



NEWSLETTER



Dr. QiuYang (Lisa) Zhang, PhD
Assistant Professor Structural &
Cellular Biology

AGE-RELATED CANCER DEVELOPMENT AND PROGRESSION RESEARCH

Dr. Zhang has been a part of the Center for Aging faculty since she started her research in 2016. She received her first pilot project in 2016 and her second in 2017. In 2021, she took over the organization of the Aging Seminar Series and in 2022 became a COBRE Steering Committee member. She has become an integral part of the Center for Aging here at Tulane University. One of the people that has influenced her research is Dr. S. Michal Jazwinski, the Director of the Center for Aging and Professor of Medicine and Biochemistry. In addition to his excitement and support of her research ideas, she says Dr. Jazwinski has taught her tools for success including his "rigorous attitude toward research, hard work, comprehensive knowledge in the aging research area, and enthusiasm for training junior faculty." Dr. Zhang's research involves studying Aging's impact on cancer development and progression, especially prostate cancer.

The research focuses on age-related inflammation in cancer initiation and progression. Her long-term goal is to contribute to developing novel clinically valuable strategies to treat or prevent prostate cancer with advanced Aging. In addition, she is creating a new age-related project exploring Aging and obesity-related inflammation in cancer development in the elderly.

Dr. Zhang then discussed her three most important publications to date.

1. "CD4+ T helper 17 cell response of aged mice promotes prostate cancer cell migration and invasion", which established my hypothesis that age-related Th17 immune responses and Th17/Treg ratio disrupted in the natural aging process and they have the potential to contribute to the development of prostate cancer.
2. "A Novel Controlled PTEN-Knockout Mouse Model for Prostate Cancer Study," which established our method to explore the mechanisms of how Th17/Treg disruption promotes prostate cancer initiation and progression.
3. "A Novel Strategy to Model Age-Related Cancer for Elucidation of the Role of Th17 Inflammaging in Cancer Progression," which helps spread our approaches to peers, can increase the collaboration and also promote the improvement and progression of the Aging and Cancer research area.

Dr. Zhang is currently working on two manuscripts with the hopes of publishing both by the end of the year with the support of the COBRE and R01 grants. The first manuscript is about the impact of aging on prostate cancer with the age-related distribution Th17/Treg axis and the second analyzes the role of Th17/Treg- associated transcription factor in a non-age-related prostate cancer mouse model.

MORTALITY AND RETIREMENT RESEARCH

Lauren Hunter is a fourth year PhD candidate in the Interdisciplinary PhD in Aging Studies Program at the Tulane Center for Aging. Her dissertation research has been centered around identifying mediators and moderators of mortality after retirement. The basic research questions she is trying to answer are "what speeds up and slows down aging after you retire?" and "what is the association between early retirement and mortality?" Hunter identifies three main reasons her research is innovative.

"First, most of the research on the subject only looks at "all-cause mortality" after retirement. My work is innovative in that I'm isolating the effect of aging after retirement by only studying retirees who were not only healthy at the time of retirement but who died from natural causes. Secondly, I'm addressing the dearth of literature on the mechanism between early retirement and mortality by investigating accelerated biological aging as the mechanism. Lastly, I'm calculating the pace of biological aging after retirement and seeing if there are any differences in the rate of aging between early and late retirees— an exciting novel angle to study retirement and mortality."

Hunter became interested in this subject as retirement is a monumental milestone that most people will experience in their lifetime, unlike diseases that may influence parts of the population. Hunter has taken inspiration from Dr. S. Michal Jazwinski and Dr. Sangyu Kim in their work using the frailty index to measure biological aging, as she applies similar techniques in studying retirement and mortality. One of the largest hurdles Hunter has faced is managing, organizing, and analyzing data from the Health and Retirement Study, a large secondary database. Along with the reality that it is hard to capture the full picture of retirement using only data, since many retire for varied reasons, she explains that this may lead to biased outcomes depending on what subject is being studied (e.g. mortality, happiness, health, etc.).

The Centers on the Demography and Economics of Aging and Alzheimer's Disease and Alzheimer's Related Dementia awarded Hunter a tuition scholarship in the amount of \$550 to attend the Introduction to the Health and Retirement Study (HRS) Workshop this June. The workshop is a week long and is designed to give participants, especially early career scholars, an introduction to the HRS that will enable them to get started using the data for research.



Lauren Hunter, PhD candidate
Interdisciplinary PhD in Aging Studies

INTERDISCIPLINARY PHD PROGRAM IN AGING STUDIES

Application Deadline for Fall 2023

March 15, 2023

<https://medicine.tulane.edu/tulane-center-aging/interdisciplinary-phd-aging-studies/application>

TULANE RESEARCH, INNOVATION, AND CREATIVITY SUMMIT TRICS

Wednesday–Thursday, March 1–2, 2023

Jung Hotel Grand Hall
1500 Canal Street

This week we are excited for TRICS, as many of our students and faculty will be participating in the presentation summit. **Marlene Friis**, one of the students in the Interdisciplinary PhD Program in Aging Studies along with **Associate Professor Jeanette Gustat**, have provided us with a brief overview of their poster that will be presented on March 1st from 9-11am in spot A-49.

The Broadmoor Food Pantry and Garden: An Example of Food Access 3.0

Marlene Friis (Interdisciplinary PhD Program in Aging Studies/ Tulane Center for Aging)
Jeanette Gustat (Associate Professor at the School of Public Health and Tropical Medicine)

"Louisiana has one of the highest rates of food insecurity in the United States. COVID-19 has exacerbated this issue, leaving hundreds of thousands unable to afford basic necessities such as food. At the same time, the emergency food supply chain typically delivers calorie-dense nutrition-poor food to those in need, thereby contributing to the poverty-obesity paradox. To address this issue, we collaborated with a neighborhood association in New Orleans to install a garden at a local church that houses a food pantry. The goal of our study is to characterize a social innovation that improves access to fresh fruits and vegetables to better address rates of diet-related chronic disease among food pantry patrons. We suggest that innovative partnerships between federal food assistance programs, community organizations, faith-based centers, and academic institutions can be vital to addressing basic community needs and health. These types of programs can be adapted to changing demands and be scaled up during crises such as the COVID-19 pandemic or hurricane disasters. The local multidimensional approach of these types of collaborations underscores the broad complexity of food access and the need for innovative solutions to food insecurity and health."

For the full schedule and more information please visit the TRICS webpage.

<https://research.tulane.edu/content/trics>

UPCOMING SEMINARS

March 2, 2023

Dr. Stephano Tarantini

"Cerebromicrovascular mechanisms of age-related cognitive decline"

In-Person Only Seminar (SOM room 7001)

March 9, 2023

Dr. Kenneth Poss

"Signal control during tissue regeneration"

In-Person Seminar (SOM room 7001)

<https://tulanehipaa.zoom.us/j/95284278719>

AIG MEETINGS

March 13, 2023

Dr. Lisa Zhang

"The Impact of Aging on Prostate Cancer with Age-Related Disruption of Th17/Treg Axis"

<https://tulanehipaa.zoom.us/j/93067483572>

March 27, 2023

Dr. Ahmed Moustafa

Title: TBD

<https://tulanehipaa.zoom.us/j/93067483572>

Contact us!

Please feel free to reach out about publications, grants, events, or other information you would like to share.

Kamile Mitkus | Program Coordinator School of Medicine - Center for Aging Office:
504.988.3369 kmitkus@tulane.edu