

IDAHO

HERE WE HAVE

F 23



VANDALS ARE
CONTROLLING
THEIR OWN
FUTURES



University
of Idaho

CONTENTS

**HWHI
F 23**



04

A DELICATE BALANCE

U of I researchers are measuring how agricultural practices impact water and energy usage to provide policymakers with informed data.

In Every Issue

02 FROM THE PRESIDENT

08 GEMS

14 BRIEFS

35 ALUMNI

Class Notes

In Memoriam

Marriages

Future Vandals

On the Cover

U of I is teaching student-athletes like Vandal quarterback Gevani McCoy how to seize new financial opportunities in college athletics.

Photo by Melissa Hartley

10

ETCHING OUT A FUTURE

Vandal alumni developed an innovative and cost-saving building technology that replaces paper blueprints.

16

LEARNING TOGETHER

Native American students teamed up with Apparel, Textiles and Design students to exchange skills and values.

19

INNOVATING EDUCATION

The College of Business and Economics is transforming opportunities for students and instructors with a new online degree.

22

SAGE GROUSE AND GRAZING

A decade-long study led by U of I investigates connections between livestock grazing and sage grouse declines.

29

MEETING THE NEEDS OF ALL LEARNERS

U of I's planned affiliation with University of Phoenix will help ensure that address does not dictate access to higher education.

30

TURNING MANURE INTO GOLD

Research into compost could help Idaho's dairy industry convert manure into a new revenue stream.

32

POWER SURGE

U of I and student-athletes are capitalizing on major policy shifts in college athletics.

WATCH US LEARN

07 Learning to Fly

18 Saddling Up

21 An Illuminating Experience



University of Idaho students, alumni and employees provide a constant source of amazement and inspiration. Their innovation, creativity and determination to solve tough challenges in a wide variety of fields fills me with pride on a daily basis.

This edition of Here We Have Idaho highlights just a few examples of how Vandals are shaping the future workforce, innovating curriculum and teaching, and devising business solutions that improve efficiency and profit.

Idaho's future relies heavily on the availability of water and energy, and U of I researchers play

a key role through computer modeling, which can help regulators form a strategy for the most effective use of resources going forward.

Vandal alumni Nick Stoppello '13 and Pat Churchman '15, '16 threw the blueprint out the window with their invention. Their business, Flashpoint Building Systems, laser-etches building plans onto the subflooring at scale, improving efficiency in wood-frame construction.

Online education expands access and opportunity for students of all ages wherever they might live. U of I Professor Mya Groza creates engaging online courses that allow students to learn at the pace of their lives. The new Bachelor of Business Administration program prepares students to work in a business environment where more can be done online than ever before.

Over the last several years, the college athletics landscape changed dramatically. Vandal athletes and staff are continuing to adapt to the transfer portal rules and the Name, Image and Likeness policy. Along with the challenges, the new rules provide excellent opportunities for student-athletes and the university.

U of I textile and design students teamed up with Native American students to create ribbon skirts for cultural events, teaching tangible skills while learning about Native culture.

And plans to affiliate with the University of Phoenix continue to move forward. Learn more about this valuable partnership and its importance to the U of I, our state and our alumni.

As you'll read throughout the following pages, Vandals boldly take on the challenges of a changing world.

Go Vandals!

C. Scott Green '84
President





HERE WE HAVE IDAHO

The University of Idaho Magazine
Fall '23

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A DELICATE BALANCE

Charting Idaho's Water and Energy Use

Story by Leigh Cooper
Photography by Melissa Hartley

Idaho is first in the nation in terms of the percentage of its total electricity expended to move water.

The irrigation of Idaho's crops — where most of that energy goes — critically impacts the delicate balance between energy use and water availability in the state. After calculating the use of these resources across southern Idaho, Karen Humes, a professor

in Earth and Spatial Sciences at University of Idaho, wants to test what changes in farming and electricity generation could make the region more resilient.

"If you're driving along and you see one of those large center-pivot irrigation systems, you should think about energy use," Humes said. "It takes a lot of energy to pressurize the water to shoot it out to those very long arms."

THE CENTER OF BALANCE

Idaho's water and energy resources are inextricably linked: Water is needed to generate hydropower — Idaho's primary source of energy — while irrigation requires energy to pump water onto fields.

"As long as we maintain this really tight connection between water and energy, we are vulnerable," Humes said. "That's why we wanted to study this interaction of food production, water and energy."

Despite its less than 2 million population, Idaho is third in the nation in terms of total water withdrawals from either groundwater or surface water, behind only California and Texas. Roughly 86% of that water supports irrigation, putting Idaho second in the nation for the amount of water used for irrigation, behind only California, a fact Humes said surprised even her.

Drought then jostles the delicate balance of water and energy use.

It starts with the crops, which demand more water just when water availability is at its lowest. As the effects of climate change increase, researchers predict drought will become more frequent and more intense and that summer stream levels in the Northwest will decline over the next half-century.

"We see the evidence of this already," Humes said. "There have been 'water calls' in southern Idaho where senior water rights users require junior water rights users to curtail their use in times of drought."

To complicate matters, hydropower competes with irrigation for water resources during droughts as the increase in irrigation demands more energy from hydropower production. Other forms of irrigation, like furrow — or flood — irrigation, may be less energy intensive than center-pivot irrigation but water loss is high, as is sediment runoff.

It's a compounding problem.

"In times of drought, the system we've designed puts the squeeze on us," Humes said. "We need more water for crops and we need more energy. But our biggest resource for generating energy, hydropower, needs to be curtailed under these drought conditions because there is less water in the system to use for hydroelectric production."



TWEAKING THE SYSTEM

To understand this balancing act, Humes and Emily Thompson, a doctoral candidate working with Humes, are quantifying how much water and energy Idaho uses for irrigation and how those values change depending on whether it is a dry or wet year.

They are building a computer model that compiles 20 years of data on water and energy use across southern Idaho. Preliminary data show that power companies in southern Idaho experience a roughly 30% increase in power use during the agricultural season.

When the model is complete, researchers and water and energy planners can use it to estimate changes in water and energy use when a factor in the model is tweaked.

As an example of running tests, Humes is examining crop type, which influences water uptake. The alfalfa farmed to support the growing dairy industry is a notably water-heavy crop, as multiple cuttings can be taken each summer. Researchers can test increasing and decreasing the proportion of alfalfa grown locally. She is also investigating how increasing electricity generation by renewable sources such as solar energy, which is plentiful in times of drought, would influence the system without placing further demands on water availability.

Down the road, Humes will work with Russell Qualls, associate professor in chemical and biological engineering and Idaho's state climatologist, to estimate future water and energy use over the next half century.

"The uncertainty of future climate elevates the risk of increased drought severity and duration," Qualls said. "Nevertheless, climate simulations can provide a range of possible outcomes. This model can generate optimal operational responses to possible drought conditions in advance, which might not be apparent if irrigation and power generation were considered separately."

Thompson said the model can be used for risk assessment, indicating where Idaho is most vulnerable.

"The ultimate end goal would be able to take the completed model to people to say, 'Hey, look, this is an issue,'" Thompson said. "We can figure out what kind of agricultural policies and energy generation infrastructure need to be put in place to protect our natural systems and our economic systems." **I**





Photo by Melissa Hartley

We need to reunite education and nature. These students have such an amazing opportunity — their backyard is thousands of acres of land to explore. We should let them explore it.

