

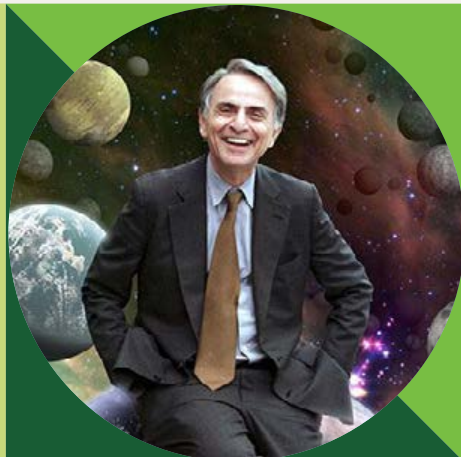
SYNAPSE

THE COLLEGE OF SCIENCE MAGAZINE
ANNUAL PUBLICATION 2025-2026



*“SOMEWHERE,
SOMETHING
INCREDIBLE IS
WAITING TO
BE KNOWN.”*

- CARL SAGAN



ADVANCING KNOWLEDGE, SHAPING COMMUNITIES

Success Stories From the College of Science

THE UVU College of Science empowers students to transform their passion for discovery into meaningful, high-impact careers. Many of our graduates go on to rewarding professional opportunities along Utah's thriving Wasatch Front, while others use their bachelor's degrees as launching pads to medical school, doctoral programs, and other advanced scientific training.

As Utah's biomedical, technology, energy, and life sciences sectors continue to grow, the demand for highly skilled scientists and innovators has never been greater. The College of Science is uniquely positioned to meet this need by preparing graduates who are both intellectually rigorous and workforce ready.

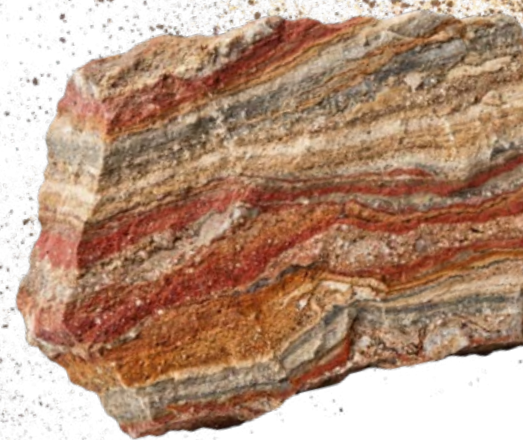
Our curriculum combines a strong foundation in scientific theory with hands-on, applied learning experiences that equip students to excel in cutting-edge industries and competitive graduate programs alike. Students graduate with the knowledge, technical expertise, and problem-solving skills employers and professional schools seek.

Beyond the classroom, students engage in experiential learning through faculty-mentored research. Each year, more than 400 College of Science students conduct original research, tackling real-world challenges and contributing new knowledge to their fields. Many present their discoveries at regional and national scientific conferences, and others publish their work in peer-reviewed journals—achievements that distinguish them as emerging leaders in science and innovation.

Through these experiences, UVU students are not only preparing for successful careers; they are helping shape the future of science, healthcare, technology, and energy in Utah and beyond.

Sincerely,

Dr. Daniel Horns
Dean, College of Science



IGNITING THE SPARK OF SCIENTIFIC PASSION

Our Dedication to Inspiring and Mentoring Future Scientists

AT THE College of Science, our mission is to build the scientific economy and promote scientific literacy in the Wasatch Front region and beyond. We are committed to empowering the next generation of scientists and providing them with knowledge, skills, and opportunities to succeed in scientific professions or pursue advanced studies. Through our academic degrees, certificates, and courses, we strive to create an innovative atmosphere that fosters personal and professional growth for our students, faculty, staff, and stakeholders.

At the heart of our mission is the development and delivery of high-quality courses and programs that enable students to excel in scientific fields. We believe in the power of engaging and inclusive teaching methodologies that stimulate learning and enhance knowledge retention. Beyond the classroom, we provide various engaged learning opportunities, such as faculty-mentored student research, internships, service learning, and extracurricular field experiences. These experiences complement our teaching efforts and ignite a passion for scientific inquiry and discovery.

Because student success is our primary goal, we encourage our faculty to engage in research activities. We prioritize faculty expertise and continuous growth. We encourage our faculty to engage in research activities to stay at the forefront of their

disciplines. Additionally, we provide training in effective teaching methods to ensure our students receive the best education possible. Effective advising is also a key aspect of our commitment to student success.

Our dedication to the next generation of scientists extends beyond our campus. We actively engage with the K-12 community and the public to promote science and science education. We aim to inspire young minds and cultivate interest in scientific exploration from an early age. By instilling a passion for science in the next generation, we contribute to a brighter and more scientifically literate future.

To ensure the sustainability of our mission, we cultivate understanding and support among our constituents. We establish strong partnerships with corporations, communities, and alumni and actively pursue and fund development initiatives. These resources are essential for us to continue providing exceptional educational experiences, fostering research opportunities, and expanding outreach efforts.

Together, we are shaping a future where scientific discovery and understanding thrive.



NURTURING STUDENT SUCCESS

How the College of Science Leads the Way

The College of Science takes great pride in promoting student success. We embrace our mission of providing holistic education and facilitating the attainment of terminal degrees and strive to create an environment where individuals thrive personally and professionally. Guided by our core values of exceptional care, exceptional accountability, and exceptional results, we are committed to supporting student success in diverse scientific disciplines.

EXCEPTIONAL

CARE

Exceptional care lies at the heart of our mission. We recognize that student success encompasses more than just academic achievements. That's why our faculty and staff go the extra mile to cultivate an inclusive and supportive community where students feel valued, respected, and inspired. Our academic advisors and mentors provide personalized guidance, fostering an environment of growth. We also offer opportunities for students to engage in research, internships, and hands-on experiences. Through exceptional care, we empower students to thrive in their scientific pursuits.

ACCOUNTABILITY

Accountability is a cornerstone of our approach to student success. We uphold rigorous academic standards and offer challenging programs that prepare students for the complexities of their scientific fields. Our curriculum emphasizes scientific inquiry, critical thinking, and problem-solving, instilling a sense of responsibility in our students. Our faculty members take pride in delivering high-quality instruction and mentoring, while students are encouraged to take ownership of their learning journeys. We strongly emphasize ethical conduct and foster integrity, equipping students to contribute responsibly and ethically to the scientific community.

RESULTS

We are dedicated to delivering exceptional results by producing graduates who are well-prepared to excel. Our comprehensive range of programs, such as biology, chemistry, physics, mathematics, and environmental science, combines rigorous coursework with hands-on experiences, research opportunities, and industry partnerships. Our laboratories, technologies, and collaborations with accomplished faculty ensure students receive top-tier educations. Through experiential learning and practical applications, we equip graduates with skills, knowledge, and critical thinking abilities to succeed in the scientific workforce or pursue advanced studies.



THE COLLEGE OF SCIENCE ENHANCES ADVISORY BOARD WITH FOUR NEW MEMBERS

Focusing on Industry Collaboration and Student Success

THE UVU College of Science proudly welcomes four distinguished professionals to its esteemed advisory board, marking a significant step toward fostering stronger relationships with scientific industries and agencies, and enhancing opportunities for student and stakeholder success. These individuals bring a wealth of experience and expertise to the table, spanning various sectors within the scientific community. Their addition to the advisory board aligns with the College of Science’s commitment to cultivating strong relationships with industry partners to create research opportunities for undergraduates and support the personal and professional development of students, faculty, staff, and other stakeholders.

“The appointment of Ruchika Joshi, Brad Graham, Sterling Cornaby, and Doreen Hamilton to our advisory board signifies a pivotal moment for the College of Science,” said Dr. Daniel Horns, dean of the College of Science at Utah Valley University. “Their service on the board will help the College of Science better serve the employment needs of Utah’s high-tech, life science, and defense and intelligence sectors.”

As members of the advisory board, Joshi, Graham, Cornaby, and Hamilton will collaborate closely with other board members **Andy Pierucci, Brad Graham, Carol Walker, Ashley Peay, Kade Hadley, Janae Moss, Clayton Price, Karen McCandless** and the college

leadership to identify opportunities for industry engagement, develop research programs that offer hands-on experience for undergraduate students, and provide mentorship and guidance to help individuals reach their full potential.

“We are dedicated to creating an environment where students, faculty, staff, and stakeholders can thrive,” added Horns. “With the support and insight of our advisory board members, we are confident in our ability to foster innovation, promote collaboration, and prepare our students to help build Utah’s scientific economy.”



**EDUCATION IS NOT THE FILLING OF A
PAIL, BUT THE LIGHTING OF A FIRE.”
– W.B. YEATS**

GUIDING YOUR PATH

Meet the Dedicated Advisors of
the College of Science

STARTING COLLEGE can be overwhelming, but fear not! The College of Science advising team are your dedicated partners during your time at UVU. We’ll help you choose classes, chart your degree, and guide you through your UVU adventure. Together, we’ll explore your academic pursuits, career goals, and personal aspirations. We’ll be by your side, providing support and resources as you thrive.

Welcome to UVU and the College of Science!

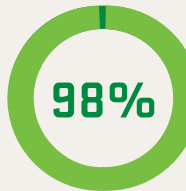


Advising home page



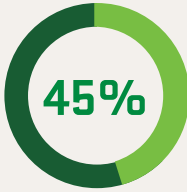
Bobby Hughes, Hunter Jaspersen, Katie Stevens, Kellie Lake, Kinzie Greer, Monica Ferreyra, and Sara McGriff.

COLLEGE OF SCIENCE STATISTICS



98% of our graduates rate their experience in the College of Science as excellent or good

UVU’s College of Science is a hub of scientific excellence, research opportunities, and academic support.



45% of College of Science alumni are pursuing graduate degrees within a year of graduating (this is the most of any college or school at UVU)

400+ students conduct faculty-mentored research in the College of Science each year

MOST COMMON MAJORS



BIOLOGY

EXERCISE
SCIENCE

MATHEMATICS

There are almost **3,000** students majoring in the sciences taught by **142** full-time faculty and assisted by **42** staff

Source: UVU Business Intelligence and Research Services



BIOLOGY

InnovaBIO: Research Based Internships

InnovaBio is a biotechnology contract research organization that offers flexible, industry-based research internships for science students. We collaborate with local life science companies on various research and development projects, which our interns execute in teams. These projects are conducted on-site at UVU Biotechnology labs, under the supervision of InnovaBio's scientific staff. Students gain valuable research experience and internship credit, giving them a competitive edge when seeking employment as research associates in biotechnology companies..

Diversity of Disciplines

The biology department offers a wide range of courses and programs. An A.S. or B.S. degree in biology provides flexibility through elective courses, while seven additional bachelor's degrees specialize in bioinformatics, biology education, biomedical science, biotechnology, botany, microbiology, molecular biosciences and biotechnology, and zoology. Minors in biology, horticulture, and zoology ensure options for all students.

