

The logo consists of three overlapping hexagons. The top-left hexagon is light green and contains the text 'BYU NEUROSCIENCE CENTER'. The top-right hexagon is light blue and contains the text '20th ANNIVERSARY'. The bottom hexagon is dark blue and contains a pattern of white and light green circles of various sizes, some solid and some hollow, arranged in a cluster.

BYU

NEUROSCIENCE
CENTER

20th
ANNIVERSARY

S Y N A P S E

BYU NEUROSCIENCE NEWSLETTER

TABLE OF CONTENTS

3 ALUMNI UPDATE
Dr. Mike Brown

4 20 YEARS OF
NEUROSCIENCE
Dr. Ramona Hopkins

7 ALUMNI
SPOTLIGHTS

9 NEUROSCIENCE BY
THE NUMBERS

10 MEET ROBERTA
BARNES

11 FROM STUDENT TO
FACULTY: AN
EVOLVING
PERSPECTIVE

Dr. Rebekka Matheson

13 UNDERGRADUATE
AWARD RECIPIENT

Eric Wizenreid

14 AWARDS AND
RECOGNITIONS

16 TEACHING AS A
CAREER IN
NEUROSCIENCE

Dr. Paul Larsen



CONNECT WITH US
ON SOCIAL MEDIA



@byu_neuroscience



@ByuNeuroscienceCenter



BYU Neuroscience

ALUMNI UPDATE



Mike Brown, PhD

NEUROSCIENCE FACULTY

This year we are excited to celebrate the 20th anniversary of the Neuroscience Center at BYU. Established in 1999 with a handful of faculty members and 36 students as majors, the Center has seen remarkable growth in the last two decades. BYU's neuroscience degree now has 597 majors, making it the largest undergraduate neuroscience program in the nation. The Center is also the home of MS and PhD degrees in Neuroscience. Our 27 affiliated faculty members from six departments across the university provide a vibrant interdisciplinary environment with stimulating courses and research projects tailored to students' interests, abilities and needs.

The last two decades have been wonderful for the field of neuroscience. New technologies such as CRISPR gene editing, optogenetic cell activation, DREADD signaling, ultra-high resolution microscopy, and modern MRI have allowed the neuroscience community to probe, manipulate and image the brain in powerful ways. We trust that you are enjoying keeping current in your field, discovering more about God's creations, and serving others with the knowledge and skills you have been blessed with.

Thank you for being a part of the legacy of BYU's Neuroscience Program. We hope that all neuroscience alumni are doing well and that your careers, family life, and personal pursuits are rewarding to you. If time permits, we would love for you to take a minute or two and reconnect with us. It is uniquely fulfilling for us to learn where life has taken you. We have confidence that you are doing much good in the world and that the Lord will continue to guide and bless you into the future.



20 YEARS OF NEUROSCIENCE

RAMONA HOPKINS, PhD

DIRECTOR, NEUROSCIENCE CENTER

Q: What is the history of the founding of the BYU Neuroscience Program in 1999?

The neuroscience program was created by a multidisciplinary group of faculty chaired and inspired by Dr. Eddie Lephart. The Neuroscience Center is an interdisciplinary program that is jointly administered by the College of Life Sciences and the College of Family, Home and Social Sciences. The first students were enrolled in the undergraduate neuroscience program in Fall of 1999. Faculty are a diverse group from across campus that have come together to create and support undergraduate and graduate programs in Neuroscience. The Center currently has 27 affiliated faculty members from 6 different departments in 4 different colleges.

Q: Why was the program created?

The mission of the Neuroscience Center is to:

1. Establish and promote an interdisciplinary under-graduate education in Neuroscience
2. Produce scientifically literate individuals having the ability to design, conduct and analyze research activities
3. Encourage and support students' critical analysis and participation with integrative and collaborative research-rich and inquiry-based academic curricula
4. Serve as an educational resource for students, the university, and the community (locally and globally) regarding information about the brain and its regulation of behavior

Q: Why did you decide to affiliate with the BYU Neuroscience Program?

