

**STUDENT
INNOVATION
@ THE**



2021



INNOVATING THROUGH THE PANDEMIC

***HOW UNIVERSITY OF UTAH STUDENTS ARE MAKING AN IMPACT
ON ZOOM, AT HOME, AND (MASKED) ON CAMPUS.***

HOW STUDENTS ARE INNOVATING THROUGH THE PANDEMIC



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ABOUT 'STUDENT INNOVATION @ THE U'

"Student Innovation at the U" is an annual publication celebrating student innovation and impact at the University of Utah. A digital version is available at lassonde.utah.edu/studentinnovation2021. This publication is produced by the Lassonde Entrepreneur Institute, an interdisciplinary division of the David Eccles School of Business and the hub for student entrepreneurs and innovators at the U. Learn about the Lassonde Entrepreneur Institute at lassonde.utah.edu.

This publication is managed by staff at the Lassonde Entrepreneur Institute, including:

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Have a question? Want copies? Want to nominate a student to be featured in the next edition? Or want to be a contributor? We want to hear from you! Contact editor Thad Kelling at thad.kelling@utah.edu or 801-587-8811, or contact the Lassonde Entrepreneur Institute at lassonde@utah.edu or 801-587-3836.

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STUDENT CONTRIBUTORS



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FROM THE PRESIDENT

Innovation and entrepreneurship is a distinctive characteristic of the University of Utah and of our state. Our students ask questions that are the root of all good ideas: Why not? What if? What would happen if I?

And then they work hard to answer those questions and to develop the possibilities that surface.

The outcome of that exploration: New discoveries, products, and proposals. This report from the Lassonde Entrepreneur Institute highlights some of our students' stories. Of course, failure is often a necessary prelude to success. But our students are resilient. They persist. They try again — and the Lassonde Entrepreneur Institute is there every step of the way with the support, advice, and mentorship students from all parts of our campus need to see a big idea through from start to finish.

Innovation is hard work, period. What makes these students' accomplishments even more remarkable is their unwavering

passion and commitment in the midst of a pandemic that upended all aspects of their lives, from coursework to campus engagement. The stories shared here should inspire you and, more importantly, give you confidence that these wise, thoughtful, and spirited students are leading us forward even in a time such as this.

On a personal note, this will be my final letter as president in the "Student Innovation @ the U" report. It has been such a pleasure to watch the growth and development of our student entrepreneurs. Pierre Lassonde and his namesake Lassonde Entrepreneur Institute have set the bar high for how to successfully challenge and then lift bright, young scholars and entrepreneurs as they imagine and turn their dreams into reality. I will always celebrate — and share — the incredibly good work that happens here.

— Ruth Watkins, president, University of Utah

1. TECHNOLOGY



VENTILATORS FOR DEVELOPING COUNTRIES

“Our whole purpose is to help save lives,” said **Kindall Palmer**, who co-founded **Neonatal Rescue** in 2016. The organization develops life-saving ventilators and training programs to distribute to developing countries.

The motivation behind starting the organization was deeply personal to Palmer. His first child was born with a congenital heart defect and was life-flighted to Primary Children’s Hospital. “Eighty percent of the two months

that he was there, he was on a ventilator,” Palmer said. “Without this technology, we wouldn’t have him here with us today.”

The experience Palmer and his family had fueled the passion to start Neonatal Rescue. They worked with medical professionals, engineers, and in-country contacts to develop the NeoLife Ventilator, a newborn ventilator that can be used by birth attendants around the world to resuscitate babies.

Compared to most

ventilators, NeoLife is affordable, durable, and effective so people around the world can have access to this life-saving technology. Additionally, they have a training protocol program that teaches the end users how the ventilator works and how to use it.

Palmer was in his last semester of his MBA at the U when the COVID-19 pandemic hit. Countries around the world began projecting ventilator shortages.

The team worked tirelessly

to modify the NeoLife Ventilator to create a ventilator suitable to treat adults suffering with respiratory problems due to COVID-19.

Their creation, the AdultLife Pro Ventilator, was authorized for emergency use by the FDA in June 2020. In January 2021, their first order was shipped to four different countries in Africa, with plans to continue distribution around the world.

— by *Tori Allred*



Camille Bagnani

CUSTOM PILLOWS FOR OXYGEN THERAPY

Many people with Down syndrome suffer from a variety of sleeping disorders. Some of these disorders, such as sleep apnea, can disturb the lungs and aggravate — or cause — other health problems.

In some cases, patients refuse to wear their sleep oxygen therapy equipment. Many times, the equipment is as simple as a nasal cannula, a tube placed in the patient's nostrils to increase airflow. This tubing can be uncomfortable, leading kids and adults to inadvertently remove it while sleeping.

Aaron Esplin, a sophomore in biomedical engineering at the U, first learned about the issue from a friend whose child has Down syndrome, a problem staying asleep at night, and a nasal cannula to increase oxygen concentration. As the restless nights worsened due to the boy waking up multiple times through each night, the family was running out of options.

Esplin and his brother, a

recent graduate from the U's biomedical engineering program, decided to team up on an idea: a gel memory foam pillow that facilitates oxygen distribution to the patient without them being aware that they are receiving treatment.

"We studied the sleeping environment and started prototyping," he said. "We needed to create a design that could optimize oxygen concentration around the head for patients that refuse to wear a nasal cannula."

After some trial and error, the Esplin brothers achieved the design they were looking for, and their friend's child sleeps on a pillow that looks like a normal pillow but also receives his oxygen to get a good night's sleep.

Since their first successful design, the brothers have produced three more pillows. Now, the pillow is patent-pending, with more iterations in the production pipeline.

— by *Jacqueline Mumford*



Camille Bagnani

SENSOR ARRAYS FOR PROSTHETICS

Nick Witham, a biomedical engineering Ph.D. student at the University of Utah, founded **GAIA Technologies** with a goal to change lives through better prosthetics. GAIA is doing this as a prosthetics component company that builds sensor arrays to measure muscle shapes. The outcome: More affordable and higher-functioning prosthetic limbs.

GAIA's sensor array technology can be found in the company's device, the Myoplexer. The Myoplexer intuitively controls prosthetic hands by predicting your hand's movements.

"The idea is that we can measure your muscles' biomechanics to correctly put your artificial hand in the right position, which isn't something that you could do before without invasive surgeries," Witham said.

The first generation Myoplexer, in development

this year, is expected to allow GAIA to continue market validation research and learn more about their target customers.

After discovering the technical and emotional challenges faced by those who need a prosthetic device, Witham knew existing technologies could be improved and founded GAIA. His team of engineers includes University of Utah alumni **Thomas Odell**, **Brian Hanson**, and **Dr. Rami Shorti**.

Witham credits their early success to support from the **Lassonde Entrepreneur Institute** at the University of Utah. "The funding from Get Seeded has by far been the most helpful," Witham said of receiving three grants from the milestone funding program.

— by *Camille Bagnani*



Camille Bagnani

SHINING A LIGHT FOR DENTISTS

University of Utah dental student **Clifford Sondrup** is using 3D printing to make a new attachment for dental loupe lights. Loupes are used in dentistry for magnification and posture, and a loupe light is used to illuminate the dark surgical field of the oral cavity.

His attachment design is fixed to the face shield using magnets, fitting to the outside where it is out of the way and light does not reflect on the internal surface of the face

shield. Additionally, the loupe light can be moved around when outside the shield. The most time-intensive part is getting the measurements correct for each design. Sondrup said, "It takes about 10 iterations to get the right design ... once I had figured out the approach for mounting the magnet, I just had to build the front end, where the light attaches."

