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OUR CHANGING IDAHO

A professor's research is helping community leaders navigate Idaho's rapid shift in population and demographics.

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s I reflect over the nearly four years since I joined the University of Idaho as president, I could not be prouder of our employees, alumni, students and community partners.

We have faced challenges, risen above them and proven that we are the leaders in developing the employees industry wants and the research industry needs to be successful. We have demonstrated over and over that we are brave and bold, and even in daunting circumstances, we are unstoppable.

The themes of our Brave. Bold. Unstoppable. campaign resonate throughout this issue of Here We Have Idaho magazine.

Our faculty produce sustainable solutions for Idaho. Professor Jaap Vos provides insights on Idaho's changing population that are valuable for government officials and city planners, among others. Professor Amin Mirkouei is teaming up with industry partners to explore safe and sustainable methods of mining our state's rare earth elements. Investments in U of I research pay dividends statewide. Our recent \$55 million grant from the U.S. Department of Agriculture furthers our expertise in soil science that began with the state's support of the Center for Agriculture, Food and the Environment.

Vandals contribute to a thriving Idaho through research that lifts our communities. Professor Omi Hodwitz is working with students to create a database of missing or murdered Indigenous people to help bring attention to the issue and potentially make connections between crimes to help solve them.

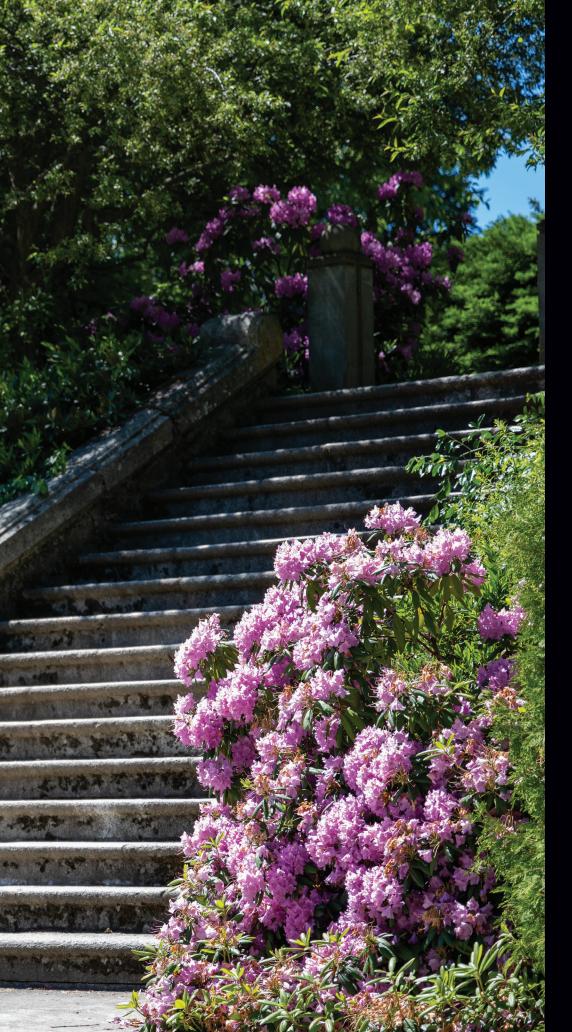
Student success is at the heart of our mission at the U of I. Students from across disciplines are playing on the new Vandal esports team, which engages other college teams from around the country in weekly competitions that test their skills and build camaraderie.

These stories and many more demonstrate the wide variety of ways the U of I delivers value for our students and our state. We appreciate everyone who has invested in the Brave. Bold. Unstoppable. campaign. We're closing in on our \$500 million goal and you can share my pride in the remarkable progress we've made together.

Go Vandals!

C. Scott Green '84 President





HERE WE HAVE

The University of Idaho Magazine Spring '23

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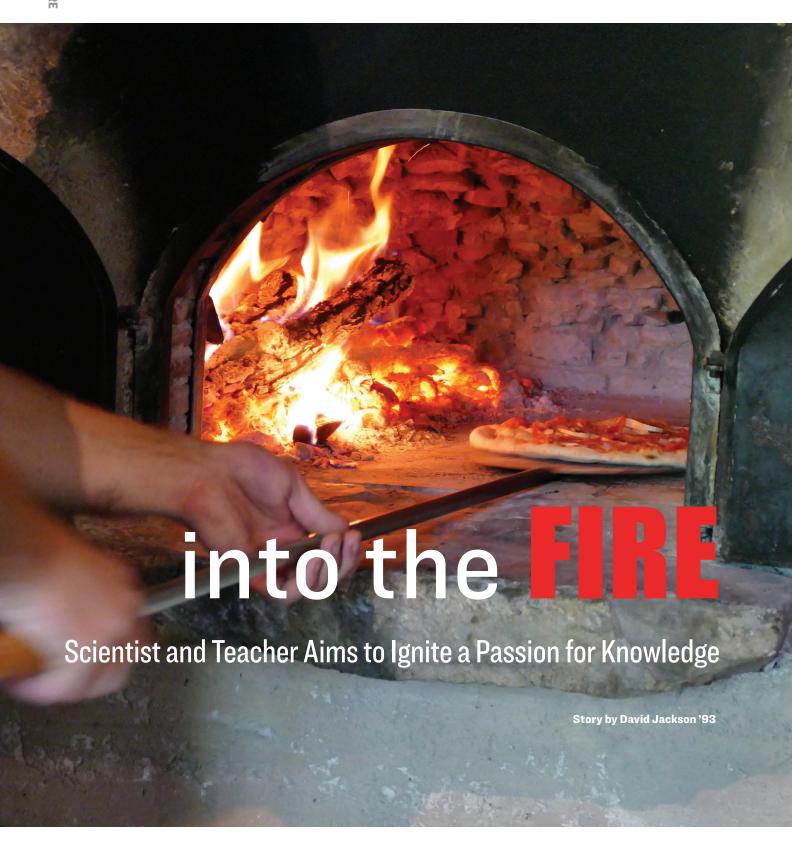
For detailed information about federal funding for programs mentioned in this magazine, see the online version of the relevant story at uidaho.edu/magazine.

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elinda Sell knows the teaching profession is under political and parental scrutiny. She also knows that, because of the recent use of virtual and hybrid learning systems, many students are struggling and at risk of falling behind.

Given these challenges, some might question the idea of becoming a teacher. Sell, who came to University of Idaho to shift her career from a laboratory to a classroom, remains unfazed.

"I always felt that eventually, I would want to teach," she said. "But I'm also a scientist. You can do both."

Originally from Missouri, Sell earned a bachelor's degree in chemistry at Truman State University and worked for four years in analytical chemistry, biology and genetics labs before the call to teach proved too hard to ignore. She graduated from U of I in December with a M.A.T. in secondary education and a certificate in chemistry and recently completed student teaching chemistry classes at Lewiston High School.