I joined the neuroscience faculty in fall 1999, which was the first semester students could major in neuroscience. My research was a natural fit for neuroscience as it focused on memory, neuroimaging, and behavioral effects of medical disease.

Q: What was the BYU Neuroscience Program like in 1999?

The curriculum has changed and been updated over time, but core science courses and core neuroscience courses remain its soul. It was a limited enrollment program with about 36 majors. This is no longer the case, and the program has experienced exponential growth as there are 597 majors currently. State of the art research in neuroscience has always been a major focus of the program such as neuro-development, neuro-imaging, cognitive neuroscience, neuroscience of behavior, and addiction.

Faculty members were asked the remaining questions, and their responses were combined into bulleted lists.

Q: What have been the biggest accomplishments of students and/or faculty?

- Growth of the undergraduate neuroscience program from 36 to 597 undergraduate majors
- One of the largest undergraduate neuroscience programs in the country
- Increase in number of women who pursue degrees in neuroscience (currently about 30%)
- 1461 students with a bachelor's degrees in neuroscience awarded

- Our graduates “go forth to serve” around the world in their professions, communities and families.
- Neuroscience faculty mentor large numbers of students in their labs.
- Study of human-brain function at the magnetic resonance imaging (MRI) facility which provides neuroimaging resources for students and faculty.
- Dr. Suli’s research on dual sensitivity of zebrafish tectum neurons
- Dr. Kauwe’s research on genetic architecture of for Alzheimer’s disease
- Dr. Bigler’s research using quantitative neuroimaging to study brain integrity and diffusion tensor imaging studying white matter pathways in autism and traumatic brain injury
- Dr. Kirwan’s research on pattern separation in memory
- Dr. Holt-Lunstad’s research on the effects of social relationships on health

Q: What have been the most exciting developments in the field of Neuroscience over the past 20 years?

- Development of optogenetics has led to understanding the neural circuits that carry out complex behaviors, such as parenting
- study of the default-system the systematic aggregation of large-scale federated databases to study psychiatric/neurologic illness
- the introduction of integrating strong computational methods (e.g., AI) to understanding the brain
- the use of non-invasive procedures to interrogate brain function (transcranial magnetic stimulation, transcranial direct current simulation etc.)
- The development and use of “neuro networks” for computer learning.
- Discovery of “connections” between brain and gut and the immune system

- Discoveries of molecular mechanisms controlling the circadian rhythm (Nobel Prize 2017)
- Discoveries concerning magnetic resonance imaging (Nobel Prize 2003)
- Human genome project (completed 2003)
- The development of fluorescent tools for identifying specific cells and recording their activity (i.e. green fluorescent protein, GFP, CalModulin proteins, Dlight, FRET, etc.) all started by Nobel Laureate Roger Tsien.
- The discovery of place cells and grid cells in the hippocampus and entorhinal cortex (Nobel Prize 2014)
- MRI and Connectome project.
- Using CRISPR to trace each cell's history during the development of the brain (2018)
- Discoveries of molecular mechanisms controlling the circadian rhythms (Nobel Prize 2017)
- Glymphatics a waste removal system that uses the perivascular tunnels formed by astroglial cells to efficiently eliminate soluble proteins and metabolites from the central nervous system.
- glial cell biology
- Discoveries concerning magnetic resonance imaging (Nobel Prize 2003)
- The realization that the brain determines behavior, but behavior changes the brain, for good or for bad.
- Understanding of neuroplasticity, the brain's ability to change, optimize neural networks and recovery after brain injury

To learn more about the history of neuroscience, visit:
<https://www.sfn.org/about/history-of-sfn/1969-1995>



ALUMNI SPOTLIGHTS



SEAN GEORGI

Graduated: 2005

Shortly after graduating from BYU, I entered the Neurobiology and Behavior graduate program at the University of Washington. After receiving my PhD, I began postdoctoral research at the University of Wisconsin-Madison, followed by a position as a Visiting Assistant Professor of Biology at Augustana College in Rock Island, Illinois. Since 2015 I have been an Assistant Professor in the department of Biological Sciences at York College of Pennsylvania, where I teach courses in

Developmental Biology, Anatomy and Physiology, and Molecular Biology, among others. I also mentor undergraduate students in my research laboratory, which focuses on retinal development and regenerative neurobiology. My career path was greatly influenced by my own undergraduate experience — from my first semester in college I wanted to be a teacher and mentor similar to the great teachers and mentors that I had in the BYU Neuroscience program. I frequently find myself applying pedagogies used by my BYU professors and reflecting on the advice that they shared with me on how to be a successful teacher and scientist.



