Marleigh M. (Brown) Hefner

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EDUCATION

Doctor of Philosophy in Nutritional Sciences   Expected: December 2023
Texas Tech University, Lubbock, TX
4.0 GPA

Master of Science in Nutritional Sciences   Expected: December 2023
Texas Tech University, Lubbock, TX

Graduate Certificate in Gerontology   Expected: December 2022
Texas Tech University, Lubbock, TX

Bachelor of Science in Nutritional Sciences & Dietetics   May 2020
Texas Tech University, Lubbock, TX
Summa Cum Laude

LICENSURES & CERTIFICAITONS

Registered Dietitian Nutritionist   August 2021-Present
Commission on Dietetic Registration
Registration ID: 86144361

Licensed Dietitian   August 2021-Present
Texas Department of Licensing & Regulation
License ID: DT87255

TEACHING & RESEARCH EXPERIENCE

Lead Graduate Research Assistant   August 2020-Present
Texas Tech University | Obesity & Metabolic Health Laboratory
Supervisor: Vijay Hegde, PhD
- Senior graduate student responsible for scheduling and executing ongoing *in vivo* experiments.
- Serve as the main point of contact between students and principal investigator.
- Undergraduate and graduate student coordinator involving new student training and mentorship.
- Lead weekly lab meetings and ensure documentation required for Environmental Health and Safety inspections are followed.

Graduate Part-Time Instructor   August 2021-Present
Texas Tech University | Department of Nutritional Sciences
Supervisor: Allison Childress, PhD, RD, CSSD, LD
- Instructor of record for Nutrition, Foods, & Healthy Living course.
- Maintain excellent verbal and written communication with roster of ~150 students.
- Effectively assess learning outcomes and ensure prompt and accurate grading of student assessments and quizzes.

Graduate Teaching Assistant   August 2020-August 2021
Texas Tech University | Department of Nutritional Sciences
<u>Supervisor</u>: Shelley Fillipp, MS, RD, LD
- Served as teaching assistant for Science of Nutrition, Medical Nutritional Therapy II, and Nutrition in the Lifecycle courses.
- Responsible for thorough and accurate grading of clinical nutrition case studies, amending course curriculum, proctoring exams, and ensuring optimal communication between students and instructor.
- Maintain detailed record of Texas Tech University dietetic internship applications through 2021 spring match cycle.

CLINICAL EXPERIENCE

Clinical Registered Dietitian Nutritionist   August 2021-Present
Per Diem Acute Care
Northwest Texas Healthcare System
<u>Supervisor</u>: Rachel Hutto, MS, RD, LD, CNSC
- Proficiently screen at-risk patients for identification of nutrition intervention and medical nutrition therapy requirements.
- Critically assess clinical, anthropometric, laboratory, social, and psychological information into a comprehensive nutrition assessment.
- Offer patient-centered care and education based on physical, social, educational, safety, age, and other appropriate criteria.
- Provide evidence-based recommendations for enteral and parenteral nutrition support for patients with a variety of acute and chronic diseases.

Clinical Research Assistant   August 2021-May 2022
AEGIS Study
Texas Tech University | Nutrition & Metabolic Health Initiative
<u>Supervisor</u>: Kristina Petersen, PhD, APD, FAHA
- Serve as graduate research assistant for nationwide study investigating the effects of COVID-19 infection, reinfection, and long-term immunity status to SARS-CoV-2.
- Maintain professional communication between participants and research staff.
- Ensure accurate report and entry of study data, facilitate participant visits, supply preparation, and ensure study protocol is properly adhered to by both participants and research staff.

RELEVANT SKILLS

- Human Phlebotomy
- Mouse Metabolic Testing
- Mouse Handling
- Sterile/Aseptic Techniques
- Cell Culture

- DNA Extraction
- RNA Extraction
- Protein Extraction
- RT-qPCR
- PCR
- Western Blotting
- ELISA

- Data Analysis
- R
- SPSS
- GraphPad Prism
- ImageJ

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PUBLICATIONS

1. **Hefner, M**., et al. (2021). "Cardiometabolic Modification of Amyloid Beta in Alzheimer's Disease Pathology." *Front Aging Neurosci* 13: 721858.
2. Akheruzzaman, M., **Hefner, M**., Feizy, Z., Vugrin,M., Thomas, D., Dhurandhar, N., et al. Systematic Literature Review to Determine the Association of Unprocessed Meat with Obesity and Related Factors. PROSPERO 2020 CRD42020196186. Manuscript to be submitted to appropriate journal June 2022.

ABSTRACT & POSTER PRESENTATIONS

1. **Brown, M.,** Shah, H., Hegde, V., Dhurandhar, N.V. Role of Glucose and Insulin on Mitochondrial Health of Mouse Hippocampal Cells. Poster presented* at: 2020 Texas Tech University Undergraduate Research Conference (TTU URC); May 2020; Lubbock, Texas.
   * Due to COVID-19 restrictions, the TTU URC was held virtually
2. **Hefner, M.,** Hegde, V., Dhurandhar, N.V. A Mouse Model to Study Fatty Liver Disease Progression to Hepatocellular Carcinoma. Abstract under review for 2022 The Obesity Society Conference (TOS); November 2022; San Diego, CA.
3. Akheruzzaman, M., **Hefner, M**., Feizy, Z., Vugrin,M., Thomas, D., Dhurandhar, N., et al. Role of Unprocessed Red Meat in Obesity and Related Factors: A systematic review and meta-analysis. Abstract under review for 2022 The Obesity Society (TOS) Conference; November 2022; San Diego, CA.
4. **Hefner, M.,** Shahjalal, K. M., Reddy, A., Dhurandhar, N. V., E4orf1 improves peripheral and adipose tissue metabolic profile and cognition in transgenic mouse model of Alzheimer's Disease. Abstract under review for 2022 International Congress of Obesity (ICO) Conference; October 2022; Melbourne, Australia.

