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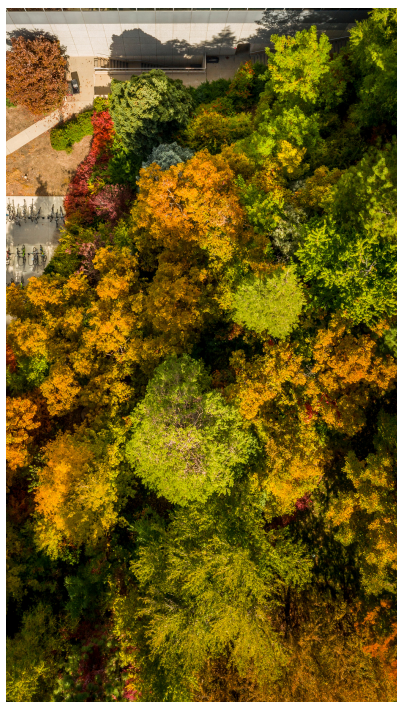
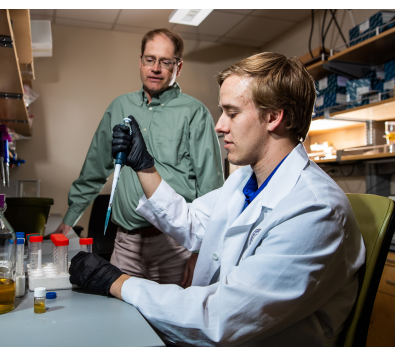
BYU Neuroscience Magazine



Fall 2020

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Reaching New Heights

Meet the Career Director- Natalie Hansen



Natalie Hansen

Natalie Hansen is a graduate of BYU-Hawaii, where she earned a BS in Hospitality and Tourism Management. After graduating from BYU-H, she served a mission for The Church of Jesus Christ of Latter-Day Saints in the Texas Houston South Mission. Returning from her mission she moved to San Jose, CA to pursue a Master's degree in Social Work (MSW) at San Jose State University.

Through her internships and work experience during her Master's program, she realized that working with students is her passion. Upon graduating with her MSW, she moved to Los Angeles where she worked for two years as an Academic Advisor for MSW students at USC and five years as a Career and Academic Advisor for nine high schools throughout the South Bay Area.

Last year, she relocated to England to pursue further education at the University of Oxford and graduated in September 2020 with her Master's in Education and Child Development.

Natalie is passionate about educational equality and supporting students of color. She loves to travel and has visited 18 countries in the last 6 years. Reading is one of her favorite pastimes, especially thrillers, suspense, and personal development books. She loves to cook and tries a new recipe every week. Some of her other favorite pastimes are going to the movies, musicals and plays, and doing macrame projects.

Natalie moved to Provo and started working for BYU in August 2020. As the Career Director for Neuroscience, Natalie can help you with services such as career exploration, in-depth resume and cover letter review, job searching, networking, interviewing skills, and preparation for graduate school. **Natalie is excited to work with neuroscience students.**

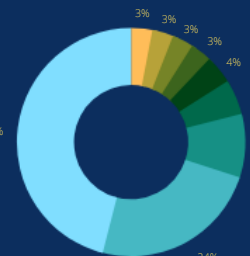
Contact Natalie Hansen at: natalie_hansen@byu.edu

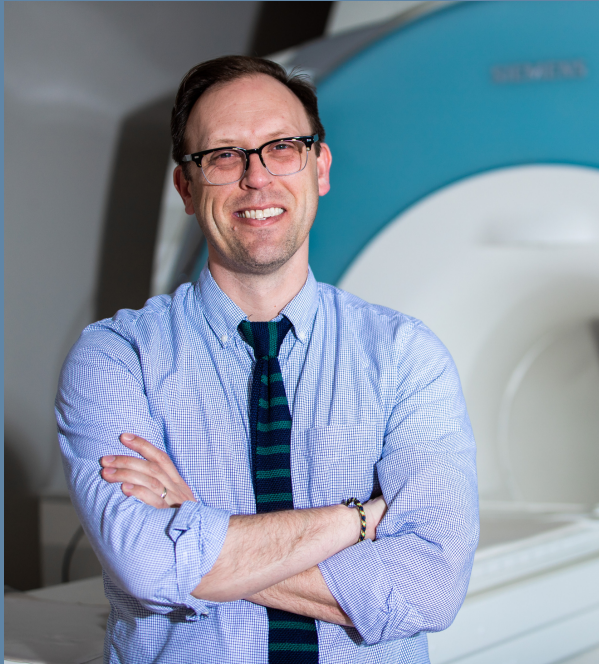
"Neuroscience is rapidly becoming a strong foundation and cornerstone of how we think and manage our lives... Because of its rapid expansion and increasing financial resources, neuroscience is also proving to be one of the best-paid academic fields students can pursue at every academic level"

<https://www.onlinepsychologydegree.info/lists/5-highest-paying-careers-in-neuroscience/>

Careers of Neuroscience Alumni:

46% Medicine / Healthcare
24% Education / Research
9% Business / Administration
5% Other
4% Military
3% Architecture / Engineering
3% Law
3% Marketing / Media / Communication
3% Information Technology





Brock Kirwan Receives Teaching Award

This fall, Dr. Brock Kirwan received the Karl G. Maeser Excellence in Teaching Award. This award honors faculty members for outstanding teaching accomplishments. We are lucky to have Dr. Kirwan as part of the Neuroscience faculty and we are grateful for his contributions to BYU.

*This award is made possible by the generosity of the Karl G. Maeser Scholarship Society

GETTING TO KNOW DR. KIRWAN

I find the brain endlessly fascinating, but I took a bit of a round-about route to studying it. I grew up in Pingree, ID, which has about 200 people and about 57,000 acres of potatoes. My dad was a potato farmer, so I grew up working on the farm every summer after about age 12.

My main responsibility on the farm was moving sprinkler pipe twice a day, every day, all summer long. My older brother and I would start around 6:00 in the morning and it would take us a couple of hours to finish.

We'd then spend a couple hours doing odd jobs around the farm like pulling weeds or cleaning and fixing equipment, and then break for lunch. After lunch, we'd be back in the field moving pipe in the afternoon heat.

My experiences working for my dad on the farm taught me a couple of things: first, how to work and the value of hard work. This has proved a very valuable lesson. The second lesson was that farming was not for me, and I decided one particularly hot summer afternoon in the middle of moving pipe that I would get as much education as I could.

I went to college at the University of Utah, and when I first started I planned on becoming a lawyer. I thought philosophy was a good pre-law major and quite enjoyed

my philosophy courses. In particular, I enjoyed classes dealing with the philosophy of mind where we considered questions like how we get mental events from physical substrates (what's known as the "mind-body problem"). In one particular course on Free Will, the professor started out with a thought problem that went something like this:

"In the future, neuroscientists will be able to describe the entire state of your brain, including the state of all the neurons, their membranes and neurotransmitters—everything. If we can describe the entire state of your brain, and we know what the inputs will be over the next few seconds, we can perfectly predict what your actions will be after that time. If we can perfectly predict your actions like that, where does that leave free will?"

Then the rest of the course was spent arguing about what we mean by "free will".

I got hung up on the initial premise of that thought experiment, though, and I got really interested in whether neuroscientists could in fact describe the entire state of the brain, so I started taking more classes in psychology, cognitive science, and neuroscience.

I worked as a research assistant in the lab of Ray Kesner studying memory processes in the hippocampus of rats. In Dr. Kesner's lab I learned to design and conduct an experiment with the appropriate controls; how to do brain lesion surgeries on rats; how to care for the animals; how to read a scientific paper; how to write a paper and get it accepted for publication; how to plan and write a grant; how to do histology on the rat brains; and so many other things.

When I applied for graduate programs, I decided to switch from studying rats to studying humans, partly because I was tired of my research subjects peeing on me, but mostly because I was interested in learning functional MRI (fMRI), which was a newly-developed technique at the time. I was very lucky to be accepted into the lab of Craig Stark in the Psychological and Brain Sciences Department at Johns Hopkins University in Baltimore, Maryland.



My dissertation focused on how the hippocampus resolves interference between similar memory representations. This topic was not that different from my senior thesis work in Dr. Kesner's lab and in fact was partly inspired by it. The research in my lab today still focuses on similar themes of memory specificity.

After completing my PhD, I did a postdoctoral fellowship in the lab of Larry Squire at the University of California, San Diego. In Dr. Squire's lab I continued to use fMRI to study long-term declarative memory. Additionally, I learned how to conduct neuropsychological experiments with amnesic patients.

The group of patients we worked with in San Diego had all acquired amnesia in adulthood, usually through anoxic brain injury. They all had lesions that were pretty limited to the hippocampus and other medial temporal lobe structures.

