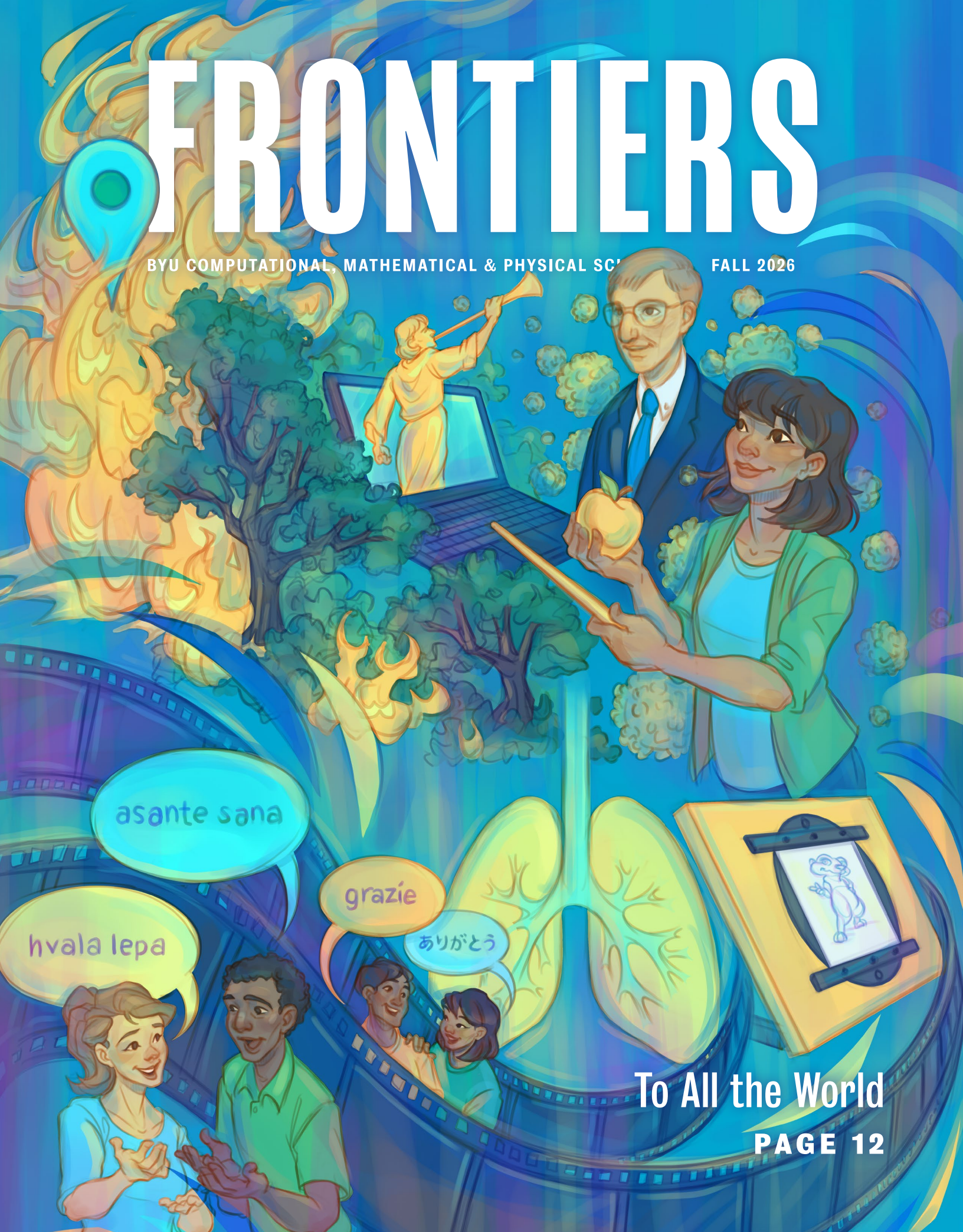
FRONTIERS

BYU COMPUTATIONAL, MATHEMATICAL & PHYSICAL SC[illegible] FALL 2026



To All the World

PAGE 12

FALL
2026

FRONTIERS

BYU COMPUTATIONAL, MATHEMATICAL & PHYSICAL SCIENCES

BYU students participate in the college's Choose 2 Give campaign by donating to help other students in need. The booth is part of an effort to encourage a culture of gratitude and giving back and was part of the college's Pi Day celebration on March 13, 2026.



Dear alumni and friends,

As I reflect on the momentum that is building at BYU, I find myself returning to a metaphor that captures where we stand today: We are approaching the "educational Everest." The climb is happening everywhere—academically, spiritually, and institutionally. Our college is no exception. In fact, the College of Computational, Mathematical, and Physical Sciences is making a remarkable ascent.

Across the college, the evidence is unmistakable. Our students are performing at increasingly high levels. Our faculty continue to earn national recognition for their scholarship and teaching. Our graduates are in demand in industry, government, and academia. Our programs are becoming models of rigorous, values-driven education. By every measure, we are rising.

As we look to the next stage of this climb, I want to share my vision for the three key deliverables that will define our college's future. We aim to deliver the best classroom education, the best experiential learning opportunities, and the best advising, mentoring, and networking for our students. The second of these three pillars, experiential learning, is the bridge between classroom mastery and real-world impact. For most of our students, this means participating in faculty-mentored research. For others, it takes the form of internships, industry collaborations, innovative partnerships with companies, or capstone projects that solve problems for real organizations.

We have made the bold pledge that any student who can find a faculty mentor with bandwidth will be funded to participate in research. Over the past several years, to keep that promise, we have stretched every resource available. We have diverted funds from other priorities. And we have done it gladly because we believe in the transformative power of these experiences. But to sustain this commitment and to offer every student access to experiential learning, we need a more stable foundation.

The good news is that recent increases in donor support over the past year have shown us that our alumni and friends believe in this vision. This issue of *Frontiers* reports on successes achieved thanks to their generosity. With just a bit more support, our pledge can become permanently sustainable. We are not chasing an unattainable target, and we believe we will get there.

To those who have already contributed, thank you. You are changing students' lives. And to those who are considering supporting this effort, we extend an unapologetic invitation. Help us reach the summit. Help us ensure that every student, now and for generations to come, can benefit from the kind of experiential learning that defines a world-class education.

Sincerely,

Grant Jensen, *Dean*
BYU College of Computational, Mathematical, and Physical Sciences

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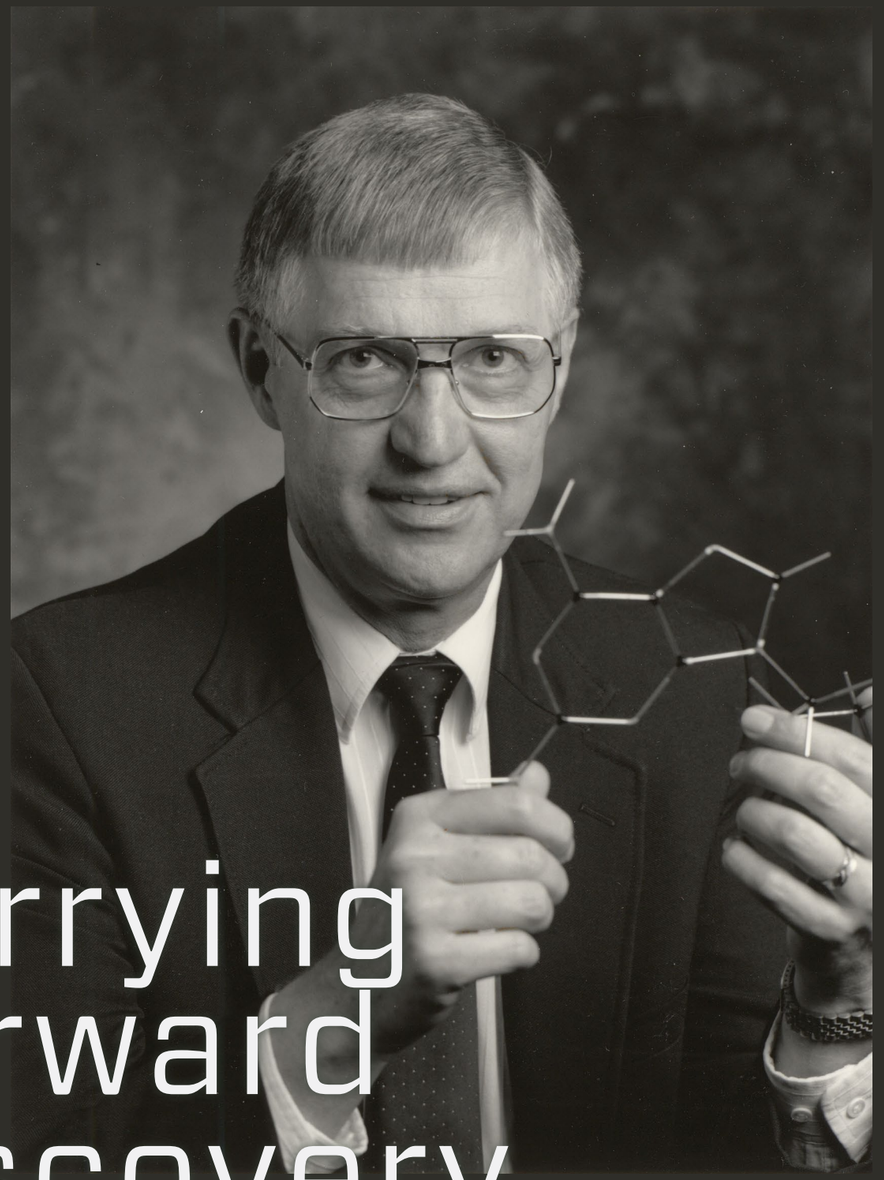
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Carrying Forward Discovery

The Life and Legacy of Morris J. Robins

The impact of a life is often deepened by those who choose to honor it. Such is the purpose of the Department of Chemistry and Biochemistry's new endowment, which was established by Jackie Robins to commemorate the life and work of her husband, Professor Morris J. Robins.

Created with careful thought and deep personal conviction, the endowment reflects both a desire to support students financially and a commitment to the kind of transformative, hands-on learning that defined Robins's career. By emphasizing mentored research and experiential learning, the fund ensures students will have opportunities not just to study chemistry but to actively engage in discovery, as Robins did.

