The Changing Face of Boise State

“My dream was to come back to Boise State. I’m thrilled to be here.”

— Dr. David Estrada
New Faculty Member
Materials Science and Engineering
Boise State University has laid a solid foundation of accomplishment that today is enabling it to take strategic leaps in its research, teaching, faculty expertise and outreach. In this issue of *EXPLORE*, we take a closer look at some of the people and programs that are contributing to the university’s upward trajectory.

**6 NEW GUARD**

An impressive group of faculty bring talent, expertise and enthusiasm to their new jobs.
New Initiatives
Located in downtown Boise, Venture College challenges students in any major to launch businesses.

New Approach
By transcending disciplines, researchers develop new insights into complex problems.

New Strengths
A Master of Fine Arts Program in Creative Writing has garnered national recognition.

New Research
Digital technologies are changing the way we “make history” in powerful new ways.

New Partnerships
A collaboration with St. Luke’s Children’s Hospital benefits children with musculoskeletal disorders.

Research Record
Dr. Marie-Anne de Graaff is studying how to maximize benefits from grasses used for biofuels.

CAREER award from the National Science Foundation.

Dr. Pushpa Raghani has been awarded a prestigious CAREER award from the National Science Foundation.

Dr. Scott Lowe’s research program focuses on the economic impact of Idaho’s water resources.

Creative Activity
Professor Jonathan Sadler’s recent exhibitions reflect his artistic explorations.

Boise State University is Idaho’s fastest-growing research institution, educating more than 22,000 undergraduate, graduate and doctoral students from the heart of the state’s hub of business, politics, arts, health care, industry and technology. We are proud of our commitment to our community and region and dedicated to building tomorrow’s leaders and thinkers through academic excellence, public engagement, a vibrant campus culture and exceptional research.

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WELCOME

A University On The Move

At Boise State, we have simple, if lofty, goals:

• Offer a high-quality, timely and affordable educational experience.
• Respond to community needs and embrace regional partnerships.
• Expand the reaches of research and creativity — and if that means we have to explode traditional disciplinary boundaries, then so be it.

We’re not afraid of the kind of progress we need to achieve these ideals.

In the few years since we’ve embarked on our campus-wide effort to become a metropolitan research university of distinction, the change has come fast, and it has been substantial. We’ve more than doubled our graduate offerings in a decade. We now confer more than 40 percent of all bachelor’s degrees awarded by public universities in the state. We’ve grown to more than 22,000 students. Last year we welcomed more incoming Idaho freshmen than any other university, and we continue to attract more students from around the West and beyond.

This transformation is a major theme of this issue of EXPLORE. As you read about our new faculty scholars, new research and other advances, I’m sure your thoughts will echo mine: I wonder where we’ll go next.

– DR. BOB KUSTRA, PRESIDENT

RESEARCH RECORD

MAXIMIZING BENEFITS FROM BIOFUELS

Fuel production from plant materials such as switchgrass, a type of bunchgrass, is one of today’s fastest-growing alternative energy technologies.

However, before switchgrass can be planted, existing vegetation must be removed, thus releasing large amounts of carbon from the soil. This “carbon debt” must be repaid through future soil carbon sequestration before switchgrass bioenergy can contribute to mitigating climate change.

With funding from the U.S. Department of Agriculture, Dr. Marie-Anne de Graaff, an assistant professor of biological sciences, is studying how genetic variation in the root traits of switchgrass can be used to maximize carbon sequestration and biomass yields.

Her initial results suggest that planting a greater diversity of native grasses for biofuel production can have a favorable environmental impact by minimizing carbon releases.

“Growing native prairie grasses in diverse mixtures promotes above- and below-ground carbon sequestration, which may be coupled with reduced nutrient losses,” de Graaff said.

Ethanol produced from prairie plants, called cellulosic ethanol, offers advantages over ethanol produced from food crops such as corn. Switchgrass does not need to be replanted each year, it is not consumed by people, and it can grow on marginal lands unsuitable for food production.

– Leah Sherwood
BOISE STATE PROF STUDIES ECONOMIC IMPACTS OF WATER

Life in Idaho revolves around water. Agriculture. Recreation. Energy. It helps put food on our tables and smiles on our faces, and it also drives Idaho’s economy.

“Water in Idaho is central to our quality of life,” said Dr. Scott Lowe, associate professor of economics and director of the environmental studies program. His research focuses on the many factors affecting Idaho’s water resources, including river usage and the vulnerability of our water supply from population growth, fire and climate change.

Lowe’s latest research looks at the impacts of climate change, wildfire and other factors on water supplies and is supported by a grant from the U.S. Geological Survey. The study focuses on Idaho watersheds and several others in the West and funds one graduate student.

“This is a very economic-minded analysis that looks at population growth and how that will impact water demands,” Lowe said.

With funding from the U.S. Bureau of Land Management, Lowe and several undergraduates are assessing the capacity of the Bruneau River as part of an effort to maximize the benefits to users without compromising the river’s wild and scenic quality.

In addition, Lowe and his students are working with Idaho Rivers United as part of a USGS-funded study to identify and quantify the “ecosystem services” the Boise River provides, such as water and water purification, soil conservation and wildlife habitat. The study’s goal is to provide an accurate economic analysis to help inform decisions surrounding new mines and dams, water security and development in the floodplain.

In the Treasure Valley, the Boise River is important because it not only contributes to the economy, it defines the community, Lowe said.

“For some people, it’s Boise State’s blue field or the Capitol building. For others, it’s the Foothills. But for a lot of people, it’s this robust riparian river that runs through the community. Without the Boise River we’d be Mountain Home. It would be a totally different place.” – Ellie Rodgers

COMPUTER SCIENCE PROGRAM RECEIVES $1 MILLION BOOST

To help meet the increasing demand for computer science graduates in the Treasure Valley, Boise State University has partnered with eight local high-tech companies to secure a $1 million state grant that will help double the number of computer science graduates by the 2015-16 academic year.

The Idaho Department of Labor grant comes from the state’s Workforce Development Training Fund and runs for two years. It will provide student scholarships and hire needed faculty and staff, enabling the computer science department to graduate about 60 students a year, twice its current capacity of 30.

“This is exactly the kind of public-private partnership that the state of Idaho needs to boost its long-term economic prosperity.”

— Dr. Bob Kustra, Boise State president
**IMPROVED FUEL EFFICIENCY**

**FOCUS OF DOE GRANT**

Dr. Yanliang Zhang wants to make vehicles more efficient by using a resource most people aren’t even aware of — the waste heat that results from the inherent inefficiency of engines when converting fuel into energy.

Zhang, an assistant professor of mechanical and biomedical engineering, is the Boise State principal investigator on a four-year U.S. Department of Energy grant, “Nanostructured High-Temperature Bulk Thermoelectric Energy Conversion for Efficient Automotive Waste Heat Recovery.”

He is working to develop and test a thermoelectric waste heat recovery system capable of enhancing the fuel efficiency of a light-duty vehicle by 5 percent. The improved gas mileage would result from the direct conversion of engine waste heat to electric power by using nanomaterials with unique properties.

“Studies have shown that only about 25 percent of a vehicle’s fuel consumption is used to drive the wheels, and more than 70 percent is lost as waste heat in the exhaust gases and to the engine coolant,” Zhang said. “Developing new ways to convert this lost waste heat to useful energy shows great promise for both improving fuel efficiency and reducing fuel emissions.”