**ELIZABETH WARGO, ASSISTANT PROFESSOR,
COLLEGE OF EDUCATION, HEALTH
AND HUMAN SCIENCES**

LEARNING TO FLY

The College of Education, Health and Human Sciences got Idaho middle schoolers excited about careers that serve the rural Idaho lifestyle. Teaming up with the College of Agricultural and Life Sciences and the College of Natural Resources, they taught students how to build and fly their own drones, letting their curiosity soar.



GEMS FALL '23

Shining examples of U of I's impact and excellence. Read more articles at uidaho.edu/news or follow the University of Idaho on **FACEBOOK, INSTAGRAM** and **X** (formerly known as Twitter).



Roof size of the PIFCU Kibbie Dome, which was renamed this summer.

More than 2,000

students performed at the 56th Lionel Hampton Jazz Festival in April.



OVER \$50,000

in Vandal Pride Scholarships, funded by the Vandal specialty license plate, awarded annually to enrolled Idaho residents.

Grant to U of I-led research team developing new diagnostic tools and management practices for controlling harmful nematodes in potato fields.

\$6.9 MILLION

3.44 GPA

earned by student-athletes in Spring 2023, the highest in program history.



6' 0" - 6' 9"

Height of
JOE VANDAL.

\$121 MILLION

Raised for student scholarships so far through the **Brave. Bold. Unstoppable.** campaign.



17:1

Student-to-faculty ratio



U of I ranked #1 Top Value in the West for public universities for the fourth consecutive year by U.S. News and World Report.

Potential Vandals and their families visited the Moscow campus over the last two years, **a record number.**

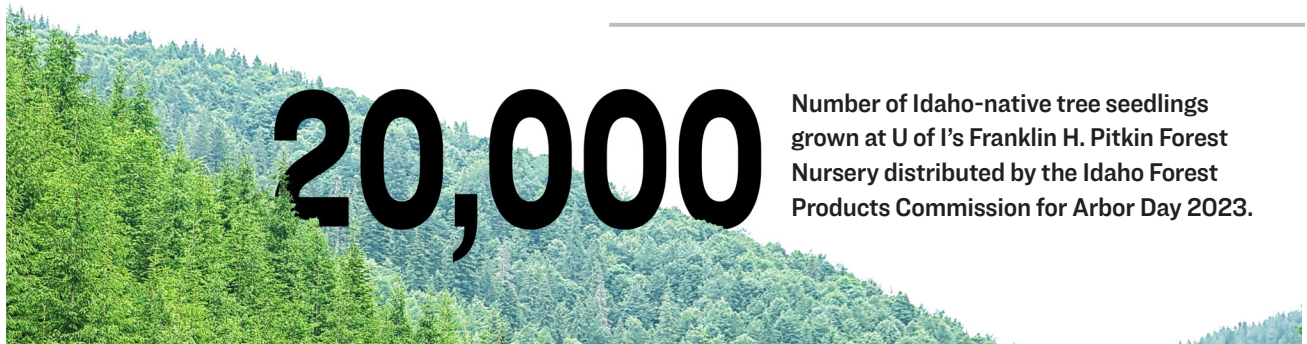
17.8%



Rise in first-year student undergraduate enrollment in Fall 2022 over the previous fall.



The year the King Spud basketball trophy disappeared. U of I and Idaho State University men's and women's basketball teams reignited the annual tradition of competing for the trophy.



20,000

Number of Idaho-native tree seedlings grown at U of I's Franklin H. Pitkin Forest Nursery distributed by the Idaho Forest Products Commission for Arbor Day 2023.

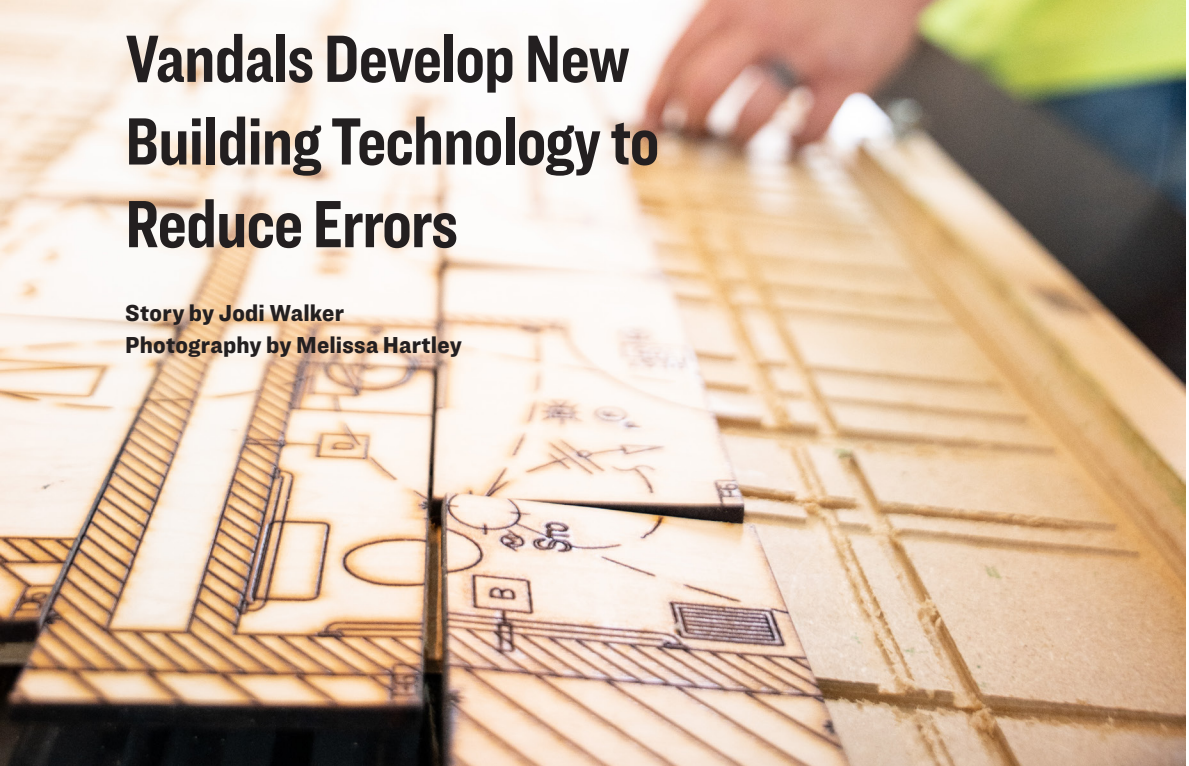
\$64.6 MILLION

The new fundraising record set in FY22.

Thank you!

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ETCHING OUT A FUTURE

Vandals Develop New Building Technology to Reduce Errors

Story by Jodi Walker
Photography by Melissa Hartley

The blueprints flap in the wind on the tailgate of a pickup, one corner is coffee stained. One page keeps blowing away while another was carried off by a supervisor. Inside the house, a worker decides to just wing it rather than find someone to interpret the building instructions for him.

The result? Costly rework, increasing building time and budget, which are, in turn, passed on indirectly to the homebuyer through inflated building estimates.