SIERRA READ

Graduated: 2006

Sierra graduated from the BYU Neuroscience program in 2006 and went on to attend medical school at the University of Washington in Seattle, Washington. She completed residency in Emergency Medicine at Michigan State University in Grand Rapids, Michigan. Afterwards, she took a position at Baylor Scott and White Memorial Hospital where in addition to working in the emergency department and teaching residents, she serves on her hospital's multi-disciplinary stroke committee to help

provide evidence-based and efficient care for stroke patients. Emergency Medicine is quick paced with high stakes and her foundation in neuroscience has been essential to her ability to quickly assess her patient's mental status and perform neurological exams allowing her to identify and treat a wide range of neurological emergencies.

ALUMNI SPOTLIGHTS



ADAM BERGESON

Graduated: 2002

Dr. Bergeson graduated from the Neuroscience Program in 2002. The undergraduate research opportunities, in addition to the course work within the major, provided excellent preparation for future opportunities in medical school, residency, fellowship and his orthopedic surgery practice. After graduating from BYU, he went on to earn his medical degree from the University of Washington School of Medicine and then completed his internship and residency in Orthopaedic Surgery at the University of Utah and a fellowship in hip and knee replacement surgery at Joint Implant Surgeons, Inc., in New Albany, OH. Dr. Bergeson's practice is focused on the treatment of degenerative conditions of the hip and knee and includes total knee replacement, total hip replacement, partial knee replacement, and revision hip and knee replacement. Professionally, he most enjoys taking part in restoring function to a degenerative hip or knee in a way that allows patients to return to an active lifestyle. He lives in Orem with his wife and five children. He enjoys outdoor activities with his family such as snow skiing, golf, running, cycling, and hiking.



JOSEPH SCHMULTZ

Graduated: 2006

Joseph S. Schmultz, MD is trained in general ophthalmology and specializes in cataract surgery and LASIK, as well as the management of various other eye diseases including glaucoma, diabetes, macular degeneration and refractive error. Dr. Schmultz completed his residency in Ophthalmology at the University of Wisconsin Hospital and Clinics, where he was selected as administrative chief resident. He completed an internship in Internal Medicine at the University of Washington/Boise Veterans Affairs Medical Center in Boise, Idaho. Dr. Schmultz graduated from the University of Utah School of Medicine where he was nominated to the Alpha Omega Alpha Honor Society. Neuroscience has had a profound influence on Dr. Schmultz's training and career course, and he feels he applies concepts he learned in the Neuroscience major almost every day.

NEUROSCIENCE

BY THE NUMBERS

1999

2019

10

FACULTY



27

FACULTY

36

MAJORS

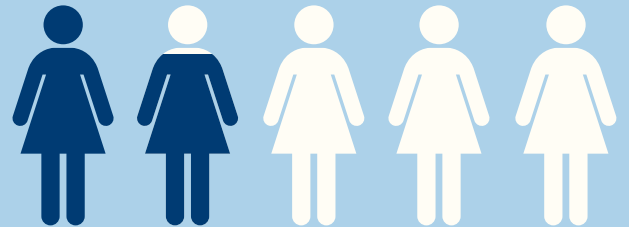
MAJORS

597

11.4% FEMALE



36.5% FEMALE



0
TOTAL
GRADUATES



1,461
TOTAL
GRADUATES



MEET ROBERTA BARNES

NEUROSCIENCE GRADUATE PROGRAM MANAGER

This semester, the Neuroscience Center welcomes Roberta Barnes to its staff as the new Neuroscience Graduate Program Manager. Roberta was born and raised in Portland Oregon, but considered La Pine, Oregon her home. La Pine, Oregon is a very small town situated in the Cascade Mountains. She has four children and ten grandchildren ranging from 18 months to 24 years old in age. Her favorite hobby is reading. As a child, she even spent more time in libraries than in classrooms. She also enjoys genealogy and spending time with her grandchildren.