Zhang began working on the project in 2011 while employed at GMZ Energy, a Massachusetts-based startup. He joined Boise State’s faculty in 2013 and is continuing his work with a $251,640 award. Along with GMZ Energy, other partners in the DOE project include Honda, Robert Bosch LLC, Oak Ridge National Laboratory and the University of Houston.

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**PHYSICIST RECEIVES PRESTIGIOUS NSF AWARD**

Dr. Pushpa Raghani, assistant professor of physics, has been awarded a National Science Foundation CAREER award for her exceptional ability to integrate her research into her teaching activities.

She will receive $427,000 over five years to support her research program and provide opportunities for graduate and undergraduate students to work in her lab.

Raghani’s research involves the use of computational methods to develop new types of materials, with a wide range of applications in electronic and spin devices, energy storage and catalysis.

“The demand for new materials is higher than ever, and developing new methods for computer-based design of smart materials is going to play a critical role in the advancement of new technologies such as renewable energy and information technology,” she said.

The NSF CAREER award is the NSF’s most prestigious award for early career faculty.
BUILDING A COMPUTER CHIP BASED ON THE HUMAN BRAIN

“By mimicking the brain’s billions of interconnections and pattern recognition capabilities, we may ultimately introduce a new paradigm in speed and power, and potentially enable systems that include the ability to learn, adapt and respond to their environment.”

— Dr. Elisa Barney Smith
principal investigator

Today’s computing chips are incredibly complex and contain billions of nanoscale transistors, allowing for fast, high-performance computers, pocket-sized smartphones and an explosion in handheld tablets.

Despite their ability to perform thousands of tasks in the blink of an eye, none of these devices even come close to rivaling the computing capabilities of the human brain.

At least not yet. But a Boise State University research team could soon change that.

Dr. Elisa Barney Smith, Dr. Kris Campbell and Dr. Vishal Saxena, electrical and computer engineering, are joining forces on a three-year, $500,000 National Science Foundation grant. The challenge: to develop a new kind of computing architecture that works more like a brain than a traditional digital computer.

The team’s research builds on recent work from scientists who have derived mathematical algorithms to explain the electrical interaction between brain synapses and neurons.

“By employing these models in combination with a new device technology that exhibits similar electrical response to the neural synapses, we will design entirely new computing chips that mimic how the brain processes information,” said Barney Smith.

BOISE STATE RESEARCHERS JOIN IN STUDY TO ASSESS MONITORING SYSTEMS

With funding from the National Institute for Occupational Safety and Health, Boise State is part of a multi-university partnership that is evaluating new ways to assess the exposure levels of underground miners to harmful diesel exhaust.

Dr. Dale Stephenson, professor of community and environmental health, is co-principal investigator on the $405,000 exploratory grant along with Dr. Chris Simpson at the University of Washington. Dr. Sin Ming Loo, a Boise State professor of electrical and computer engineering, and Montana Tech researchers are also on the team.

“The new monitoring approaches we are testing are expected to improve accuracy and also be less expensive,” Stephenson said. Improved monitoring could limit miners’ overall exposure to the toxic fumes and thus reduce the incidence of related disease.

Because they work in confined spaces close to diesel-powered equipment, underground miners have the highest exposures to harmful diesel exhaust of any occupation. Diesel exhaust is a major source of fine particulate matter air pollution. It has been linked to irritation of the eyes, nose, throat and respiratory system, in addition to inflammatory responses within the respiratory system. The Environmental Protection Agency has concluded that diesel exhaust is likely to cause cancer.
STRETCHING BOUNDARIES

By JANELLE BROWN
Photographs by JOHN KELLY
Illustrations by ANN HOTTINGER

BOISE STATE’S NEWEST FACULTY
BRING EXPERTISE, EXPERIENCE AND
PASSION TO THEIR WORK

DR. DAVID ESTRADA is building his research program in the areas of emergent semiconductor nanomaterials and bionanotechnology.
A Navy electronics warfare technician stationed in Japan at the time, Estrada traveled to the war-torn country as part of a United Nations humanitarian mission to rebuild schools.

**DEVASTATION IN EAST TIMOR OPENED DAVID ESTRADA’S EYES TO THE WORLD.**

He competed with a pool of nearly 500 applicants for the position. “My dream was to come back to Boise State,” he said. “I’m thrilled to be here.”

Estrada is among a number of top faculty recruits who recently have joined Boise State. They bring life experiences, scholarly acumen, worldwide professional contacts and unbounded enthusiasm to their new positions – a potent combination that is helping advance the university and its programs.

“Boise State’s growing reputation as a research university and the strength of its longtime faculty are attracting top applicants, many with impressive research credentials,” said Dr. Martin Schimpf, provost and vice president for academic affairs. At the same time, the university’s increasing stature is encouraging academically talented students from across the country to enroll, he noted.

“Together this increasingly talented faculty and student body are advancing the university’s research mission and overall excellence,” Schimpf said.

Boise State’s growing emphasis on doctoral education, the opportunity to build new programs, the university’s collaborative culture and Boise’s high quality of life were plusses new faculty also cited as contributing to their decisions to accept positions here.

Meet a few more of Boise State’s newest tenure-track faculty on the following pages.
MARK SIEMON
Nursing, Ph.D.

From a stint in the Peace Corps in West Africa to working for Central District Health in Idaho and helping to establish a locally administered health department for an American Indian tribal community in New Mexico, Siemon brings a wealth of experience to his new position.

He earned a bachelor’s degree in nursing at Boise State in 1993, worked in the field and then went on to earn two master’s degrees and a doctorate at the University of New Mexico. Siemon’s dissertation research looked at how nurses and community health workers work together as part of community health care teams.

“I’ve always been interested in public health because of its emphasis on primary prevention and population health,” Siemon said. His research focuses on understanding how to prevent chronic disease, especially obesity and diabetes, and how nurses can help communities change policies and local environments to increase healthy lifestyles.

“Childhood obesity isn’t a medical problem, it’s a social problem and a poverty problem,” said Siemon. “Understanding how to encourage healthy lifestyle choices, such as regular physical activity, is key to effectively addressing this issue.”

JESÚS TRESPALACIOS
Educational Technology, Ph.D.

Trespalacios’ research involves understanding how video games can be used to enhance learning. “This is my passion – to figure out how we can design educational environments using mini-games and multimedia animations that motivate and support students to understand and apply new concepts,” he said.

Inside an EdTech computer lab, Trespalacios demonstrates by clicking on a video game that features animated divers and pearls. The game is both action-filled and fun – yet it also is carefully structured to support student learning about basic number concepts.

One of five new tenure-track faculty in the Department of Educational Technology, Trespalacios earned his doctorate at Virginia Tech. His dissertation research involved designing and evaluating how different instructional activities involving virtual manipulatives helped students understand meanings related to rational numbers. He was a faculty member at New Mexico State University for several years before coming to Boise State.
As an undergraduate at the University of California, Los Angeles, Demps set her sights on becoming an astrophysicist. That changed after she took an introductory class in anthropology as a break from studying advanced calculus. “It really sparked my imagination to consider all things from an evolutionary context,” she said.

Demps, who earned a master’s and doctorate in anthropology from the University of California, Davis, is fascinated with how cultural knowledge, skills and values are passed from generation to generation and what causes them to change, and sometimes disappear, over time. Her dissertation research took her to southern India, where she studied the honey-gathering Jenu Kuruba tribe and the challenges this small-scale society is facing in preserving its unique knowledge and skills in the modern world.

