

Yaa Asantewaa Kafui Klu

CONTACT INFORMATION

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RESEARCH INTERESTS EDUCATION

Interdisciplinary research approaches to improve health

Columbia University in the City of New York, New York, NY, USA

Master of Public Health (Environmental Health Sciences, Molecular Epidemiology Certificate),
2017-2019

Mailman School of Public Health

The University of Georgia, Athens, GA, USA

Ph.D., Food Science, August, 2014

- Dissertation Topic: “Survival of Probiotics Incorporated into Peanut Butter, and Their Influences on Selected Foodborne Bacterial Pathogens in Simulated Gastrointestinal Fluids”
- Abstract: The objective of this study is to use probiotic peanut butter to combat childhood malnutrition and one of its major underlying causes; chronic and infectious diarrhea in the developing countries. Different probiotic culture/mixtures were incorporated into full fat peanut butter and reduced fat peanut butter, and a 1 year survival study under different storage conditions was conducted to observe the survival trends of different probiotics in the 2 products. The influence of peanut butter matrixes on the survival of the probiotic bacteria during simulated gastrointestinal passage was examined. Additionally, the extent of inhibition of selected foodborne pathogens by the probiotics was studied under simulated gastrointestinal conditions.

Kwame Nkrumah University of Science and Technology , Kumasi, Ghana

BSc., Biochemistry, June, 2006

- Thesis Topic: “Formulation of weaning food from fermented corn flour, groundnuts and soybeans using the material balance method”
- Abstract: The objective was to find a way to alleviate the burden of malnutrition in weaning children in the West African sub region. A nutritious and affordable weaning mix was formulated from fermented corn flour, soybeans and peanuts which are readily available materials in the West African sub region.

CERTIFICATION

Hazard Analysis and Critical Control Points (HACCP)

ACADEMIC EXPERIENCE

Department of Food Science and Technology, Kumasi, Ghana

Faculty

January, 2016 - August, 2017

Taught and mentored undergraduate and graduate students. Supervised students' research work

Taught:

Functional Foods and Nutraceuticals; Food Microbiology; Nutrition and Health; Traditional Foods and Nutrition; Library Project and Seminar; Introduction to Food Science and Technology

Department of Food Science and Technology, Kumasi, Ghana

Adjunct Faculty

August, 2015 - August, 2017

Taught and mentored graduate students. Supervised students' research work

Taught:

Food Microbiology and Emerging Foodborne Pathogens
Scientific Communication and Seminar

Columbia University, Mailman School of Public Health, New York, NY

Determinants of Health Teaching Assistant

Sep, 2018 - Present

The University of Georgia, Athens, GA, USA

Graduate Research Assistant

August, 2009 - July 2014

Carried out doctoral research

Wrote grants and contributed to funding applications

Peer-reviewed manuscripts

Mentored/taught visiting scientists and high school young scholars

Graduate Teaching Assistant

January - May, 2013

Supervised laboratory work and hours

Reviewed and graded laboratory reports

Food Processing Laboratory

Southern Polytechnic State University

October, 2013

Guest Lecturer: "West African Foods and Nutrition"

Schlumberger Faculty for the Future fellowship

Applied for the Schlumberger Faculty for the Future fellowship, 2014-2015 program (not funded)

CURRENT PROJECTS

New York University School of Medicine, New York, NY

Department of Population Health/Division of Epidemiology

May - August 2018

Project: This project seeks to identify gut microbiome functions that are related to colorectal cancer.

Columbia University in the City of New York, New York, NY

Mailman School of Public Health

Environmental Health Sciences Department

January 2018 - present

Project: Exposure to arsenic through the consumption of rice would be evaluated among participants in the California Teachers Study. The objective is to assess possible associations between rice consumption patterns and risk of pancreatic, lung, breast, kidney, bladder and liver cancers.

PEER REVIEWED ARTICLES

Akoto, E. Y., **Y.A.K. Klu**, M. Lamptey, J. Y. Asibuo, M. Heflin, R. D. Phillips, D. Jordan, J. Rhoads, D. Hoisington and J. Chen. 2018. [Use of solar drying to improve the quality of peanuts and peanut seeds in Ghana](http://www.peanutscience.com/doi/pdf/10.3146/PS17-3.1). *Peanut Science*. <http://www.peanutscience.com/doi/pdf/10.3146/PS17-3.1>

Akoto, E.Y., **Y.A.K. Klu**, M. Lamptey, J.Y. Asibuo, J. Davis, R. Phillips, D. Jordan, J. Rhoads, D. Hoistington and J. Chen (2017). [Use of peanut meal as a model matrix to study the effect of composting on aflatoxin decontamination](#). *World Mycotoxin Journal*, 10(2): 131-141.