These individuals were fascinating to work with and get to know. They can carry on a conversation pretty normally as long as they don't get distracted, but after a few minutes you notice that they start repeating themselves. They forget your name pretty quickly and, depending on the severity of their amnesia, will forget that they even met you.

I worked with some of these patients several times during my three years in the lab and every time they met me it was as if they were meeting me for the first time.

I have been at BYU since 2009, where I'm a professor of Psychology and Neuroscience. I'm also the Director of the BYU MRI Research Facility. My lab studies how the brain forms and retains long-term memories and how those memories help guide future decisions. We've also recently begun a series of replication studies where we plan to replicate influential papers in the memory fMRI literature.

One thing people might not know about me is that I love music. I always have music playing when I'm working in my office. Live concerts are one of the things I miss most in the era of Covid-19.

I met my wife at a church dance when we were both 16 and was terribly impressed that she knew and liked the same music I did. She was from Arizona, so to impress her in turn I made her a mixed tape and mailed it to her (you may have to ask an old person what a mixed tape was).

Despite my love for music, I've never been any good at making it. As a kid my piano teacher asked my parents to stop making me take piano lessons, mostly because I would never practice and never made any progress. I recently started learning the guitar, though, and practicing is one of my favorite things. I love the experience of something starting out hard and cognitively demanding but becoming easier and automatic as my basal ganglia takes over control of the movements.



We have three kids and two cats and live in Provo. One of the greatest things about living in Provo is easy access to outdoor activities like hiking and skiing. Prior to my son returning to BYU-I this fall, I suggested a family hike. The route I chose had a 3000ft elevation gain in 3.5mi, so I think my son was happy to move back to Rexburg and get out of any future "death marches". My two girls and I are looking forward to putting our Sundance ski passes to good use this winter.



My Neuroscience Story

BY ANNIE DRIGGS

A NEUROSCIENCE STUDENT

As I have reflected on my years at BYU, I am overwhelmed by the experiences and opportunities my education has given me. I declared as a neuroscience major during my freshman year, when all I knew was that I wanted to go into pediatrics. I took mainly prerequisite courses that year before I left to serve a mission, but I knew that something about studying the human brain called to me.

My first real introduction to the neuroscience program was in Dr. Matheson's behavioral neurobiology class, where I felt a new world unlock before me as I began to understand the intricacies of our thoughts, our senses, and our minds. While many aspects of my life plan have changed over five years, my love for neuroscience has only grown.

Many of my favorite experiences have been in the classroom, whether listening to Dr. Brown make a dating joke while talking about sensation, analyzing our biases with Dr. Matheson, or watching Dr. Nielson blow up another helium balloon in organic chemistry. The professors we are privileged to work with are deeply invested in us as students and are the best examples and mentors.

I am also fascinated by the human body and passionate about teaching during my time as a teaching assistant in the anatomy lab. I chose this class almost on a whim, since it is not required for the major, and it has led to one of the most fulfilling experiences of my education. I have now taught more than 150 students in the anatomy lab. I have volunteered with Y-Serve's Anatomy Academy and currently I serve as a program director.



My advice to new students in neuroscience, or to BYU, is to find your community. Find a way to volunteer and try something totally unrelated and new! There is nothing as rewarding as finding people who share your passions, whether learning from fellow TA's or colleagues in a research lab or joining the Neuroscience Club.

BYU provides a multitude of ways to express what you love to do and explore it fully. There are so many opportunities to serve! I have personally found my time spent working in both a women's shelter and mental health clinic in Provo deeply rewarding.

I was able to travel to Kenya two years ago with a nonprofit, called Kenya Keys. While there, I was able to teach basic neuroanatomy to local high school students (see picture.)

Sharing the insights of my education with these students and watching them fall in love with brain only reinforced my passion for neuroscience and teaching. I believe it is also important to take this time in our lives to step out of our comfort zones and embrace unique opportunities, even if they do not "help with your career."

"BYU provides a multitude of ways to express what you love to do and explore it fully."

One of my favorite semesters was spent at the BYU Jerusalem Center, where I studied Christ's life and Middle Eastern history, and spent 4 months traveling. Friends at BYU have studied abroad throughout Europe, taken classes in women's studies, and learned floral design. At the Y, you will get the most from your education if you allow it to broaden your experience and perspective.

I am currently applying to graduate schools to become a pediatric nurse practitioner. For years, I had planned to attend medical school to become a pediatrician, but through academic and practical experiences at BYU,

I've discovered a path that better matches my professional goals and will allow me to form meaningful relationships with my patients. Family and friends have occasionally asked me if I wish I had originally started in nursing, or at least chosen an easier major at BYU. My answer is an emphatic "Not at all!" Neuroscience has honed my study skills, broadened my perspective of the world, and allowed me to meet students and faculty who constantly inspire me.

A degree in neuroscience will offer you more than a complex analysis of the nervous system. You will undertake a comprehensive study of all parts of science, from organic chemistry to anatomy to physics. These classes within the major have taught me to think analytically, to synthesize material and find connections, to combine physiology with psychology, and to see people as more than merely a sum of their parts. Through neuroscience, I have developed greater compassion, asked more questions about the world around me, and gained the skills to find answers to those questions.

"Neuroscience has honed my study skills, broadened my perspective of the world, and allowed me to meet students and faculty who constantly inspire me."

Neuroscience is a rapidly changing field, with new discoveries constantly emerging from amazing scientists around the world and in our own community. Students learn to seek out new research, stay abreast of current data, and to become experts in neuroscience. No field could have better prepared me for lifelong learning and service than neuroscience, and I am grateful for those who have helped make these 5 years so remarkable.



Annie is a senior and continues to learn through great experiences at BYU.



My BYU Story

BY EMMA MURDOCK

A NEUROSCIENCE STUDENT

My name is Emma Murdock. I am a senior at BYU and will be graduating with a bachelor's of neuroscience April 2021. I have loved my experience at this university but to be honest, I had a rocky start. I didn't start my college career at BYU because I transferred from USU.

My first semester at BYU I got married, moved, made new friends, and changed my major—my life was turned upside-down. BYU and I were off to a great start! Even though it was a tough transition, I survived and have learned a lot from the experience of transferring and studying neuroscience here at BYU.

What I have learned during my time at BYU

More Than a Grade

I grew up in Brookings, a tiny town on the southern coast of Oregon. I went to a high school that offered chemistry from a teacher who spoke very little English. My first semester at BYU, I took a general chemistry course—aka notorious Chem 105.

Simply put, I had to work extra hard to build a chemistry foundation many students already had. I felt like I was already way behind in the game. Despite the challenge, I worked hard and got a decent grade. However, staring at the letter grade that ended up on my transcript made me feel empty. I thought about all the hours, effort, sweat, and tears put into that single letter—it would never fully represent the work I put in. I felt dissatisfied.

These feelings of dissatisfaction did not last forever though. This past summer, when I began to exit my comfort zone and reach out to professors about career goals and teaching assistant and research assistant positions, I started to feel like the hard work was beginning to pay off.



I enrolled in fall semester classes with friends I had made in my study groups from chemistry/physics, accepted a job from a neuroscience professor that I highly admired, started working in a lab where I was being trained by a master's student who I wanted to emulate in every way, and worked up to a point where I will be a co-author on a peer-reviewed paper on an experiment that I assisted with.

These opportunities have transformed my fall semester into a learning experience that transcends anything that a GPA could represent.

So yes, grades matter but not in the reason you might think. Let that letter grade not only signify the work you have done in the course but also the friends you have made, the experiences you have had, the professors you have gotten to know, and the possible doors that may be open to you because of your vulnerability and hard work.

College is more than course-work, it is a way to learn from and build relationships with those who have succeeded at life. Learn from their mistakes, and apply what works for you to exceed expectations.

People Matter More

What I have found over the years at BYU is the importance of making memories with people. As a freshman, I would study by myself, chose homework over friends, and put my nose in a text book instead of spending precious moments with my husband and family.

When I think back to the memories I have, I don't remember the grade I got on some paper I wrote in Psychology 111 or whether I got an 87% instead of an 95% on a physics exam. Rather, I am brought back to the memories I made with my friends and family that fill my mind and make me smile.

Grades, assignments, and studying are temporary but people and relationships are everlasting. There is a fine balance between coursework and relationships. Just make sure you are intentional about which priority you are choosing when given the choice.

Love What You Do

The question "what are you passionate about?" has always been difficult for me to answer. I have been waiting for it to click, but it just hasn't. Because of this, I have looked at my future career a little differently. Instead of thinking, "what am I passionate about?", I have shifted my thought process to "what can I become passionate about?". I think this way because of experiences I have had at BYU where I've grown to love the opportunities that I didn't expect.