Course-Based Undergraduate Research Experiences

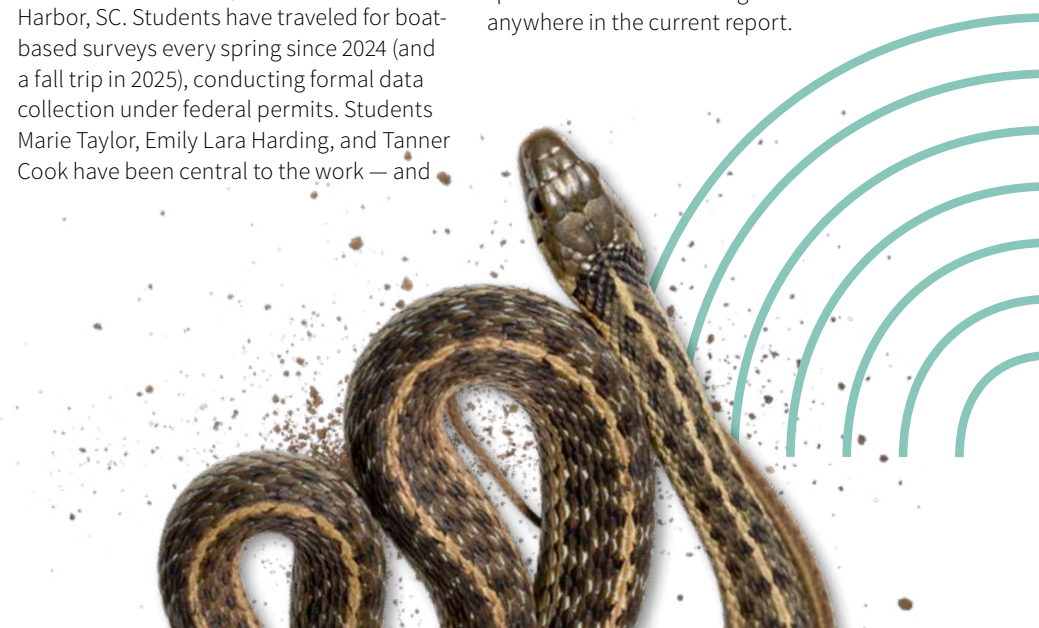
The biology department offers 10+ course-based undergraduate research experiences (CUREs), integrating hands-on research within courses. These experiences apply theoretical concepts to real-world problems, fostering scientific understanding, critical thinking, and problem-solving skills. CUREs cover disciplines like botany, microbiology, and genetics, inspiring future scientists and facilitating growth.

Jessica Cusick — her lab has been running a multi-year field research project documenting novel shipside feeding behavior in wild bottlenose dolphins at Charleston Harbor, SC. Students have traveled for boat-based surveys every spring since 2024 (and a fall trip in 2025), conducting formal data collection under federal permits. Students Marie Taylor, Emily Lara Harding, and Tanner Cook have been central to the work — and

this past July, Taylor and Harding presented the research at the Animal Behavior Society annual conference. It's a great example of students doing real, publishable science in the field, not just in a lab.

Micah Ross — she's the faculty lead behind the Operation Outbreak work already featured on pp. 26–27, but she's never named in that article. Worth correcting that, and adding that she was interviewed by TIME Magazine in December 2025 and is launching a new collaboration with the Corsi-Rosenthal Foundation.

UVU Biology's lab at the Living Planet Aquarium — we now have dedicated lab space in their new building. Not mentioned anywhere in the current report.



CHEMISTRY

Introducing the Chemistry Department

UVU's Department of Chemistry is a dynamic hub of scientific inquiry. The department is led by dedicated faculty and offers comprehensive programs to nurture the next generation of chemists. It provides a stimulating environment for students to explore the wonders of chemistry and build strong career foundations.

Academic Programs and Opportunities

The department offers a Bachelor of Science degree in chemistry with a rigorous curriculum covering organic, inorganic, physical, and analytical chemistry. Undergraduates can also participate in research alongside faculty members, gaining valuable hands-on experience.

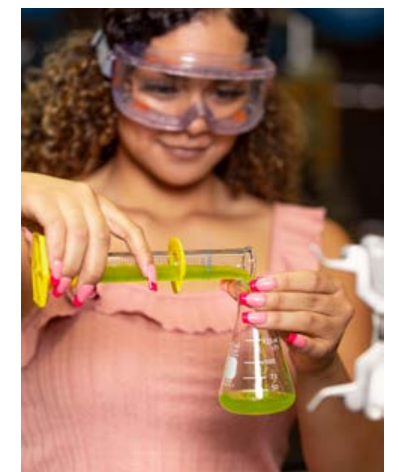
State-of-the-Art Facilities and Research

Students will find a rich learning environment with state-of-the-art facilities and well-equipped laboratories. From advanced instrumentation for spectroscopy and analysis to computational chemistry resources,

students have access to tools that foster exploration and discovery. Faculty members actively engage in diverse research areas, addressing critical challenges in materials chemistry, biochemistry, environmental chemistry, and drug discovery.

Community Engagement and Collaboration

The Department of Chemistry values community engagement and collaboration. Through partnerships with industries, government agencies, and research institutions, students and faculty participate in collaborative projects with real-world applications. The department organizes outreach programs, such as science fairs and workshops, to inspire and educate the wider community. These initiatives enhance learning experiences and contribute to scientific advancement in the region.





EARTH SCIENCE

Interdisciplinary Nature

The Department of Earth Science offers programs and courses that foster collaboration across scientific disciplines. Students can immerse themselves in curriculum offerings to address pressing environmental issues, climate change, natural resource management, geological hazards, and other challenges. This interdisciplinary focus equips graduates with skill sets applicable in diverse professional settings and future graduate studies.

Faculty Expertise and Research Opportunities

Our diverse faculty possess research backgrounds and expertise in many areas, including geology, hydrology, paleontology, petrology, environmental science and

management, climatology, geochemistry, geoscience education, geospatial analysis, and human geography. Students benefit from the wealth of knowledge and mentorship provided by faculty members and have ample opportunities to engage in impactful research projects.

High-Impact Practices

We strongly emphasize high-impact practices that offer transformative learning experiences, such as science excursion courses to Yellowstone, the Grand Canyon, and Capitol Reef, and study abroad programs in countries like Italy and India. These hands-on experiences expose students to natural environments and allow them to apply their theoretical knowledge in real-world settings, fostering practical skills and enriching their experiences.

Collaboration With Industry Partners

We maintain strong connections with industry partners, including mining companies, environmental consulting firms, and government agencies. Students gain opportunities to pursue internships, engage in research collaborations, and secure job placements upon graduation. By bridging the gap between academia and real-world applications, these collaborations enhance students' learning outcomes and strengthen their professional networks.



EXERCISE SCIENCE AND OUTDOOR RECREATION

The Department of Exercise Science and Outdoor Recreation is a thriving hub of knowledge and activity, equipping students with the skills and expertise to excel. With a commitment to hands-on learning and a passion for promoting health and wellness, this department offers a diverse range of programs and opportunities for students to explore and engage in their areas of interest.

Cutting-Edge Programs and Research

At the heart of the department is a collection of cutting-edge programs and research initiatives. Through rigorous coursework and practical experiences, students delve into the intricacies of exercise physiology, biomechanics, sports psychology, outdoor leadership, and more. The curriculum fosters critical thinking, problem-solving, and a deep understanding of the human body's response to physical activity. Under the guidance of experienced faculty, students can conduct groundbreaking research that advances knowledge in the field.

Experiential Learning and Field Opportunities

The department strongly believes in the value of experiential learning and provides numerous field opportunities to complement

classroom education. From outdoor expeditions and leadership training to internships with local sports teams, students gain hands-on experience that prepares them for their careers. These real-world experiences not only solidify classroom knowledge but also foster essential teamwork, communication, and problem-solving skills.

Career Paths and Alumni Success

Exercise science and outdoor recreation graduates have gone on to become exercise physiologists, personal trainers, outdoor adventure guides, sports coaches, and wellness program directors, among other career paths. The department's strong alumni network provides ongoing support and mentorship to current students, ensuring a seamless transition from the classroom to the professional world. By offering innovative programs, conducting groundbreaking research, providing experiential learning opportunities, and fostering a strong alumni network, the Department of Exercise Science and Outdoor Recreation inspires and educates the next generation of leaders.





PHYSICS

Unveiling the Secrets of the Universe

Physics, the study of the universe from the smallest particles to the vastness of space, is the foundation for all other sciences. In UVU's Department of Physics, this discipline is explored and applied to address pressing technological and environmental challenges. From nanotechnology to medical advancements and astronomical discoveries, the Department of Physics is at the forefront of scientific exploration and innovation.

Physics and Technology

Under the leadership of physicists Paul Weber and Daniel James, the department collaborates with the College of Engineering

and Technology to drive advancements in nanotechnology. Through the UVU nanotechnology program, students gain hands-on experience with equipment such as scanning electron microscopes and 3D laser microscopes. The program's integration of advanced virtual reality training ensures students are well-prepared to operate complex machinery in real-world settings.

Exploring the Cosmos With the Department of Physics

The department's engagement with the cosmos is equally remarkable. Joshua Lothringer and the astronomy group contribute to groundbreaking discoveries using space telescopes. Lothringer, as part of an international team, recently employed the new James Webb Space Telescope to detect elements like water and carbon dioxide in the atmospheres of exoplanets located hundreds of light years away. Physics students actively participate in astronomical research by accessing and analyzing data from the Hubble and James Webb Space Telescopes. Moreover, in collaboration with the city of Eagle Mountain, UVU is constructing a public observatory featuring a 20-inch professional telescope, expanding opportunities for astronomical exploration.

Nanotechnology and Medical Breakthroughs

the department demonstrates its commitment to improving lives through biomedical research. Faculty members Vern Hart, Dustin Shipp, Cyill Slezak, Vince Rossi, and York Young lead efforts by the UVU Biomedical Optics Research Group to develop instruments for detection and treatment of infections and disease, including cancers. Leveraging laser imaging and optical spectroscopy, UVU researchers explore ways to identify and study diseased cells and tissues, paving the way for novel medical interventions. **This work has recently led to three pending patents within the group—2 from the Hart Lab, 1 from the Rossi Lab.** In conjunction with the Smith College of Engineering and Technology, the UVU Biomedical Optics Research Group recently submitted a \$4.1M Biomedical Undergraduate Research Training grant proposal to the NIH to enhance and promote undergraduate training in the development of biomedical instrumentation and to establish UVU as the leading center for development of biomedical instrumentation and biomedical optics in Utah.

MATHEMATICS

The Department of Mathematics is a vibrant and dynamic academic unit dedicated to fostering a deep understanding and appreciation for the world of numbers, patterns, and logical reasoning. With a team of esteemed faculty members and a wide range of innovative courses, the department strives to empower students with the skills and knowledge to excel in various fields that require mathematical proficiency.

Academic Excellence and Research Opportunities

The Department of Mathematics prides itself on offering rigorous academic programs that cater to students of all levels and interests. From foundational courses in calculus and algebra to advanced topics like differential equations and mathematical modeling, students explore the vast landscape of mathematical concepts and applications. The department is committed to nurturing

a research-oriented environment, providing students with hands-on experiences in research projects, encouraging

collaboration, and offering opportunities to present their findings at regional and national conferences.

Engaging and Supportive Learning Environment

The department recognizes that mathematics can be perceived as a challenging subject for many students, so it places a strong emphasis on creating an engaging and supportive learning environment. The faculty members are dedicated to helping students succeed by offering regular office hours, one-on-one consultations, and mentoring programs. The department also organizes workshops, study groups, and tutoring services to ensure that students receive the necessary support to excel in their mathematical studies.

Industry Connections and Career Prospects

With its strong connections to industries and the local community, the Department of Mathematics strives to bridge the gap between academia and the real-world

application of mathematics. The department collaborates with various organizations to provide internships, cooperative education experiences, and networking opportunities for students. These connections, combined with the rigorous curricula, equip students with the skills and practical knowledge sought by employers in fields such as finance, data science, computer programming, and more.





IGNITING CURIOSITY

SCIENCE AMBASSADORS

The Impact of College of Science Ambassadors

IN THE vibrant halls of the College of Science, a cadre of exceptional students stand as shining examples of academic prowess and community dedication. These remarkable individuals are known as the Science Ambassadors. They go above and beyond in their quest to bridge the gap between academia and the wider community. With a spirit of unwavering dedication, they not only excel in their studies but also actively contribute to the enrichment of education

through their involvement in outreach events and college tours. One standout event that showcases their passion for spreading the wonders of science is Science Night at UVU. This flagship event, characterized by its high attendance and enthusiastic participation, owes much of its success to the diligent efforts of these ambassadors. Through captivating demonstrations, engaging presentations, and interactive exhibits, they bring the marvels of science to life, igniting curiosity and inspiring the next generation of scientists and innovators. The

impact of the Science Ambassadors reverberates throughout the organization and the community it serves. Their enthusiasm fosters a culture of inquiry, discovery, and inclusivity. By leading by example, they not only enhance the reputation of the College of Science but also ensure a brighter future for generations to come. Their dedication and passion remind us of the transformative power of education and the importance of giving back to the community.

