

Nutritional Sciences Department Newsletter Vol 10, Iss 2; December 2024

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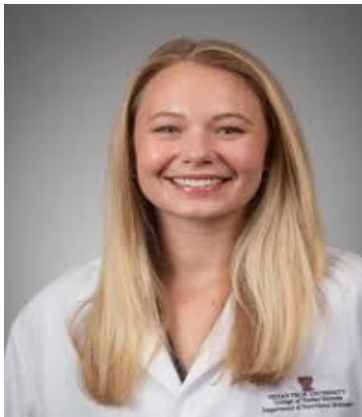
DEPARTMENT OF NUTRITIONAL SCIENCES

TEXAS TECH
College of Health & Human Sciences

Headline Story

Nutritional Sciences Department Welcomes New Faculty Members

The Department of Nutritional Sciences is thrilled to warmly welcome Dr. Marleigh Hefner as an Assistant Professor, starting Fall 2024. A proud alumna of our department, Dr. Hefner earned her doctoral degree in nutritional biochemistry and physiology in May 2024, and she has since built an impressive career that seamlessly bridges clinical practice and research. As a registered dietitian nutritionist with extensive experience in intensive care unit nutrition across the lifespan, Dr. Hefner brings invaluable expertise to our team. Her dedication to advancing the field of dietetics is evident through her leadership in clinical practice and her innovative research program, the Integrative Nutrition and Cardiometabolic Health (INCH) laboratory. Dr. Hefner is particularly passionate about mentoring and training students, fostering the growth of scientifically adept dietitians who are well-equipped to address real-world nutritional challenges. Additionally, her prior work at the Weight Management Clinic and her outreach efforts, including a high school program in Nutrition and Metabolic Health Initiative (NMHI), highlight her commitment to education and community engagement. We are confident that Dr. Hefner's contributions will significantly enrich our teaching, research, and service missions, and we look forward to a fruitful and rewarding collaboration. Welcome back to Texas Tech University, Dr. Hefner—we are excited to have you as part of our faculty!



Dr. Marleigh Hefner

The Department of Nutritional Sciences is also pleased to welcome Kayli Bass as the Assistant Director of the Didactic Program in Dietetics and Lecturer. A Registered Dietitian with four years of experience, she has worked in both acute care and outpatient settings at Covenant Health System. She continues working in the field to provide students with up-to-date knowledge of current practices.

She earned her MS in Nutrition and Dietetics from Texas Tech University and her BS in Nutrition from Texas State University. She was recognized with the Outstanding Preceptor – Newcomer award from the Texas Academy of Nutrition and Dietetics in 2023. We are excited to have her on board!



Kayli Bass, MS, RD, LD

Department Announcements

Class of 2024 Graduation Celebration

The Nutritional Sciences (NS) Department celebrated our Fall 2024 graduates on December 13, 2024. The hybrid celebration offered virtual attendance for anyone unable to attend in person.

- Master of Science in Nutrition and Dietetics
 - Kacye Vann
- Master of Science in Nutritional Sciences
 - Sadique Abdallah
 - Oluwatosin Akinsiku

Obesity Research Institute (ORI)

- Naïma Moustaid-Moussa, Ph.D.

Appointed as The Fellow of the National Academy of Inventors

- Jacob Korir, Ashti Morovati, Fereshteh Dehghani, Andea Sosa-Holwerda, Shadi Nejat, Maryam Seifi Shahpar and Zobayda Farzana Haque presented their posters at 9th annual obesity Research Institute.

Master's Theses and Doctoral Dissertations

- Sadique Abdallah
 - Degree: MSc
 - Dissertation Title: Protective mechanisms of curcumin in hepatic steatosis in diet-induced obese mice
 - Dissertation Committee: Dr. Naima Moustaid-Moussa (Chair); Drs. Yujiao Zu, Nishan Kalupahana, Kembra Albracht-Schulte and Mohamed Fokar.

Acknowledging our past NS Newsletter editor and Social Media Manager

On behalf of the team, we would like to extend our gratitude to Gaurav Kudchadkar for his incredible contributions as the Social Media and Newsletter Editor. His dedication and efforts have significantly enhanced our communication and outreach, and his passion for editorial responsibilities has been truly inspiring.