"Because she was and is still a scientist, she knows the best way to teach students about science is to get them excited about hands-on projects," said Tonia Dousay, a former associate professor of learning sciences at U of I and Sell's faculty advisor.

Sell displayed her applied teaching techniques in Summer 2022 in a weeklong Pizzaology Camp in Moscow. She designed the camp to fulfill a two-credit independent study requirement for her degree before Dousay convinced her they could make the camp a reality.

With Dousay's assistance, Sell obtained sponsorships from the College of Education, Health and Human Science's Doceo Center and the STEM Action Center. She then contacted restaurants, suppliers and other Palouse-area vendors to create a fully hands-on learning experience.

For six days, local high school students immersed themselves in the science of pizza making. They toured restaurants, worked in kitchens and learned directly from restaurant industry professionals.

Making pizza wasn't the only item on their camp menu. Students learned about farm-to-table and sustainable food practices, careers related to agriculture, and restaurant management. Camp volunteers noticed how Sell easily kept students interested and engaged.

"High school students showed up early on a Saturday morning so they could go to the Moscow Farmer's Market to shop for ingredients to make their pizza," Dousay said. "How impressive is that?"

Sell is substitute teaching while she seeks a full-time job. Her experience at U of I, combined with her passion for teaching science, prepared her to be a role model in the profession.

"Belinda is going to be an amazing example of a Vandal teacher," said Dousay.









GEMS SPRING '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 TWITTER.



Year when the global robotic manufacturing systems market is expected to double, spurring the 2022 creation of U of I's Center for Intelligent Industrial Robotics.

\$55 MILLION

U.S. Department of Agriculture funding to support climate-smart agricultural practices.

3.5%

Increase in undergraduate enrollment over last spring.



U of I ranked Top Value in the West for public universities for the third consecutive year by U.S. News and World Report and No. 2 nationally.

1,000+

Idaho health care workers earned behavioral health continuing education credits since 2018 through ECHO Idaho. See page 15.





Over \$20 MILLION

Secured by U of I since 2001 in federal cybersecurity scholarships, supporting 110 students who graduated from the program prepared for top jobs in the industry.



\$299,985

Amount U of I researchers received to study the effects of wildfire smoke exposure in dairy cattle.

3,500

Students enrolled from rural Idaho communities.



Apple varieties raised at U of I's Sandpoint Organic Agriculture Center.





12,000 Vandal Bars

sold within the first two months of the candy's release by the Vandal-owned Idaho Candy Company.



One quadrillion: 1,000,000,000,000

Number of **calculations per second** made by the U of I-managed Falcon Supercomputer, one of the fastest in the U.S.



Sustainable methods to extract rare earth elements from Idaho-sourced soil and rocks could reduce national dependence on foreign countries for high-tech manufacturing needs.

ot all engineers have a green thumb, but Dave Zirker does.

His gardens are robust, thriving and capable of extracting some of the most integral components of our daily life — rare earth elements, or REEs, from the soil.

"When a farmer plants a field, they plant corn or grain, then harvest that grain and turn it into bread," the University of Idaho nuclear engineering master's student said. "We're planting plants that can be turned into metal products."

Funded by a more than \$440,000 award from the Idaho Global Entrepreneurial Mission, Zirker is working with a team of engineering and science students, led by Idaho Falls Assistant Professor Amin Mirkouei, to build two distinct — and highly sustainable — methods of REE extraction.

One method uses plants to remove metals from the soil through their roots. The other replaces harmful chemicals currently used in a common method of REE extraction with an organic bacteria capable of doing the same job.

REEs power our everyday lives. They make up essential components used in cell phones, wind turbines, medical devices, hybrid vehicles, aerospace communication systems and mechanics, national defense technologies and more. The U.S. currently depends on foreign countries for these elements.



Idaho has several known REE deposits, many of which are minerals the U.S. currently imports from other countries. The team is partnering with Coeur d'Alene-based mining company Idaho Strategic Resources, Inc. (IDR) to use mineralized material from its Diamond Creek project near the city of Salmon.

"We are excited to collaborate with IDR and others to advance Idaho-sourced REEs for potential commercialization," Mirkouei said. "We want to use Idaho resources to create Idaho jobs. If we need these elements for advanced technologies in the foreseeable future, we need to attain them in a more sustainable or environmentally conscious way."

WE NEED REES

U.S. dependence on foreign countries for rare earth minerals became apparent in 2021, after President Joe Biden signed an executive order to review the nation's reliance on foreign supply chains.

China leads REE mining and processing. In 2020, China supplied over 80% of REEs globally and controlled more than 90% of processing capabilities.

REEs are no rarer than other metals. Their moniker comes from the difficulty in extracting them from natural rock or sediment, commonly called ore. Some traditional mining techniques to harvest ore have obvious environmental impacts and safety concerns. They are also tedious and expensive, taking decades to carry out because of domestic permitting challenges and infrastructure development costing millions.

John Swallow, CEO of IDR, said these challenges often lead to offshore mining activity in countries with less stringent environmental and labor requirements. In many instances, he said, critical minerals like REEs are only available from other countries.

AGROMINING

The agromining process starts with hearty plants — like brown mustard, black nightshade and pokeweed.

"We wanted plants that are tough, not delicate," Zirker said, "We want to give them as little attention as possible and still get minerals from the soil. We also wanted something that wasn't invasive, anything that would cause harm to local farmers or our ecosystem."

Plants are grown in surface soil shipped from Salmon.

"We're not disturbing large swaths of earth, we're not strip mining the area or cutting down lots of forests," Zirker said.

Mature plants can be harvested in seven to 16 weeks. Full plants are heated without oxygen, a process called pyrolysis, which creates a black mass of carbon and ashes called bio-ore.

The bio-ore is sent from the Idaho Falls lab to U of I's Moscow campus, where the amounts of REEs are measured and quantified. Plants like mustard and nightshade have shown promising results, but further testing is needed to refine methods of separating metals from the bio-ore to make the sustainable process viable.

"Growing plants for rare earth extraction from Idaho soil and rocks can be a promising strategy for producing rare earth materials locally and addressing the nation's needs," Mirkouei said. "And at the same time, growing plants is an important strategy for decarbonization, as plants absorb carbon from the air through their leaves."

We want to use
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- ASSISTANT PROFESSOR AMIN MIRKOUEI

BIOLEACHING

Mirkouei's team is also exploring an improved method of bioleaching. The process is already used in gold mining, but the team's method replaces harmful chemicals like cyanide with a simple organic bacteria commonly used in the food and beverage industry in the fermentation process of vinegar.

Their bacteria — gluconobacter oxydans — is easy to grow and handle and is non-pathogenic.

"Rare earth elements are difficult to extract because they are so chemically similar to each other," said Rebecca Brown, a U of I environmental science doctoral student and Idaho National Laboratory microbiologist. "Harsh chemicals that are not good for the environment have to be used. We need to be able to do this more sustainably without ruining the environment around us."