“AS TORCHBEARERS OF THE COLLEGE OF SCIENCE, THESE AMBASSADORS PLAY A PIVOTAL ROLE IN NURTURING CONNECTIONS WITH THE COMMUNITY AND PROSPECTIVE STUDENTS.”

MATHEMATICAL & QUANTITATIVE REASONING

The Department of Mathematical and Quantitative Reasoning is a teaching-focused department. Our diverse group of faculty focuses on excellent teaching, and we emphasize continued growth and professional development of faculty. We research and assess best practices for teaching mathematics to ensure all students have meaningful classroom experiences.

We help our students move beyond our courses so that they can succeed in their academic careers and lives. Based on students' math abilities, we meet students where they are and find a place for them. To help students succeed, we developed co-requisite-style courses that accelerate the completion of quantitative literacy course requirements and provide support outside the classroom.

We work closely with the math lab to ensure tutors are trained and prepared to support students in their classes, and our unique Math Mentor Program directly supports students in the classroom. We also engage with the community through our summer math camp program, which encourages positive attitudes toward math among

students in grades 4-7. Research shows that students develop math attitudes during this timeframe, and by positively impacting those attitudes, we hope to help our campers succeed in math through high school and college.

Our peer mentor Math Mentor Program is staffed by students who once struggled with math and/or the transition to the college environment. The math mentors are assigned to specific sections and work closely with faculty to teach students mathematical and metacognition skills. This program has boosted success rates of students in mentored sections, especially for students of color and women.

The Department of Mathematical and Quantitative Reasoning is an innovative, student-centered program that improves mathematical proficiency and quantitative literacy. We enable students to successfully use mathematics in the pursuit of their educational, professional, civic, and personal goals.





“By using a completely independent method with the power of the James Webb Space Telescope, we’ve confirmed that the universe is expanding faster than our best theories say it should.”

A UVU PHYSICIST HELPS PUSH THE UNIVERSE’S BIGGEST DEBATE FORWARD

Professor Joseph B. Jensen is part of an international team using the James Webb Space Telescope to sharpen one of cosmology’s most important measurements — and raise new questions about how the universe works.

THE UNIVERSE may be holding back one of its biggest secrets — and a UVU professor is helping bring it into focus.

Joseph B. Jensen, Ph.D., professor of physics at UVU, is a leading author on a new international study that adds significant new evidence to one of modern astrophysics’ most closely watched puzzles: the “Hubble Tension,” or the growing disagreement over how fast the universe is expanding. The team’s findings suggest that the universe is expanding faster than the widely accepted standard cosmological model predicts, adding weight to the idea that scientists may be missing something fundamental in their understanding of the cosmos.

“This is a major step forward,” Jensen said. “By using a completely independent method with the power of the James Webb Space Telescope, we’ve confirmed that the universe is expanding faster than our best theories say it should. That means there’s likely something fundamental that we’re still missing in our understanding of the cosmos.”

For the last decade, astrophysicists have debated whether the mismatch in expansion rates comes from errors in how distances are measured across space or from shortcomings in the theories themselves. The new study

strengthens the case that the problem is not simply a measurement mistake.

Using ultra-precise data from NASA’s Hubble and James Webb Space Telescopes, along with the Dark Energy Camera mounted on the Víctor M. Blanco Telescope operated by NSF’s NOIRLab, the research team used an independent method for measuring galactic distances known as the Surface Brightness Fluctuation, or SBF, technique. That approach allowed the group to bypass more traditional methods and produce a refined measurement of the Hubble constant — the current rate of the universe’s expansion.



NASA BACKS UVU PHYSICIST’S SEARCH FOR ANSWERS NEAR A BLACK HOLE

With a new NASA grant, Assistant Professor Benjamin Coughenour is leading a high-energy astrophysics project that will study how black holes behave — while giving UVU students access to brand-new data from a premier space telescope.

SOME OF the most extreme environments in the universe are also the hardest to study. Black holes cannot be seen directly, yet the matter spiraling around them can shine brightly in X-rays, giving scientists rare clues about what is happening at the edge of the unknown.

At UVU, Assistant Professor of Physics Benjamin Coughenour, Ph.D., has earned new support from NASA to help decode that activity. Coughenour was awarded a \$72,953 grant through NASA’s NuSTAR Guest Observer Program to lead a project titled “Spin and Reflection in a Black Hole Transient.” Selected through NASA’s highly competitive NuSTAR Cycle 11 observing program, the award will support research into how black holes interact with matter pulled from a nearby star.

The project focuses on accretion, the process by which a black hole draws in material from a companion star. As that matter falls inward, it heats up and emits high-energy radiation that can be studied from space. By analyzing those signals, Coughenour aims to measure the spin of a new or relatively unknown black hole and examine the properties of the infalling matter and the environment around it.

“This award provides a remarkable opportunity for UVU students to engage directly in high-level astrophysics research using data from one of NASA’s premier X-ray observatories,” Coughenour said. “This project will give UVU students experience working directly with brand new, world-class scientific data before it goes out to the broader high-energy astrophysics community.”

That opportunity is made possible by NuSTAR, the Nuclear Spectroscopic Telescope Array, the first mission capable of imaging high-energy X-rays. Through its Guest Observer Program, NASA funds outside researchers whose work advances astrophysical science using NuSTAR data. For UVU, the grant represents more than a research milestone; it reflects how faculty scholarship creates meaningful hands-on opportunities for students and connects them to active scientific discovery.

That combination of scientific impact and student mentorship is what makes Coughenour’s work stand out, said Bonnie Andersen, Ph.D., chair of UVU’s Department of Physics. “Dr. Coughenour is exemplary and exceptional in his scholarly work,” Andersen said. “His work not only demonstrates how faculty at Utah Valley University are making scientifically significant discoveries, but more importantly, he mentors students who will become the next generation of researchers.”



This award provides a remarkable opportunity for UVU students to engage directly in high-level astrophysics research using data from one of NASA’s premier X-ray observatories.”

NASA’s award letter noted that Coughenour’s proposal was selected for funding following the agency’s Phase 2 cost evaluation process, underscoring both the competitiveness of the award and the strength of the project design. For Coughenour, the grant opens a window onto one of the universe’s most compelling mysteries. For UVU, it signals something equally important: Faculty research is reaching into the frontiers of modern science while bringing students with it.

HONORING SERVICE, LEADERSHIP, AND ADVOCACY IN TECH

Two UVU College of Science faculty members were recognized at the Women Tech Awards for their longtime support of SheTech and the Women Tech Council.

UVU COLLEGE of Science faculty members Bonnie Andersen and Violeta Vasilevska were recognized at the Women Tech Awards with “years of service” honors, celebrating their continued support of SheTech and the Women Tech Council.

The recognition places them among a group of women whose leadership is helping shape the future of technology, science, engineering, and math. Through their service and advocacy, Vasilevska and Andersen have helped strengthen pathways for young women



exploring STEM and supported efforts to build a more connected, inclusive technology community.

The Women Tech Awards celebrate women who are making meaningful contributions to growth and innovation across the tech economy. For UVU, the recognition highlights the important role College of Science faculty members play not only in the classroom, but also in mentoring students, championing opportunity, and helping inspire the next generation of innovators.



Recognition like this reflects the lasting impact of faculty who open doors for the next generation of women in STEM.



The more we understand this, the better we can help people plan and prepare.

FACULTY EXPERTISE ADDS CONTEXT TO RESEARCH ON HUMAN ENDURANCE

College of Science faculty member Andrew Creer helped explain new findings on the metabolic limits of ultra-endurance athletes.

WHEN NEW research in Current Biology explored the upper limits of human energy expenditure, UVU College of Science faculty member Andrew Creer brought expert perspective to the conversation.

Creer, a professor in the Department of Exercise Science and Outdoor Recreation, was quoted on the study’s findings, which suggest that even elite ultra-endurance athletes eventually reach a metabolic ceiling over the long term. While athletes may sustain astonishing levels of effort for short periods, the research found that energy expenditure tends to level off at around two

and a half times the body’s basal metabolic rate.

For Creer, the findings highlight the value of understanding how the body performs under extreme conditions. “The more we understand this, the better we can help people plan and prepare,” he said.

His contribution reflects the important role College of Science faculty members play in connecting scientific research to real-world performance, health, and training.

WHEN THE OUTBREAK IS A GAME — AND THE LESSONS ARE REAL

Through Operation Outbreak, UVU students are stepping into the roles of researchers, health workers, and decision-makers, gaining hands-on experience in public health through a simulation featured in Time magazine.

ON THE SURFACE, it looked a little like a costume party.

At a UVU simulation event, some students wore lab coats. Others took on the roles of government officials, journalists, store clerks, or healthcare workers. They moved through the room in groups, answering questions, gathering supplies, and trying to make sense of a fast-moving disease outbreak spreading from phone to phone through an app.

Then the shouting started.

“Oh no! I’m infected!”

What unfolded was Operation Outbreak, an immersive disease simulation that uses Bluetooth technology to model how an infectious illness can spread through a community. The experience was realistic enough to be featured in Time magazine — and for UVU students, it became a hands-on lesson in science, decision-making, and the human behavior that can shape a public health crisis.

Department of Biology faculty members Micah Ross and Heather Wilson-Ashworth have helped create these kinds of high-impact learning experiences for students, using Operation Outbreak as a tool for both education and research. At UVU, the simulation moves students beyond textbook learning and into the uncertainty of a live scenario, where science, communication, and community response collide.

About 30 college students joined roughly 70 high school students in one Utah simulation highlighted by Time. Participants were assigned roles across a mock community. Some served as biomedical researchers charged with identifying the pathogen. Others worked in public health, media, or government. Many played members of the public, grouped into “families” that had to make choices about food, safety, masks, vaccines, and treatment as the outbreak unfolded around them.

“I thought it’d be just a little school activity, but it was realistic,” participant Kenadi Burlingame told Time. “It made me feel sympathetic for people during COVID.” That kind of response is what makes the experience so valuable. Students do not just learn the science of outbreaks — they confront the confusion, misinformation, urgency, and competing priorities that come with them.

Ross has organized several Operation Outbreak simulations since 2020, both in high schools and at UVU. She sees the experience as a way to build scientific literacy for younger students and as a meaningful research opportunity for college students. She co-leads a research group at UVU and teaches a class in which students use Operation Outbreak to collect and analyze novel data, including whether demographic factors influence decision-making in Utah simulations. The work may help inform public health policy while giving students firsthand experience with applied research.

The simulation featured in Time also showed what students are capable of under pressure. Ross noted that students handled the outbreak well: Biomedical researchers identified the pathogen — influenza — in just 40 minutes, and once a vaccine became available, most participants chose to be immunized, slowing the spread of disease.

“It also helps students become a little more confident in their ability to relate to what’s happening in the world and say, ‘Hey, I’ve been in that position,’ even if only for an hour,” Ross said.

That is the power of student success at UVU: not simply learning about the next challenge, but practicing how to meet it. Through faculty mentorship, research, and experiences that mirror the complexity of real life, students are gaining the tools to think critically, respond thoughtfully, and lead when it matters most.



IT ALSO HELPS STUDENTS BECOME A LITTLE MORE CONFIDENT IN THEIR ABILITY TO RELATE TO WHAT’S HAPPENING IN THE WORLD AND SAY, ‘HEY, I’VE BEEN IN THAT POSITION,’ EVEN IF ONLY FOR AN HOUR.”