For instance, I took History 202, a difficult course with a ton of material. I've never enjoyed history, but that semester I decided to embrace the opportunity that came my way. I gradually changed my mindset to accept that all knowledge can be valuable and interesting. Even though it was a lot of work, I became passionate about the material. The same thing can be said for my lab work. I never saw myself working in a research lab, but I took the opportunity when given the option. Since I began, I have learned so many valuable skills in research, conducting my own experiments, and have found satisfaction in discovery. It took hard work in the beginning to learn the techniques but it has paid off and now, I love research.



I am a person who loves trying new things and mastering new skills. That, I have found, is my passion. I will continue to seize opportunities and learn to love what I do. What have I learned studying neuroscience at BYU? I have learned the ins-and-outs of a neuron, the basic construct of the nervous system, how our bodies function, thousands of anatomy terms, theories behind behavior, a basic understanding of economics, American history, European history, more about my religion and many other world religions, calculus, physics, chemistry, and ... this list could go on and on.

But what I have learned and what I will remember for a life-time are different. I will take with me the valuable understanding that there is more to knowledge than a textbook, relationships should be at the top of my list, and I can always learn to love what I do.

When you are struggling to find the reason to endless nights of study, where people fit in your life, and your passion, ponder your values and see that it is more than a grade, people matter more, and you can learn to love what you do.

Graduate Student Spotlight

MAURICE HUNT

My name is Maurice Hunt and I am a Master's student in Neuroscience here at BYU. I grew up in Downingtown, Pennsylvania which is a suburb about an hour outside of Philadelphia. I played football for several years, and I now do yoga and boxing for exercise. I also play the keyboard.

While I was finishing my undergraduate degree in Psychology, I had the opportunity to work with autistic adults. I was trying to decide what I wanted to do career-wise; either go back to school or further my career working the same field.

I came to BYU and started studying neuroscience and psychology because I was interested in human behavior. While I was listening to a presentation at work, the presenter said something that made neuroscience seem like the correct next step. I realized that studying Neuroscience allows me to keep doing that, but in greater detail.



My favorite thing about being a student at BYU is that the professors here are more involved with their subjects than many other professors I have had in the past. Their engagement helps make the classes more interesting.

One of my favorite quotes about neuroscience is that in the adult brain, the hippocampus (the part of the brain responsible for the storage of long-term memory), generates and loses approximately 700 neurons in a day. This implies that a person is capable of learning new stuff for their entire life!



A quote that has helped me throughout my life and schooling is from King Solomon when he said, "This too shall pass." I also love the quote "It's like a finger pointed to the moon. Don't concentrate on the finger or you will miss all the heavenly glory." -Bruce Lee.

I really enjoy listening to music, writing music, and reading. When talking to others, if there is any opportunity to talk about a book that I really enjoyed reading, I will take it. To relax and unwind I like to go anywhere I can read or listen to music in peace.

***"My advice to other students is
DO NOT STOP LEARNING JUST
BECAUSE YOU GRADUATE!"***

I am currently working with Dr. Arminda Suli on identifying multiple integrating neurons, which are neurons that integrate multiple types of sensory information. I am also working on learning Spanish and how to play the harmonica! My advice to other students is DO NOT STOP LEARNING JUST BECAUSE YOU GRADUATE!

Graduate Student Spotlight

HILLARY WADSWORTH



My name is Hillary Wadsworth and I grew up in Provo, Utah. I am the youngest of eight children, seven girls and one boy. One of my favorite things to do with them is just sit around and talk. I also have a twin sister, Abby! She's my best friend and my favorite person in the world.

I love watching shows and chilling with Abby. I also love to cosplay and dress up. I dress up every day of October in a different costume just because I love it so much and I can get away with it! I also am semi-crazy about Batman/DC comics in general. I live with my sister, and in my half of the room, I have 33 Batman posters on my wall. It is literally like wallpaper! I also have lots and lots of Batman themed clothes and decorations. My sister Abby is also nerdy and loves to decorate our room. Because of this, our room is really, really cool!

A scripture that has really helped me throughout my life and school comes from the Doctrine and Covenants. In D&C 122:7-9, it says

"And if thou shouldst be cast into the pit, or into the hands of murderers, and the sentence of death passed upon thee; if thou be cast into the deep; if the billowing surge conspire against thee; if fierce winds become thine enemy; if the heavens gather blackness, and all the elements combine to hedge up the way; and above all, if the very jaws of hell shall gape open the mouth wide after thee, know thou, my son, that all these things shall give thee experience, and shall be for thy good. The Son of Man hath descended below them all. Art thou greater than he? Therefore, hold on thy way, and the

priesthood shall remain with thee; for their bounds are set, they cannot pass. Thy days are known, and thy years shall not be numbered less; therefore, fear not what man can do, for God shall be with you forever and ever."

The background of this scripture is really important to me. This scripture was given to Joseph Smith when he was in Liberty jail, and one of the most difficult times of his life. It helps me to realize and also remember that no matter how dark or difficult life gets, it's going to be okay and tomorrow is going to be brighter. Because God is with us no matter what we're going through and He loves us no matter what our flaws are. To me that's been a huge comfort in my life and for the trials and difficulties that I've been through.

I knew I wanted to study neuroscience when I took Neuro 205. Before then, I had chosen neuroscience just because it matched up best with pre-med requirements. But after learning about how the electrical gradient must balance the concentration gradient to create an influx of ions, I fell in love. It was so interesting that I have wanted to study neuroscience and know everything ever since. I love the complexity of the brain and how there is still so much more to understand and figure out.



Some advice I would give to undergraduate students is to get into a lab as soon as you can. You learn a lot from taking classes, but there is just something different and unique about being a part of the scientific process and discovering things for yourself. I've been in Dr. Jordan Yorgason's lab for the last two years where I've worked on running and analyzing patch-clamp experiments related to understanding the neural pathways of addiction. I've been learning how to run voltammetry experiments to answer questions about opioid addiction. And I've learned a lot so far! It is incredibly rewarding and it will help you in your future endeavors!

Trust in the Lord

ALUMNI SPOTLIGHT

I was born in Sacramento, California where I lived for a few years until my family moved permanently to a small town in Minnesota called Albert Lea. I started attending BYU in the fall of 2005 as a physics major, but it didn't quite feel like the right fit.

After taking 2 years off to serve a mission I returned to BYU as an "open major" and decided to just focus on my generals. I was unexpectedly drawn to neuroscience in a Psychology 101 course taught by Dr. Ross Flom. I can still remember the chapter that initially sparked my interest—chapter 4: Neuroanatomy”.

I was fascinated by the complexity of the brain and began seeking classes that would allow me to study its intricacies in greater depth. It wasn't long until I had declared myself as a neuroscience major and I have never looked back. I genuinely enjoyed learning about the organization and physiology of the human brain right down to the most basic elements like the receptors and ion channels involved in creating an action potential to trigger muscle movement.

One of my favorite courses at BYU was "Neuroanatomy" with Dr. Michael Brown. I felt like both the course content and Dr. Brown's mentorship were very impactful on my educational career. I spent hours going through pictures of the brain and memorizing the pathways and structures that would become foundational knowledge for my future career.



I also took to heart Dr. Brown's advice to get involved in research and sought out the opportunity to assist Dr. Flom in his infant development lab. Though I did not have specific interest in infant development, Dr. Flom's affable nature and passion for his field helped me



Lionel Thomas

develop an appreciation for the process and value of research. It also gave me my first opportunities to contribute to a scientific publication and present at a conference which are both things I am required to do in my professional career.

While pursuing my degree I met and married my wife, Michelle, who fully supported my passion. While she was on the path to becoming a mental health therapist and was therefore more interested in the more nebulous aspects of brain function like emotion and human interaction, she was endlessly patient as I excitedly described the latest tidbit I picked up in one of my classes. I still remember grabbing her and describing the exact pathway that sensation would have traveled to reach her brain. My wife has continued to be a major strength and support to me throughout my educational and professional career.

As I neared the completion of my undergraduate studies, I knew I wanted to continue to study the brain and it's connections to the rest of the body in greater depth. By this point I had begun to develop a specific interest in brain dysfunction and it's treatment and so decided to seek a career that would allow me to help people with these problems and become a doctor.

During my senior year I applied to many medical schools, but received only one offer for an interview. This was disheartening as most students receive several interviews giving them a higher chance of acceptance. I put my trust in the Lord and was thankfully offered an opportunity to attend the Edward Via College of Osteopathic Medicine in Blacksburg Virginia.

Medical school pushed me harder than I had ever been pushed before. It stretched me more physically, emotionally, educationally, and spiritually than I had ever imagined it could. There were times when I wondered if I had made the right decision, but throughout it all my affinity for any learning involving the brain continued to grow so I pressed forward doing the best that I could.