At Boise State, Demps is continuing her studies in human behavioral ecology and cultural evolution, an area that involves extensive theoretical modeling that taps into her strong background in mathematics.

“I always wanted to be part of a university that emphasizes both research and teaching,” Demps said. “I believe that is one of Boise State’s strengths.”
Davis has worked around the world as a lighting designer for theater productions, including 10 years in New York City and on projects that took her to the Sydney Opera House in Australia and to the Thalia Theater in Hamburg, Germany. When a favorite New York-based director invited her to Boise to collaborate on a Boise Contemporary Theater premiere, her first reaction was surprise that the capital city of distant Idaho even had an arts scene. But after visiting Boise and its university, Davis was entranced. She decided that New York would always be an exciting place to work, but Boise would be home.

Davis uses light – its direction, quality, color and intensity – to create the composition that the audience sees on stage. Masterful lighting requires both artistry and technical skills. Davis, who has an MFA from New York University’s Tisch School of the Arts, has spent years honing both.

She shares her expertise with students in labs and classes, and serves as lighting designer and occasional scenic designer for university theater productions. Along with her colleagues, she also works on productions for the Idaho Shakespeare Festival, BCT and other groups. Davis continues to work as a freelance designer on a national and international scale, bringing her students with her on location whenever possible.

“I love seeing that ‘aha’ moment when my students understand something familiar, like light, in a completely new way,” she said.
MARC RUFFINENGO  
Criminal Justice, ABD

For Ruffinengo, joining the faculty felt like coming home. He earned a master’s in criminal justice from Boise State, then headed to Arizona State University for his doctoral studies in criminology and criminal justice. “I knew how great this place was, and I was happy to come back,” he said.

Ruffinengo’s research interests are in personnel decisions for policing, such as how educational levels and other qualifications of hired police impact overall performance. He also does work in criminological theory and serves as a manuscript reviewer for Police Quarterly.

At Boise State, he teaches classes that range from a 100-level Introduction to Police course to a graduate-level seminar on Law and Social Control. Ruffinengo taught a number of courses while a doctoral student at ASU, an experience that helped him develop his own approach and skills to working with a diverse range of students. “I’ve always had a fascination with criminal justice,” said Ruffinengo. “The way our society is changing means that old dogma about qualifications for police officers and strategies of policing must be re-evaluated.”

He currently is finishing his dissertation, which focuses on a statewide examination of police misconduct in all Arizona police departments.

ELENA SHERMAN  
Computer Science, Ph.D.

Sherman’s research focuses on software quality – developing techniques that help computer scientists determine how the software they build performs when it is executed. “Software needs to be as reliable as water and electricity, and people who develop it need the same level of accountability,” Sherman said. “That can be difficult because each software program is unique. Unlike building a bridge, there is no set of blueprints.”

Boise State’s vibrant research culture and the opportunity to be part of a young and growing department attracted Sherman to the university. She earned a master’s degree and doctorate in computer science from the University of Nebraska, and is among four new computer science faculty hired with funds from the statewide Idaho Global Entrepreneurial Mission, or IGEM, initiative approved by the Idaho Legislature.

A major strength of Boise State’s computer science program is its strong connections with the local high-tech sector, Sherman added. For example, in a senior design project class offered by the department, students are paired with industry mentors to develop software programs that address real issues. “It is uncommon for university researchers to collaborate with local software companies, but it is happening at Boise State,” she said. “This provides our students with a unique academic experience, helps educate and support industry and furthers our research programs.”

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Phetsy Williams is sitting on a gold mine, figuratively speaking.

The sophomore computer science major already has launched a successful business called Where2 Transportation, providing door-to-door service to those with limited transportation options, including seniors and busy young families. But how, she wondered, could she grow the business in ways she hadn’t considered?

“My analogy is gold mining,” she said. “Originally, as people mined, piles of dirt and debris built up in the corners. Many didn’t realize that they might have missed finding a huge chunk of gold.”

A pilot program at Boise State University called Venture College is providing Williams and a dozen other budding entrepreneurs with the tools they need to launch or improve their businesses and unearth the “gold chunks” they might otherwise overlook in the process.

Venture College connects members of Idaho’s business community with student entrepreneurs as they start their own businesses and nonprofits. The program is administered by the Division of Research and Economic Development.
Sophomore Phetsy Williams, left, discusses her business plan with Venture College director Kevin Learned during the college’s weekly meeting.
"When I started, I didn’t have a lot of tools," Williams said. "Now I have mentors who challenge me with new ideas and perspectives."

That mentoring already has led to a shift in her focus. Instead of looking primarily at service and pricing, Williams is now placing more emphasis on what she offers that companies like taxi services don’t, such as door-to-door rather than curb-to-curb service and personal relationships with repeat customers. And that’s already making a difference.

Business executives and entrepreneurs, called “angels,” guide students in identifying the strengths and weaknesses of their business plans, avoiding pitfalls and vying for limited start-up funding. Student participants come from disciplines across campus and from all walks of life. They range in age from 19 to 50-something and are sophomores, juniors, seniors and graduate students.

“There is no cookie cutter mold for successful entrepreneurship,” said Dr. Kevin Learned, program director and former business owner and president of Albertson College (now College of Idaho), noting that the only requirement to apply to Venture College is an entrepreneurial drive and a business idea.

ANGELS AND MENTORS
Nic Baughman’s business idea fed off his Bronco pride. What if, he thought, you could purchase a baseball cap that sported not just a single Bronco logo, but a variety of different images, depending on your mood — a blue Bronco on a white background, orange on blue, or even another team logo altogether for when the Broncos weren’t playing. Baughman, a graduate student in interdisciplinary studies, now hopes to have his fully customizable ball caps on the market in time for the fall 2014 football season. He credits a lot of that forward momentum to Venture College and the mentors it provides.

The program already has more than 200 angels on board who offer mentoring, lead weekly colloquiums and provide individual coaching, networking opportunities and other services – all on a volunteer basis.

“As a business leader and someone who is always looking to hire the best and brightest, I fully support Boise State’s Venture College,” said Joel
Hickman, former regional president for U.S. Bancorp and a Venture College angel. “This business partnership is the solution to fostering closer ties between universities and local business and industry.”

Students gain insights into the business world they likely would not get otherwise, noted Ed Zimmer, Venture College associate director and retired CEO of ECCO Group.

“Our students are starting to build a network and feel comfortable approaching people,” he said, “and businesses are engaging in the university in ways that tap into their talents and resources.”

Prior to joining ECCO, Zimmer was the Olympic coordinator of the U.S. gymnastics team and coached at the collegiate level. For a decade he has been a local soccer coach. “In my 24 years at ECCO, I felt the biggest value I was bringing was in a coaching role,” he said.

That same sentiment is part of why so many angels participate in the program, including Bill Drake, founder and chairman of DrakeCooper.

“How many of the angels are seniors, and the fulfillment we get now is passing on skills to a younger generation and seeing the light go on,” he said. “Working with young people with bright ideas, who are engaged, is exciting.”

“This isn’t about learning how to start a business, it’s about starting a business.”

— Dr. Kevin Learned
Venture College director
A RETURN ON INVESTMENT

Students don’t get college credit or a grade for the program. Instead, they earn a Venture College Badge, a relatively new way to measure achievement that is being implemented by many universities across the country.

“Our hypothesis is that we can find students so determined to start their own company that they will show up for a program designed to help them do that,” Learned said. “They will not show up for credit but because they want to do it, not learn how to do it.”

