TAMU
Nutrition & Food Science
October/November 2019
NFSC Research Symposium
2019 Nutrition and Food Science Research Symposium Winners

**Nutrition Oral Presentations**

1st Place
Michael Salinas
Pi: Dr. Robert Chapkin
AdipoRon attenuates Wnt signaling by reducing cholesterol-dependent plasma membrane rigidity

2nd Place
Anna Salvador
Pi: Dr. David Threadgill
Genetic control of hepatic energy metabolism and response to carbohydrate restriction

3rd Place
Erika Garcia-Villatoro
Pi: Dr. Clinton Allred
Role Of The Aryl Hydrocarbon Receptor Activity In Intestinal Epithelial Cells In The Formation Of Tertiary Lymphoid Tissue, Intestinal Inflammation and Colorectal Cancer Risk

**Food Science Oral Presentations**

1st Place
Mariza Sirven
Pi: Dr. Stephen Talcott
Moderate to Severe Ulcerative Colitis Results in Differential Metabolism of Cranberry Polyphenols by the Colon Microbiome Ex Vivo

2nd Place
Corinne Kowald
Pi: Dr. Suresh Pillai
Remediating PFAS contamination of critical water supplies by Electron Beam Technology

3rd Place
Ariela Thomas
Pi: Dr. Susanne Talcott
Palmitolethanolamide (PEA) interact synergistically with quercetin and curcuminoids to reduce inflammation in RAW264.7 cells

**Nutrition Posters**

1st Place
Jennifer Deluca
Pi: Dr. Clinton Allred
Loss of AhR in intestinal epithelial cells does not increase Colon Tumor Formation, but Increases Beta-Catenin Expression and Nuclear Localization and Changes Bacterial Populations

2nd Place
Naomi McCauley
Pi: Dr. Linglin Xie
The Effect of Cadmium on Chicken Embryonic Heart Development

3rd Place
Sahar Eshghjoo
Pi: Dr. Robert Alaniz
Microbiota-mediated Prevention of Pro-atherogenic Foam Cell Formation- uncoupling autophagic, metabolic, and inflammatory mechanisms

**Food Science Posters**

1st Place
Mehdi Hashemi
Pi: Dr. Stephen Talcott
Solvent extraction, polyphenol isolation, and antimicrobial property of ground dried Rhus coriaria

2nd Place
Kevin Kiefer
Pi: Dr. Susanne Talcott
Polyphenols from açaí (Euterpe oleracea) and rooibos (Aspalathus linearis) mitigate the growth of Plasmodium parasites in vivo and in vitro

3rd Place
Kaitlyn Duke
Pi: Dr. Joseph Awika
Use of microwave assisted extraction to increase sorghum (Sorghum bicolor) polyphenolic extraction efficiency
The Dietetic Internship Preparation Workshop (DIPW) is a high impact learning experience tailored to dietetic students interested in applying to Accreditation Council for Education in Nutrition and Dietetics (ACEND) accredited dietetic internship (DI) programs following graduation. The 11th Annual DIPW was held at the Phillips Event Center on October 19, 2019, and hosted a total of 190 Didactic Program in Dietetic (DPD) students, 20 DI programs, and seven keynote RD speakers. Of the 190 student attendees, 60 were from Texas A&M University and the remainder were from various DPD programs around Texas including Prairie View A&M, Texas A&M Kingsville, Texas Tech University, Lamar University, Texas Woman's University, Baylor University, Sam Houston State University, Stephen F. Austin University, Texas State University, University of Houston and University of the Incarnate Word.

Annually, the DIPW is led by two select undergraduate Texas A&M DPD students, organized by a committee of DPD students, and supervised by Karen Beathard, Director of the DPD program. Early spring, Megan Hamilton ‘20 and Micah Harding ‘20 were selected as the DIPW Co-Chairs. They recruited fellow DPD students to lead and serve on the planning committee. Subcommittees had specific tasks related to the implementation of the event including selecting RD’s to present in keynote sessions, coordinating the DI Fair, organizing meals for participants, marketing the event on campus and throughout Texas, and preparing a DIPW Handbook for all attendees. The student committee members for the 11th annual DIPW were as follows:

**Committee Co-Chairs:**
Megan Hamilton ‘20  
Micah Harding ‘20

**Marketing Subcommittee**
Lydia Schinnerer- Chair ‘19  
Catherine McCleskey ‘21  
Isabella Young ‘22

**Food and Registration Subcommittee**
Sofia Malvaez- Chair ‘20  
Nicole Fu- Chair ‘21  
Samantha Hernandez ‘21  
Katie Bull ‘22  
Erin Ihner

**Programs and Fair Subcommittee**
Hilary Woo- Chair ‘20  
Camryn Johnson ‘22  
Madison Malcik ‘20

**Handouts Sub-Committee**
Grace Covey- Chair ‘20  
Sarah Johnson ‘20  
Kristina Suarez ‘20

The Texas A&M DIPW planning committee would like to thank the Department of Nutrition and Food Science for their gracious contribution to help make the DIPW possible each year! The critical thinking, time management, team work, professional communication, networking, budgeting and event planning skills that student volunteers experienced was invaluable in their professional development. Additionally, the Texas A&M DIPW was identified by attendees as an impactful networking experience for DPD students and DI programs around Texas and surrounding states.
Alumni Spotlight

**Kimberly Krenek Hauser** is currently a Principal Scientist with PepsiCo Global Snacks R&D. She has touched many different brands during her 6+ years in Global Snacks, including the launch of a new kettle chip under the Red Rock Deli Brand. She is passionate about product development, ingredient functionality, and understanding what delights consumers!

Kimberly is a double graduate of the Texas A&M Food Science department. First earning a Bachelors of Science in 2009 and then a Ph.D. under the guidance of Dr. Steve Talcott in 2013. During her time at A&M she was involved in the Food Science Club, Product Development Team, and the Food Science Quiz Bowl Team. She was also an Undergraduate Research Scholar and completed product development internships at Dr. Pepper Snapple (Summer of 2009) and Kellogg’s (2010).

Kimberly’s Advise to Current Students: The food industry has so many opportunities, but you have the ability to shape what your career looks like early in your undergrad. Apply for summer internships, volunteer in research labs, and get involved in Food Science related competitions. These are the things that truly set you apart when applying for jobs and gives you the chance to find what motivates you. The courses that you take as an undergrad and graduate student are great for preparing you for the food industry, but you have to be able to apply what you know and problem solve using those fundamentals. Never stop learning!

Graduate Student Spotlight

**Michael Salinas** is a fourth-year Nutrition doctoral candidate in the Department of Nutrition and Food Science at Texas A&M University. Throughout his time at Texas A&M, he has performed meritorious research and has represented himself as a mentor for undergraduate and graduate students.

Michael is from Edinburg, Texas located in the Rio Grande Valley of South Texas. Michael earned his Bachelor of Science degree in Nutritional Sciences from Texas A&M while minoring in Genetics and Neuroscience. As an undergraduate, he participated in the Undergraduate Research Scholars program where he conducted original research and published an undergraduate thesis titled “Determining the mechanisms by which membrane-targeted dietary bioactives reduce oncogenic KRas-driven nutrient scavenging”.

Following graduation, Michael joined Dr. Robert S. Chapkin’s lab where he has worked as a research assistant and teaching assistant in addition to completing vigorous coursework in his own graduate program. The research Michael has completed focuses on determining the mechanisms by which high-fat diet and obesity increase the risk of colorectal cancer. Specifically, his work involves understanding the alterations of plasma membrane biophysical properties and aberrant cellular signaling in diseased states. He hopes to contribute to the ongoing research and provide novel information that will promote utilizing nutrition as a preventive medicine.

Throughout his graduate career, Michael has been highly recognized for his efforts in his research. Michael was awarded the Bridge to the Doctorate (BTD) Fellowship funded by the National Science Foundation (NSF). Recently, he was awarded the HEEP Graduate Fellowship from the Hagler Institute for Advanced Study. Additionally, some of the many awards he has received for his research include 1st place Oral Presentation in the Graduate Agriculture and Life Sciences Category at Texas A&M’s Student Research Week 2018, The University Writing Center Award for Outstanding Presentation at Texas A&M’s Student Research Week 2018, 1st place Poster Presentation at Texas A&M’s Microscopy and Imaging Center Open House 2018, and 1st place Oral Presentation in the Nutrition Oral Category, Texas A&M’s Nutrition Research Symposium 2019.

