



Interview with Summer Research Opportunity Fellow Edmund Benefo on his IAFNS Experience

This transcript has been edited for clarity and length.

IAFNS

Thank you for joining us today. Tell us a bit about yourself and how you came about to join the IAFNS Summer Research Opportunity Fellowship program.

Edmund Benefo

My name is Edmund Benefo and I'm a PhD student at the University of Maryland where I'm doing my PhD in food science. My research focuses on the applications of machine learning to improving food safety risk assessments.

Edmund Benefo

Somewhere in March of this year, mid-March or so I got an e-mail from a professor in our department. The headline of the e-mail was, “do you know any outstanding graduate students?” It went on to detail IAFNS’ focus and their search for graduate students to work as Summer Fellows on a couple of research topics. I looked at some of the research topics that were listed. About two of them were things that I worked on previously and my interest in those topics remains. So, I went on to look at IAFNS on your website, and I was interested in it, so I applied and that's how I got here.

IAFNS

How does your research or work background fit in with the Focus of IAFNS?

Edmund Benefo

I worked on for my master’s degree back in Ghana on food science and technology. I've always been a food safety guy interested in food safety. For my master's thesis, I worked on metals in food and their health impacts, the risks associated with lead in frequently consumed food in Ghana. I also did a couple of chemical related risk assessment for chemical contaminants in food. So, I did a couple of them and saw that risk assessments were featured [as a topic

area] in the IAFNS Press Release when they wanted new students as Fellows.

IAFNS

Could you briefly describe your project?

Edmund Benefo

I'm working under the supervision of Dr. Neal Saab. I am working on building a database to gather global regulatory limits of heavy metals on some select commodities and non-compliance to these regulatory limits. In addition, I will look at the natural variability of metals' presence in various regions.

There are concerns about heavy metals in baby foods. Some of the questions that need to be addressed include: What are the safe limits of metals present in food? And how do we use science to protect consumers from potential adverse effects?

We're also looking at regulatory limits elsewhere including the U.S., the EU, Japan, Australia and New Zealand as well as regulatory guidance set by CODEX. We focused on six of these toxic elements: aluminum, arsenic, cadmium, chromium, lead and mercury.

All this must take into account the amount of naturally occurring chemicals in the environment. For example, Cocoa is grown in parts of Africa and Latin America. Cocoa pods from Latin America will almost always have a higher level of Cadmium than cocoa being produced in Africa.

IAFNS

And what will be the end-product that you're working on?

Edmund Benefo

It's to support work by regulatory agencies such as the FDA to establish targets or limits for metals in foods that are protective and achievable by industry best practices.

IAFNS

Do you plan to pursue a career in food safety?

Edmund Benefo

Yes. I see myself as the food safety guy through and through. I've done that for science at the undergrad and master's levels and now I'm doing it for my PhD for my future career.

IAFNS

And what kind of advice would you have for future Fellows who come to IAFNS?

Edmund Benefo

So, if you're coming into IAFNS next summer, know that you're going to have

a nice group of people to work with. They're going to have you work on something you're interested in, and you're going to see the result of, and you may as well see benefits to the broader public. You also get to meet other people, some of IAFNS' members, and build collaborations and networks with them.

IAFNS

Well, thanks for taking the time today. We're looking forward to the completion of your project and your future success.

Edmund Benefo

Thank you.