And because the program is not credit based, it is free to deviate somewhat from normal policies and procedures, meaning organizers have more flexibility to be creative in their approach. That flexibility has been key to getting the program off the ground.

“Boise State is uniquely qualified to challenge traditional strategies and pilot a new model for superior education,” said associate director Mary Andrews, who also heads the Office of University and Industry Ventures. “The university is an innovative, nimble enterprise and is committed to investment in education that is relevant to the economy.”

One key resource for the program is its prime location in the university-owned facility at the corner of Capitol Boulevard and Front Street. In the heart of downtown Boise’s BODO district, the space is close to a variety of businesses and offers neutral ground for students and angels to network. The urban working space also provides a place for entrepreneurs and mentors to meet weekly to exchange ideas, ask questions and share experiences.

“Some number of these students – 50 percent or 60 percent or more – will come out of this initial program with businesses,” Zimmer said. “We are laying the foundation to help them further those businesses once they are launched by providing the support that enables them to be successful.”

Zimmer noted that whether or not a student’s business idea is fully realized, the program is still beneficial in preparing participants for life in the business world.

“Many of our students will be more effective in their careers, whatever those may be, if they have a practical orientation,” Zimmer said. B
1  NIC BAUGHMAN, interdisciplinary studies, graduate student
   Vision: Customized headwear that lets consumers switch logos — not the hat — as often as they want.

2  KAYLA GRIFFIN, communication, junior
   Vision: A communications firm for small non-accredited animal shelters.

3  HANNALORE HEIN, history, graduate student
   Vision: A marketing and consulting firm to encourage historical tourism and other ventures.

4  ARIKA JONES, general business, junior
   Vision: A consultant-based fashion accessory company for women.

5  EVAN RESIMIUS, civil engineering, junior
   Vision: Design and build services for sustainable, organic-waste treatment systems.

6  WHITNEY HANSEN, business, graduate student
   Vision: A life-coaching business that provides 16- to 25-year-olds the basic tools for success.

7  MATTHEW BLACKBURN, computer science, senior
   Vision: A variety of useful and fun mobile apps.

8  DAVE SCHEMKER, mechanical engineering, junior
    PATRICK JOHNSTON, mechanical engineering, senior
   Vision: To use nonprofit Greenspeed Research Inc. to raise awareness of renewable energy sources and develop a facility to advance this technology.

9  PHETSY WILLIAMS, computer science, sophomore
   Vision: Where2 Transportation, a safe, reliable, reasonably-priced transportation service for seniors and others who cannot drive.

10  KELLI SOLL, public administration, graduate student
    Vision: To match students and professionals with service-learning opportunities in developing countries.

11  MARGI STROH, kinesiology, junior
    Vision: A program based on physical activity that helps people recover from alcohol and substance abuse and live a sober life.

12  JAMES PETZKE, economics, sophomore
    Vision: Create online publishing channels that use advanced search-engine optimization techniques and high-quality content to create value for users and advertisers.
“Transdisciplinary is being confident in what you know, aware of what you should know, and excited about what you don’t know. For example, although I’m formally trained as a materials scientist, I’m most at home at the intersection of science, engineering and art. While letting go of our identity is often scary, it’s intellectually liberating to explore who we can become.”

— Dr. Will Hughes
Engineer, Scientist, Artist
Dr. Will Hughes knows how to assemble nanoscale machines, networks and other structures out of strands of DNA by harnessing their unique properties to function as programmable building blocks. Working with Dr. Cheryl Jorcyk, a biologist, he hopes to turn these structures into inexpensive and portable tools for detecting lung cancer.

The pair’s work has them speaking a new language on the fringes of materials science, biology and computer science. They are among a new breed of scientist at Boise State University whose contributions transcend individual fields and surpass the traditional lines of cooperative research.

Dynamic and future-focused, this team approach is allowing Boise State to address some of society’s most vexing challenges.

“Local, regional and national issues that we all face are so diverse and so vast that no one discipline can take them on,” said Dr. Mark Rudin, vice president for research and economic development. “If we are going to solve today’s problems, we are going to have to go about it in ways that transcend old modes of thinking, our own disciplines and silos, and that aren’t bound by traditional structures.”
“Transdisciplinary research is about assembling our best talent to address difficult questions that a biologist alone or an engineer alone can’t answer,” Rudin continued. “They are going to have to partner with social scientists, and maybe even an artist.”

Tethering one discipline to another wasn’t difficult for Hughes to imagine. He began a lifelong love of sculpture as a kid, and what began as communicating function and form of sculpted objects grew into a desire to understand the structure, properties, processing and performance of the sculpted materials — materials science.

“From sculpting stone to synthesizing small ceramics at the nanoscale, I’ve always been interested in the interface of science, engineering and art,” he said.

He and Jorcyk connected in fall 2008, along with Dr. Jeunghoon Lee, a chemist, and Dr. Elton Graugnard and Dr. Bernard Yurke, both materials scientists. They started writing grant proposals together, and what began as learning about the needs of each discipline grew into opportunities at the interface between the disciplines.

“I saw it as a strength to become part of a team,” Jorcyk said. “The bottom line is it’s fun. There’s an excitement to it when you begin to see opportunities to apply your skill set and knowledge in ways that you hadn’t thought of individually.”

Because Jorcyk is a biologist and Hughes is an engineer, they quickly hit a “language barrier.” So Hughes completed two undergraduate biology courses at Boise State and three post-graduate biology courses at the National Institutes of Health.

“Will has totally immersed himself in biology,” Jorcyk said. “And I have learned a great deal about engineering. That’s what makes this work.”
Dr. Eric Lindquist hadn’t been on campus long when Hughes knocked on his door, a welcomed envoy. The prospect of doing research that crossed traditional academic boundaries is what brought Lindquist to Boise State in 2012 to direct the Public Policy Research Center.

“During the last decade, those who toil in the hard sciences have begun to realize that the implications of their work transcend the laboratory,” Lindquist said. “We also must evaluate how the tools they create will be received. There are always ethical, societal and even environmental implications with these kinds of innovations.”

For example, how will Jorcyk’s and Hughes’ diagnostic lung cancer device be perceived in the United States where users have ready access to medical information online? How about in rural Idaho where medical access is limited?

Funding agencies are now encouraging greater collaboration with the social sciences side of the equation, and that formula pays dividends for everyone, according to Lindquist.

Lindquist, Hughes and Dr. Wan Kuang, associate professor of electrical and computer engineering, recently were awarded a $1.5 million National Science Foundation grant to collaborate with Harvard University and Micron Technology on DNA nanotechnology research related to scalable nanomanufacturing. Hughes believes the public policy component was key to landing the project.

“If taxpayers are going to continue to support research, they must understand that it has a broader and more recognizable impact on their daily lives,” Lindquist said. “Public policy researchers understand that better than anybody.”

Boise State’s new doctoral program in public policy is transdisciplinary by nature, drawing in students with backgrounds in economics, accounting, geosciences and biology who want to work, perhaps, as environmental resources administrators. Transdisciplinary research also builds bridges between other university doctoral programs, such as those in public policy, materials science and engineering, and biomolecular sciences.