CELEBRATING EXCELLENCE ACROSS THE COLLEGE OF SCIENCE

The 2025-2026 Dean's Distinguished Awards honor faculty and staff whose teaching, scholarship, service, advising, and daily support strengthen the College of Science in lasting ways.

The 2025-2026 Dean's Distinguished Awards recognize six College of Science employees whose work has made a meaningful difference for students, colleagues, and the broader campus community.

Kathryn Dispennette from the Department of Exercise Science and Outdoor Recreation received the Dean's Distinguished Faculty Teaching Award for creating courses centered on empowerment, engagement, and real-world learning. One student wrote, "Kat was the main reason this class has been my favorite I have ever taken in my college experience."

The Dean's Distinguished Faculty Scholarship Award went to Nicolas Barcellos Dias Clark, also from the Department of Exercise Science and Outdoor Recreation, whose students gain hands-on experience through exercise testing and prescription work connected to the "Exercise is the Best Prescription" program and the Bingham Family Clinic. His impact has also been recognized by UVU Athletics, which named him MVP Professor in consecutive years.

Roxanne Brinkerhoff of the Department of Mathematical and Quantitative Reasoning received the Dean's Distinguished Faculty Service Award for a record of sustained service, including leadership on curriculum development, open educational resources,

faculty evaluation, and broader campus initiatives such as UVU Math Adventure Camp.

Kellie Hancock from the Department of Chemistry earned the Dean's Distinguished Staff Award for the skill, positivity, and generosity she brings to her role. Though based in the chemistry department, her support has extended to the earth science and physics departments, making her a trusted resource across departments.

Brittany Bugg from the Department of Biology received the Dean's Distinguished Adjunct Teaching Award for going above and beyond in BIOL 1615, bringing animals such as owls and falcons into class and creating tutorial videos to help students succeed.

Kinzie Greer, serving the biology and earth science departments, was honored with the Dean's Advisor Recognition Award for her professionalism, accessibility, and genuine care for students. Her advising has helped students feel supported, confident, and welcome as they navigate their academic paths.

Together, these honorees reflect the many ways excellence takes shape in the College of Science — through inspired teaching, dedicated service, innovative scholarship, and a deep commitment to student success.



KATHRYN DISPENNETTE
Assistant Professor
Exercise Science



NIC CLARK
Assistant Professor
Exercise Science and Outdoor Recreation



ROXANNE BRINKERHOFF
Professor
Mathematical and Quantitative Reasoning



KELLIE D. HANCOCK
Administrative Support III
Chemistry



BRITTANY L. BUGG
Adjunct Instructor
Biology



KINZIE GREER
Academic Advisor II
Biology and Earth Science



CELEBRATING STUDENT EXCELLENCE

Outstanding graduates from the College of Science exemplify UVU's mission of academic achievement, research, and real-world impact.

Each year, the UVU College of Science honors a select group of graduating seniors whose academic success, research contributions, and leadership set them apart. This year's Outstanding Student Award recipients represent a wide range of disciplines, including bioinformatics, biotechnology, environmental science, physics, chemistry, mathematics, and computer science, but they share a common drive to learn, contribute, and make a difference.

These students have already built impressive records of achievement. They have presented at conferences, published research, completed

competitive internships, mentored fellow students, and contributed meaningfully within their departments. Their work reflects not only academic talent, but also a willingness to ask hard questions, pursue new ideas, and apply science in ways that matter. Together, they reflect the strength of the College of Science and the many pathways available to students who combine curiosity with dedication.



ASHLEY WILCOX
Statistics and Dance



BAILEY JANNUZZI
Bioinformatics



BRYNNA JARRETT
Geology and Psychology



CAITLIN LOUISE WEST
Chemistry



CYRUS NIELSEN
Biology



MARIE TAYLOR
Zoology



DALLIN ISOM
Mathematics



ELIESE HOHMANN
Exercise Science and Outdoor Recreation



INDIANA JAYNES
Exercise Science and Outdoor Recreation



JASLEEN KAUR
Physics



KAYA FRAZIER
Geography



BENJAMIN HOLT
Physics



DEVAN BENNETT
Exercise Science and Outdoor Recreation



CHARLIE CUNNINGHAM
English for Secondary Education



LAUREN SMITH
Mathematics



MELANIE ROBE
Exercise Science and Outdoor Recreation



STONE SMITH
Chemistry

THE ROAD TO WHITE COAT

A practical guide for UVU science students preparing for medical school — one step, one year, and one experience at a time.

For many students, the path to medical school can feel overwhelming at first. There are classes to manage, exams to prepare for, experiences to build, and long-term goals that can seem far away. But preparing for medicine is not about having every detail figured out from day one. It is about direction, consistency, and taking thoughtful steps over time.

This checklist offers a simple framework for UVU science students who are exploring the pre-med path. There is no single “right” timeline, and no two student journeys will look exactly the same. What matters most is building a strong academic foundation, seeking meaningful experiences, and staying focused on steady progress rather than perfection.



High Priority

Across every stage of the journey, students should keep several big-picture priorities in mind:

- ❑ High science GPA
- ❑ Strong clinical hours (200+)
- ❑ Research hours (100+)
- ❑ Shadowing hours (50+)
- ❑ Volunteering hours (100+)
- ❑ Leadership experience

Together, these areas help create a well-rounded application and show a student’s readiness for the academic and human side of medicine.

First Year

The first year is the time to establish strong habits and begin building a foundation.

- ❑ Focus on maintaining a high GPA
- ❑ Learn how you study well
- ❑ Get involved and build community
- ❑ Shadow physicians

This stage is less about doing everything at once and more about learning how to succeed in college while beginning to explore the profession.

Medical school preparation does not require perfection. It requires intentional effort, smart planning, and a willingness to keep moving forward. For UVU science students, the goal is not to compare timelines, but to build a path that is purposeful, realistic, and rooted in consistent progress.

Second Year

By the second year, students can begin adding more hands-on experiences and professional preparation.

- ❑ Begin research
- ❑ Get clinical hours
- ❑ Develop relationships for letters of recommendation
- ❑ Take leadership opportunities

These experiences help students grow beyond the classroom and begin building the relationships and experiences that will strengthen future applications.

Third Year

The third year is often when preparation becomes more focused and strategic.

- ❑ Study for the MCAT
- ❑ Plan out your personal statement
- ❑ Get more clinical hours
- ❑ Continue research
- ❑ Get letters of recommendation

At this point, students are shaping not only their credentials, but also the story of why they want to pursue medicine and what they have done to prepare.

Fourth Year

The final stage is about completing the application process and finishing strong.

- ❑ Take the MCAT (summer before)
- ❑ Apply to medical school
- ❑ Finish strong and graduate

This year can feel intense, but it also reflects years of preparation and persistence.

Fourth Year

Students can strengthen their path by avoiding a few common pitfalls:

- ❑ Not building a well-rounded application
- ❑ Waiting too long to start
- ❑ Chasing titles instead of impact

The strongest applications are often built through meaningful, sustained involvement rather than checking boxes. A title may stand out on paper, but authentic commitment, service, and growth tend to matter more.

FROM UVU TRACK TO THE OLYMPIC ICE

Exercise science graduate Caleb Furnell thought his competitive career had ended in 2024. Two years later, he was representing Team USA in the 2026 Milan Cortina Games.

WHEN CALEB FURNELL graduated from UVU in 2024, he believed his days of elite competition were behind him. He had earned his bachelor’s degree in exercise science, completed a standout track and field career, and started thinking about what came next. “I was happily retired from the sport,” Furnell said. “I thought my athletic career was over.”

Instead, a new path opened — one that took him from the track in Orem to the ice in Italy.

In February 2026, Furnell competed as a push athlete and brakeman on one of the United States’ four-man bobsled teams at the Milan Cortina Winter Olympics. Racing alongside pilot Kris Horn and push athletes Carsten Vissering and Hunter Powell, Furnell reached one of the world’s biggest stages in a sport he had not expected to pursue.

A native of Lee’s Summit, Missouri, Furnell was a gifted athlete before arriving at UVU. In high school, he set a state record in the high jump as a sophomore, but after breaking his leg during his junior year, he could no longer compete at the same level. “I had to switch, so I started sprinting,” Furnell said. “Sprinting got me onto a college team.”

At UVU, Furnell joined the Wolverines as a walk-on and built an impressive sprinting career while majoring in exercise science. He finished with three of the top times in school history in the indoor and outdoor 200-meter race and the 4-by-100 relay. In 2024, he helped the Wolverines win the Western Athletic Conference championship in the 4-by-100 relay and qualify for the NCAA

Regionals, while earning first-team All-WAC honors in both the 100-meter and 200-meter events.

Even so, injuries and setbacks made an Olympic future in track increasingly unlikely. Then, in fall 2024, a friend invited him to a bobsled and skeleton combine in Utah. Furnell embraced the challenge, giving himself less than a year to reshape his body for the sport. “OK, I’ve got 45 weeks till next



“I THOUGHT MY ATHLETIC CAREER WAS OVER.”

season to completely change my body, essentially, to fit this sport better,” he said. “And so that’s what I did.”

The transition paid off quickly. After rookie camp, Furnell was invited to the USA National Push Championships in Lake Placid, New York, in September 2025. He was then named one of 12 push athletes on the World Cup teams, and by November he and his team were competing across Europe.

For UVU, Furnell’s story is about more than reaching the Olympics. It is a story of resilience, adaptability, and possibility. As

his mother, Margene Furnell, reflected, “Where you think that there are dead ends, the Lord turned them into a different path.”

That path led from Missouri to Orem, from sprint spikes to a sled, and from college graduation to the Olympic Village. “As a little kid, I wanted to be an athlete,” Furnell said. “I thought it was soccer, then it was track, and I guess it’s now bobsled.”

PLANTING A GREENER FUTURE IN UTAH CITY

A partnership between Utah City and a UVU conservation biology class is helping shape sustainable green spaces in a fast-growing Utah County development.

AS UTAH City marked Arbor Day by planting 1,000 trees, UVU was part of the vision taking root.

Through a partnership with a UVU conservation biology class, the development selected native plant palettes for its green spaces, drawing from ecosystems such as alpine, foothill, and riparian lake habitats. The effort is part of Utah City's broader "Greening of Utah City" initiative, which aims to create a walkable, transit-oriented community that balances development with long-term environmental health.

Ashley Egan, a UVU biology professor, said the project gave students a chance to contribute in a meaningful way to a real community initiative. The landscaping is designed to provide shade, promote biodiversity, support pollinators, and strengthen climate resilience, showing how classroom learning can help shape the future of a growing city.

"TO HAVE CONTRIBUTED TO THIS EFFORT THROUGH COMMUNITY-ENGAGED LEARNING AND PARTNERSHIPS HAS BEEN VERY EXCITING FOR ME AND MY STUDENTS."



SHARING SCIENCE THAT HELPS ATHLETES STAY SAFE IN THE HEAT

Through a recent podcast appearance, UVU faculty member Melani Kelly brought research-based insight on heat illness, hydration, and performance to a broader audience.

WHEN ATHLETES train and compete in the heat, preparation can be the difference between performance and danger. In episode #164 of a science-focused podcast, UVU Assistant Professor Melani Kelly shared practical, research-based guidance on exertional heat illness and athlete safety.

Kelly, who teaches in UVU's Department of Exercise Science and Outdoor Recreation, discussed the differences between heat exhaustion, heat injury, and heat stroke, along with the roles hydration and nutrition play in prevention. She also explained how certain medications can increase the risk of exertional heat illness and alter the body's normal physiological responses.

The conversation highlighted Kelly's public-facing impact as both an educator and researcher. Her current work focuses on identifying heat illness risk factors and assessing kidney damage in 100-mile ultramarathon runners, helping bring important science from the lab and classroom into the wider community.

"Good science can help athletes prepare smarter, perform better, and reduce risk in extreme conditions."