In gold mining, cyanide is used in some instances to dissolve the gold present in the ore. Although the chemical process is highly efficient, its caustic nature can have major environmental impacts when handled incorrectly. Cyanide spills around the world have harmed ecosystems and contaminated drinking water in regions where less stringent environmental and labor regulations exist.

Much like the process of extracting gold, the team's novel methods can be used to extract REEs from ore even at low levels, making the extraction process more profitable.

"There's a lot of research and scaling up needed to make this process cost-effective and efficient," Brown said.

NEXT STEPS

Research to improve these methods will continue, and partnerships with Idaho industries that are actively exploring and developing these resources will help identify areas best suited for sampling and extraction.

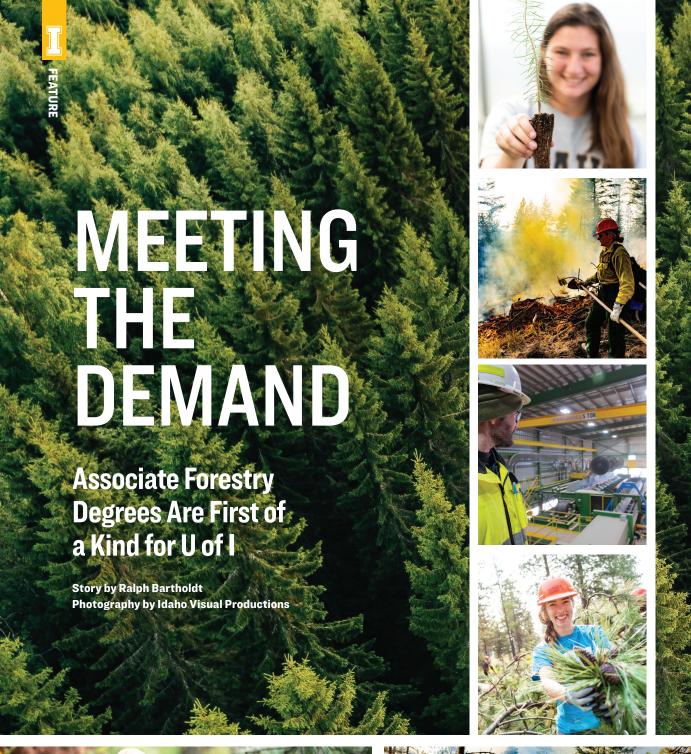
"IDR is the largest REE company in the U.S.," said Swallow. "With over 90% of IDR's properties located within the state, and with the right support and investment, Idaho could be on the vanguard of future REE advancements. There is a lot more awareness that needs to occur if we are all going to advance these areas simultaneously."

Steps are also being taken to partner with larger corporations — like General Electric — to better understand the need for REEs and the availability of supply chains once these processes can be commercialized.

Mirkouei said these sustainable innovations can also be used for recycling REEs from old electronics.

"These novel methods are expected to continue to improve and become more widely adopted in the coming years," he said. **I**









earning to operate logging equipment, assess wildfire fuels or grow pine seedlings for reforestation often requires years of on-the-job training.

In Fall 2022, University of Idaho began providing the first associate degrees in its 131-year history in forest operations and technology, forest nursery management and wildland fuel and fire technology.

The degrees are a direct conduit to a job market desperate to hire skilled workers to meet the workforce challenges of the natural resource trades.

"We worked directly with industry to develop these degree programs," said Steven Shook, forestry professor in the College of Natural Resources.

Two of the associate of science degrees — forest operations and nursery management — require completing coursework at U of I's Franklin H. Pitkin Forest Nursery and its Experimental Forest, a 10,000-acre natural laboratory for forest, logging and fire operations. All three degrees provide students with a quick transition from the classroom to the job site and hone the skills of future logging equipment operators, forest nursery managers and fire management and suppression technicians.

Shannin Murphy, a U of I graduate who learned to grow seedlings and manage a nursery at Pitkin, now operates a commercial forest nursery in Oregon. Murphy said hiring experienced nursery managers has always been difficult. The industry is constantly trying to keep up with the demand for seedlings and people to grow them.

"There's always a baseline need for tree seedlings for general logging and wildfire reforestation," Murphy said. "The biggest issue is finding qualified people who want to do this job." The Bureau of Labor Statistics estimates that annually 1,000 new jobs will open in Idaho and more than 87,000 jobs will open nationwide in the farmworker, crop, nursery and greenhouse sectors.

The virtual, two-year wildland fuel and fire technology degree opens the door for workers already in the industry to advance to higher pay scales and opportunities. The U of I program prepares students nationwide to fill a vocation at agencies such as the U.S. Forest Service, which is trying to speed up efforts to educate its employees in fire and fuel management.

"Programs like this are ideal for recruiting new fire and fuels managers and educating our current professionals," said Heath Cota at the Forest Service's workforce development program in Twin Falls.

Shawn Keough, the executive director of the Associated Logging Contractors, a statewide trade association of logging and wood products contractors, knows the difficulties of hiring skilled workers.

"Learning to operate logging equipment that can cost a half million dollars requires a lot of skill," Keough said. "If students can acquire those skills on the University of Idaho Experimental Forest, they will have a knowledge base that can put them ahead of other applicants."

The timber industry expects 7% annual growth nationwide, or about 7,400 workers each year.

"We believe our program will support the kinds of hands-on workforce development program that many in Idaho's forest products sector are requesting," Shook said. **I**





BRINGING PRODUCTS TO MARKET

By Ross Wulf

Last fall, University of Idaho students won a total of \$37,000 in Idaho's largest entrepreneurial competition, Boise Entrepreneur Week. Competitors propose solutions to problems provided by industry leaders and pitch solutions for cash prizes. It's an opportunity to build viable ventures and connect with mentors and industry leaders, including 50 Boise business owners and executives.

U of I students earned top placement in the annual competition hosted by Boise State University. Winnings support developing interdisciplinary, team-designed business plans to address unique challenges.

First place cybersecurity competition winner Intty Anantachote, a senior in virtual technology and design, earned \$13,000 for a tool that uses virtual reality to help educate seniors and students about scams designed to obtain money or confidential information.

Finance and PGA golf senior Sam Slusser also won first place, taking home \$10,000 in the Hacking for Homebuilding competition for a bag he designed to latch onto tie-down straps that is safe for any type of hauling or moving.













SCIENTIST JOINS NATIONAL ACADEMY

By John O'Connell

A University of Idaho researcher internationally acclaimed for her work in maternal and infant nutrition is the university's first inductee into the renowned National Academy of Medicine.

Michelle (Shelley) McGuire, director of the Margaret Ritchie School of Family and Consumer Sciences and a professor in the College of Agricultural and Life Sciences, was nominated by colleagues from Yale University and the University of Illinois, who praised her long-term research on human milk.

