ENDOWMENT PURPOSE
The John E. Kinsella Chair in Food, Nutrition and Health was established in 1994, after Dean Kinsella's passing. The endowment was created using funds provided by General Foods that originally supported the late Professor Kinsella's research in food science and human nutrition, with specific focus on the interrelationships between food, nutrition, and health. In keeping with Kinsella's long-standing support and cultivation of junior faculty, the Kinsella Chair recognizes outstanding faculty members during the development stages of their careers.

RESEARCH
The endowment has been instrumental in moving several projects forward. The first project involves understanding the mechanism behind cognitive impairment with iron deficiency in infancy. I was able to use the Kinsella funds to fund a piglet study in which piglets were allowed to become iron deficient. We performed cognitive assessments of the piglets, and collected tissue and blood from the animals. We are now in the process of analyzing these data and plan to have at least 2 manuscripts submitted by the end of next year. In a separate experiment, we have been using the funds to help us understand how specific metabolites formed by gut bacteria are used within the gastrointestinal tract and elsewhere in the body.

TEACHING
The fund has been very helpful in advancing my instructional program. I am currently developing a new course (NUT106/FST106) which will replace the current courses FST101A/FST101B for clinical nutrition students. This course will teach similar material, but will be more directed to the information that clinical nutrition students will need for their careers. This fund has allowed me to focus on developing this course, and also to help fund two graduate students who are helping with this development. One of these students is planning on a career as a researcher in academia, and the other is planning a career as a lecturer. Both are benefiting from learning the intricacies of building up a course from scratch.
STUDENTS
Shannon McClorry. Shannon is a fourth year PhD student who is working on the piglet model of iron deficiency described above. Shannon is also one of the students helping me develop the new course outlined above.

Jules Larke. Jules is a second year PhD student who is working on understanding microbial metabolites, their etiology, and their fates within the body.

Alice Martinic. Alice is a fifth year PhD student who is interested in developing a career in teaching. She is helping to develop the above mentioned course.

Aidong Wang. Aidong is a third year PhD student who is interested in defining biomarkers of exclusive breastfeeding. We will be using some of the Kinsella funds to pay for sequencing so she can relate the fecal metabolome and microbiome.

Hanna Lee. Hanna is a fourth year PhD student who is interested in the Milk Fat Globule Membrane (MFGM). We are using some of the Kinsella funds for an in vitro experiment to understand how this milk component impacts gastrointestinal development.

Caitlin French. Caitlin is a fifth year PhD student who is interested in understanding the link between maternal diet and offspring autism. We are using some of the funds to analyze urine samples from mothers in the MARBLES study during the three trimesters of pregnancy, relating to food questionnaires, and correlating with the development of autism.

Yu Hasegawa. Yu is a third year PhD student who is interested in understanding the link between maternal obesity and offspring autism. We are collaborators on a primate study which does not have the funds to do all of the analyses we need. We are using some of the Kinsella funds to allow us to complete the analysis of these samples.

OUTREACH
I am currently the Chair of the Graduate Group in Nutritional Biology. As the chair I am responsible for managing the students in the group, as well as the Faculty. One activity that I find meaningful is helping to organize the GGNB student symposium which showcases research of various labs in the GGNB by allowing students to present their results in either poster or oral form. I am also actively involved in professional service as a reviewer for the National Institutes of Health. I have enjoyed being involved in various outreach activities including talks to the general public about how food interacts with the microbiome and how this interaction can impact health.

NOTEWORTHY ACCOMPLISHMENTS

In this publication, we show that infants consuming milk fat globule membrane as part of their complementary food from 6-12 months have a different serum metabolic profile that is consistent with better immune function and vitamin B12 status. We are working with the funders of this project to do a follow up study in this group of children who are now 12 years of age to see if there is a long term impact on their health.

In this publication, we show that the probiotic L. plantarum has a positive impact on the overall health of mice consuming a high fat diet.


In this publication, we detail the differences in the microbiome and metabolome of male and female children with iron deficient anemia. This study was provided the rationale for our piglet study outlined above.

I have also given several invited lectures. The lectures that stand out are:

2. 2018, March. “Impact of milk on the metabolic phenotype of the developing neonate.” Kenneth A. Spencer Award Symposium at the American Chemical Society meeting. New Orleans, LA.

**FUTURE USE**

We will continue to analyze our samples (omics analysis) from the piglet study to understand the mechanism of how iron deficiency leads to changes cognitive development, as well as how maternal obesity and environmental exposures/diet lead to an increased risk of autism in offspring. We are also investigating why males are at increased risk of cognitive deficits compared with females. In addition, I plan to purchase a cryogrinder to grind tissue samples.

**THANKS**

I would like to take this opportunity to thank you so much for the endowment funds. They have allowed us to focus on understanding key aspects in the relationship between food and health, and will be instrumental in moving the field forward. Without your generous support, we may not have been able to do the experiments we are currently performing, or it may have taken years to get the funds from traditional funding routes. Additionally, these funds are invaluable for us to finish up some key projects for which we do not have funding, and we are also using them to generate preliminary data for other projects that we are using to obtain grant funding. Thank you very much for your support.