**THE KECK TEAM**

Dr. Will Hughes, associate professor of materials science and engineering and principal investigator, leads an interdisciplinary team at Boise State, along with as collaborators at the Boise Veterans Affairs Medical Center, St. Luke’s Mountain States Tumor and Medical Research Institute, Idaho IDeA Network of Biomedical Research Excellence and The Wistar Institute in Philadelphia. The team includes Dr. Bernard Yurke and Dr. Elton Graugnard, materials science and engineering; Dr. Cheryl Jorcyk, biology; and Dr. Jeunghoon Lee, chemistry.

The $1 million grant from the W.M. Keck Foundation supports development of an inexpensive and portable device that could provide early-stage cancer diagnosis through a simple blood test and lead to treatment of hundreds of diseases from cardiovascular to neurological.
Hughes and Lindquist would have found one another regardless of where their offices were located, but being near one another in the Environmental Research Building made it easy to connect. Home to five diverse academic departments, it is the first building on campus designed with transdisciplinary research in mind.

Boise State is committed to encouraging opportunities for faculty and students to reach out across disciplines, said Dr. Martin Schimpf, provost and vice president for academic affairs. “We are building our research culture fresh as our research grows,” he said. “We are used to being entrepreneurial and we are used to change.”

Some problems clearly can be solved within a single discipline, such as those that are solely chemistry or physics driven, for example. But federal agencies have become most interested in research proposals from multiple disciplines that get at today’s “grand challenge” questions.

“Experience has shown when we are able to view problems and develop answers from multiple perspectives we get a much more interesting and richer picture, as well as whole new bodies of knowledge we never even thought of,” said Dr. Sian Mooney, a program officer with the National Science Foundation’s EPSCoR office and a professor of economics at Boise State.

“Society is asking for a lot more accountability from its government agencies and its scientists,” she said. “If you can’t directly translate the work you’re doing into policy-making for people’s everyday lives then it’s really difficult sometimes to show how meaningful the work is.”

Transdisciplinary research also holds great potential for engaging students and meeting them where their unique interests and talents lie. Michael Tobiason is a third-year doctoral student in the materials science and engineering program who is part of a transdisciplinary research team.

“Understanding multiple subjects allows you to recognize what they have in common. If you can master science
at that level, you can succeed as a scientist in any field, even one you are unfamiliar with. Doing research in fields that are yet largely unexplored will give me an advantage,” he said.

**BRINGING IT TOGETHER**

Hughes is a member of the university’s interdisciplinary nano group that engineers biomolecular tools made from DNA. The group received the university’s first grant from the prestigious W.M. Keck Foundation, known for funding high-risk, high-return projects in science, engineering and medical research.

“Our vision is to fundamentally change early-stage disease diagnosis and treatment on a global scale,” Hughes said. “By using engineered biochemical tools, disease-specific markers could be identified through a portable DNA-based device that is analogous to a disposable pregnancy test. We believe the system could potentially become the gold standard in diagnosing diseases, especially where medical equipment and resources are scarce.”

The team is trying to create a device that relies on a series of components. Those components all work, but haven’t yet been brought together. It’s a lot like transdisciplinary research, where scientists, too, must find a way to cross over and work together.

“We are hitting our stride. We have trained and self-motivated students, infrastructure in place and are pulling together all of the pieces,” Hughes said. “Our team hopes to be one of Boise State’s great success stories.”

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**A Conversation with Dr. Greg Hill, chair of the Department of Public Policy and Administration**

**How is public policy work key to transdisciplinary research?**

By its nature, public policy transcends disciplinary boundaries. From the moment we wake up in the morning until the moment we go to bed, we are inundated with policy decisions. For example, the tailpipe emission from the cars we drive is regulated by the EPA, the roads we drive on are overseen by local, state and federal transportation agencies, the fuel we put into those cars is regulated in part by foreign policy, taxes and tariffs. Thus, experts in air quality, civil engineering and geosciences benefit from being able to translate their technical expertise into language that is transferable into public policy.

**Tell us about Boise State’s new doctoral program in public policy and administration.**

The new Ph.D. program, which began in fall 2013, prepares students for senior-level positions in public, nonprofit and international organizations or positions in an academic or research setting. The program’s focus on environmental policy and state and local government is designed to serve the practical needs of Idaho and the region. As the Western landscape faces the challenges of urban growth, climate change and energy issues, the Ph.D. will produce a new breed of practitioner in public engagement.

**How will this new doctoral program help drive transdisciplinary research efforts at Boise State?**

The policy analysis focus of the program fosters an environment where scholars and practitioners can come together on the myriad research projects occurring on campus. Again, nearly all aspects of research occurring on our campus will have an applied policy consequence, and the Ph.D. program is preparing students and faculty alike to address those issues.
It’s decision time for the small staff of Boise State’s highly regarded literary journal, *The Idaho Review*. Does the story before them make the cut or get tossed?

“Show of hands,” said Mitch Wieland, the journal’s founding editor and director of the Master of Fine Arts Program in Creative Writing. Seven arms rise for “no.” A single hand goes up for “yes.” “Protest vote,” the student concedes. The group moves on.

Gathered inside the aptly nicknamed “little red writing house” off University Drive, the eight students who comprise the MFA program’s fiction cohort have spent the past 30 minutes debating the story’s merits. Their conversation is lively, intellectual, at times intense. Everyone participates. Everyone is heard.

“We get 3,000 stories each year and we publish only 12 or 14. It’s very competitive,” Wieland said. That *The Idaho Review* has had multiple stories reprinted in top prize anthologies such as *The O. Henry Awards*, *The Best American Short Stories* and *New Stories from the South* attests to its quality and the rigor of its editorial process.

“We may be small, but we’re competing with huge magazines like *The New Yorker* and *The Atlantic Monthly* for selection to these anthologies,” Wieland said. “We have a good track record.”

**A Nationally Ranked Program**

The opportunity for students to edit and publish a major literary journal is

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michael wanzenried

M.A. Anthropology, University of Montana
Second-year MFA student, poetry

**ON TEACHING ASSISTANTSHIPS AWARDED TO ALL MFA STUDENTS:** “It’s great everyone is funded equally, it puts us on a level field. I’ve taught English Composition and also Introduction to Poetry. You don’t get that opportunity in a lot of MFA programs.”
among the notable features that have propelled Boise State’s MFA program to national stature.

With more than 300 MFA creative writing programs across the country, Boise State is ranked among the top 50 by Poets & Writers, the nation’s largest nonprofit for creative writers. Its award-winning faculty have produced works that have received international attention, including fiction published in more than 20 languages and named to “Top Book of the Year” lists. Students and graduates have won a National Endowment for the Arts fellowship, a National Magazine Award, a Whiting Award and been published by top presses.

The reasons behind the MFA program successes are manifold. It is small and highly selective, with close interaction between an impressive faculty and students enrolled in three-year fiction or poetry tracks. All students receive teaching fellowships, including the highly sought-after opportunity to teach creative writing. An MFA Reading Series brings internationally known poets and writers to campus each semester. Along with The Idaho Review, the program runs Ahsahta Press, which has published more than 100 volumes of poetry since 1974, is nationally recognized for the high quality of its list, and provides students opportunities for hands-on experience in the daily business of running a small press.

In addition, the Stephen R. Kus tra Endowed Fellowship for the MFA in Creative Writing was

erin rose belair
B.A. English, UC-Irvine
Stephen R. Kus tra Fellowship recipient
First-year MFA student, fiction

ABOUT REVIEWING MANUSCRIPTS SUBMITTED TO THE IDAHO REVIEW: “It’s amazing how much you learn about your own writing from reading other people’s work. You can see what works and what doesn’t. That’s very useful.”
established by President Bob and Kathy Kustra to honor the life of their son, an aspiring writer who died of cancer in 2009. It has played a significant role in enabling the program to enroll its top choices by providing funds for relocation and lodging during the student’s first semester.