Sondrup started in May 2020 working on designs for himself before others in his department

asked for some, too. He already has seven different designs for a variety of shields.

With the COVID-19 pandemic, dentists have adopted face shields as indicated by the CDC, in addition to N95 and surgical masks, to better protect themselves and their patients. Another option is just using a PAPR (powered air-purifying respirator). Both are difficult to wear when using a loupe light — which sits high out above the dental loupes — causing

both space and glare issues. Sondrup said, "Face shields can be made with sufficient spacing for the loupe and mask, but our department didn't have those. With the loupe light attachment, many of us were able to get back to work without feeling like something was off or missing."

— by Adam Draheim



Thad Kelling

IMPROVING KNEE REHABILITATION

Inundated with recovery protocols after her knee surgery, **Megan Hanrahan** felt a drive to help make the healing process simpler. She is now developing the solution as a founder in the **Master of Business Creation (MBC) program** at the University of Utah's David Eccles School of Business.

Hanrahan's product — a knee brace that combines cooling and stabilizing technology in an integrated system — came to life through her physical therapy consulting business, **Vibe Wellness**.

"As a physical therapist, I see a need to help make self-care easier and more convenient," Hanrahan said. "I just saw a solution of integrating as many tasks as I could into this knee brace."

Hanrahan said her goal is to offer natural therapy techniques in one stand-alone product to help patients heal faster and avoid pain medications.

The brace is now in the final stages of testing as proof-of-concept. With multiple samples, Hanrahan's product has been demonstrated to work.

"What I need now is the MBC program to help me take it to the next level of the quality and professional grade to commercialize it," she said.

Alongside her own experience, Hanrahan said she received a lot of encouragement to fulfill her creative drive. After several people brought the Master of Business Creation program to Hanrahan's attention, she thought it would aid in her journey to launch a product while mid-career.

"Once the program starts, you're continuously working on your company and learning every day. That directed focus, with rigorous deadlines, has been really key for me," Hanrahan said.

— by Alexis Perno



VIRTUAL REALITY FOR DENTISTS

Virtual reality isn't just for gamers; it's also for dentists like **Dr. Tim Bitner**, who started changing how his colleagues learn as a student at the University of Utah.

With so many materials used during learning, dentistry comes at a high cost. After being exposed to the idea of training using VR technology with **Dr. Mark Durham**, Dr. Bitner worked to create software that allows students to practice dentistry in a 3D, virtual setting.

"There's just so much material that you have to go through to learn how to be a dentist," Dr. Bitner said. "There's no way you're going to go practice on real people in the first year that you're in dental school, so you have to start somewhere and learn on something."

After the initial cost of VR hardware, there are no other costs that rival the costs of traditional learning. Additionally, Dr. Bitner said the easily accessible repetition in the virtual space is a boon

for students before they begin practicing on patients. With virtual training spaces, there's even potential for learning in places where dental school and materials might be hard to come by.

Now in orthodontic school, Dr. Bitner has passed on the torch of developing VR dentistry. However, because of the excitement younger students have shown, Dr. Bitner says it was easy for him to move on, especially because of Dr. Durham's mentorship.

"Dr. Durham is a phenomenal mentor. He just has made me feel appreciated and like what I was doing was worth it throughout my education," Dr. Bitner said. "The relationship that we formed over the years is really important to me. I definitely attribute a lot to who I am now and where I was able to get to because of the opportunities that he gave to me."

— by Alexis Perno



Tori Allred

THE POWER OF POSITIVE PSYCHOLOGY

Accessible mental health services have become more important now more than ever, and fourth-year psychology and social entrepreneurship major **Alexander Becraft** is determined to do something about it.

Becraft and his team (**Ayana Amaechi, Merry Joseph, Michelle Valdes, Mitchell Wulfman, and Ryan Jackson**) have created an initiative called **Well-being Elevated** to bring the teachings of positive psychology to students and educational institutions around the country. How is this done? An app with interactive courses

developed by professionals and weekly support meetings, currently held over Zoom.

"We want to be more than just an app," Becraft said. "We want to have that human connection because face-to-face interaction is integral to sound mental health."

Becraft and his team knew they wanted to incorporate positive psychology into Well-being Elevated, and what better place to develop content than alongside world renowned psychologists, Ed and Carol Diener. After being encouraged to submit to the 2019-2020 **American Dream**

Ideas Challenge, Becraft's team was introduced to the Dieners. The team shared second place in the competition at the national stage and was awarded \$500,000 from Schmidt Futures to develop the company.

"Being introduced to the Dieners was a game-changer because they're both so prominent in the world of psychology, and they already had the content that we were looking to build," Becraft said. "We are so fortunate to work with such amazing mentors and luminaries."

Alongside research proving to decrease stress

and depression levels, Becraft knew the power of positive psychology because of his own personal experiences. Inspired to bring these resilience techniques to others, the idea of Well-being Elevated started to come to life.

"It really helped me in a time of adversity," Becraft said. "Whether it was gratitude practices, really focusing on my strengths and values and setting congruent goals, it was really important for me when I had external challenges present themselves in my life."

— by Alexis Perno



Tori Allred

FIGHTING FOR ASYLUM SEEKERS

Even in the face of overwhelming adversity, there is always potential for change, and University of Utah law student **Amitay Flores** knows this well. For Flores, change appeared in the form of a trip to a border detention center with 10 law students and two professors.

In these detention centers, it's rare that asylum seekers have access to legal representation. Immigration charges aren't criminal, therefore the government is not required to provide attorneys if people can't afford them, leaving

many people to navigate a foreign legal system — often in a foreign language — alone. Flores and her team worked for a week in March 2020, assisting roughly 50 adults with legal matters, providing invaluable experience for the students and much-needed assistance to asylum seekers.

"It seems like the whole system is set up to create as many obstacles and barriers as possible so that these individuals won't be able to remain in the United States," Flores said. "You can read as

many articles, you can watch as many documentaries as you want, but it's not until you're there hearing their stories from these individuals firsthand that it really just hits you what's going on and how sad it is."

With a future in immigration law, Flores found herself searching for more opportunities outside the U's available courses. When she had exhausted those, Flores began organizing herself. The trip was completely outside of the U's influence, sponsored by the **Student Immigration Law**

Association, of which Flores was the sitting president of at the time.

"I want to show students you don't have to have the opportunity offered to you — you can make the opportunity happen. If you see something going on, and it moves you or you're completely against it, go do something about it," Flores said. "We don't need permission to enact change, and that was something that I really wanted to show through this trip."

— by Alexis Perno



Camille Bagnani

SPREADING POSITIVITY ACROSS CAMPUS

According to University of Utah math student **John York**, the equation to getting noticed on campus is repetition plus a simple message. From that, he created the **"You Are Loved" campaign** throughout the U's campus. "It doesn't have to be super high-quality or amazing, but if it's really repetitive, you can kind of broadcast a simple message," York said.

After watching a

documentary on street art, York decided to create his own campaign. After he hung up his first batch of posters throughout the Salt Lake Valley in high school, he felt like the U was a natural community to continue to spread the "You Are Loved" campaign. "One time, I was hanging signs on campus and someone walked up to me and thanked me for hanging the signs and started asking me

about myself, and it was really nice to be recognized," York said.

Remote learning has made it difficult to get the campaign up since York hasn't been on campus this year. He was still able to spread the "You Are Loved" message this year in collaboration with the U's **Center for Student Wellness**.

"I paired up with the Wellness Center to get 'You Are Loved' stickers that were distributed in

self-care kits," York said.

