



THE UNIVERSITY OF UTAH

INNOVATE.

INNOVATION, COMMERCIALIZATION
& ENTREPRENEURSHIP



— REPORT 2013 —

INNOVATE.

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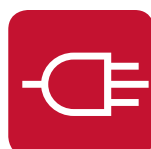
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U professor of materials science and engineering Ling Zang launches startup to develop device that can “sniff” drugs and explosives using nanofibers to catch targeted vapors.



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Stacy Bamberg, a professor of mechanical engineering, invented a smart insole to help people with a limp or amputation.

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The University of Utah has a diverse and highly connected innovation ecosystem. Get to know the key organizations and how to get involved.



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Student startup company Power Practical finds success selling innovative power source.

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“Green energy” is the buzzword these days — we have to really go after it.”

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Harnsberger reinvents medical publishing.



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USTAR is a state agency that bolsters innovation at the U and across the state.



U of Utah President David Pershing

From the President

For decades the University of Utah has enjoyed a reputation as a world-class research institution — thanks to a spirit of discovery that animates every discipline and department across our campus.

At the U, we value research because it expands our understanding of the world around us. We also recognize that our discoveries can lead to innovations that make a positive and enduring impact on the lives of millions of people.

Here at the U, ideas and entrepreneurship go hand in hand. Every year the U's research generates hundreds of inventions and dozens of U.S. patents. More than 200 companies have built businesses from U technology. The successful commercialization of our research has strengthened our state's economy and helped make the state of Utah a national leader in technological innovation.

The University of Utah's commitment to research, innovation and entrepreneurship creates a vibrant, challenging and exciting environment for our students and faculty. We intend to ensure that the U will always be a place where ideas can take root, grow — and perhaps change the world.

FY 2013 at a glance

\$361 *million*

Research awards to the U. The money was received by colleges and departments across campus for many diverse projects.

167 *Total number of faculty who disclosed an invention, including 73 new inventors and 94 repeat inventors.*

Invention disclosures submitted to the Technology and Venture Commercialization office.

212

U.S. patents issued for U technologies ranging from medical devices to software.

88

\$14M

Money awarded by private companies and foundations for commercial sponsored research.

89

License agreements, including exclusive, non-exclusive, options and amendments.

17

Total startups formed based on U technologies.



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and leader of the Entrepreneurial Faculty
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About Innovate.

"Innovate." is a publication dedicated to celebrating and promoting innovation, commercialization and entrepreneurship at the University of Utah. It is produced with oversight from the Internal Commercialization Coordinating Council.

Q&A cycle of innovation

Q: What makes the U an innovative place to work and study?



**GLENN
PRESTWICH,**
Medicinal
Chemistry
professor

"We have a uniquely entrepreneurial ecosystem that engages faculty and students in creating a culture of impact. We strive to be silo-free, creating an environment that allows free flow of ideas among disciplines, particularly those not typically interconnected."

Q: Innovation comes in many forms. How do you define it?

"It's the end result of exploration and discovery: new knowledge and creative discovery equal innovation. It's the start of changing people's lives: innovation and execution equal impact."

Q: How do you measure the success of an innovation? When does it matter?

"Innovations matter when they impact the lives of other people, and that requires experienced, dedicated and committed execution."

VIEWS on the U



VIVIAN LEE,
Senior V.P. for Health
Sciences

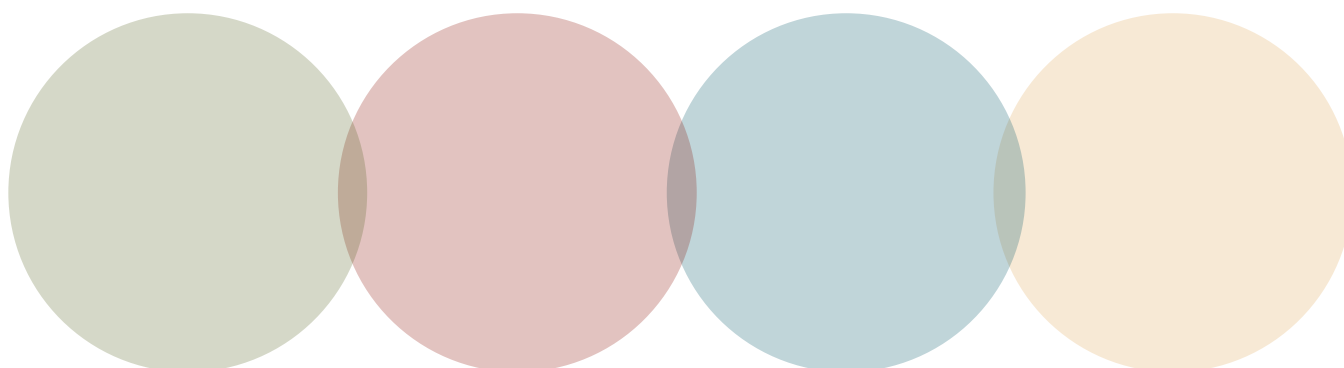
“We have such a remarkable culture here — students who intuitively understand the benefits of collaboration as well as faculty committed to fostering interdisciplinary collaborations and entrepreneurial spirit. I am constantly amazed at the ability our students have to influence our ecosystem with their enthusiasm and vision.”

“The foundation of the commercialization success at the U is an innate entrepreneurial spirit among our faculty and students. The many interdisciplinary collaborations stimulate innovation.”



RICHARD BROWN,
Dean, College of
Engineering

Innovation Ecosystem



Vice President for Research

The Vice President for Research office at the U oversees many aspects of research and related activities across campus, including commercialization, compliance and education. The office also manages many related institutes, centers and initiatives.

Lassonde Entrepreneur Center

The Lassonde Entrepreneur Center is home base for student entrepreneur programs at the U. Programs include student business plan competitions, innovation courses, internships and commercialization opportunity.

Entrepreneurial Faculty Scholars

The Entrepreneurial Faculty Scholars program brings together innovative faculty at the U who share the common dedication to motivating and enriching the translational experience for faculty and student entrepreneurs.