HIDDEN WATER CRISIS: FROM UTAH TO PERU

A faculty-led effort tied to UVU's UNESCO Chair is helping communities in Peru identify dangerous contaminants in their water — and building the partnerships needed to respond.

IN A HOTEL room near Lima, Peru, Lauren Brooks, Ph.D., turned a shower into a laboratory.

Working late into the night, the UVU biologist used buckets, sterilization tablets, and the limited tools she had on hand to process water samples collected earlier that day. What she found was deeply troubling: Even after repeated sanitation efforts, the water she was using to clean her instruments still tested positive for human fecal contamination.

"That moment answered the question driving the work," Brooks said. "Even after rigorous sanitation, the water was still unsafe. And this is water people are using to cook, clean, and drink every day."

The discovery reflects the urgency behind a major water-testing initiative now underway in Peru, led by UVU faculty as part of UVU's recently awarded UNESCO Chair. The project brings together scientists, students, university leaders, and public officials to investigate contamination in vulnerable communities and provide data local leaders can use to pursue change.

The effort began in 2024, when Baldomero Lago, Ph.D., UVU's chief international officer and head of the university's UNESCO Chair, met with Peruvian congressional leaders visiting Utah. After discussing UVU's work on Utah Lake, including research on pollution and water sustainability, the conversation expanded through the support of Lida Asensios Trujillo, president of the Asociación de Universidades del Perú. Soon, leaders from multiple Peruvian universities joined the effort, representing regions including Chimbote, Trujillo, Chosica, and Puno, near Lake Titicaca.

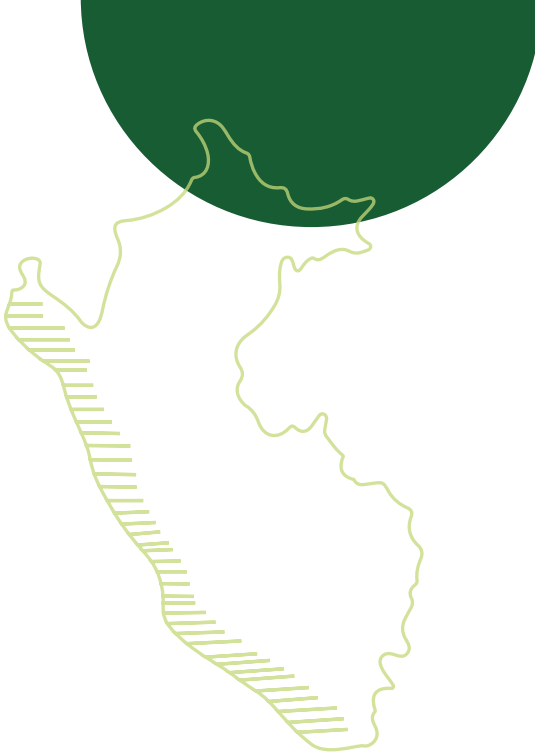
An interdisciplinary team from UVU's College of Science volunteered time and expertise for the study. Brooks is examining microbial contamination, including bacteria and fecal matter. Sally Rocks, Ph.D., is studying microplastics in water and fish, while Eddy Cadet, Ph.D., is testing for trace metals such as arsenic. "Most microplastics are invisible to the

naked eye but may carry significant health risks," Rocks said. "Our goal is to identify contamination points, raise awareness, and lay the foundation for policy change."

By March 2025, UVU and Peruvian faculty members had collected 120 water samples across five municipalities from rivers, lakes, streams, wells, and household taps. Each sample requires roughly 10 hours of analysis, work now being supported by UVU students back in Utah. "We want students involved, because this is real life," Lago said. "At UVU, we call it engaged learning."

Early findings are sobering. Researchers have identified widespread signs of arsenic, bacteria, microplastics, and other pollutants in water used every day for bathing, cooking, and drinking. In some communities, school leaders report that many students regularly suffer digestive illness.

For UVU, the project reflects how scientific expertise can extend beyond campus and into communities where the stakes are immediate and deeply human. In Peru, the work is still unfolding, but UVU researchers are helping make the invisible visible, turning contamination into data, concern into action, and academic partnership into meaningful community impact.



And this is water people are using to cook, clean, and drink every day."





STUDYING SERVICE, STRENGTHENING COMMUNITY

As a UVU science student and Center for Social Impact Student Fellow, Nayeli Pelcastre is exploring how thoughtful volunteer work can reduce loneliness, build inclusion, and create meaningful change.

AT AN ALL-ABILITIES prom organized by Sammy's Buddy Program and Life Skills Academy, Nayeli Pelcastre spent part of the evening holding the door as guests arrived.

A red carpet led to the entrance, and attendees came in smiling, excited for a night designed to celebrate them. For Pelcastre, a UVU science student and Student Fellow with the UVU Center for Social Impact, the experience underscored the power of spaces where people feel included, acknowledged, and fully themselves.



MEANINGFUL IMPACT COMES FROM THOUGHTFUL ACTION."

That moment became part of a larger question she has been exploring: What role can direct service play in addressing loneliness, disconnection, and exclusion? In a March 2026 report, Pelcastre examined volunteering as a response to what public health leaders have increasingly described as a growing loneliness epidemic. Drawing on firsthand experience, survey data, interviews, and research, she found that service is most effective when it is intentional, informed, and centered on the actual needs of the people being served.

Her findings showed that volunteering is not as simple as "showing up to help." Training, time, safety, liability, and trust all shape whether volunteer work truly supports an organization or adds to its burden. That insight was reinforced in her interview with Abass Sesay, a volunteer involved with

Sammy's Buddy Program, who described meaningful service as something rooted in patience, friendship, and presence. Even something as small as spending one-on-one time with students can matter, he said, because "we all need friends."

Pelcastre's work also drew from an earlier October 2025 project focused on the Grit Garden, a volunteer-powered campus garden that supplies produce for UVU students through Fresh Food Fridays. There, she found that time was the biggest barrier to student involvement, even as volunteers described their experiences with words like fulfillment, connection, and community. Grit Garden Greenhouse Director Boston Swan emphasized just how essential that support is: "The Grit Garden would not exist without volunteers."

Her own shift at the garden gave her another perspective on service. As she harvested peas, okra, and tomatoes and pulled weeds, she reflected on the quiet value of using her time and energy to support something that had once supported her. The work was humble, but it left her feeling more connected to nature, to others, and to the larger purpose behind the effort.

Taken together, those experiences helped shape Pelcastre's understanding of service: not as a quick fix or a gesture for recognition, but as a way of building stronger communities through consistency, care, and presence. Her work reflects the kind of engaged learning UVU aims to foster, linking academic inquiry with human need.

In her report, she put it plainly: "Meaningful impact comes from thoughtful action."

BRINGING THE OCEAN TO UTAH

A new partnership between UVU and Loveland Living Planet Aquarium is expanding hands-on learning, research, and community connection in a state far from the coast.

IN A LANDLOCKED state, ocean science can feel a world away. UVU is helping bring it closer to home.

In March 2026, UVU formally entered into an institutional partnership with Draper's Loveland Living Planet Aquarium, creating new opportunities for students, faculty, and the broader community to engage with marine science and aquatic research. The collaboration gives UVU undergraduates access to field-based courses, interdisciplinary learning, undergraduate research, and a dedicated lab space inside the aquarium's Sam & Aline Skaggs Science Learning Center.

"This moment represents a shared commitment to engaged learning and discovery, preparing students across every discipline to thrive in their work and in their lives," said UVU Provost and Senior Vice President for Academic Affairs Wayne Vaught.

For Daniel Horns, dean of UVU's College of Science, the partnership fills an important gap. Utah offers abundant outdoor learning opportunities, but oceanography has long been harder to access without a coastline. "This collaboration offers an unparalleled leap and opportunity for our students to learn outside of the classroom in different

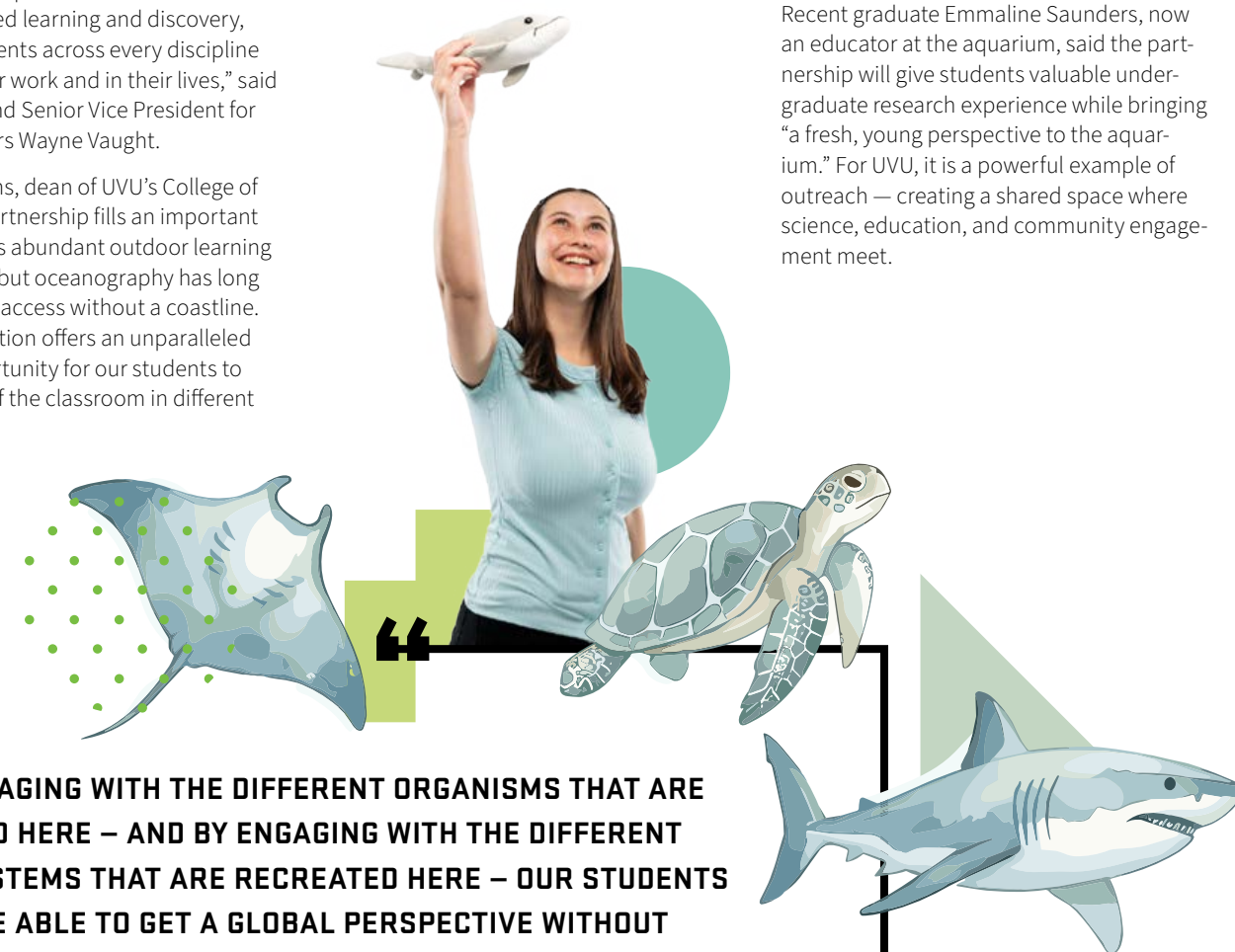
contexts," Horns said. "By engaging with the different organisms that are housed here — and by engaging with the different ecosystems that are recreated here — our students will be able to get a global perspective without ever leaving the state."

That impact is personal for students like Marie Taylor, a UVU zoology student from Saratoga Springs who has traveled to South Carolina to study wild bottlenose dolphin behavior. "Doing dolphin research is amazing, but it can be hard because we have to travel across the country to do it,"

Taylor said. "Now we'll be able to research organisms right here in Utah."