York hopes that his positive message will become an open-source campaign one day. "I really want it to continue after I graduate, but I'm still trying to figure how to keep the message going. I don't think people hear these three words enough," York said.

— by Camille Bagnani



Tori Allred

PARTNERING WITH POLICE

Amidst the civil unrest and protests over incidents of police brutality in the summer of 2020, master of social work students **Chandice Commeree, Rhiannon McDaniel, Tek Neopany,** and **Katrina Neopany** came together to create a plan that would reduce the need for force by involving social workers.

The group thoughtfully created a **“Partnering with Police” policy brief** that would allow social workers and law enforcement to focus on what they do best. For social workers, that is working with people who are experiencing mental health crises, and for law enforcement, investigating and protecting the public from criminal behavior.

“Social workers and police officers have unique strengths,” McDaniel said. “We believe that by allowing

each group to focus on their strengths, we can keep our communities safer.”

The recommendation implements a CAHOOTS (crisis assistance helping out on the streets) based program to capitalize on the strengths of each group. This program is connected to a local police dispatch that sends out a two-person team including a mental health crisis worker and a medical staff.

They sent copies of the policy brief to local legislators, officials, and stakeholders in the law enforcement community in hopes that they soon adopt the program.

“Police brutality is an expansive problem,” Moreno said. “I wanted to recognize that what we are doing is a very small piece of a giant puzzle. It’s in a direction toward a safer community.”

— by *Tori Allred*



Gracie Tidwell

IMPROVED ONLINE COLLABORATION

When **Carter Davis, Dallin Childs, Anthony Diep,** and **Paul Muehleip** were tasked with creating a senior capstone project to complete their computer science major at the U, they decided to create something that would improve teamwork online. Enter the decentralized web application **“CRUV,”** or, Create, Read, Update, Vote.

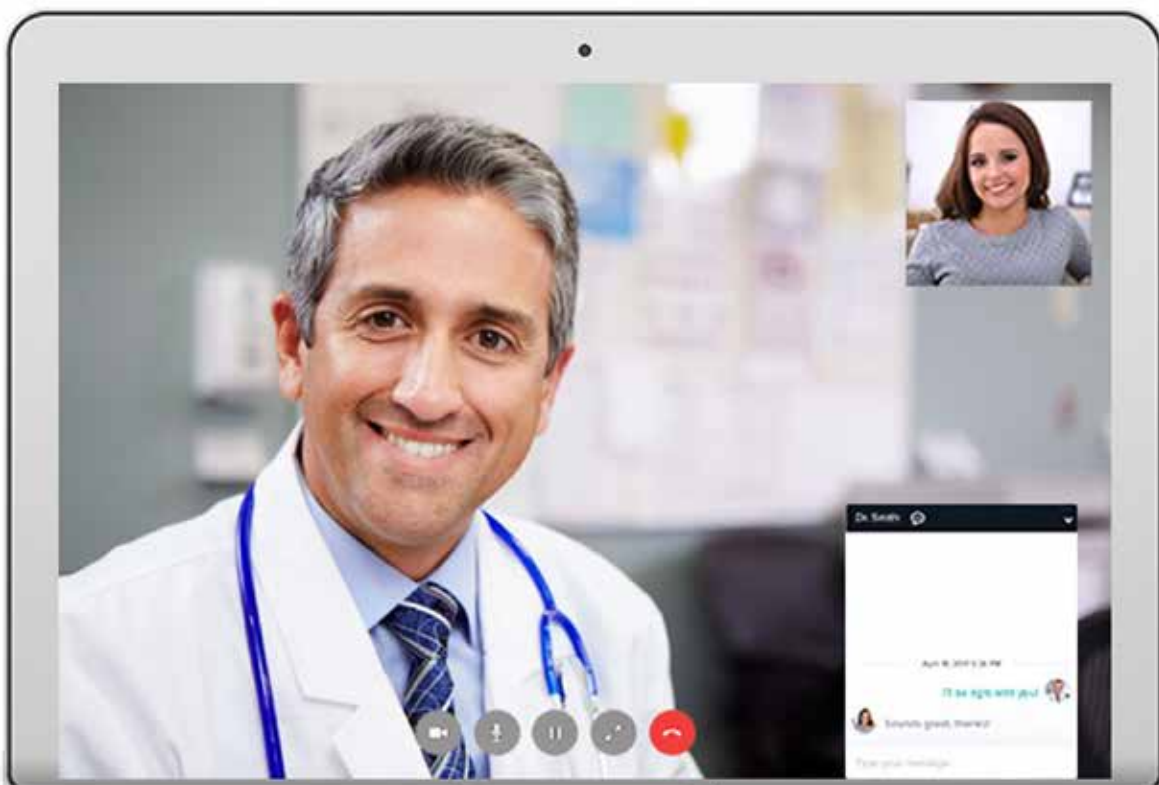
This web application uses blockchain technology to provide tools for collaboration, give incentives for team contributions, create and update projects using voting tools, and track the progress of teams. The possibilities for implementing CRUV are endless — some potential options are business startups and local governments. Using this application also helps increase the transparency and security of online collaboration.

“During development, we identified some other uses as

well,” Davis said. “Something that might be really good is a city government — showing how they are transparently handling the funds and having votes created by members of the city council.”

The students spent two semesters working on this project — the first brainstorming and the second creating CRUV as it is today. They began with mockup plans written on pieces of paper, and through a process of trial and error collaboratively improved it to fit the needs of today’s digital society. All four founders of the project have recently graduated. They are all going in different directions and don’t have any immediate plans to move forward with the application, though they may decide to continue working on it in the future.

— by *Gracie Tidwell*



MAKING TELEHEALTH MAINSTREAM

While participating in the inaugural year of the **Master of Business Creation** program at the University of Utah's David Eccles School of Business, **doxy.me** was able to facilitate millions of virtual meetings for healthcare providers and patients during the pandemic and make significant improvements to its telehealth platform.

Doxy.me provides a simple, free, secure, and HIPAA-compliant telemedicine solution. Almost anyone can sign up and learn how to use it within minutes. It uses an encrypted connection and

provides a business-associate agreement for providers.

The company was already growing before the pandemic, but demand accelerated substantially as regulations and behaviors changed to embrace remote health services.

"This company was already in a good place before the pandemic, and they were ready for the growth when it came," said **Troy D'Ambrosio**, a faculty member with the Master of Business Creation program, executive director of the **Lassonde Entrepreneur Institute**, and an assistant dean at the Eccles School. "We

look forward to helping more startups like this one as we grow this unique program to support serious entrepreneurs."

Early in the pandemic, doxy.me saw a thousand-fold increase in demand and quadrupled its staff, growing to serve some 274,000 providers and 6 million patients in March 2020 alone.

Colleagues **Dylan Turner** and **Schuyler Welch** joined the Master of Business Creation program with a full scholarship to grow and scale the company. The support they received in that program allowed them to prepare for and manage the

flood of new customers.

"We accomplished almost everything we set out to do," said Turner, co-founder, and chief product officer, of their participation in the program. "We are more organized now, we have a comprehensive sales strategy, organizational charts, strategic objectives, and oversight. We have a plan and now we know how to implement it. In short, we went from a startup to a 'real' business."

— by *Thad Kelling*



Thad Kelling

CONNECTING TEACHERS TO EACH OTHER

With his Ivy League master's degree, people often ask **Joél-Léhi Organista**, "Why are you getting another master's?" For Organista, the answer is simple — he doesn't know how to run a startup.

"Luckily, I'm from Salt Lake City, Utah. I saw this MBC program the first year, and I was so excited because there is literally no program like this anywhere in the country. It's exactly what I need," Organista said.