Late at night, when the house was quiet, Robins often reached for a pencil. Jackie would notice him stir, slide on his glasses, and begin to write. She recalls that "in the morning he'd say, 'Jackie, I had this idea!'"

Those flashes of insight, scribbled in the dark, were part of a life devoted to discovery. For Robins, chemistry wasn't simply a career. "Chemistry was kind of his aura," Jackie says. He loved to think, to read, and to let ideas "rumble around" until they became something new.

Today, that spirit of curiosity lives on through the newly established endowment in his name. This gift will bless generations of students and extend Robins's influence in a way that aligns with what mattered most to him.

A MAN WITH A MISSION

Robins, who passed away on December 16, 2023, at age eighty-four, built an internationally recognized career as a medicinal chemist whose work advanced treatments for cancer and viral diseases. Raised on a small farm in rural Utah, he developed both discipline and intellectual hunger early in life. As a child, Robins read voraciously—far beyond his grade level—and developed a lifelong love of learning. He also worked from a young age, raising livestock and saving money to attend college.

His choice to pursue chemistry was not immediate. He briefly explored other options before realizing that he wanted to understand "what makes things work and how things happen," Jackie recalls. The decision to pursue chemistry would shape not only his own life but the lives of countless students and colleagues.

He earned his degree in chemistry from the University of Utah, completed a PhD at Arizona State University, and went on to hold positions at the University of Utah and the University of Alberta before joining the faculty at BYU in 1987. Here, Robins led pioneering research in nucleoside chemistry, contributing to the development of therapies used to treat leukemia and viral diseases, including AIDS and hepatitis B. Robins believed this work was the fulfillment of the words of his patriarchal blessing, bestowed upon him early in his life. In that blessing, Robins was told that the Lord would use him to help humanity and to bless the lives of those around him.

Over the course of his career, Robins published hundreds of papers, secured major research support, and mentored students and postdoctoral scholars from around the world. He traveled to nearly twenty countries as a lecturer and collaborator. BYU Professor Matt Peterson points to Robins's remarkable foresight as a scientist, noting that early in his career Robins predicted a compound would "inhibit biosynthesis of DNA by acting as a polynucleotide chain terminator," an insight that would later help enable DNA sequencing technologies. Robins also maintained "absolutely impeccable standards" in his work, where perfection was the goal.

Jaron Hansen, chair of the Department of Chemistry and Biochemistry, says that while Robins is "widely recognized as a pioneering nucleoside chemist," the deeper legacy lies elsewhere. In honoring Robins, you celebrate something "even more enduring than publications and awards," he says. "You recognize the legacy of a disciple-scholar."

A MENTOR TO HUMANKIND

That legacy is inseparable from his role as a mentor. "Morris was an incredible scientist and an equally incredible Christian," says Peterson. "I consider myself very fortunate to have known him and especially fortunate to have collaborated with him so closely as he served as my friend and mentor."

Robins worked with more than eighty graduate students and postdoctoral fellows, many of whom went on to become leaders in academia and industry.

"He really wanted everybody to be able to do what they wanted to do and to understand how to do it," Jackie says. He took time with students, listened carefully, and helped them navigate not just coursework but life. Former colleagues observed that he sought to understand the problem behind the problem, helping students grow both intellectually and personally. Peterson says that Robins "was extraordinarily kind, always had a kind and

LEFT Robin's work as a chemist contributed to notable medical developments.

> **Professor Robins's legacy will continue through students [still to] be trained, discoveries yet to be made, and lives that will be blessed." —Jaron Hansen**

encouraging word to offer, and saw the best in others." He continues, "I never heard him be critical of others in a demeaning or belittling way. He looked for the good and found it."

"He was very good to so many young students," Jackie says. "He was real." And despite his accomplishments, he was notably self-effacing. As Peterson recalls, Robins considered himself made of "very common clay." He was, in Jackie's words, "a humble, hardworking, brilliant man, very giving, very thoughtful." Robins loved his family deeply, raised eight children with his wife, and remained devoted to his faith and integrity.

Even as his influence expanded internationally, Robins remained focused on individuals. Hansen describes him as a mentor who "created a nurturing environment where students grew from consumers of knowledge into producers of knowledge, independent scientists capable of discovery and leadership."

SCIENCE AS SERVICE

Robins modeled intellectual rigor while also showing that science should be driven "not by ego but by curiosity, integrity, and the desire to bless lives," Hansen says.

That philosophy is at the heart of the endowment created in his name. The idea came unexpectedly to Jackie after a conversation with a financial advisor. At first, she wasn't sure. But after taking time to reflect and pray, she decided to move forward.

Jackie felt strongly that the endowment should fund student experiential learning opportunities, especially research, giving students the chance to do the kind of hands-on work that mattered so much to her husband. She says research was important to him, and she knows he "would have really thought [the endowment] was a good idea." Robins's lab was not just a place to complete assignments but a place to discover, to wrestle with ideas, and to become something more.

Both his mentorship and his research were oriented around service. Peterson says Robins's contributions





ABOVE Robins was dedicated to Jackie and their children. **RIGHT** Jackie speaks about her husband on March 13, 2026, at a reception recognizing the generous endowment created in his name.

helped drive "vital progress in advancing human health, . . . [improving] the quality of life of all humanity."

"He placed the advancement of science and the success of his students above personal recognition," Hansen says, noting that Robins was motivated by a belief that knowledge could relieve human suffering.

The endowment helps ensure that future generations will continue to pursue that knowledge. "Professor Robins's legacy will continue through students [still to] be trained, discoveries yet to be made, and lives that will be blessed," Hansen says.

For Jackie, the decision to found the endowment ultimately came down to something simple: honoring a life that was never about recognition but about impact. Morris Robins built molecules that became medicines. He built programs that strengthened the Department of Chemistry and Biochemistry. And he built people—patiently and thoughtfully, one conversation at a time.

Even now, it's not hard to imagine him as he often was: awake in the quiet hours, reaching for a pencil and following an idea wherever it might lead.

MORRIS (PAGE 4): JACKIE AND MORRIS (PAGE 6): COURTESY OF JACKIE ROBINS; JACKIE ROBINS (PAGE 6): BY GRACE MACFARLANE; WAVE GRAPHIC (PAGES 4–5, 7): ALENAH/STOCK.ADOBE.COM

Scientific Seeds

Here are a few of what BYU Professor Matt Peterson calls the "scientific seeds Morris J. Robins planted, along with the fruit of those seminal contributions":

1964: Dideoxynucleoside synthesis

- Robins was the first to synthesize a dideoxynucleoside, which he presciently predicted would "inhibit biosynthesis of DNA by acting as a polynucleotide chain terminator."
- The synthetic methodology Robins developed paved the way for Sanger DNA sequencing, which was first reported in 1977 and went on to form the basis of the technology used to sequence the human genome.

1968: 3-deazauridine synthesis

- Robins, along with Bruce L. Currie, pioneered the first 3-deazauridine nucleoside synthesis.
- It was one of the first nucleoside antileukemia agents tested in phase II clinical trials.
- While ultimately pulled from clinical trials due to human toxicity, it paved the way for later successes, such as gemcitabine and cladribine.

1972: Cladribine (2-chlorodeoxyadenosine)

- Robins was part of the team that first synthesized this compound.
- It is currently the frontline treatment for hairy cell leukemia and refractory multiple sclerosis.
- Years later, he patented the most efficient synthesis of this compound ever reported.

1981: Furano-pyrimidine-2-ones

- Robins and P. J. Barr discovered this class of bicyclic nucleoside analogues.
- Furano-pyrimidine-2-ones were later discovered to be potent inhibitors of varicella zoster virus.
- Phase I and phase II trials completed on the most potent derivatives were found useful in treating shingles.

1998: Hepatitis B antiviral therapy

- Robins and D. Lorne Tyrrell received the Prix Galien Canada Research Award for their contribution to the understanding of the hepatitis B virus and the development of effective antiviral therapy.



STUDENTS, SCIENCE, AND A SACRED TRUST

Students advance research in pulmonary fibrosis, lung cancer, and muscular dystrophy.

Undergraduate and graduate students in Pam Van Ry's lab do the kind of work that shapes careers and advances discovery: precise, methodical, complex, and high impact. Van Ry's lab is where students learn to think like scientists, to persevere through uncertainty, and to connect their work to something larger than themselves. And behind it all is the donor support that makes this level of experience not only possible but sustainable.

The work Van Ry, associate professor of chemistry and biochemistry, leads at BYU may take place in a lab, but it began with a personal experience that changed her life's direction. As a BYU undergraduate, she paused her education to raise her family as a stay-at-home mom. Years later, in Nevada, she completed her degree in chemistry and spent time teaching and tutoring while her children were young. As her children grew older, she began looking for something that would challenge her and allow her to make a deeper impact.

Around that time, her mother was diagnosed with pulmonary fibrosis, a serious and poorly understood lung disease, and Van Ry met leading pulmonologist Ganesh Raghu. His unexpected encouragement prompted her to return to school and pursue research. Van Ry earned a PhD in cellular and molecular pharmacology and physiology while continuing to raise her children.

"The goal for me was to be able to understand pulmonary research better so that I could help my mom and her family," Van Ry says. "My mom's dad had died of pulmonary fibrosis when she was eight, and at the time when my mom was diagnosed, her brother had died of a pulmonary disease." There were more questions than answers about pulmonary fibrosis, especially regarding the possibility of a genetic connection. Van Ry was determined to understand the disease in a way that could make a difference, not just for her family but for others facing similar challenges.

MENTORSHIP THAT MULTIPLIES IMPACT

That purpose defines her lab at BYU. As a translational scientist, Van Ry combines asking key scientific questions with testing real therapies in models that move treatments closer to patients. Her lab studies complex conditions, including pulmonary fibrosis, lung cancer, and muscular dystrophy. Each project is tied to the larger goals of improving and extending human life.

The research is meaningful and impressive. Yet one of the most remarkable aspects of her lab is who is conducting that research. Undergraduate and graduate students are central to the work. They help design experiments, work with advanced models, analyze data, and contribute to publications.

LEFT Pam Van Ry mentors lead graduate student Aubri Saxton in the lab.