I again took the opportunity to get involved in research, this time with Parkinson's Disease, which eventually led to my earning a "Distinguished Research Student Scholar Award". Everything seemed to point me in the direction of a brain-related specialty so by the end of medical school had decided to apply for a neurology residency program.

This time I had multiple interviews and felt confident that I would match into a program, so it was a huge blow when I discovered I had failed to match anywhere. This was a significant trial in my life, but I felt the hand of the Lord guiding me as I accepted a position in a family medicine program based in Denver, Colorado.

After graduating from medical school in 2016 I moved my family out to Aurora, Colorado and tried to accept my new career path. However, soon after starting the program I learned that my hospital system would be starting a neurology residency program one year later.

With this in the back of my mind, I continued in family medicine that first year and learned what I could, but it never quite felt like where I was meant to be. After discussing it at length with my wife I decided to apply to the new neurology program and I was accepted as one of the residents for its inaugural year.

While it was a difficult decision to change programs as it essentially required me to start over and add 2 years to my training, it is a choice we have never regretted. Studying neurology has been one of the most gratifying professional experiences I can imagine.

***"I have learned to trust in the Lord
and know that He has a better
path for me and my family than I
can find on my own."***

At times the schedule and workload is grueling, but over the past few years I have been able to increase my knowledge of the nervous system in a meaningful way and have truly enjoyed treating patients with neurological disorders.

I am currently in my final year of my neurology residency program working predominantly at Swedish Medical Center in Englewood, Colorado. I cannot imagine better training as Swedish is considered to be

one of the biggest neurology hubs in the West and allows me to see and treat patients with challenging and unique neurological disorders.

Additionally, my program is partnered with the highly-respected Blue Sky Neurology group meaning that my attendings are some of the best in their fields. I am currently serving as one of the chief residents which allows me to mentor other residents and help shape the program to be even better in the future. As I have experienced different sub-specialties through various rotations and have developed an interest in epilepsy.



With the support of my wife I decided to apply for a one year fellowship in epilepsy. I admit it was somewhat to my surprise, but I was accepted at the University of Colorado and will begin that training in the summer of 2021.

My path has had ups and downs and I have had trials and doubts during my education. I can see the hand of the Lord in guiding and preparing a way for me to be successful. I know that He created and opened doors for me that did not exist previously.

For those who are currently trying to find their path, I would say to find something that engages you and brings you joy. Even if it is difficult. If you get rejected, try again. You never know which doors Heavenly Father will create for you. I have learned to trust in the Lord and know that He has a better path for me and my family than I can find on my own.

I am now a father of three and just months away from being a board eligible neurologist. I use the neurosciences daily in the hospital and in the clinic. I still get excited to learn more about the central and peripheral nervous system. I am fortunate to be able to use that knowledge to help others. I am grateful for the neuroscience background I obtained at BYU that launched my whole career as a neurologist and I can't wait for what the future holds.



Travis Lundell

I was born in Provo, Utah, and grew up in Spanish Fork, Utah. I graduated from BYU in August of 2004 with a BS in Neuroscience and a minor in Psychology. I had planned on going to medical school after graduating, but I wasn't accepted on my first attempt. Instead, I worked at Tahitian Noni International in Provo, Utah, where I eventually ended up doing an internship in their research department. This experience got me interested in getting advanced training in research.

I really enjoyed neuroscience, so I decided to build on what I had learned at BYU and apply to the Neuroscience PhD program at Uniformed Services University of the Health Sciences (USUHS) in Bethesda, Maryland. My research focused on developmental neuroscience.

Specifically, we looked at the expression of Neurogenin1 and its role in neuronal differentiation using a variety of transgenic mouse models. I was able to publish some of my research in a peer reviewed journal, *Developmental Dynamics*.

While I really enjoyed the research, I still felt drawn to medical school and felt strongly that I should reapply. So, toward the end of my PhD program, I began waking up extra early, before my lab duties began, to prepare for applying to medical school.

I studied for the MCAT, shadowed an anesthesiologist, and filled out and submitted many applications. After all this, I did not get accepted to medical school. Although I was disappointed, I did learn something through the process.

While shadowing the anesthesiologist I discovered something I hadn't considered before: anesthesia and

Lose the Guilt

ALUMNI SPOTLIGHT

neuroscience are very complementary fields. I had never considered a career in anesthesia until I made that realization.

Being able to apply principles of neuroscience, such as promoting muscle relaxant reversal through acetylcholinesterase inhibition, was exciting to me, and I suddenly fell in love with the idea of practicing anesthesia. Unfortunately, I wasn't getting any younger. Instead of trying to get into medical school for the third time, I looked at alternative careers, including a Certified Registered Nurse Anesthetist (CRNA).

Unfortunately, at that point in my life (33 years old with three kids), I wasn't willing to go back and get the required bachelor's degree in nursing in order to get into a CRNA program. I knew physician assistants (PAs) worked in a lot of different specialties in medicine, but I wasn't sure that they worked in the field of anesthesia.

I did a quick search on the internet and discovered there was a very little known profession called Certified Anesthesiologist Assistant (CAA). The prerequisites were all the same as medical school, including taking the MCAT and shadowing an anesthesiologist.

Because I had just applied to medical school, I was already prepared to apply to the CAA program, and it so happened there was one program that was still open for application.



I applied to the University of Missouri - Kansas City's (UMKC's) Anesthesiologist Assistant program and was accepted. I finished my PhD that December and left for Missouri to start the two-and-a-half-year Masters program in January. I now practice pediatric anesthesia as a CAA at Children's Mercy Hospital in Kansas City, Missouri.



The best advice I received as a student was from Dr. Bell in my molecular and cell biology class. Each unit in the class had chapters assigned to it, and we would have quizzes related to those chapters. Many students complained that they weren't able to read all the material before the quiz.

He told everyone, "Lose the guilt!" It wasn't necessary to read the entire book, so don't guilt yourself into reading everything. Find the important concepts and focus on understanding the main idea. I have come back to that phrase often. Many times since graduating from BYU I have felt guilty about not being able to do everything, and it has helped me move on and be more efficient with my time.

One of my passions is giving young kids opportunities to grow. I started a recreational soccer league called La Liga KC in the Fall of 2016. The primary goal was to create a fun and relaxed atmosphere for kids to learn and play soccer while at the same time creating a structure that supported volunteer coaches and rewarded them for their efforts. It has been a very challenging but very rewarding experience.

One of my favorite things that has come out of building this league was developing a campaign to raise awareness for childhood disorders and syndromes. As a



pediatric anesthetist, I see a lot of children who come in with conditions that are life-altering, yet they manage to exude happiness and show complete resilience and optimism.

I would often wish there was something I could do to make a difference for these kids or kids like them who lived in my community and faced similar challenges.

I knew of a few kids in our league who had health challenges such as 22q deletion syndrome, trisomy 21, juvenile diabetes, and hypoplastic left heart syndrome. Yet despite these challenges they were there every week playing soccer. That is where I got the idea for this campaign.

We call it the VIVA campaign. The word "viva" is derived from the Spanish verb "vivir," which means to live. Viva is the command form of live. These kids were not letting their health challenges stop them from living. They don't make excuses; they accept the challenge and they VIVA! Each season we highlight a child from our league or community who, despite

"You will have your own challenges; your plans, big or small, may not go perfectly; you will have opportunities to make excuses, but instead of making excuses, choose to be resilient, hopeful and optimistic... simply VIVA!"



medical challenges, is an example of resilience and an ambassador of what it means to VIVA! We help them raise awareness and funds to support the families and improve the lifestyles of kids with similar conditions.

My advice to the young neuroscience student is to VIVA! You will have your own challenges; your plans, big or small, may not go perfectly; you will have opportunities to make excuses, but instead of making excuses, choose to be resilient, hopeful, and optimistic like the kids in my soccer league who simply VIVA!

It is OK to Fail

Featuring: Erika Marks

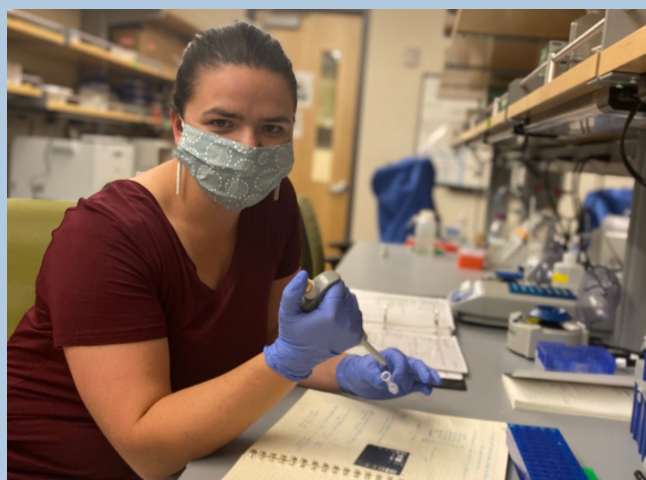
If you don't know if you want to do research, the answer is that you do! My name is Erika Marks, I am a Junior in Neuroscience, and joining Dr. Suli's research lab was arguably the best choice I've made outside of joining the major.

