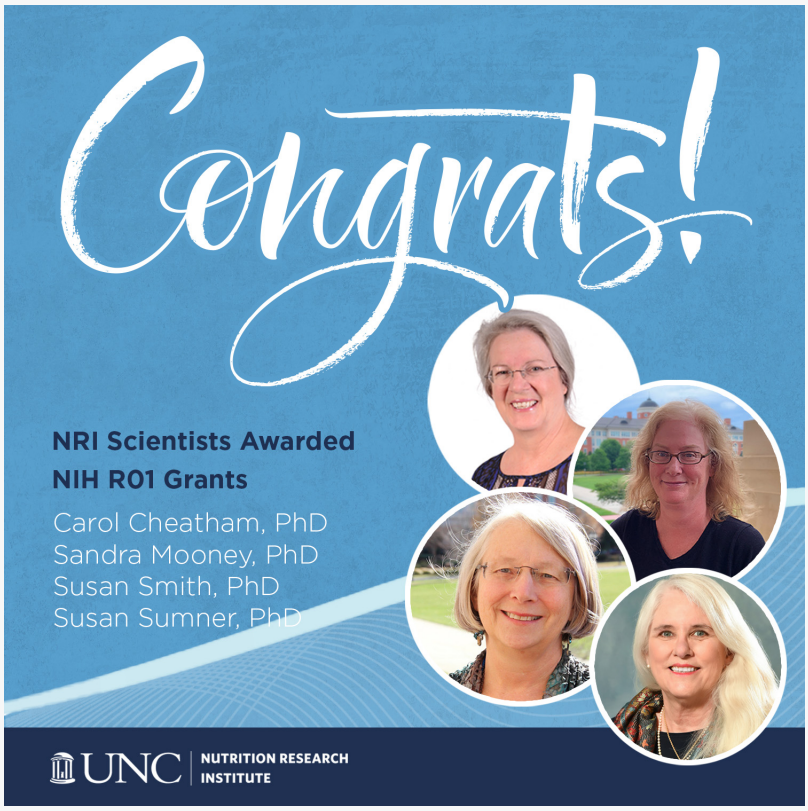
NRI Researchers Secure New NIH R01 Grants for Critical Nutrition Research

3 studies explore how nutrition, genetics, and lifestyle intersect to impact health, from aging brain function to prenatal alcohol exposure and male fertility

KANNAPOLIS, NC, UNITED STATES, September 30, 2024 / EINPresswire.com/ -- Four principal investigators at the UNC Nutrition Research Institute (NRI) have been awarded R01 grants from the National Institutes of Health (NIH). Each grant will fund key research projects designed to advance our understanding of the links between nutrition, genetics, and health outcomes.



UNC Nutrition Research Institute Logo

These three new studies explore how nutrition, genetics, and lifestyle factors intersect to influence critical aspects of health, from cognitive function in aging adults to developmental outcomes in children exposed to prenatal alcohol, and even male fertility.

The NIH R01 is a highly competitive grant mechanism that provides support for specific research projects. These awards reflect the significance of the scientific questions being addressed and underscore the NRI's role in driving important research in the field of nutrition.

Interim Director, Deborah F. Tate, PhD, states, "We are incredibly proud of the groundbreaking work being led by our researchers, and these NIH R01 grants are a testament to the significance of their contributions to precision nutrition science. With this critical funding, our scientists can further advance our understanding of nutrition's role in human health, helping us establish personalized solutions for healthier futures."

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> *Deborah F. Tate, PhD, NRI Interim Director*

NRI Recipient: Carol L. Cheatham, PhD, Associate Professor of Psychology and Neuroscience

Co-Principal Investigators: Mary Ann Lila, PhD, NC State University and David Nieman, PhD, Appalachian State University

Collaborators: Sandra Mooney, PhD, (NRI), Andrea Azcarate-Peril, PhD, (UNC-CH), and Slavko Komarnytsky, PhD, (NC State)

Project: Age-related Cognitive Changes: Effects of Combined Flavonoid Intake and Physical Exertion Mediated by the Gut Microbiome

With this study, our scientists aim to explore how a diet rich in flavonoids, like those found in blueberries, combined with regular exercise, may help slow down memory and thinking problems in older adults.

Researchers believe that the bacteria in the gut play a key role in this process by breaking down these nutrients into substances that benefit the brain. By studying the effects of diet, exercise, and gut health together, the researchers hope to identify simple lifestyle changes that could protect against cognitive decline as we age. This could lead to new strategies for preventing conditions like dementia.

NRI Recipients: Susan Smith, PhD, Professor of Nutrition

Sandra Mooney, PhD, Associate Professor of Nutrition

Project: Choline-Related Polymorphisms in Fetal Alcohol Spectrum Disorders.

This study aims to better understand how genes related to choline, a vital nutrient for brain development, can impact the cognitive outcomes of children exposed to alcohol before birth. Fetal Alcohol Spectrum Disorders (FASD) can cause lifelong learning and memory problems, and previous research has shown that choline supplements may help. However, not everyone benefits in the same way.

This research will explore how certain genetic differences may influence the body's need for choline, affecting both vulnerability to FASD and the effectiveness of choline-based treatments. The findings could lead to more personalized treatments for children affected by prenatal alcohol exposure.

NRI Recipient: Susan Sumner, PhD, Professor of Nutrition

Co-Principal Investigator: J. Richard Pilsner, PhD, Wayne State University

Project: Seminal Plasma Metabolomics Signatures, Preconception Phthalates, and Reproductive Outcomes

This study focuses on male infertility, which contributes to half of all infertility cases, and how exposure to certain chemicals called phthalates—found in plastics and personal care products—might play a role. Phthalates have been linked to lower sperm quality and longer times to achieve pregnancy. The researchers aim to discover new biological markers in the fluid that surrounds sperm, called seminal plasma, to better understand how these chemicals affect male fertility. By identifying these markers, the study could lead to improved diagnosis and nutritional treatment options for men facing infertility, which would have a significant impact on reproductive health care

With these new NIH grants, the NRI continues to strengthen its leadership in precision nutrition research, advancing the scientific understanding needed to develop personalized nutrition strategies that can improve health outcomes for individuals and communities.

About the UNC Nutrition Research Institute
The UNC Nutrition Research Institute is an internationally recognized center that conducts innovative basic and translational science studying how individual differences in requirements and responses to diet affect our individual nutritional needs. We believe that our advances in nutrition science are leading to successes in preventing or mitigating the negative effects of chronic diseases and aging and in improving human development, even prior to conception.

For more information on the Nutrition Research Institute or to schedule an interview, contact Brooke Giles at 704-250-5046.

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