"We give our passion and our energy as undergrads to furthering along the cause not only for the science but for ourselves and for the donors that help us." —Gavin Miller

Aubri Saxton, for example, is the lead graduate student working on the idiopathic pulmonary fibrosis (IPF) team. Saxton's focus within the lab is tissue engineering, or trying to grow human tissue that can model IPF in ways that animal models can't. Her team includes several undergraduates, who are essential in helping the work proceed.

Opportunities like these are not common at many universities. More often, undergraduate students volunteer their time, balancing heavy course loads and paid jobs while trying to gain the research experience necessary to pursue graduate or medical school. At the university where Van Ry earned her PhD, students often worked long hours outside of paid employment simply to gain enough experience to be competitive. At BYU, donor support changes the equation entirely.

Thanks to the generosity of individuals and foundations, students are paid for their research work, which allows them to dedicate meaningful time to developing their skills. It reduces financial strain and gives them access to opportunities that might otherwise be out of reach. With real research experience, students are accepted into highly competitive programs across the country. Students from Van Ry's lab have gone on to institutions such as Baylor, Yale, Harvard, and the University of Florida, pursuing DO, MD, and MD/PhD programs and advanced graduate studies.

The training students gain in the lab is not limited to technical skills. Science is a process of trial and error; experiments often fail, hypotheses must be revised, and progress can be incremental and sometimes discouraging. Students learn that resilience and failure are part of the process. And then there are the times when something finally works. Data aligns and a breakthrough emerges. In those moments, students see firsthand the reward of persistent effort and collaboration.

In the lab, graduate students mentor undergraduates, allowing experienced students to guide those who are newer. Kelly Amsden, an undergrad in the lab, says of mentor Denise Procopio, "I'm not afraid to come to her with an idea. What I really appreciate is how she treats all my ideas as valid, even if they're kind of dumb. And then she's able to come back and say, 'Maybe if you change that or this.'"

The opportunity to mentor and receive mentorship increases the impact of the lab. This dynamic is intentional and is only possible because of sustained support. Donor funding has provided the time, space, and resources to invest in people.

Gavin Miller, another undergraduate researcher, also works under Procopio. "The thing about science is it fails a lot," he says. "Denise is so good at helping you think through troubleshooting problems. She is very patient and lets you solve the problem. Then she gives her advice or agrees with you. That's the best way she's mentored me, letting me make mistakes and showing me that it's really not the end of the world, allowing me to grow and become a better scientist and a better student because of it."

Kelly Amsden and Denise Procopio work together to explore ideas and troubleshoot challenges, an approach that strengthens the lab's research culture.



A SACRED TRUST

Behind every experiment is also the reality that research is expensive. It requires specialized equipment, materials, and ongoing operational costs.

"You learn very quickly that things are not cheap; supplies are not cheap. When we need to redo experiments, it is so frustrating because of the monetary cost," says Amsden. "In almost every lab meeting, we talk about funding and the responsibility we have to use the funds in prudent ways because they are limited and valuable. It's such a blessing to be able to have funding."

Donor support has enabled critical advancements in the lab's resources, from specialized imaging equipment to materials for developing organoids, which are miniature, lab-grown models that allow researchers to test therapies in ways that closely mimic human biology. Van Ry explains that the donor support has also enabled collaboration with other labs, bringing together expertise in bioengineering, environmental science, proteomics, and disease modeling to tackle some of the most critical questions in medicine.

At a time when funding was uncertain and the future of the lab felt unclear, an unexpected connection led to support from the Fritz B. Burns Foundation. What began as a single interaction grew into a sustained partnership that has expanded the lab's capabilities and has ensured that students can continue advancing discovery.

For students, the impact of this work becomes most evident when the people connected to the diseases they study become more real. "The first time I had a set of lungs on my desk, it was really different than handling a lot of other tissues I've had in the past. Before, we would get a small piece of tissue or it would be from an animal model," Saxton says. "But the first time it was from a person, it was profoundly different. It really touched me to have the tissue there, and the level of the feeling was pretty intense."

Through experiences like this, students begin to understand that every experiment carries significance beyond the lab. Each step forward represents the potential to give someone more time. Students also recognize just how precious, even sacred, each resource is. Saxton explains, "I now have a lot more solemnity for the human tissues and for other types of tissue that we handle. I want this to work because I don't want to waste the tissue and because I feel like it is a very great blessing."

DISCOVERY STILL UNFOLDING

To Van Ry, BYU students are like sunbeams radiating outward, taking what they have learned and sharing it in ways that benefit the world. "What they do here puts them on another level so they can share that light in greater and bigger ways," Van Ry says. "They're going out there and sharing the knowledge of what they've learned from being able to do research in a different way," she says. "[At BYU,] we have the great advantage of also drawing on the Spirit—thinking, listening, and feeling—asking 'Is this the direction I should go?'"

Students leave the lab with confidence and a sense of purpose. They carry with them the ability to think critically, to collaborate, and to pursue solutions to problems that remain unsolved. "I definitely entered my whole college experience with this fear of failing, fear of getting a bad grade," Amsden says. "It has been really helpful to see that things go wrong in research a lot and you just keep going. You keep learning from it. That's going to apply not just in medicine but in every situation in life; things are going to go wrong, but if you keep learning from it and studying and looking at your data from another angle, it's going to be okay."

The research is ongoing, and progress depends on sustained effort, collaboration, and support. That is where donors remain essential.

"If I could, I would reach out to all the donors who have funded my college experience," Miller says. "I don't know if I'd be able to put in twenty to forty hours a week, not only in the spring and summer but also during fall and winter, if I wasn't getting paid in the lab. . . . We give our passion and our energy as undergrads to furthering along the cause not only for the science but for ourselves and for the donors that help us."

He continues, "I feel very grateful to be part of the Van Ry Lab because our creative ideas and minds and our experiments are never limited by money. Yes, you have to be careful or cautious, but science is a bunch of mistakes." Relieving the pressure to answer a scientific question with the first test "brings a lot of peace," he says.

The generosity of donors creates life-changing opportunities for students. It strengthens mentorship and encourages discovery. It builds a foundation for breakthroughs that move research closer to real-world treatment. And ultimately, it will touch the lives of individuals affected by disease. Because of donor generosity, hope continues to grow.



Members of the Van Ry team collaborate in an environment of discovery and faith.

PHOTOS BY GRACE MACFARLANE



MACHINE TRANSLATION FOR "EVERY NATION, KINDRED, TONGUE, AND PEOPLE"

Steve Richardson is working to take the gospel to the world in every language.

ILLUSTRATIONS BY SARAH THULIN

When Professor Steve Richardson first encountered the idea that computers might one day translate human languages, the technology to make it happen barely existed. In the early 1970s, translation still depended entirely on human hands and human minds. Computers didn't fit in pockets. They filled rooms.

Richardson was a freshman at Brigham Young University when he took an honors course taught by a linguistics professor who believed computers could someday help translate languages. Richardson, then a physics major, had no way of knowing that this concept would set the trajectory for the next five decades of his life. But in the classroom, the idea sparked his interest.

BACK TO BYU

That first spark did not fade for Richardson. It followed him to Brazil, where he served a Portuguese-speaking mission for The Church of Jesus Christ of Latter-day Saints, gaining fluency in another language as well as a lived understanding of what it means to think, feel, and worship in words not natively your own.

When he returned to BYU, Richardson shifted his focus to linguistics with a minor in computer science, eventually becoming a research assistant in one of the university's earliest experiments in computer-assisted translation. The technology was primitive, and the computing power was minimal. By today's standards, it would seem insignificant.

But the question the project raised was powerful enough to stick with Richardson for a lifetime: What would it mean if language barriers could truly fall? That question guided him through a career spent at the cutting edge of language technology. After earning degrees in linguistics and computer science at BYU, Richardson joined IBM, where he worked on early natural language processing systems. During his time at Microsoft Research, he helped develop grammar-checking tools that eventually became embedded in Microsoft Word, tools that millions of people now take for granted. Later, he helped lead efforts to produce modern machine translation systems used around the world.

By the time those tools were accessible on a global scale, Richardson had already worked for decades to make them possible. Then, at what many might consider the peak of his career, he stepped away. In 2008, Richardson and his wife, Marianna, were called to lead the Brazil São Paulo South Mission. The experience reinforced what he had already begun to see: that the challenges language diversity can present are not just technical but spiritual and human in nature.

When he returned from Brazil, Richardson was invited to bring his expertise to a new setting by helping the Church modernize and scale up its global translation efforts. "For the next ten years, I worked at the Church Publishing Services Department and Information and Communication Services Department," Richardson says. He worked behind the scenes to oversee the implementation of workflows that utilized machine translation, applying tools that could accelerate the availability of scriptures, conference talks, and other materials across dozens of languages. Through technology, he sought to help fulfill the scriptural promises that the gospel will reach "every nation, kindred, tongue, and people" (Doctrine and Covenants 133:37).

Then, in 2021, after encouragement from his wife, he joined the computer science faculty at BYU, where he now teaches and leads research in machine translation and computational linguistics. "I decided to come to BYU for two reasons," Richardson says. "One, to take the gospel of Jesus Christ to the world. And two, to train a new generation of young people who can carry this work forward."

That second reason would become just as important as the first because the work ahead—creating a translation tool for thousands of languages—was far larger than any one person could accomplish alone.

THE DONOR DIFFERENCE

BYU donor Steve Andersen first heard about Richardson's work almost by chance. "I was actually working on another project when someone told me about a couple of people working on this language project," he recalls.

When he met with Richardson and his colleague Charles D. Cranney, senior manager of digital media at BYU Brand & Creative, there was no large initiative and no fully funded program—just an innovative prototype and a small group of people working to turn it into a production-ready translation tool. "As I sat down with them and they told me about the project, the Spirit came," Andersen says.

What he saw was not just technical potential; it was alignment. There was a world-class expert, a global problem, and a clear purpose. However, there was also a constraint that often defines early-stage innovation: a lack of resources.

"I met these two men who were humbly creating this software with the ability to translate low-resource languages around the world and who were very constrained financially," Andersen says. For him and his wife, Patricia, who view giving as stewardship, the decision to donate became clear. "As investors or as charitable givers, I believe that we have a significant responsibility to choose wisely," he explains. "The resources we've been given are a gift." That gift, in his view, carries an obligation to discern where financial support matters most.