In the Suli lab we work with zebrafish as our model organism. I have grown to love these little fish! Though the lab is working on a variety of projects, I am excited to be wrapping up one project right now while simultaneously starting a new one.

One project we are working on is to look at the ribbon structure in the active zone of some specialized neurons (specifically those found in the retina, hair cells of the ear, and the pineal gland). The ribbon is a protein framework which supports synaptic vesicles and other proteins. We are working to try to determine what proteins are actually bound to the ribbon so that we can move forward with determining what they each do.

It's so cool to realize that in a few years, because of research I am doing, there will be knowledge in the scientific community regarding neuronal signaling which is currently nonexistent.

For a long time, I was very intimidated by the idea of trying to join a research lab. I knew that I needed to, especially since I am pre-PhD, but it was a daunting prospect, and I didn't know where to start.



Really, it's more simple than I worried it would be. The Neuroscience website has a document of all the neuroscience faculty and what research they are currently engaged in. Not only is the range of research being done at BYU amazing, but by looking through that, I identified 5 professors or so whose research seemed

interesting to me. Then, a quick email to each one resulted in interviews with two or three of them.

Dr. Suli was very open in our discussion about what her research was, and what her expectations would be if I joined the lab, and I tried to be as open as possible back about what I was hoping to get from a lab and why I was interviewing in the first place.



After talking to a few different professors, and a few good conversations with my parents and a few more with God, I decided to accept Dr. Suli's offer to join her lab. I'm so happy I did! My lab mates are some of the best people I know, and I love coming in and actually being on the cutting edge of research and understanding of the human body.

I have already learned countless things from the lab and from Dr. Suli, much of which is molecular biology procedures and principles, but the most impactful of which could never be learned from a textbook.

I've learned that science is hard, and sometimes things fail when you don't know why. That's okay. But you have to keep moving forward, hypothesizing and perfecting your techniques. Dr. Suli taught me that it's okay to fail and to try again. And to always ask questions!

I remember one of my first days in the lab that I was working on my own (this is after weeks of shadowing another student and working one-on-one with Dr. Suli) I made a mistake which ruined the procedure, and was a result of my simply not paying enough attention to the procedure. I had pipetted one of the clear liquids I was working with into the wrong tube of another clear liquid (molecular biology is a lot of tiny amounts of clear liquids).

My stomach dropped when I realized my mistake, but Dr. Suli's response was charitable and correcting. She wasn't upset, but helped me restart the procedure, making sure I understood what to do, and why I had gone astray. Her response really set the tone for the future of my work there, and what I want to do when I have my own lab one day.

Science is hard, and sometimes mistakes are made, but the only way to move forward is to correct what went wrong and try again. And sometimes, even when everything was done right, results aren't forthcoming and troubleshooting can take more time than the actual experiments.

This can be hard emotionally, when success seems to be ever-fleeing, but I can attest that there is nothing more satisfying than getting positive results after weeks of nothing. I have literally yelled with triumph when troubleshooting finally paid off.

I love research because I love life. I am always amazed by the way you can see God's fingerprint in the beautifully intricate way everything works together. Every time I get to look under the microscope at the developing zebrafish embryos, and see their tiny hearts pumping, and see their microscopic brains form day by day, I am hit anew by the wonder of it all.

God's creations are incredible, and He has invited us to try to understand a bit more than ever before what

happens and how it does. I think that's my favorite thing about research – you see firsthand the wonder of God's creations, and are challenged to think creatively and critically in ways that can only be described as divine. You can feel God in the life of the lab.



Erika is a junior and continues to study neural circuits in zebra fish.

How Do I Get Involved In Research?

There are 4 easy steps to help you get involved with research. There are many BYU professors that are ready and willing to help you gain experience in research. If you have questions, don't hesitate to ask a professor or the Neuroscience staff. We are here to help you! Here are 4 quick and easy steps that will help you get started:

STEP 1

Visit the Neuroscience website and go to the Faculty tab. Then click "Research". On this webpage you can find resources that can answer FAQs are listed here along with other information to help you.

STEP 2

Once you have browsed the Research section of the website, click on the link "Faculty Research Summary (PDF)". This link is found on the research tab. The link will take you to a document that summarizes the type of research of each Neuroscience professor.

STEP 3

Identify the research of 4 or 5 professors that interests you. Then find the emails for the professors by going to the main page of the faculty tab.

STEP 4

Email each professor individually and ask to meet with them (zoom) to talk about their research. Remember, they are here to help you. Be sure to thank them and be willing to follow through with any advice they give you.

Memory and Synaptic Plasticity

Featuring: Anna Everett

My fascination with neurological research began in middle school when I watched a reality TV show called "Brain Games." The series involves hidden-camera experiments to explain how the brain processes information, offering insights on topics such as stress, language, addiction, and competition. At the time, I never thought my career would involve the brain at all, but college slowly matured my childhood interest.

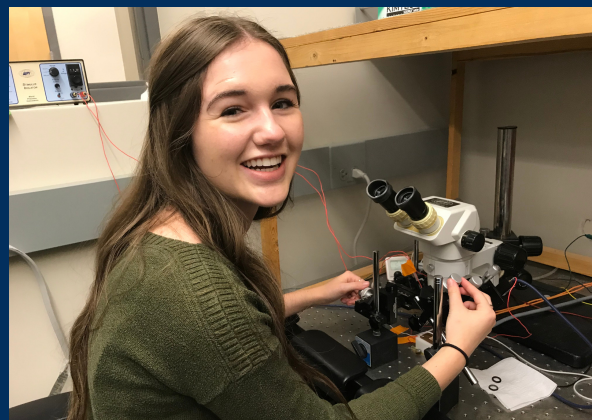


Before my sophomore year at BYU, I started researching various labs that I could join and quickly the Edwards lab became my first choice. I admired Dr. Edwards' focus on real-life applications with the potential to help other people. In his lab, we use electrophysiology, molecular biology, pharmacology, and behavioral assays to study synaptic plasticity—the cellular mechanism that allows our brain to learn.

My first summer in the lab I had the opportunity to learn a variety of behavioral techniques, such as administering injections to rats, operating an elevated plus maze, and using fox urine and cat hair to screen rats for stress.

After a couple months, I also started conducting field electrophysiology experiments in the hippocampus of rodent brain slices. By imposing high or low frequency stimuli on the slices, we learn more about the processes of long-term potentiation (LTP) and long-term depression (LTD) that influence memory. Since joining the lab in May 2019, I've had the opportunity to work on projects related to post-traumatic stress disorder (PTSD), the ketogenic diet, and the mechanisms of LTP and LTD.

I love research because it stretches me. It's not easy when you fail. It's not easy when you have to spend hours troubleshooting equipment. It's not easy to write your first scientific paper. However, it's worth it if you

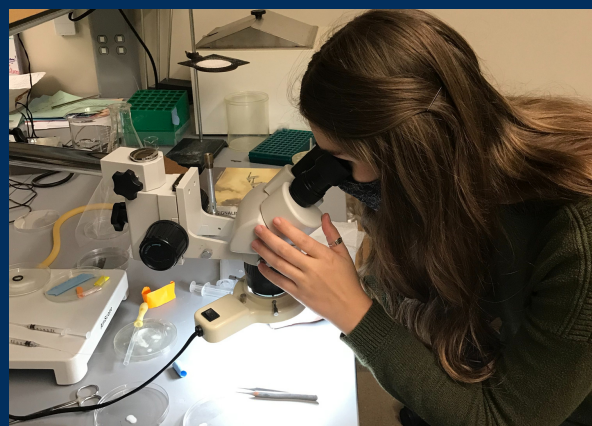


are passionate about research and want to contribute to the field. One of my favorite experiences as a research assistant came in February 2020 when I presented at the Utah Conference on Undergraduate Research.

