuate.
- Research models to understand e.g. weather-fire interactions, fire-urban border behavior.
- Diverse data remote sensing, environmental data, population, wildlife, transport, etc.
- Climate & regional weather models, snowpack models to predict future wildfire risk, mitigations
- Modeling wildfire/forest management CO2 impact
- Visualization of wildfires to educate policy makers
- Multispectral sensors and image detection to quickly detect potential fires, drones to address hazard.
- Basic computing research: numerical algorithms, virtual reality visualization, data and AI.

Why a SoC?

To act as a force multiplier for past and current investments, and to position for partnerships and funding opportunities.




Plans Informed by Other SoCs


SCHOOL OF COMPUTING
UNIVERSITY OF UTAH

ABOUT UNDERGRADUATE GRADUATE RESEARCH PEOPLE FACULTY HIRING


A Message from the School




COHEN APPOINTED DISTINGUISHED PROFESSOR OF COMPUTING
Congratulations to University of Utah School of Computing professor Elaine Cohen, who has been appointed a Distinguished Professor of Computing. The rank of Distinguished Professor ... [Read more...](#)



FORMER U RESEARCHER WINS ACADEMY AWARD
If it weren't for an important computer graphics technique seen in special effects for movies known as "ray tracing," Spider-Man would appear as a flat, lifeless superhero, or Thanos from "The Avengers" would just be a one-dimensional super villain. [Read more...](#)



UNDERGRADUATE STUDENTS RECOGNIZED BY CRA
The Computing Research Association Outstanding Undergraduate Researcher Program recently recognized four School of Computing undergraduate students who demonstrated outstanding potential in computing research. [Read more...](#)



RAJEEV BALASUBRAMANIAN NAMED IEEE FELLOW
School of Computing Professor Rajeev Balasubramanian has been named an IEEE Fellow. He is being recognized for his contributions to in-memory computation and memory interface design. Rajeev will be elevated to IEEE Fellow status starting January 1, 2021. [Read more...](#)

University of Utah

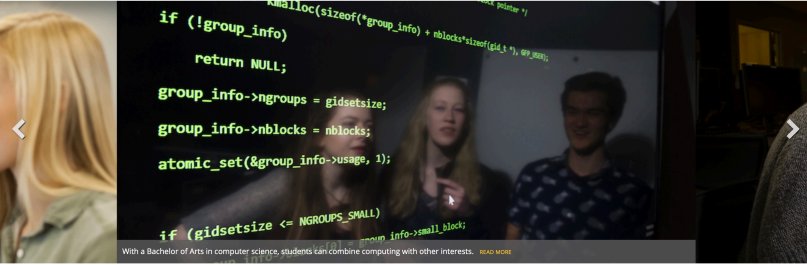
University of Montana

MONTANA
STATE UNIVERSITY

Search pages & people

Gianforte School of Computing

Who we are Prospective Students Current Students Faculty & Staff Alumni & Friends



With a Bachelor of Arts in computer science, students can combine computing with other interests. [Learn More](#)

[Interested in joining our faculty?](#) We are accepting applications for [faculty positions](#). Please consider applying!

Our Community

We are an inclusive organization that strongly supports diversity. Differences in race, ethnicity, gender, gender identity, sexual orientation, belief, age, national origin or physical capacity strengthen our organization and advance the computing profession.

Our Programs

We offer bachelor's and master's degrees with multiple options, plus a Ph.D. degree and a minor in computer science. Our undergraduate programs are accredited. Learn more about the [degrees we offer](#). It's an exciting time to be a computer scientist!

Our Research

Our faculty have varied [research](#) interests and expertise, offering a variety of opportunities for students. Laboratories include the [Software Factory](#), the [Applied Algorithms Laboratory](#), the [Computational Ecology Group](#), the [Numerical Intelligent Systems Laboratory](#).

School of
COMPUTING

ACADEMICS RESEARCH PEOPLE CONNECT NEWS & EVENTS RESOURCES



PROTECTING THE INTERNET FROM HACKERS

Innovation. Ideation. Reach Further

Clemson University

Georgia
Tech College of Computing

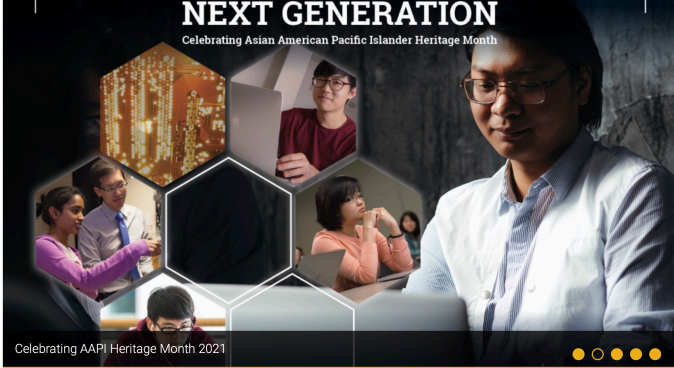
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SEARCH

NEXT GENERATION

Celebrating Asian American Pacific Islander Heritage Month



Celebrating AAPI Heritage Month 2021

Georgia Tech University



UW's Vision for a SoC

“... create a unique and inspirational School of Computing (SoC) with national impact and global reach, providing Wyoming and the world with agile and ethical computing professionals, empowered to address societal challenges that are inherently interdisciplinary”

University of Wyoming School of Computing Preliminary Plan May 2021

0. Preamble

To accomplish the overarching goal of building UW into a “best-in-class 21st century land grant university true to its Wyoming roots,” four focused goals have been identified: make UW more digital, make UW more interdisciplinary, make UW more entrepreneurial, and make UW more inclusive [2]. Central to the goal of making UW more digital is the establishment a School of Computing (SoC),