Today Richardson's MATRIX (Machine Translation Research and Interlingual Experimentation) lab includes his colleague Professor Eric Ringger, another expert in machine translation and computational linguistics. The lab focuses on low-resource languages, which are spoken by millions of people but are largely absent from modern technology. "There are 7,400 languages actively spoken around the world," Andersen says. "But there are maybe ten to twenty that are high resource." That imbalance shapes who benefits from technology and who does not.

"We are blessed to be born speaking high-resource languages, like English, Spanish, Mandarin," Andersen says. "Imagine a person in a village that speaks a native language, like Tzotzil. In order to unlock the outside world of ideas and opportunities, they must first filter concepts through a second learned language, like Spanish. It's like breathing in the world through a tiny straw." In practical terms, that means limited access to education, healthcare information, employment opportunities, and even spiritual resources. Richardson's lab is working to change that reality by focusing on languages that are often overlooked because they lack commercial value.

Working with BYU–Pathway Worldwide students who record themselves reading sentences from Church materials and other sources in their native languages, the lab's Pathsay project gathers audio data for Pacific Island languages, African languages, creoles, and others. The process is labor intensive. It requires recording speech,



WHAT WOULD IT MEAN IF LANGUAGE BARRIERS COULD TRULY FALL?



EACH ADDITION REPRESENTS MORE THAN A TECHNICAL MILESTONE. IT REPRESENTS ACCESS AND INCLUSION.

aligning translations, and validating meaning within cultural context. However, the results can be transformative. “With about one hundred hours of field recording, we can almost immediately generate a real-time spoken translation for anything a person might speak,” Andersen explains. What was once unimaginable is becoming increasingly possible.

For Andersen, one of the most compelling aspects of the project is how quickly progress follows when the right support is in place. By the end of 2026, the team will have sufficient audio data for between sixteen and thirty-two languages. Each addition represents more than a technical milestone. It represents access and inclusion. Yet the scale of the work remains immense. While the lab has a prioritized list of about 500 languages, there are thousands of low-resource languages globally. “Getting data from every one of these languages could take up to thirty years,” Andersen says.

The timeline reinforces the reality that this is not a short-term effort but a generational one. Andersen explains, “We believe the project is so significant that it’s going to go well beyond our resources, but Patricia and I are grateful to continue the pipeline and the fundamental development.” Donor involvement is not about a single contribution; it is about sustaining momentum.

STUDENTS AT THE CENTER

Inside Richardson’s lab, the future of the work becomes visible through the students who work there. They come from around the world, are all multilingual, and are almost all returned missionaries. They understand the languages they work on because they have used them in real contexts and with real people. That changes the nature of the research.

Translation is not limited to simply producing grammatically correct sentences. It is also essential to preserve meaning, tone, nuance, and cultural context. In other words, it requires understanding how language functions in lived experience. Richardson encourages students to see their work as stewardship. For Andersen, this is where giving becomes personal. “I have met these students, from PhD candidates to undergraduates, and have seen their enthusiasm for and insight into the work they do,” he says. “Our students don’t have to ask ‘How is this going to apply?’ They are applying it in the real world.”

BYU’s educational model increasingly emphasizes that real-world application, one of the reasons donors see value in supporting it. “I often struggled in college classes,” Andersen says, “wondering how the material would apply.” Now he sees students who don’t have to wonder. They are already doing. “It just takes people to give them the opportunity.”

Andersen sees what is happening in Richardson’s lab as part of a larger pattern at BYU. “I feel that prophetic guidance aligned the administration, donors, and students,” he says. That alignment creates a distinctive ecosystem where ideas can move from concept to measurable impact because vision, talent, and funding all work in tandem. “I just sense that the finest of the world are coming to BYU,” Andersen says, “and the education is rising up to meet these students.”

Investing early, when the outcome is not yet guaranteed but the potential is clear, allows donor support to become a driving force. “We get to make the donation on seedlings,” he says, “on the early, tender plants.” Over time, those seedlings grow into projects, innovations, and teams who carry the work forward. “These are mighty oaks,” Andersen says. “These are mighty trees that will give fruit that we’ll only be able to see beyond the veil.” Richardson’s work is a prime example of the importance of looking at the long view. His career began with a question that took decades to begin answering. Now he is helping a new generation who will take it further.

Andersen continues, “We can gauge how much we give, but we can’t gauge the impact.” The impact may appear in a humanitarian context, where translation enables communication during crisis. It may appear in education, where students gain access to knowledge. It may appear in faith settings, where individuals hear sacred messages in their own language for the first time. Or it may appear quietly, over time, in ways that cannot be immediately discerned.

For Andersen, the meaning of participation lies in something deeper than measurable outcomes. “I feel that whatever I’ve been given is His, and as we’re all trying to become like the Savior and do the will of the Father in our daily walk, when we do His will, blessings pour from the windows of heaven.”

THE QUESTION BEING ANSWERED TOGETHER

Fifty years after that transformative class at BYU, the question that shaped Steve Richardson’s life is no longer theoretical. What would it mean if language barriers could truly fall? It would mean a world where access is not determined by geography or language, where communication is immediate and human connection is not filtered through multiple layers of translation, and where every person can be addressed and understood in their own tongue.

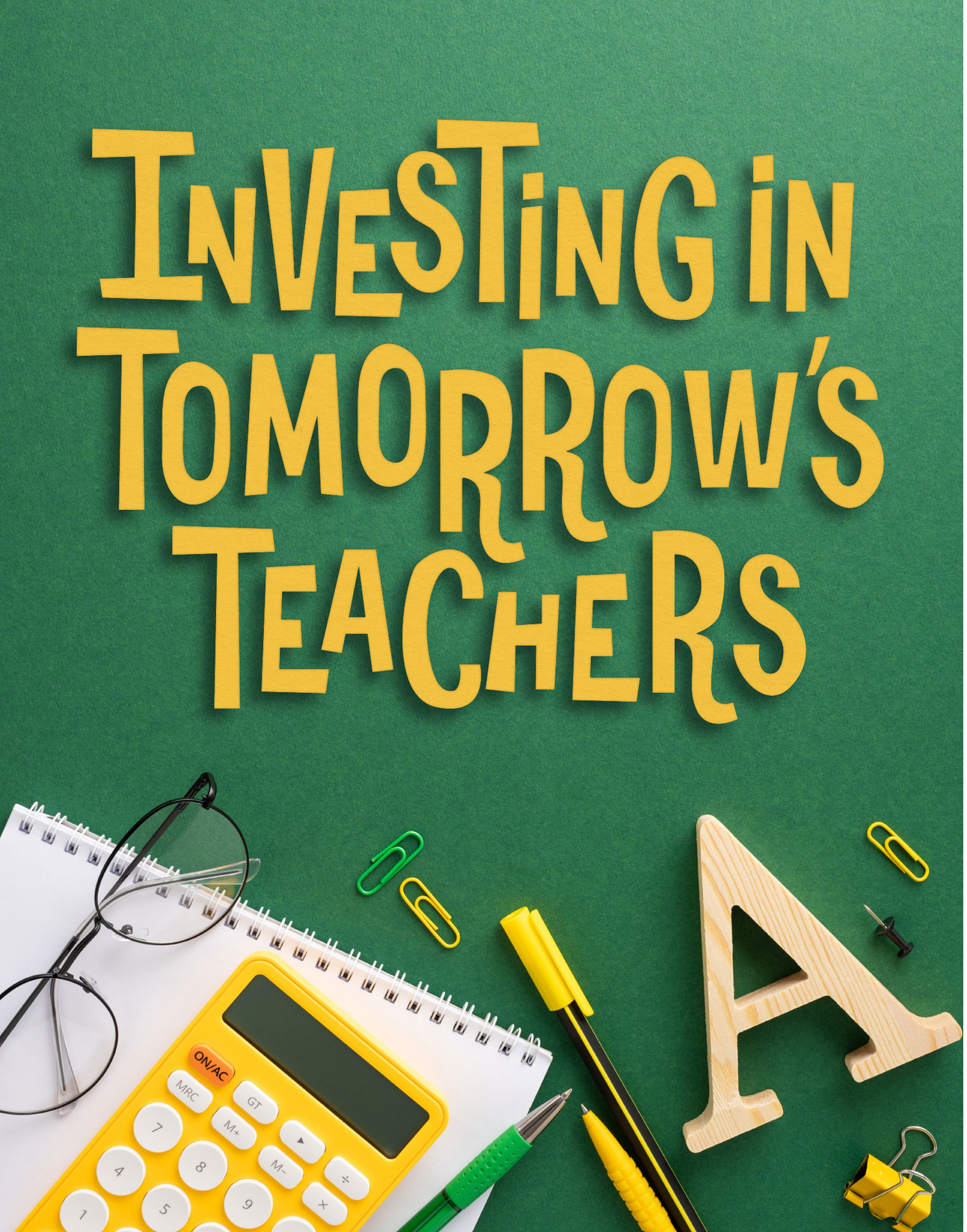
It is a vision that requires technology, expertise, and time. And as donors like Steve Andersen have recognized, it also requires people willing to step in early, see the pattern, feel the prompting, and carry the work forward.

“I would encourage everybody to contribute,” Andersen says. “Even if you don’t feel like you have a lot to give, your small donation could make a difference in a person’s ability to bless so many more lives.”

In Richardson’s lab, that difference is already taking shape in code, in collaboration, and in languages that are finally being brought into the conversation. Together, the team is building toward something that once seemed impossible—a world where every nation, kindred, tongue, and people can be heard and understood, where they can receive the restored gospel of Jesus Christ in their own language.

Learn how to contribute to this project at **matrix.byu.edu/donate**.

Investing in Tomorrow's Teachers



TITLE LETTERFORMS: ARTYWAY/STOCK.ADOBE.COM; FLAT LAY: ACTION GP/STOCK.ADOBE.COM; ILLUSTRATION: MINIWIDE/STOCK.ADOBE.COM

An endowed scholarship is transforming student teaching for future math and science educators.

For years, department chairs in BYU's mathematics education program found themselves returning to the same request when it was time to submit financial needs to the Dean's Office at the college. "We were at a loss as to how money would help us solve some of the problems we had because we didn't need a new machine or equipment," says Keith Leatham, professor of mathematics education and chair of the Department of Mathematics Education from 2020 until July of this year. What the department did need was a way to support students more directly.