Loveland Living Planet Aquarium founder and CEO Brent Andersen said the partnership will benefit students across disciplines, from biology and zoology to architecture, graphic design, engineering, marketing, accounting, and human resources. He also noted that the relationship predates the formal signing, including ongoing penguin research. UVU biotechnology student Angel Garfield, part of a team studying penguin genetics, said the work is more than a degree requirement: "It's participating in the entire scientific community."

Recent graduate Emmaline Saunders, now an educator at the aquarium, said the partnership will give students valuable undergraduate research experience while bringing "a fresh, young perspective to the aquarium." For UVU, it is a powerful example of outreach — creating a shared space where science, education, and community engagement meet.



BY ENGAGING WITH THE DIFFERENT ORGANISMS THAT ARE HOUSED HERE — AND BY ENGAGING WITH THE DIFFERENT ECOSYSTEMS THAT ARE RECREATED HERE — OUR STUDENTS WILL BE ABLE TO GET A GLOBAL PERSPECTIVE WITHOUT EVER LEAVING THE STATE."

ABOVE: UVU zoology student Marie Taylor brings marine research closer to home.



TURNING THE TIDE ON UTAH LAKE

With support from community partners, the UVU College of Science is using an innovative algae-harvesting boat to protect recreation, water quality, and the future of Utah Lake.

ON UTAH LAKE, one of the College of Science’s most creative solutions looks a lot like a working boat — because it is one.

Since 2022, Utah Valley University has used a custom-built algae harvesting vessel, the Algae Eater, to remove harmful algal blooms from recreational areas around the lake. Supported by partners such as the Utah Lake Authority, the project brings together applied research, community impact, and student learning.

Designed for Utah Lake’s shallow waters, the 34-foot-long, flat-bottom boat uses a patented filtration system to pull algae-contaminated water into a mixing tank, where a natural filter aid binds the algae. Clean water is returned to the lake, while the remaining

algae “filter cake” can be recycled as compost or converted into biofuel.

During a typical five-hour shift, the Algae Eater can filter about 96,000 gallons of water, remove roughly 90 kilograms of algae, and clean approximately 6.5 acres of lake surface. Its work has supported sites including Lindon Marina, American Fork, Saratoga Springs, Utah Lake State Park, and Lincoln Beach — areas where harmful blooms can threaten recreation, wildlife, and water quality for more than 750,000 nearby residents.

“We’re literally vacuuming the lake — 6.5 acres a day — to keep harmful blooms from forming where families play and wildlife thrives,” said Kevin Shurtleff, associate professor and lead researcher on the project.

The project also gives students meaningful field experience, with student operators working alongside faculty throughout the summer to turn science and engineering into real-world environmental action. The Algae Eater has drawn attention from community leaders, including Governor Spencer Cox, and has been featured by KSL and the Deseret News.

With continued support, UVU hopes to operate the vessel every summer and expand the effort with additional boats. For the College of Science, the project is more than a response to a pressing environmental issue — it is a model for how innovation, partnership, and hands-on learning can help protect a vital community resource.



WE’RE LITERALLY VACUUMING THE LAKE — 6.5 ACRES A DAY — TO KEEP HARMFUL BLOOMS FROM FORMING WHERE FAMILIES PLAY AND WILDLIFE THRIVES.”



A GLOBAL RESEARCH EXPERIENCE CLOSE TO HOME

Three students took Utah microplastics research to the University of Nottingham for a hands-on international collaboration.

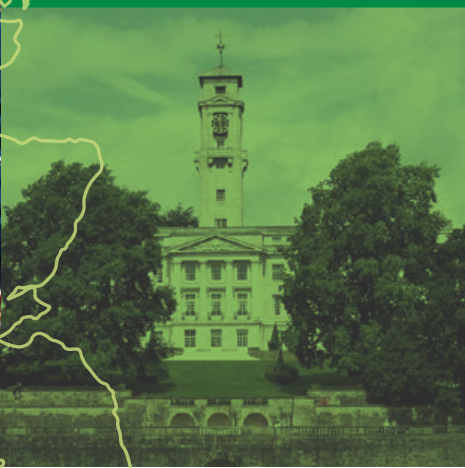
IN MAY 2025, three student researchers — Courtney Ebert, Korryn Narvaez, and Martin Zanazzi — spent three weeks at the University of Nottingham in the United Kingdom, turning a study rooted in Utah environments into an international research experience.

Working with Dustin Shipp, Ph.D., and Sally Rocks, Ph.D., the students used Nottingham’s time-gated Raman spectroscopy system to analyze microplastics collected by Rocks’ group in local Utah settings. The experience gave them access to advanced instrumentation while deepening their understanding of a growing environmental challenge.

The visit gave students a chance to build research skills, learn new techniques, and work across institutions. It also showed how mentorship, collaboration, and access to specialized tools can help students grow as scientists.



OPPORTUNITIES LIKE THIS HELP STUDENTS SEE HOW LOCAL RESEARCH QUESTIONS CAN CONNECT TO GLOBAL SCIENTIFIC TOOLS AND PARTNERSHIPS.”





HELPING A RARE UTAH PLANT TAKE ROOT

Student researchers helped publish conservation work that could support the future of an endangered plant found only in Spanish Fork Canyon.

FOR THREE UVU students and recent graduates, research became something bigger than a classroom experience. It became a published contribution to conservation.

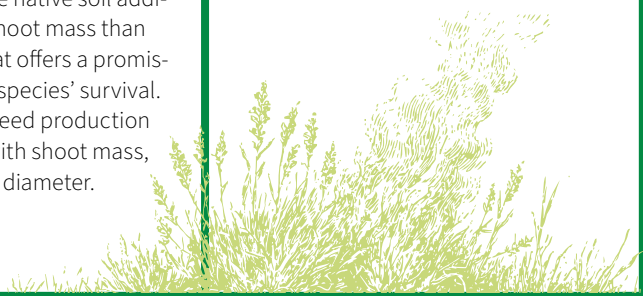
Professor Michael Stevens, a faculty member in biology and director of the Capitol Reef Field Station, coauthored a 2026 paper with Laine Smith, Xander Hulse, and Tyler Shaver focused on clay phacelia, an endangered plant that grows only in Spanish Fork Canyon. Their work centered on a practical question with real conservation value. Could a small amount of native soil help greenhouse-grown plants thrive?

To find out, the team collected wild clay phacelia seeds from The Nature Conservancy's site near Tucker and propagated them in UVU's greenhouse to produce more seeds for long-term conservation storage and possible reintroduction into the wild. They then tested whether adding just 30 mL of native soil from the site would improve plant growth.

It did. Plants grown with the native soil addition showed 18% greater shoot mass than control plants, a finding that offers a promising tool for supporting the species' survival. The study also found that seed production was positively correlated with shoot mass, total mass, and basal stem diameter.

The project gave students the opportunity to take part in every stage of meaningful scientific work, from propagation and data collection to authorship on a peer-reviewed publication. It also reflects the kind of hands-on learning that defines student success at UVU, where research can connect student talent with pressing questions in conservation and the future of Utah's natural landscapes.

A SMALL ADDITION OF NATIVE SOIL LED TO A MEANINGFUL BOOST IN GROWTH FOR ONE OF UTAH'S RAREST PLANTS."



“

THE NIGHT SKY AT CAPITOL REEF CAN BECOME A CLASSROOM, A RESEARCH LAB, AND A PLACE OF WONDER FOR EVERYONE WHO VISITS.”



OPENING THE NIGHT SKY AT CAPITOL REEF

A proposed observatory at Capitol Reef Field Station would create new opportunities for students, park visitors, and the broader community to learn under some of North America's darkest skies.

FEW PLACES invite people to look up quite like Capitol Reef. With its striking desert landscape and exceptionally dark skies, the field station already offers a memorable setting for learning. Now, a proposed observatory could turn that natural advantage into a powerful new community.

The education-focused observatory proposal, developed by Joseph Jensen, Ph.D., and Professor Michael Stevens, director of the Capitol Reef Field Station, would create a dedicated space for sky viewing, instruction, and undergraduate research. Plans call for a retractable-roof facility that could host about 25 people at a time and make it much easier to use and protect the telescopes already at the station.

The vision reaches far beyond astronomy majors. The facility is designed to serve field station visitors, UVU classes, park guests, local residents, and K-12 students through on-site viewing sessions,

community courses, research experiences, and visitor center programming. Proposal materials estimate that about 500 field station visitors each year could benefit directly, while more than 2,000 general education astronomy students and five to 10 undergraduate physics students could also use the observatory through on-site and remote access.

That mix of access and outreach is what makes the proposal especially compelling. Students could gain hands-on research experience, visitors could see Saturn's rings or Jupiter's moons for themselves, and community members could connect with science in a setting that feels both welcoming and unforgettable.

For Capitol Reef Field Station, the proposed observatory represents more than a building. It is a way to bring people together through curiosity, discovery, and the shared experience of a truly dark sky.

RETHINKING THE FIGHT AGAINST TUBERCULOSIS

At UVU, biochemistry professor Nathan Goldfarb is leading an international research effort that uses AI, structural biology, and drug design to pursue a new strategy against one of the world’s deadliest infectious diseases.



TUBERCULOSIS REMAINS one of the world’s deadliest infectious diseases, and at UVU, Nathan Goldfarb, Ph.D., is leading research that approaches the disease from a different angle. Rather than trying to kill the bacterium outright, Goldfarb and his collaborators are working to weaken its ability to evade the immune system.

“This is proof-of-concept work,” Goldfarb said. “We’re not saying we have a drug. We’re saying we have something worth chasing.”

Goldfarb, associate professor of biochemistry, is targeting Hip1, an enzyme found on the outside of Mycobacterium tuberculosis. Because Hip1 sits on the bacterium’s surface, it may be possible to block its function without the same challenges posed by the organism’s thick, waxy cell wall. The goal is to help the immune system clear the infection more effectively, potentially with lower doses, fewer side effects, and less pressure for antibiotic resistance to develop.

Using rational drug design and X-ray crystallography, Goldfarb’s team developed two small molecules that bind tightly to the Hip1 enzyme. One compound showed strong reductions in bacterial burden inside

infected immune cells while leaving host cells unharmed. The findings were published in the European Journal of Medicinal Chemistry Reports.

The lab has also used AlphaFold, the AI system developed by DeepMind, to predict the structures of additional TB drug targets. Combined with molecular docking software, those tools help researchers model how compounds interact with biological targets before they are synthesized in the lab.

Goldfarb’s work also includes exploring a simpler diagnostic tool for tuberculosis — one that could one day function more like a rapid at-home test. The research is supported by a multi-institutional collaboration that includes Johns Hopkins University, the University of Adelaide, Utah State University, and California State University, Fresno, along with UVU-backed patent filings.

For Goldfarb, the road ahead is long, but the potential is real. His work reflects the reach of faculty research at UVU: globally relevant, technologically innovative, and grounded in the search for better answers to enduring health challenges.

“*This work focuses on disarming the bacteria rather than killing it outright.*”



“**BY ALLOWING QUALIFIED STUDENTS TO BEGIN GRADUATE-LEVEL DPT COURSEWORK DURING THEIR SENIOR YEAR, WE ARE EXPANDING OPPORTUNITY, REDUCING TIME TO DEGREE, AND PREPARING MORE HIGHLY SKILLED PROFESSIONALS.**”

A FASTER PATH TO PHYSICAL THERAPY

A new partnership between UVU and Rocky Mountain University is creating an accelerated route for College of Science students pursuing careers in physical therapy.

A **NEW** agreement between UVU and Rocky Mountain University will help College of Science students move more quickly toward careers in physical therapy.

Through the UVU/RMU Accelerated Pathway BS/DPT, students in UVU’s health science and exercise science programs who meet eligibility requirements may apply to enter Rocky Mountain University’s Doctor of Physical Therapy program one year before graduating from UVU. Their first two semesters of DPT coursework will count

toward completion of their bachelor’s degree, creating a more efficient path from undergraduate study to advanced professional training.

