Cheatham Chat

Current and Future States

By Carol L. Cheatham, Ph.D.

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Typically this column is about my travels. Other than a weekend in Honduras for my niece's wedding and a trip home to Wyoming for my 50th High School Reunion, I have been on the ground. Not that there haven't been opportunities: people still want to hear about our science. It is more a matter of not having a lab manager to cover for me while I roam to spread that science. Andrea, my former lab manager, left to raise her daughters a few years ago. I have not been able to replace her; I guess she is a tough act to follow. Being a stay-at-home mom turned into an adventure as they bought a 5th-wheel and traveled the United States for a few years. With a Master's in Elementary Education, she was the perfect homeschool teacher. Couple that with the travel, and you have a world-class education for those lucky girls. Can you imagine having the Liberty Bell on the lesson plan, but rather than looking at pictures in books, you are standing in front of the real thing? I sure wouldn't deny them that opportunity.

So, here I sit with no lab manager. My study coordinators, Liz and Kevin, are amazing, and no doubt if you are reading this you have interacted with one of them. Liz coordinates the avocado study (breastfeeding moms and babies), and Kevin coordinates the blueberries and exercise study (older folks). As I am sure you will read more about them in this newsletter, I will not provide background on them here. Suffice to say that my life is a lot easier with them.

We also have two studies abroad – one in Uganda that is a collaboration with University of Minnesota Professor Sarah Cusick. Sarah is providing infants with supplemental choline for several months and utilizing our 3D-printed memory tests to assess their brain function. It is an amazing study that has the potential to help so many kids. The other international study is to determine the risk factors associated with Fetal Alcohol Spectrum Disorders. This study is being conducted in South Africa. We are very excited about it as we are assessing risk factors not only in mothers, but also in fathers – a heretofore neglected piece of the puzzle.

And now – drumroll please – I am announcing that these will be my LAST studies. I have stopped writing grant proposals to seek funding. It is sad because writing the proposals was always my favorite part of the job. Why, you ask, have I given up on finding grant monies? Is it the state of science in the US right now? No, but it is a bonus that I will not have to fight for funds in the current funding climate. I have simply gotten old and found the need to retire. So, that is the plan. When these studies are over in two years, I will move out to pasture and live my best life reading about science that others are doing. It has been a good run. As long-time readers of this newsletter know, not only has this position afforded me the opportunity to explore my burning questions about the development and de-development of the brain, but I have traveled the planet to speak to scientists and health care providers about how to optimize nutrition for brain development and function. I leave knowing that my research has reached over one million people, either directly or through their health care practitioners and has directly impacted the nutrients in infant formula. By any rubric, that is a career of value.

Importantly, I couldn't have done it without the many, many individuals and families who participated in the studies. You, Dear Reader, are central to the success of science. Please continue to find studies with which you can help. We cannot learn about how the human body responds in our environment without a partnership with you. So, keep volunteering. I am excited for my new life as I pivot from principal investigator (PI) to research study volunteer myself. Maybe all the creaks and groans being produced by my old body will help a young PI learn about aging. I am in this with you! My sincerest thanks to you for the assist over the past decades.

Eat Move Think Research Study

We are currently recruiting participants for the Eat Move Think research study for the Spring 2027 Cohort! Contact us for a quick screening to see if you qualify! Call (704)-250-5352, email us at feedingbrains@unc.edu, or scan the QR code to the right to enter your contact information.

Who can help?

- Adults who are 65 to 85 years old in good health
- ·Physically inactive (less than 150min/week of moderate exercise in the past 4 weeks)



What is the goal?

The purpose of this research study is to determine if exercise and the consumption of wild blueberries help the aging brain. To show our appreciation for your participation in our study, you will receive $750 when you complete the study.

What will participants do?

You will attend free exercise groups provided by the lab (5 days/week for 12 weeks, flexible schedule). You will also be required to attend three lab visits across 12 weeks. In these lab visits, you will be tested for cognitive and physical abilities and provide bio samples (blood, urine, and fecal samples).

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Team Update

Dylan Puck

Dylan joined the Cheatham Lab as an intern in 2025 and continued working with the lab as a Research Assistant in 2026. He graduated from Clemson University in December 2025 with a degree in Health Science. Dylan is thankful for the research experience and exposure that his time in the Cheatham Lab provided as he prepares for the next step in his career. He is currently applying to medical school with the goal of becoming a family medicine physician.