Leatham and his colleagues were increasingly aware of the needs of students approaching one of the most important phases of their training: student teaching, an experience that is immersive, demanding, and transformative. Being placed in the classroom before graduation provides future educators with real-world preparation, but it comes at a cost. Student teaching positions are unpaid, even though they require full-time work.

"A student teaching assignment requires a full-time commitment," Leatham explains. "It's really hard to get the most out of the student teaching experience if you still have your part-time job." Yet many students had no choice. "Students still had to pay rent. They were having to make some tough decisions."

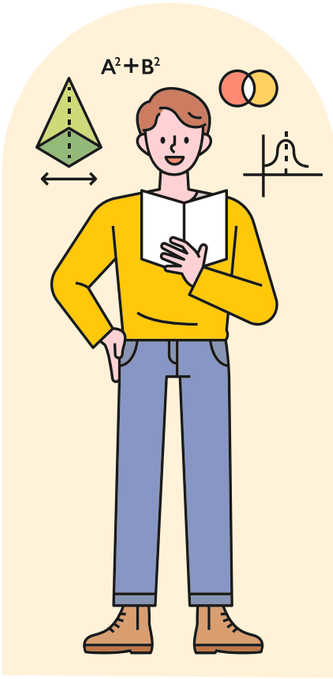
So, year after year, the department made the same appeal for support for student teaching scholarships. At first, resources were limited, and they would often get just enough to offer a couple of half-tuition scholarships to those who applied, Leatham recalls.

However, college Dean Grant Jensen and his associate deans were listening. When a major gift from philanthropist Ira A. Fulton came to the college, they recognized an opportunity to respond to the department's requests in a lasting way. A portion of Fulton's donation is being used to fund scholarships specifically for student teachers. "The college created it to fit the ask," Leatham says.

The Goodness of Students

The endowment reflects a broader legacy of generosity from Ira and the late Mary Lou Fulton, who have shaped campus life at BYU ever since their relationship with the university began in 1999. From gifting a powerful supercomputer to supporting the BYU Center for Animation to helping finance the construction of the Joseph F. Smith Building, the Fultons' contributions have touched areas across campus with a consistent focus on students. They have also supported scholarships and mentored learning opportunities that directly contribute to student success.

"I want to make a difference," Ira Fulton says. "That's why I'm so involved. I know the value of education. When I can participate with these great students and their great professors and help them achieve their goals, that personally excites me." He thinks of philanthropy as his "most precious Church calling," noting, "I feel in some ways like I'm on a mission."



Fulton finds his motivation in the character of the students he supports. "BYU is all about the wonderful students that attend here. They know how to dream, and I want to support them so they can reach their dreams," he says. "I became involved with the Y because of the caliber of the faculty and administrators. I stay involved because of the students. They are the finest I've ever met. Seeing the goodness of the students—there's nothing better."

Within the College of Computational, Mathematical, and Physical Sciences, that support has now reshaped one of the most critical





“This scholarship allowed me to not stress about finances and to fully focus on being the best teacher I could be.”

–Jason Logan



student experiences. “Our students were all having to work and do their student teaching, which is itself a full-time job,” says Duane Merrell, a professor in the Department of Physics and Astronomy. Today, thanks to the Fulton-funded scholarships, every student’s tuition is covered during their student teaching.

Leatham sees a transformation in the student teachers’ experience. “They don’t feel the pressure to maintain their part-time job. Being a student teacher is already stressful, and to take away that pressure is huge.” Receiving the scholarship offers both practical and emotional relief. “It takes away the anxiety around time so they can focus on school and not be anxious about ‘How am I going to pay the rent?’” Leatham explains. “And it also frees up time, because not all of the work of a teacher happens during the school day.”

The hands-on experience is essential to BYU’s teacher education model. “Student teaching is our experiential learning experience—there’s no doubt about that,” Merrell says. “We’ve been doing that before *experiential learning* became the key word.” Students begin working in classrooms early in their programs, gradually building toward the full responsibility of teaching. As Merrell attests, “you have to really do it to find out if it’s something you can do.”

He explains, “You’re actually finding out that just because you finished the day doesn’t mean what you’re doing goes away, because tomorrow comes really quickly.” Teaching “never quits.” Experiencing the reality of the profession is exactly what makes the experience transformative and is why removing external obligations and pressures matters so much.

Shaping and Strengthening Educators

Without the financial strain of paying their tuition during their semester of student teaching, students are free to immerse themselves in the experience, and the results are powerful. “This scholarship allowed me to not stress about finances and to fully focus on being the best teacher I could be,” says Jason Logan, a 2025 physics education graduate. “It opened the door and gave me more time to plan lessons, build physics demos for the kids, and collaborate with other student teachers.”

Zane Barr, another physics education alum, describes his similar experience: “Without this scholarship, I would have had to [work at] some minimum wage position, which would have severely hindered the time I could put into my lesson preparation.” Because of the financial aid, he says, “I could put all of my focus into my student teaching job, my calling, and my relationship with my brand-new wife.”

As the semester progressed, that focus translated into confidence. “Before my student teaching, I didn’t know if teaching would be too much prep or stress,” Barr says. “After my student teaching, I knew that everything would be okay.” For him, the breakthrough came during a hands-on physics lesson in which his students built bottle rockets. “They were so motivated to do the calculations and run the numbers,” he remembers. He watched as they discovered that learning can be fun.

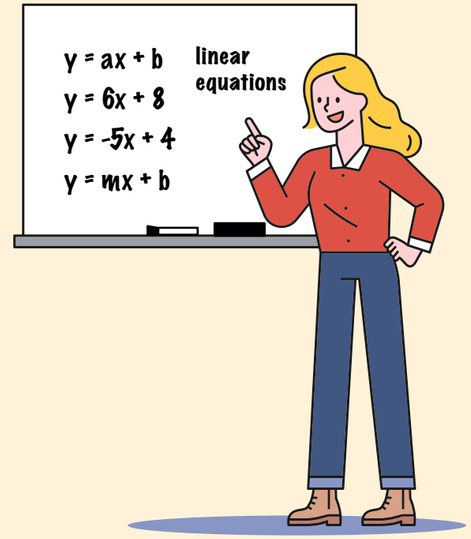
Leatham believes the scholarships send a message that extends beyond financial support. “In an era when fewer people are going into teaching, it has become difficult at times to fill these positions,” he says, noting that when student teachers receive financial support, it communicates to them, “We value you. Your work matters.”

That message resonates deeply for students already stretching to make ends meet. “I’m amazed at how many of our students are paying for school themselves and do not have very much family financial support,” Leatham says. “They have a lot of skin in the game. These donations are going to students who are already doing everything they can to get an education.”

Sometimes, what means the most for students is feeling donors’ faith in them. “One of the best things that came from the scholarship was just knowing that someone cared about me and was rooting for my success,” Logan says.

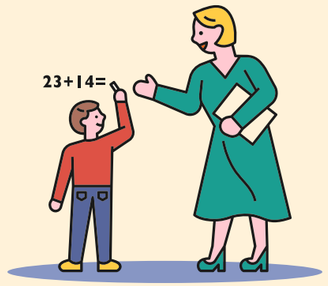
Through gifts that remove barriers, donors are cultivating educators, strengthening classrooms, and inspiring the next generation to give in turn. “It’s just amazing that our college had the wisdom to use the money this way,” Merrell says, “in a program that will thrive.” Because of that vision, the moment that matters most—the one where students become teachers—is now a moment they can fully embrace.

ILLUSTRATIONS: MINIWIDE/STOCK.ADOBE.COM



EDITOR’S NOTE

This article was written prior to the passing of Ira A. Fulton on August 21, 2026. We acknowledge with gratitude his lasting contributions to our college and to BYU and appreciate his participation in this story.



EVERY DONOR MAKES A DIFFERENCE

Derek Manwaring shares why he started donating early on in his career.

Derek Manwaring (BS '13) came to Brigham Young University in the fall of 2007 excited to live near his siblings and cousins and eager to study computers, which he'd always been interested in. But what he found on campus was more than he'd expected or hoped. He found an experience shaped by faith, mentorship, and opportunity—one that would later inspire him to give back.

"I pretty quickly got to know some of the professors in the Computer Science Department, and I just felt like they were great," Manwaring says. "I loved the environment." One of his professors in particular captured the spirit of the university. "Cory Barker would start class with a hymn or a primary song, and we would pray," he says. "I thought that was the best." That combination of spiritual and academic edification helped sustain Manwaring during a challenging freshman year. Though he remembers feeling out of place at times and experiencing loneliness even with family nearby, he still fell in love with learning and the campus community.

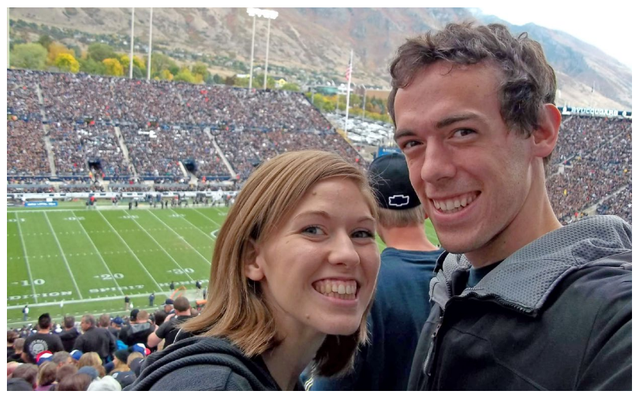
During that first year, he noticed a job posting from a chemistry professor who was looking for assistance working on a molecular modeling program that used a 3D graphics library familiar to Manwaring. Although he hadn't planned to work, the fit was too compelling to ignore. That opportunity allowed him to apply his skills in a meaningful way.

He "was a little intimidated," and he admits, "I can see some of the things I did were pretty naive." But the mentorship he received was invaluable. The experience helped him grow, built up his confidence, and offered him direction.

A FUTURE FRAMED BY PERSPECTIVE

By the time he graduated, Manwaring had completed internships and secured a full-time role at Amazon, opportunities he traces directly back to his time at BYU. In hindsight, he sees how fortunate he was to have the experience he did, and he's grateful for the many resources and people that made it possible.