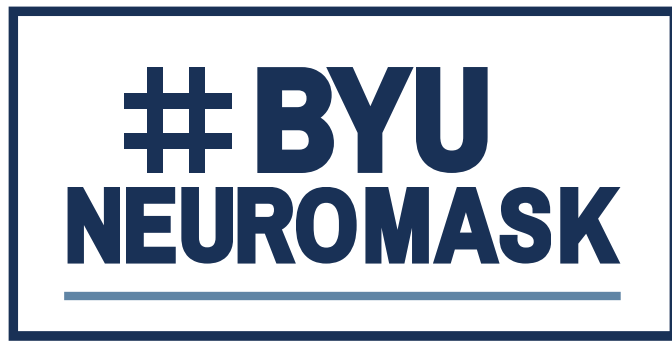
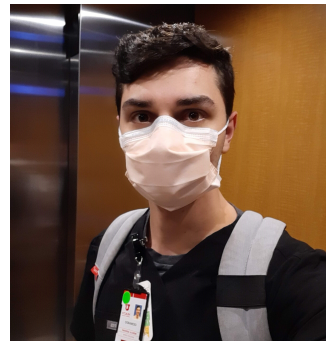
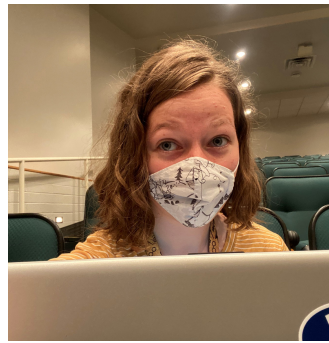
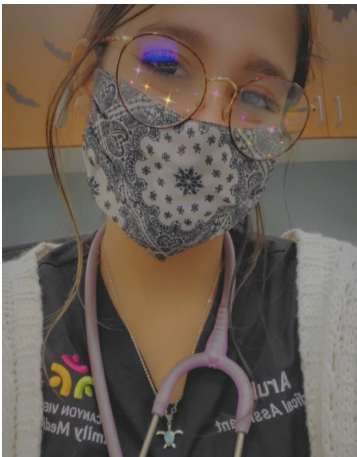
Another student and I were able to share our findings on PTSD in a 10-minute oral presentation. We not only presented our own research but were also able to hear other presentations, ask questions, and engage with other researchers. Oral presentations are usually reserved for principal investigators and graduate students, so it is a unique experience I would recommend to other undergraduates who are considering graduate school.

Dr. Edwards has taught me that even as young college students, we are capable of being independent and responsible scientists. He presents opportunities to us and gives any engaged lab member a chance to participate. Personally, Dr. Edwards has helped me attend two conferences and apply for a CURA grant.

My experience in this lab has solidified my desire to pursue research as a career. After obtaining my PhD, I hope to eventually enter academia as a professor and mentor my own research team of undergraduate and graduate students.



Anna is a junior and continues to learn by conducting research in Dr. Edwards Lab.



Mask Up, BYU

With the effects of Covid-19, BYU established guidelines to combat the spread amongst students, faculty, and visitors. These pictures show many BYU neuroscience showing their personal style, sense of humor, and their own type of fashion.

Pictures from left to right: Arub Shaikh, Kiara Whittier, Leonardo Monteiro, Brielle Crump and Maddi Pehrson, Jacob Hough, Mary-Frances Oldham, Paulina Medellin, David Archibald, Jayson and Allison Wild, Ellie Smith, Benjamin Nixon, Dana Neil, Benjamin Stubblefield, Isaac Lambert.

LIFE DURING COVID-19

With the unexpected virus affecting the world, 2020 is not at all what we envisioned. Quarantine has become normal. Zoom has become our most frequently used app. Wearing a mask has become part of our outfit. Hand sanitizer has become a normal part of our grocery list. But aside from all the uncertainty and hardships, there have been many opportunities to grow. Even with a worldwide pandemic, we have continued to meet new people. Although we may be distanced socially, we are never too distant to learn.

Adjusting to online was a hard thing, but I overcame it by keeping my mind open and not complaining. I've found that complaining makes what you're trying to do ten times harder than it actually is. -Kobe York

Being isolated helped me to know more about myself. Learning more about me helped me understand how to improve and use my abilities and overcome some of my fears and weaknesses. -Paulina Medellin

Though Covid has a lot of negatives, it has given me a lot of time to learn about myself. It has also given me lots of time to focus on studying. Without having to go to campus, and having less social engagements, I have been able to just sit down and study more. -Taryn Long

I have been able to continue learning by creating group chats with peers, having zoom meetings with professors, and practicing good communication with the teaching assistants. I have been able to talk through assignments and clarify questions with other people. -Scout Siebert

All of my professors have provided instruction in so many ways and it is because of them and their hard work that I am still able to learn and grow on this campus. -Liana Leininger

How have you continued to learn during Covid?

I've done a lot more reading, and I have had to put in the time to make sure I've learned the material. My learning process is a lot more individual and independent. -Kiara Whittier

Having class over zoom has been interesting. Although I learn better in person, I've found a lot of new ways to adapt to this new learning environment. -Ryann Peterson

Being on a computer all day is not my favorite thing. However, I am grateful for the easy accessibility to technology so that I can still learn! -Hannah Stadler

With future plans of becoming a PA, I decided that I wanted to help in the medical field in any way I could during this pandemic. I was certified and started working as a CNA at a local rehab facility, which has helped me learn a TON about how to take care of and talk to others that are sincerely scared. I have also become so grateful for my health and ability to help during these times. -Maddi Pehrson

This semester has really taught me how to use all my resources to learn. Before, I would simply attend class and do my readings. COVID has shown me that I have many accessible resources on campus and online. These resources include the library, TA's, study groups, counselors and many other things. Using these things have helped me continue to feel confident in my learning and lifepath. -Garrison Peck

Technology is amazing! Being educated online is an incredible privilege. -David Archibald

I've been able to read more books for leisure which helped me learn things that I wouldn't have. -Parker Layton

ENTER TO LEARN

I've continued to learn more about myself. I was able to write more in journals, reflect more about the schooling I'm in, and ponder more about what I want in my future! Staying at home during COVID helped me refocus my life on the really important things. -Ashton Tanner

GO FORTH TO SERVE

In what ways have you grown during Covid? What lessons have you learned?

Inspiring messages from current BYU Neuroscience Students

It has been a huge lesson in learning to adapt to a new form of life. I've grown closer to my family, have found things I truly enjoy, and learned to appreciate the things we still have a little more. -James Blood

I have become more aware of the generous efforts of people around the world to help those in need, and I hope to take action to be like them. -David Archibald

I have been able to take time to focus on improving myself and really figure out what I want to do in my schooling and life in general. I have learned many valuable lessons. One of the most important things I have learned, (especially right after COVID and quarantine started) is that when things like this happen, you must be ready to adapt. -Garrison Peck

I learned that it's important to be flexible and prepared for anything. Things happen that can really alter your plans, Covid has definitely proved this. It can be difficult and unfortunate, but we can still make the best of it. If we're always looking for the good in every situation, we can keep being positive and happy, despite when things don't go perfectly. -Cassie Stevens

I've learned that it can feel good to make sacrifices, even minor ones, to help other people/a greater cause. I've also learned that people can adapt in huge ways and still come out okay. -Kiara Whittier

Being quarantined taught me that even though the world seems to be ending, there is always hope. It only depends on our perspective of the situation. You decide if the glass is half-empty or half-filled. -Paulina Medellin



Covid has taught me to be more comfortable with myself. I hadn't realized until after quarantine began how much I kept myself busy as a distraction. Covid taught me to slow down and appreciate the day to day." -Liana Leininger

"I learned to have faith that whatever happens is the will of the Lord, and it's okay if I don't know everything right now." -Rebecca Meyers

Covid taught me about what matters most. It is easy to get wrapped up in the daily demands of work or school and forget the people around you who love and support you. -Alexa Jones

I have grown in many ways during Covid. First, I have become more self reliant for my learning. I have learned to regulate myself better on my schedule and to plan so I can get everything done. -Pacen Williams

I have learned to trust in God's timing. This was something that nobody thought was going to happen. Before it happened, I had a pretty good idea on what the timing of my life would be. Boy was I wrong. If it didn't happen, I would probably still be on my mission in Mexico City, but I guess God has a different plan in mind for me so I will trust that. -Kobe York

I learned how to think for myself and make my own choices regarding my future and wellbeing. This pandemic trained me to think more optimistically about things and see the big picture of it all. -Aubrey Clavines

I've learned to be more patient. I've also learned to enjoy being in the present more as there have been many times I've wanted to go back to the past but realized that my life is great even with a pandemic. -Caitlyn Buss

My ability to appreciate the little things has definitely increased. You don't realize how amazing it is to see everyone's face and have an open conversation until that's taken away. I've also been able to improve how I manage my time (most of the time) and be a more self-driven learner. I really appreciate how the pandemic has increased accessibility to lectures. -Jayson Wild