Center for Medical Innovation

Medical doctors interested in innovation have a one-stop-shop for resources at the Center for Medical Innovation. It serves as an information and gathering hub for faculty, students and industry in the health sciences.



TOM PARKS,
V.P. for Research

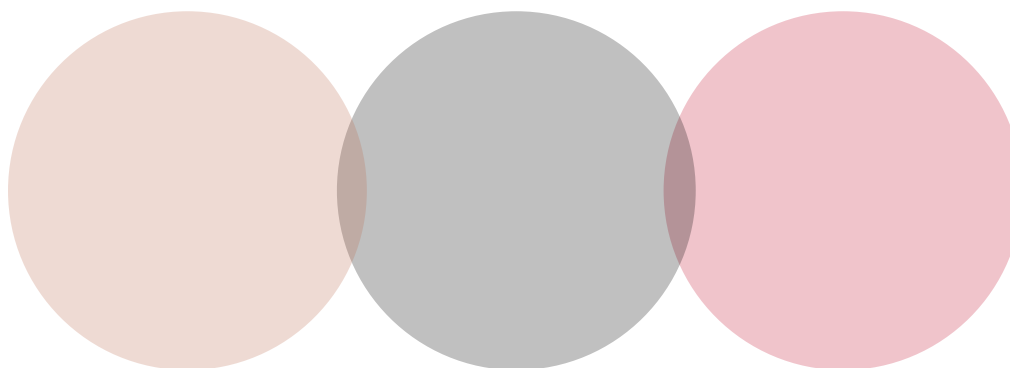
“At the University of Utah ... innovation and commercialization are now broadly understood to be general university responsibilities worthy of support. This has led to an environment where people are respected, encouraged and rewarded for their interests in innovation and commercialization.”

“The U has an incredibly unique culture for entrepreneurship. It’s more interdisciplinary than most campuses, and it engages students in more meaningful ways. This benefits everyone across campus, including business students who are interested in startups and commercialization.”



TAYLOR RANDALL,
Dean, David Eccles
School of Business

at the University of Utah



Center for Engineering Innovation

The College of Engineering, with the Utah Nanofabrication Laboratory, established the Center for Engineering Innovation. It bridges the gap between basic science and engineering innovation and commercial product development.

Technology & Venture Commercialization

Technology and Venture Commercialization (formerly the Technology Commercialization Office) manages the U’s intellectual property and works with new and established companies to develop technologies.

Campus & community partners

Innovation, commercialization and entrepreneurship requires countless partners across campus and the community. New partners are constantly joining the network.

About the Ecosystem at the U

The University of Utah has a rich ecosystem driving innovation in many forms. Faculty, students and community members are encouraged to participate by contacting one of the ecosystem members or taking advantage of one of their programs or services.

Unlocking the Secrets of Autism

RESEARCH PROFILE

Long-term study conducted by U researchers and partners across the country identifies new genetic markers for autism

A long term study performed with collaboration from University of Utah researchers, U startup company Lineagen and several other groups from around the country is helping to shed new light on the mysteries of autism spectrum diseases (ASDs).

The findings, which identified 24 new missing or duplicated

stretches of DNA — copy number variants (CNVs) — with a strong link to autism, has the potential to help researchers advance methods for early detection and treatment of ASDs.

One of the biggest of its kind, the study analyzed a population of 3,000 people with ASD and an additional 6,000 person con-

trol group. The large population size helps validate the results and allows clinicians to immediately use them in diagnosing and treating ASDs.

“Utah has long been leading the way in disease-relevant genetic discoveries,” says Mark Leppert, a distinguished professor in the Department of Human Genetics and one

of three lead authors of a paper relating to the study. “The newly identified variants were discovered based on CNVs and gene sequence variants originally found in multi-generational Utah ASD families. The ability to replicate the association in a second, large ASD population is a major step forward in understanding the genetic markers associ-

ated with ASD.”

In conjunction with related research, U startup Lineagen has developed a genetic test that can check for CNVs linked to autism, including the 24 newly discovered ones. These genetic markers have the potential to diagnose up to 10-12 percent of children with ASD.



A study by U researchers and partners around the country uncovered new genetic markers for autism.

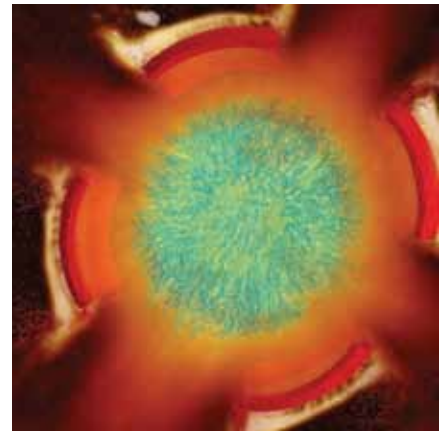
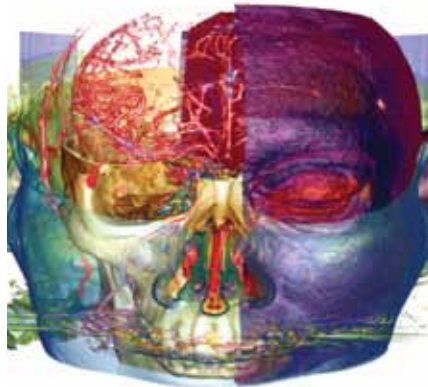
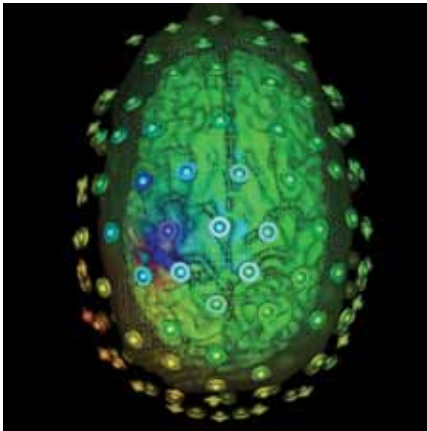


RESEARCH

The University of Utah is a research powerhouse for the state of Utah. Countless innovations come from research conducted on campus. The U receives hundreds of millions of dollars in research grants every year. The money is used to advance our knowledge of everything from building materials to cancer treatments. More importantly, research leads to advances that improve people's lives.