One of those people was computer science Professor Ken Rodham, whose teaching style and personal investment left a lasting mark on Manwaring. "I just thought he was the best teacher, just very practical," Manwaring says. "I remember catching him in the hallways sometimes when I had questions, and he would always be willing to talk. To me that meant the world."



Manwaring and his wife Eliza attend a BYU football game in the fall of 2012.

PHOTOS COURTESY OF DEREK MANWARING



Manwaring graduates from BYU in April 2013.

Those informal moments of mentorship influenced not only Manwaring's coursework but also his career decisions down the road. When he found himself struggling early on in his role at Amazon, Manwaring reached out to his former professor and trusted mentor over email for guidance. Rodham's response was both encouraging and instructive: "You would like to build up a track record of success, and jumping ship too early and too often may not look good. My first approach would be to persevere and perhaps consider moving on between releases if that becomes necessary."

That counsel helped Manwaring stay at Amazon, where he is now a principal security engineer in Amazon Web Services. "He helped me make some really good decisions," Manwaring says. "The professors at BYU were so helpful."

MOTIVATION FOR MEANINGFUL GIVING

Early in his career, Manwaring began to consider giving back. "I just felt so grateful for the people that took time to mentor and help me," he says. "If I couldn't do that hands-on with others, I wanted to at least provide the opportunity or make it possible for others to have that."

A memory from his student days reinforced that commitment. He recalls overhearing faculty members discussing the role of tithing in funding BYU and wondering why more alumni don't donate as a way to pay it forward. The message stayed with him.

Manwaring is also quick to point out that meaningful giving doesn't require large sums. He started small, giving nominal amounts for the first few years. "It's easy to get caught up in thinking that unless it does something that you can see is a tangible difference, it's not really helping or it's not worth it," he says. "I just don't think that's true at all." This perspective comes from his own experience using lab equipment and benefiting from opportunities that were funded by others. "All that money has to come from somewhere," he says.

Ultimately, Manwaring's approach to giving is founded in trust and faith. "It's having the faith to believe that if you give the money, it will be used for something good," he explains. He hopes others can see the value in every donation and that they are creating a better experience for the next generation. "Do not get caught up in the actual amount—just recognize that every dollar gets used for something," he says. "You can be part of it even if it's a small amount."

His motivation remains very personal, and his connection to BYU has never faded. "I hope I can always give back," Manwaring says. "BYU is such a home for me. I loved being there." For him, giving back is about extending to future students the same opportunities he received.

Behind every lab, classroom, and mentorship are individuals whose generosity makes those experiences possible. Through donors like Manwaring, the BYU experience continues to prepare students for bright futures.

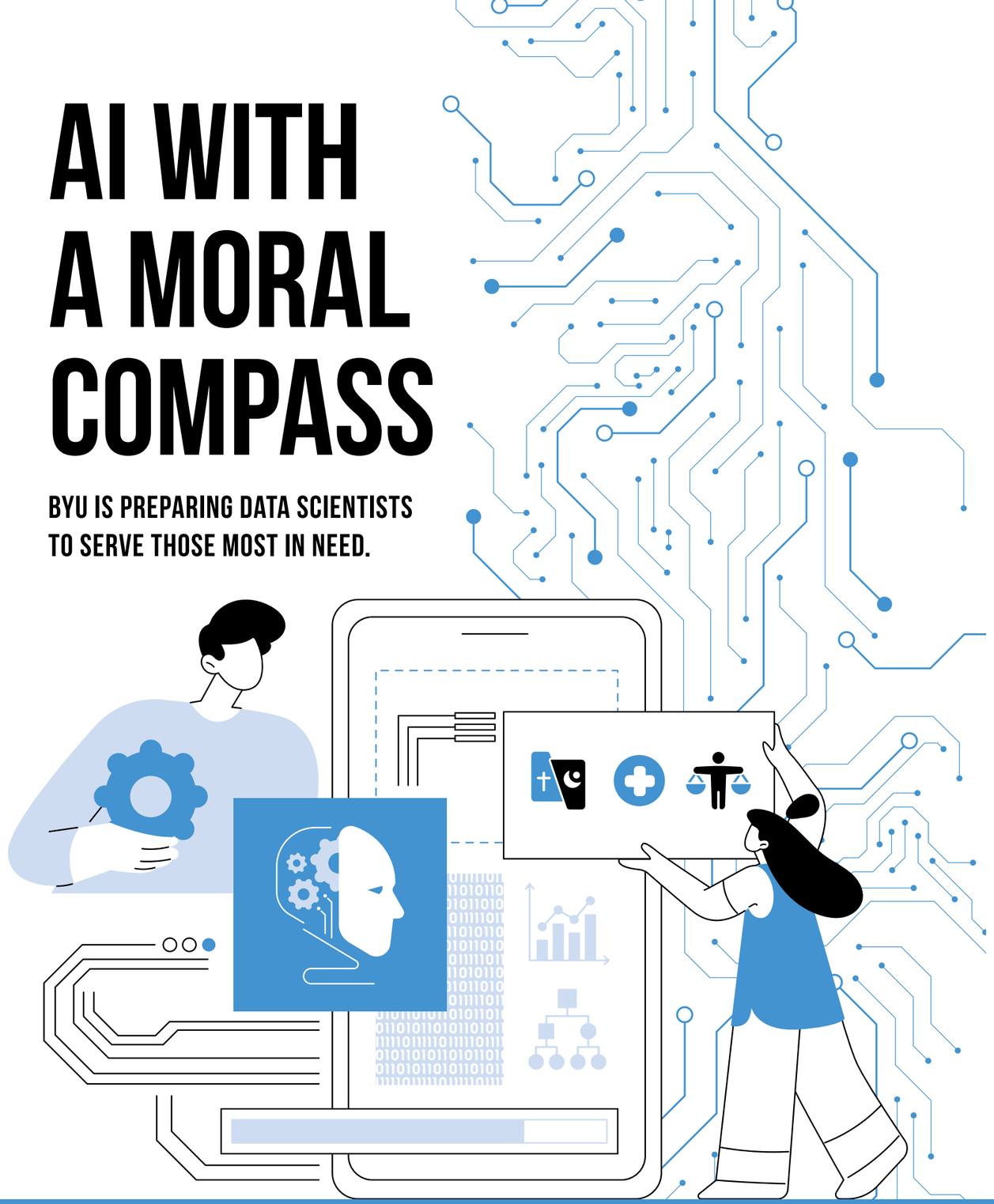
Manwaring takes a last view of his Amazon Web Services office after the COVID-19 lockdown begins in 2020.



> "DO NOT GET CAUGHT UP IN THE ACTUAL AMOUNT—JUST RECOGNIZE THAT EVERY DOLLAR GETS USED FOR SOMETHING." —DEREK MANWARING

AI WITH A MORAL COMPASS

BYU IS PREPARING DATA SCIENTISTS TO SERVE THOSE MOST IN NEED.



PEOPLE ILLUSTRATION: VISUAL GENERATION/STOCK.ADOBE.COM; SMALL ICONS (3): STAS111/STOCK.ADOBE.COM; LIGHT BLUE ICONS (2): SIDDIK (46)/STOCK.ADOBE.COM; CIRCUIT BOARD: ALFAN SUBEKTI/STOCK.ADOBE.COM

When people talk about artificial intelligence, they often focus on scale: bigger models, faster computation, sweeping technological change.

But at BYU, faculty and students working in AI and data science are learning to think differently. Their starting point is not scale but *need*. Who is affected by this problem? What barriers stand in the way? How can technology serve people who are too often left out of innovation? Across campus, a growing coalition of researchers focuses not only on advancing technical capability but on preparing students to lead with purpose.

Led by the AI and Data Science Committee, this coordinated effort combines technical precision with ethical reasoning and mentored research. Rather than treating AI as an abstract academic discipline or a commercial engine, the initiative emphasizes applications of the technology that improve the lives of those most in need and often overlooked.

ROOTED IN A MISSION

The AI and Data Science Committee brings together faculty from computer science, mathematics, physics and astronomy, and statistics. They are united by a shared conviction that technical excellence should be paired with moral responsibility.

BYU computer science Professor David Wingate explains how AI is changing modern living: “More and more people are turning to AI for information, for advice, for counsel, for coworking—all sorts of things. In the past, people would turn to friends, neighbors, pastors, bishops, colleagues, doctors, or schoolteachers, and now their first stop is often an AI.”

Elder Quentin L. Cook observed in March 2026 at BYU, “In a world in which so much information is available, it is increasingly important to be certain that what we accept as truth is grounded in eternal principles.”[1] Wingate emphasizes the importance of building systems that reflect core values. “Because of the reach and the impact of AI, I think it’s important that AI be honest, accurate, respectful, and unbiased. Small problems with AI can be magnified when multiplied by billions of users,” he says.

The initiative’s goal is to prepare students to become leaders in developing and using AI and data science in ways that promote excellence in their disciplines, strengthen families and communities, and serve those most in need. That mission shapes everything from curriculum design to research priorities.

Mentored undergraduate research plays a central role. Students are treated as collaborators who are expected to explore open-ended problems, consult stakeholders, and consider the ethical and social implications of their work alongside technical constraints.

BYU’s academic offerings include majors and emphases in data science, machine learning, actuarial science, and applied and computational mathematics (ACME). Each program emphasizes adaptability, interdisciplinary thinking, and real-world impact.

For students, this approach builds confidence and professional identity. Rather than focusing solely on their coursework, students are exposed early in their academic careers to applied projects, where success is often measured not by a simple solution but by whether the work meaningfully helps others.

LEARNING THROUGH SERVICE

Students, supported by donors, are already making an impact on the world through research. To further strengthen the university’s AI and data science initiative, the college is creating a founder endowment in AI and data science to support additional student researchers.

Working on socially grounded projects reshapes how students think about both technology and their future careers. Mentored research pushes them beyond their technical comfort zones, requiring them to communicate with nonexperts, understand real constraints, and face ethical ambiguity.