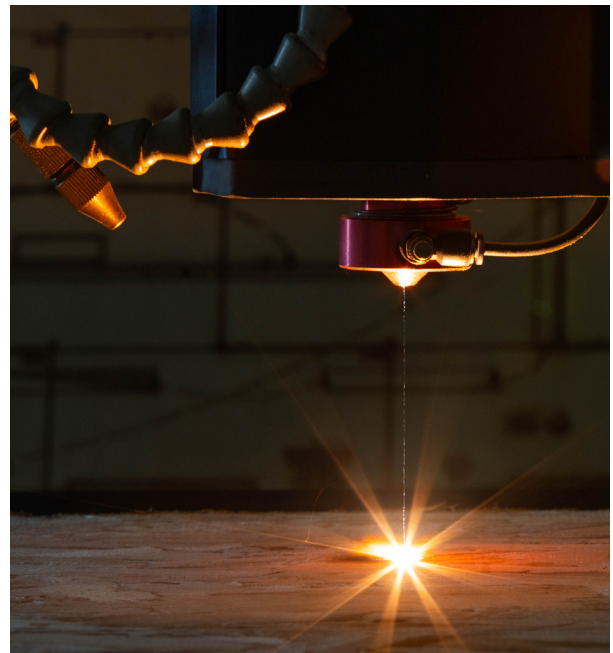
Construction errors, commonly called rework, cost about \$538 billion nationally in 2020, according to data from PlanGrid, which surveyed 600 construction leaders. Other research shows 10% to 25% of project costs are lost through errors.

“Rework is waste,” said Alex Baird, operations manager for Shea Homes in Boise.

The use of blueprints is nearly 200 years old, and building construction still relies heavily on this same technology. In fact, innovation in construction is not measured in months or years but in decades, said Levi Smith, CEO of Franklin Building Supply, a Boise-based building supply company.

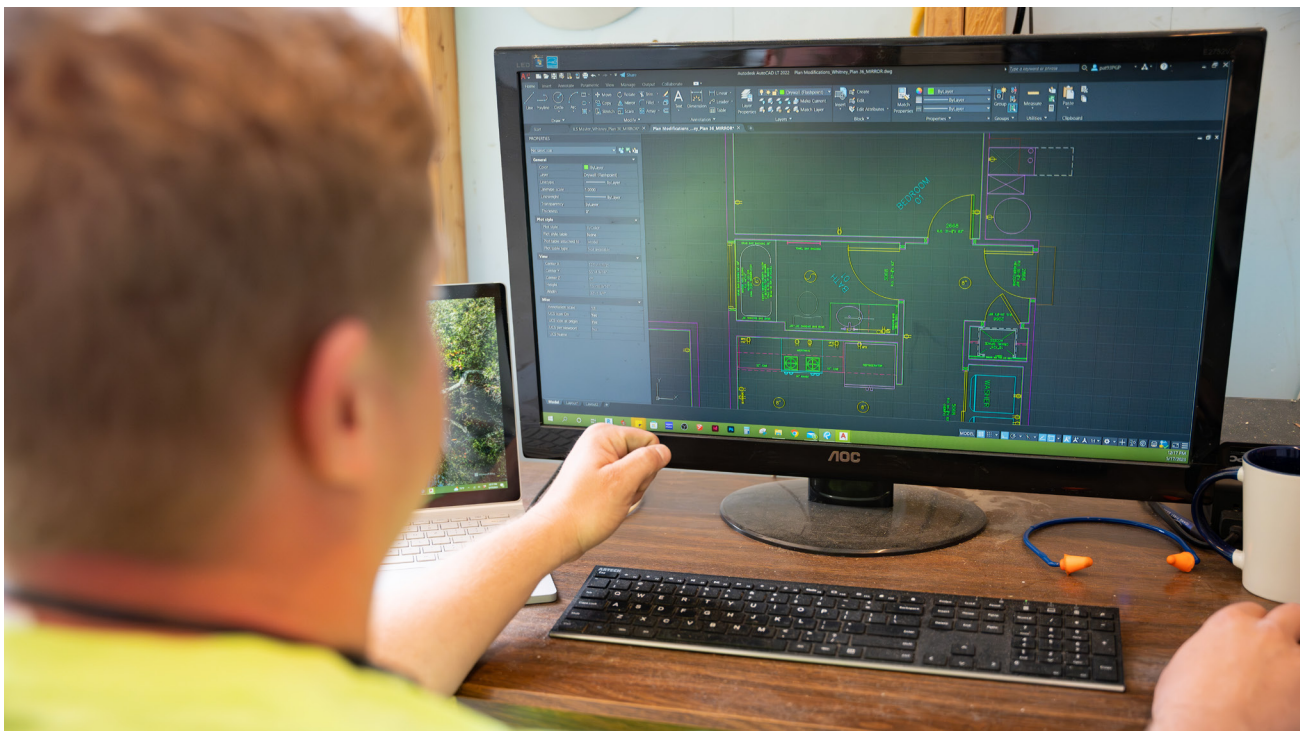
“A two-to-three-decade gap is not innovation,” he said.

That is why when Smith encountered Vandal alumni Nick Stoppello '13, and Pat Churchman '15, '16, at



the Hacking for Homebuilders entrepreneur pitch in Boise in October 2021, he saw an opportunity to incubate talent, enthusiasm and, above all, innovation. Their business, Flashpoint Building Systems, found its biggest advocate.

“Do you want to know why construction is so expensive?” Stoppello asked. “Because they aren’t set up to succeed.”



Computer-aided laser etching allows Pat Churchman to make real-time adjustments and identify potential clashes in the plans.



Nick Stoppello (left) and Pat Churchman

He means no disrespect to his colleagues in the industry. He, too, comes from a background in construction. After graduating from University of Idaho with a bachelor's degree in business, he moved to Seattle to work with a contractor. As a project manager, he learned mistakes in construction were normal and accepted. He knew there had to be a better way.

Meanwhile his childhood friend, Churchman, was working his way through bachelor's and master's degrees in architecture at U of I and seeing early '80s technology like computer-aided design still playing the leading role in building plans. Later, as a construction superintendent, he saw the same issues Stoppello did, but from under a different hat.

"We wondered if there could be a different way to communicate what we needed on site," Churchman said.

As a student, he built three-quarter scale models by drawing the plan on paper and then building on top of it. That was the flashpoint from which their business was born.

The duo laser engraves blueprints directly onto subfloor material at scale to show builders exactly how a building goes together. It removes reliance on blueprints and eliminates language barriers and communication deserts.

CREATION OF THE SYSTEM

To test their initial premise, they holed up in a storage unit in the Treasure Valley summer heat. With only the light from a large overhead projector beaming down from above, the duo traced blueprints onto subfloor with Sharpies. They traced 5,000 square feet of building plans, and then, the day before the project was to ship, Churchman realized the alignment was wrong and the boards were 90 degrees off.

"I think I just laughed when he told me," Stoppello said.

An opportunity to try their idea on a commercial building presented itself shortly after and they proved the concept.

With the floorboards marked, the construction crew assembled the commercial building before Churchman and Stoppello could get to the site to provide instruction.

"It was intuitive enough they just did it," Stoppello said.

Investors were intrigued and helped them purchase their first large-format CNC machine, which engraves sheets of plywood using software-driven movement.



We wondered if there could be a different way to communicate what we need on site.

- PAT CHURCHMAN '15, '16

“We couldn’t even spell CNC when we started,” Stoppello quipped.

For six months they waited for the custom CNC machine from a partner in Florida. Without any sort of instruction manual and excited to start etching, they plugged it in. What they saw, through the transparent end caps of the machine, was water slowly rising in the electronics control center of the \$50,000 piece of equipment.

“That was a fork in our road,” Churchman said of the decision to proceed or quit. “We were too stupid to quit. We took it apart – and learned a lot right away.”

They reassembled the machine, took on odd jobs to make ends meet and searched for collaborators.

EVERYONE NEEDS A HAND

The catalyst was the Hacking competition that led Smith to provide workspace at Franklin Building Supply. Access to building material and integration directly into the flow of shipping materials to construction sites was key.

“What works is having them in the yard,” Smith said. “We have to be part of the solution.”

