Department of Food and Animal Sciences
FACTS

• Food Science and Technology
  – Program est. in 1969
  – B.S., M.S. and Ph.D. degrees in Food Science

• First and only IFT accredited Food Science department in an HBCU/MI
Consider an MS in FOOD SCIENCE & TECHNOLOGY
Department of Food & Animal Sciences

Martha Verghese, Ph.d.
Professor and Interim Chair
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<thead>
<tr>
<th></th>
<th>Name</th>
<th>Title</th>
<th>Specialization</th>
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<tbody>
<tr>
<td>1</td>
<td>Dr. Gamal AbdRahim</td>
<td>Assistant Professor</td>
<td>Animal Nutrition</td>
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<td>2</td>
<td>Dr. Julio Correa</td>
<td>Associate Professor</td>
<td>Animal Nutrition/Biochemistry</td>
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<td>3</td>
<td>Dr. Joshua Herring</td>
<td>Res. Associate Professor</td>
<td>Food Biochemistry</td>
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<td>4</td>
<td>Dr. Koffi Konan</td>
<td>Res. Associate Professor</td>
<td>Food /Plant Biotechnology</td>
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<td>5</td>
<td>Dr. Ola Goode-Sanders</td>
<td>Professor</td>
<td>Sensory Science/Nutrition</td>
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<td>6</td>
<td>Dr. Martha Verghese</td>
<td>Professor</td>
<td>Nutritional Biochemistry/Food Product development</td>
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<td>7</td>
<td>Dr. Jorge Vizcarra</td>
<td>Associate Professor</td>
<td>Poultry/Animal Physiology</td>
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<td>8</td>
<td>Dr. Lloyd T. Walker*</td>
<td>Professor</td>
<td>Meat Science/Food Chemistry</td>
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<td>9</td>
<td>Dr. Judith Boateng</td>
<td>Assistant Professor</td>
<td>Food Toxicology/Nutritional Biochemistry</td>
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<tr>
<td>10</td>
<td>Dr. Lamin Kassama</td>
<td>Assistant Professor</td>
<td>Food Engineering/Processing</td>
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* Not teaching
STAFF

- Dr. Patterson: Post-doctoral research associate Food Toxicology/safety
- Dr. Sunkara: Post-doctoral research associate Nutritional Toxicology/Biochemistry
- Mr. S. Ogutu: Res. Associate Food Science
- Mr. L. Shackelford: Res. Associate Food Science

Administrative Staff
- Ms. Sharon Steele
- Ms. Sonya Bynum
EMPHASIS AREAS (FOOD SCIENCE)

- Food Chemistry
- Food Engineering
- Food Microbiology
- Nutritional/Food Biochemistry
- Food/Nutritional Toxicology
- Food laws and regulations
- Food Biotechnology
- Sensory Evaluation
- Meat and Muscle biology
Facilities

• Over 20,000 square feet of laboratory, office and pilot plant space (CCA)
• Winfred Thomas Agricultural Experimental Station
• Poultry and Rabbit Facilities
• New Research Building/Facilities (ARC)
Student Population

- Total: 170
- GRADUATE: 45 students
  - 15 Ph.D.
  - 30 MS
- UNDERGRADUATE
  - 110 undergraduates
    - 75 Food Science and Technology
    - 35 Animal Science
STUDENT ACTIVITIES

- IFTSA (AAMU chapter)/Food Science club
- National Institute of Food Technologists (IFT)
- Dixie IFT
- *Phi Tau Sigma* Food Science Honor Society
- *Alpha Zeta*
- Food Science Journal Club
Agricultural Research Centre
Department of Food and Animal Sciences
IFT certified program in FOOD SCIENCE AND TECHNOLOGY
What Is Food Science?

• Do you like to solve real-world problems?

• Food Science blends biology, chemistry, physics, engineering, and nutrition to solve the problems of developing a safe, healthy, and nutritious food supply for people everywhere.
What is Food Technology?

Food Technology is the application of food science to the selection, preservation, processing, packaging, distribution, and use of safe, nutritious, and wholesome food.
What does a Food Scientist do??

• A Food Scientist studies the physical, microbiological, and chemical makeup of food. Depending on their area of specialization, Food Scientists may develop ways to process, preserve, package, or store food, according to industry and government specifications and regulations.
Why Food Science??

- Food industry is the largest manufacturing sector with more than $600 billion in retail sales
- Generally more positions available than graduating students to fill them
  - USDA reports that between 2005 and 2015, U.S. universities will not graduate enough people with food, agriculture, and natural resource degrees to meet demand
Why Food Science??