“My experience in undergraduate AI research at BYU has been genuinely transformative,” says Vincent Galbraith, a recent graduate and former member of the 2026 BYU Actuarial AI Research Group. “I’ve had the opportunity to work on cutting-edge projects . . . to classify physician notes in electronic health records, which is directly applicable to real-world healthcare actuarial work. This research has done more than sharpen my technical skills. It has shaped the way I think about problems and has given me the confidence to contribute meaningfully in professional settings.”

Faculty see this transformation as central to the program’s success. Students leave with both technical competence and a clear sense of stewardship. BYU’s

approach also recognizes the importance of collaboration beyond campus; the AI and data science initiative actively engages industry partners and visiting experts. These partnerships keep research grounded in real-world constraints while exposing students to the professional contexts they will soon enter.

SERVANT, NOT MASTER

BYU's work also addresses how AI interacts with identity, community, and belief. For instance, Wingate believes that AI systems should be designed in ways that respect religion as a central part of many people's lives. "AI should support people in their religious identities," he says. "It should strengthen them in their faith. It should recognize that humans have experiences with divine, and I don't think it should privilege one religion over another." He explains that for many people, religion "is an important source of meaning, an important moral and practical framework, and an important element of community." As a tool created and used by humans, AI should reflect that.

To address these concerns, BYU is participating in the Consortium for Evaluation of Faith and Ethics in AI, which includes universities from several religious traditions. The group is developing methods to evaluate how AI responds to religious questions and whether those responses are accurate and unbiased. Wingate explains that researchers are asking "Is it accurate about religion? Does it understand religious history, tradition, and doctrine? Is it biased for or against certain religions? Does it favor certain religions or disfavor others?"

Wingate also emphasizes the importance of human agency. He says, "There's a line that is crossed between persuasion and opinion manipulation, where someone's opinion is manipulated without their consent." He explains that part of ensuring AI is safe and ethical is making sure humans are in charge of AI, not the other way around. As Elder Cook counseled, "We must all learn to use technology as a servant, not as a master."[2]



Wingate remains optimistic about what AI can achieve when guided carefully, especially in education and healthcare and for underserved communities. "AI truly has the potential to improve the quality of life for a tremendous number of people," he says. However, he also acknowledges that progress must be intentional. "I don't think the benefits of AI are likely to accrue evenly to all members of society. . . . It will take a lot of effort to make sure that AI is used in ways that distribute the gains equally."

He sees BYU students as a crucial part of that effort: "It is imperative that at BYU we teach and train our students to be a voice of goodness." Through strong educational experiences and meaningful research, students can earn influential roles in the industry and "be that light that we need at these tech companies that are changing the world," Wingate says.

While artificial intelligence continues to shape the future, BYU's AI and data science initiative offers the undeniable reminder that the most powerful technology is only as good as the values guiding its use. Elder Cook counseled, "Listen to and follow the prophet, filter out the loud and confusing noise, and follow the Spirit. In this uniquely challenging time as we enter the artificial intelligence world, you would be wise to study the scriptures and follow the Lord's prophet and follow Jesus Christ."[3]

Notes

1. Quentin L. Cook, "Faith in Jesus Christ in the Information Age," BYU devotional, March 3, 2026.
2. Cook, "Faith in Jesus Christ."
3. Cook, "Faith in Jesus Christ."

LEFT Elder Quentin L. Cook delivers a BYU devotional on March 3, 2026.



Elder Gerrit W. Gong invited BYU Professor David Wingate and a group of undergraduate researchers to tour the Salt Lake Temple Visitors' Center.

ELDER COOK: BYU PHOTO; VISITORS' CENTER: COURTESY OF DAVID WINGATE; JANE HOUSLEY: BYU PHOTO; ISOMETRIC ICONS (2): SIDDIK (46)/STOCK.ADOBE.COM

A STUDY IN STEWARDSHIP

In recent years, wildfires in the American West have grown larger and more destructive, and they are extremely difficult to predict. Accurate forecasting models exist, but they are often computationally expensive, limiting how quickly they can be run and updated.

Led by Jane Housley, who graduated in 2025 with her master's in mathematics, one BYU student research team tackled this constraint directly. Working with advanced AI models, the team developed a system that accelerates wildfire prediction by a factor of seven, dramatically reducing the time required to generate actionable forecasts. While this technical achievement is significant, more importantly, the new system enables faster decision-making and better resource allocation, potentially saving lives and property.

This wasn't Housley's first experience with impactful research; she also had meaningful opportunities as an undergrad in applied and computational mathematics. "I don't think there are many things that have impacted my life in a beneficial way more than the Math Department ACME program did," says Housley. "I have talked to people at other schools, and they were just shocked at how much undergraduate research experience I had gotten, so I think that's really unique to BYU."

In the College of Computational, Mathematical, and Physical Sciences, students work closely with faculty, often across disciplines, and are expected to navigate ambiguity, including incomplete data and evolving goals. They also consider the concerns of real stakeholders.

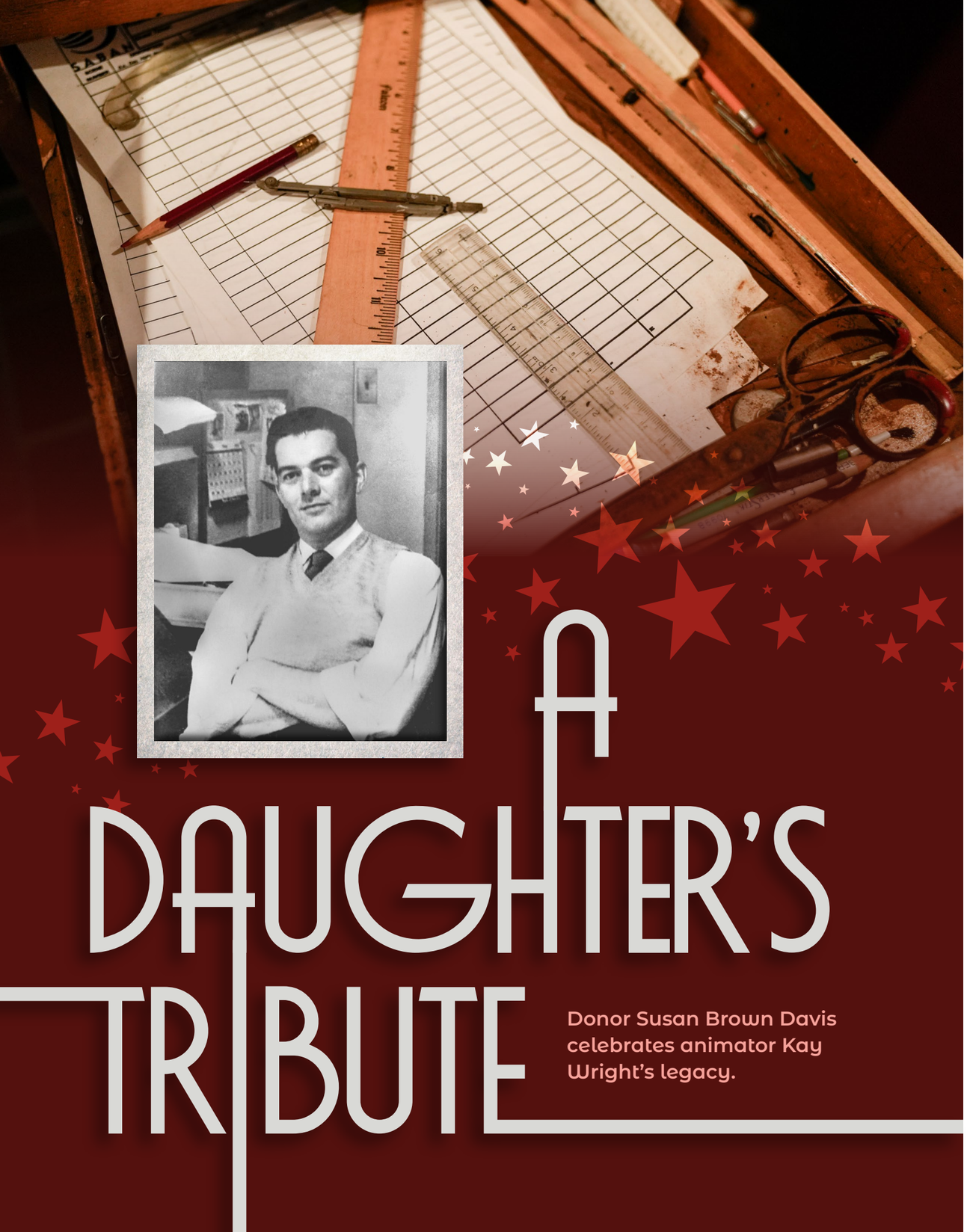


BYU grad Jane Housley helped develop a system that accelerates wildfire prediction with advanced AI.

Many students describe their mentored research experiences as transformative. Andrew Carr graduated from BYU's ACME program in 2018, then earned his master's in computer science. He says, "Because BYU cares deeply about both intellectual excellence and spiritual support, I felt that my well-being was always just as important as solving hard problems. This also helped build my confidence and positioned me well to lead large organizations and support those under my stewardship."

Professor David Wingate shares that for a student of his, working on mentored research projects and publishing several papers paved the way to a PhD program at the University of Washington. "That opened the door for him to go to Anthropic," Wingate says. "So we now have a BYU graduate working at one of the companies that's changing the world, and he's on the team that is responsible for making sure that AI is safe and effective. If he hadn't had those mentored experiences, he wouldn't have gotten the publications that were necessary for him to be competitive at the best graduate programs in the world."

The goal is not to simply prepare students for jobs in industry or academia but to shape professionals who understand their work as a form of stewardship. "Being able to use my math skills to help people really motivates me," says Housley. "Just knowing the things I learned at BYU can be used to help people is really important to me."



A DAUGHTER'S TRIBUTE

Donor Susan Brown Davis celebrates animator Kay Wright's legacy.



Kay Wright's desk, which once resided within the walls of Walt Disney Productions, now sits in his daughter's home.

The desk that sits in Susan Brown Davis's home in Gilbert, Arizona, draws the eye—and not just because it is piled high with vintage toys, Mickey and Minnie Mouse prominent among them. Its bright wood, glass light table, and layers of shelves tell a story—in fact, many stories. That desk was where her father's drawings came to life.