She received her Bachelors Degree in Education cum laude from the University of Portland and a Masters in Educational Leadership from the University of Oregon. She also began work on a Doctorate from Lewis and Clark College. After graduating from the University of Portland and moving to La Pine, she taught elementary school for 24 years. After teaching for awhile, she was asked to teach half-time and work on school reform half-time.

She was on many district-level committees including designing a Talented and Gifted Program and working on district-wide reform. She loved her time teaching and the opportunity to have her children in the same school. After completing her Masters degree, Roberta moved to Ontario, Oregon to be a school administrator. She thoroughly enjoyed her time as an administrator since she felt she was able to have an impact on a greater number of students, parents, and teachers.

Roberta finds BYU campus very invigorating and is really excited to be joining the Neuroscience Center. She looks forward to helping graduate students keep on track towards their degrees. She loves getting to know people by learning about their aspirations, and welcomes anyone into her office to learn more about how Neuroscience graduate programs can help students realize their goals.



FROM STUDENT TO FACULTY: AN EVOLVING PERSPECTIVE

Dr. Rebekka Matheson

Assistant Professor, Psychology and Neuroscience



I decided to study neuroscience as an undergraduate because it brought together many fields of study that intimidated me, including chemistry and biology, but it also had this beautifully human aspect to it as well. I wanted to really challenge myself—I wanted school to feel hard. When I took the first courses and realized it also satisfied me in a very aesthetic way, I knew I was home. After I was well into the major and it had become a big part of my self-identity, it was easy to go back and look at some earlier influences that prepared me for it. For example, when I was a little kid I labeled a lot of my stuff with stickers I had made from envelope labels that said “Reb’s stuff” and had a picture of a brain on them. I also really loved Oliver Sacks’ work when I was 12 or 13. But that’s all in retrospect. I chose the major because it seemed like it would challenge me in a well-rounded way.

I joined the Neuroscience program because I knew it would challenge me... but the thing that really made it foundational for me was that it was a lot of fun. It was pretty obvious pretty fast that neuroscience majors were just fun, well-rounded people, and I felt a resonance with their sense of humor and a spirit of community. The Neuroscience faculty all seemed invested in the students. I particularly loved neuroanatomy, and it still holds special preference in my heart. I loved working as a TA for Dr. Mike Brown in the early years of the course. All the neuroscience TA’s held office hours in the neuroanatomy lab on the ground floor of the Widtsoe Building, and the room was often full. I had office hours from 6-10 every Wednesday evening, and it always felt like a party.

I also had the privilege of doing research on the effects of dietary soy phytoestrogens with Dr. Edwin Lephart, then the chair of the Neuroscience Center, and on artificial bilayer models of membrane fusion in the “Biophysics Great Lab” with Dr. Dixon Woodbury. There was a little group of students who took extra classes related to biophysics, and several of them worked in the Great Lab. There was a great esprit de corps.

Looking back on my time as an undergraduate, I always felt particularly inspired by Dr. Mike Brown. He has a way of communicating so much care for his students and complexity of content with such concision and clarity. I wanted to emulate his attributes, and getting to teach neuroscience every day sounded pretty great, and I’d tell people “I just want THAT job.” I went into an MD/PhD program because I wanted to learn medical science. I loved the medical school years, so I decided to do a straight MD, and the parts I liked best were those moments that captured some of the spirit of those Wednesday evenings in the neuroanatomy room. It became clear to me that I wanted to teach, and that realization helped me have a lot of fun in medical school because I realized I wanted to bring the excitement of high-intensity learning to other people. I began teaching neuroscience at BYU in 2017, and I’m still delighted every day to have the opportunity to teach neuroscience to people at the very moment their lives are expanding so dramatically. It makes my world expansive—and seem like it’s expanding every day.