Another piece of the solution came from the duo’s alma mater. They reached out to U of I’s renewable materials lab and its director, Armando McDonald, for help testing the subfloor to ensure laser etching does not affect the performance of the product.

“It is important to help companies out,” McDonald said.

His lab tests for three or four companies each semester. It is a valuable resource for industries, and it gives graduate students and postdoctoral candidates real-world experience.

ADDED VALUE

Not only does Flashpoint deliver the building plan to the feet of its stakeholders, the pre-coordination that goes into each project also detects potential problems – or areas where parts of the building plan don’t fit together. A drain conflicting with a floor joist or a door swing that goes the wrong way are prime examples of clashes that quickly show themselves, saving rework.

While the results of their innovation may show in the bottom line over time, it is the innovation itself that brought Smith and Baird to the table in the company’s infancy.

“We are trying to normalize innovation,” Baird said. “We are all about the power of ‘what if.’” **I**

To read the full-length version of this story, visit uidaho.edu/magazine.





IDENTIFYING FUTURE SOLUTIONS

By Leigh Cooper

Photo by Melissa Hartley

Idaho researchers will receive \$24 million to research the impact of changes in climate, population and technology on energy and water use in Idaho.

Funding is through a \$20 million five-year award from the National Science Foundation (NSF) Established Program to Stimulate Competitive Research (EPSCoR), with the state contributing an additional \$4 million.

“This project is necessary right now because the intersection of water and energy issues is critical to Idaho’s people, industries and livelihoods,” said

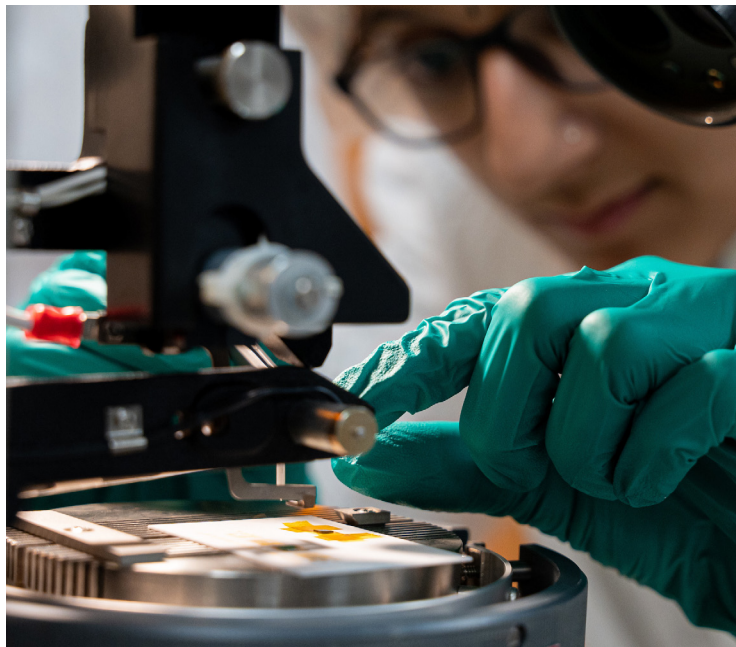
Idaho EPSCoR Director Andrew Kliskey, the research project principal investigator and a U of I professor. “It demonstrates big picture, use-inspired, science-informed approaches.”

Researchers will work to identify energy and water use strategies that will adapt to Idaho’s changing needs based on ongoing feedback from communities.

“The research dollars from NSF will help Idaho identify solutions to some of the most pressing questions our state faces — water and energy resiliency,” Gov. Brad Little said. **I**

BUILDING THE STATE'S TECHNOLOGY WORKFORCE

By Alexiss Turner '09
Photo by Garrett Britton



The College of Engineering is partnering with Micron Technology to build Idaho's professional semiconductor manufacturing workforce through its Next Generation Microelectronics Research Center (NGeM).

As part of a national focus to revitalize domestic manufacturing and mediate U.S. supply chain issues, research funding for the lab is provided through a faculty endowment established through a \$1 million gift from the Micron Technology Foundation.

"We're proud to partner with U of I's College of Engineering to bring world-class undergraduate and graduate education programs and investment in research across the field of microelectronics that will help expand STEM careers for all who will lead the 21st century, including underrepresented communities," said Scott DeBoer, executive vice president of Micron's Technology and Products organization.

NGeM provides experiences for students through research projects funded by industry and federal partners. U of I is expanding its microelectronics courses and training programs, with certificate programs coming soon. **I**

WATCHING OVER IDAHO WATERS

By John O'Connell

Over the past decade, University of Idaho Extension's IDAH2O science program taught basic water quality monitoring techniques to more than 600 Northwest citizens, including Lewiston High School teacher Jamie Morton's science classes. Students sample water and trap invertebrates in local watersheds and share data to help UI Extension assess Idaho's waterway health.

In 2021, while investigating municipal stormwater ponds near the Snake and Clearwater rivers, Morton's students trapped Idaho's first known red swamp crayfish. If the aquatic invader multiplies, it could harm water quality and native species.

The discovery led state and federal water managers to act. Morton and her two former students were listed as published authors in a peer-reviewed scientific journal this year based on their discovery.



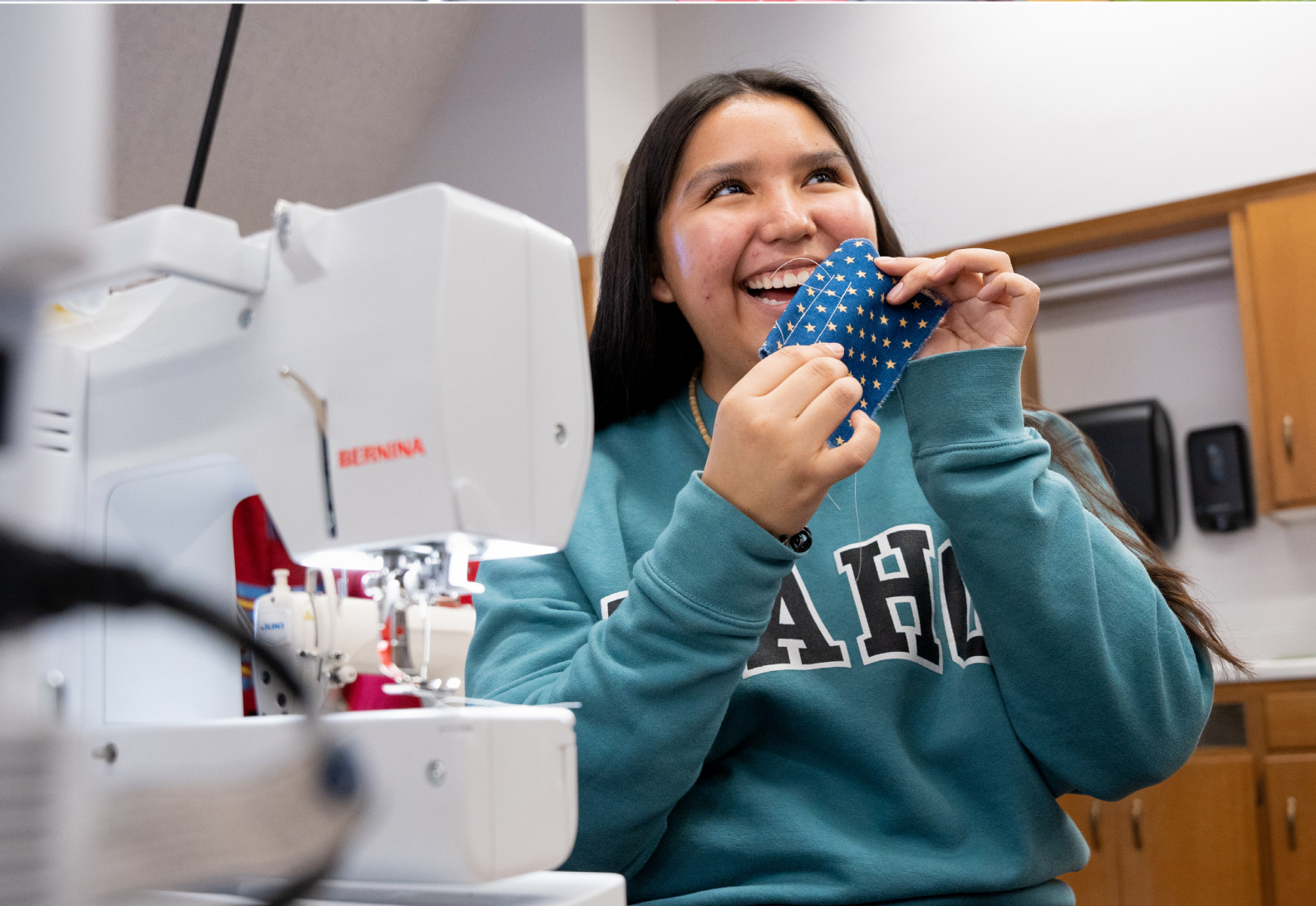
"We think citizen science may be a good way to find new invasions of invasive species. There are that many more eyeballs," said Jim Ekins, director of IDAH2O. "Plus, we are teaching kids science, being observant and writing things down. Those are skills you need for any job." **I**



