

# Neurodiagnostics and Sleep Science



College of Health and Human Services  
UNC CHARLOTTE



SCHOOL OF MEDICINE  
Allied Health Sciences

[www.alliedhealth.unc.edu/ndss](http://www.alliedhealth.unc.edu/ndss)

## The Eddie and Jo Allison Smith Family Foundation gives \$4 million to support brain, geriatric and sleep health

Family patriarch Eddie Smith Sr. grew up in what is now the American Children's Home orphanage in Lexington, NC. His daughter-in-law Jo Allison Smith grew up on the grounds of The Children's Home in Winston-Salem, NC, where her father was football coach and later, assistant superintendent. An orphanage is community as family. It's a big bear hug of, "We're all in this together, and we'll get through it because we'll help each other." By experience or affiliation, nature or nurture, the Smith family lives boldly and resolutely within this exceptional generosity of spirit. Generations of patients at UNC Hospitals will benefit.

"We wanted to take a hard look at some of the areas we felt strongly about, allocate an amount of money we felt we could give and find the very best and most productive ways to put that money to work in our areas of special interest," said Eddie Smith, Jr., CEO of Grady-White Boats in Greenville, NC, and president and CEO of the Eddie and Jo Allison Smith Family Foundation. Working in partnership with doctors at UNC Hospitals and Medical Foundation leadership, they aligned their gifts with the University's strategic plan and the family foundation's guidelines. Smith's son, Chris, a family foundation and Medical Foundation board member, describes his family's philanthropy using entrepreneurial terms. "We are very passionate about looking at each area (in which we invest): do we believe in the leadership? Is the leadership creating a sustainable model? How much impact are we creating and are we able to leverage that gift to help them grow? We try to create partnerships with people and science so we can make sure we all have a plan to succeed moving forward."

***Well-being and The Jo Allison and Edward C. Smith, Jr. Innovation Endowed Fund in Neurodiagnostics and Sleep Science; The Jo Allison and Edward C. Smith, Jr. Master's Program Development Fund in Neurodiagnostics and Sleep Science; and The Jo Allison and Edward C. Smith, Jr. Scholarship Fund in Neurodiagnostics and Sleep Science***

It's not just snoring. For three generations of the Smith family, sleep apnea degraded the energy and vitality necessary to their quality of life. "My grandfather was diagnosed later in life, and at that particular time, there wasn't a lot of science, not a lot of technology around testing for the problems, and there were no easily accessible solutions," said Chris. The elder Smith tried surgery at another facility; it was unsuccessful. He was referred to UNC Hospitals and Brad Vaughn, neurologist and medical director of UNC Neurodiagnostics and Sleep Science and program director Mary Ellen Wells diagnosed his sleep apnea as

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## Congratulations to the Class of 2017 and 2018



The Neurodiagnostics and Sleep Science program, a joint initiative between the UNC School of Medicine and

UNC-Charlotte, celebrated its fifth and sixth graduating classes in 2017 and 2018. All received a Bachelor of Science degree. The NDSS program is accredited by the Commission on Accreditation of Allied Health Education Programs ([www.caahep.org](http://www.caahep.org)) upon the recommendation of the Commission on Accreditation for Polysomnographic Technologist Education (CoA PSG).

**2017 Graduates:** Kristen Annis, Guadalupe Cruz, Nicole Haddock, Shannon Kerley, Charlene Layer, Cheree Scholl-Van Horn, Marta Urszula Spada, Jennifer Lynn Tibbitts, Crystal Trotter-Berkley

**2018 Graduates:** Vernon Barksdale, Susan Fulcher, Amanda Meyers, Najma Noor, Shannon Robbins, Nicole Walton, Crystal Wolf

## Student Capstone Research Presentations



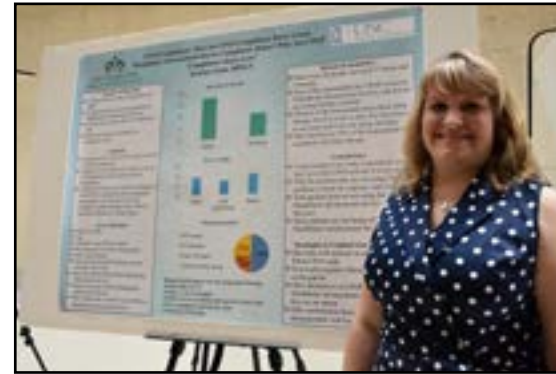
Marta Urszula Spada, "Home Sleep Testing and Underdiagnosed Obstructive Sleep Apnea"