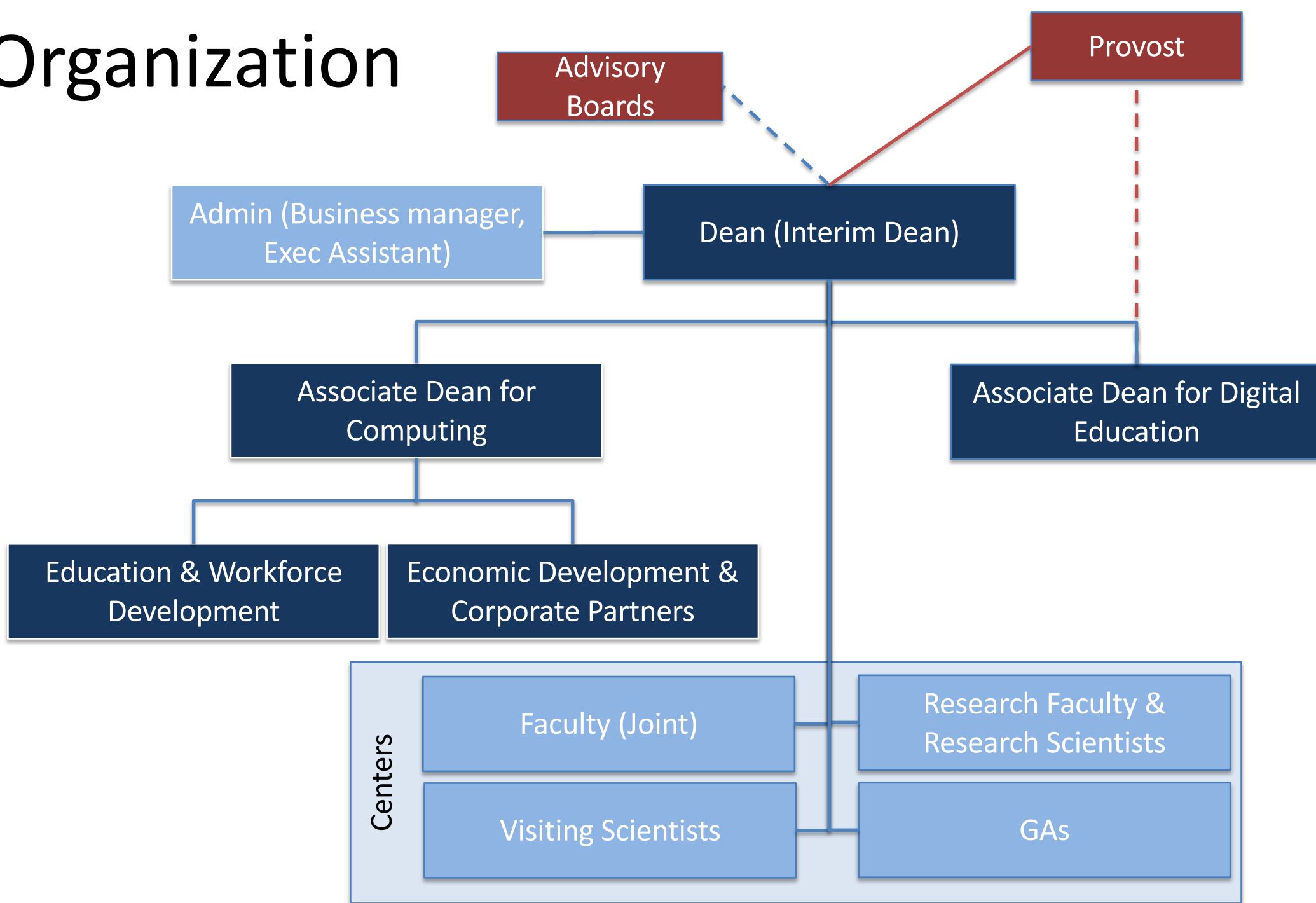
This preliminary report, prepared at the request of Provost Alexander and President Seidel, explores the programs, infrastructure and organizational structures needed to build out a School of Computing that transforms research and education at UW, while accelerating UW's role as an economic development engine.

A list of people involved in the writing of the document is provided in Appendix A. The Digital Pillar report, which describes all aspects of making UW more digital, can be found in [6]. For inquiries or comments about the School of Computing please e-mail SoC@uwyo.edu.



The School of Computing is designed to strategically mesh together existing resources and initiatives, the other pillars (more inclusive, more interdisciplinary, and more entrepreneurial), UW's existing strengths in research and teaching, and partnerships throughout UW and across Wyoming, into a system that drives UW to its vision of becoming a best in-class university true to Wyoming's roots.

Organization



Initial Outcomes

World-class team
of faculty (12) and
research scientists (8)

Impactful research
on Wyoming's
Grand Challenges

Increased funding
and corporate
partnerships

Cutting-edge, widely
accessible curricula &
student experiences

A tech-savvy
workforce for
Wyoming

Active engagement
throughout Wyoming

All-in Costs:
\$9.5M/year

New revenues
from grants &
corporate
partnerships



Implementation Timeline

Phase 0: 3-6 months (1/22)

Establish mission, values, structure and metrics.

Phase 1: Years 1 and 2

Recruit

Develop undergrad curricula

Establish partnerships

Raise funds for Phase 2

Commence operational programs!