After creating his own bachelor's degree titled social

justice pedagogy, Organista attended the Columbia University Teachers College to get his master's in sociology and education. Still the David Eccles School of Business's **Master of Business Creation** called to him.

"This program is so unique that someone that has an Ivy League degree wants to do another master's just so that they're proficient in running their business and be connected with the resources of the University of Utah, which there are so many," Organista said.

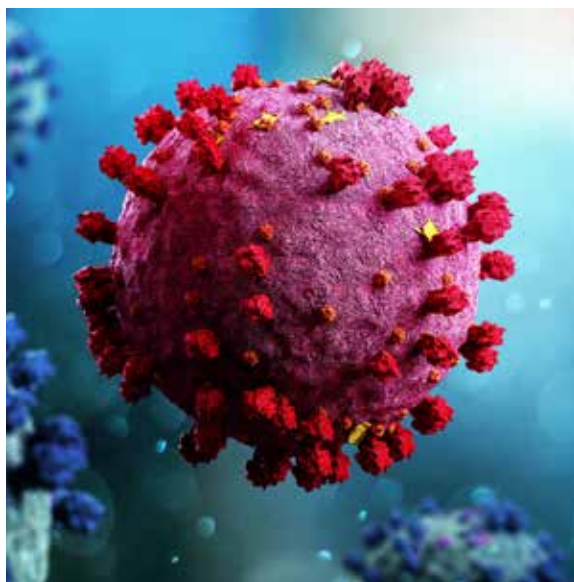
With his background in education, Organista was inspired to create a platform that made it easier for teachers to plan their lessons — that's when **Machitia** was born. Machitia means "to teach someone something" in Nahuatl, the native language of the Aztecs, and that's what Mexico City-born Organista set out to do.

Not only does Machitia allow educators to build their lesson plans around whatever objectives and strategies they'd like, the platform

allows educators to share, collaborate, and explore other educators' work. Feedback can be exchanged and resources can be shared along with each lesson plan.

Machitia is certainly far from done growing. As technology continues to enhance learning experiences even in the wake of overwhelming odds, Organista is excited to incorporate different advancements, such as AI, into the software.

— by Alexis Perno



THE ALL-ABOUT-COVID-19 APP

When the pandemic began to take hold in early 2020, **Joy Ji Won Oh**, a **Master of Information Systems** student — along with the rest of the world — was at a loss. Could she go to the grocery store? Could she still take public transportation? Attend in-person class?

She spent months comparing information, sifting out its trustworthiness, and trying to disseminate accurate reports.

“By now, everyone is aware of COVID,” Oh said. “But we’re still struggling to get people to recognize how contagious it is, and what action can be taken to prevent the spread.”

Oh pointed to the issue of masks: debates over what type of fabrics are effective and the rising movement against wearing them at all.

“In 2015, the MERS-CoV virus, also known as camel flu, spread across Asian countries,” she said. “Although it was not as contagious as COVID, the fatality rate was much

higher. Not many people wore a mask at that time, so the virus had spread quickly. Having experienced the MERS virus, I knew we had to wear masks to prevent COVID from spreading.”

Oh decided to push back against misinformation with education. This idea blossomed into her graduate project: an informative mobile app called **“All About COVID-19.”**

While the mechanics required for developing an app were outside of her degree program, Oh felt strongly that the idea was worth pursuing. In just a few months, she took the concept from paper to production.

Hosted by the MIT App Inventor, “All About COVID-19” is a hub of information about the virus, organized into menus featuring trackers, general news, and CDC guidelines and updates.

— by *Jacqueline Mumford*



Brianna Bernhardt

PREVENTING RELAPSE THROUGH VR

In a technology-driven era, **Trevor O'Brien** has sought to find ways to connect our virtual and physical spaces. As a psychology and multi-disciplinary design student participating in the **Lassonde+X program**, he sought to dedicate his studies to a subject close to his heart: addiction recovery. In formulating his idea, he consulted rehabilitation participants to seek advice on how he could use virtual reality to simulate potential situations someone may experience once they leave their recovery program. O'Brien intended to create opportunities for growth with support from trained professionals, so that participants could progress in a safe environment.

O'Brien wanted to find a beneficial aspect rather than focus on the negatives associated with technology. “This project was a conjunction of two things I care a lot about,” he said. Having supported loved ones

in their journeys through addiction recovery, O'Brien knew firsthand the difficulties of rehabilitation, which he aimed to alleviate. He was first inspired to begin this project by professor **Sarah Creem-Regehr**, who mentioned the potential of using technology as treatment for addiction. “One thing that crossed my mind was the saying of ‘practice makes perfect,’ so I thought about using VR as a tool for those struggling with addiction to practice being in testing situations,” he explained.

As he continues to research and develop this project, O'Brien hopes that its implementation will improve the functioning of rehabilitation programs by strengthening participants so that they are less likely to relapse. “Going through addiction is difficult and lonely ... I want to help build people's confidence,” he said.

— by *Brianna Bernhardt*



Tori Allred

UNDERSTANDING UTAH'S WINDSTORMS

A few days before the forecast of Utah's severe and widespread windstorm on Sept. 8, 2020, **Eric McNamee**, atmospheric science student and director of **Utah Weather Center**, had the idea to launch a radiosonde instrument called a radiosonde to study the downsloping wind event.

A radiosonde is an atmospheric instrument, carried by a balloon to higher levels of the atmosphere and measures pressure, temperature, and

humidity and transmits them by radio.

"I wanted to get a profile of the atmosphere to see how fast the winds were going," McNamee said.

With support from the faculty chair of the **Department of Atmospheric Sciences**, **John Horell**, McNamee began planning the launch and onboarded two other atmospheric sciences colleagues and weather researchers: **James Powell** and

Andrew Park.

At sunrise on Sept. 8, the students set up at the mouth of Red Butte Canyon, where the winds were predicted to be the strongest in the Salt Lake Valley.

After launching two radiosondes, the students were in their car taking shelter decoding the data from the radio transmitter and reported that the winds were up to 90 mph. "As we were sitting in the car, the gusts were violent, we weren't sure if we were going to

make it home safely," Park said.

"Our prediction of strong winds came true, we just didn't know they would be this strong," McNamee said.

"We are hoping this data can help the community for future severe weather events like this and assist researchers in understanding serious impacts of windstorms," Powell said.

— by *Tori Allred*



Camille Bagnani

EFFICIENT AMMONIA PRODUCTION

U chemistry students **Fangyuan “Daisy” Dong** and **Helena Haddadin** are part of a team working to genetically modify cyanobacteria for more efficient ammonia production, which is an important ingredient in fertilizers. The rest of the team consists of other biology and chemistry students, ranging from undergrad to post-docs. Their primary interest in the project is the environmental impact, modifying the cells to

do green ammonia synthesis. “It is very exciting to see how we can modify cyanobacteria to do something that it couldn’t before,” Haddadin said.

The current approach to producing ammonia is through the Haber-Bosch method, which uses natural gas and is inefficient given it is responsible for 3% of global carbon dioxide emissions. Biological ammonia synthesis by bacteria is a greener alternative. The

primary source of inefficiency in biological nitrogen fixation is that there are limits on cell ammonia production. This production is regulated by cell requirement.

The idea is to use a foreign host that does not have the regulation pathways the bacteria does, so the nitrogen-fixing process is not regulated by cell requirement.

Through increasing cell efficiency and supplying

external electrons, the chemical reaction can produce more ammonia per part than before. “This is the first time to realize a green and sustainable way of producing ammonia in cyanobacteria through electrosynthesis,” Dong said.