LEARNING TOGETHER

COLLABORATIVE PROJECT COUPLES CULTURAL EXPLORATION WITH A LIFELONG SKILL

Story by Amy Calabretta '03
Photography by Garrett Britton



Since arriving at the University of Idaho, apparel, textiles and design student Asiah Brazil-Geyschick has explored ways to tie her major to her Native culture while also educating others.

A conversation with U of I Native American Student Center Program Coordinator Dakota Kidder led to a unique opportunity for Brazil-Geyschick to achieve that goal. Kidder suggested developing an event where Native students could complete a cultural project with apparel, textiles and design students in order to learn together. Brazil-Geyschick, a senior from Annandale, Minnesota, and member of the Ojibwa Tribe, shared the concept with instructor Chelsey Lewallen in the Margaret Ritchie School of Family and Consumer Sciences and a new event was born.

Kidder and Brazil-Geyschick offered Native American students the option to learn how to sew their own ribbon skirts with guidance from apparel, textiles and design students and faculty. A ribbon skirt is typically a cotton or satin skirt decorated with ribbons of different sizes and colors. The vibrant skirts are worn at ceremonial events.

The event began with basic sewing machine demonstrations by faculty Sonya Meyer and Lori Wahl. Roberta Paul, retired director of Native American Health Sciences at Washington State University, spoke about the ribbon skirt tradition. Paul graduated from U of I with a bachelor's degree in clothing, textiles and design in 1972 and is a member of the Nez Perce Tribe.

Apparel, textiles and design students were on hand to answer questions about operating the sewing machines while Native students created their own skirts.

"I think the most fulfilling part was being able to sew something from my culture," Brazil-Geyschick said. "I've done it before, but it wasn't with people from my culture. It was kind of enriching."

Kidder was excited to offer Native American students an opportunity to learn a lifelong skill.

"I think their interest was tied to that kinship system and the responsibilities we have to our families to learn these skills so that we can pass them on," she said. "I think that was the deeper excitement of them wanting to learn this for their families."

Kidder and Brazil-Geyschick hope that partnerships between the Native American Student Center and the apparel, textiles and design program will continue in the future.

"I think that's one of the great things and why we have our programs; you can come to the university and learn not only the technical skills of your career field, but you can also gain some really awesome cultural skills and values when you take advantage of these opportunities," Kidder said. **I**

Asiah Brazil-Geyschick





Photo by Garrett Britton

The hardest thing is balancing rodeo with school, but it has given me good time management skills and discipline with getting up and feeding your horses in the morning and making time for practice. In the end, it's all worth it.

KAYLA HURL, JUNIOR IN RANGELAND CONSERVATION

SADDLING UP

It takes more than a horse, truck, trailer, gear and some tack to make a collegiate rodeo athlete. It takes grit, determination and commitment — it takes a Vandal.





INNOVATING EDUCATION



ONLINE BUSINESS DEGREE OPENS NEW DOORS FOR STUDENTS AND INSTRUCTORS

Story by Jennifer Bauer '98
Photography by Rio Spiering '22

Business Professor Mya Pronschinske Groza dons a fuchsia blazer, steps before a green screen and enthusiastically launches into a 10-minute lecture. Instead of an audience, she watches herself on a monitor displaying cartons of eggs and a series of bullet points supporting this lesson on supply and demand.

University of Idaho students will digest this lecture in all kinds of environments. A barista might watch on a phone between lattes. A business owner may attend from an office. A parent could view it during a child's naptime.

Online education is transforming education for students and instructors. For students, it's opening new opportunities for career advancement by transcending time and physical location. On the

other side of the podium, educators are redesigning teaching methods and expectations for how students prove what they've learned.

"COVID accelerated the desire for online learning. Students spent high school online. Preferences began to form. They structured their life around their education," Groza said. "How we consume information has fundamentally changed in the last 10 years, and especially in the last five years."

This fall, the College of Business and Economics launched a 100% online certificate program. The new Bachelor of Business Administration (B.B.A) is a path to a degree through five undergraduate certificates: Applied Finance, Business Leadership, Enterprise Systems Integration, Sales Management and Technical Program Management. Each course is

available on demand, providing students with the flexibility to learn at the pace of their life, wherever they may live. The B.B.A. is earned once four certificates are completed.

“This is a way for us to live out our land-grant mission to provide multiple paths and avenues to education,” Groza said. “It’s no longer 75 minutes of sitting in a lecture. It is allowing us to expand access and reach people who never would have been Vandals.”

It takes a team to create quality online classes. Each lesson contains a five to 10-minute edited video lecture with visual aids, attention quizzes, an assignment and links to group discussion boards and open-access textbooks. There are around 40 lessons in each eight-week course. All are accessible from a mobile phone. Groza personalizes her lessons by wearing a different colored blazer in each video. She thinks she now owns about 50.

“We find that students greatly enjoy the portability and geographic freedom of taking classes with their phone while working,” Groza said.

Students convey what they’ve learned and interact with other students and professors by creating original video or audio content. She said educators are moving away from written papers as artificial intelligence systems that generate text evolve and people turn to them to create written material.

“We have the goal of flipping a classroom, with the idea of a student no longer being a receiver of information but rather a creator of that information in a shared space at that moment,” Groza said. “Knowing the business environment that they are entering is highly turbulent and ever evolving, we must prepare them to evolve as well.”

This shifting focus to online education mirrors the changing workforce students will enter or are already immersed in.

“Socially, we have a lot of friends who work at really large companies who only meet on Teams. They never go to the office,” said Mark Groza, director of distance education programs at the college and Mya’s husband.

Along with geographic flexibility, online classes are expected to aid in retention and could improve Idaho’s high school-to-college go-on rate, one of the lowest in the nation, he said. These classes also open the door for guest speakers by eliminating travel costs, allowing students to connect with alumni and industry experts.

“That levels the playing field for those of us who



Mya Groza

are a little geographically isolated from large metropolitan areas,” Mark said.

Besides being concise, online classes are constructed with user experience at the forefront.