Recently, Michael published an article titled “AdipoRon attenuates Wnt signaling by reducing cholesterol-dependent plasma membrane rigidity” published in the Biophysical Journal. This article contributes to the recently increasing field of plasma membrane lipid therapy.

Michael’s personal and professional goals are to advocate for Nutrition education and preventative medicine research. He would like to see the utilization of nutrition as an alternative or complementary therapeutic strategy to pharmaceuticals which can have potentially dangerous off-target effects. Upon graduation, Michael hopes to continue to develop his understanding of nutrition-related diseases and contribute to novel advances in the fields of nutrition, obesity, and cancer.
Halloween fun....

The Staff Advisory Committee sponsored a Halloween door decorating contest. Faculty, staff and students also had fun with costumes and sharing treats throughout the day.

Staff Spotlight

Lisa Mata, Business Coordinator III, joined the department of Nutrition and Food Science in February 2012. Her primary duties are to provide payroll services for faculty, staff, and students. Lisa specializes with onboarding new hires and mastering the use of Workday software. Behind the scenes, she keeps a close eye on payroll account adjustments, timesheets and monthly payroll submission. Along with payroll, Lisa assists with graduate tuition payments and departmental billing for lab services. With over 21 years of experience working in AgriLife she is also able to assist with disbursements, travel, inventory, and accounts receivables.

“I really enjoy working with the faculty, staff and students. It is my pleasure to come here every day to serve and assist such a great group of people with the department mission goals. It is my hope to help create a positive, productive climate in our department that helps everyone feel respected, valued and appreciated.” – Lisa Mata

Away from the office, Lisa enjoys spending time with her two grandchildren and going for light runs at area parks. Having caught a travel bug, she looks forward to visiting her favorite spot, New York City, where she plans to travel with her family to ice skate at Rockefeller Center.
Our Undergraduates!

Mary Wilson

BS Nutritional Sciences – Didactic Program in Dietetics (DPD) - Class of 2020

My name is Mary Wilson, I am a senior undergraduate student in the Didactic Program in Dietetics here at Texas A&M University from Wichita Falls, TX. When first being accepted into the Department of Nutrition I did not anticipate that in three short years my interest in Nutrition would soon turn into a passion. Today, I have endless gratitude for this Department and Texas A&M for the support, knowledge and experiences it has provided me and thereby, fostering my passion.

Some of the experiences I have valued the most have come from opportunities provided at Texas A&M and within this Department. I have worked on the Events Committee for Texas A&M’s Family Weekend Committee and also as the Director of Delegates for the MSC Fall Leadership Conference. However, this year I have the privilege of serving as the President of the Nutrition and Dietetics Association. Since taking on this leadership position I have gained a greater respect and appreciation for the leaders I am surrounded by at Texas A&M; including my amazing professors and advisors, Mrs. Beathard, Ms. Lorenz, Mrs. Geisman and Poppy Capehart. Each one of them leads by example everyday. In the future I am looking forward to using the lessons they taught me in leadership and the lessons I have learned from these organizations within the field of Nutrition. My focus is on Community Nutrition, Nutrition Education and Public Policy.

Through the generous support of the Department, in October of this year, I was able to attend The Academy of Nutrition and Dietetics Food and Nutrition Conference and Expo. This was an invaluable experience that I will appreciate forever. During my time at the conference I was able to meet members of The Academy’s Political Action Committee (ANDPAC) and invited to sit in on one of their meetings. This reinforced my interest in nutrition advocacy. Thanks to the support of Mrs. Beathard, I am now beginning to work as a Legislative Liaison for the Texas State Dietetics Association. I hope that through this position I will gain a better understanding of the policy issues that are of importance to nutrition and for the future of our profession.

I am currently in the process of applying to Dietetic Internship Programs and am hoping to continue my progress towards my goal of becoming a Registered Dietitian.
Dr. Xiangcang Ye received his B.S. and M.S. in Animal Sciences from Zhejiang University in China in 1985. He then received a Ph.D. in Biological Sciences from the University of Texas at Austin in 1998. After he completed his postdoctoral training in molecular endocrinology research in Baylor College of Medicine, he worked as an Instructor and Research Assistant Professor for cancer research in MD Anderson Cancer Center. His most recent experience relates to identification of a novel serological marker for predicting the response to immunotherapy in patients with metastatic colorectal cancer. Currently, he assists in conducting immunometabolism research and laboratory management in Dr. Sun’s laboratory.