McGuire is the first faculty member inducted into the academy while employed at an Idaho institution, according to the organization's records.

Over several years, McGuire and her colleagues collected human milk samples from nine countries to analyze. She found the composition of human milk varies greatly based on where the mother lives. Early in the COVID-19 pandemic, the team found breastmilk supplies infants with antibodies, providing vital guidance for mothers.

As an academy member, McGuire will help inform national health policy and offer guidance on human health research priorities. Her induction will help attract top faculty, postdoctoral researchers and graduate students to U of I, said Christopher Nomura, U of I's vice president for research and economic development.



EXPANDING VIRTUAL EDUCATION

By Kyle Pfannenstiel '20

Project ECHO Idaho, a virtual continuing education resource for Idaho's health care workforce, recently marked its 500th session. Idaho ECHO has educated 3,542 health care workers since 2018.

The project, supported by the Idaho WWAMI Medical Education Program, addresses urgent health care needs by connecting specialists with providers for online learning using presentations and individual medical cases as lessons. Professionals — especially those in Idaho's rural or underserved areas — can enhance their skills by engaging in real-time collaborative sessions while earning free continuing education credits, which are required to maintain licensure.

ECHO Idaho expands access to medical and behavioral health education in the state, which is designated as a 100% Mental Health Shortage Area by the Idaho Department of Health and Welfare. Behavioral Health in Primary Care is one of ECHO Idaho's most popular series.

"All communities in the state are underserved when it comes to professional mental health support," said Shannon McDowell, ECHO Idaho program manager and series facilitator. "ECHO's role here is to help upskill primary care physicians in behavioral health illness so that when a patient sees a primary care provider, that doctor might be more aware of warning signs and treatment options."

Returning participants develop a professional instate network they can trust.

"I can't understate what ECHO means to me," said Debra Mueller, a licensed clinical social worker in Boise. "These sessions provide me with a community of knowledge and clinical support."

#VANDALSTRONG

LEADS ALUMNI TO RALLY

Story by Jodi Walker
Illustration by Cydnie Gray

Find purpose in tragedy.

Just a week after four University of Idaho students were murdered in their off-campus apartment on Nov. 13, 2022, Vandal alumni Gene Taft and Bob Urso, along with Bob's wife Gail, searched for a way to help. Sitting on the sidelines is not the Vandal way.

"I would hate to see students choose against the university because of this tragedy," Taft said.

Knowing the biggest obstacle to students going on to college is money, the Ursos and Taft pooled their resources with the goal of endowing four need-based scholarships, one in the name of each student killed, to honor them in perpetuity and to help other students go on to the university.

"It is important no one gets left behind," Taft said.

Taft and Bob Urso are graduates of the College of Business and Economics and met while serving on the college's advisory board. They knew immediately where to turn for additional support — their fellow alumni. Within days they were well on their way to endowing all the scholarships. It takes a minimum of \$100,000 total to endow four scholarships.

"The support was immediate," Taft said. "It wasn't that much of a pitch."

Urso and Taft both received scholarships at U of I — Urso on a Navy ROTC scholarship and Taft on a general aid scholarship. In fact, U of I wasn't even on Taft's radar until a scholarship came his way.

"We know that the average student falls \$5,000 a year short," Bob said. "We know that need-based scholarships are necessary to create opportunities for high school seniors to go on."

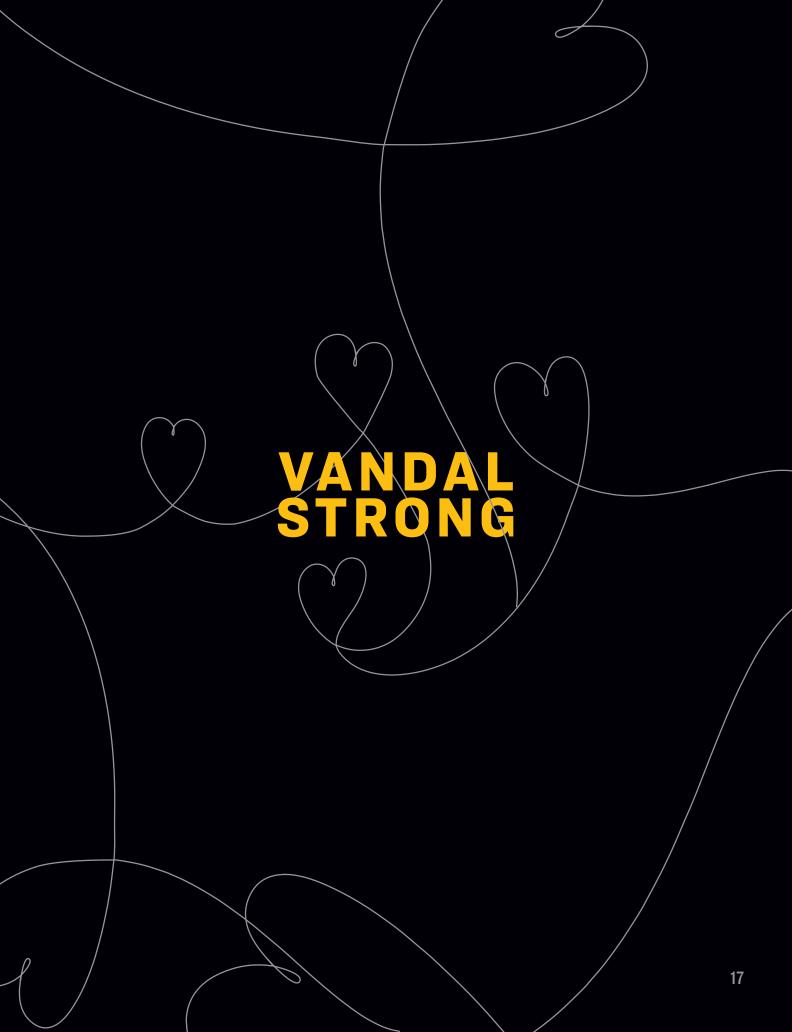
If the support of these alumni isn't testament enough to what it means to be a Vandal Family, enter Gail Urso, Bob's wife. Her relationship with the university came through her husband. It now runs so deep she was recognized as an honorary member of the U of I Alumni in 2011. Her passion for the school, its students and its future is palpable.

"If you hurt our family, we're there," she said in her strong East Coast accent.