“If it’s not engaging, it won’t engage” said Sean Quallen, an instructional designer at U of I’s Center for Excellence in Teaching and Learning.

Quallen works behind the green screen, providing videography services and helping professors evaluate their content. Online classes provide technological opportunities that face-to-face classes don’t, he said. Foremost, they’re reusable. In addition, video lectures are transcribed and captioned, and users can adjust playback speed, aiding learners with different preferences or abilities. Analytics can show professors where they may be losing students’ attention so they can fine-tune their lessons.

“Myriad opportunities are available in this room with what we can garner from online and distance education,” Quallen said. **I**



Photo by Garrett Britton

We partnered up with someone on the music side to create a more emotional experience. It's important because, in this industry, you're always going to be working in teams.

**KEATON MARSCHMAN '23,
VIRTUAL TECHNOLOGY
AND DESIGN GRADUATE**

AN ILLUMINATING EXPERIENCE

Vandals bridge disciplines and share inspiration. Virtual technology and design students collaborated with music composition students to create an animated video with a scored soundtrack performed live by the Lionel Hampton School of Music orchestra.





SAGE GROUSE AND GRAZING

Story by Ralph Bartholdt

Photography by Garrett Britton and Rio Spiering '22

After a decade of research, U of I scientists have an unprecedented dataset to explore effects of livestock grazing on sage grouse populations.



Rancher Richard Ward grew up alongside greater sage grouse and observed their spring mating, or lekking displays, in the open land around the Jim Sage Mountains of southern Idaho.

He heard the ethereal pulsing of sage grouse mating calls on icy cold spring mornings and watched the birds' lumbering flight across open country. And he is aware that for many years, sage grouse have been considered for the endangered species list.

The 75-year-old rancher grazes close to 200 head of cattle on the mountains that sprawl south to Utah, where his family has ranched for five generations.

Like most producers, Ward depends on lush spring pastures on federally leased land to sustain his operation.

But for decades, spring grazing on federal allotments has been the focus of those who contend that cows sharing greater sage grouse nesting habitat are detrimental to the birds and likely one of the causes of population declines over much of their former range.

A recent study by the University of Idaho questions that claim.



THE GROUSE AND GRAZING PROJECT

The 10-year study, led by biologist Courtney Conway, shows that cows sharing nesting habitat with grouse on federal lands do not cause declines in greater sage grouse nest success or the amount of insects in the landscape, at least, not if grazing intensity is kept at current levels.

In fact, according to the research, there are some upshots for grouse to live side-by-side with cows.

“Nesting success doesn’t seem to be affected by current levels of cattle grazing, and insect biomass increases with grazing,” said Conway, the U of I

professor and director of the USGS research unit who led the decade-long research project, which wrapped up in August 2023.

The idea for an extensive grouse and cattle grazing research project was spurred after opposition to spring cattle grazing on federal land picked up steam. Conway knew there was a dearth of science to inform the debate. He joined forces with Karen Launchbaugh, director of U of I’s Rangeland Center; biologists in the Bureau of Land Management, which oversees much of the sage-grouse habitat in southern Idaho; Idaho Fish and Game; and ranchers to bring scientific data to the debate.

“Many decisions regarding sage grouse and cattle were being made by land managers, but there wasn’t a lot of science to rely on,” Conway said.



“We just didn’t know what effect spring grazing had on nesting grouse, brood production or anything else.”

Conway’s group of researchers wanted to know how spring grazing affected sage grouse populations and whether current levels of cattle grazing increased nest predation. Many people assumed that increased visibility resulting from grazed grass and flowering plants made nests easier to find by common nest predators like coyotes and ravens. Scientists also wondered if spring grazing affected insect abundance. Research shows that more than 90% of one- to four-week-old chicks’ diet is comprised of arthropods.

After collecting and analyzing annual data from Idaho sites, researchers found spring cattle grazing increased the abundance of arthropods favored by sage grouse chicks, including ants, crickets and several types of beetles.

“Spring grazing resulted in a greater number of insects, a greater variety of insects and the insects found under the spring grazing treatment generally are bigger, which could provide more food for sage grouse,” said entomologist Grace Overlie, a U of I graduate student on the project.

Scientists also learned that the presence of cattle in places where sage grouse nested, and moderate grazing of spring grass, had no effect on nest success.

Master’s student Nolan Helmstetter, whose research focused on sage grouse nest predators, found that coyotes and ravens were the primary nest predators across the study sites, and higher shrub canopy cover decreases the probability of nest predation by coyotes.

So far, findings of the 10-year study do not support the idea that moderate spring grazing at levels currently allowed on BLM-managed land adversely affects sage grouse nesting success.

“I think this is a significant outcome for the ranching community, which has wondered all along what they would do if scientists learned that their spring grazing was bad for grouse,” said Karen Launchbaugh. “Had we found that spring grazing had a negative effect on grouse populations, it could have resulted in the loss of grazing allotments on federal land, something cattle ranchers, especially smaller operations, need for their businesses to survive.”





A RESEARCH COOPERATIVE

Going back to the late 1990s, numerous organizations pushed for more stringent restrictions on cattle grazing on federal land to benefit sage grouse.

“Some people just don’t want us on these lands,” said Ward, whose ranch is home to a sage grouse lek — a spring mating site where birds congregate for annual courtship rituals in March and April. “We’ve been battling this for a long time and I hope now that we have the science behind us, we can put the spring grazing issue to rest.”

Ward, who lives and ranches on the eastern slope of the Jim Sage Mountains near Malta, was among a

group of ranchers approached more than a decade ago by the research team because their grazing lands, or the federal allotments they leased, were ideal sage grouse habitat.

Conway said his team extensively examined southern Idaho ranchlands using maps, historical data and GPS and satellite imagery to find five study sites spanning Idaho — all of it home to the largest North American grouse ranging the sagebrush steppe of the western U.S. and Canada.

Numerous factors were considered when selecting the five study sites: snow conditions, the abundance of water, spring grazing currently implemented on the allotments, and the abundance of Wyoming big sagebrush — a smaller, drought-tolerant and high value forage plant important to sage grouse.

“It took us about a year to pinpoint land we thought contained the right mix of grouse and spring



[...T]his is a significant outcome for the ranching community, which has wondered all along what they would do if scientists learned that their spring grazing was bad for grouse [...]

- KAREN LAUNCHBAUGH
CO-LEAD INVESTIGATOR OF THE STUDY

grazing before we even approached ranchers who grazed cattle on the land,” Conway said. “Some ranchers wanted nothing to do with our study.”

The tracts they chose included remote sites such as Sheep Creek, southeast of Grasmere along the Nevada border; Brown’s Bench, south of Twin Falls; the Jim Sage acreage near Malta; a high altitude flat near Arco called Big Butte; and a chunk of the Pahsimeroi Valley south of Salmon. All the ranchers involved at these sites were willing to cooperate with the study.

Annual studies began with capturing and radio-collaring sage grouse hens in late winter. The radio transmitters helped biologists locate nests. Cattle were rotated on and off the research pastures where hens nested based on a rigorous, randomized study design. Researchers collected insects at the sites, measured grass abundance, height and grazing, and tracked the fate of sage grouse nests.



STATEWIDE ADVISORY COMMITTEE

Wendy Pratt and her husband Mark run a cow-calf operation between the Snake and Blackfoot rivers east of Blackfoot. The Pratt family has raised cattle there since 1904 and annually runs 600 head between wintering grounds on the Snake River plain and summer grazing on the Blackfoot mountains.