Phase 2: Years 3-5

Secure funding & partnerships

Expand faculty & research staff

Expand acad. Programs

Catalyze research across UW

Center for entrepreneurship & Innovation (CEI)

Steve Farkas

7-14-21

Wyoming Board of Trustees Retreat
Torrington, WY

Why CEI is Needed

- Capacity:
 - UW has invested in significant educational capacity to support workforce needs in the 21st Century
- Entrepreneurship and Innovation:
 - SoC, WORTH and CEI initiatives utilize this capacity to drive innovation across state's priority economic sectors in addition to catalyzing new business creation
- *Impact*
 - *Focus on supporting state-wide economic development and new job creation through*
 - *Creation* of knowledge
 - *Connecting* opportunity to networks
 - *Execute* new ideas by creating meaningful business activity that provides our graduates with opportunities in Wyoming



CEI Objectives

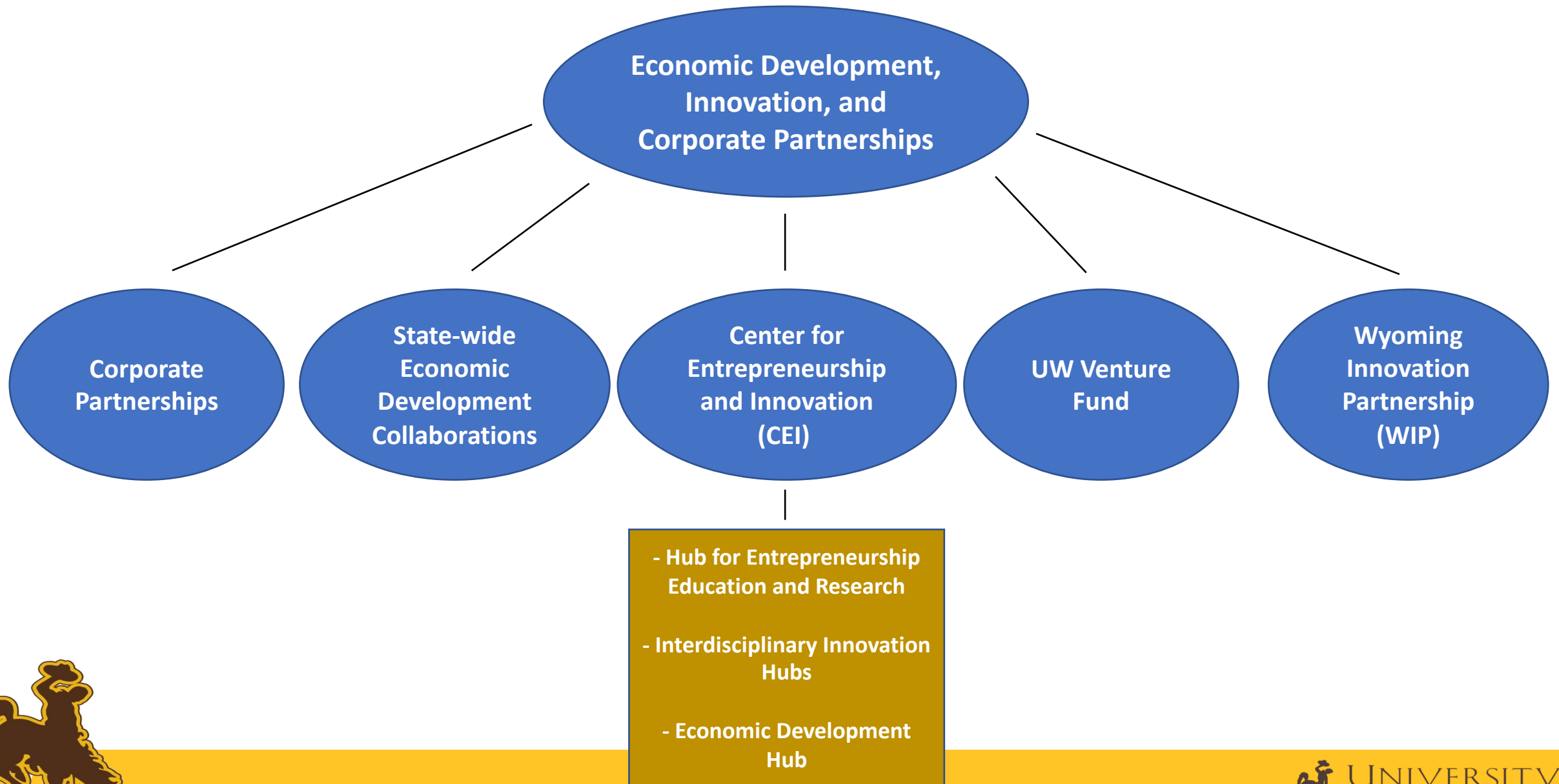
- The CEI serves as the coordinating entity to facilitate entrepreneurship and innovation activities across UW and Wyoming's community colleges in collaboration with proposed UW School of Computing, WORTH, and the Wyoming Innovation Partnership (WIP)
- State-wide interdisciplinary integrator for programs that have potential for supporting the state's priority economic sectors in addition to activating new business sectors and supporting state workforce objectives



Considerations...

- Clearly understood, efficient, and easy to engage (internal and external)
- Centralized coordination - centerpiece for student experience
 - Business Resource Network (BRN)
 - State-wide ecosystem = business success rate
- Increase innovation and economic development capacity
 - Support Tier 1, Science Initiative, TEI, School of Computing, WORTH
- Other:
 - Statewide resource for Wyoming Innovation Partnership (WIP)
 - Supports new business creation + existing business communities
 - Industry partners program
 - Activates access to capital networks