“We look at commercialization as a pathway that allows scientists and their discoveries to have the broadest impact possible.”

GREG JONES, SCI associate director —



The Scientific Computing and Imaging Institute at the U specializes in complex visualizations.

Scientific Computing and Imaging Institute Stronger than Ever

While a lot of research at the U is conducted in traditional lab settings, the Scientific Computing and Imaging (SCI) Institute is solving important problems by performing cutting-edge collaborative image analysis, scientific computing and visualization research.

“We believe that revolutionary solutions to important science, engineering and medical problems will emerge from scientists and engineers who are working at the frontiers of their respective disciplines and are engaged in meaningful interdisciplinary collaborations,” says Christopher Johnson, the director of SCI.

SCI is notable for pushing the boundaries of the scope of research conducted. Recent studies have included a case study on poetry visualization and an analysis method for predicting hip joint contact stresses.

“We look at commercialization as a pathway that allows scientists and their discoveries to have the broadest impact possible,” says Greg Jones, an associate director at SCI. “The search for impact and relevancy of our discoveries were the primary drivers behind a number of our spinoff companies such as Visual Influence, RayScale and Vistrails. This impact includes creating high-wage, technical jobs in Utah and helping build or recruit new companies into the state.”



USTAR helped finance the Sorenson Molecular Biotechnology Building at the U.

USTAR a Growing Presence at the U

Initiative helps drive innovation and economic development across state

The Utah Science, Technology and Research Initiative (USTAR) is a statewide economic development effort that helps recruit talented researchers, build necessary facilities and connect entrepreneurs with the resources they need to succeed. Since forming in 2006, it has made significant progress toward these goals.

“One of the things that Utah is well-known for is the entrepreneurial nature of our people,” says Ted McAleer, USTAR executive director. “We have a lot of startup companies and a lot of new ideas being generated in Utah. USTAR is like a fuel additive that makes a strong engine run faster.”

While USTAR operates across the state, it has a special focus on the U, Utah’s largest research institution. USTAR has helped hire dozens of top researchers at the U by providing seed funding to pay them. These researchers come from areas as diverse as digital media and nanotechnology.

USTAR has also helped build new infrastructure at the U, most significantly helping finance the new Sorenson Molecular Biotechnology Building. The \$130 million, 208,000-square-foot facility features open lab spaces and common areas designed to encourage collaboration.

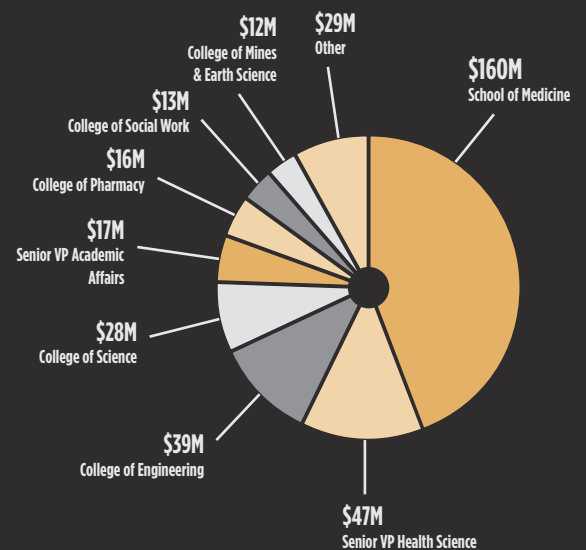
RESEARCH *by the numbers*

RESEARCH FUNDING

\$500M				
\$450M				
\$400M	\$450M	\$411M		
\$350M	\$355M		\$393M	\$361M
\$300M				
\$250M				
\$200M				
\$150M				
\$100M				
\$50M				
	FY 2009	FY 2010	FY 2011	FY 2012
				FY 2013

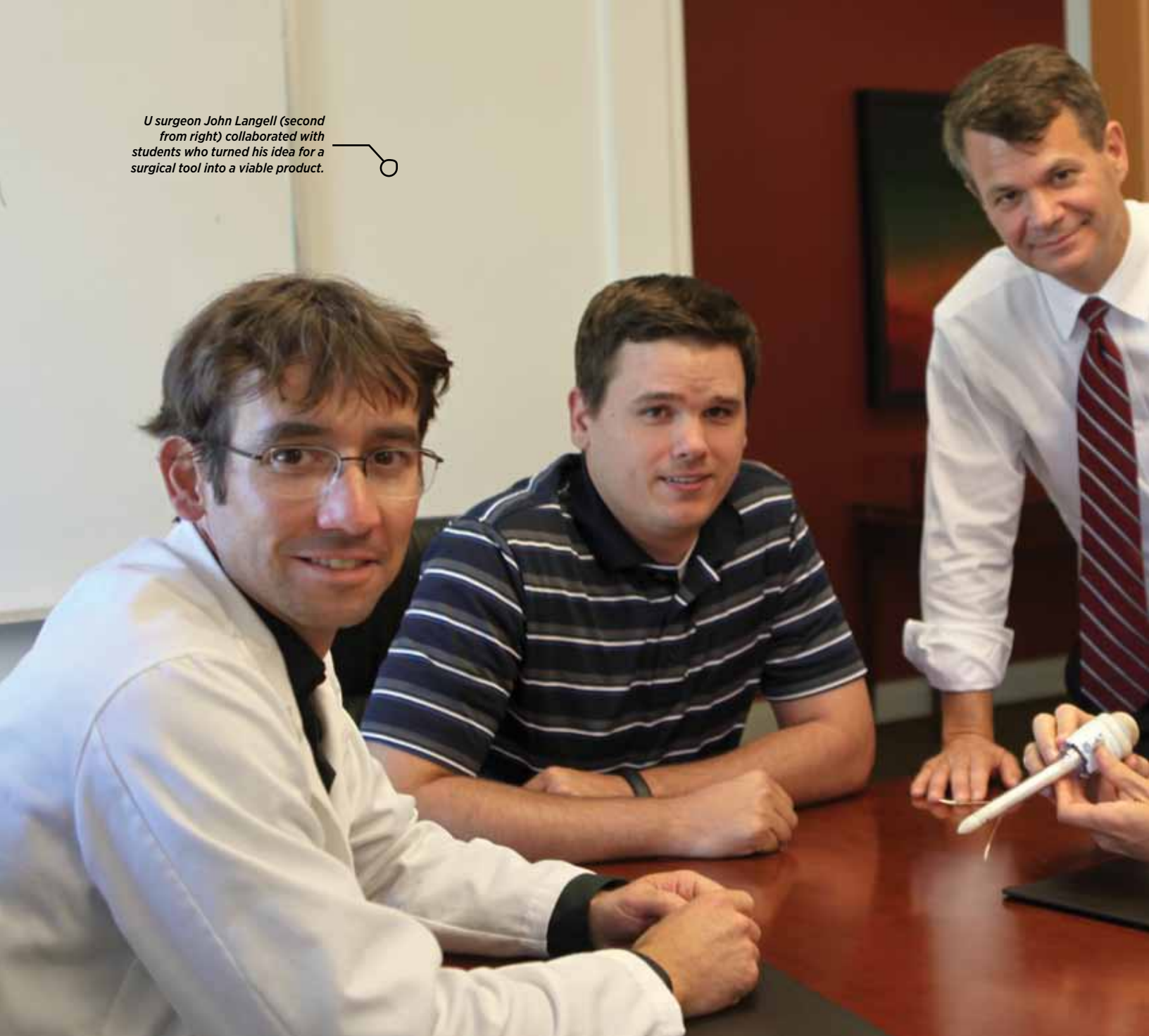
The University of Utah is the leading research institution in the state, receiving \$361 million in research awards in FY 2013.

