



Dr. Ikhide Imumorin

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By Melanie Soberon
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Introducing our newest faculty member – Dr. Ikhide Imumorin, Assistant Professor of Animal Science. Imumorin was born and raised in Nigeria, West Africa, but spent the last fifteen years in the U.S. at various universities, and has recently made the transition to faculty member in the Department of Animal Science at Cornell where he looks forward to pursuing research in his interests related to molecular and quantitative genetics, functional and nutritional genomics, metabolic syndrome in animal models and genetics, and economics of small ruminants in Sub-Saharan Africa.

Dr. Imumorin’s path into the field of animal science was influenced by a string of life events. “Originally, I wanted to get into medical school,” said Dr. Imumorin. “Unlike here, in Nigeria, med school is a six year program that you enter into directly after high school. I didn’t get in the first year but I was offered an alternative admissions to study Ag Economics.”

After investigating the major, Imumorin decided to embark upon the Agricultural Economics route. During the first three years at the Federal University of Technology, Owerri, a generic foundation in agriculture courses is followed by a year and a half of courses specific to a major, and finished by a nine month internship at a farm. However, during his fourth year, Imumorin developed an unexpected interest in the field of Animal Breeding and Genetics as a result of a class instructed by Michael Iloeje, Professor of Animal Breeding, and Cornell alumnus, (MS ‘79, PhD ‘80).

“Changing my major had a lot to do with Cornell actually,” said Imumorin. “I took a class with Dr. Iloeje and I liked it and got to know him. I had always liked the biological sciences so I changed my major to animal sciences, although Ag Econ didn’t like that much at all since I was the best overall student in the School of Agriculture.”

Imumorin received the Dean’s Award at the December 1989 Commencement and went on to pursue life in academia. However, before he could begin, he had to complete a year of mandatory national service. The country of Nigeria is divided into 36 states and after the Civil War from 1967-70, the victorious Federal Government decided to start a program called the National Youth Service Corps. The program requires all college graduates to complete a year-long assignment that utilizes their newly acquired major in an aspect of community development, all in a different state than the graduate’s home state.

“Nigeria has 250 different languages and dialects so it is very multicultural and this National Youth Service Corps created unity and cohesion,” said Imumorin. “The idea was that college graduates are the people of the future so if you get them to get along,

then another war is not imminent. It accomplished a lot because people who may not otherwise get to know each other started to marry and build lives together.”

For his NYSC service, Imumorin taught Biology and Chemistry in a high school in Akwa Ibom state in the southeastern edge of Nigeria, after which he catered to his love of writing by working as a reporter for a start-up monthly magazine. Three years post graduation, Imumorin went to the Federal University of Technology – Akure to begin graduate school in animal science where he was recruited as a Graduate Assistant.

“Although you join with a bachelor’s degree as a Graduate Assistant, you are being recruited into the academic ranks,” Imumorin explained. “They will pay for your training until you get your PhD. After you get your masters degree, you are upgraded to Assistant Lecturer and after the PhD, you are upgraded to Lecturer, which is somewhat equivalent to Assistant Professor here in the U.S. Then you can become a Senior Lecturer, which is when you can now be a chairman of committees, chair graduate student committees, etc. Each rank in Nigeria, on average, is three to four years if one is productive and making steady progress and you continue on to become Reader (Associate Professor) and finally a full Professor.”

Imumorin earned his masters degree in Animal Breeding and Genetics at the Federal University of Technology-Akure in Nigeria and then traveled to Texas A&M University-College Station to obtain a PhD in Animal Science (Animal Breeding and Genetics). He rounded out his graduate career with postdoctoral work in Baltimore at the University of Maryland School of Medicine where he worked for a year in Human Genetics and Genetic Epidemiology.

In August of 2002, Imumorin began a faculty position at Valdosta State University, in southern Georgia – “the last town you get to before the Florida border.” He worked there for three years as an Assistant Professor of Biology teaching bioethics, general biology and genetics.

For the last four years, Imumorin has been teaching genetics, bioethics, general biology and molecular biology as an Assistant Professor of Biology at Spelman College in Atlanta, GA.

As part of his new position as Assistant Professor at Cornell University, Dr. Imumorin will be teaching Animal Science 2210, Introductory Animal Genetics starting this spring semester. He is also developing an upper division class in molecular evolutionary genetics of domestic animals as well as a graduate seminar in animal genomics.

“My research here is essentially animal breeding, genetics, and genomics,” said Dr. Imumorin. More specifically, he will be carrying out research that involves the genetics of growth and development in cattle.

“I am interested in how nutrients may interact with genes to produce differences in phenotypes,” said Dr. Imumorin, “and we think epigenetics is one mechanism through which these differences may be derived.”

Epigenetics refers to changes in phenotype or appearance that are caused by something other than changes in the underlying DNA sequence. Dr. Imumorin will also be researching epigenetics in the context of type 2 diabetes and metabolic syndrome (a cluster of symptoms that includes hyperinsulinemia, hypercholesterolemia, insulin resistance, hyperglycemia, obesity and hypertension). He will be using the rat as a model for metabolic syndrome studies starting with epigenetics of pancreatic gene expression.

Last but not least, Dr. Imumorin plans to proceed with collaborative efforts with fifteen other researchers on a large scale project on the genetics and economics of small ruminants in Sub-Saharan Africa. This project is concerned with understanding the population genetics and biodiversity of small ruminants, many of which are highly adapted to the environment of Sub-Saharan Africa. The researchers plan to study the DNA of these natural populations to learn how genetically diverse they are in order to better improve their genetics with future breeding schemes while conserving important traits.

Dr. Imumorin has established a lab and started a team to begin tackling all of these future research projects.



Pictured from left to right are Anubhav Jain, Postdoctoral Research Associate; Katy Sadowski, Student Research Assistant; Amara Pinnock, Student Research Assistant; Ikhide Imumorin, Principal Investigator; Meredith Mabile, Student Research Assistant; Jeffery Rehberger, Student Research Assistant; Rebecca Riebe, Student Research Assistant; Patrick Nwokoh, Research Technician.

For those students looking for a future Honors Thesis project, Dr. Imumorin looks forward to welcoming more to his research team.