Fuentes Keynote Speaker and Award

Our own N. Roberto Fuentes, Jr., PhD, delivered the keynote address at the TAMUS Pathways to the Doctorate Symposium in Laredo, TX. Robert was a Pathways fellow in the Chapkin Lab, completed his PhD in Toxicology, and is currently a T32 Postdoctoral Fellow in the Toxicology program. In January he starts a new chapter as a postdoctoral fellow with MD Anderson Cancer Center. Congratulations, Robert!

Robert competed in the Biomedical category and placed 2nd with his poster entitled: Elucidating the impact of environmental chemicals and membrane-targeted dietary bioactives on EGFR nanocluster formation

Congratulations!

Congratulations to Michael Salinas and Destiny Mullens, graduate students in Dr. Robert Chapkin’s lab, for being selected for HEEP graduate fellowships through the Hagler Institute for Advanced Study. Michael and Destiny will be working with Dr. Sharon Donovan, incoming Hagler Faculty fellow, from the University of Illinois, Champaign. The Chapkin lab, Dr. Donovan and collaborators (Dr. Ivan Ivanov, Dr. Irina Gaynanova, Dr. Grace Yoon) will systematically integrate genomic data from both the infant (host mucosa) and gut microbiota in order to define host gene–diet interactions within the context of the structure and functionality of gut microbial communities.

Guo Lab publications:

The ninth annual college tailgate was October 26th as A&M vs. Mississippi State. This was an opportunity to connect with current and former students, faculty, staff and friends from our AGLS college. Each department and student organization set up informational booths in the AgriLife Center. There were tents on The Gardens at Texas A&M and free breakfast was provided. (Pictured above: Evelyn Quinones, NFSC Academic Advisor II)

Hidden Figures

NUTRITION AND FOOD SCIENCE HAS:

573 total undergraduate students
82 FOOD SCIENCE MAJORS
491 NUTR MAJORS

Of the total of 573 undergrads in our program 282 have a cumulative GPR above a 3.00.

We are doing an excellent job instructing our students in both disciplines; both NUTR and FSTC are pure STEM majors and our students excel. Besides the stats below, be aware that of 573 total undergrads, 394 have a cumulative TAMU GPR above a 2.50.

Of 82 FSTC STUDENTS IN FALL 2019, THERE ARE:

31 FSTC students above a 3.0 cumulative TAMU GPR
13 FSTC students above a 3.5 cumulative TAMU GPR
3 FSTC students have a 4.0 cumulative TAMU GPR – 1 Junior; 2 Seniors

Of 491 NUTR STUDENTS IN FALL 2019, THERE ARE:

251 NUTR students above a 3.0 cumulative TAMU GPR
116 NUTR students above a 3.5 cumulative TAMU GPR
11 NUTR students have a 4.0 cumulative TAMU GPR – 3 Sophomores; 4 Juniors; 4 Seniors
In Defense

Dissertation Defense
AN EXAMINATION OF A NOVEL WEIGHT LOSS FORMULA ON ANTHROPOMETRY AND INDICES OF CARDIOVASCULAR DISEASE RISK

Ryan Sowinski
PhD Candidate
Nutrition
Committee Chair: Dr. Richard Kreider

Tuesday, October 15, 9:00 AM
HCRF 110

Dissertation Defense
Effect of diet quality on gastrointestinal integrity, innate immunity, and circulating lipoproteins

Tara Price
PhD Candidate
Nutrition
Committee Chair: Dr. Rosemary Walzem

Tuesday, October 15, 2:00 PM
Kleberg 100

Dissertation Defense
Elucidation of the Metabolism of Fruit Tannins by the Human Intestinal Microbiome

Maritza Sirven
PhD Candidate
Food Science and Technology
Committee Chair: Dr. Stephen Talcott

Monday, November 25, 3:00 PM
Cater-Mattil 124
As we finish up this fall semester & look forward to the spring, here are some of our fall semester highlights:

Notable Speakers -
- Courtney Gallacher - RD, TAMU Performance Nutrition
- Tori Parsons - RD, Culinary Health Education for Families Program
- Keneath Barnes - Meals on Wheels
- Kimberly Krenk & Jacob Garza - Pepsico

Volunteering - Brazos Valley Food Bank, Can Drive

New Activities and Experiences - World Food Day Potluck, 2019 Food and Nutrition Conference and Expo, Pumpkin Pie and Painting Party, Ice Skating Social
The Texas A&M Nutrition and Food Science Department was well represented at the recent 2019 Longhorn Institute of Food Technologists (IFT) Technical Sessions and Suppliers Night event. Twenty-one undergraduate students, seven graduate students and three faculty members took part in the annual event that included over 300 Exhibitors and over 1,000 attendees. Texas A&M Food Science graduate students competed in a research poster competition with students from TWU and Texas Tech. Our very own, Maria Castellon Chicas, Ariela Thomas and Kevin Kiefer won the top three awards in the competition. During the Suppliers Night portion of the event, students and faculty networked with ingredient suppliers, processing equipment manufacturers, food scientists from Consumer Package Goods (CPG) companies, and third party food analysis lab representatives. The group also gained new insights into 3-D printing with whey proteins, Generation Z food trends, CBD products and co-creating products between food service chains during the technical sessions.

Scholarship Application Form – Due January 31, 2020

- Junior or senior undergraduate pursuing a degree in Food Science and Technology.
- Enrolled full time in the fall semester of the award year and scheduled to enroll in the spring semester.
- Recipients will be chosen on the basis of a combination of academics, financial need, professional leadership, and a demonstrated commitment to the field of food science and technology.
- Minimum grade point average is 3.0
- Application forms must be correctly completed to be considered. Interviews maybe required.
- Send completed application to Coty Mitchell in NFSC Advising, Cater Mattil 126. No e-mail copies will be accepted.
OCTOBER/NOVEMBER DISTINGUISHED LECTURE GUEST SPEAKERS

Stephen D. Hursting, PhD
Professor
Department of Nutrition
University of North Carolina, Chapel Hill
Host: Nutritional Science Graduate Association

"Breaking the Obesity-Cancer Link: New Targets and Strategies"

Dr. Stephen Hursting is the AICR/WCRF Distinguished Professor in the Department of Nutrition at the University of North Carolina (UNC) at Chapel Hill. He is also Professor at the UNC Nutrition Research Institute and the UNC Lineberger Comprehensive Cancer Center. He earned his PhD in nutritional biochemistry and MPH in nutritional epidemiology from UNC-Chapel Hill, and he completed postdoctoral training in molecular carcinogenesis and cancer prevention at the National Cancer Institute (NCI). Prior to joining the UNC faculty in 2014, Dr. Hursting was Professor and Chair of the Department of Nutritional Sciences at the University of Texas (UT) at Austin, the McKeen-Love Endowed Chair of Nutritional, Molecular and Cellular Sciences in the UT College of Natural Sciences, and Professor of Molecular Carcinogenesis at the UT-MD Anderson Cancer Center (2005-14). He also previously served as Chief of the NCI’s Nutrition and Molecular Carcinogenesis Laboratory Section (2000-2005) and Deputy Director of the NCI’s Cancer Prevention Fellowship Program (1999-2005). His research interests center on precision nutrition as applied to cancer prevention, particularly the molecular and metabolic mechanisms underlying obesity-cancer associations, and the interplay between obesity, metabolism, host genetics and cancer. Primarily using preclinical models (including human and mouse cell lines, genetically engineered mouse models of cancer, and genetically heterogeneous Collaborative Cross mice) in parallel with human studies, he is currently focusing on the molecular and metabolic changes occurring in response to lifestyle-based (dietary and physical activity); surgical (bariatric surgery), or pharmacologic manipulation of energy metabolism and cell signaling pathways, with emphasis on growth factor signaling pathways, inflammation and the gut microbiome.