Elizabeth Hommel

Liz began in the Cheatham Lab as an intern in 2024. She graduated in May of 2025 from Belmont Abbey College with a degree in biology, and as Captain of the Women's Lacrosse team. She joined the lab full time as a Study Coordinator in July of 2025. With her degree in biology, she is passionate about learning more about the clinical research field and enjoys her time working with babies and moms in the lab.

Kevin Stegall

As a local, Kevin grew up visiting the research campus as a study participant for several different studies. Kevin volunteered to assist with a study during his undergrad at UNC Asheville when Dr. Cheatham and Voruganti came up to conduct research. He then applied for an internship in the CRC which carried into joining the Cheatham lab in September of 2025.



Meet the Interns



Ella Balderas

Ella joined the lab in May 2026 as a summer intern and she is currently studying Human Biology with a minor in Nutrition at NC State University. With her background and skills rooted in molecular biology research, Ella also strives to expand her knowledge and skills in clinical research, especially in areas involving maternal and infant health. Ella will be graduating in May 2027, and she plans to continue working in research before applying to medical school.

Madeline Sturgill

Maddie joined the lab this summer and is currently studying at Tufts University where she is majoring in Cognitive and Brain Science. Outside of the lab, Maddie is a member of the Tufts University Varsity Softball team and has played the cello for over ten years. Following her graduation in the Spring of 2028, Maddie plans to attend medical school with the end goal of pursuing a career in pediatric medicine.





Shagun Tiwari

In May of 2026, Shagun joined the lab as an undergraduate summer intern. Currently, she is studying at UNC Chapel Hill where she is majoring in Public Health and Public Policy. Shagun will be graduating in May 2029 and following graduation, she plans to attend law school in hopes of pursuing a field in health policy.

Study Updates

Breastfeeding and Avocado Infant Nutrition Study (BRAINS)



We recently began working with our final participants in the avocado study and are excited to begin exploring the results.

The purpose of this study is to better understand whether eating avocados while breastfeeding can increase the amount of important nutrients available to infants through human milk. Avocados are rich in several nutrients that support brain development, including choline, fatty acids, and lutein, which are also naturally found in human milk. By studying whether avocado consumption can increase the availability of these nutrients, we hope to learn more about the potential role of avocados in supporting early brain development.

We were thrilled to work with over 100 mothers and their infants, surpassing our original participant goal and giving us an even larger group of families to help us better understand the potential benefits of avocado consumption during breastfeeding. We are incredibly grateful to all of the mothers and infants who participated in this study and made this research possible.

Infant Nutrition and Cognition Study



We wrapped up our egg study in April 2026 and are now looking forward to learning more as Dr. Cheatham reviews the results.

Similar to the avocado study, the purpose of this study was to determine if eating eggs during breatfeeding increases nutrients important for brain development in the milk, and subsequently, improves infant cognition. Participants were randomly assigned to either a whole egg or egg white group and consumed the provided egg powder throughout the study. Neither the participants nor the researchers knew which group they were in, allowing us to more accurately compare the effects of whole eggs and egg whites.

We were fortunate to have 65 mothers and their infants take part in the egg study. Their time and commitment were essential to the success of this research, and we sincerely appreciate each family who contributed to the study.

Can You Grow Your Own Avocado?

By Maddie Sturgill

Challenge: Save your next avocado pit and see if you can get it to sprout.



You'll need:

- 1 avocado pit
- A glass or jar of water
- 3-4 toothpicks
- A warm, bright spot

Here's What You Need to Do:

1. Carefully remove and rinse the pit, leaving the brown outer skin intact.
2. Figure out which end is the top (the slightly pointier end) and which is the bottom (the flatter end).
3. Insert toothpicks around the middle of the pit so they can rest on the rim of your glass.
4. Fill the glass with water so the bottom portion of the pit is submerged.
5. Place it somewhere warm with plenty of indirect sunlight.
6. Be patient! Change the water regularly and keep an eye out for changes.

You might first notice the pit splitting open. Then, a root begins to emerge from the bottom, followed by a shoot reaching upward.