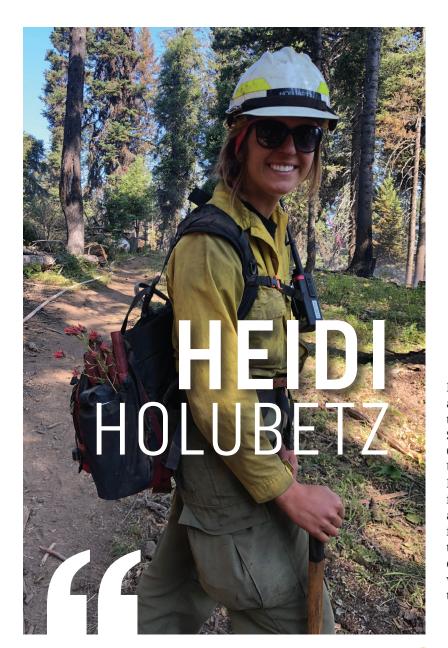
"I just love the people there and love going back several times a year."

The scholarships are held by the U of I Foundation but are the work of its alumni. Other efforts, including a healing garden, are being led by the university. Plans for the garden are still forming, but the goal is for it to be a teaching and learning activity as well as a rememberance — allowing students to develop the plan as part of a class project. The garden will be more than a memorial — it will be a place for students to visit, meditate and reflect on any student lost. A special commemoration will pay tribute to Ethan Chapin, Kaylee Goncalves, Xana Kernodle and Madison Mogen.

Learn more at: uidaho.edu/remember







IMPROVING FIREFIGHTER NUTRITION

Meet Heidi Holubetz, a master's student in the Margaret Ritchie School of Family and Consumer Sciences at University of Idaho. Holubetz and her fellow researchers are improving firefighter nutrition through education and collaborations with vendors who provide their meals.

Wildland firefighters are considered tactical athletes, which means their occupation is very physically demanding. Research has shown they can require upwards of 6,000 calories a day. It's really important they're offered the right mix and quantity of nutrients because ultimately, good nutrition promotes success and safety on the fireline.



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Photo by Mark VanderSys, Pixel Light Creative Group

n October 2022, deep in Idaho's most remote forest — the Frank Church-River of No Return Wilderness — University of Idaho Professor Jaap Vos was leading students through a hands-on learning experience.

They holed up for three weeks of studies. Only a U.S. Postal Service plane had access to U of I's Taylor Research Center.

But in the outside world, the rural planning professor's work wasn't slowing down. Vos' expertise on Idaho's population transformations was in such high demand that a top state agency asked him to fly out to present his findings.

Vos recently found that one in four people in Idaho's growing population of 1.8 million

moved to the state in the past 10 years and he discovered that the influx of new residents coincided with a steady departure of existing residents.

So, after working with students on how Idaho's population change has influenced tourism and recreation, Vos boarded that postal service plane midway through the excursion, flew to Twin Falls, and presented to a room full of community planners and business leaders eager to listen at the Idaho Conference on Recreation and Tourism.

"We're not in the middle of nowhere anymore,"
Vos said in an interview. "We've been
discovered."

PLANNING THE FUTURE

While the U of I professor has aided community planners for years, attention to Vos' work grew after his recent research used an unusual data source to make sense of Idaho's fast-changing demographics. He found that nearly half a million people moved to Idaho in the past decade, but nearly 300,000 residents left during the same period.

Idaho grew substantially but, more importantly, it underwent massive change, Vos stresses.

To reach these conclusions, Vos dug into an untapped source of information: driver's licenses. Because new Idaho residents must surrender their previous state's driver's license within 90 days of moving and then register their vehicle at their new addresses, he thought the data could offer a real-time glimpse into Idaho's changing demographics.

Researching how communities are changing is complicated. Scientists' focused hypotheses and research questions don't fit when predicting the future with limited data, Vos said. The environments that he's searching for answers in are difficult to measure.

"My research is not published in peer-reviewed journals, but it is very much used by decision-makers," Vos said.

In planning, shortcomings are felt community-wide. If population data is off, infrastructure might not fit the community's needs. People could be stuck in rush hour traffic longer. Schools might not be able to serve the influx of new children.

State and local leaders say Vos' research provides critical insights into Idaho's population shifts, helping them answer difficult questions that the census data cannot answer.

We're not in the middle of nowhere anymore. We've been discovered.

- CITY PLANNING PROFESSOR JAAP VOS

"To date, at the Idaho Department of Commerce, we have not seen a more in-depth approach to the population trends in Idaho," Idaho Department of Commerce Director Tom Kealey said.

The research is not Vos' first foray into helping state leaders make sense of demographic change. For years, Idaho's community planners have recognized Vos as a forward-thinking researcher who regularly gathers local planners to talk through issues and offer advice, said Owyhee County Planning Director Mary Huff.

Huff first met Vos a decade ago. She said he has consistently encouraged planners to dig deep in their data, find its errors and determine what it really says.



Population Growth 2020 to 2021 - State Ranking, Highest to Lowest

Rank	State	2021 Population	Change	Population Growth
	United States	331,893,745	392,665	0.1%
1	Idaho	1,900,923	53,151	2.9%
2	Utah	3,337,975	56,291	1.7%
3	Montana	1,104,271	18,078	1.7%
4	Arizona	7,276,316	98,330	1.4%
5	South Carolina	5,190,705	59,976	1.2%
6	Delaware	1,003,384	11,498	1.2%
7	Texas	29,527,941	310,288	1.1%

U.S. Census, 2021

GROWING OR CHANGING?

Vos argues that understanding change is more relevant than understanding growth. Past census data shows Idaho is one of the nation's fastest-growing states. Looking deeper, Vos said, at who Idahoans are now, what they want and how they live, will provide valuable insight into how areas are changing, what residents need and how to shape communities to reflect local values.

In Owyhee County, where the largest town is home to less than 5,000 people, locals are feeling the effects of Idaho's dramatic population change. Huff said it's more complicated than the common complaint that Californians are moving to Idaho. She said data from Vos and others suggests that as more people flood into Idaho from other states,

Treasure Valley residents are spreading out into rural communities.

"Jaap's data helped show that we were also having a lot of movement within the state as people from more populated areas were looking to move farther out into suburbs or rural places to get back a bit of the slower Idaho they once knew," Huff said.

Data also helps cut through the noise of planning, a field that relies on a mix of public opinion, research and data to tease out the truth.

In creating Owyhee County's development plan years earlier, locals stressed retaining the county's agricultural roots, with farmland surrounding neighborhoods and business areas. But the wave of developers looking to set up shop in the area signaled something different: Locals want more houses on that land, not farms.

Average estimated population change in Idaho each day from 2011 to 2021:



So, she turned back to the locals. Though some of the rural county's population had changed, they largely wanted to preserve the community's farming roots.

"Know who you are and trust that," she said.

In community planning, leaders don't have time to wait to physically see changes happen before making decisions. Waiting too long might mean the attributes locals love about an area — sprawling green parks, crop fields or quaint neighborhoods and business sectors — could vanish.

Once a new building goes up, community character changes.

Planning is about being deliberate about change, Vos said. To him and others, community planning is about asking neighbors and leaders what they cherish about their community and what they hope it will become.