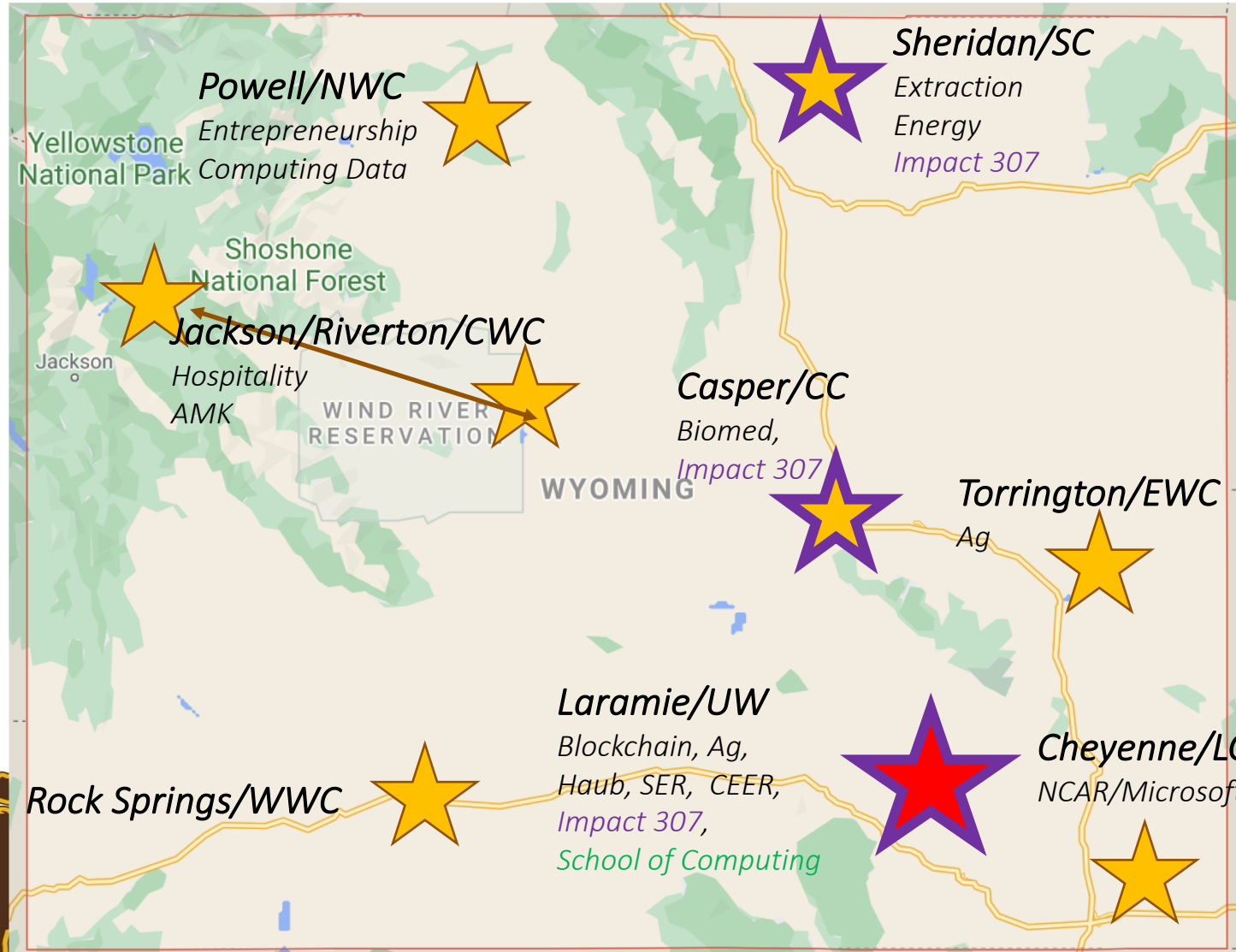
Innovation Hubs

- State-wide network
 - UW and CC collaboration, best practices
 - Connect world-class research and talent with industry partners
 - Solve important challenges
- Drive innovation, economic development and workforce development
- IMPACT 307 + CC
 - Incubators, labs
 - Innovation enabled classrooms, co-working space, etc.
 - Destination for innovation activities



WIN Hubs in Wyoming: CEI Supports All

Entrepreneurship and Computing/Data Across all Hubs



Educational Assets

K-12, CCs, UW, Extension

Partnerships to build capacity

Wales/Wyoming, National Labs,, AI/Blockchain Consortium

Incubators

C&D/Tech, Entrepreneurship everywhere
Themes as appropriate

Venture Capital

Funds, Networks Needed

Assets to Build on

BRN, Impact 307 Hubs, EDA
Virtual Network, many others

Work Underway...

- Existing Interdisciplinary Framework
 - Center for Entrepreneurship Education
 - Entrepreneurship Minor
 - Ellbogen 50K, Fisher Innovation Launch
- E2 (Entrepreneurship Essentials) collaboration with CWC
 - State-wide collaboration to deliver entrepreneurial education
- IMPACT 307 EDA Grant
- UW Venture Fund
- ARP Funding Request

WIP Presidential Steering Group working to build on these and other assets across the state...



Proposed Investments

Faculty & Staff Support for All

- Training in entrepreneurship for all students at UW and CCs
 - Courses, seminars, etc.
 - Bootcamps and other applied learning opportunities
 - Associate degrees, Bachelor's degrees, minors, concentrations, certificates, etc.
 - Proposed Center Director + Academic Coordinator
- Coordinated state-wide mentoring network
 - Alumni, associations, special interest groups, businesses, etc.
 - Web based mentor connection platform
- State-wide business incubators, lab spaces, and innovation learning hubs
 - UW and CC facilities retrofit and upgrades
 - Technology updates/upgrades to connect WIN partners
- Innovation workshops, student projects, business/corporate engagement
- Corporate Relations Office



Measured Outcomes

- New business starts
- Existing business growth
- Business recruitment
- New job creation - Wyoming graduate retention
- Increased access to capital
- Sponsored projects and research
 - Research Park
- New and enhanced industry partnerships





UW

Haub School of
Environment and
Natural Resources



UW

College of
Business



UW

College of Agriculture
and Natural Resources

UW Board of Trustees

Wyoming Outdoor Recreation, Tourism & Hospitality (WORTH) Initiative



Why the WORTH Center? Supporting our #2 Economic Driver



2019 - Wyoming

Outdoor Recreation Satellite Account (ORSA)

Value Added (GDP)		Employment		Compensation	
ORSA Total	Share of State	ORSA Total	Share of State	ORSA Total	Share of State
\$1.7 Billion	4.2%	21,344 Jobs	5.2%	\$0.8 Billion	4.1%

5th in US (tied with ME)