— by Adam Draheim



SIMPLIFYING ORGANIC CHEMISTRY

For **Nico Terreros**, a scientific breakthrough began with a conversation.

Working together with organic chemistry professor **Andrew Roberts**, Terreros created an instrument that is based on a common practice in organic chemistry known as thin layer chromatography. Thin layer chromatography is used to separate various components of compounds of a chemical mixture. This provides qualitative data related to the composition of a sample of interest. With Terreros' instrument, quantitative data, such as relative amounts of compounds in a sample, can be accurately measured and conclusions can be drawn.

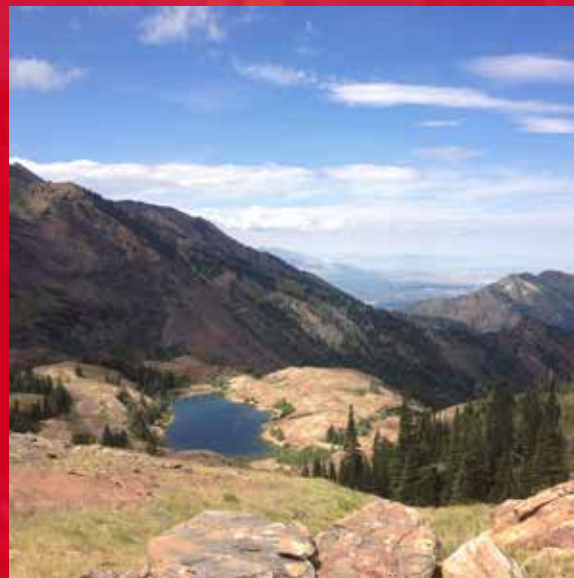
"I wouldn't say it's anything super big or super ground shifting or anything like that. It's just a small little step toward convenience, and you'd be surprised how much

just the little things do stack up over time," Terreros said.

The idea didn't come from a plan to make something marketable. Instead, Roberts remarked on wanting technology to simplify the thin layer chromatography process, and Terreros saw an opportunity to apply his coding skills. Terreros' research took him everywhere, including to a great group of researchers who became like a family to him.

"I couldn't have done it without my research group. It was my research group that gave me the support that I needed to move forward," Terreros said. "You're always just trying to get that next footing and move forward, and it was through them and through professor Roberts that I was able to really hit my stride and just move."

— by *Alexis Perno*



LEARNING FROM ANCIENT GLACIERS

While working toward his Ph.D. at the University of Utah, **Brendon Quirk** used evidence of ancient glaciers along the Wasatch Front to aid in understanding future change in the region. "Our research is a continuation of a century's work in geology," he said.

After researching evidence of ancient glaciers discovered by Western settlers in the late 1800s, Quirk and his colleagues put together the glacial history of the Wasatch Front. "We were trying to understand the timing of glaciation in Utah during the last ice age, and our work put quantitative estimates on the age of different positions of glaciers through time," he said. The team used data from Big Cottonwood Canyon to better understand climate change in the area throughout history

so their work can help others apply it to future climate change.

Along with his curiosity and background in glacial geology, Quirk originally began this research as a master's project in the **Geology and Geophysics Department** at the U in 2014. This collaboration with his advisor, **Jeff Moore**, and other colleagues then evolved into further research. "I decided to stick around for a Ph.D., and we decided to expand the methods we used in Big Cottonwood Canyon to the entire North Central Wasatch range," Quirk said. "The larger research effort behind this work is to use this knowledge across the Great Basin."

— by *Camille Bagnani*



Thad Kelling

INFLATABLE BEDS FOR INFANTS

After a month spent volunteering at the Moria Refugee Camp in Greece in 2019, **Haley Zimmerman**, a founder in the **Master of Business Creation (MBC) program** at the University of Utah's David Eccles School of Business, knew what she wanted her undergraduate senior thesis to be.

"I wanted to focus on refugees and be able to create a product that was not only just something cool, but it was also something that would impact the world for the better," she said.

Inspired by her experience at the camp and drawn to humanitarian work, Zimmerman spent the last year developing a prototype of her product: an inflatable baby bed designed for infants 0 to 8 months old. A lightweight, waterproof cover creates a soft lounger for the baby, and both materials can be packed into a carrying case roughly the size of a football. Altogether, everything weighs less than one pound.

"There are similar products on the market, but nothing as lightweight, portable, and easy to use. As I did my research, this

was something I felt parents in general could use," Zimmerman said.

Now, with a BFA in industrial design, Zimmerman is the founder and CEO of **Haven Rest** and is continuing to develop her company and product in the MBC program. The program is provided by the **Department of Entrepreneurship & Strategy** at the David Eccles School of Business, in partnership with the Lasonde Entrepreneur Institute. It provides broad instruction and support for entrepreneurs as they launch through a nine-month program.

Zimmerman's short-term goals include addressing safety concerns with the inflatable bed by working with the Consumer Safety Product Commission and sourcing the safest, highest quality materials.

Although she has a background in sewing and product design, Zimmerman had never worked with inflatables before Haven Rest. The prototyping stage took hours of work at a time before the design was ready for life-size models.

— by Alexis Perno



Brianna Bernhardt

HELPING IMMIGRANT ENTREPRENEURS

Taehyun Yoo grew up watching his parents run their own restaurant before entering the **Multi-Disciplinary Design program** at the University of Utah. Wanting to find ways to help other immigrant entrepreneurs succeed, Yoo felt driven to simplify the complicated documentation process for immigrant entrepreneurs. Through research, he discovered inconsistencies within federal and state levels of license documentation, especially within differences of language. These inconsistencies created the largest obstacles for applicants; from this issue stemmed the idea of **Moida**, a third-party licensing and document packaging solution.

Yoo developed a detailed plan to create a digital platform with an approachable interface, updated with an inclusive user experience design. With some guidance from his mentor, **Cord Bowen**, the Multi-Disciplinary

Design program director, he decided to focus on language barriers and sought to find an innovative solution to alleviate those struggles. Within his research, Yoo found data that reported over 50% of immigrant entrepreneurs desired help with their legal documentation. As he continued with his project, he found purpose in the idea that he could help others if he developed a digital platform that is accessible to all.

When reflecting on his research, Yoo recalled how he actively pursued an answer even when the solution wasn't clear. Yoo, now graduated, is learning to code to take greater initiative within this project. He is thankful for the relationships he built with his professors within his research, and for the knowledge he learned from Spice Kitchen Incubator, a Utah company that works with immigrant entrepreneurs to help launch their businesses.

— by Brianna Bernhardt



BETTER CARGO MANAGEMENT

Sawtooth started after DJ Potter went on a camping trip to the Sawtooth Mountains. During a rain storm, all of his gear got soaked and muddy because he didn't have a cover on his truck bed. When he returned home, he searched for a solution, couldn't find one, and eventually arrived at a novel idea: a new type of tonneau, or truck bed cover, that stretches to fit the size and shape of your cargo.

Fast forward to 2019-20, Potter entered the **Master of Business Creation (MBC)** program at the David Eccles School of Business with patents pending on this and another product for cars.

"With Sawtooth, you can load more, haul more, and do more," he said.

Potter is now on his way to growing a \$30 million company within five years.

"While in the MBC program, I have gained additional tools and skills that have allowed

me to look at business and, more specifically, my startup with a critical eye," he said.

Sawtooth has two products. The first product is the tonneau cover. Theirs is unique in that it is the only one that will stretch and expand over cargo taller than the bed walls. The second product is the world's most aerodynamic, most compact, and lightest car-top cargo carrier.