Dr. Rebekka Matheson

In the two years I have been here, I've already taught several courses! I teach Neurobiology (Neuro 205), Behavioral Neuroscience (Neuro 380), and our Graduate Neuroscience courses (Neuro 601 and Neuro 602, alternating) almost every term. I've also taught Neuroanatomy (Neuro 360), Neuroscience Advanced Writing (Neuro 316), Sensation and Perception (Psych 370), and Cognition (Psych 375). I love how the curriculum builds on itself; Neuro 205 and Neuro 360 build the physiological and anatomical foundation; then Neuro 380 and Neuro 480/481 are the advanced neuroscience education — behavioral and molecular/cellular.

I realize there's just not time. I wish we could all just be philosophers in an academy together, discussing all that we wanted to discuss with all the time in the world, and not worry about money.

The curriculum may change, the program might be bigger, and there are new faces. But what I love about it now is exactly what I loved about it as a student: there's something special about people who go into neuroscience. They are people who are challenging themselves in this well-rounded, beautiful way, with a field of inquiry that has the potential to help us understand more about the human condition,



**“ There are times in
our lives when our world expands, and
times when it contracts. I love that
neuroscience is always expanding,
never contracting. ”**

The current neuroscience curriculum focuses a lot more behavior than it did when I was a student, which I think is a good thing. It was quite light on the psychology when I was an undergraduate; the only required psychology course was Sensation & Perception, which is kind of a neuroscience course anyway. Unfortunately, I can be kind of an “I want it all!” sort of a person. I wish our students could take all the physics — all the chemistry — all the physiology — and all the psychology — all the behavior — all the sociology courses.

on more levels, than any other. I see that in my students and in my colleagues, and I love it. The explosive growth of the field — which will continue until well after I'm gone — thrills me. I alluded to this before, but there are times in our lives when our world expands, and times when it contracts. I love that neuroscience is always expanding, never contracting. I love that my students are expanding their outlook using the very organ they're learning about. As for my brain, it really thrives in that environment!



UNDERGRADUATE AWARD RECIPIENT SPOTLIGHT

ERIC WINZENRIED

Eric Winzenried, a senior neuroscience undergraduate student, received a Faculty for Undergraduate Neuroscience (FUN) Research Travel award to attend the Society for Neuroscience (SfN) Annual Scientific Conference in Chicago, Illinois on October 19-23, 2019. Eric is from Logandale, Nevada and plans on graduating in April 2020. The project that Eric will present at SfN is a study on prophylactic treatment of post-traumatic stress disorder (PTSD) in a rat model on which he worked with Dr. Jeff Edwards.

Post-traumatic stress disorder is a complex anxiety disorder affecting an estimated thirteen million Americans a year. Individuals with PTSD often have increased levels of catecholamines and corticosteroids—hormones that increase plasticity in the memory and emotion regions of the brain. Eric's research examines the use of the hormone receptor antagonists propranolol and mifepristone prior to trauma to prevent PTSD onset. These two drugs are currently used to help treat those who have PTSD, so they wanted to know if they could even prevent the PTSD onset of given prophylactically.

A social defeat protocol was used to induce PTSD-like symptoms in the rats over a period of two weeks. PTSD caused an increase in long-term potentiation—the cellular mechanism mediating learning and memory—in the ventral hippocampus, lateral amygdala, and medial prefrontal cortex. Propranolol and mifepristone were able to decrease long-term potentiation in these brain regions in the rodents compared to non-injected social defeat rodents. Overall, their data suggest that propranolol and mifepristone together may be a viable prophylactic pharmaceutical treatment for PTSD. These medications may be beneficial to individuals who are more susceptible to experience PTSD such as military personnel, emergency responders, and law enforcement officers.