For College of Science students, the new pathway means expanded opportunity, reduced time to degree, and a clearer route into a growing healthcare field. It also reflects UVU’s commitment to creating practical, student-centered pathways that connect academic preparation with workforce needs in the community.

UTAH STATE MATH COMPETITION

FOR THREE YEARS, UVU faculty worked together to create a challenging statewide competition that celebrated mathematical talent and strengthened community connections.

For the past three years, UVU’s Department of Mathematical and Quantitative Reasoning and Department of Mathematics have hosted the Utah State Math Competition, creating a meaningful statewide outreach effort that challenged students while strengthening connections between UVU and schools across Utah. This year marked the competition’s final administration at UVU before it moves to another state university. Faculty from both departments

worked through subcommittees focused on scheduling, test development, administration, grading, and recognition, with the problem-writing committee led by Allan Wong and supported by David Fearnley, Michael Gundlach, Inyoung Lee, Eunmi Joung, and Leo Chang. The competition included junior and senior divisions for students in grades 7 through 12, and covered topics ranging from algebra and geometry to calculus, probability, number theory, and logic. With approximately 668 tests administered each year, the event required careful coordination and efficient grading systems, and it concluded with a banquet honoring winners for their impressive mathematical talent and dedication.



CHASING EXCELLENCE FROM UVU TO OXFORD

For Hannah Bruce, success at UVU meant excelling in competition and in the classroom — a combination that now has her headed to a master’s program in neuroscience at the University of Oxford.

CHRIS LEMAY knew almost immediately that Hannah Bruce was different.

Newly hired as UVU’s women’s soccer coach in spring 2017, Lemay had barely met his team before watching them take on Brigham Young University in a spring scrimmage. Early in the match, Bruce threw herself into what he remembers as a fearless challenge for possession — the kind of collision most players would avoid in an exhibition game. He called her to the sideline to be checked. She waved him off, then moments later was back at full sprint.

“Her defining quality is that she only has one speed,” Lemay said. “And that speed is ‘all in.’”

That intensity defined Bruce’s soccer career at UVU — and her academic life. By the time she graduated in 2019, she had built an exceptional record as both a competitor and a scholar: 57 starts in 64 games as a Wolverine, a WAC Tournament championship as a sophomore, team captain as a junior and senior, and All-WAC honors for three straight years. Off the field, she earned a 4.0 GPA, graduated with a degree in psychology, and made the All-WAC Academic team all four years.

Her next destination was just as impressive: admission to a master’s degree program in neuroscience at the University of Oxford. “My studies have always been a top priority, right up there with soccer,” Bruce said. “School and soccer are two things I love. I take pride in my ability to succeed in both.”



ON THIS SPREAD: Hannah Bruce brought the same all-in intensity to the soccer field that defined her academic career, becoming a standout student-athlete at UVU.

A native of Nova Scotia, Canada, Bruce came to UVU in 2016, drawn by the opportunity to play high-level soccer in the United States and by family connections in Utah that made the move feel like a “home away from home.” Her interest in neuroscience grew from a deeply personal experience. In high school, a serious illness led doctors to discover a blood clot in her brain. Over the following year, Bruce spent time with neurologists, studied brain scans, and became fascinated by the complexity of the human brain. “I just got so interested in the way all these



MY STUDIES HAVE ALWAYS BEEN A TOP PRIORITY, RIGHT UP THERE WITH SOCCER.”



chemicals interact, and how our brains can affect how we live our lives,” she said.

At UVU, that curiosity found strong support. Bruce said faculty members helped prepare her for graduate school and gave her opportunities to contribute to research publications. As she pursued ambitious academic goals — including consideration for a Rhodes Scholarship — she also found encouragement from university leaders. Lemay recalled that senior administrators, including former UVU President Astrid S. Tuminez and Athletics Director Jared Sumsion, personally invested time in helping Bruce prepare for what came next. “I really don’t think I would’ve gotten in without my professors taking me under their wing and believing in my capability,” Bruce said.

Her success extended beyond academics and athletics. Bruce also held leadership positions with the Wolverine Student-Athlete Advisory Committee and UVU’s

Black Student Union, while maintaining what Lemay described as a reputation for doing the “blue-collar work” that drew others to her. She credited UVU’s support system — including advisers, tutors, sports psychologists, and other resources — with helping her balance demanding goals and discover what she wanted to do in life.

That path now leads from UVU to Oxford, from a standout career on the pitch to advanced study of the brain. But the common thread is the same one Lemay recognized from the beginning: Bruce approaches every challenge with total commitment.

“Hannah defined the term ‘student-athlete,’” Sumsion said. “She was just as competitive in the classroom as she is on the pitch.”

For Bruce, that spirit has never been about choosing between athletics and academics. At UVU, she proved she could do both — and do both all in.



“I’m lucky I get to collaborate with a very innovative pathologist with a never-ending pursuit to make diagnostics faster, more accurate, and more affordable.”

MATH IN THE SERVICE OF MEDICINE

Professor Bob Palais’ newly awarded patent reflects the power of interdisciplinary research — and the real-world impact of faculty innovation.

FOR PROFESSOR Bob Palais, mathematics is more than theory — it is a tool for solving urgent human problems.

In 2020, Palais earned a newly awarded DNA analysis patent, co-assigned to UVU, as part of work that could help improve the detection and treatment of genetic disorders. The patented method focuses on DNA copy number variations, or CNVs, which are linked to conditions including Down syndrome, spinal muscular atrophy, and some cancers.

Palais developed the mathematical framework behind a faster, more precise, and more economical way to detect these

variations. Working with collaborators in the University of Utah School of Medicine and the Wittwer Lab, he helped analyze an experimental method using DNA melting — a process that can be completed in under a minute rather than days of genetic sequencing.

The achievement adds to a career that spans 11 United States patents and highlights how UVU faculty research can extend far beyond the classroom, improving lives through innovation.

WHAT PENGUIN DNA TAUGHT UVU STUDENTS ABOUT DISCOVERY

Through genetics research with Loveland Living Planet Aquarium, UVU students helped uncover findings that could influence how penguin populations are managed in zoos and aquariums.

WHAT BEGAN as a genetics project became something much bigger for UVU students Lauren Lee and Nathan Tirrell: a chance to contribute to research that could change how penguin populations are managed in zoos and aquariums.

Working with biology faculty member Eric Domyan and Loveland Living Planet Aquarium, the students helped study gentoo penguins to determine whether observed parent behavior matched biological parentage. Penguins are often assumed to be monogamous, but the UVU research found that some penguins serving as social fathers were not the chicks’ genetic fathers.

That discovery matters because accurate lineage records help zoological institutions avoid breeding closely related animals and maintain healthier, more genetically diverse populations. To reach those findings, the UVU team sequenced nearly 200,000 locations in the penguin genome and identified 38,000 genetic differences used to map relationships.

For Lee, a biotechnology student, the project provided hands-on lab and data analysis experience while helping her prepare for a future career in research. Tirrell, who recently graduated and plans to become a physician’s assistant, said the long hours were worth it. “The fact that we were able to accomplish something not yet done makes that effort even sweeter,” he said.

The project drew attention from zoos and aquariums across the country and from national media, including The New York Times. Just as importantly, it showed what undergraduate research can look like at UVU: students engaged in meaningful scientific work with real-world impact. As additional institutions express interest in the testing, the project continues to open doors for penguin conservation and for the students helping lead the way.



THE FACT THAT WE WERE ABLE TO ACCOMPLISH SOMETHING NOT YET DONE MAKES THAT EFFORT EVEN SWEETER.”



A STUDENT DEVICE WITH THE POWER TO CHANGE RECOVERY

Physics undergraduate Carter Wilkes built a low-cost laser and AI tool that could one day help patients avoid invasive surgery after knee replacement.



THE DEVICE sitting in UVU's CIBEAM lab does not look like a breakthrough in medical diagnostics. Built from repurposed 3D printer parts, off-the-shelf components, and a Raspberry Pi 4, it resembles a cleverly modified workshop machine more than a clinical instrument. But for Carter Wilkes, that was never the point. What matters is what it can do.

Wilkes, a physics undergraduate at UVU, developed DIFFRAX — short for Diffraction Imaging for Film Formation and Reflective

Anomaly Extraction — to detect bacterial infection in knee implants without surgery. Presented at the 2026 Utah NASA Space Grant Consortium Symposium, the device uses a red laser and a custom-trained neural network to identify bacterial biofilm through the skin in about five minutes. In testing, it achieved 99.2% accuracy, with a total parts cost under \$400.

The problem DIFFRAX is designed to address is both technical and deeply human. After knee replacement surgery, infection remains

a serious risk. If bacterial biofilm forms on an implant, early treatment can make a critical difference. But confirming that infection has traditionally required an invasive procedure. In other words, the surgery is often part of the diagnosis.

Wilkes set out to build a better option.

Working in UVU's Center for Imaging and Biophotonics Experiments Advancing Medicine, or CIBEAM, under faculty advisor Vern Hart, Ph.D., Wilkes helped create a tool

that can scan an implant noninvasively. A 635nm red diode laser passes through the skin, reflects off the implant surface, and produces a diffraction map — an image showing how light scatters. To the human eye, clean and infected samples look nearly identical. DIFFRAX's neural network, trained on thousands of images, can detect the subtle differences.

"We have trained a neural network to see the minute differences between a no-bacteria sample and a bacteria sample," Wilkes explained in the story. The device needs only 136 images to generate a result with a reliable confidence interval, then displays whether a biofilm is likely present.

That combination of optics, engineering, and artificial intelligence is impressive on its own. What makes the story especially compelling is that Wilkes built it as an undergraduate researcher. His work reflects exactly the kind of learning that happens when students move beyond coursework and begin solving real problems.

At the symposium, hosted at UVU, students from institutions across Utah presented

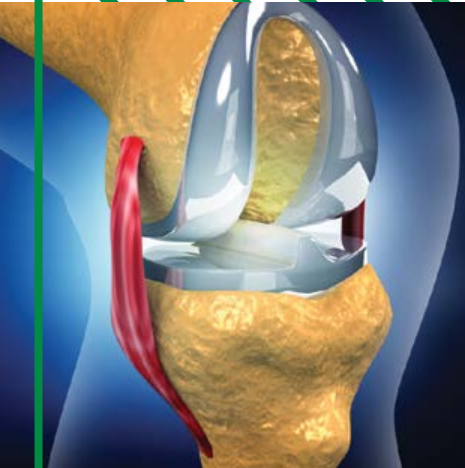
research in aerospace, robotics, astronomy, and biomedical innovation. In his opening remarks, College of Science Dean Daniel Horns reminded participants that research offers something a classroom alone cannot: "You're learning skills and knowledge that can't be gained in the classroom."

Wilkes's project embodies that idea. DIFFRAX did not begin as a polished commercial system. It began with available parts, a hard problem, and the determination to build something useful. That spirit of invention is central to student success at UVU: not simply mastering existing knowledge, but creating new tools that could improve lives.

The stakes are high. Wilkes noted that revision surgeries for implant infections can cost anywhere from \$50,000 to \$100,000. More importantly, patients may face prolonged pain, additional treatment, and delayed recovery. A noninvasive scan that could be repeated during routine follow-up visits has the potential to change that experience entirely.

For Wilkes, the project is more than a technical accomplishment. It is a glimpse of what

WE WOULDN'T
BE ABLE TO
USE THIS
WITHOUT AI."





MAKING THE CASE FOR PARTNERSHIP

When Chris González, M.Ed., spoke to a Utah House committee, he highlighted how College of Science partnerships are strengthening communities, supporting industry, and preparing students for high-demand careers.

WHEN CHRIS GONZÁLEZ, M.ED., presented to a Utah House committee on the value of industry and community partnerships, he highlighted a central strength of the College of Science: Some of its most important work happens when classroom learning connects directly to the needs of Utah’s communities and employers.