FUNDING BY UNIT



Many colleges and departments at the U receive research awards. Awards came from federal agencies including the U.S. Department of Health and Human Services, the National Science Foundation and many others. Source: Office of Sponsored Research (<http://bit.ly/QGMzjy>).

U surgeon John Langell (second from right) collaborated with students who turned his idea for a surgical tool into a viable product.



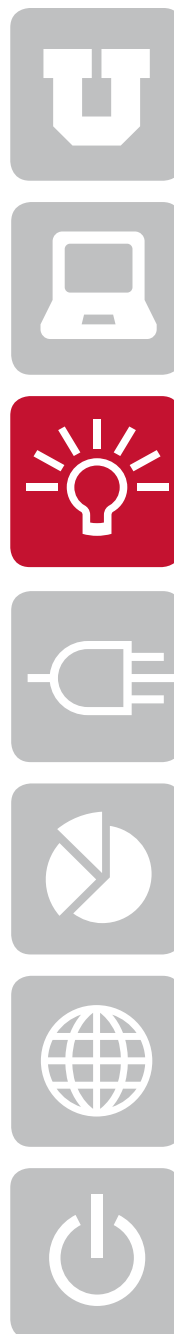
Troclosure for Surgeons



The Troclosure device is designed to help surgeons suture the inside of the fascial defect created during laparoscopic surgery.

INVENT

Inventions at the University of Utah come in many shapes and sizes. They can be theoretical, a process, a new combination of chemicals or a machine. They come from areas including humanities, engineering, health sciences and architecture. Some inventions will be commercial successes, others are successful because they are enlightening. Despite their differences, inventions have plenty in common. Their origin can be spontaneous. They solve a problem. And their success often depends on the passion of those behind them.



INVENTOR PROFILE

Doctor, students develop device to improve laparoscopic surgery

Laparoscopic surgery may never be the same if a new device developed at the U reaches the marketplace. The device, called Troclosure, was developed by John Langell, a surgeon and director of the U's Center for Medical Innovation, and a team of students to make it easier to suture the fascial defect created when ▶

► doing the surgery.

"As a surgeon, this is something I want to use. This is a problem every day," Langell says.

The Troclosure improves on an existing device, the trocar, which serves as a portal for surgeons to work through. The device developed at the U adds a mechanism to precisely place sutures on the inside of the abdominal wall. The existing "standard of care" is to place sutures by hand, which can be imprecise and inefficient, especially when the abdominal wall is thick.

Langell thought of the idea several years ago, but it wasn't until he presented it to a group of students in the BioInnovate program that it took off. The students took up the idea in fall 2012. By the following spring, they developed a functional prototype and won \$20,000 at a student medical-design competition.

The students on the team include bioengineering students Pablo Johnson, Mike Fogarty and Spencer Madsen. Johnson is also a medical student at the University of Utah Medical School.

The team has created a third-generation prototype and is in negotiation with large medical device companies that are interested in licensing the technology.



Stacy Bamberg holds a prototype of her smart insole that tracks foot movement.

Bamberg's Smart Insoles

INVENTOR PROFILE

Mechanical engineering professor invents insole to improve how people walk

Relief is on the way for amputees and people with a limp thanks to Stacy Bamberg, a professor of mechanical engineering at the U. She is developing a "smart insole" that will help people track and improve the way they walk.

"I started this research when I was a doctoral student 10 years ago, and it's exciting to see everything finally coming together," Bamberg says. "In the last few years, we have published several papers on this

technology. We are now working hard to get our product to people who need it the most."

The device pairs a shoe insole that has numerous sensors with a smartphone application that provides feedback to help the user understand and correct their walking pattern.

Bamberg is commercializing the product through a startup company called Verisstride. The company has already received a \$150,000 Small Business Innovation Research grant and two \$40,000 grants from the Utah Governor's Office of Economic Development. The company is also expecting additional funding.

So far, Bamberg's research has focused on applications for amputees. But she expects the device to have the quickest impact on seniors who are worried about falling.



Power Practical was cofounded by Paul Slusser, left, and David Toledo.

Students Create PowerPot

Campers now have a new best friend — and it's heating up fast. U materials science and engineering graduates David Toledo and Paul Slusser have developed a portable cooking pot capable of transforming heat and water into a usable power source that can charge phones or other devices using thermoelectricity. Their startup, Power Practical, sells a variety of these PowerPots that can serve different electrical needs.