"We're really trying to be proactive. In reality, since we have such little control, we often end up being more reactive in the way that we deal with cities — all of a sudden there's growth, and we just respond to the growth," Vos said. "But in the ideal world, the community has already made a comprehensive plan. The vision is already there. Everything is written down. So now, we just follow the plan."



Photo by Kyle Pfannenstiel '20

The law initially focused on academic programming, but women in ath

Title IX, enacted in 1972, prohibits sex discrimination in educational programs or activities that receive federal funding.

The law initially focused on academic programming, but women in athletics saw the new law as an opportunity to stand on equal ground with men. On the 50th anniversary of this landmark legislation, University of Idaho is excited to celebrate the women who made an incredible impact on Vandal Athletics and the university.

ANGELA WHYTE



A three-time Olympian hurdler, Whyte transferred to U of I in 2000. The five-time IAFF World Championship qualifier and three-time NCAA All-American graduated in 2003 with a bachelor's degree in crime and justice and a

minor in psychology. She went on to earn a master's degree in sport psychology from U of I in 2014 while coaching at Washington State University. She lives in Canada where she works as a mental health consultant.

ALI FORDE



A two-sport athlete, Forde was a defense leader on the basketball court. As a freshman, she blocked 61 shots and finished her career as the secondhighest rebounder in school history with 931 rebounds and 244

blocks. She was voted First Team All-Tournament at the Big Sky Tournament in 2015-16, all while playing three years of volleyball for the Vandals. Forde graduated in 2016 with a bachelor's degree in business and is a real estate broker in the Seattle area.

SOPHIE HAUSMANN



As a freshman, Hausmann won the Big Sky golf title in a playoff after tying the school record with a secondround seven-under 65. She scored four-under for the championship. She went on to back-toback Big Sky Women's Golfer of the Year

awards in 2017-18 and 2018-19. She graduated in 2019 with a degree in business.

MAIRIN JAMESON



Jameson holds Western Athletic Conference titles in the 1- and 3-meter diving events and holds seven school records for diving. She earned All-Conference Academic awards all four years. She graduated with

bachelor's degrees in biology and psychology in 2014, and married fellow Vandal Trystan Chambers in 2022. She held multiple sales and management positions at Gallo and now is a sales manager for Boston Scientific in Seattle.

MELINDA OWEN



Winning six
Western Athletic
Conference
Championships,
Owen's pole
vaulting skills
qualified her three
times for the NCAA
Championships.
She never lost to

a WAC opponent and in 2008 she held the top vault in the nation. She was an Academic All-American her senior year, graduating in 2008 with a degree in elementary education.

KAREN THOMPSON ALSAGER



Thompson Alsager holds three of the top seven single-game offensive volleyball performances in school history. She took the record for kills in 1989 then beat her own

record the next year with 524. Her 126 career aces and 41 solo blocks gave her school and national rankings. She graduated in 1992 with a degree in physical education.

CHELSEA SMALL



Small's career in Vandal soccer is filled with numerous firsts: First Freshman of the Year, first Player of the Year, first four-time all-conference player, first

NSCAA all-region selection, first to score 30 career goals and first Vandal Athletics Hall of Famer in soccer. She was named three times to NSCAA All-Region teams and earned All-WAC First Team recognition in each of her four seasons. She graduated in 2012 with a degree in mathematics and is a certified public accountant.

PATRICIA AND CATHY SHANANDER



These sisters from Washington took the court by storm. The duo represented the Vandals during the late 80s, competing in doubles and also as No. 1 and No. 2 singles. In 1988 and 1989, the duo recorded a remarkable 16-0 during the regular season. By 1990, when Cathy completed her U of I tennis career, the duo had put together a stunning 55-5 career doubles record and in 1991 they went undefeated in doubles winning the Big Sky Championship.

Patricia was named to the Big Sky All-Conference team three times, Big Sky MVP once and Big Sky All-Decade Team. She posted an 80-10 career doubles record, with most of that coming alongside Cathy. Her 75-21 career singles record ranks third in program history, and her 75 singles wins tie for third in the school record books. She graduated in 1992 with a degree in communications with an emphasis in advertising. She continued her college studies and became a reading teacher specialist, finishing her career as a grade school principal in northwest Washington.

Cathy twice earned Big Sky All-Academic honors, First-Team All-Conference selections three times, conference singles and doubles titles, Big Sky MVP, All-Conference Player of the Year and the All-Decade Team. She was one of just two students to earn the Big Sky Scholar Athlete award all four years. In 1991, she graduated with a degree in accounting. She and her husband, a fellow Vandal, founded a web design business in Anchorage, Alaska, where she continues to use her U of I business and accounting training.

Both sisters were inducted into Vandal Sports Hall of Fame in 2012.



EMILY FAURHOLT

The Big West Conference Player of the Year as a sophomore led the Big West in scoring. Faurholt threeyear scoring total still ranks second for the Vandals and her scoring average remains No. 1

in Vandal history. She graduated in 2006 with a degree in elementary education.



U of I Team Creates Database of Crimes Against Indigenous Population

Story by David Jackson '93

hough what they heard was rarely more than a whisper, Madison Wolf vividly remembers every time there was a new story. It didn't take long for them to realize that another Indigenous woman from their area was missing.

"It was really the elephant in the room," said Wolf, a University of Idaho criminology major. "You would hear about someone who went missing and then it was never brought up again. There were always lots of reasons why it was downplayed — 'they were a runaway' or 'they were drunk and just wandered off.' Adults didn't talk about it much, but we did."

Wolf, who grew up in Star, Middleton and Eagle and is of Yakama Nation descent, is working with fellow senior Christina Briggs-Mathers and Omi Hodwitz, associate professor in the Department of Culture, Society and Justice, to compile the most comprehensive database of missing and murdered Indigenous women, girls and two-spirits (MMIWG2) in the United States and Canada.

The term two-spirit is used for the nonbinary or transgender population and is derived from North American Indigenous cultures.

MMIWG2 was recently labeled "an epidemic" by the United Nations and "a national crisis" in Canada.

where Indigenous women make up approximately 4% of the female population but constitute 16% of murder victims.

"Currently, there is no publicly accessible data on these women, girls and two-spirits in Canada and very limited data in the U.S.," Hodwitz said. "There is a real sense of victimization among these groups, along with the feeling that nothing is being done about it."

ROLLING UP THEIR SLEEVES

While researching MMIWG2 cases, Wolf often thinks about victims like Amanda Jane Cook.

Cook, a 14-year-old from Rossburn, Manitoba, Canada, was reported missing by her family July 13, 1996. Her remains were discovered four days later in a nearby wooded area.

Although Cook's killer was apprehended and admitted to the killing, he was found not guilty due to evidence deemed inadmissible in court. According to Wolf, many of these cases fail because of legal technicalities.

"The more you read about some of these stories, you start to feel a little helpless," Wolf said.