STUDENT-MENTORED POSTER PRESENTATIONS

1. Alonzo, B., **Brown, M**., Shahjalal, K. M., Hegde, V., E4orf1 Protein Ameliorates Aging Associated Decine of Brown Adipose Tissue: Role in Alzheimer's Disease Pathogenesis. Poster presented* at: 2021 Texas Tech University Undergraduate Research Conference (TTU URC); May 2021; Lubbock, Texas.
   * Due to COVID-19 restrictions, the TTU URC was held virtually
2. Ramos, D., **Brown, M.,** Afruza, R., Hegde, V., Role of E4orf1 in Attenuating Lipid Accumulation in Human HK-2 Cells. Poster presented* at: 2021 Texas Tech University Undergraduate Research Conference (TTU URC); May 2021; Lubbock, Texas.
   * Due to COVID-19 restrictions, the TTU URC was held virtually
3. Javins, A., **Hefner, M.,** Dhurandhar, N.V., Hegde, V. Role of E4orf1 in Attenuating Parkinson's Disease Pathologies. Poster presented at: 2022 Texas Tech University Undergraduate Research Conference (TTU URC); May 2022; Lubbock, Texas.
4. Ramos, D., **Hefner, M.,** Dhuandhar, N. V., Hegde, V. AKT-Dependent Signaling of an Adenoviral Protein: E4orf1. Poster presented at: 2022 Texas Tech University Undergraduate Research Conference (TTU URC); May 2022; Lubbock, Texas.
5. Challakonda, S., **Hefner, M.,** Hegde, V., Development of a NAFLD/HCC Mouse Model to Study Liver Cancer Progression. Poster presented at: 2022 Texas Tech University Undergraduate Research Conference (TTU URC); May 2022; Lubbock, Texas.
6. Kankam, J., Knight, K., Nguyen, T., **Hefner, M.**, Hegde, V. Effects of Impaired Insulin Secretion and High Fat Diet on Lipodystrophy. Poster presented at: 2022 Texas Tech University Undergraduate Research Conference (TTU URC); May 2022; Lubbock, Texas.

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FUNDING & SCHOLARSHIPS

Distinguished Graduate Student Assistantship   Fall 2020-Present
- Nominated for prestigious campus-wide assistantship by Nutritional Sciences graduate school acceptance committee. Nomination indicated how student qualifications rank among the top in the discipline.

College of Human Sciences Doctoral Fellowship   Fall 2020-Present
- Fellowship awarded for outstanding academic performance, leadership, and service upon admission to graduate program at Texas Tech University.

Texas Tech University Presidential Scholarship   Fall 2017-Spring 2021
- Awarded for 28 ACT Score upon admission at Texas Tech University.

LEADERSHIP EXPERIENCE

Community Outreach and Fundraising Chair   August 2020 - May 2021

Texas Tech University | Graduate Nutrition Organization (GNO)
- Coordinated multiple fundraising events with local small businesses.
- Coordinated community outreach and volunteer events with non-profit organizations in the Lubbock area.
- Created readable and creative flyers for GNO events.

President   May 2019 - May 2020

Texas Tech University | Student Dietetic Association (SDA)
- Led monthly meetings and ensure success of SDA for upcoming year by managing event logistics
- Pioneered virtual guest speaker invitations for general meetings.
- Conducted free education classes over basic nutrition concepts to low-income adults every Wednesday at Lubbock Impact's Free Clinic.

AWARDS & ACHIEVEMENTS

Outstanding Dietetics Student Award   May 2020

Texas Academy of Nutrition & Dietetics
- State-wide recognition by the Academy of Nutrition and Dietetics for emerging leadership, excellence, and service in accredited didactic program in dietetics.

College of Human Sciences Highest Ranking Graduate   May 2020

Texas Tech University Alumni Association
- Award presented to graduates of each academic college with the highest GPA

President's List   Fall 2019-May 2020

Texas Tech University
- Recognition for maintaining 4.0 GPA throughout undergraduate studies

PROFESSIONAL MEMEBRSHIPS

The Obesity Society   April 2022-Present
Student Member

Texas Academy of Nutrition & Dietetics   2018-Present
Professional Member

Academy of Nutrition & Dietetics   2018-Present
Professional Member

PROFESSIONAL DEVELOPMENT TRAININGS

Gene Expression University for RT-qPCR   April 2022
Bio-Rad

Working with Mice in Research   May 2021
CITI Training | Texas Tech University

Biological Science Responsible Scholarship Course   April 2021
CITI Training | Texas Tech University

Conflict of Interest Course   October 2020
CITI Training | Texas Tech University

Human Subjects TTU Biomedical Investigators Refresher Course   September 2020
CITI Training | Texas Tech University

REFERENCES

Vijay Hegde, PhD
Assistant Professor | Texas Tech University
Email: vijay.hegde@ttu.edu
Phone: 806-834-6695

Rachel Hutto, MS, RD, LD, CNSC
Clinical Nutrition Manager | Northwest Texas Healthcare System
Email: rachel.hutto@nwths.com
Phone: 806-354-1701