Having already shipped

more than 1,000 units and raising almost \$1 million, the company's rapid growth and product demand has been overwhelming. However, the team has realized that the applications of their product extends well beyond camping and is doing their best to keep the PowerPots on the shelves.

PowerPots can be purchased for \$149 on the company website (thepowerpot.com) or at select retailers.



The PowerPot turns heat and water into electricity.

VIEWS on inventing



BRUCE GALE,
Mechanical
Engineering
professor

"I love working to find creative solutions to difficult problems. The secret to inventing is to have a great problem to drive the imagination and to have a broad range of tools at your disposal."



ANNE BLASCHKE,
Pediatrics
professor

"Successful inventing takes a willingness to try out new ideas and to be persistent in working to solve problems that arise. The pathway to achievement of the final goal is often not obvious at the start, but can be found with hard work and dedication."



STEPHEN GOLDSMITH,
City and
Metropolitan
Planning
professor

"I'm motivated to invent by the processes of empathy first and foremost. I'm also motivated by a sense of justice."



The U has a rich heritage of innovation and commercialization.

No. 1 for Patents

The U once again tops list of companies in state for patent generation

The University of Utah Research Foundation has once again topped the list for number of patents awarded to Utah companies — a

recognition exemplifying the U's contribution to the state's growth. Recognized at the 2013 Utah Genius Awards, the U has been

granted 90 patents in the last year — more than the companies in second and third place (IBM and Symantec Corp., respectively)

combined. The Utah Genius Awards acknowledge the creative people and companies behind Utah's economy and

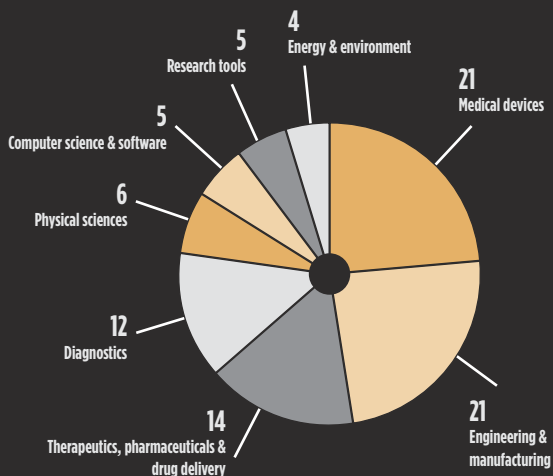
base the awards on statistics from the U.S. Patent and Trademark Office.

“Broad support makes it easier to foster the interdisciplinary collaborations and student involvement.”

TOM PARKS, V.P. for Research, on innovation and commercialization at the U

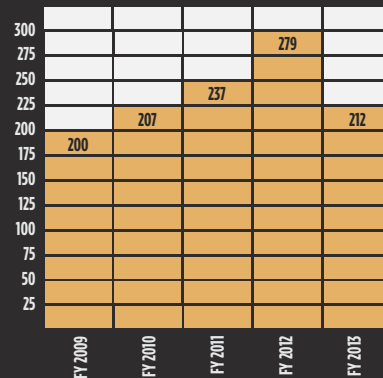
INVENTIONS *by the numbers*

U.S. PATENTS BY TYPE



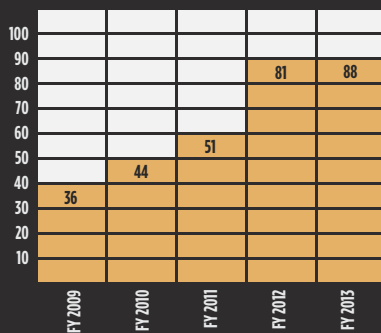
The majority of issued U.S. patents the U secured in FY 2013 were related to medical devices, engineering and manufacturing.

INVENTION DISCLOSURES



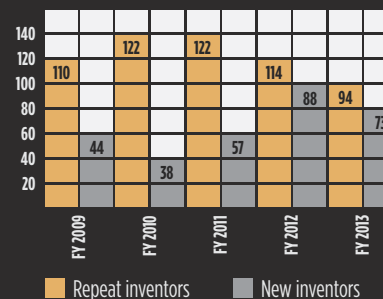
Invention disclosures occur when a faculty member informs the Technology and Venture Commercialization office of a discovery.

U.S. PATENTS



The U has more than doubled the number of issued U.S. patents it has received over the last five years.

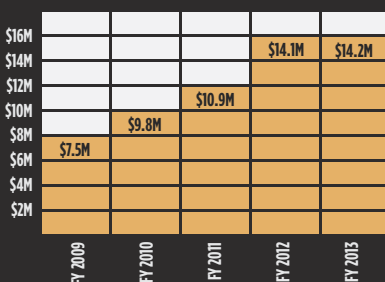
NEW & REPEAT INVENTORS



Inventors come from all colleges and departments, but most of them are repeat inventors.

PARTNERS *by the numbers*

COMMERCIAL SPONSORED RESEARCH



The U receives millions of dollars each year from commercial sponsored research, which are research agreements with private companies and foundations.



U faculty members Leslie Lenert (left) and Lewis Frey developed an algorithm that recommends health-care treatment options.

The Power of Big Data

PARTNER SPOTLIGHT

Graduate students help researchers get into prestigious entrepreneur forum

With help from a team of graduate students, a new University of Utah startup company, Health Alignment, received an invitation to attend the prestigious Siemens New Ventures Forum in June 2013 in Berkeley, Calif.

Only 12 of more than 100 applicants were invited to attend the exclusive forum, which provides startups an opportunity to perfect their business pitch and network with Siemens, a global electronic health-care company, which could

lead to investments, joint development deals or licensing agreements.

Faculty inventors from the School of Medicine Lewis Frey, assistant professor of biomedical informatics, and Leslie Lenert, physician

and professor of internal medicine, attended the event. They created an algorithm, or mathematical formula for processing data, that searches through hospital records to compare patients with similar symptoms and recommends treat-

ment options to doctors and patients.

The algorithm works a lot like Amazon's recommendation engine — except instead of suggesting what other products the users might like, it recommends treatment ►



Health Alignment got help from students, including Chinmayee Bhimarao (top) and Spencer Bacon.

► options based on the patient's symptoms and medical history.