Wolf and Briggs-Mathers begin by researching the facts of each known and reported case, reviewing information from news sources or the investigative party. They then enter all non-personal data into their file so that similarities between cases can be studied.

"We aren't trying to reach out to families or solve cases with this project," said Briggs-Mathers. "We want to show how big this problem is and give investigators all of the information we can to help them solve the cases."

BUILDING A BETTER CASE

Briggs-Mathers, a double major in psychology and criminology, also knew an Indigenous person who was murdered — the father of a close friend. The case was eventually solved, which was likely not a coincidence given the gender of the victim, she said.

"Our preliminary data suggests cases of murdered or missing individuals who are men are more likely to be solved," Briggs-Mathers said, while adding that this group could have a higher rate of conclusion because there are fewer reported cases involving victims who identify as men.

Briggs-Mathers said patterns are already emerging from her study of unsolved U.S. cases:

- Violence against Indigenous females tends to come mostly from Indigenous males.
- Tribal or other Native American law enforcement tends to have more success with these cases than city, county or state police.
- Especially in more remote or rural areas, there is often information about the crime or the timeline that isn't shared with investigators.

 Crimes involving Indigenous women are often reported late, not reported at all, or reported only to be met with resistance from the would-be investigators.

LAYING THE GROUNDWORK

Wolf and Briggs-Mathers will present their preliminary findings this spring at the Western Society of Criminology's annual conference in Vancouver, British Columbia. Their primary message, according to Wolf, will be to talk about how the database can be used as a tool to help understand MMIWG2 cases.

The ultimate goal is to have the most updated and accurate information for each case available to assist law enforcement.

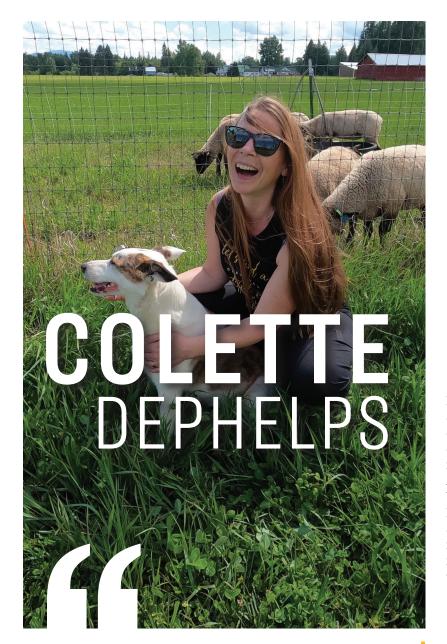
"These cases are often mishandled or not handled at all because of many different factors," Wolf said. "Oftentimes, a case is closed without any type of closure for the family. Indigenous communities are starting to talk about the problem more than they used to and bringing awareness to the situation, but there is still more that can be done."



(left to right) Christina Briggs-Mathers, Madison Wolf and Omi Hodwitz. Photo by Rio Spiering '22.







SUPPORTING FEMALE FARMERS

Meet Colette DePhelps, an area Extension educator specializing in community food systems for University of Idaho. As part of the Idaho Woman in Ag project, DePhelps is interviewing and surveying Idaho's female farmers and identifying the support they need.

For every dollar a woman-owned farm makes, a farm owned by a man makes \$2.50. This means that farm operations are one of the most gender unequal occupations in the United States. And part of why that happens is because women have historically had barriers to being recognized as real farmers.



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Story by John O'Connell Photography by Joe Pallen '96

he world underneath our feet is sometimes described as science's last frontier. In fact, scientists know more about the deep ocean than they do about what kinds of communities that reside and thrive in soil deeper than the topmost foot.

But one thing researchers know for certain is that healthy soil is essential to maintaining a safe and sustainable food supply for the world's growing population.

Russ Zenner '68, Palouse farmer and University of Idaho agricultural economics graduate, has been on a quest since the 1980s to seek production practices that prevent topsoil erosion on his cropland east of Genesee.

Zenner Farms is a case study on the dividends of soil-health investments. The farm is entirely no-till. Multi-species cover crops are planted and grazed by livestock, which introduces manure into the system. Sometimes multiple commercial crops are planted together, a practive called intercropping. A third-party analysis confirmed these practices boosted soil carbon — which raises fertility, reduces erosion and improves the water-holding capacity of soil — by an average of a ton per acre.

"If we're going to support a population that will have billions more people in the next few decades, we've got to figure out how to produce food with less inputs and less water, and we've got to take care of the topsoil," Zenner said.

Estimates from the U.S. Department of Agriculture assert it takes more than 500 years for a single inch of topsoil to form.

U of I's College of Agricultural and Life Sciences (CALS) is well-positioned to address these needs with a breadth of expertise in soil science.

"We have a long history of studying soil, soil quality and now soil health," said Zachary Kayler, a U of I biogeochemist in the Department of Soil and Water Systems. "For years we've recognized if you don't have healthy soil, you're not going to have healthy crops, healthy businesses and healthy people."

Kyler is a lead researcher on the forthcoming Deep Soil Ecotron, a cutting-edge laboratory that will study soil at greater depths than anywhere else in the world, made possible by a \$19 million grant from the National Science Foundation. Researchers on the Moscow campus will be able to control variables such as temperature, water and exposure to carbon dioxide and other greenhouse gases. It will contain 24 "eco-units," comprising massive columns for studying core samples, below-ground organisms and above-ground plants.

The Deep Soil Ecotron is part of U of I's increased focus on soil health which includes research statewide.

At the Sandpoint Organic Agriculture Center, scientists are in the final years of a project evaluating soil health in organic production systems, analyzing soils in vegetable beds and the surrounding orchard.

In Idaho's Treasure Valley, scientists at the Parma Research and Extension Center are developing new methods of extracting DNA and RNA from soil pathogens, allowing farmers to detect viruses and other diseases affecting crops before they plant.

In the Magic Valley, home to Idaho's dairy industry, scientists are sampling several tons of soil to develop baseline data for future environmental research. This research will assess dairy's impact on soil and water health at the U of I-led Idaho Center for Agriculture, Food and the Environment — the nation's largest research dairy.

In October 2022, CALS scientists secured a five-year USDA grant for up to \$55 million — the largest grant in university history to date — to implement and research which cropping systems are good for soils and resilient to changing climates. The project, titled Climate-Smart Commodities for Idaho: A Public-Private-Tribal Partnership, will incentivize the option for Idaho farmers and ranchers to adopt specified climate-smart practices like those already embraced by Zenner Farms, including cover crops, intercropping, composting and grazing cropland. The project will drive practices improving soil health on 10% of Idaho's active cropland, preventing the emission of up to 100,000 tons of carbon dioxide per year into the atmosphere.

"Soil is critical to everything," said CALS Dean Michael P. Parrella. "The bottom line is we are destroying soil and we are losing soil to erosion at a much faster clip than it is being created, but agriculture is poised to be part of the solution."