As he transitions from this role to focus on other responsibilities and his dissertation project, we want to acknowledge his hard work and commitment. We wish him continued success and look forward to seeing the remarkable progress he will undoubtedly achieve in his research and clinical work.



Gaurav Kudchadkar

Welcoming New Students in the Department

- Bragança, Diana K. – MS in Nutritional Sciences non-thesis (in person)
- Khan, Salman – MS in Nutritional Sciences non-thesis (in person)
- Arzate, Jazmin R. – MS in Nutritional Sciences non-thesis (online)
- Baggett, Meagan K. - MS in Nutritional Sciences non-thesis (online)
- Gomez, Joseph Q. - MS in Nutritional Sciences non-thesis (online)
- Mcquillan, Kathleen M. - MS in Nutritional Sciences non-thesis (online)
- Phillips, Stephen A. - MS in Nutritional Sciences non-thesis (online)
- Adeyemi, Kolawole D. – PhD in Nutritional Sciences
- Farhana, Fardous - PhD in Nutritional Sciences
- Fotros, Danial - PhD in Nutritional Sciences
- Leilami, Kimia - PhD in Nutritional Sciences
- Ma, Yujie - PhD in Nutritional Sciences
- Palacios, Raul - PhD in Nutritional Sciences
- Allen, Karly R. – MS in Nutritional Sciences & Dietetics (online)
- Blanchard, Renee C. - MS in Nutritional Sciences & Dietetics (online)
- Bruce, Alisha - MS in Nutritional Sciences & Dietetics (online)
- Cutaia, Emma A. - MS in Nutritional Sciences & Dietetics (online)
- Fernandez, Brooke A. - MS in Nutritional Sciences & Dietetics (online)
- Goerzen, Kaitlin M. - MS in Nutritional Sciences & Dietetics (online)
- Hernandez, Adriana - MS in Nutritional Sciences & Dietetics (online)
- Maldonado Flores, Ana C. - MS in Nutritional Sciences & Dietetics (online)
- Manthos, Emma N. - MS in Nutritional Sciences & Dietetics (online)
- Miller, Amanda - MS in Nutritional Sciences & Dietetics (online)
- Miranda, Adriana E. - MS in Nutritional Sciences & Dietetics (online)
- Olson, Alana - MS in Nutritional Sciences & Dietetics (online)
- Pierce, Molly - MS in Nutritional Sciences & Dietetics (online)
- Rivera, Giselle - MS in Nutritional Sciences & Dietetics (online)

- Rodriguez, Grecia L. - MS in Nutritional Sciences & Dietetics (online)
- Rutledge, Hannah J. - MS in Nutritional Sciences & Dietetics (online)
- Tsoy, Dmitriy - MS in Nutritional Sciences & Dietetics (online)
- Weaver, Lauren R. - MS in Nutritional Sciences & Dietetics (online)

Student Achievements

- Zobayda Farzana Haque, Sara Ranjbar, Benjamin Madura and Elyvine Ingabire Gasasna were nominated as finalists for their research at Three Minute Thesis Competition organized by TTU Graduate School in 2024.
- Benjamin Madura was awarded the 2nd place for his research presented at the Three Minute Thesis Competition.
- Zobayda Haque received a prestigious Trainee Professional Development Award from the Society for Neuroscience (SFN).
- Gaurav Kudchadkar received the TOS Excellence in Poster Presentation Award in the Clinical Science Section at San Antonio ObesityWeek 2024. (“Fat Free Mass Loss Upon Intensive Long-term Diet Therapy Differs From That Reported for GLP1R Agonist”)
- Marsa Zaroudi, received the Graduate Student Research Support Award Fall 2024 from the Graduate School TTU.
- Maryam Seifishahpar was selected as a finalist for the Graduate Student Research Award Competition at ASN 2024.
- Maryam Seifishahpar and Ashti Morovati were selected among finalists to participate in the Emerging Leaders in Nutrition Science Poster Competition at ASN 2024.

Faculty Awards

- Dr. Vijay Hegde, Dr. Naima Moustaid Moussa and Dr. Wilna Oldewage-Thoron
 - Apple Polishing Award
 - Recipients are nominated by students and selected for their commitment to academic excellence and integrity and roles they played in positively impacting student growth. This is the only award on Tech campus that comes directly from students to recognize a TTU faculty or staff member for going above and beyond to improve the student experience at Tech.
- Dr. Andrew C. Shin
 - Cross-Disciplinary Research Excellence Award, 2024
 - He proposed to study "Transcranial ultrasound neuromodulation to treat obesity" with Dr. Jingfei Liu from Mechanical Engineering.