Lenert and Frey worked with graduate students Chinmayee Bhimarao, Spencer Bacon and Anetta Pietrzak from the U's Lassonde New Venture Development Center to create a business plan, and the students wrote and submitted the application for the Siemens forum.

The technology is already the subject of two pending patent applications, and Lenert and Frey have submitted a proposal for a pilot project with the U. S. Department of Veterans Affairs, which would allow them to use the VA's database of millions of patients to test and refine the program.



Students celebrate at the Utah Entrepreneur Challenge final awards banquet.

Zions Bank Sponsors Student Competitions

Bank provides essential support to operate business programs

Student entrepreneur programs at the U would not be the same without Zions Bank, which has provided substantial support to make the most popular programs possible.

Zions Bank underwrites the Utah Entrepreneur Challenge, Opportunity Quest, Bench to Bedside and a new student seed fund program managed by StaC and the U's Entrepreneur Club. These programs provide startup cash for students, but they also provide essential training for future innovators and business leaders.

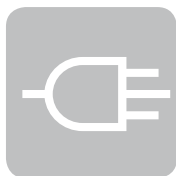
"We are grateful for all the support provided by Zions," says Troy D'Ambrosio, executive director of the U's Lassonde Entrepreneur Center. "Thousands of students benefit from their generosity."

PARTNER

Innovations progress because of the quality and depth of partners behind them, and the University of Utah is fortunate to have a thriving partner community. Faculty and students at the U partner with investors, mentors, business leaders and with each other to develop products, launch companies and more. Generous donors and government partners also play an important role, providing support at critical early stages.



Vaporsens is a U startup
developing a device that uses
nanofibers to detect drugs
and explosives.



Vaporsens 'Sniffs' Drugs & Explosives

STARTUP PROFILE

U professor Ling Zang pairs nanofibers with a handheld device that could be used by police and airport security

U professor of materials science and engineering Ling Zang hopes to make the world a safer place with a handheld device that can "sniff" drugs and explosives. Potential customers include military, police, airport security or border patrol.

At the heart of the technology are nanofibers, which are

attached to an electric circuit, that "catch" targeted vapors. When the vapors touch the nanofibers, they change the resistance in the electric circuit, which alerts the user.

Zang, who was hired as part of the Utah Science, Technology and Research Initiative, and Ben Rollins cofounded a startup called Vaporsens to

commercialize the technology.

"The handheld detector uses breakthrough sensor technology, which is more sensitive than others on the market," Rollins says.

Successes so far include securing seven patents, more than \$250,000 in federal and state grants, and private funding from a Utah seed fund and

individuals. In addition, Zang's lab has received more than \$3 million in research funding from the Department of Homeland Security and National Science Foundation, and they are expecting more funding in the future.

The device they are developing will be about the size of a cellphone. It could be

used to detect drugs or explosives in suitcases, backpacks or cars. The team is currently focused on developing a prototype system and testing it in the field. In time, they hope their device will be as ubiquitous as drug-sniffing dogs or swab bomb tests in airports.

STARTUP

The University of Utah has become known as a leader at forming companies based on technologies springing from faculty and student research. The U has been consistently ranked as one of the top schools for startup creation. Driving this effort are committed faculty and students who believe in what they are doing and want to find the quickest, most effective way to get their inventions into the hands of people that need them most.

Solan Advancing Solar Cell Tech

U professor Feng Liu, in conjunction with the startup Solan, just may have the golden — or more appropriately, graphene — ticket when it comes to advancing the field of optoelectronics and solar cells.

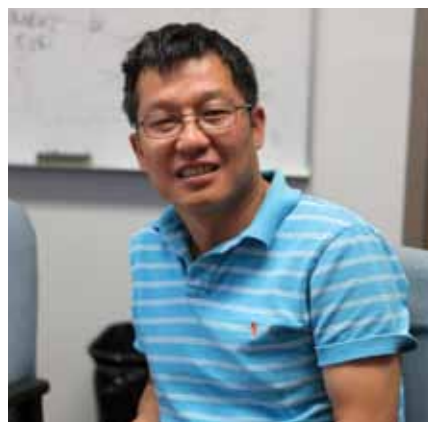
“‘Green energy’ is the buzzword these days — we have to really go after it,” says Liu, a professor and the department chair of materials science and engineering. “I am happy to work on something that will have a positive impact on the environment.”

Most solar cells are commonly made by layering various semiconducting materials in an attempt to capture different wavelengths of sunlight that can then be converted into usable energy through the photovoltaic effect. Although the

efficiency of solar cells is slowly increasing, there is a theoretical limit to how high efficiencies can get because there is a limited amount of layers that can improve efficiency. In addition, material and manufacturing costs are on the rise.

Liu’s novel approach to the photovoltaic problem eliminates the need for layering. Instead, his solar cells are designed by positioning “ribbons” of material side by side. Additionally, instead of costly materials, Liu is using inexpensive graphene (carbon) nanoribbons.

“If the nanoribbons are laid side by side with continuously varying band size, it is possible to absorb the full spectrum of solar wavelengths — achieving the highest possible intrinsic cell efficiency,” Liu says.



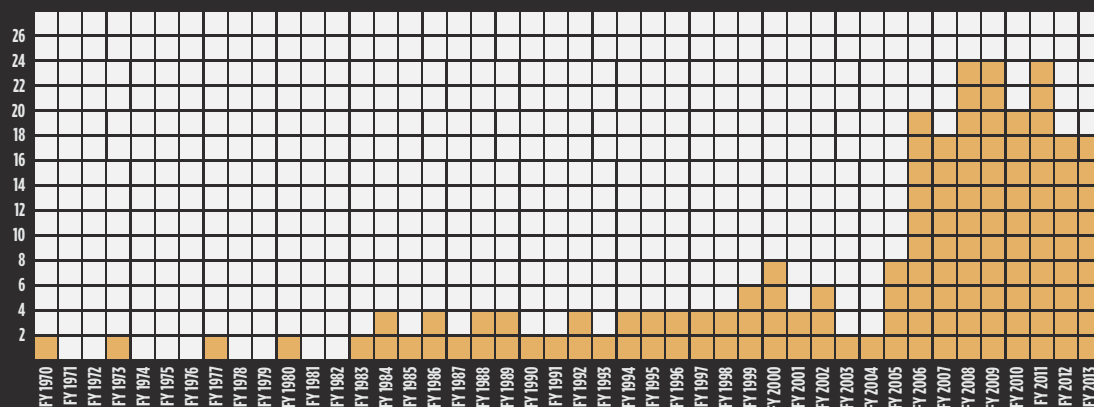
Feng Liu is behind a technology that is pushing the boundaries of photovoltaics and solar cells.