• **It is an applied science:** You could see the product you worked on in the grocery store.
• **It’s fun!** Food scientists get to play with their food!
• **It’s exciting!** Food scientists never get bored. They work in the lab, in the pilot plant, and travel to different plants sometimes all around the world.
Why Food Science???

In 2005:

• The median starting salary was $48,000
• The median salary was $78,000
• The median salary by degree was:
  – BS: $70,000
  – MS: $76,000
  – Ph.D.: $92,500

Source: Food Technology magazine, February 2006
Who can you work for???

- Food processors
- Ingredient manufacturer/suppliers
- Academia
- Self-employed/Consultant
- Government
- Non-government organizations
- Foodservice
- Testing laboratory
How do you become a food scientist?

• Attend an IFT approved college degree program
  – Eligible for scholarships
  – Eligible to participate in competitions

• Gain hands on experience
  – Research lab
  – Internship
Hands on experience.

• Research
  – Thesis
  – Non thesis option

• Internships
  – Major food companies offer internships to undergraduate and graduate students
  – Placement can be in the plant or in research & development
  – Many of them include housing and are paid!!
  – They are a great opportunity to see how the food industry works
Have you ever wondered?

• If low fat cookies taste the same as regular ones?

• Or how the flavor of a new food product is chosen?

• Or why packaged ready-to-eat cut fruit stays crisp and does not turn brown?
What is Food Science???

• http://www.youtube.com/watch?feature=player_detailpage&v=72eHuIakdLc
What would a trip to your local grocery store be like without the benefit of research and technology?

How would food shopping look with no knowledge of microbiology, food safety, food processing, food packaging and transportation?

Within the next 50 years, the world's population is expected to rise to over 9 billion.

Importance of access to a variety of safe and nutritious foods would be affected in a world without food science.
What a world without food science would look like:

- No way to keep food fresh
- Nutrition would be a guessing game
- Food would look and taste bad
- Food would cost a lot more
- Dinner would take all day to prepare
- Food would be unsafe to eat
- There wouldn't be enough food for everyone
• What is it really like to be a food scientist?

• What do food scientists do each day?

• What kinds of things do they think about?

• Learn more about what it’s like to be a food scientist in the words of people who do it every day.
Watch the Day in the Life of a Disney Food Scientist and see what really goes on behind the scenes to create your favorite, healthy Disney food products.

http://www.youtube.com/watch?feature=player_embedded&v=thtxyBEUDYg
Michele Perchonok, Advanced Food Technology Manager at NASA, food science team in Houston, Texas

Guide us through their work in the Space Food Systems Laboratory, and describe their role in conceptualizing and preparing food for successful missions in space.
Core areas in Food Science

- Food Chemistry
- Food Engineering
- Food Microbiology
- Sensory Science

- Food Nutrition & Health
- Food Processing & Packaging
- Food Safety & Defense
- Education & Careers

- Public Policy & regulation
- Sustainability
- Product development
What kinds of careers are available to Food Science students?

• Food Science offers students hands-on, real-world careers in applied science and technology. Industrial food scientists are needed in food quality management, processing, research and development, marketing, and distribution.
• Employment can be found with companies that
  – manufacture retail food products
  – companies supporting food manufacturers by supplying food ingredients,
  – processing equipment,
  – packaging materials or providing services related to institutional feeding
  – Technical and administrative positions are also available in various government agencies and independent testing laboratories.
Industry

• Kellogg's
• General Mills
• Nestle
• Cargill
• Kraft
• Nestle
• Publix
• Coca-Cola
• Pepsi /Frito lay
• Heinz
• Dannon
• Mars
• Tyson
Nourishing Ideas.
Nourishing People.
FOOD FRAUD
Are there any scholarships?????

Yes!

The Institute of Food Technologist’s offers scholarships to high school graduates or seniors expecting to graduate from high school entering college for the first time in an approved food science/technology program.
Summer research programs
Department Halloween party
Mr and Miss Food Science 2012-13
School wide picnic
IFT ANNUAL MEETING
Student presenters at IFT meeting
Department Mixer
FOOD SCIENCE CLUB TRIP TO
Annual Institute of Food Technologist meeting which was held in New Orleans.
IFT meeting - scientific presentations
Reuel Field - 2nd place

Vishnupriya Gourineni won 1st place

National Annual IFT Nutrition Division
FIRST AAMU Breakfast (IFT)
New Orleans, LA
Research
Annual National IFT Nutrition Division Competition
(June 6-10th)
(3 of the 4 awards-1, 2 and 4th places)
Industry Partnerships

- Coca-Cola Company
- Kellogg's Food Company
- Cargill Food Company
- Uniliver
- Pepsico
- Quaker Oats
- Kemin Foods
- Wayne Farms
- Keystone Foods
- Publix
For more information

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