Pratt joined the sage grouse project after news of a decline in Idaho sage grouse numbers took center stage at cattle meetings. Ranchers were concerned, Pratt said. Proposed mitigation efforts could adversely affect agribusiness the local economy relied upon.

“It became an issue with a lot of ranchers, us included, because we have sage grouse on our



summer range,” Pratt said. She was tapped to join the East Idaho Uplands Working Group to learn about threats to the grouse and how to offset them.

Pratt was eventually asked to serve on a statewide advisory committee to provide a cattle producer’s perspective to sage grouse discussions with land managers, ranchers, researchers and legislators.

“I had friends in the sage grouse community, biologists and range ecologists,” Pratt said. “We just knew how important it would be to actually find out how sage grouse and grazing either worked or didn’t work together.”

Group members agreed that the lack of information was a primary threat to the birds.

“We just didn’t know a lot about them as a species,” Pratt said. “Through this research project, we know more about them than we did, and we’ll learn something from this study that will help us be better land managers.”

Cattle ranchers who took part in the study were determined to see it through, regardless of the consequences, said Launchbaugh.

“The study shows that grouse and cattle can live fairly harmoniously together, but even if that wasn’t the case, and the results showed otherwise, these ranchers were committed to doing what was best for the land and wildlife,” she said. “It was a suspenseful 10 years, and I hope we can all stand behind the research and find out what’s really ailing these grouse.” **I**

To read the full-length version of this story, visit uidaho.edu/magazine.

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TURNING MANURE INTO

GOLD

Innovative research could open new markets for dairy compost

Story and Photo by John O'Connell



UI Extension Educator Mario de Haro-Martí (above) and graduate student Anthony Simerlink



A University of Idaho Extension educator and his graduate student aim to help the state's dairymen cash in on their cow manure by amending it with specific minerals or carbon sources to make it better compost.

Manure is bulky and tough to transport, which can lead to its overapplication in fields surrounding dairies, contributing to environmental challenges.

"We have all of these dairies, we have a lot of manure and we have an excess of nutrients if we apply them at the rate that they're created," said graduate student Anthony Simerlink. "This is just an idea to give these farmers another revenue stream and make it easier to compost."

Converting manure into portable compost is common practice among Idaho dairymen. However, dairymen seldom add supplemental carbon, aside from straw bedding, to optimize the important carbon-to-nitrogen ratio of their finished product.

Carbon feeds bacteria that aid in the composting process, thereby reducing the loss of nitrogen as ammonia and improving finished compost quality. In the arid southern Idaho desert, however, carbon sources are in short supply, leading the researchers to explore using locally available minerals to replace certain functions of carbon additions.

UI Extension educator Mario de Haro-Martí reasons that finding the ideal carbon or mineral amendment would help Idaho dairymen produce a marketable product meeting the specifications of landscapers, greenhouses and other industries that have traditionally shunned dairy compost for its lower quality and variability.

To conduct the study, de Haro-Martí designed a unique, pilot-scale system of interconnected chambers, known as reactors, in which manure is composted. Simerlink, a Washington State University master's student in agriculture who has de Haro-Martí as his co-advisor under a special arrangement, built the system, housed at the UI Kimberly Research and Extension Center.

Carbon amendments they're analyzing include woodchips

and biochar, which is a lightweight and high-carbon form of charcoal that could potentially be made from dairy manure. They're also evaluating blending manure with pumice or clinoptilolite — both volcanic minerals mined in Idaho.

The reactors are tied to a common exhaust system, containing sensors to measure how each amendment may contribute to reduced emissions of methane, carbon dioxide, ammonia and nitrous oxides by improving the balance of carbon and nitrogen. In past research, de Haro-Martí calculated an up to 25% reduction in ammonia emissions from compost amended with clinoptilolite.

"Reduction in ammonia is huge because it's a local pollutant," de Haro-Martí said. "It travels in the air and returns to water sources and the environment around the region, which increases nitrogen levels."

Their four-year, \$600,000 research project is in its second year and was funded by the U.S. Department of Agriculture under the broader Idaho Sustainable Agriculture Initiative for Dairy grant, which aims to develop useful bioproducts from dairy waste.

De Haro Martí and Simerlink proved the concept for their project last summer on a smaller scale. The compost produced in their system will be used sometime next year to grow crops in a greenhouse. The top-performing amendments from the greenhouse trial will be used in making compost on a larger scale with a standard compost turner. They'll apply that compost to plots in Kimberly in 2025. **I**





POWER SURGE

Story by David Jackson '93

Photography by Melissa Hartley

U of I and Vandal student-athletes are capitalizing on two major shifts in college athletics, the transfer portal and the Name, Image, Likeness policy.

Whether he is leading his teammates down the field or giving the green light for sales of a hoodie with his name and number, Gevani McCoy is all about control.

McCoy, a sophomore from Baldwin Hills, California, and starting quarterback for the Vandals, prefers to control his destiny, both on and off the field.

“I want the ball in my hands,” said the recreation, sport and tourism management major. “My guys count on me and I count on them, but I feel comfortable and in control with the ball in my hands.”

Student-athletes like McCoy have more control than ever before over their career because of two major shifts in college athletics. First, the NCAA’s new Name, Image and Likeness (NIL) guidelines allow student-athletes to profit from personalized activities. Second, the transfer portal gives them the ability to transfer to a different university to play their sport without having to sit out for a year. U of I’s Athletics department is helping them navigate this new landscape through education.

“Student-athletes have more flexibility than ever because of NIL and the portal converging at the same

time,” said Matt Brewer, associate athletic director for NCAA compliance at U of I’s Office of General Counsel. “Our focus is to educate them about the processes and about what potential decisions will mean for them so they can make the best choices.”

CREATING A BRAND

NIL rules allow student-athletes to profit from their name, image or likeness through activities like promoting a business through sponsorships, selling personalized apparel or other opportunities as dictated by contractual agreements between the player and the business.

Prior to NIL, student-athletes were not allowed to profit from any activities which featured them specifically.

Promotional activities student-athletes do for their university, such as having their name and picture in a game program or appearing on a university webpage, are addressed under the student-athlete’s agreement with the university and do not fall under NIL.

As part of U of I’s efforts to educate student-athletes about NIL, a program called Elevate Idaho rolled out earlier this year. Although he heard about NIL prior to arriving in Moscow, it was during an Elevate Idaho class that McCoy began thinking about potential opportunities.

He is in the development stages on several projects with regional businesses and has personalized merchandise available on Influxer Merch, which sells apparel from Vandal student-athletes across all sports.

McCoy recently signed with an NIL representative, which is allowed by NCAA regulations. It is not necessary to have a representative to make NIL deals, but some student-athletes choose to take this route because it allows them to concentrate solely on school and athletics.

McCoy and his representative keep the U of I athletic department apprised of his deals so they can keep records and make sure all deals comply with NCAA and university regulations.

Another critical part of the Elevate Idaho classes is educating student-athletes about money management.

“Not only do we have an opportunity to make some money but we’re also learning about saving it, investing it and managing it,” said McCoy. “I think I’ve picked up a few skills so I don’t spend it as soon as I get it.”

ENTERING THE PORTAL

The 2023-24 Vandal men’s basketball team will look almost nothing like last year’s squad. New Head Coach Alex Pribble inherited only three players from last year’s roster.

During the past off-season, the Vandals lost four players because last year was their final year of eligibility; another eight left through the portal, including frequent starters Isaac Jones, Nigel Burris and Dominique Ford. This gave Pribble the opportunity to rebuild the Vandals from scratch and he was greatly aided by the portal.

The transfer portal allows student-athletes to make a one-time transfer to a different university and begin playing during the next season. Student-athletes were able to transfer prior to the portal but had to sit out an extra year before they were eligible to play.