These properties will allow the solar cells to have precise and tunable characteristics for use in a variety of applications.

The startup Solan has licensed the patent for the technology from the U and is providing funding for Liu to continue his research. Along the way, Liu has developed and patented related technologies and processes thanks to Solan and the U’s support.

STARTUPS *by the numbers*

STARTUPS OVER TIME



The U has launched more than 200 startup companies since 1970. The number of startups has steadily risen over time, especially since 2006. The startups are as diverse as the faculty and students that make up the university.



*Blackrock Microsystems
finished a new 60,000-square-
foot building in the U's
Research Park.*

Blackrock Opens Doors

Blackrock Microsystems, a neural device company led by University of Utah electrical engineering professor Florian Solzbacher, opened its new Utah headquarters in the U's Research Park in June 2013.

Gov. Gary Herbert, USTAR

Chair Dinesh Patel and U President David Pershing addressed the roughly 200 attendees at the building opening ceremony. The new \$12 million, 60,000-square-foot facility includes cleanroom and incubation space for promising life-science startup companies.

Solzbacher, who also holds faculty appointments in bioengineering and materials science and engineering at the U, founded Blackrock Microsystems in 2008 as a startup specializing in implantable electrodes and electrophysiology tools.

Myriad Genetics is a U
spinoff located in the U's
Research Park.



Myriad Genetics on the World Stage

IMPACT PROFILE

Myriad Genetics is a leading molecular diagnostic company based in Salt Lake City. The company's flagship product is BRAC-Analysis, which is used to help patients assess their risk for hereditary breast and ovarian cancer. Since launching in 1996, more than 1 million women have been tested with BRA-

CAnalysis, making it one of the most widely used molecular diagnostic tests in history.

Recently, media attention was focused on Myriad because of a heavily publicized Supreme Court case, making Myriad possibly the most known company tied to research at the U.

At issue in the case were nine of Myriad's 520 patent claims related to the BRCA1 and BRCA2 genes. In its ruling, the Supreme Court invalidated five of nine patent claims and ruled that isolated DNA is not patent eligible because it is a product of nature.

The court, however,

also underscored the validity and applicability of other types of patent claims related to synthetic DNA and methods of use. At the end of the case, Myriad was left with 515 patent claims that are still valid and enforceable, and the company doesn't expect the ruling to have a significant impact on

its operations.

What's next? Myriad is preparing to launch a new genetic test called myRisk in fall 2013. MyRisk is multi-gene diagnostic test that will screen for six types of hereditary cancer. Myriad is also expanding into prognostic diagnostics tests.



Myriad Genetics is best known for BRACAnalysis, a test for breast and ovarian cancer.



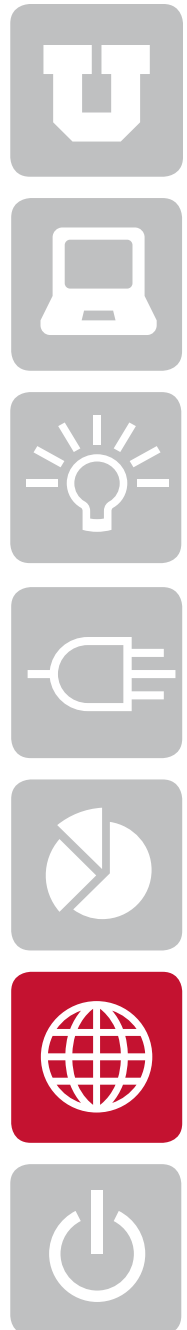
BioFire was originally founded in 1990 as Idaho Technology.

BioFire Blazes Ahead

Once just a few desks in the corner of an Idaho potato equipment facility, BioFire Diagnostics (formerly Idaho Technology) has grown into a company at the forefront of the molecular diagnostics and bio-surveillance industries. With a commitment to eliminating disease through smart thinking and product innovation, the company has proven itself to be a worthy, if not necessary, entity in a multitude of fields. Founded in 1990, the former U startup has been behind some of the most important biological-agent and pathogen detection devices that have been used by the military, researchers, medical technicians and law enforcement officers. These devices include food and water security systems and an anthrax detection kit.

IMPACT

The University of Utah measures the success of innovations by their impact — by the number of lives they improve. Drugs are developed to relieve pain and suffering. Research tools are developed to advance scientific understanding. Solar technologies are developed to improve energy efficiency. Yet innovations also have many other benefits. They generate jobs, income and provide rich educational opportunities. The U is committed to all of these purposes and to adding to the many successes already achieved.



“I am a classic accidental CEO. I never imagined I would manage a company.”

RIC HARNSBERGER, Radiology professor —

Distinguished Innovation & Impact Award

Dale Clayton and Ric Harnsberger received the 2012-2013 Distinguished Innovation and Impact Award (DIIA) from the U. The award recognizes outstanding faculty entrepreneurship.

DIIA recipients embody the U's entrepreneurial spirit by translating their research into the commercial sector and also demonstrate excellence in the classroom. DIIA recipients are nominated by colleagues. Winners are selected based on the novelty of their innovations and the depth and breadth of their impact on the public.



Dale Clayton invented the LouseBuster to kill lice.

Clayton Kills Head Lice

Necessity was the mother of invention for Dale Clayton, a professor of biology who developed a novel, non-toxic way to eradicate head lice after his own children were afflicted by the condition.

Inspired by research being conducted in his lab, Clayton concluded that adult lice and eggs can be eliminated by blowing hot, dry air through hair. A few prototypes later and his product, LouseBuster, has received FDA approval and has the potential to help safely control millions of cases of lice all over the world.