Funding

Dr. Andrew C. Shin

- Diabetes Action Foundation: “Acute effects of BCAAs on glycemic control, insulin sensitivity, and the underlying mechanisms”. January 2025-December 2025.
- American Heart Association, Institutional Research Enhancement Award: “The role of BCAAs on food reward and appetite”. January 2025-December 2026.

Presentations, Publications, Patents, and Invited Lectures and Boards

Student Presentations

American Society of Nutrition (ASN)

- Zaroudi M, Galyean S, Shin AC. The effects of a symbiotic supplement on age-related biomarkers and cognitive function in senior adults: a study protocol. American Society for Nutrition, Chicago, IL, June 2024.
- Seifishahpar M, Castillo M, Gunaratne P, Moustaid-Moussa N, Scoggin S, Kim JH, Menikdiwela K. Effects of Supplemental Tart Cherry and Fish Oil on Inflammation and Gut Microbiota in Diet-induced (C57BL/6J) and Genetically (TALLYHO/Jng) Obese Mice Models. American Society for Nutrition, Chicago, IL, June 2024.
- Morovati A, Moustaid-Moussa N, Harris BN, Ramalingam L, Razafimanjato F, Scoggin S, Zu Y, Yavari M. Transcriptomic Analyses of Eicosapentaenoic Acid Effects in Adipose Tissue and Cortex From High Fat Diet-Induced Obese Amyloidogenic Alzheimer Disease Mice. American Society for Nutrition, Chicago, IL, June 2024.
- Dehghani F, Shin AC. Short-term exposure to BCAAs increases hedonics for sucrose. American Society for Nutrition, Chicago, IL, June 2024
- Korir J. To What Extent Has the Political Commitment and Leadership Evolved in Strengthening Multisectoral Nutrition Approaches in Kenya?, American Society for Nutrition, Chicago, IL, June 2024.
- Madura B, Menikdiwela K, Guimaraes JP, Scoggin S, Moustaid-Moussa N. Effects of Diets Containing Ammoniated Beef on Markers of Ammonia Metabolism in Livers From Diet-Induced Obese Mice. American Society for Nutrition, Chicago, IL, June 2024.
- Abdallah S, Islam T, Moustaid-Moussa N, Scoggin S, Zu Y. Protective Effects of Curcumin in Metabolic Dysfunction-Associated Steatotic Liver Disease. American Society for Nutrition, Chicago, IL, June 2024.
- Ozioma PU, Andalib R, Dhurandhar N, Hefner M, Kale T, Kudchadkar G, Petersen K, Ranjbar S, Surya N, Zaroudi M. A Randomized Double-Blind Crossover Study Shows That a High-Protein

Instant Ramen Noodle Breakfast Reduces Lunchtime Energy Intake. American Society for Nutrition, Chicago, IL, June 2024.

- Nateqi M, Kale T, Siddik MA, Das B, Hegde V, Dhurandhar NV. To Establish a Clinically Suitable Solvent for an Anti-Diabetes Small Molecule BT-141. American Society for Nutrition, Chicago, IL, June 2024.
- Javins A, Ramos ET, Gunukula R, Sprabary K, Jun H. Chronic Alcohol Consumption Impairs BCAA Catabolism in Brown Fat. American Society for Nutrition, Chicago, IL, June 2024.

Society for the Study of Ingestive Behavior (SSIB)

- Dehghani F, Shin AC. BCAAs acutely increase hedonics for sucrose. Society for the Study of Ingestive Behavior (SSIB), Chicago, IL, July 2024.

Society for Neuroscience (SFN)

- Haque ZF, Loya-Silva A, Shin AC. Circulating BCAAs are linked to Alzheimer's disease-related cognitive deficits. Society for Neuroscience, Chicago, IL, Oct 2024.
- Ramezan M, Shin AC. Sex differences in brain glucose metabolism in Alzheimer's disease. Society for Neuroscience, Chicago, IL, Oct 2024.