To transfer, student-athletes enter the portal during their sport’s window and declare themselves eligible to transfer, as long as they have eligibility remaining. NCAA rules then allow coaches from other programs to contact them.

Other factors, such as injuries or coaches leaving a program, allow student-athletes to transfer more than once.

“The transfer portal is a tool, so there are positives and negatives,” Pribble said. “It has allowed us the opportunity to find new student-athletes who want to be in the right program at the right university for them.”

Five basketball players recently transferred to the Vandals through the portal, including Tyler Linhardt (University of Washington) and Trevon Blassingame (Fairleigh Dickenson).

Pribble said that while factors like playing time are a big reason players think about transferring to another program, his focus is to create an environment where student-athletes want to be — for both basketball and the college experience.

“In order for the team to be successful, there has to be a good fit for the individual,” Pribble said. “If the student-athletes are excited about being here, and will represent our program and the university well, we think their experience will be positive and they’ll want to stay.” **I**



Scan or enter URL to visit Athlete Marketplace, U of I’s webpage featuring Vandal student-athlete merchandise.

<https://go.uidaho.edu/vandalmerch>



CLASS NOTES

U of I congratulates these Vandals on their achievements.

1970s

James L. Machor '74 published his book, "The Mercurial Mark Twain(s): Reception Study, Audience Engagement, and Iconic Authorship," this year with Routledge.

John Nakai '76 presented and moderated a technical forum on "Mass Properties Uncertainty Analysis" for the Society of Allied Weight Engineers.

1980s

Mark Sweeney '80 retired in December 2022 from Schweitzer Engineering Laboratories, Inc. after 18 years as a corporate pilot.

Diane (Schaal) Jones '85 was awarded the title of professor emeritus upon her retirement from Taft College in May after 37 years teaching mathematics at the high school and college levels.

Stephen Lyons '86 published a book of essays, "Searching for Home Misadventures with Misanthropes," with Finishing Line Press.

Kent LeFevre '89 was appointed administrator of the Nevada State Public Works Division.

Laura Ann Rich '89 built an RV-10 experimental aircraft with her husband and earned her private pilot license in April.

1990s

Geoff Metts '95, '99 was appointed to the board of directors of the Washington County Chamber of Commerce in Oregon.

Patrick M. Carter '96 was named a trustee for the Tennessee Bar Foundation.

Sarah Church '96 received the "Excellence in Service Learning Award" at Montana State University in February.

Chad Heimbigner '96, civil principal engineer at Coffman Engineers, was appointed the company's chief operating officer.

Robert Glennon '99, president of Glennon Fish Farms Inc., purchased the fish farming assets of J.M. Malone and Son Inc.

2000s

Scott Krijnen '02 was appointed director of the Palo Alto Chamber Orchestra.

Annette (Henke) Tejpal '02 received a Master of Public Administration degree from Boise State University in May.

Iftikhar Ahmad '06 was hired as a professor and chair of the Department of Physics at the University of Malakand in Pakistan.

Amy Hart '06 was promoted to principal at the global architecture and design firm MG2.

Johanna Blickenstaff '08 was selected as the associate vice chancellor of marketing at the University of Denver.

Ariana Day '08 was promoted to assistant vice president, commercial portfolio manager, at Mountain West Bank.

2010s

Cole Keehner '19 was promoted to captain in the U.S. Army on Fort Moore (formerly Fort Benning) in May.

IN MEMORIAM

U of I extends its condolences to the family and friends of our departed Vandals.

Fred Reich '51, Concord, CA, Feb. 21, 2022

Lloyd Faylor '53, Boise, May 13, 2022

Klea Copeland '57, Spokane, WA, June 17, 2023

Marian Crafts '58, Carmel, IN, March 16, 2022

Dennis M. Gray '58, Woodinville, WA, Oct. 10, 2022

Gradyn D. Staley '58, Inkom, March 29, 2023

Frank Collett '59, Tigard, OR, March 30, 2023

Alice Sturman '59, Spokane Valley, WA, April 26, 2022

Charles "Chuck" Bigsby '61, Del Mar, CA, Dec. 24, 2022

Laurent Taylor '64, Chicago, IL, Dec. 14, 2022

Adrian L. Nelson '67, Roseville, CA, Dec. 12, 2022

Ella Seely '68, Portland, OR, April 20, 2023

Steven A. Granger '70, Olympia, WA, March 14, 2023

Richard LeRoy Bauer '72, Naperville, IL, Jan. 11, 2022

Janelle Evans '78, '81, Layton, UT, June 6, 2023

Jimmy C. Benton '79, Cape Coral, FL, Aug. 10, 2022

Kathleen Hieb '81, Meridian, May 5, 2023

Clair Gilk '84, Hinsdale, IL, Nov. 2, 2021

Lori Uhrig '98, Boise, June 6, 2023

David J. Mitchell '04, Penfield, NY, Jan. 25, 2023

STUDENTS

Caden Young, Boise, March 21, 2023

Rhayman Freiburger, Paul, July 24, 2023

Jaydon Morgan, Vancouver, WA, Sept. 20, 2023

FACULTY/STAFF/FRIENDS

Harold L. Osborne '71, Potlatch, Feb. 10, 2023

Paul Muneta, Moscow, Feb. 13, 2023

Maryanne Stevens, Liberty Lake, WA, March 4, 2023

Diane Armpriest, Salem, OR, March 25, 2023

Sherman Carter, Oak Harbor, WA, April 29, 2023

Philip J. Mohan, Moscow, June 28, 2023

Jon Runstad, San Juan Islands, WA, June 20, 2023

Joseph Ulliman, Moscow, May 14, 2023



MARRIAGES

University of Idaho wishes these Vandal newlyweds lots of love and happiness.

Mallory Cook '10, '12 to **Cory Griffith '10**, July 2022

Katie Williams '11 to **Jack Strong '11**, December 2022

Allison Hill '13 to **John Kawika Bell '14**, December 2022

Saraya Flaig '20 to **Mark Currier '21**, April 2023

Amanda Richards '17 to **Cole Johnson-Corlett '17**, May 2023

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FUTURE VANDALS



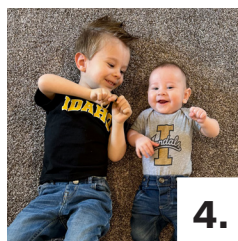
1.



2.



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6.



7.



8.



9.

1. Miles Coonts, son of Nicole and Kyle Coonts, grandson of **Tammy** and **Brian Lorentz '85**
2. Ellisyn Kraft, daughter of **Carson '15** and **Kelsey Kraft '15**
3. Arlenne Valentina Garcia Baeza, daughter of **Alberto Garcia '16** and **Sandra Baeza '16**
4. Vin Thomas Clark (right), son of **Maggie Lyn '11** and **Ott Dalton Clark '10**
5. Winnie Marie Kooistra, daughter of **Chad Kooistra '11** and **Sara Galbraith '15**

6. Annie Judd, daughter of **David H. Judd '06** and **Brynn Knudson '08, '20**, granddaughter of **Sonya Hyde Knudson '77** and **Larry Judd '66**, great-granddaughter of **Gene Hyde '54**
7. Scarlett Mae Rigsby, daughter of Becky and **Tim Rigsby '06, '11, '13**
8. Apollo Jude Cole, son of **Abby '11** and **Bill Cole '00**
9. Left to right: Micah, Nori and Sadie Holthaus, children of **Clinton '99** and **Jonna Holthaus '08**

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Photo by Garrett Britton



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