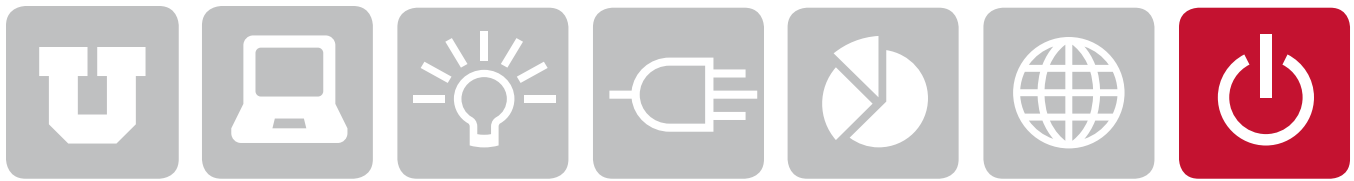


Ric Harnsberger is revolutionizing medical publishing.

Harnsberger a Global Leader

Having contributed some of the most important ideas to the field of radiology over the past 25 years, Ric Harnsberger has helped define the approach to the diagnosis of head and neck diseases for an entire generation of radiologists.

Harnsberger has combined his passions for knowledge and education into a startup company, Amirsys, which provides health-care professionals with radiologic and pathologic data, images and literature links in a structured database. The database has significantly improved the quality, timeliness and accessibility of medical information.



RESOURCES

The University of Utah provides many resources to faculty, students and partners interested in innovation. There are departments, centers, institutes and programs. A few of them are listed here, but there are many more. Find somewhere to begin, and start exploring the world of innovation at the U. **Submit an item to be listed by calling 801-587-3836 or emailing techventures@utah.edu.**

CENTER FOR MEDICAL INNOVATION

[healthsciences.utah.edu/
center-for-medical-innovation](http://healthsciences.utah.edu/center-for-medical-innovation)
801-587-7281



The Center for Medical Innovation combines formal education programs, faculty and student project development, and support and facilitation of device development and commercialization. It is a one-stop-shop that assists innovators through concept generation, intellectual property, market analysis, prototyping and testing, business plan development, and commercialization.

ENTERTAINMENT ARTS & ENGINEERING

www.eae.utah.edu
801-581-7110



Entertainment Arts & Engineering supports interdisciplinary work between the School of Computing and the Department of Film and Media Arts in the areas of video games, computer animation, special effects, etc. Students from both departments work closely together throughout their academic careers.

ENTREPRENEURIAL FACULTY SCHOLARS

www.efs.utah.edu
801-587-3836



The Entrepreneurial Faculty Scholars is designed to bring faculty together. It helps faculty meet challenges and overcome hurdles to start successful companies. It comprises all of the U's faculty entrepreneurs, including those with a history of successful commercialization and those interested in exploring the first steps toward commercializing technologies.

FIND A RESEARCHER DATABASE

faculty.utah.edu/findaresearcher



The Find a Researcher database contains listings of U faculty and graduate students who are research-topic experts and potential research collaborators. You may search for people by entering names, research keywords, departments, international experience keywords and equipment.

HEALTH SCIENCES RESEARCH

healthsciences.utah.edu/research
801-581-2121



The University of Utah Health Sciences Center faculty and staff conduct, collaborate and initiate research — advancing knowledge through innovative, basic and clinical research, and translating discoveries into applications that help people. Research in the health sciences spans many fields of study.

NANOFAB

www.nanofab.utah.edu
801-581-5676



The Utah Nanofab encompasses a class 100/1000/10,000 cleanroom, packaging and test areas. Commissioned in 2012, the new 18,000-square-foot facility provides the specialized custom-built infrastructure, equipment, processes and expertise necessary for researchers and companies to design, build and package revolutionary micro and nanoscale devices.

NANO INSTITUTE

www.nanoinsitute.utah.edu
801-587-1514



The Nano Institute of Utah provides an organization where scientists, engineers and clinicians from across the university, the state and elsewhere work together to attain global recognition by overcoming interdisciplinary challenges in nanoscience and nanotechnology.

OFFICE OF SPONSORED PROJECTS

www.osp.utah.edu
801-581-4913



The Office of Sponsored Projects is responsible for the effective and timely handling of research proposals. It prepares, interprets, negotiates and executes agreements on behalf of the U for projects funded by federal and state agencies, foundations and other public and private sources. It also drafts, negotiates and executes awards and sub-awards for collaborative research.

PIERRE LASSONDE ENTREPRENEUR CENTER

www.lassonde.utah.edu
801-587-3836



The Pierre Lassonde Entrepreneur Center provides a launching pad for business ideas through educational programs and by providing real-world experience. The programs help young entrepreneurs to be better prepared to understand and assume the risks of business management.

SCIENTIFIC COMPUTING AND IMAGING INSTITUTE

www.sci.utah.edu
801-585-1867



Over the past decade, the Scientific Computing and Imaging Institute has established itself as an internationally recognized leader in visualization, scientific computing and image analysis applied to a broad range of application domains. The research objective is to conduct application-driven research in the creation of new scientific computing techniques, tools and systems.

TECHNOLOGY & VENTURE COMMERCIALIZATION

www.tvc.utah.edu
801-581-7792



The Technology and Venture Commercialization office is a leader at transforming new ideas into practical, commercially viable products and services. One of the office's goals is to provide process support services to companies and universities to help them successfully commercialize their intellectual property.

UTAH SCIENCE, TECHNOLOGY & RESEARCH INITIATIVE

www.innovationutah.com
www.ustar.utah.edu
801-538-8622



The Utah Science, Technology and Research initiative (USTAR) is a long-term, state-funded investment to strengthen Utah's "knowledge economy." This initiative invests in world-class innovation teams and research facilities at the U and Utah State University, to create novel technologies that are subsequently commercialized through new business ventures.

VICE PRESIDENT FOR RESEARCH

www.research.utah.edu
801-581-7200



The office of the Vice President for Research manages many aspects of research and commercialization at the U. Many departments and initiatives report to this office, including the Office of Sponsored Research, Technology and Venture Commercialization, Research Education and others.



TECHVENTURES.UTAH.EDU
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