"I wanted to make an impact"

Kerestin Goodman

College: Arts and Sciences
Degree Program: Biochemistry
Degree: Doctorate

Why FSU?

After careful research, I was amazed that I had such a wonderful institution close by. So why go anywhere else, when I can achieve my goals here.

Motivation to pursue a graduate degree

I've always been interested in helping to improve the health of people with various diseases. The Biochemistry program at Florida State University allowed me the opportunity to do research that supports this interest.

Importance of research and work

Microplastics are one of the most prominent pollutants found in the environment today, from the oceans to landfills and even aquatic organisms. The news and several research studies, have documented the tremendous effects microplastics have on the environment and in marine animals. Adverse effects such as lower life spans, decreased fertility and mobility have been documented in aquatic organisms that were exposed to microplastics. These aquatic organisms have been studied extensively. Humans, however, come in contact with microplastics by ingestion, dermal contact and perhaps more frequently by inhalation of dust containing microplastics or from outdoor pollutants. Yet little is known about the effects these environmental particles have on human cells. The goal of my research is to expose microplastics to human cells to better understand the effects these microplastics cause on the cellular level. After exposing human lung cells to microplastics for up to four days, we found morphological, proliferative, and metabolic changes. All of which indicate that these tiny particles do cause changes on the cellular level in humans that previously was unknown.

Accomplishments during graduate school

I am very proud of my participation in multiple outreach events like the Annual FAMU-FSU-TCC Celebration of Women and Girls in Science event where I served as a grad peer mentor to young girls from various local elementary and middle schools. They were able to see that someone that looks like them can do whatever they set their mind to. I am also proud to be the first person in my family to obtain a doctoral degree. In 2021, I published a paper on microplastics entitled "Exposure of Human Lung Cells to Polystyrene Microplastics Significantly Retards Cell Proliferation and Triggers Morphological Changes." My dissertation research was featured in two news articles: FSU News: "Microplastics and human health: FSU researchers find exposure to microplastics may alter cellular function" and the Tallahassee Democrat: "Florida State researchers find exposure to microplastics may alter cellular function".

In 2016, I was awarded the National GEM Consortium Fellowship and completed an internship at Oak Ridge National Laboratory. I was also awarded the McKnight Dissertation Fellowship (2020), the Joseph M. Schor Graduate Fellowship in Biochemistry (2021), Alpha Kappa Alpha Education Foundation Fellowship (2018), FSU Leslie N. Wilson Delores Auzenne Fellowship (2018, 2017 and 2016), and the UNCF Merck Undergraduate Science Research Scholarship (2011).

Advice for prospective graduate students

Go full speed ahead and be prepared to dedicate yourself to your chosen field.

Career Aspirations

I plan to pursue a career as a research scientist.