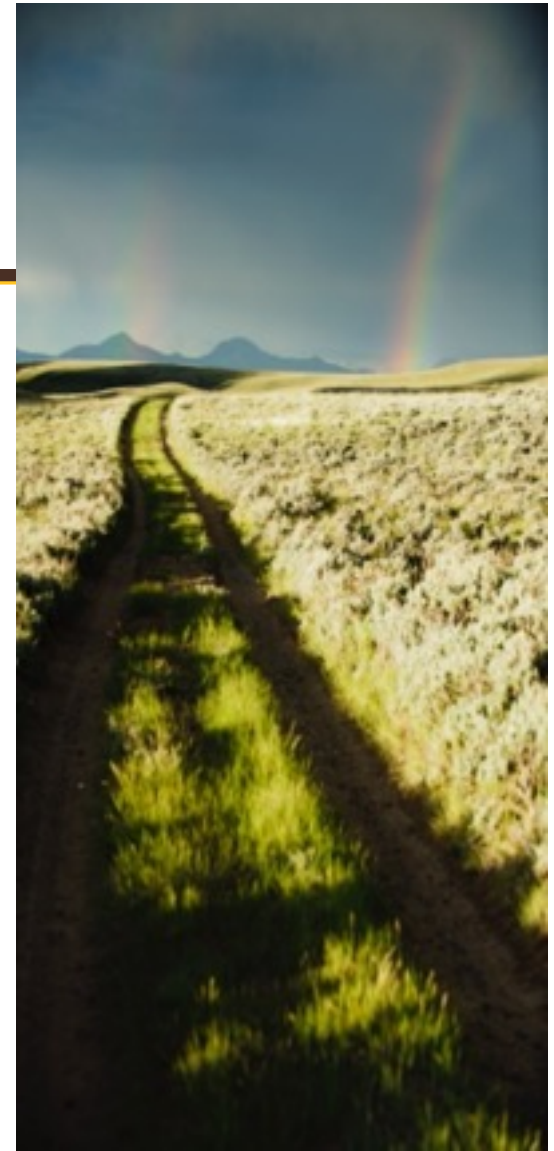
2nd in US

2nd in US (tied with MT)



Vision

- An expanded, diversified and more resilient Wyoming economy
- WORTH industries thriving and growing
- Leaders and innovators nationally in applied research, professional development, and outreach to this sector



Needs that WORTH Addresses

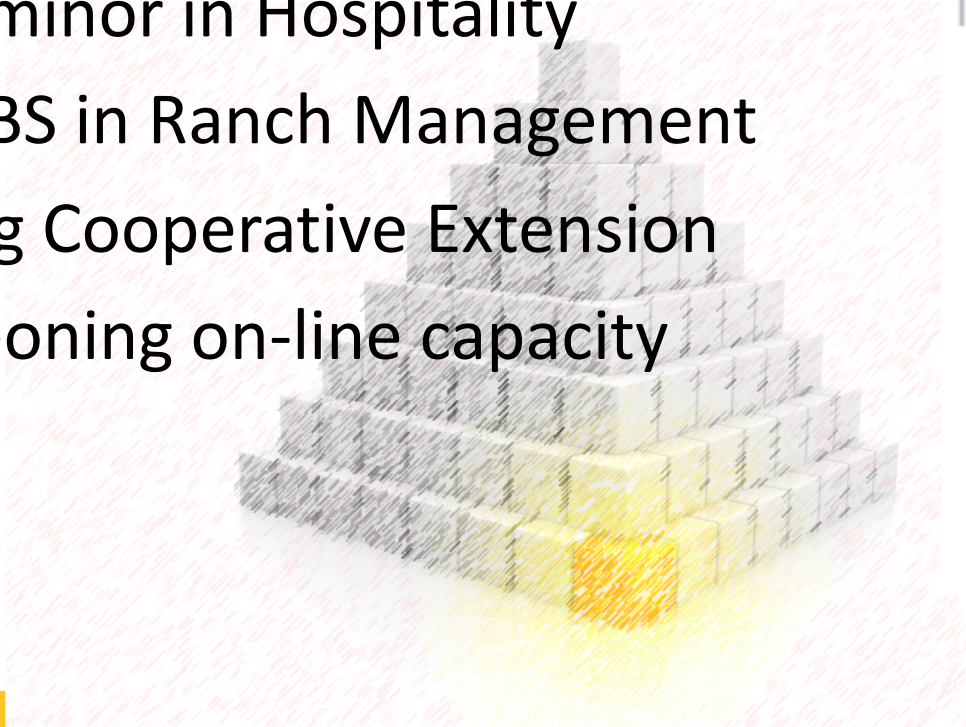
- Lack of diverse educational products and professional development
- Lack of state-wide outreach and extension
- Lack of targeted, applied research
- Resource impacts with increased visitation and use

**For WORTH
related
industries**

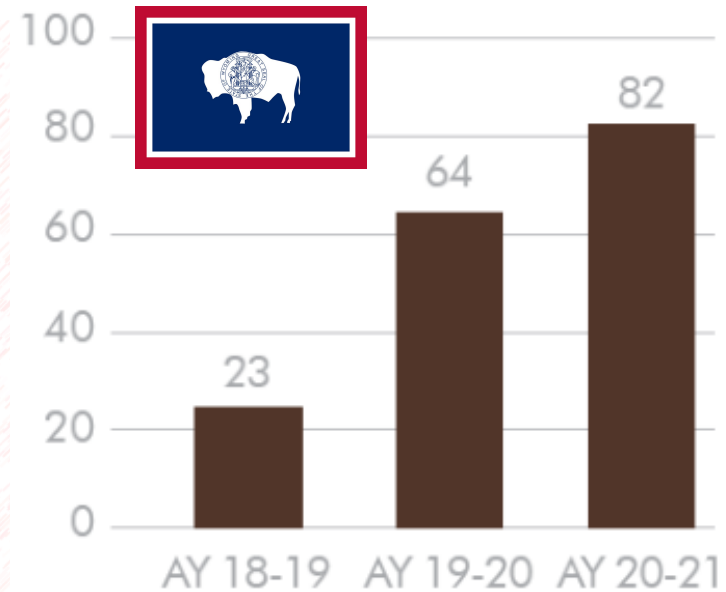


Builds on a strong foundation...