Davis's father, Kay Wright, was a prolific artist whose career in animation spanned over sixty years, much of it spent at Walt Disney Productions and Hanna-Barbera. Wright continued illustrating storyboards well into his seventies. For Davis, his legacy is defined by the spirit he brought to his work, his faith, and his family. "My father brought dreams to life," Davis says. "His talent was full of wonder, imagination, and joy." That sense of joy is something Davis believes was just part of who he was.

Growing up, she and her siblings saw not just Wright's finished work but the personality behind it. Wright entertained easily, making faces, playing his bagpipes, telling stories, and drawing anything for anyone. He left everyone—children and adults alike—with a cherished memory.

Wright and his wife shared their creativity and generosity inside and outside their home. Davis says, "I call them 'GGG': 'God's great givers.' That's what my parents were. They gave faith, gave to their church, gave to the community, and gave to their family and all the diverse people they called friends." Their example shaped her life and the lives of others. "Dad would find jobs for many talented artists looking for employment," she says. "Animators took care of animators."

When he retired from Hanna-Barbera, colleagues gifted Wright a collage of the characters he'd created, surrounded by comments from many well-known animators in his field. The characters raise glasses in his honor, and a speech bubble above one says, "Nonalcoholic, of course." Even in celebration, the tone reflected who he was. "Everyone knew his beliefs and generosity," Davis says.

From Gofer to GI

Wright was born Karran Eccles Wright in Flushing, New York, on September 30, 1919. One of eight children, he was raised in Ogden, Utah. His father served three missions for The Church of Jesus Christ of Latter-day Saints and died while serving as a mission president in Berlin. Wright was thirteen years old at the time, and his mother moved the family from Ogden to Los Angeles, where she graduated from the University of Southern California and opened a drama school. It was in Los Angeles that Wright began his artistic career.

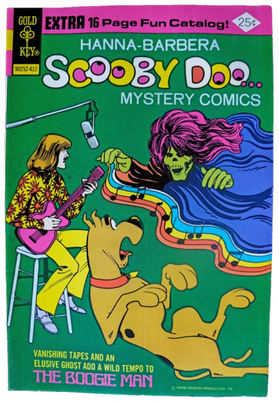
LEFT TOP Tools of the trade can still be found in Wright's desk. **LEFT CENTER** Kay Wright was a prolific artist whose career in animation spanned over sixty years.



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ABOVE Three comic book cover illustrations Wright created during his career, which reflect his ability to visually define a wide range of characters in distinct styles.

He attended the Santa Monica Technical School and then the Otis Art Institute and the Chouinard Art Institute in Los Angeles. In December of 1937, at seventeen, he started working at Disney as a gofer, or errand runner.

By eighteen, Wright was working as an "inbetweener" on *Pinocchio*. When animation was drawn by hand, inbetweening was the process of creating the intermediate frames between two key frames. This created the illusion of movement by smoothly transitioning one image into another. The process involved the use of a light table, the central part of the desk that once sat in Wright's office on the Disney lot but now resides in his daughter's home.

Wright later worked on sketches and models for *Fantasia* and *Bambi*. In 1943 he began working on comic books as a freelancer when he answered a "Cartoonist Wanted" ad in the newspaper because he wanted extra work. By that time, he was married and had his first child.

But Wright's career was not a straight path of uninterrupted success. Like many of his generation, Wright had to leave his career during World War II. He was drafted to serve in the war in June of 1944.

On completion of basic training, he was pulled from his unit prior to its departure for Europe. "The brass at Fort Hood needed an artist to illustrate planes and artillery and prepare propaganda," Davis explains. "He created a myriad of large comedic posters for the army to boost soldiers' morale."

That reassignment proved to be providential. According to Davis, the members of Wright's original unit were all killed at the Battle of the Bulge. Had his artistic skills not changed the course of his service, Wright may not have come home.

A True Gentleman

After the war, Wright returned to animation and expanded his work in comics, where his ability to visually define a wide range of characters in distinct styles set him apart. "He did hundreds and hundreds of comic books," Davis says. "He was a master at creating the look of a character." His catalog included Woody Woodpecker, Donald Duck, Mickey Mouse, Superman, Batman, Scooby-Doo, Yogi Bear, the Flintstones, and others.

"My father brought dreams to life. His talent was full of wonder."

—SUSAN BROWN DAVIS

While at Disney, Wright worked as a breakdown artist on *Lady and the Tramp*, did animated segments for *The Mickey Mouse Club*, and served as an assistant animator for *Sleeping Beauty*. He also worked on *101 Dalmatians*, *The Incredible Mr. Limpet*, *Winnie the Pooh and the Honey Tree*, and more. At Hanna-Barbera, he produced a series of Bible stories consisting of thirteen features and created the studio's cartoon series *The Smurfs*, for which he was the recipient of an Emmy nomination in 1982 and the 1988 Golden Award from the Animation Guild.



Wright's colleagues gave him a collage of his creations (center) when he retired from Hanna-Barbera.

PHOTOS BY KIMBERLY JENKINS

Wright spent his life working on multiple projects simultaneously. He was a cartoonist, storybook illustrator, layout artist, animator, director, and producer. He traveled everywhere from Thailand to Spain, teaching, training, and making treasured friends.

Throughout his career, he remained grounded in his values. Davis remembers observing how others perceived her father when she visited him at work. Once, she told the guard at the studio's gate that she was there to see Wright. She recalls, "The guard replied, 'Just a minute,' and walked away. When he came back, he said, 'You mean the gentleman.'" Wright's reputation was tied as much to his character as to his skill.

A Lasting Influence

Years after his passing, Wright's influence continues through his family and through new generations of artists. A BYU alum, Davis has been especially moved by the growth of the university's animation program. "When my father passed away in 1999, I was thrilled to know that a BYU animation [program] was beginning," she says. "I wanted to pay tribute to my father. He spent a lifetime in the animation business and is highly respected."

Witnessing BYU's program in action had a profound effect on her. "While visiting a class, I was extremely emotional because I thought, 'Dad, is there a window in heaven? Are you watching this? Students at BYU are learning your craft,'" she says. "That would thrill him! If they need cartoons in heaven, he's on it. Walking [into the classroom], I was struck by how much he would appreciate seeing the work he loved being carried forward here." This experience deepened her desire to give back in honor of her father by supporting the animation program.

Davis sees in today's students something meaningful, creatively ambitious, and hopeful. "They're taking animation classes from BYU to create projects ready for public entertainment," she says. "For these students to begin a storyline and make it come alive is not only inventive and entertaining but prideworthy. The dedication to their craft ensures admiration, wonder, and joy. The world is wanting wholesome entertainment."

Davis's own career path reflects the same blend of creativity and purpose. Though Davis initially pursued another direction, she felt drawn to art and pursued a degree in art teaching at BYU. For her, art is a way to connect to the legacy her father built, one rooted not only in storytelling but in service, humility, and joy.

That legacy lives on through the desk in her home, the stories she tells, the family she treasures, and the countless images her father helped bring to life. Generations of Wright's descendants will know their grandfather's work. And generations of others will see the high-quality productions created by the BYU Center for Animation, where young students entering the industry hope to have the same impact Kay Wright did, both in creating art and in doing good in the world.

BYU Rheumatic Relief:

Saving Young Hearts



35,000 books given to schools and screened children in 2026

American Samoa



Samoa



14 BYU students

6 cardiac sonographers

2 cardiologists

1 hospitalist

7 BYU students

4 cardiac sonographers

1 cardiologist

2,095 school children screened

100+ echocardiograms recorded

92 cases of early-to-intermediate-stage RHD (Stages A, B, C, or D) diagnosed

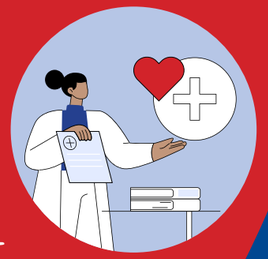
10 children discovered to have advanced heart disease, needing surgical intervention in the near future

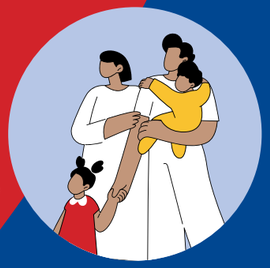
5,624 school children screened

2.2% incidence rate of RHD—lower than the percentage observed in the previous screening

140 echocardiograms recorded (2.5% of children screened)









11 children diagnosed with borderline RHD

39 children diagnosed with Stage A

65 children diagnosed with Stage B

15 children diagnosed with Stage C

3 children diagnosed with Stage D



Rheumatic heart disease (RHD) diagnoses received by about **80%** of children referred for full echocardiograms

50–100 children screened per hour

PEOPLE: VISUAL GENERATION/STOCK.ADOBE.COM; BOOK: NAREK/STOCK.ADOBE.COM; ISLANDS: VLADIMIR/STOCK.ADOBE.COM; ARROWS: ARTULINA/STOCK.ADOBE.COM

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INSPIRED PURPOSE

A JUNIOR STUDYING COMPUTER SCIENCE, SAMUEL BIRD spends his days at the intersection of technology, language, and human connection. In the BYU MATRIX Lab, where teams focus on machine translation for low-resource languages, Bird contributes to a project with profound personal meaning: using artificial intelligence to translate American Sign Language.

Experiential learning opportunities like Bird's are more than academic; they are what former BYU President Kevin J Worthen called "inspiring learning." Through hands-on research, mentorship, and real-world application, students are discovering their inspired purpose.

Bird finds purpose in translating ASL. He began learning sign in seventh grade and has continued to take opportunities to teach, learn, and serve in the language, including on his mission. "As someone who has been part of the Deaf community for years, I know how much this research means to people I love. This experience has impacted me—for the better—forever," he says. "It has made me more service-oriented and helped me serve as the Savior would serve. His love is at the center of every bit of research I do."

Opportunities like these don't happen without support. Donor generosity makes it possible for students like Bird to participate, gain invaluable experience, and pursue projects that uplift communities around the world. Every contribution supports mentorship and discovery and inspires personal growth.

When you support experiential learning at BYU, you invest in students like Bird, who are eager to learn, serve, and lead. You empower students to tackle meaningful challenges in their fields and to lead with Christlike compassion and purpose.

Thank you for making this kind of education possible at BYU.

You can support a future CMS leader and give to the BYU College of Computational, Mathematical, and Physical Sciences at

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