Eric is excited to attend Society for Neuroscience 2019 Conference to meet professors and other students who study what he does. While there, he has several meetings with potential graduate school advisers to discuss doing research with them in the future. He believes that any student who is seriously interested in research has a multitude of opportunities at BYU to do so. Eric feels blessed to work with Dr. Edwards and many other outstanding undergraduates in his lab and he is currently applying to Neuroscience PhD programs.

AWARDS AND RECOGNITIONS

Karl G. Maeser Distinguished Faculty Lecturer Award

This award, BYU's most prestigious faculty award, is provided through the generosity of the Karl G. Maeser Scholarship Society. The recipient must have demonstrated clear superiority in both scholarship and teaching.

*Dr. Ramona Hopkins, PhD
Professor, Neuroscience & Psychology*



Ramona is an outstanding teacher, the director of BYU's neuroscience program, and a prolific scholar, having written more than 200 peer-reviewed articles, two books, and nearly 30 book chapters and delivered more than 100 invited lectures around the world. An icon in the field on the effects of acute respiratory distress syndrome, her training as a nurse and neuroscientist/psychologist has led to papers ranging from studies on mechanisms of change in the brain to guidance for clinical staff as they deal with cognitive and psychological sequelae from hypoxic brain injury.

Alumni Professorship

This award honors faculty members for teaching excellence. The award carries a three-year stipend made possible by the generosity of the BYU Alumni Association.

*Dr. Scott Steffensen, PhD
Professor, Neuroscience & Psychology*



Scott has established an international reputation as a leading scholar in addiction neurobiology. His work as a founding member of BYU's Neuroscience Center improves countless lives in diverse ways, including direct translation into advancements in addiction medicine and increased understanding of an empathy toward those struggling with addiction.

AWARDS AND RECOGNITIONS

Phi Kappa Phi Award

This award is presented to faculty members who have achieved excellence in scholarly and creative endeavors, exemplify integrity, and have contributed to BYU through citizenship and service.

*Dr. Jeffrey Edwards, PhD
Professor, Neuroscience &
Physiology and Developmental
Biology*



As the former Intermountain Society for Neuroscience chapter president and current associate director of BYU's Neuroscience Center, Jeffrey is a scholar-teacher who has served the neuroscience community well. His strong record of NIH funding has allowed for the mentor-ship of many students.

Snowbird Symposium Presenter

*Robert Coffman,
Neuroscience PhD Student*



Robert Coffman, a BYU neuroscience doctoral student, has been invited to speak at the Snowbird Neuroscience Symposium "Molecular Machines Drive Your Brain: Current Trends in Cellular and Molecular Neuroscience" on November 1, 2019. Robert's topic is "Drunken Membranes and Their Potential Effects on Neurosecretion". Robert Coffman works with Neuroscience Faculty Dr. Dixon Woodbury.

TEACHING AS A CAREER OPTION IN NEUROSCIENCE

Paul D. Larsen, MD

Adjunct Professor, Brigham Young University
Professor Emeritus, University of Nebraska College of Medicine



As a student, you most likely have given a lot of thought to what you will ultimately do with your major in Neuroscience. Most of you will use your degree as a stepping stone to pursue a graduate degree. The usual line of thinking is getting a master's degree or PhD with a focus on research, applied psychology or going into medicine. There are many career paths to pursue within these options but one that I would like to explore with you is a pathway in education. Most PhD college faculty who are involved in research also teach but their promotion and tenure within the college system is typically based more upon their research productivity. There are graduate programs in the USA that focus mainly on an education pathway with the design that the graduates from these programs will teach in the undergraduate and graduate setting as a career pathway. These are primarily master's degree programs. If you love to teach and it is something you would like to consider, then it is worth exploring these programs. As the importance of the neurosciences continues to grow, the demand for professors/instructors in the field will also increase.

With the medicine route there are many options in the neurosciences. There are the specialties of neurology (adult and pediatric), neurosurgery as well as neuroradiology, neuropathology, and many neurological sub-specialties. There are also the pathways of psychiatry with its focus on behavior and mental health. It is not my intent to explore all these areas of medicine but rather to explore the option of neuroscience education if one pursues a career in medicine.