Learn more at: uidaho.edu/soil-science





CLASS NOTES

U of I congratulates these Vandals on their achievements.

1980s

Charles "Chuck" Bond '83 was elected chairman of the board of commissioners for the North Latah Highway District in 2021.

Cheryl Heuett '84 retired in 2021, ending 16 years as an audit manager at the Washington State Bar Association.

1990s

Bryan Nickels '95, '98 was appointed the new chief administrative hearing officer for the State of Idaho.

Molly Johnson '95, '01 joined the Idaho Associated General Contractors as director of workforce development.

Chad Heimbigner '96 was appointed chief operating officer by Coffman Engineers.

Leland Yates III '98 accepted the position of head of laboratories in North America with Mosaic.

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

2000S

Travis Silvers '05 was hired as a full-time, tenure-track instructor of world music and guitar at Modesto Junior College in Modesto, California.

Kara Parce '06 was appointed senior interior designer at the firm Lombard Conrad.

Jon Ross '06 won the American Society of Composers, Authors and Publishers Foundation's 2022 Deems Taylor/Virgil Thomson Award for a pop music article.

John Jameson '07 started at First American Title Insurance as underwriting counsel for Idaho, Montana and Oregon in 2022.

Regan Jameson '08 was appointed as an Ada County magistrate judge in 2022.

Kayla Herriman '09 was hired as the USDA Forest Service national seed specialist.

2010s

Erin Heinz '10 completed her Ph.D. in sociology from the University of Arizona in June 2022.

Charlette (Char) Kremer '13 was named 2022 Outstanding Commissioner by America's Service Commissions. Kremer is the vice chair of Serve Idaho, the Governor's Commission on Service and Volunteerism.

Matthew Friesz '14 earned his license to be a registered architect in Texas in 2021.

Caleb Parker '16 composed music for the documentary, "Haiti: Day by Day," on PBS.org.

IN MEMORIAM

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

Helen Marie Means-Proctor '51, Kuna, Dec. 29, 2022

Wallace C. Schmidt '53, Boise, March 8, 2022

Kenneth Slusser '54, Idaho Falls, Dec. 4, 2019

Gary S. "Knute" Westergren '58, San Jose, CA, Dec. 6, 2021

Alice (Giroux) Sturman '59, Spokane Valley, WA, April 26, 2022

John L. Sullivan '64, Buhl, Sept. 3, 2022

Larry J. Godfrey '66, Idaho Falls, March 17, 2020

Elizabeth J. (McConnell) Lorenz '69, Tumwater, WA, Sept. 2, 2022

Gary A. Hines '87, Brattleboro, VT, Nov. 6, 2022

Jill (Pappas) DiMartino '89, Chandler, AZ, April 10, 2020

Paula R. Eakin '93, Kennewick, WA, Dec. 20, 2022

Winfred Adjetey Kofi Sowah '19, Shelley, Nov. 10, 2022

IN MEMORIAM

FUTURE VANDALS

To see Future Vandal submissions sent before September 2022 visit: uidaho.edu/hwhi-qr



STUDENTS

Ethan Page, Middleton, June 17, 2022

Guadalupe Lupita Colis, Hailey, Aug. 7, 2022

Ethan Chapin, Mount Vernon, WA, Nov. 13, 2022

Kaylee Goncalves, Rathdrum, Nov. 13, 2022

Xana Kernodle, Post Falls, Nov. 13, 2022

Madison Mogen, Coeur d'Alene, Nov. 13, 2022

Rojit Raut, Saptari, Nepal, Jan. 29, 2023

FACULTY/STAFF/FRIENDS

Conor Thomas Richards '10, Moscow, Jan. 22, 2023

MARRIAGES

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

Glory Ogren '20 to Nathan Beckman '21, May 2022

Elna Albano '18 to Bridger Putnam '18, August 2022

Claire Bardsley '21, '22 to Garrett Potts '22. October 2022













- Aspen Chesnut, daughter of Chris '14 and Taylor (Hewett) '15 Chesnut, granddaughter of Chad '90 and Kelley Hewett '89
- 2. Hadley Grace Ekman, daughter of Makenzie and Kent Eugene Ekman '04
- Lainey James Kernodle, daughter of Marissa and Sheldon Kernodle '11

- 4. Poppy Jane Kinnas, daughter of **Haley** and **AJ Kinnas** '09
- Amynta Diah Lie, daughter of Anna (Matteucci) '18 and Stephen Lie '18
- 6. Luca Michael Schiller, son of Laura '05 and Brett Schiller '12

To be featured in Class Notes,

Submit your news at uidaho.edu/class-notes. You can also email your information, including your graduation year, to alumni@uidaho.edu, or via regular mail to Class Notes, Office of Alumni Relations, 875 Perimeter Drive, MS 3232, Moscow, ID 83843-3232. Please limit your submission to fewer than 50 words.

LOADING A

NEW

U of I Taps Into Exploding Esports Industry to Give Students Community, Job Skills

Story by Leigh Cooper
Photography by Garrett Britton and Melissa Hartley

onic the Hedgehog socks poke out from Colten Bernal's sneakers. He says he didn't wear them specifically for tonight, but perhaps they'll bring him luck.

It turns out they don't, at least during a practice match against his teammate. His character, Cloud, is ousted from the virtual platform by his opponent.

"Ahhh, but I was playing so well!" grieves the sophomore, in response to teammates' ribbing as he preps for the next round of Nintendo's Super Smash Bros. Ultimate, a fighting video game.

In Fall 2021, U of I fledged its first competitive esports team where multiple players square off in video games in front of an audience. Esports programs at universities with established teams can include scholarships for esports athletes, arenas for play and support teams including coaches, IT experts and data analysts. U of I plans to build its program, expanding the number of players, the games in which they compete and their support network.

"Gaming is a valuable part of our society right now," said Dan Ewart, vice president of information technology and chief information officer, who is championing the program at U of I. "It can open up opportunities for social interaction, employment opportunities, further



education and just improve your happiness. Students enjoy this activity, and they enjoy doing it together."

U of I's esports team entered the field playing in the Electronic Gaming Federation league — the league to which all Big Sky schools belong. By Spring 2023, U of I was competing at four different video game tournaments during the school year and had also joined the National Association of Collegiate Esports, called by its acronym NACE Starleague.

"Playing at this level is very different from playing against your family or friends — half the time you're teaching them to play. Here, everyone knows how to play and you aren't the best," said Bernal, a secondary education major from Bayview. "Here, the competition is fun even if you know you aren't going to win. And then when you have a good day – it's great."

These days, esports is more than just a game. In fact, gaming industry revenue outpaces that of movies and music combined. While players may be the heart of the community, they have support upstream and downstream.

Strategists, including data analysts and coaches,





Moscow, ID 83844-3232