"I created Sawtooth because it was a need I had, and there was no clean solution, before mine, in the market," Potter said. "Nothing on the market existed that would neatly and cleanly expand over tall cargo, protect and secure it. Recognizing an obvious gap in the market, I designed and built the product I needed."

— by Thad Kelling



Thad Kelling

CULTURE-INSPIRED SKINCARE PRODUCTS

What does resin from a tree native to Southeast Asia and luxury skincare have in common? Answer: **Yasmin Khan** and the University of Utah David Eccles School of Business.

Khan has been developing her company, **Khalm Skincare**, and bringing her Pakistani culture to the United States through the **Master of Business Creation program** at the U. It all began with one simple, natural ingredient: oud, a resin that is created by the agarwood tree when the tree fights infection.

While growing up in Karachi, Pakistan, oud was everywhere; the scent of oud incense floated down the corridors of Khan's home and was prominent in every temple she visited.

"It stayed with me as an adult when I moved to the United States," Khan said. "Oud was in my home scents. Oud was in my luxury perfumes. This vital ingredient was very important to me,

and I had the opportunity to think about, 'Could this be in skincare?'"

At the time, Khan was heavily interested in luxury skincare, believing that the best products came from France as they were EU-regulated and therefore considered to contain low toxins that could disrupt the immune and endocrine systems. Still, she found something lacking.

"I wanted something from my homeland, ingredients from my homeland in my daily skincare routine," Khan said.

So what's the value of oud? According to Khan, there are many. Not only does oud have aromatherapy benefits, but it also is an antioxidant and has antimicrobial and anti-inflammatory qualities, making it perfect for a skincare routine — namely, perfect for Khan's brand.

— by Alexis Perno



PERFECT FIT FOR LOCAL DESIGNERS

Computer science graduates **Prince Mugisha**, **Ashton Bower**, and **Ryan Furukawa** have a good eye for market trends — and fashion.

In search of a capstone project they could put their hearts into, Mugisha and Furukawa thought of their friends in the clothing design industry. While they could conjure beautiful pieces and innovative style, the local industry faced a widening divide between them and manufacturers.

With small orders and even smaller budgets, these local designers couldn't send plans to large textile manufacturers. They needed manufacturers on their scale, who could match their production and consumer needs.

After considering these roadblocks, Mugisha and Furukawa recruited Bower and got to work. The end result was **Seamster**, a mobile application that integrates clothing designers, manufacturers, and consumers into a tailor-made space.

"Seamster enfranchised those who couldn't make their dreams a reality simply because of the clothing industry's high barriers to entry," Mugisha said. "The app can help launch smaller businesses, designers, and manufacturers over the walls and connect the creatives with their consumers."

Mugisha, Bower, and Furukawa didn't just put their hearts and time into the project, but their own money, too.

"Almost all of the financing came out of pocket," Furukawa said. "Hosting clients, storing data, getting servers. We never had any disputes over it, either. We were all really willing to share the burden."

Together, the team finished their multifaceted app, providing users with a "storefront" to manage and sell their inventory, while also helping them to make connections, build relationships, and expand their reach — all during a global pandemic.

— by Jacqueline Mumford



Camille Bagnani

A VINTAGE MOTORSPORT LIFESTYLE

Stephanie Burnham, co-founder of **B3 Supply Co.**, is curating a vintage motorsport lifestyle through clothing and apparel. B3 Supply Co does this through its clothing brand on its online store. "We want to deliver a lifestyle that shows racing and a vintage aspect so that people can live how I like to live," she said.

Along with an old school motorsports lifestyle, Burnham draws inspiration for B3's apparel from personal experiences. Social media and magazines are a great source of inspiration for the aesthetic

the company embodies. B3 also incorporates social media marketing. Burnham said this element of the company is designed to be a platform to help companies get exposure through social media.

She and her brother and co-founder, **Parker Burnham**, grew up around motorsports. Through generations of racing in their family, they decided they wanted to share the lifestyle through a business and founded B3 Supply Co. The siblings have learned a lot along the way about what it takes to run a business. After a few

close calls on order deadlines, they have transitioned from outsourcing screen printing to doing it on their own.

Burnham is studying marketing and graphic design at the University of Utah. She is also an inaugural member of **Lassonde Founders**, a residential entrepreneur program at Lassonde Studios and the Lassonde Entrepreneur Institute. Burnham said mentors and resources at Lassonde have helped her face the challenges of a young entrepreneur.

Staying accountable as an entrepreneur is critical,

Burnham pointed out. "In small businesses, it's very easy to get off of your timeline and not meet your goals," she said. "We have milestone meetings in the Founders program, and having that push has been really helpful." Through these meetings and an entrepreneurial mindset, B3 continues to grow and share the lifestyle of its vintage motorsport brand.

— by Camille Bagnani

8. HISTORY



VIRTUAL ORAL HISTORIES

In this uncertain time, it is more important than ever that we make sure the voices of those who aren't always seen are heard. **Jami Harvey**, a psychology major at the University of Utah, found innovative ways to make sure that these stories were preserved for generations to come.

In the summer of 2020, Harvey along with fellow student **Oralia Aguilar** worked with **UROP (Undergraduate Research Opportunities Program)** to record the oral histories of Navajo and undocumented Latinx populations in Salt Lake City. Their project was inspired by the reports they had been hearing on the news and the media in general. They were both saddened by the number of COVID-19 cases devastating these communities and the

stigmas that were being spread.

Many of these rumors blamed the rise in cases in these communities on the fact that they don't have running water in their homes, ergo they must not be washing their hands. However, this couldn't be farther from the truth.

While they would've liked to meet in person, Harvey and Aguilar utilized Zoom to conduct each interview. Harvey conducted interviews with individuals from Navajo populations and Aguilar interviewed individuals from Latinx communities. As Harvey said, "Simply put, oral history is the study and collection of historical information, and we knew this would be the best way to capture those voices."

— by Celine Cavanaugh



Tori Allred

FINDING PARALLELS FROM THE PAST

When COVID-19 hit, many thought it was nothing worse than a seasonal flu. But for many communities, this virus has been similar or worse than the Spanish Flu of 1918.

To help shed light on the current pandemic, history and economics student **Kallin Glauser**, along with faculty from the University of Utah and the **Marriott Library**, decided to find the similarities between COVID-19 and the Spanish Flu of 1918 in Utah and document the history in a digital exhibit.

During a month-long stint of research, Glauser poured over digitized newspaper articles and photographs from 1918 for information to include in her interactive timeline. The timeline was a special aspect of the exhibit because the work done for the timeline was entirely her own, from doing the research and writing a compelling narrative to creating the timeline itself. Glauser said, "It was an interesting project that I really

enjoyed because I got to do some real historical research and investigative work that was unique to my hometown."

She highlights in the Spanish Flu timeline that during the pandemic, the University of Utah shut down and sent all students home, much like the course of action they took when COVID-19 first became a problem back in March 2020.

Along with the interactive timeline, Glauser also compiled a list of newspaper headlines, both from 1918 and 2020. Glauser said, "I found all these newspaper articles from 1918 and I juxtaposed them with headlines from 2020, specifically from March through June. It's incredible how, even though it is separated by 100 years, we see similar headlines to today."

Find this research online at exhibits.lib.utah.edu/s/1918-flu-pandemic-in-utah/page/timeline.

— by Celine Cavanaugh



Tori Allred

ADVANCING ELECTRIC BUS SYSTEMS

Did you know 37% of U.S. carbon dioxide emissions in 2017 were due to transportation? Electrical and computer engineering Ph.D. students **Avishan Bagherinezhad** and **Alejandro Palomino** are researching ways to reduce pollution through electrified public transportation.