My whole life I felt secure. I am the seventh of nine children and by the time my parents had me they had built their forever home, they were very financially stable, and were surrounded by family. Growing up I always saw bad things happening to people far away. It's easy to separate yourself from challenges in the world when you are living in a nice, warm home surrounded by siblings and parents that love each other. Of course we had our own challenges, no one can get through life without them, but once Covid-19 hit, it was the first time in my life where it was no longer, "other people," in some far away land. It was me, my friends, my family. Covid shut down the entire economy and all of my events were getting cancelled. Covid has brought me so much gratitude. Gratitude for what I have, for who I have, and for my beliefs. Things can change so quickly, so thank you Covid-19 for opening my eyes. -Shannon Huntsman

I have learned to focus on the good rather than the bad. There is still so much we are able to do safely and so much good happening despite all the craziness. -Michael Dew

I've grown in my ability to teach myself tough concepts in school and how to be responsible for my schooling. -Alexia Busson



As I struggled through the uncertainties of Covid I realized that we are not intended to sit passively by during our trials and wait for them to pass. Rather, I have learned that we should learn and grow from our circumstances through action. Rather than thinking, "When all of this is over then I will be more happy and social," my mind has switched to thinking, "How can I adapt to my situation and still find happiness and joy every day?" Even that change in mindset has helped me to have patience and hope through this trial. -Benjamin Stubblefield

I have learned to follow rules out of love. I have grown spiritually as I have had to rely on Jesus Christ to give me comfort and guidance, I have been able to strengthen my relationships with my family members, and have grown as I have had the opportunity to spend time learning about who I am. -Ellie Smith

I am a people person, I love to meet new people and get to know their story. COVID has limited that, which has been hard for me. However, something that it has taught me is that human connection is not necessarily meeting new people, but reconnecting in new and deeper ways with the ones who are already in our lives. -Hannah Stadler

I have appreciated my family more. We were always pretty close, even though living in different countries (a brother in New Zealand, parents in Brasil). But since we were required to spend more time at home I was able to connect more with friends and family and that was a wonderful thing. -Leonardo Monteiro

Covid has allowed me to grow in many ways. For one, I don't think I'll ever take group gatherings for granted ever again. Along with that, I've grown a lot in patience. While still difficult, I'm much better at waiting and finding happiness in the little things. Covid has pushed me to change and be ready for anything. -Darien Reed

"A setback can actually be just the thing you need to grow, but maybe not the thing you want :)" -Andrea Augustus

I have become significantly more independent and self-reliable - physically, socially, spiritually, and emotionally - as I have learned how to take care of myself and feel excited and motivated in my daily life, even as an extreme extrovert living in quarantine! I have also deeply strengthened the relationships I have with the people that I do still get to spend time and interact with. -Sarah Foote

I have learned to value the accessibility of nature in Utah, and the beauty of the earth we have been given. I have also learned that there are definitive lines as defined by the gospel of Jesus Christ what is righteous and what is wicked. Learning from the Spirit and being guided by that influence has helped me to stay calm, stay positive, and to have a hope for a better future through my faith. -Jake Hough

I've grown a lot in the sense that I need to be conscious of my effect on other people, and also recognize the power that social interaction has on myself and others. -Jake Warner

I've learned to be a lot more disciplined on my own. I've also learned a lot more about how my actions affect others. I have no fear of the virus for myself, but I've come to realize the value of making sacrifices to help those who are more vulnerable. -Jake Dodge

I have learned that something so small can be so powerful to change our lives forever. This can be applied in many other aspects of our lives as well. -Brielle Crump

I think that the most important lesson I learned during Covid was that sometimes life doesn't go as planned but there are still things to hope for and to be happy about. Even though this year has not gone as expected, I have been able to grow into a more grateful, self-reliant, organized, and efficient person. I learned how to be more accountable for my learning, health, and spirituality. What I used to see as disappointments, I now am able to see as ways I have grown and learned. Sometimes it is hard to find the silver lining in times of trial but if we remember all the great things that are going to come, we can find ways to be grateful in times of strife. Through Covid I ultimately learned that there is still so much to look forward to and to be happy about. -Scout Siebert

I have learned to appreciate basic things in life such as going outside and interacting with people. It's been an eye opener to love the little things in life." -Benji Nixon

I have become much more self-reliant when it comes to learning. I have gotten better at keeping myself on track. These times have also taught me that even when things don't go the way you want, you can still learn, grow and make the best out of the situation." -Dana Neil

My education is what I make of it. If I choose to procrastinate then I won't do as well, but if I stay on top of it I can achieve anything! -Ryann Peterson

Have you met new people since Covid? How have you continued to meet new people?

Yes I have! I have reached out to people over zoom and have formed virtual study groups. I was surprised that these virtual study groups were just as effective as in person study groups! -Ellie Smith

I've been able to meet people through group chats for different classes and my apartment complex. As much as I wish I could meet more people in person, meeting online has been a new and fun experience. -Dana Nei

I have been able to meet new people. From work and classes, I've gotten to make some new friends. For the most part, I've tried to go out of my way to meet people no matter how hard it is during this time. -Darien Reed

Although being a freshman in college has been quite a different experience, I still feel fortunate to have met such great people in the dorms and in some of my in-person classes. -Liana Leininger

Most of the people I've met have been people who live at my apartment complex. I've met most of them outside doing socially-distanced activities like sitting around a fire, hammocking, or just chilling at a park. -Jamon Jex

Even though it has been difficult to interact with others during Covid, I still have been able to meet new people. I have met new people through my classes for school, church activities, and mutual friends. -Scout Siebert

Yeah tons! I created study groups for each of my classes, reached out to TA's, worked hard to get to know members of my ward, participated in volunteering activities and leadership roles and meet people at work all the time. I try to be very social and reach out to people to initiate communication. Everyone needs a friend right now, so why not be one? -Allison Stone

While it has been a challenge to meet new people, it is definitely still possible. I never knew how much fun socially distanced picnics could be until now. -Shannon Huntsman

A couple, my roommate and some classmates. It's definitely different, so I have to take every opportunity to talk to people and be extra friendly. -Kiara Whittier

I have made it an effort to talk to at least one person every day I do not know. I've taken on the assumption that every feels a little lonely right now and a conversation could be just the thing to cheer them up. -Benjamin Stubblefield

I have met some fantastic roommates. Also now that school has officially started and church meetings for our stake are 2 hours, Elder Quorum Sundays have given me a chance to meet a lot of new people, and FHE/Come Follow Me has helped with that too. -Jake Hough

Have you developed any new talents during Covid?

I have gotten so much better at cooking, baking, and arts/crafty stuff - and for the first time in my life, I wholeheartedly LOVE all of those activities! I now find myself wishing I had more time to do simple fun things like those. -Sarah Foote

It has helped me be more secure about my feelings and how to express them without fear. It reminded me that life is too short to worry about little things and not share my feelings with others. -Paulina Medellin

Yes, I have really become more involved in hiking and running during the pandemic. -Preston Withers

I've learned how to change my zoom background to some pretty cool pictures! -Darien Reed

If wearing a mask while playing sports counts as a talent then yes, yes I have. -David Archibald

Yes! Guitar plucking techniques, film editing, and dancing on a longboard! -Braeden Black

Yes! I learned how to garden (I still ended up killing everything I grew but it's my first time so I'm hopeful for the future). I also learned how to bake, and started playing the piano! 2020 has been a great year for learning new talents. -Taryn Long



Picture above: To get out of the house, Isaac Lambert went sky diving during the pandemic with his friend!

I polished the ones I had, like playing the piano, painting, and relearning Russian. -Aubrey Clavines

I grew up with a garden, but Covid has allowed me to work a lot in the yard and develop new home and yard maintenance, planting, and harvesting skills. -McKay Mace



Does learning how to wear a face mask without fogging up my glasses count? -Neuro student

I got better at wakeboarding and learned how to wake surf! I also got my motorcycle license. -Ashton Tanner

During quarantine I learned to play Boggle with my family over Facebook Messenger. -Michael Dew

I discovered that I love painting and that it helps me to destress. -Ellie Smith

I discovered the ability of patience, truly a virtue. -Leonardo Monteiro

Entertaining my siblings -Alexa Jones

I have learned how to juggle devil sticks. Google it. They're pretty cool. -Jake Warner

I can make lots of expressions with just my eyes :) -Kiara Whittier



I have improved is self-control and focus. It can be difficult to focus on schoolwork when everything you have (TV, Xbox, etc.) is right by you. -Pacen Williams

Photography! I've been taking advantage of HBLL's camera rental to get out in nature and start taking pictures. I've always loved photography but I think I've gotten better at it since Covid started. -Jamon Jex

I learned to fiddle, started learning another language (French) and have ready tons of great books! I have also gotten quite good at winking since smiling at people with a mask on is ineffective. -Allison Stone

FUN AND MEMORABLE QUOTES

There have been multiple times where I will go to shake someone's hand and then awkwardly put my hand down.
-Taryn Long

It's like a sleepover. The first part is fun, exciting and different but now we're at the stage where it's 4am and you're still awake and you can't sleep and all you want is to go back home to your normal bed. -Brielle Crump

Everything that used to be readily available requires you to be proactive. Making friends for example. All you used to have to do was say hi to the person next to you in class. Now? What do you do? Slide into that zoom chat? -Allison Stone

Wearing a mask is definitely weird. But I kinda like smelling the dryer sheets all day. -Benjamin Stubblefield

My downfall with masks is trying to mouth things to people, forgetting that they cannot read my lips.
-Garrison Peck

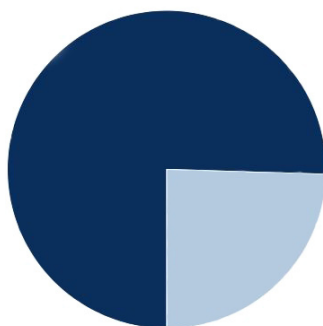
Due to not being able to go out or see friends, I got three jobs to fulfill my social needs and now have enough money to buy a car so guess whose winning at 2020. Me.
-Andrea Augustus

Avoid sneezing or coughing in public at ALL COSTS.