A Record of Success

Tyler McMahon (MFA, ’07), whose second novel with St. Martin’s Press will be released in June, is among graduates who say their experience at Boise State was critical to their later success. His first novel, *How the Mistakes Were Made*, was conceived in a course taught by MFA faculty member Brady Udall, author of three critically acclaimed works of fiction, including the bestselling novels *The Secret Life of Edgar Mint* and *The Lonely Polygamist*.

“I wrote an outline and first chapter for an assignment, and a few years later, the book was published,” said McMahon, an associate professor of English at Hawaii Pacific University in Honolulu. “You can’t ask for more than that out of a writing program.”

Cynthia Hand (MFA, ’03) has gained a national following for her Young Adult trilogy *Unearthly*, published by HarperCollins, and has a new YA novel coming out in Winter 2015.

She teaches creative writing at Pepperdine University.

“I like to say to my students that the MFA at Boise State is hard core in a good way,” she said. “There is so much earnest seriousness given to the endeavor of learning to write. It was just what I needed and I got such a solid, well-rounded education.”

Alan Heathcock (MFA, ’04), award-winning author of *VOLT*, a collection of linked short stories named to many “best book” lists, credits the MFA program with giving him the time and space to become “the best possible version” of himself.

“I’ve been around a lot of writing programs, and not many of them manage to have the standards Boise State has for its writers, and even fewer programs encourage quality while also creating an environment where everybody roots for everybody else to succeed,” Heathcock said. “That makes Boise State both rare and really special.”

A Vital Community Partner

The connections between Boise State’s MFA program and the larger literary community run the gamut from writers

**katie fuller**

M.A. English, University of Maine  
Stephen R. Kustra Fellowship recipient  
First-year MFA student, poetry

ABOUT WHY FULLER, WHO IS FROM MAINE, LOVES BOISE:

“There is this sort of seamless integration between the community and the university, with lots of literary events on campus and around town. It’s just a great place to study and live.”
to readings to conferences. For instance, acclaimed fiction writer Anthony Doerr, who lives in Boise and whose four books have garnered a raft of awards, has taught as a visiting writer in the MFA program. The MFA Reading Series, open to the public, brings some of the nation’s most respected poets and fiction writers to campus for readings. Literary events in the Boise area are enriched by the presence and participation of MFA students and faculty.

In April, the MFA program will host a major conference on the influential poet Ezra Pound, with presentations from leading Pound scholars from Oxford University in England, Stanford University, the University of Pennsylvania and other institutions. Titled “Pound: ID,” an allusion to both Pound’s Idaho roots (he was born in Hailey) and his controversial politics (he was an ardent supporter of Hitler and Mussolini), the conference is free and open to the public.

Dr. Martin Corless-Smith, a professor in the MFA program and the author of five poetry collections, is organizing the conference. He sees it as another stellar opportunity to delve into subject matter of deep relevance for MFA students, while at the same time enriching the intellectual life of the university and larger community.

“Pound is vital, and in many ways the most important poet since Wordsworth,”

A University of STRENGTHS

“The MFA Program in Creative Writing has attained a level of excellence that places it among the university’s research strengths,” said Dr. Mark Rudin, vice president for research and economic development.

Creative activity is to the liberal arts and humanities what research is to the sciences and engineering, Rudin explained, and the program thus qualifies for the recognition.

Boise State’s research strengths also include Geosciences, Public Policy, Materials Science and Sensors. Additionally, the university has identified a number of emerging research strengths including Biomolecular Sciences, STEM Education, Computer Science, and Ecology and Evolutionary Processes.

Corless-Smith said.

As Boise State’s MFA program continues to make its mark, more conferences, readings, outreach and publications are on the horizon. From his teaching post in Hawaii, author and graduate Tyler McMahon continues to be impressed.

“I enrolled in the MFA program back in the pre-Fiesta Bowl era. I always felt like I was part of a new, underdog program,” McMahon said. “To see how it has grown – along with the campus, the department and Boise State’s national reputation – has been amazing to watch.”

ABOUT “WORKSHOP,” WHERE STUDENTS SUBMIT FICTION OR POETRY FOR A GROUP CRITIQUE: “It’s valuable, everyone brings forward their best work, and we hold each other accountable. It can be intense at times, but in a constructive way.”

scott anderson
M.A. Literature, New Mexico State University
Second-year MFA student, fiction
All the world’s a stage, and all the men and women merely players.

**De-moc-ra-cy:** A government in which the supreme power is vested in the people and exercised by them directly or indirectly. *(Merriam-Webster Dictionary)*

**Dig-i-tal hu-man-i-ties:** A democratic approach to making humanities research accessible to the public so they can investigate culture themselves. *(See above)*

Education is the most powerful weapon which you can use to change the world.
DIGITAL HUMANITIES
CONNECTING THE PAST TO THE PRESENT

By KATHLEEN TUCK

Once upon a time, scholars hunched over dusty tomes, carefully scanning each page in search of nuggets of truth or enlightenment to further their research. Today, they often can access that information just by tapping the screen of their iPad mini.

What’s even more exciting is that information once reserved solely for those with the proper credentials is now readily available to anyone—deliberately so. Information, museum exhibitions and debates centering on current events are just a click away.

“I think it’s important to interact with the public,” said Dr. Leslie Madsen-Brooks, an assistant professor of history who also is the university’s inaugural digital arts and humanities fellow for 2013-2014. “So much writing is done in a really opaque language for a very small audience. By contrast, the Web has a nearly infinite audience, and we need to share our work there in a way that is engaging and accessible."

As a fellow, Madsen-Brooks gets an office in the Ron and Linda Yanke Family Research Park, relief from teaching and service responsibilities and project funding.

Dr. Nick Miller, director of Boise State’s Arts and Humanities Institute and a history professor, noted that digital technologies are changing the way we “make history” in various ways. “Most importantly, I think, they make the way we conceive and present history more democratic, more public and more participatory,” he said.

Madsen-Brooks is committed to finding ways for the public to interact with online materials. To that end, she created the Boise Wiki, an online community site where ordinary people can record Boise’s history as they see it. Anyone registering for an account at localwiki.net/boise can contribute information about arts, culture,
“The Boise Wiki gives people a chance to participate in history, even if it is messy,” she said. “They can share their own experiences in their own words.”

Madsen-Brooks is quick to point out that while not all of the posted information may be accurate, due to its self-post nature, it does offer a place for people to tell their stories and share their experiences.

“While it’s possible to find factual information about Idaho history on Wikipedia or educational websites, there are fewer places to find out what Boiseans believe to be true about their city,” she said. Madsen-Brooks came to Boise State in 2010 with a broad background, including experience in museums, technology and cultural studies. That combination naturally led to an interest in making some of the artifacts in the Idaho State Historical Society’s collection available to a broader audience. This spring semester she is focusing on a project at the society’s Boise museum.

Working with Historical Society curatorial registrar Sarah Phillips, Madsen-Brooks is browsing through hundreds of medical artifacts to determine which objects in the collection might best illustrate how Idahoans have viewed health and wellness over the past 150 years. Because Idaho is experiencing a doctor shortage due to its geographical isolation, she feels the project will be especially relevant.