Their latest work proposes a spatial-temporal co-optimization of bus transit and power systems to realize the benefits of battery electric buses (BEBs). Ultimately, this

work demonstrates that transit electrification can be optimally deployed without delaying transit schedules or incurring huge charging costs from the electric utility.

"BEBs are obvious for cities to adopt," Palomino said. "They have lower cost of operation, zero tailpipe emissions, and are able to operate in a manner that is beneficial for the power system."

The team based their research model on Park City's current bus transit system

with the number of BEBs and charging stations needed to support electrification. The model was then abstracted to a mathematical co-optimization problem constrained by the existing bus transit schedule, BEB battery capacities, and power distribution limits.

Their co-optimization concludes that Park City transit could reduce its operating costs and carbon dioxide emissions by adopting electrification.

In recognition of the operational complexities

presented by co-optimization, they helped develop a user-interface for transit and power authorities to visualize how these systems can co-operate in the real world.

"Our research and findings have taught us to see the future. It teaches us how the future can change for the better with rapidly changing technology like BEB's," Bagherinezhad said.

— by *Tori Allred*



Gracie Tidwell

INCREASING INCLUSION IN THEATER

Performance, advocacy, inclusion. A junior at the U, theater student **Ashley Goodwin** is taking steps to make these more prominent aspects of the theater world and beyond. She is doing this through her performative theater piece, **"The Not Broken Monologues."**

This performance comes as the grand finale of her **Undergraduate Research Opportunity Project (UROP)**. Broadening the narrative of

the disabled experience is a main goal of Goodwin's project, and she is determined to share a new perspective with the world. "I'm excited for the space and sense of community that this and my future work will hopefully carve out within the industry," Goodwin said, "but I am also excited about the possibility of starting conversations that need to be had about inclusion, advocacy, and representation." She holds a deep passion for uplifting lives

through theater — in the future, she hopes to change lives by teaching theater and working with programs that use theater to uplift and inspire local communities.

COVID-19's effect on the theatrical community has been upheaving to say the least, but one positive that Goodwin has found is the increased accessibility of viewership. "The Not Broken Monologues" will be streamed online late in spring semester, allowing

everybody, including those with disabilities that hinder access to live performances, to enjoy the performance. Goodwin credits the theater program at the U and its staff, namely **Alexandra Harbold** and **Xan Johnson**, and the UROP program with helping her create this performance.

— by Gracie Tidwell



KEEPING THE SYMPHONY OPEN

At the start of the pandemic, the **Utah Symphony | Utah Opera** was gearing up for their performance season. As rising coronavirus case counts threatened to close their doors, they needed expertise that could keep the performers and audience safe. Luckily, the search landed on a team of music lovers that included students at the U and was led by assistant professors of chemical engineering **Tony Saad** and **James Sutherland**.

The challenge? Find a way to limit the spread of droplets from wind and brass instruments without damaging the integrity of the performance. If that wasn't difficult enough, the duo had a time limit — just 10 weeks.

Saad and Sutherland sized up the problem. With the help of **Josh McConnell**, a postdoc candidate, and two Ph.D. students, **Hayden Hedworth** and **Mokbel Karam**, they jumped on board.

"COVID-19 has been hard on everyone," Karam

said. "We knew it would be stressful work, but the idea that we could make this time even a little less difficult for our community was really rewarding."

In the following months, the team approached the dispersion problem through a series of models. Focusing on the aerosolized respiratory droplets emitted from the instruments, they followed the airflow. They became very familiar with Abravanel Hall's HVAC system, dedicating hours to taking measurements, making guesses, running simulations, reviewing results, and going back to square one.

After a grueling process of trial and error, they found a solution: combined with opening the side doors, rearranging the seats of brass and wind instruments significantly reduced the spread of droplets, and, ultimately, the risk of infection.

— by *Jacqueline Mumford*



Todd Collins

INDIGENOUS MODERN DANCE

Talia Dixon's major in modern dance and minor in American Indian studies came together to inspire her University of Utah honors thesis on indigenous representations in dance studies and honoring the knowledge of indigenous nations, specifically the Luiseño Peoples in Southern California. "Coming to college to study dance, I didn't know I would get involved in something like this," Dixon said. "Native studies and representation in dance and arts has been a way for me to combine the two paths."

Dixon said this research path has been life-changing. She had never been asked to think critically of the history she was taught in public school when it came to ethnic studies. "It's such a rich and inspiring history to know," she said. Dixon is also a member of the Pauma Band of Luiseño Mission Indians tribal community in Southern California.

Aside from her honors thesis, Dixon creates

conversations surrounding indigenous representations in the arts within the broader Salt Lake community. In November 2020 when "Dancing Earth: Indigenous Contemporary Dance Creations" presented a virtual performance facilitated by UtahPresents, Talia wrote a review of the show for a local Salt Lake City dance and performance journal called LoveDanceMore.

Going home to California for her senior year has allowed Dixon to reflect on how what she is doing has an impact on her tribal community. With encouragement from mentors such as **Kate Mattingly** at the School of Dance, **Laurence Parker**, associate dean of the Honors College, and **Elizabeth Archuleta**, associate chair of Ethnic Studies at the U, Dixon has decided to continue her research in graduate school next year.

— by *Camille Bagnani*



Tori Allred

BOARD GAMES MEET DIGITAL GAMES

Does your family only play board games, but you prefer to play video games? Interwoven has solved the ultimate family night battle through integrating board games and video games into one game for everyone to enjoy.

Interwoven is a board/digital game design startup company. It began in 2018 by founder **Nicole Martino**, co-founder **Kazimar Guenther** as a designer, and **Trevor Malpede** as an artist. All students are studying **Entertainment, Arts & Engineering** at the University of Utah. They are working with the U's Lassonde Entrepreneur Institute to grow their company.

Martino describes the company's mission: "Interwoven exists to connect people of different backgrounds and cultures into one fulfilling experience."

Their efforts are spent

working on their first game, called "Battle Roll." It includes a multi-player online battle arena element and is a 2-4 player game. There are two ways to win in "Battle Roll": destroying a base or killing the other players that are not on your team. "Battle Roll" was inspired by a video game genre and was put into board game form with a video game aesthetic present," Martino said.

When Battle Roll has been completed, Interwoven plans to place it in local board game stores in Salt Lake City.

Games have always been a part of Martino's life. "Games have helped many people out of different situations," she said. "They have helped people cope, and they can help people when they are sick. If I can make games that inspire people, then I will be doing my part."

— by *Tori Allred*



Camille Bagnani

MAKING EXPERIENCES THROUGH MUSIC

Austin Birch is shaping the way events look, feel, and sound like through music with **Argus Entertainment**. His mission is to provide DJing and concerts to create an experience through music, and he is growing the company at the University of Utah as an inaugural member of the **Lassonde Founders** program at the Lassonde Entrepreneur Institute and entrepreneurship major at the David Eccles School of Business.

"The Lassonde Founders program creates an environment that is perfectly conducive to changing the world. You never know who you're going to meet," Birch said, discussing access to the network of entrepreneurs in the program. Birch said the Founders program will continue to help him take Argus Entertainment to the next level.

He discovered his passion for music growing up as a classically trained musician. He then explored genres

from rock to metal to rap and eventually found his niche in electronic music. "The logical transition was to move through different genres until I found something that suited me," he said.

After DJing local events throughout high school, Birch founded Argus Entertainment in 2017.