That impact can be seen across the college. In biology, InnovaBio, a contract research organization within UVU’s Department of Biology, employs 15 students on industry-sponsored research projects. These include a partnership with doTERRA to analyze the chemical composition of essential oils and a collaboration with DDx to advance prostate cancer research and develop a biobank to improve early detection and treatment, especially in rural and underserved areas.

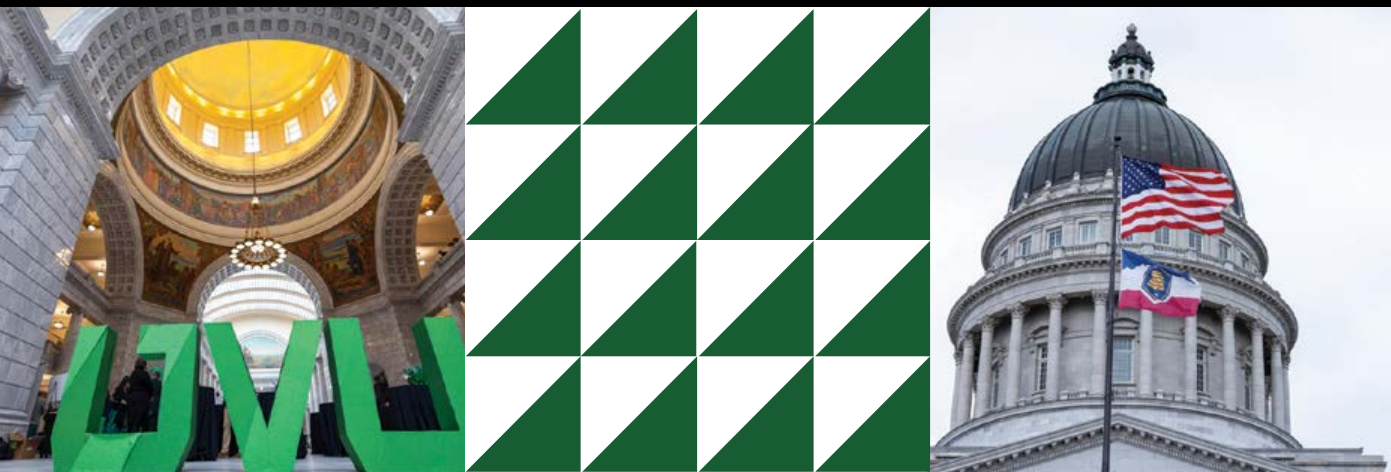
In physics, Professor Vince Rossi and his students work with Lumea to develop optical

imaging tools for digital pathology, giving students hands-on experience in optical design, computational modeling, image processing, and experimental design. In earth science, Professor Matt Olson leads projects with Sundance Mountain Resort and UDOT on snowpack monitoring, glacier change, watershed modeling, and remote sensing applications.

In exercise science, Professor Kathryn Dispennette and her students collaborate with Huntsman Cancer Institute on cancer recovery and wellness initiatives, including programs for breast cancer survivors and cancer patients.

By sharing these examples with state leaders, González underscored a larger point: These partnerships do more than enrich education. They build workforce readiness, support innovation, and extend the College of Science’s impact well beyond campus.

“STRONG PARTNERSHIPS CREATE OPPORTUNITY FOR STUDENTS WHILE DELIVERING REAL VALUE TO THE COMMUNITIES AND INDUSTRIES THEY SERVE.”



EXPLORING SCIENCE THROUGH THE ROOTS OF KNOWLEDGE

Through the Roots of Knowledge Speaker Series, College of Science faculty members invited students and community members to explore big ideas — from sound and timekeeping to wildfire, water, and the mapping of the oceans.

AT UVU, a study break can also become a window into discovery.

Hosted in the Fulton Library’s Bingham Gallery, the Roots of Knowledge Speaker Series invited students and community members to engage with faculty scholarship in a setting as visually striking as it is intellectually rich. Framed by the university’s stained-glass mural, the series connected academic expertise to the human stories, inventions, and ideas reflected in the artwork, offering audiences a fresh way to experience science.

During the academic year, College of Science faculty members brought a wide range of topics to the series. Bonnie Andersen explored the history and scientific significance of the tuning fork, using a familiar object to introduce the broader interdisciplinary world of acoustics. Andrew Creer examined the energy demands of the Lewis and Clark Expedition, connecting physiology, history, and human endurance. Jessica Cusick explored cooperation across species, linking behaviors seen in insects, birds, mammals, and even humans to questions of social behavior and development.

Other lectures connected science to collaboration, environment, and discovery. Dustin Shipp considered how today’s interdisciplinary teams are carrying forward the legacy of the great polymaths. Maureen Hintz traced the origins of timekeeping from astronomy to modern definitions. Weihong Wang linked ancient Chinese water systems to present-day stewardship of Utah Lake, while Tara Bishop explored the surprising relationship between small mammals, wildfire, and drinking water security in the American West. Daniel Horns highlighted the

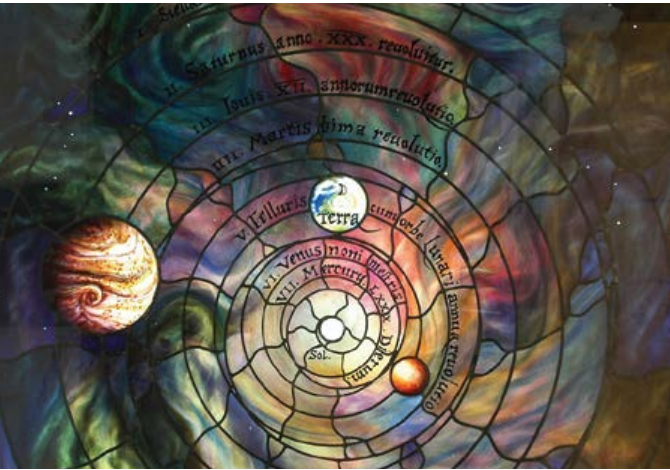
groundbreaking work of Marie Tharp, whose mapping of the ocean floor helped reshape understanding of how the Earth works.

Together, these presentations showcased the depth of expertise within the College of Science while making scholarship accessible to a broader audience. For students, the series offered an opportunity to engage with scientific ideas outside the classroom. For the public, it created a welcoming space to connect with UVU faculty and discover how science can illuminate both the past and the present.

In the Roots of Knowledge, the stories in the glass are fixed. Through the speaker series, UVU faculty members helped bring them to life.



Set against the stained glass of the Roots of Knowledge, science became a shared conversation — accessible, relevant, and deeply human.”



PROUD TO BE A SCIENTIST

There is no single path to becoming a scientist, and no single way to look like one.

THAT IDEA is at the heart of UVU's College of Science campaign, Proud to Be a Scientist. Through student portraits and personal stories, the campaign highlights something the college sees every day. Science students arrive with different backgrounds, different responsibilities, and different goals, but they are connected by a shared drive to learn, solve problems, and contribute something meaningful.

The students featured in the campaign include Kimberlyn Argyle, Grace Stokes, Betsaida Hernandez, Laureana Lazarte, Jane Reed, and Christine Fowles. Together, they reflect the breadth of the College of Science community. Their experiences include first-generation journeys, transfer pathways, work and family responsibilities, research involvement, academic achievement, leadership, internships, and career preparation.

Their stories are not identical, and that is precisely the point.

Science has always depended on people willing to ask questions that do not yet have answers. Curiosity is part of that legacy, but so are discipline, imagination, patience, and courage. Discovery rarely follows a straight line. It takes persistence to test an idea again, humility to adjust course, and resilience to keep moving forward when the outcome is uncertain.

Those qualities are visible across UVU's science programs.

These are students who pursue demanding coursework while also managing jobs, family responsibilities, financial pressures, or other commitments. They build knowledge in classrooms and labs, but they also build confidence, professional identity, and a sense of purpose. They prepare for futures in health care, research, industry, education, graduate school, or other fields bringing not only technical skill but also empathy, creativity, and determination.

That broader understanding of science matters. Too often, the image of a scientist can feel distant or narrowly defined. The Proud to Be a Scientist campaign pushes against that idea by showing students as they are — thoughtful, ambitious, hardworking, and fully themselves. A scientist can be analytical and artistic, careful and bold, deeply focused and openly curious.

At UVU, becoming a scientist is not just about mastering content. It is also about developing the mindset to ask better questions, work through challenges, and stay committed to something larger than

BEING A SCIENTIST IS NOT JUST ABOUT WHAT STUDENTS STUDY. IT IS ABOUT HOW THEY THINK, HOW THEY PERSIST, AND HOW THEY RESPOND TO COMPLEXITY. THE PROUD TO BE A SCIENTIST CAMPAIGN CELEBRATES STUDENTS WHO ARE BUILDING KNOWLEDGE AND CHARACTER AT THE SAME TIME.

yourself. For some students, that journey includes proving they belong in spaces they once thought were out of reach. For others, it means building on family sacrifice, opening doors for future generations, or preparing to serve their communities through science-based work.

The campaign recognizes both the individuality of these students and what they share. They are united not by one background or one destination, but by a way of approaching the world. They are willing to investigate, to persist, to imagine, and to keep learning. They understand that science is not only a body of knowledge. It is a practice of attention, effort, and hope.

That is what makes this campaign more than a series of portraits. It is a statement about who UVU science students are and who they are becoming. It honors the long tradition of scientific discovery while recognizing the future scientists already at work in UVU classrooms, labs, and communities.

They are not all the same. That is their strength.

They are curious. They are resilient. They are committed to making a difference.

And they are proud to be scientists.

FROM LEFT TO RIGHT: Jane Reed, Grace Stokes, Christine Fowles, Betsaida Hernandez, Kimberlyn Argyle, and Laureana Lazarte





*PLEASE CONSIDER
MAKING A GIFT TODAY
TO TRANSFORM THE
LIFE OF A COLLEGE OF
SCIENCE STUDENT.*



[UVU.EDU/COLLEGE-OF-SCIENCE/](https://uvu.edu/college-of-science/)



SCIENCE IS HAPPENING HERE!

Join the UVU College of Science for a semester of big questions, bold experiments, spicy challenges, and hands-on discovery.

SCIENCE VS. HOLLYWOOD

September 2 • October 21 • November 10
Can movie science survive real scientific scrutiny? Explore the facts, fiction, and fascinating science behind Hollywood's biggest moments.

SEARING SCOVILLES

September 8 • October 20 • November 18
Our fiery take on Hot Ones—where guests answer science questions while taking on increasingly spicy challenges.

SCIENCE WEEK

October 19–23
Five days of discovery, demonstrations, research, competitions, activities, and science experiences across campus.



EVENT CALENDAR

FALL 2026

AUG

AUG. 25:

**COLLEGE OF SCIENCE
OPENING SOCIAL**
8 a.m.–2 p.m.,
Science Building Atrium

SEPT

SEPT. 2:

**SCIENCE VS. HOLLYWOOD:
TWISTER**
8 a.m.–2 p.m.,
Science Building Atrium

SEPT. 8:

SEARING SCOVILLES
9 a.m.–4 p.m.,
Science Building Atrium

OCT

OCT. 19-23:

SCIENCE WEEK
Discover the excitement
of science.

NOV

NOV. 10:

**SCIENCE VS. HOLLYWOOD:
JURASSIC WORLD REBIRTH**
9 a.m.–3 p.m.,
Science Building Atrium

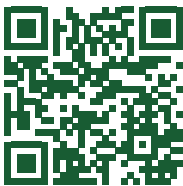
NOV. 18:

SEARING SCOVILLES
9 a.m.–4 p.m.,
Science Building Atrium

DEC

DEC. 8-9:

PUPPY STRESS RELIEF
9 a.m.–4 p.m.,
Science Building Atrium



Follow us on
Instagram for
more events.