Madsen-Brooks is tasked with sorting through the artifacts and helping provide missing information regarding changes in medicine and medicinal uses of the pieces throughout Idaho’s history. Artifacts include a jug for irradiated water (thought to provide vigor and a healthy glow), nerve tonics, mortician’s cosmetics, dentures and surgical
instruments of all shapes and sizes. “By having her delve into the collection, we can see what we need to photograph, document or catalog,” Phillips said. “It’s a mutually beneficial project. We are able to talk about the transition of health care and we get a scholar to work with the collection and show us what we have.”

Like most museums, only about 10 percent of the historical society’s collection is on display at any given time. This project will allow previously unviewed items to be shared with the public – and that helps raise awareness and insight. “The past is nebulous,” Phillips said. “Objects make it more concrete.”

And the benefits aren’t limited to just those objects in storage. Items on display are often set behind a barrier or pane of glass, making it hard to get a good look. But pair that in-person encounter with information and a close-up view on a tablet, and the experience can become much more meaningful. “One of the key innovations of Leslie’s work is that it not only welcomes but prioritizes public contributions via multiple platforms – the Web and mobile devices,” Miller said. “Her project takes what would be a wonderful museum display and makes it a much more dynamic agent for understanding the past.”

Madsen-Brooks is a firm believer in the power of the Internet to connect learners with information. Working with fellow historian Dr. Lisa Brady, she crafted a project to bring digital humanities to students in the Master of Applied Historical Research program. All current students in that program are required to use an iPad, and lessons and assignments incorporate digital resources into the process. “The iPads are not great for creating projects, but they are good for consuming information, sharing that information, and participating in conversations around it,” Madsen-Brooks said. “Today’s students need to enter the workforce already tech savvy about using technology in these ways.”

There already are millions of primary and secondary sources available online – ranging from texts, artifacts and maps to video and audio files – and more are being added every day. The challenge then becomes how to make them more readily accessible and relevant, and how to engage the end user. The field of digital humanities has been hot for the past five to ten years, Madsen-Brooks said, and it doesn’t look like that will change soon. “Thirty years ago, it was all about digital computing. Where will it end up? That depends on the university and what investment it can make for faculty and student needs.”

**DIGITAL COLLECTIONS AT BOISE STATE**

Boise State’s Special Collections and Archives strives to make its collections available both in person and online. What to make available via the Web is determined primarily by what archivists know researchers will use, but selections also aim to highlight lesser-known collections. Once a collection is selected, a sample of materials is scanned as images or PDF documents, and metadata is added to enable searching. Making portions of collections available online allows for access to a wider audience and enables people from around the world to learn about the resources available at Boise State.

Recently added digital collections include: Pete Cenarrusa Collection, Boise Development Collection and Claudio Beagarie photographs of California farm workers. Other digital collections include more than 2,500 photos of historic Boise State, Frank and Bethine Church, Nell Shipman, Robert W. Limbert, the Western Writers Series and several university documents. To access Albertsons Library Special Collections, visit library.boisestate.edu/special
Our muscles work together to help us balance and walk. When disease or injury weakens or damages those muscles, our gait — or walking pattern — is thrown off. That often means limited mobility and less active lives.

For years, pediatric doctors at St. Luke’s Children’s Hospital in Boise had to send children with complex musculoskeletal problems such as cerebral palsy out of state for the best assessment of whether surgery or other treatments would lead to improved mobility.

A unique partnership between the hospital and Boise State University now allows local St. Luke’s pediatric physicians to use the advanced technologies at the university’s Center for Orthopaedic and Biomechanics Research motion analysis laboratory to assess young patients’ movement abilities and limitations.

About 40 motion analysis labs are sprinkled around the country, mostly associated with a medical school-affiliated hospital or a Shriners hospital. But no motion analysis lab existed in Idaho before the partnership.

**A VALUABLE COLLABORATION**

“St. Luke’s Health System is seeking innovative means to provide better treatment for complicated medical problems, and at a lower cost,” said Dr. W. Mark Roberts, medical director for research and medical education at St. Luke’s Health System.

“Our ability to accomplish these lofty goals greatly increases by partnering with an academic institution like Boise State, since basic science advances arising in engineering or the health sciences, for example, can be directly applied to the benefit of our patients and communities we serve,” Roberts said.

At the Center for Orthopaedic
and Biomechanics Research, or COBR, researchers study the mechanical and neuromuscular characteristics of human movement through basic science, engineering, clinical research and education. Over years of advanced research funded by the National Institutes of Health, the U.S. Army and the U.S. Department of Defense, expert faculty researchers have investigated body dynamics and functions of muscle, bone and ligaments.

“Researchers and doctors are addressing similar problems but we are looking at them from different perspectives,” said Dr. Eric Dugan, associate professor of kinesiology and COBR director. “Working together is making us all better at what we do.”

**TECHNOLOGY AND EXPERTISE**

An expert team of Boise State biomechanists uses high-speed, 3D motion analysis cameras, force platforms and electromyography to evaluate walking patterns of young patients. Based on that assessment, St. Luke’s physicians and physical therapists develop the most effective treatment plan for the patient.

This innovative academic and industry partnership means Idaho children get the most advanced diagnosis available close to home. It is the first partnership that brings hospital patients to the COBR lab, and one of the first that provides the Boise medical community with evidence-based outcomes programs for pediatric orthopedics.

“We are providing a service that may benefit these patients on a very personal level,” Dugan said. “But we also are building relationships in the Treasure Valley between academic researchers and doctors that may lead us to common lines of research. That ultimately will benefit patients, clinicians and faculty.”
For Jonathan Sadler, the line between his own artistic exploration and the expertise he brings to the classroom is fluid. Each endeavor informs the other.

An associate professor of photography in Boise State’s Department of Art, Sadler recently exhibited his work at the Chicago Museum of Contemporary Photography, the Gagosian Gallery in New York City and the Viewpoint Photographic Art Center in Sacramento. Since 2007, when he arrived in Boise from Chicago, he has taught all levels of photography at the university.

“One of the things I’m always coming back to in the classroom is the broad term ‘art,’” said Sadler. “A lot of people have a misconception that ‘art’ means a beautiful oil painting. But if you were to go to 20 exhibitions in New York galleries right now, you would probably see zero such paintings. Still, I do love a beautiful oil painting.”

Sadler wants his students to have a sense of artistic quality in photographs. “But I don’t want them to have this narrow idea that a good photograph has to fit certain criteria. A good photograph could be printed on a napkin,” he said.

His newest work is on the traditional side. Sadler spent his 2013 sabbatical at his cabin in the Sierra Nevada mountains. He shot landscapes, animals and still lifes on black-and-white film with large and medium format cameras.

That sabbatical work was a counterbalance of sorts to his approach in the classroom, where he continues to stretch boundaries. For instance, he charged his advanced photography students with the task of “outsourcing” a project. They had to come up with an idea, then have someone else bring it to life.

“Students have a tough time with this because they think the act of creating is the physical doing,” said Sadler.


“Various Fire No. 1” was exhibited at the Gagosian Gallery in New York City as part of a tribute to artist Ed Ruscha.
Landscape photography was among Sadler’s sabbatical pursuits. This photo is of Echo Lake in the Sierra Nevada mountains as night begins to fall.

The challenge produced intriguing results. One student hired a company to build the tiniest set of mini blinds possible.