- Rapidly growing BS in ORTM
- New minor in Hospitality
- New BS in Ranch Management
- Strong Cooperative Extension
- Burgeoning on-line capacity



BS in ORTM
Rapid growth in Majors



WIP & Community College Partners



In This Section

In This Section

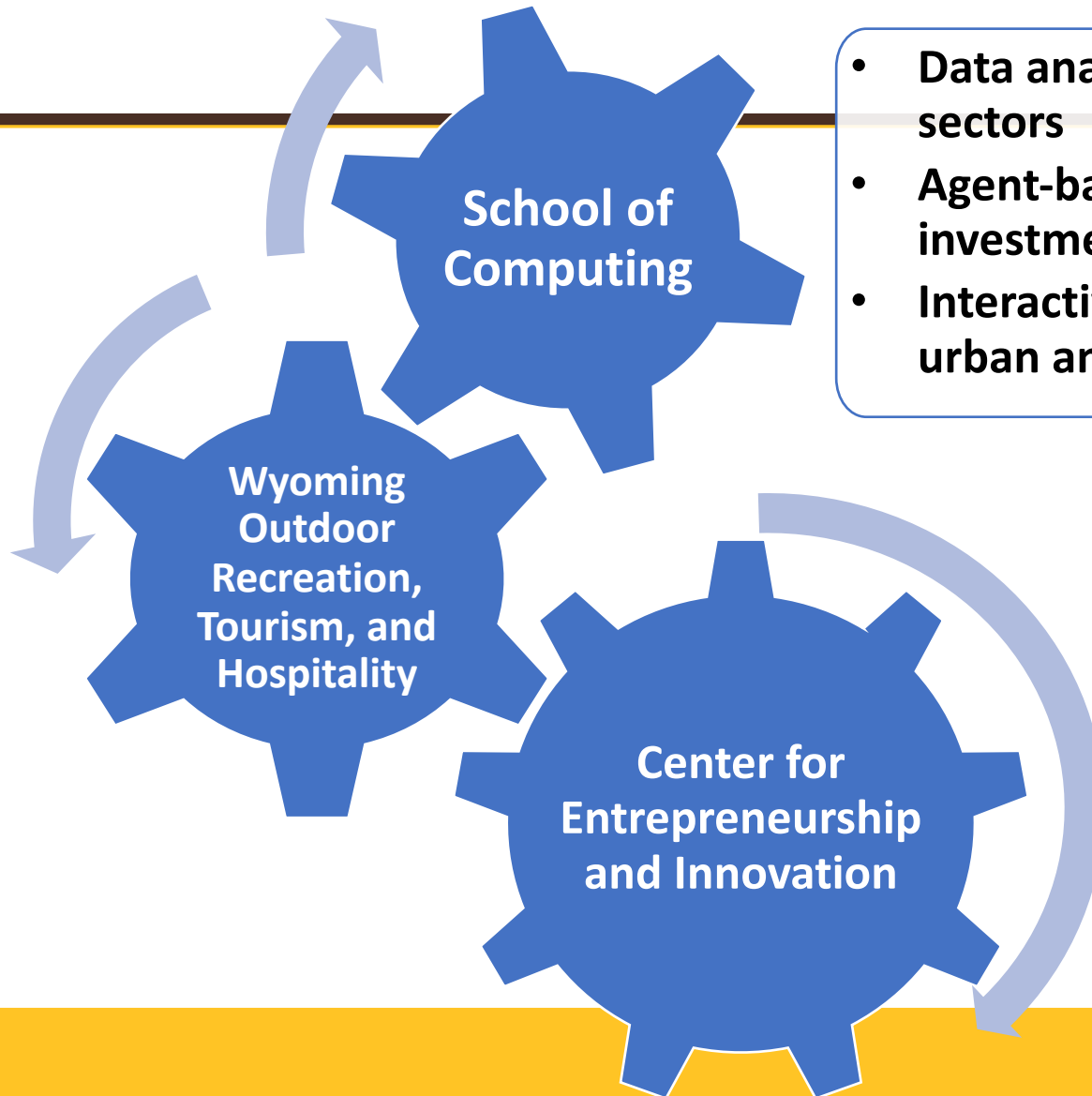
BE THE LEADER IN THE ROOM

LEARN HOW TO SUCCESSFULLY MANAGE A RESTAURANT

HOTEL & RESTAURANT MANAGEMENT



Western hospitality writ large...from the arts, culture, history, industry, innovation, outdoor recreation, wild & working landscapes



- **Data analytics for hospitality & tourism sectors**
- **Agent-based modeling of tourist travel, investment scenarios, wildlife impacts**
- **Interactive mapping of tourism-related urban and infrastructure growth**

- **State-wide entrepreneurial support**
- **Innovation efforts programs to increase value and activity**
- **Workforce development**



The WORTH Initiative-What will it be?



PROFESSIONAL DEVELOPMENT

- ✓ Academic degrees/partners expanded – BA/BS Hospitality
- ✓ Certificates & continuing ed
- ✓ On-line/distance learning
- ✓ Student experiences



OUTREACH & EXTENSION

- ✓ Extension agents
- ✓ Assistance for state
- ✓ Economic analyses
- ✓ Student internships



APPLIED RESEARCH

- ✓ Applied ? driven research/survey
- ✓ Data-informed decisions
- ✓ Graduate student research
- ✓ Student internships



Economic Impact: Expanded ORTH Industry & Workforce



Making a difference...



