GLOBAL PERSPECTIVES

DR. CHARITHA JAYANI GAMLATH PAHALA GALLATH RALLAGE

Instead of starting with the plethora of laboratory work and data analysis her work requires, when talking about food, Dr. Charitha Gamlath Pahala Gallath Rallage (who prefers to go by Charitha Gamlath) begins with her memories.

Born and raised in "a town called Kandy in the upcountry of Sri Lanka," Dr. Gamlath comes from a place "with a very rich food culture [consisting primarily] of vegetables, fruits, and grains." From the very beginning of Dr. Gamlath's life, food symbolized curiosity, creativity, and community, rather than just sustenance. This deep appreciation for food, as well as the process of cooking and eating it, was reinforced by Gamlath's family and their respective paths. Her paternal grandparents were farmers while her parents and maternal grandfather were medical doctors. Dr. Gamlath credits the two vastly different career paths she observed at home as the driving force behind her scholarly pursuits today.

Seeing her grandparents "farming or processing food or preserving food or serving food…plus the science background," of her parents, when combined with her being "naturally more drawn toward mathematics," led Dr. Gamlath to pursue a combination of these three factors: Chemical Engineering. However, soon after this decision, a fourth factor would become instrumental in her success: studying abroad.



After completing her undergraduate degree in chemical engineering at the University of Peradeniya, Gamlath became a PhD candidate at the University of Melbourne, Australia, where she continued to pursue her passion for chemical engineering, while "specializing in food technology," further applying her upbringing to her research. Focusing her research on protein behavior and how technological intervention can be used to improve the nutritional value of dairy products, "exposed [her] to the extensive food industry and research the US had." Her experience studying outside of Sri Lanka defined her trajectory, as Gamlath stated: "My aim was to complete the PhD and do post-doctoral research in the US.

Unfortunately, the COVID-19 pandemic began as she was completing her dissertation, resulting in travel restrictions that made a potentially easy transition into a US-based post-doctoral position extremely difficult. The challenges her family faced during the pandemic led her to move back to Sri Lanka, a decision that, despite personal motivations, soon became practical too. Gamlath's alma mater offered her a lecturer position, which she accepted after an important realization: "I could teach what I learned overseas to young undergraduate students in Sri Lanka…I could give back to my community."

Nevertheless, the thought of continuing to improve her own knowledge base in the US stayed at the back of her mind as she continued to look for opportunities. This search led her to Michigan State University. Gamlath found a close alignment between her goals and those of MSU, especially at the Department of Food Science and Human Nutrition, which conducts research in "food insecurity, safety, and food processing to enhance nutrition". After reaching out to her current PI, Dr. Felicia Wu, and completing a rigorous selection process, Dr. Gamlath began her position at MSU in July of 2023.

Although the pandemic had been deemed over, by this point, Dr. Gamlath still experienced a lot of challenges when relocating. During her first experience with the strictness of the immigration system, she quickly realized that she was entering an environment that was "completely different from Melbourne." A variety of factors, from delays in her VISA applications to "arriving at the airport and being questioned multiple times," led Gamlath to become skeptical of her future at MSU, but these feelings of uncertainty quickly dissipated thanks to her PI's understanding during delays and the welcoming attitude of her fellow faculty and staff members.

Gamlath recalls her first Thanksgiving, which she spent with peers: "Everyone brought food from home, and they really appreciated that I brought something from Sri Lankan cuisine." This opportunity to share her appreciation for the community and cultural aspects of food, outside the laboratory, is one of the many experiences that have made her time at MSU personally enriching, not just professionally. The cultural exposure she gave her peers has not been a one-way street, as Gamlath says, "within the lab, the environment is multicultural," echoing the global nature of the food systems they work to improve.

Similar to the cross-cultural bridge her laboratory environment at MSU offers, Dr. Gamlath's research aims to connect the world of data driven analysis with that of human need. Dr. Gamlath "assess[es] risks associated with food contaminants like heavy metals and aflatoxins…a toxin produced by fungus" by conducting "data analysis research… of previous epidemiological, animal, in vitro studies…to identify critical health endpoints or diseases that are associated with dietary exposure to these toxins." The "tolerable intake levels of these toxins," determined by Dr. Gamlath's research, "are of interest to regulatory authorities like the FDA and the EPA when they establish limits for food contaminants," making her work crucial to our health and safety.



Studying abroad has played an instrumental role in making Dr. Gamlath's findings possible. Gamlath says, "I have learned about so many new tools and technologies utilized in the US food industry and policy landscape, and it has shaped my way of thinking." Her journey, from the formative experiences that established her cultural relationship with food to her present-day postdoctoral research, reflects the transformative power of international education. Dr. Gamlath's story is one of scientific ambition inspired by family, resilience through a global crisis, and support through institutional support on an international scale. At the core of this story is the belief that if approached with care and innovation, food can nourish not only our bodies but entire communities across the world.



By: David Rabinkov