Birch is one of 31 students admitted into the first group of Lassonde Founders for the 2020-21 academic year. In this program, Founders receive a scholarship to live, work, and study together to launch their ideas and grow their skills as an entrepreneur at a top 10 nationally ranked program.

He is also participating in other programs at the Lassonde Entrepreneur Institute, including Hours with Experts, which allows students to sign up for free one-on-one meetings with professionals. "Having time to sit down and talk to experts has been extremely beneficial," he said.

— by *Camille Bagnani*

RESOURCE DIRECTORY

ArtsBridge: An interdisciplinary arts education outreach program. artsbridge.utah.edu

ArtsForce: A two-day conference for art students to learn about how to share their creative work. artsforceutah.com

Arts Entrepreneur: Connect with your peers, learn the value of your skills, and explore connections between the arts and entrepreneurship. lassonde.utah.edu/art

Bench-2-Bedside: A competition for medical, engineering, and business students to collaborate to develop or improve a medical device. bit.ly/UUb2b

Bennion Center: Program with a mission to mobilize people to strengthen communities through learning, scholarship, and advocacy. bennioncenter.org

bioDesign: Teams of engineering students work with clinicians to develop prototypes and test medical devices. biodesign.utah.edu

bioInnovate: Graduate program providing a comprehensive biomedical, device-design training program. bioinnovate.utah.edu

bioWorld: A two-semester course enabling students to develop a business plan for a medical-device in a developing country. bioworld.utah.edu

BlockU Program: Take full advantage of your time at the U by enrolling in courses organized thematically to maximize your learning. blocku.utah.edu

Business Scholars: An experiential program for high-achieving students offered by the David Eccles School of Business. eccles.utah.edu/scholars

Center for Research on Migration and Refugee Integration: Students connect as refugees, immigrants, or volunteers. CRMRI encourages research, academics, and outreach. bit.ly/crmriu

Company Launch: Apply for dedicated office space at Lassonde Studios through the Company Launch program. lassonde.utah.edu/launch

Cowork: Take advantage of the many opportunities and areas in Lassonde Studios to work together and collaborate. lassonde.utah.edu/cowork

DesignBuildBLUFF: A year-long program for graduate students in architecture who design and build homes in southern Utah. designbuildbluff.org

Eccles Global: Students engage in worldwide business education that instills the skill set students need to compete internationally with classes taught by Eccles School faculty in classes around the globe. eccles.link/eccles-global

Entertainment Arts & Engineering: Interdisciplinary program where students design and develop video games. eae.utah.edu

Food Entrepreneur: Learn about food entrepreneurship, what it takes to open a restaurant, and more. lassonde.utah.edu/food

The Gapp Lab: A student game-development center for health and education-related video games and apps. library.med.utah.edu/synapse/gapp

Get Seeded: Pitch your business idea to your peers to receive seed funding for your venture. lassonde.utah.edu/getseeded

Global Entrepreneurship Program: Travel the world while taking classes in entrepreneurship and completing internships in this program from the David Eccles School of Business. eccles.utah.edu/global-entp

Global Public Health: Promotes health and medical development, leading to measurable improvements. globalhealth.utah.edu

Goff Strategic Leadership Center: Committed to developing strategic leaders by engaging with students across campus and the business community to share insights and build practical skills. goffstrategicleadershipcenter.com

High School Utah Entrepreneur Challenge: A statewide business idea competition for all students ages 14-18. \$25,000 in cash and scholarships available. lassonde.utah.edu/hsuec

Hinckley Internship Programs: Internship opportunities are available to students interested in politics. hinckley.utah.edu

Honors Praxis Labs: Students work together to find original solutions to problems our society faces, while a faculty mentor guides the work of each group. honors.utah.edu/praxis-labs

Hours with Experts: Sign up to meet with an expert in fields including law, business, design, and engineering. lassonde.utah.edu/exporthours

International Leadership Academy: Students examine global leadership in business, government, and non-profit organizations. Community mentors assigned. Email: lehman@poli-sci.utah.edu

Kahlert Initiative on Technology: Prepares students to be digitally literate regardless of degree. KIT offers a Digital Literacy Certificate Program that allows you to learn cutting-edge technology from industry experts in an easy-to-understand format. eccles.link/kit

RESOURCE DIRECTORY (CONTINUED)

Lassonde Entrepreneur Institute: The hub for student entrepreneurs and innovators at the University of Utah. Many programs and opportunities open to all students. lassonde.utah.edu

Lassonde Founders: A select community of active undergraduate entrepreneurs who live, create, and launch together while receiving generous support, mentorship, and scholarships. lassonde.utah.edu/founders

Lassonde New Venture Development Center: Graduate students are paired with inventors and entrepreneurs for fall and spring semester preparing a business plan. lassonde.utah.edu/new-venture-development

Lassonde Studios: The home for student entrepreneurs and innovators. All students welcome to live, create, and launch here. lassonde.utah.edu/studios

Lassonde+X: An introductory program for undergraduate students from all majors (X) to learn the entrepreneurial mindset, explore and practice entrepreneurship, and build skills to succeed in the future. eccles.utah.edu/lassondex

Learning Abroad/Global Engagement: Students participate in hundreds of programs all over the world based on their interests and career goals. learningabroad.utah.edu

Make Program: Learn how to use prototyping tools and see your idea come to life at Lassonde Studios. lassonde.utah.edu/make

Meetups: Join the Lassonde Entrepreneur Institute at a meetup event to find teammates and learn about the community. lassonde.utah.edu/meetups

My U Signature Experience (MUSE): A database of research, leadership, community engagement, scholarships, and internship opportunities across campus. muse.utah.edu

Opportunity Quest: A business-model executive summary competition for students across the state, addressing the executive-summary stage of business development. lassonde.utah.edu/oq

RoboUtes: Students interested in robotics participate in competitions. roboutes.utah.edu

Sorenson Impact Center: Marshals capital for social good, empowers data-driven programs, breaks down silos across sectors, and equips the next generation of leaders with social purpose. sorensonimpact.com

Student Investment Fund: Get hands-on investment experience in this unique program from the David Eccles School of Business. eccles.utah.edu/student-investment-fund

Sustainable Campus Initiative Fund Program (SCIF): Innovative and motivated students are awarded grants to team up with a faculty or staff member to bring about sustainable changes for the campus. sustainability.utah.edu/scif

Office of Undergraduate Research (OUR): Students are paired with faculty members and work closely with them in research experiences. our.utah.edu

University Venture Fund: Students work with entrepreneurs and investors to learn about investments and see how successful companies are managed. uventurefund.com

Urban Ecology and Sustainability Scholars: Students work across disciplines to research, imagine, create, and implement strategies that will positively affect sustainability practices at the U. bit.ly/sustainabilityscholars

Utah Center for Financial Services: Help innovate financial services, guide regulatory issues, and examine and support the deployment of new financial products and services. lassonde.utah.edu/ucfs

Utah Entrepreneur Challenge: One of the largest business-model competitions in the nation. Students across Utah develop full, comprehensive business models. \$60,000 in prizes available. lassonde.utah.edu/uec

Utah Real Estate Challenge: Real-estate development competition for undergraduate and graduate students throughout Utah. bit.ly/realestatechallenge

Utah Summer Program for Undergraduate Research (SPUR): Provides undergrad students with an intensive 10-week research experience under the mentorship of a faculty member. our.utah.edu/spur

Workshops: Attend regular workshops at the Lassonde Entrepreneur Institute to learn new skills. lassonde.utah.edu/workshops

Submit a Listing: Do you want to add a listing to this resource directory? We want to hear from you. Email us at lassonde@utah.edu.



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