-Maddi Pehrson

I can study for 11 hours straight in my kitchen chair and my back only hurts some days.

-Russell Matheson



A little over 75% of BYU students who completed the survey said they didn't have zoom downloaded before the pandemic. Now it's part of their daily lives!

I have never used so much hand sanitizer in my life.

-Darien Reed

There have been several times I've stuck a straw into my mask trying to drink. I've also tried to put on chapstick before with my mask on.

-Ryann Peterson

What are somethings that were weird at first, but are now part of your everyday life?

Zoom study parties		No gatherings		Virtual game nights		Wearing Masks	
Not sharing food or water		Limited restaurant capacities		Spending more time outside		Trying not to touch my face whenever I leave the house	
Checking when things close/ new store hours		Elbow high-fives		Glasses fogging up on a daily basis		Zoom Classes	
Not hugging friends when I see them		Recognizing people by their eyes		Staying home and not going in public as much		No hugs, shaking hands or contact of any kind	
Finding fun stuff to do by myself		Staring at a computer screen all day		Taking temperature daily at work		Not coughing in public	
Avoiding non-mask wearers		Not seeing people as often		Matching masks with outfits		Smiling without my mouth	
At home church		Online school		At home workouts		Social Distancing	
						Everything!	

COVID can't get me down :) Rather than trying to fit old activities into a new life, I adjusted how I do things and took off running with the new way of doing things. There are still tons of opportunities to learn, do good, and make friends, they are just different than what we expect so take some adjusting:) -Allison Stone

Anger and frustration make everything worse. I hope that we can all learn (myself included) to do the best that we can in our own situation and not become paralyzed by what others are or are not doing or by all the things we can't do. Criticizing leaders is not helpful, it just further divides us and makes us unhappy." -Michael Dew

Saying hi to people is very awkward. Everybody wants connection with others, everybody needs connection with others, but we have all deconstructed our reality and are trying to reconstruct a sane reality that still allows for human connection. -McKay Mace

It's been impressed upon my mind how character really shines through when stuff like this happens. It reveals us to ourselves and to others. This is a huge opportunity for all of us to practice patience, love, and much higher character qualities. Let's not squander the practice." -Braeden Black

While Covid has brought a lot of confusion and sadness, I think we can all take advantage of this time to better ourselves. Covid will end and things will go back to normal. When that time comes, I hope we'll be able to say we've become a better person than we were before. Let's all support each other during this historical time. -Darien Reed

It truly has been a time of learning and adapting. One thing we know through studies is the human body and mind can adapt to a variety of situations and environments. We are capable of much more if we only exit our daily habits. When we do this our lives become more meaningful and the people around us more lit. - Leonardo Monteiro

Don't just look at the negative side effects of Covid, but try to see the good that it has brought into our lives as well. -Hannah Stadler

The Benefits of COVID-19

It was weird to not be able to walk in certain directions in stores, as well as wearing masks and not seeing a lot of people out. -Alexia Busson

Don't wait for life to get easy again. It probably won't. Once this is over there may be something else to take its place. It is important to find happiness in the present. Sometimes that means working for it. -Benjamin Stubblefield

I see how it brings the extremes out of people. Now it is far easier to see the motives of people in day to day life and in government. Life can be unpredictable, but it is not about the cards we are dealt but how we play them." -Pacen Williams

I think COVID put a pause on many people's lives and because of this families got more precious time together. I grew closer to my family and was able to be with my twin brother right before he left on his mission. This was all because both mine and my older brother's summer internships were cancelled. I had the opportunity to then watch him go through the at home MTC and it brought the Spirit into our home. This summer was an absolute blessing. -Ashton Tanner

In the past few weeks, I have watched both my grandparents hospitalized with Covid, in addition to both my parents getting it. Covid has been so horrible for so many people, but it is so nice to have the gospel throughout this whole experience. I see all the time on social media about how alone people feel, but watching my grandparents suffer with Covid, it is clear that they are not going through this alone, and neither are we. -Taryn Long

I think it is a great lesson on the importance of serving, and being charitable and loving despite the fact that there is a plague. It has turned everyone against everyone, and it has been amplified by recent events such as rioting and violence. I feel the virus a real threat, but I also feel it is a way for us as members of Christ's Church and as humans to learn how to serve and be served while living in a distanced and isolated society." -Jake Hough

Even though it's not an ideal thing to have classes go online and social interactions limited, there has been a lot of good that has come out of this whole thing. Overall it's taught me to slow down and appreciate each day for what it is, be it good or bad. We often work up situations in our mind to be much more terrible than they really are, but look outside! There's such a beautiful world around us that we take for granted. -Jayson Wild

"Definitely one for the history books." - James Blood

Neuro Endowment Fund

Dear colleagues, students, and alumni

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- Scholarships
- Internships
- Experiential learning experiences

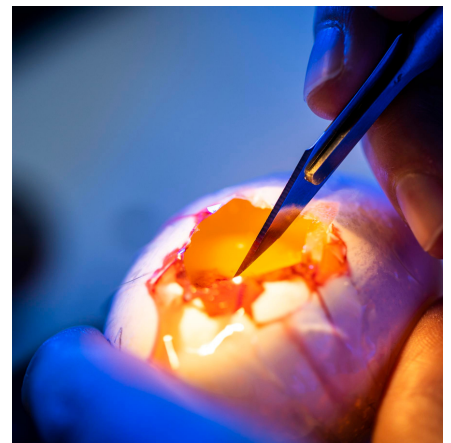
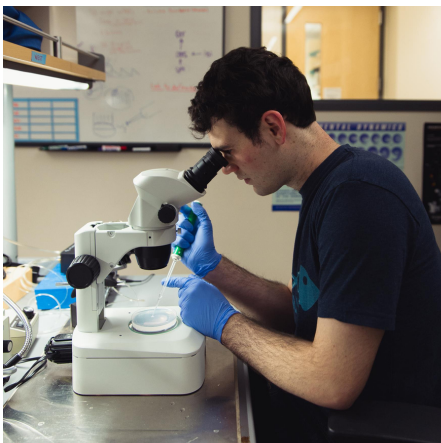
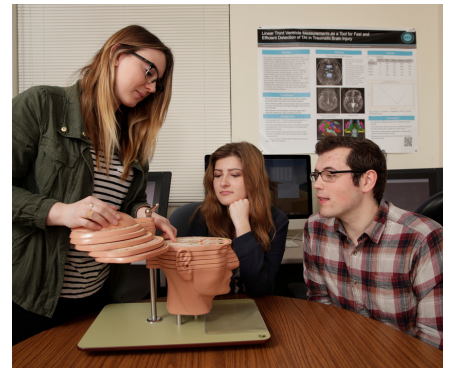
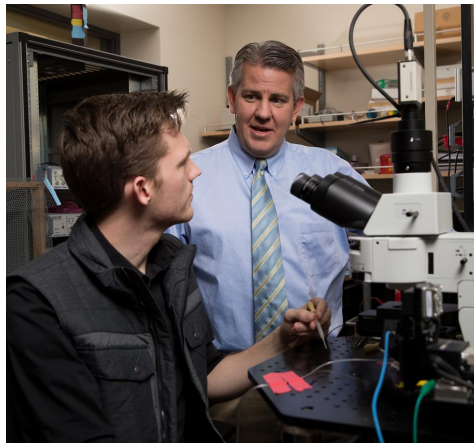
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Newsletter Issue:
Fall 2020

Created by the BYU
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