The Obesity Society (TOS)

- Shah H, Gannaban RB, Dehghani F, Ameg J, Mammen A, Haque ZF, Ramezan M, Shin AC. The autonomic nervous system controls BCAA metabolism: Implications in obesity and diabetes. ObesityWeek, San Antonio, TX, Nov 2024
- Dehghani F, Shin AC. Short-term exposure to BCAAs impairs brown adipose tissue thermogenesis. ObesityWeek, San Antonio, TX, Nov 2024
- Kudchadkar GM, Dhurandhar NV. Fat free mass loss upon intensive long-term diet therapy differs from that reported for GLP1R agonist. ObesityWeek 2024. San Antonio, TX. Nov 2024.
- Siddik MAB, Hegde V, Dhurandhar NV. Recruiting the contribution of Dlg1 to enhance insulin signaling pathway. ObesityWeek 2024. San Antonio, TX. Nov 2024.
- Hefner M, Dhurandhar NV, Hegde V. In mice, E4orf1 reduces insulin and liver steatosis induced by high fructose high cholesterol diet. ObesityWeek 2024. San Antonio, TX. Nov 2024.
- Wenstrom M, Dhurandhar NV, Dhurandhar EJ, Dhurandhar RN, Whigham LD. Content analysis and categorization of weight loss apps for alignment with personal preferences. ObesityWeek 2024. San Antonio, TX. Nov 2024.
- Hia RA, Sultana A, Haque ZF, Dhurandhar NV, Hegde V. E4orf1 Improves Glycemic Control and Cognition in Mouse Model of Obesity Related Alzheimer's Disease. ObesityWeek 2024. San Antonio, TX. Nov 2024.

Cold Spring Harbor Laboratory Conference

- Ali Ahmadi M, Haque ZF, Shin AC. Pharmacological reduction of plasma BCAAs promotes neuronal health markers in the hippocampus of Alzheimer's disease mouse model. Cold Spring Harbor Laboratory Conference, New York, NY, Dec 2024
- Haque ZF, Dehghani F, Ali Ahmadi M, Ramezan M, Young G, Shin AC. Dose response of BT2 on AD mouse models. Cold Spring Harbor Laboratory Conference, New York, NY, Dec 2024

Journal Articles

- **Ranjbar S**, Akinsiku O, Hefner M, Jafari F, Kudchadkar G, Zaroudi M, Nathan AN, Booe H, Dhurandhar NV. Management of obesities with a cause specific approach. *International Journal of Obesity*. 2024 May 20:1-4.
- **Hefner M**, Kudchadkar G, Hia RA, Sultan MA, Booe H, Dhurandhar NV. Confronting the challenge of promoting fruit and vegetable intake for obesity management: An alternative approach. *International Journal of Obesity*. 2024 Apr 17:1-2.
- **Dehghani F**, Ali Ahmadi M, Hefner M, Kudchadkar G, Najam W, Nateqi M, Siddik MA, Booe H, Dhurandhar NV. An algorithm for the use of anti-obesity medications. *Nutrition & Diabetes*. 2024 Apr 18;14(1):20.
- **Korir J**, Oldewage-Theron W, Mugambi G, Gichohi-Wainaina WN. Utilising emerging perspectives at the global and regional level to frame multisectoral nutrition governance landscape in Kenya. *Public Health Nutrition*. 2024;27(1):e99.
- Grosicki GJ, **Dhurandhar NV**, Unick JL, Arent SM, Thomas JG, Lofton H, Shepherd MC, Kiel J, Coleman C, Jonnalagadda SS. Sculpting Success: The Importance of Diet and Physical Activity to Support Skeletal Muscle Health during Weight Loss with New Generation Anti-Obesity Medications. *Current Developments in Nutrition*. 2024; 8(11), 104486.
- Magkos F, Sørensen TIA, Raubenheimer D, **Dhurandhar NV**, Loos RJF, Bosy-Westphal A, Clemmensen C, Hjorth MF, Allison DB, Taubes G, Ravussin E, Friedman MI, Hall KD, Ludwig DS, Speakman JR, Astrup A. On the pathogenesis of obesity: causal models and missing pieces of the puzzle. *Nat Metab*. 2024 Oct;6(10):1856-1865.
- **J., Korir**, Oldewage-Theron W., Samuel A., and W. N. Gichohi-Wainaina. 2024. "Multisectoral Approaches for Sustainable Food and Nutrition Security Actions in Ethiopia." *African Journal of Food, Agriculture, Nutrition & Development* 24 (5): 26351–73.
- **Kudchadkar G**, Akinsiku O, Hefner M, Ozioma PU, Booe H, Dhurandhar NV. Shedding the weight of exercise for obesity management. *International Journal of Obesity*. 2024 May 1:1-2.
- **Shah H**, Gannaban RB, Haque ZF, Dehghani F, Kramer A, Bowers F, Ta M, Huynh T, Ramezan M, Maniates A, Shin AC. BCAAs acutely drive glucose dysregulation and insulin resistance: role of AgRP neurons. *Nutrition & Diabetes*. 2024 Jun 6;14(1):40.
- Della Guardia L, **Shin AC**. Obesity-induced tissue alterations resist weight loss: A mechanistic review. *Diabetes, Obesity and Metabolism*. 2024 May 8.