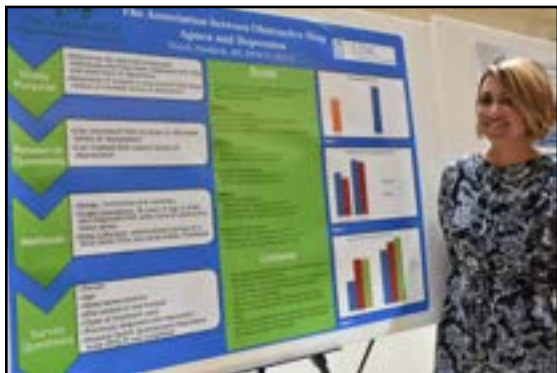
Charlene Layer, "Non-Epileptic Events and Mental Illness: Is There a Link?"



Shannon Kerley, "Why Have A Home Sleep Study?"



Kristen Annis, "CPAP Compliance: How are CPAP Compliance Rates versus Mandibular Advancement Device Compliance Rates? Why Are CPAP Compliance Rates Low?"



Nicole Haddock, "The Association between Obstructive Sleep Apnea and Depression"



Jennifer Tibbitts, "fMRI Testing vs. Wada Testing"



Lupe Cruz, "Type 2 Diabetes and Hypertension"

## Graduate Publications



Nicole Haddock & Mary Ellen Wells (2018) The Association between Treated and Untreated Obstructive Sleep Apnea and Depression, *The Neurodiagnostic Journal*, 58:1, 30-39, DOI: 10.1080/21646821.2018.1428462



Trotter-Berkley, C., Wells, ME. (2017). The Prevalence of Sleep Disorders in Patients Diagnosed with Traumatic Brain Injury. *A2Zzz*, 26:3.



Fox, K., Wells, M. E., Tennison, M., & Vaughn, B. (2017). Febrile Infection-Related Epilepsy Syndrome (FIRES): A Literature Review and Case Study. *The Neurodiagnostic Journal*, 57(3), 224-233.

## NDSS Graduate Speaks at Sandhills Community College



Tanisha Burke (right)

It was a great honor to give a presentation on Home Sleep Study Testing Devices and Oral Appliances Therapy to the students of Sandhills Community College. The first part of the discussion covered educating the patient on how to use the device, the set-up of the HST device, scoring and reporting the data and how this is a secondary tool for the population of people who do not like to go to the doctor or would not prefer to sleep in the sleep clinic overnight. The second part of the presentation included Oral Appliance Therapy and how it can possibly be used as a secondary choice instead of CPAP to treat sleep apnea within special cases. This discussion covered educating the patient about the oral appliance device, how to set the device up, the hook-up of the patient for an over night PSG with Oral Appliance Therapy, and how to score and report the data. The students seemed very interested from their many questions and class participation. Overall, this was a very rewarding experience, and I look forward to many more opportunities like this in the future.

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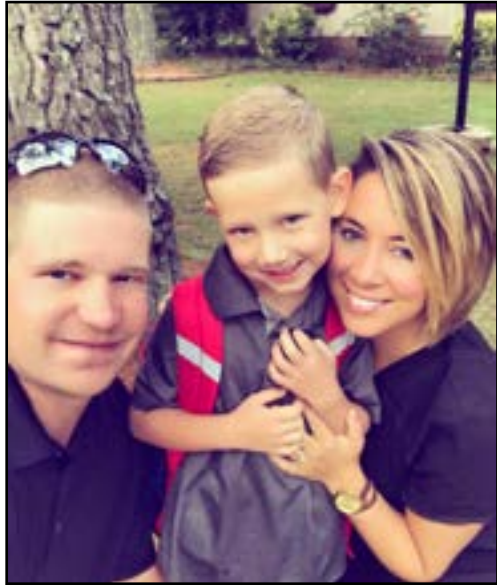
critical. He was immediately placed on a CPAP (continuous positive airway pressure) machine. With Eddie Sr.'s improved health and an idea that sleep apnea had a genetic component, Eddie Jr. and Chris decided to be tested. They first chose a non-accredited sleep lab and were diagnosed with minor sleep apnea. "When we came to Carolina, the equipment was more sensitive and the people who were reading the report, more educated. We were both placed on CPAP machines," Chris said.