A career in academic medicine (medical school faculty) traditionally has ascribed to the model that the physician be involved in patient care, research and teaching. Most schools of medicine now recognize that being a "triple threat" academic physician has become increasingly rare and most researchers are doing research and the clinician-teacher has become an increasingly recognized position in academic medicine. Most of these physicians are involved in training students and residents in the clinical setting. But there has been an increasing trend for more involvement of MDs teaching the basic sciences in the first two years of medical school (the preclinical years). Part of this drive is the perspective the MD brings on how the basic science will be applied and used to practice medicine. With that in mind I would like to share with you my journey in teaching medical neuroscience.

As a first-year medical student I loved neuroanatomy. I enjoyed learning about the structure of the brain and how that structure reflected function of the brain. That contributed to my interest in neurology which when coupled with my interest in children and the developing brain, ultimately led me to pursue a career in pediatric neurology. As a practicing pediatric neurologist, I was very much involved in seeing patients as well as training students and residents in neurological diseases that affect children. About 12 years into my career I had the opportunity to chair the committee at Creighton University College of Medicine to construct and implement a new

Dr. Paul Larsen

Medical Neuroscience course for their first-year medical students and then to direct the course over the next two years.

I then had the opportunity at the University of Nebraska College of Medicine to direct their second-year medical student Neurology, Ophthalmology and Psychiatry course and to be one of the principle instructors in their first year Medical Neuroscience course. In the first-year course my role was to teach the student how neuroanatomy is used in neuroanatomical localization which is essential in arriving at a neurological diagnosis. I was not only teaching the application of what they were learning, but also teaching neuroanatomy in the classroom and in the neuroanatomy lab with human brain dissection. I loved the teaching setting of the lab because of the one on one student-teacher interaction and exploration of the actual structure of the human brain. This is an incredible learning experience for the student. This basic neuroscience teaching is something that I continued over the next 20 years of my academic career at the University of Nebraska.

“ I loved the teaching setting of the lab because of the one on one student-teacher interaction and exploration of the actual structure of the human brain. ”

As part of my interest in teaching, I saw the value of using computer-based multimedia to illustrate and teach the correlation between neuroanatomy and the how the neurological examination clinically “dissects” the brain for anatomical or regional localization and diagnosis. This lead me to develop the web based tutorials Neurologic Exam: An Anatomical Approach (https://neurologicexam.med.utah.edu/adult/html/home_exam.html) and Pediatric Neurologic Exam: A Neurodevelopmental Approach (https://neurologicexam.med.utah.edu/pediatric/html/home_exam.html). I used these tutorials as an integral part of my teaching and the tutorials with their video illustrations of the elements of the normal and abnormal exam are being used worldwide as resources that can be repurposed by teachers in both the basic science and clinical settings. In fact, the videos found in the Neurologic Exam website have been used for years by Michael Brown here at BYU in the Neuroanatomy 360 course. Now that I have retired from my medical academic career, I am excited to continue my passion for teaching neuroanatomy here at BYU.

I share my story as an illustration that the degree you are pursuing in the neurosciences can lead you into multiple different career pathways. One of the important career pathways to consider is teaching, whether it be at the undergraduate or graduate levels or with a Masters/PhD or MD degree. Excellent examples of this are found in our own BYU faculty. Dr. Michael Brown is an example of a PhD who is on the academic teaching pathway and Rebekka Matheson, MD who has dedicated her career to teaching. Any one of us would be happy to discuss with you career options in the neurosciences.



BYU Neuroscience Center
S-192 Eyring Science Center
Brigham Young University
Provo, Utah 84602

Created by the BYU
Neuroscience Center
Campus and lab
photography
by BYU Photo

BYU Neuroscience
Newsletter
Issue: Fall 2019

BYU
Neuroscience

If you would like to be
featured as an alumni
spotlight in our next
newsletter or send us
feedback, please email us
at neuroscience@byu.edu

For more information and updates
about BYU Neuroscience, visit our
website: neuroscience.byu.edu