UW Restructuring Plan

Provost and Executive VP Kevin Carman

Restructuring for the Future



UNIVERSITY OF WYOMING

Restructuring Academic Programs at UW

- Necessary budget cuts
- Broader thinking about UW structure
 - Synergism among disciplines within Colleges
 - Interdisciplinary programs that transcend departments/colleges
 - School of Computing
 - Efficiencies of department size
 - Reduced # of department heads
 - Program eliminations
 - Impact on Faculty & Staff



Budget challenge

Item	Budget required (annual)
Step Two reductions covered with one-time monies previously	\$3,125,000
Debt service	\$5,000,000
Required reallocations (SoC, CEI, WORTH)	\$5,500,000
Total annual required	\$13,625,000



Budget challenge

College/action	Estimated Savings	Positions
Total from discontinuations, reorganizations, reductions	\$4,097,000	Up to 65
Total academic cuts from across the board	\$1,243,000	
Total, academic reductions	\$5,340,000	
Reduction in academic admin. (dept. heads)		Up to 10
Academic policy efficiencies	\$750,000	
Employment policies	\$1,500,000	
Consolidations in auxiliaries	\$2,153,000	
Parking	\$500,000	
Non-academic reductions	\$2,577,000	
Step Two Reallocations	\$500,000	
Total	\$13,320,000	



Reorganizations of Colleges

- Engineering & Physical Sciences
 - Mathematics & Statistics
 - *Consolidation*
 - Physics & Astronomy + Atmospheric Science
 - *Consolidation and Reduction*
 - Petroleum Engineering + Geology & Geophysics
 - *Discontinuations and Create New Academic Unit*
 - Comp. Sci. + Electrical & Computing Engineering
 - *Discontinuation & Reorganization*
 - Chemistry + Chemical Engineering



Reorganizations of Colleges

- Agriculture & Life Sciences
 - *Consolidations*
 - Zoology & Physiology, Botany, & Life Sciences
 - 8 life sciences depts → 3 depts
 - Ag Economics → Economics/CoB
 - Ag Communications → COJO/CHSSA
 - Nutrition MA → Kinesiology/HS
 - Early Childhood Education → Education



Reorganizations of Colleges

- Humanities, Social Sciences, & Arts
 - Focused emphasis on the liberal arts core of the university
 - *Reorganize, Consolidate, and Rename* Department of Visual & Literary Arts
 - *Consolidations*
 - Creative Writing → English
 - *Reorganize and Rename*
 - Visual Arts with Theatre & Dance → New Department of Visual & Performing Arts
- Education
 - Discontinuation and Reorganization
 - CLAD
 - Maintain key graduate programs
 - Reorganize structure of college and degree programs



Program Eliminations/Suspension

College	Program	Enrollment^1
CSSHA	BA German	1, 2, 13, 13, 10
	BA French	10, 10, 13, 9, 16
	MA Sociology	0, 0, 0, 3, 9
	MA Philosophy	0, 0, 1, 6, 8
	MA Political Science	4, 7, 8, 8, 5
	MA International Studies	12, 15, 15, 16, 14
COB	MBA Energy	5, 4, 5, 7, 8
	MBA Finance	3, 6, 10, 3, 0
CEPS	MS Architectural Engineering	4, 7, 5, 6, 7
EDUC	CLAD^2	
	Secondary Ed/Foreign Lang	10,10, 13, 13, 17

1. Fall 2020, 2019, 2018, 2017, 2016
2. Program elimination TBD



Degree programs slated for elimination

College	Program	Enrollment
CALS	MS/PhD Entomology	1, 1, 1, 1, 5
	MS Family & Consumer Sciences	4, 2, 5, 4, 3
CEPS	PhD Statistics	0, 0, 1, 2, 4

Programs to be suspended

- Neuroscience
- Biomedical Science
- Hydrologic Science



The New UW: More improvements to come

- Update of Strategic Plan
 - Integration with WIP/WORTH/CEI
 - Graduate School
- Application for Carnegie Community Engaged
- Pursuit of Carnegie R1
- School of Computing
- Update of University Studies Program
 - Digital literacy
 - Entrepreneurial acumen



Summary

Ed Seidel

Great ideas rediscovered... **UW Academic Plan 1999-2004** *Ready then...more ready now!*

61. Action Item: In consultation with the Deans of Arts and Sciences, Business, and Engineering, the Vice President for Academic Affairs will assess alternative organizational arrangements that will strengthen the University's presence in computing, information technology, and information management at the undergraduate and graduate level. This effort could include cross-college cooperation for a computer engineering program, the merger of Computer Science and Electrical Engineering, the creation of an inter-college School of Computer and Information Sciences, or other alternatives.

130. Action Item: The University will assess the demand and potential costs associated with an undergraduate program in tourism and hospitality.