Dr. Ling Qi
Professor, Molecular & Integrative Physiology
Professor, Internal Medicine, Division of Metabolism, Endocrinology & Diabetes
University of Michigan
Host: Dr. Shaodong Guo

"ER-Associated Degradation (ERAD) in Health and Disease"

Dr. Qi’s laboratory aims to explore the physiological role of endoplasmic reticulum (ER) homeostasis (with a special focus on ER protein degradation) and inflammation in the context of human diseases including obesity and diabetes. They use genetic, immunological, molecular and cellular approaches to dissect the molecular processes of protein folding quality control and to produce new insights into disease pathogenesis. They have made significant contribution in the fields of physiological ER homeostasis and inflammation in health and disease while maintaining a high standard of excellence at the levels of both individual scientist and whole laboratory. In the last 12 years, they have published over 50 papers, including several seminal discoveries published in top journals such as Nat Cell Biol, Nat Immunol, Cell Metab, J Clin Invest, Dev Cell, PNAS, EMBO J, Cell Reports, Diabetes and J Biol Chem. They have discovered the importance of ERAD in health and disease.
OCTOBER/NOVEMBER DISTINGUISHED LECTURE GUEST SPEAKERS

Dr. Andrew Dannenberg
Henry R. Erle MD-Roberts Family Professor of Medicine; Associate Director of Cancer Prevention, Sandra and Edward Meyer Cancer Center Joan and Sanford I. Weill Department of Medicine, Weill Cornell Medicine
Host: Dr. Robert Chapkin

"Dietary Fructose and Inflammatory Bowel Disease: Revenge of the Microbiota"

Dr. Dannenberg’s laboratory has had a longstanding interest in the link between chronic inflammation and cancer with a primary focus on cancer prevention. The long-term goal of this research is to develop evidence-based strategies to decrease inflammation and reduce the risk of developing cancer. This has included studies of cell signaling, gene regulation and animal models of disease including colorectal cancer. Contributions have included: demonstrated that cyclooxygenase-2 (COX-2) is overexpressed in a variety of premalignant lesions and cancers; elucidated the mechanisms by which oncogenes, tumor suppressor genes, carcinogens and tumor promoters regulate COX-2 gene expression and prostaglandin (PG) biosynthesis. The Dannenberg laboratory has also investigated the relationship between obesity, inflamed fat and several cancers. Both local and systemic effects of obesity are being actively investigated with a primary focus on breast cancer. This has included studies of the mechanism by which PGE2 regulates the expression of aromatase, the rate limiting enzyme in estrogen biosynthesis. In addition to the increased amounts of PGE2 found in a variety of tumor types, elevated levels of PGE2 occur in inflammatory Bowel Disease and contribute to mucosal homeostasis. The Dannenberg laboratory has shown that this increase reflects changes in the expression of enzymes involved in both PGE2 synthesis and catabolism. In related work, the relationship between dietary factors and mechanisms of inflammation has been investigated. Dietary constituents including resveratrol and curcumin suppressed AP-1-mediated activation of COX-2 transcription and PGE2 production in epithelial cells. Given the lab’s longstanding interest in diet as a potential determinant of inflammation, very recent studies were carried out to determine if changes in fructose consumption can help explain the rising incidence of Inflammatory Bowel Disease. Additionally, the effects of dietary fructose on colitis associated colorectal neoplasia are being studied.

Apply for 2020-21
University Scholarship Application for Continuing Students
Opens-October 15, 2019
Deadline-February 1, 2020
It is awarded based on a combination of needs and impact.
Visit the following website:
http://scholarships.tamu.edu
Dr. Steve Talcott (back row, far left) and Dr. Rebecca Creasy (back row, second from right) had the privilege of hosting Janet Adams (back row, third from right) and Hank Dres (back row, far right) for lunch and the TAMU vs. South Carolina football game on November 16. Janet earned her BS and MS degrees in Food Science from Texas A&M in 1998 and 2001, respectively. She has served as the regional Institute of Food Technologists Longhorn Section Chair and Secretary. Hank also earned his BS in Dairy Science/Food Science from Texas A&M University and has served in multiple leadership roles in the Institute of Food Technologists Longhorn Section. Both Janet and Hank currently serve on the Board of the Texas Food Processors Association, providing mentoring and continued long-term scholarship support to Food Science students in our department. We are thankful to have Janet and Hank as part of our Aggie Food Science family!