The Science Behind It

There is actually a lot happening inside an avocado pit before you ever see that first little root. Once the pit is exposed to enough water and warmth, it begins to germinate. The seed absorbs water, which wakes up cells and enzymes that have been inactive while the seed was dormant. Those enzymes begin breaking down the nutrients stored inside the seed, giving the developing plant the energy it needs to start growing. The first structure to emerge is usually the radicle, which develops into the root and grows downward, while the shoot eventually pushes upward. This isn't random because the plant uses hormones, including auxin, to regulate cell growth and respond to gravity and light. As the shoot develops leaves, the plant can begin relying more heavily on photosynthesis, using sunlight to produce the energy it needs to keep growing.

Is Breakfast the Most Important Meal of the Day?

By Ella Balderas

Yes! For a long time, breakfast has been known to be the most important meal of the day. Experts associate eating breakfast with higher productivity, better focus, and feeling energized in the morning. As our knowledge in the field of nutrition advances, we are continuing to find new ways that eating breakfast can positively impact on our overall health.

What are the benefits of eating a good breakfast?

As our knowledge of nutrition advances, we can better understand and navigate our choices when it comes to what we eat. According to the Cleveland Clinic, eating breakfast provides the energy that is needed to power through the day as well as help the body perform at its best. Additionally, it helps with improving focus and concentration which increases productivity at school, work, and daily activities. Eating breakfast in the morning also helps improve heart health. This is because the body is most sensitive to insulin in the morning, meaning it can use blood sugar more effectively. Consuming fiber-rich foods such as oatmeal and other whole grains at this time helps in reducing cholesterol and promoting a healthy heart (Cleveland Clinic, 2022).

What makes a good breakfast?

Today, there are many breakfast options from which we can choose and this can make it difficult to choose which foods are the healthy choice. As a reference, a good and balanced breakfast should provide nutrients, fuel the body, and support concentration throughout the day. Below, we have included some breakfast foods that can help you plan a healthy breakfast so that you may start off the day on the right track.

Eggs

Eggs are an excellent source of protein and contain heart-healthy fats that promote healthy cardiovascular health. It provides steady energy throughout the day which helps in maintaining energy levels and alertness. Eggs are also versatile as they can be prepared in many ways, are affordable, and are quick to prepare!



Fruit

Fruits are rich in vitamins, minerals, and antioxidants which are all beneficial to overall health and improve the immune system. Fruits can be eaten alone, paired with other breakfast foods such as yogurt, or be blended into a breakfast smoothie!



Whole Grains



Whole grains, such as oatmeal, also provide steady energy throughout the day. It is rich in nutrients because it contains all three parts of the grain, making them rich in fiber, minerals, B vitamins and healthy fats that help with energy maintenance, and support brain function as well as cardiovascular health.

Nuts/Seeds



Nuts and seeds are nutrient dense foods that contain high amounts of protein, fiber, minerals, and antioxidants. A small handful of mixed seeds provides a concentrated source of energy to help fuel the body. Seeds such as chia and flax seeds ensure sustained energy and satiety that can help you feeling full for longer.

Why Are Blueberries Blue?

By Shagun Tiwari

Have you ever wondered why blueberries have such a vibrant blue color? While they look appealing, that blue isn't just for show. Their color is actually a sign that they are packed with beneficial plant compounds!

What are anthocyanins?

The deep blueish purplish color of blueberries comes from anthocyanins, which are a group of naturally occurring pigments found in many fruits and even some vegetables. Anthocyanins are part of a larger category of plant-based chemicals called flavonoids, which are known for their antioxidant properties. Flavonoids help plants reproduce by attracting pollinators among other helpful properties in nature. But in our diets, they may help protect our cells from damage caused by unstable molecules known as free radicals (Cleveland Clinic, 2022).





Other Benefits

Blueberries offer more than just antioxidants. They are also an amazing source of vitamin C, vitamin K, manganese, and fiber. Whether fresh or frozen, blueberries are an easy way to add nutrition to smoothies, yogurt, oatmeal, salads, or simply enjoy by the handful. Scientists in the Cheatham Lab, along with many other researchers, have been investigating whether eating foods like blueberries may support memory, attention, and other aspects of cognitive function.

Whereas blueberries aren't a "magic brain food," they're one of the most researched fruits in the field of nutrition and cognition. So next time you think of walking past those blueberries in the store, hopefully you will think again!