Colleges

Engineering & Physical Sciences

Agriculture & Life Sciences

Arts, Social Sciences & Humanities

Health Sciences

Business

Education

Law

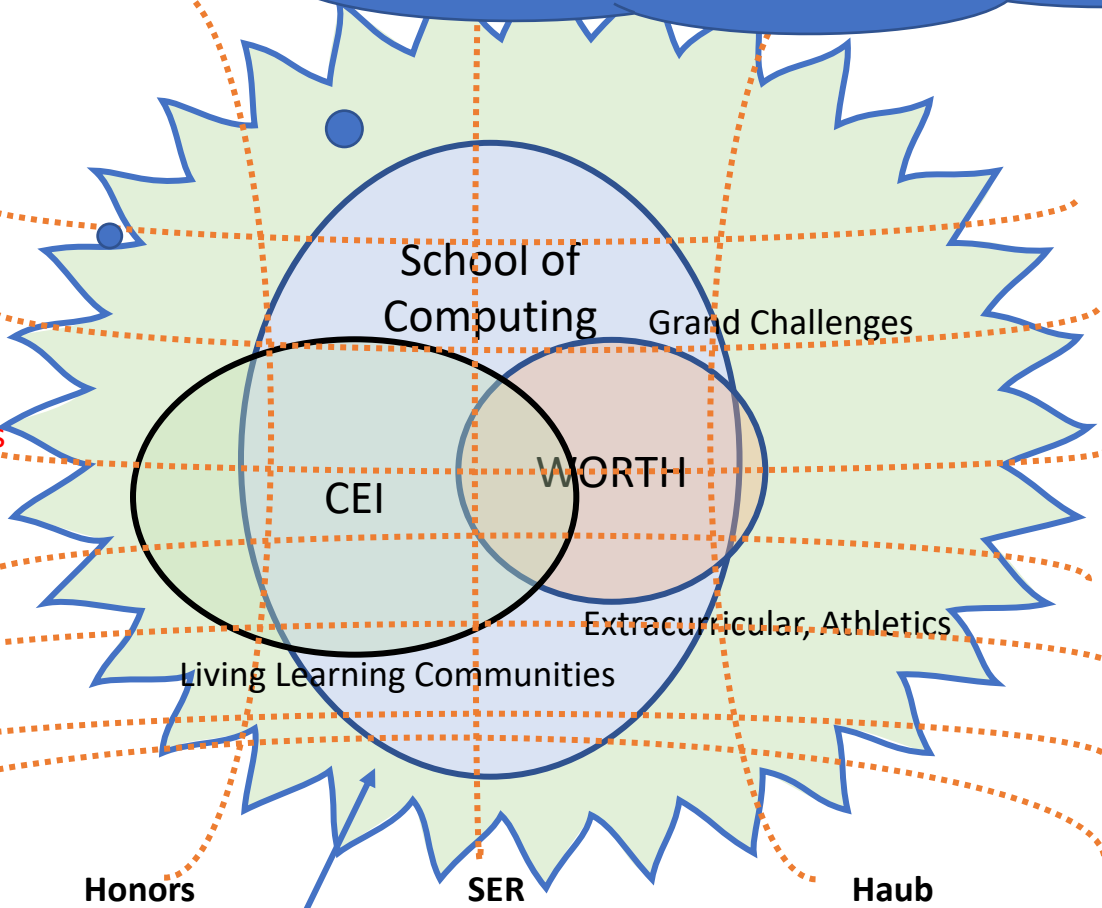


Honors

Honors

Student experience lives here

- More Focus, Critical Mass, Efficiencies
- Better Positioned for Future Growth



Colleges

Engineering & Physical Sciences

Agriculture & Life Sciences

Arts, Social Sciences & Humanities

Health Sciences

Business

Education

Law

Restructuring UW for

- Student experience and success
 - More tomorrow
- Growth of programs for 21st century themes
 - Revenue enhancement
 - Carnegie R1, Engaged Status
- Better Efficiencies
 - Critical mass
 - Continued improvement
- Economic Impact

- Enhancing student experience and success
- Supporting entire state with WIP

UW Foundation Report: *Alignment with Proposed Plans*

UW VP and Foundation President Ben Blalock

UW Fundraising Priorities

—
A Strategic Fundraising Partnership

UW Board of Trustees Retreat
July 2021





**An unwavering commitment to
making a difference and elevating the
margin of excellence at UW**



A Strategic Fundraising Partnership

PRIORITIES

Build on more than two decades of a significant public-private partnership

- Align State of Wyoming goals, UW priorities, and donor interests

Maximize the impact of UW's endowment

➤ **\$760 million**

TOTAL ENDOWMENT

AS OF 6/30/21

NOTE: PRIVATE MANAGERS ARE A COUPLE OF MONTHS LAGGED IN REPORTING

✓ **Ensure the current total funds for appropriation (\$69+ million) are spent in keeping with the donor's intent**

- Put current private support dollars to use before we return to our donor base for significant additional private support



A Strategic Fundraising Partnership

- PRIORITIES**
- **Launch Presidential Excellence Initiative**
 - A partnership between the President's Office, the Provost, and the UW Foundation
 - Ensure current chairs, professorships, and faculty positions are being effectively utilized (including Wyoming Excellence Chairs)
 - Conduct a deep dive of current endowed positions as well as endowed faculty fellowships
 - Work with current donors to maximize endowed positions—and where appropriate directing positions to the highest identified use and priorities (including computing, entrepreneurship and innovation, tourism and hospitality)
 - Identify opportunities to support newly reorganized UW colleges
 - Focus on areas related to digital research and scholarship
 - Recruit top-notch deans, faculty, and academic leaders to UW
 - Increase endowed deanships, chairs, and professorships from 50 to 100



A Strategic Fundraising Partnership

PRIORITIES

Align private support programs with new visionary initiatives

- > School of Computing
- > Center for Entrepreneurship & Innovation

- > WORTH Initiative
- > Wyoming Innovation Partnership

✓ Focus on current private support initiatives and opportunities

- Tier I Engineering and Science Initiatives
- STEAM programs
- Trustees Education Initiative
- Law school facility and clinic programs
- Wyoming Athletics (UW's national "front porch")
- School of Energy Resources
- Blockchain
- UW Rodeo
- Priorities driven by donor commitment to UW



A Strategic Fundraising Partnership

PRIORITIES

Invest in Student Success

- Ensure greater student success at UW by providing private funding for deserving students who want to graduate with their degree and give back
- Connect donors who have a passion for UW with student success
- Recruit and retain the best and brightest students to UW
- Evaluate current student support and scholarship funds to determine if they are being effectively used and/or if they can be used to support new visionary opportunities

➤ **\$207 million**

STUDENT SCHOLARSHIP ENDOWMENT

AS OF APRIL 2021



A Strategic Fundraising Partnership

PRIORITIES

✓ Leverage New and Remaining Matching Funds

NEW

\$4 million

Cryptocurrency staking program

New match from state's reserve account,
1:2 match

➤ **\$10 million**

Carbon Capture and Storage

New match from state's legislative
stabilization reserve account

REMAINING

\$1 million

Law Clinics and Experiential
Learning Programs

➤ **\$1.89 million**

Ag Excellence in Education and
Research

➤ **\$500K**

Ag Professorships

END