These diagnostic experiences led Jo and Eddie to seed the country's first undergraduate degree in sleep technology. Based at UNC-Charlotte, it is directed by Brad Vaughan and Mary Ellen Wells in Chapel Hill and has been extremely successful and well received. New gifts from The Eddie and Jo Allison Smith Family Foundation will help position the UNC Neurodiagnostics and Sleep Science Program as a leader in sleep innovation and research, support scholarships for students and jumpstart a master's program. "The field is exploding and the master's program is just the logical next step," Eddie said.

The Smith family's \$4 million in support of brain, geriatric and sleep health is one of many gifts they've made to UNC-Chapel Hill. They remain humble about their ability to be so generous and return a portion of their wealth to the community that has given so much to them. "When you see something come to fruition and make a difference, you can't put it into words," Eddie said. "We're just blessed to do it."

*-Read more at [news.unchealthcare.org](http://news.unchealthcare.org).*

## Alumni Updates



Since graduating from the NDSS program, I have really enjoyed time with my family and friends. The break from discussion boards and exams has been so nice. My son enjoys it the most because mommy has more time with him! I was so blessed to be offered a job as an EEG Tech III at Cape Fear Valley Hospital. It helped me transition from working nights to days. I was offered more pay and an opportunity to help build and grow the department. Since working in my new position, I have helped revise policies, offer different techniques, and increased my confidence within management with more responsibilities. We were able to hire another technologist this past month due to the increase of patient volumes and possibly developing a new neuroscience building in the near future! I am very happy to be a part of a growing department.

During my last semester in the NDSS program, I had to develop and conduct a research study. Since the program I have been working extremely hard to get my research study published. I am so excited to say I was able to accomplish my goal/dream! My research study will be

published this year in the *Neurodiagnostics Journal*! This has only increased my confidence and drive to continue this path within clinical research. I never knew I would enjoy this so much. The NDSS program has helped me open my eyes and mind to new possibilities.

## Alumni Present at Chapel Hill Company

"We discussed the body's natural time clock (Circadian Rhythm). It runs on several cues, but primarily on sunlight. That is why most people are highly alert and active in the early part of the day and ready for sleep when it gets dark. The Circadian Rhythm oscillates every hour and a half. You will have a ton of energy in the beginning and feel more fatigued at the end. The oscillation that affects most people is from 2:00 until 5:00 p.m. There is heavy fatigue followed by a burst of energy.

We also discussed sleep hygiene techniques. These are important for initiating and maintaining quality sleep. These consist of a similar bedtime every night (give or take 30 minutes), same wake up time every morning (same criteria, and they both refer to weekdays and weekend schedules), no caffeine after mid-day, no smoking, no alcohol, no electronics in the bed, etc. Most people do not have all sleep hygiene techniques down, but it is important to accomplish as many as possible and to strive to improve on problem areas."

-Submitted by DJ Thompson, RPSGT, Duke University Hospital Technologist, and Jennifer Garcia, RPSGT, UNC Health Care, Neurodiagnostic Technologist II

## 2017 Scholarships Recipients



Shannon Robbins *Eddie and Jo Allison Smith Family Foundation Scholarships*

"Our program has allowed us to not only cover the role of diagnostic technologist, but also that of a health educator. With this knowledge, I hope to make a lasting impact not only in my hospital, but in the field of sleep. Thank you so much to the donors to my education who have made this possible!"



Doug Thompson *Eddie and Jo Allison Smith Family Foundation Scholarships*

"I would like to say thank you so much to the Eddie and Jo Allison Smith Family Foundation for this opportunity. This scholarship is a true blessing. It's difficult to go to school and work, all while providing for your family. This scholarship has relieved so much of that burden."