In 2012, Sadler and his longtime collaborator Luke Batten, a professor at the University of Illinois, Urbana-Champaign, were part of the artist team behind “This is a Present from a Small Distant World,” a multi-media installation at the Scottsdale Museum of Contemporary Art in Arizona. Sadler described the exhibition as one of his and Batten’s most exciting. Like his classroom assignments, it went beyond expected ideas of what photography can be.

“Small Distant World” was a recreation of the Golden Record, the time capsule of Earth’s sights, sounds and symbols carried by Voyager missions into space in the late 1970s. Visitors got to step inside a “spaceship” containing light boxes, performances of music composed for the installation, and newspapers printed for the occasion. They contributed their messages for space travelers — lists of favorite music, of crops suitable for lunar planting, of items that would help an alien understand life on Earth: lady bugs, paintings by Degas, red velvet cake.

The installation included a collection of light boxes. Artists listed items they would take to space. Sadler’s contribution: “Chickens for eggs, eggs for chickens.”

“Jon’s answers were the most esoteric of all, a beautiful example of him thinking multidimensionally,” said Claire Carter, the museum’s assistant curator and part of the installation’s creative team. “He makes a place for other people to shine.”

Sadler continues to maintain a studio in Chicago with Batten, whom he has worked with for a decade. Their website, New Catalogue, plays on photographic companies that sell stock images for commercial purposes. In Sadler’s and Batten’s hands, the subject matter is familiar — roads, trees, astronomical happenings and students — but it takes on a provocative, often humorous character.

In addition to New Catalogue, the two, who are avid cyclists, created the website Tenspeed Hero. The site sells bike jerseys, T-shirts, water bottles, all in high-design, stylish colors. Someone recently suggested to Sadler that he had become a “sock baron.”

But there also are photo essays on the site about Sadler’s favorite cycling roads, about the art of shearing an alpaca, and about the road that snakes to Bogus Basin, complete with elegant black-and-white landscapes.

“With Tenspeed Hero, we can do our photography. There’s a freedom because it’s under the guise of fun. But there’s still artistry,” said Sadler.
SHEDDING LIGHT ON A DARK CHAPTER IN U.S. HISTORY

Surviving Minidoka, a collection of essays, ephemera, art and poetry, offers fascinating, if dark, imagery: Dorothea Lange’s photograph of Japanese-American children pledging allegiance inside a relocation camp; whites carrying signs that read, “Race Mixing is Communism”; a U.S. Army brochure titled, “How to Spot a Jap.”

Dr. Todd Shallat, director of the Center for Idaho History and Politics at Boise State, co-edited Surviving Minidoka with Dr. Russell M. Tremayne, a historian at the College of Southern Idaho. It is the latest offering from Boise State’s Publications Office, which produces popular scholarship about Idaho and the West.

The book tells a western tale that remains shadowy despite its magnitude — the largest forced relocation of citizens in U.S. history following Japan’s attack on Pearl Harbor. Minidoka, located on 33,000 acres of sagebrush near Twin Falls, Idaho, was among 10 relocation centers that held Americans of Japanese descent between 1942 and 1945.

Surviving Minidoka remains relevant in its warnings about the “war hysteria of military necessity” Shallat said, as it explores racism and the effects of relocation on three generations of Japanese Americans.

The book grew out of the College of Southern Idaho’s annual Civil Liberties Symposium. Tremayne proposed collecting symposium papers into an anthology. Shallat saw the opportunity to create a book rich with art by Minidoka residents and descendants, along with essays on topics like the Japanese American 442nd Regimental Combat Unit, and Idaho’s political climate during wartime.

Dr. Melissa Lavitt, former dean of the College of Social Sciences and Public Affairs, wrote the book’s foreword. Surviving Minidoka, she said, strengthens the bond between Boise State, CSI and others in a common desire to give a voice to Minidoka. To order the book online, go to sspa.boisestate.edu/publications.

- Anna Webb

CONDUCTOR STRIKES THE RIGHT NOTE

Musicians who have played under the baton of Professor Marcellus Brown share a common observation.

Brown, they say, has figured out how to achieve a difficult balance. He gets the best possible performances out of his players, while retaining both his warmth and grace.

Brown’s explanation is simple. He loves working with people.

“I’m trying to get to the place of doing high-quality work. For me, it’s worth all the effort,” he said.

Brown, a Detroit native, came to Boise State in 1989 as a professor and director of band organizations. He directs the Boise State University Symphonic Winds, a 60-member student group that has received national recognition for its excellence, including an invitation to perform at the 2015 conference of the American Bandmasters Association, the most prestigious professional band association in the United States.

Brown’s work in the community may be as notable as his work on campus.

Boise State partly sponsors the 80-member Treasure Valley Concert Band, a highly skilled community group that has performed at both national and international music conferences held in the Northwest.

“We have lawyers, homemakers, delivery people, teachers, insurance salesmen,” Brown said.

Kevin Hall, a bassoonist with the Treasure Valley Concert Band, is among musicians impressed both with Brown’s demeanor and
his musical knowledge. Brown is as comfortable with Beethoven as he is with Gershwin, said Hall, a former violinist with the Boston Symphony.

Under Brown’s direction, each concert includes a varied repertoire. He always includes a score from a movie or musical.

“Something that cuts across all lines,” he said. His programs also include challenging, contemporary pieces along with band standards, and, naturally, marches.

“I call them toe-tappers,” said Brown. He wants his programs to show audiences what a talented concert band can offer. Treasure Valley Concert Band can play like a symphony. It can play like a big band.

“But we have our own sound,” said Brown. The band has its own mission as well. It performs programs in local public schools, not only giving students the chance to hear a top ensemble, but to play alongside its members. Public school band directors also get a chance to direct the concert band.

“Marcellus’ arrival in the valley raised the bar for all local ensembles,” said Curt Griffiths, president of the Idaho Music Educators Association and head of the music department at Vallivue High School.

Griffiths praised Brown’s efforts to support the annual chamber music camp at Boise State. The camp offers training to young musicians, some of whom come from homes where paying for private lessons is difficult or even impossible.

Brown’s community outreach continues as one of the directors of the Hymns of Thanksgiving concert, an annual event featuring more than 300 musicians in the choir and orchestra. Brown has directed the all-volunteer orchestra for six years.

“If you’re going to live in a community, you need to contribute,” he said. - Anna Webb

Creative Activity Plays Vital Role In University’s Research Mission

As this issue of EXPLOR E makes clear, Boise State University is rocketing into a bright future on the strength of its artists and writers, as well as its scientists and engineers.

That’s no surprise. After all, scientific inquiry and creative endeavor are the twin engines of a vibrant research culture. Together, they provide the thrust for our university’s upward journey.

I hope you’ve enjoyed learning about some of the outstanding people, programs and partnerships at Boise State and about the scope of their contributions. I’m particularly impressed with the increasing overlap between those working in seemingly divergent fields, including our scientists whose research is informed by art, and our artists who bring a scientific precision to their work.

It’s a reminder that all knowledge is on a continuum, and that the lines between disciplines are, at best, blurred.

While it’s often said that research and creative activity are two sides of the same coin, I would take the analogy a step further. Research and creative activity are the same coin. Their value is conjoined and indistinguishable.

Our university, and our hopes for the future, are the better for it.

- DR. MARK RUDIN, VICE PRESIDENT FOR RESEARCH and ECONOMIC DEVELOPMENT
POWERED BY CREATIVITY AND INNOVATION
BOISE STATE PREPARES MORE THAN 20,000 STUDENTS each year to help lead the GLOBAL ECONOMY

BOISESTATE.EDU