Invited Lectures, Nominations, Presentations, and Panels

➤ **Dr. Nik Dhurandhar**

- “Dhurandhar NV. Ask the Researcher CME webinar by The Obesity Society. August 2024
- Dhurandhar NV. AI uses in clinical care. In CME session: AI for Obesity Research and Clinical Practice. ObesityWeek 2024, San Antonio, TX. Nov 2024.

➤ **Raul Palacios**

- Recently spoke at the Fall AI Symposium hosted by the International Cultural Center. My presentation was titled 'A Plea For AI Literacy" where I spoke about a classroom study and the need for students and educators to receive formal training in AI technologies.
 - Appointed to The Awards Committee, The Obesity Society. October 2024.
 - He earned the College Nomination for the ***Spencer A. Wells Award for Creativity in Teaching Award*** and was recognized at our Fall Faculty & Staff Kickoff Event.
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- On October 19th Holli Booe, Allison Kerin and he attended the Nutrition & Dietetics Preparation Workshop at Texas A&M
 - Melanie Schmitt and he submitted a proposal and were chosen to present a series of 5 webinars for the American Association of Family and Consumer Sciences on various AI topics. They will be recorded and presented in early 2025.



Nutrition & Dietetics Preparation Workshop at Texas A&M

In the Media

Students

➤ **Amnah Ali,**

A registered clinical dietitian and a PhD student at Texas Tech University nutrition dept, was featured in the Al-Qabas electronic newspaper in Kuwait with more than 2 million followers/readers to discuss foods and nutrients that promote a good night's sleep. She highlighted the intersection of nutrition and wellness to help people with disturbed sleep improve their sleep quality without medications. Sleep is a cornerstone of health, and dietary choices play a significant

role in ensuring restorative rest. Foods rich in tryptophan, magnesium, and melatonin—such as almonds, bananas, and tart cherries—can naturally enhance sleep quality and she discussed the major sources that can provide these nutrients and the best food to avoid eating at night that might affect the quality of your sleep. Additionally, she discussed the cultural aspects of food in Kuwait, like incorporating traditional ingredients or late-night meals adding a localized perspective to the global conversation on sleep health. This national platform allows for raising awareness about the importance of mindful eating habits for better sleep, fostering a healthier and more informed community.



Amnah Ali

Graduate Nutrition Organization (GNO)

Activities that GNO hosted during fall 2024:

1. New students' orientation tour
2. Welcome event
3. Fundraising event 1: Chipotle
4. Fundraising event 2: Raising Canes
5. Outreach event 1: South Plane Food Bank Apple Orchard
6. Outreach event 2: STEAM night
7. Faculty round table
8. Friendsgiving



GNO, Welcome event



GNO, STEM night



GNO, Faculty round table



GNO, Fundraising event, Raising Canes



GNO, South Plane Food Bank Apple Orchard

Home Page Content

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 - Get informed about December graduates, educational offerings, and our labs.
- Student Achievements
 - Discover how NS Department students are being recognized.
- Faculty Awards
 - Read about faculty member recognition.
- Funding
 - Get updates on numerous new NS Department funded projects!
- Abstracts, Publications, Invited Lectures, and Boards
 - Learn about the groundbreaking research uncovered by students and faculty.
- In the Media
 - Catch up on NS Department efforts being shared in the media.
- Contact Us
 - Share your comments and suggestions. Email the editor (fdehghan@ttu.edu) whenever you receive awards or funding; appear in the media; or have lab updates, publications, presentations or other achievements you wish to share. We look forward to hearing from you!
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