Katie Farquhar *Eddie and Jo Allison Smith Family Foundation Scholarships*

"It is truly an honor to have received the scholarship knowing it could have been given to anyone else. This scholarship helps me pay for the expenses that come along with continuing my education and has given me the opportunity to go back to school, which I don't know if I would have been able to do on my own."



Steven Klinger *Nihon Kohden Neurodiagnostics and Sleep Science Annual Scholarship*

"I am really pleased with receiving this scholarship. It greatly lightens the financial burden of out-of-state tuition."

## NDSS Students Gain Real-World Experience at UNC Hospitals



During the NDSS practicum, students gain experience in the following areas: polysomnography, electroencephalography, intraoperative neurophysiologic monitoring, nerve conduction studies, dental sleep medicine, evoked potentials, and long-term epilepsy monitoring. They also shadow physicians and administrators. Students use their experiences to create an original business plan, educational plan, and quality-assurance plan to address issues encountered during their practicum. Students pitch their plans to peers, instructors, hospital administrators, and the medical director. Their real-world experience allows them to demonstrate professional behavior and cultural awareness in a clinical setting.

**From current student Vernon Barksdale:**

"After graduation, it is my desire to focus on leadership and the various disciplines that I had an opportunity to observe during my clinical rotation."

## Richard Johnson Invited as Panelist at NC Diversity Conference

Richard Johnson was invited to be a panelist at the annual NC Diversity Conference held on March 22, 2017 at the Grandover Resort on Greensboro, NC. He, along with two other panelists, spoke to about 100 NC high school and community college students and their advisors and parents about the opportunities to pursue a rewarding career in Allied Health Sciences. Richard shared his journey and the path that he took to become a Neurodiagnostics and Sleep Science professional. He explained the benefits and challenges of being a career changer and wants to be an advocate for students and career changers in Person County to consider this career path.

NDSS Recognizes Corporate Partners and Scholarship Donors

Gold Partners



## WRAL-TV Features Dr. Mary Ellen Wells



WRAL-TV interviewed Dr. Mary Ellen Wells in February 2018 on the issue of sleep-tracking apps; do they work? Are sleep-tracking devices unnecessary distractions as you try to find asleep? What can you count on to be the best sleep tracker? Find the full story on wral.com or on the NDSS homepage.

# Meet Erin Kinney, Allied Health Sciences Development Director



Hello! My name is Erin Kinney and I, first and foremost, want to thank you for welcoming me into your world. I have been here about a month now and I already consider myself a Tar Heel. I have had the opportunity to work with so many wonderful faculty members, students, alumni, our corporate partners, my colleagues at the UNC Medical Foundation, and many more.

As your development director, I will work closely with everyone to continue to build and enhance our alumni network and relationships. I will reach out to you soon in hopes of the opportunity to meet you, hear your Carolina story and chat about all the wonderful initiatives at your alma mater, a place where so many of you called home. I am excited to explore your legacy here and impact

on the University's newly launched Campaign for Carolina, where opportunity is For All Kind. The University of North Carolina at Chapel Hill is led with excellence, and we all have a part in leading with humanity during this Campaign. I am eager to explore how you can make a difference on campus, in our students' lives, in rural North Carolina, in world-renowned research, and beyond.

As I mentioned, you'll hear from me soon. In the meantime, please feel free to contact me. I have truly enjoyed all the warm welcomes I have already received.

My email is [erin\\_kinney@med.unc.edu](mailto:erin_kinney@med.unc.edu), and my phone number is (919) 966-3352.

All the best,

Erin

## Follow NDSS on Facebook and LinkedIn

For an easy way to get all the latest NDSS news and to keep up with the accomplishments of our students, alumni, and faculty, follow us on LinkedIn and Facebook!

*The Neurodiagnostics and Sleep Science bachelor's degree program is offered by the University of North Carolina at Charlotte, College of Health and Human Services, Kinesiology Department, in collaboration with the University of North Carolina at Chapel Hill, School of Medicine, Department of Allied Health Sciences. This innovative, online degree program is the first of its kind in the world.*