Han, R., **Y.A.K. Klu**, and J. Chen (2017). [Attachment and biofilm formation by selected strains of *Salmonella enterica* and *Enterohemorrhagic Escherichia coli* of fresh produce origin](#). *Journal of Food Science*, 82(6):1461-1466.

Chen, J., A. Bechman, **Y.A.K. Klu** and R.D. Phillips (2016). [Survival of Probiotics in Hypromellose Capsules with Rice or Potato Maltodextrin Excipient](#). *Journal of Food Science*, 81(11): M2793-2798.

Klu, Y.A.K., R.D. Phillips and J. Chen. (2016). Development of a drinkable, peanut-based dietary supplement and composition of its nutritional and microbiological qualities with commercial products. *Journal of Food Science*, 81(5):H1309-1312.

Klu, Y.A.K., and J. Chen. 2016. Influence of probiotics, included in peanut butter, on the fate of selected *Salmonella* and *Listeria* strains under simulated gastrointestinal conditions. *Journal of Applied Microbiology*, 120(4):1052-1060.

Klu, Y.A.K., and J. Chen. 2015. Effect of peanut butter matrices on the fate of probiotics during simulated gastrointestinal passage. *LWT-Food Science and Technology*. 62(2), p. 983-988

Klu, Y.A.K., R. D. Phillips, and J. Chen. 2014. Survival of commercial probiotic mixtures in full fat and reduced fat peanut butter. *Food Microbiology*. Vol 44, p. 34-40.

Klu, Y.A.K., J.H. Williams, R. D. Phillips, and J. Chen. 2012. Survival of *Lactobacillus rhamnosus* GG as Influenced by Storage Conditions and Product Matrixes. *Journal of Food Science*. 77(12), p. M659-M663.

PUBLISHED
CONFERENCE
PROCEEDINGS

Klu, Y. A. K., R. D. Phillips, and J. Chen. 2014. Growth inhibition of *Salmonella enterica* and *Listeria monocytogenes* by probiotics during a simulated gastrointestinal passage. Int. Assn. Food Prot. 103th Annu. Mtg. Prog. Abstr. Book. 3-6 Aug. Indianapolis IN. p. 65.

Han, R., Y. A. K. Klu, and J. Chen. 2014. Attachment and biofilm formation by selected strains of *Salmonella enterica* and *Escherichia coli* of fresh produce origin. Int. Assn. Food Prot. 103th Annu. Mtg. Prog. Abstr. Book. 3-6 Aug. Indianapolis IN. p. 61.

Klu, Y. A., R. D. Phillips, and J. Chen. 2013. Fate of Probiotics in Peanut Butter during Simulated Gastrointestinal Passage 2013 Georgia Life Science Summit. 9 October. Atlanta GA. p.43.

Klu, Y., R. D. Phillips, and J. Chen. 2013. Fate of probiotics in peanut butter during simulated gastrointestinal passage. IFT Annul. Mtg. Prog. Book. 11-14 June. Chicago IL. p.91.

Klu, Y., R. D. Phillips, and J. Chen. 2013. Survivability of selected *Lactobacillus*, *Bifidobacterium* and *Streptococcus* species in peanut butter at different storage conditions. 2013 One Health Symposium. 21-23 March. Athens GA. p.52.

Klu, Y., R. D. Phillips, and J. Chen. 2012. Survivability of selected *Lactobacillus*, *Bifidobacterium* and *Streptococcus* species in peanut butter at different storage conditions. 2012 Georgia Life Science Summit. 3 October. Atlanta GA. p.53.

Klu, Y., R. D. Phillips, and J. Chen. 2011. Survival of *Lactobacillus rhamnosus* GG in peanut butter and peanut spread as influenced by storage conditions. 2011 Georgia Life Science Summit. 27 September. Atlanta GA. p.74.

Klu, Y., R. D. Phillips, and J. Chen. 2011. Influence of fat content on the survival of *Lactobacillus rhamnosus* GG during storage. 2011 Georgia Life Science Summit. 27 September. Atlanta GA. p.73.

Klu, Y., R. D. Phillips, and J. Chen. 2011. Survival of *Lactobacillus rhamnosus* GG in peanut butter and peanut spread as influenced by storage conditions. IFT Annul. Mtg. Prog. Book. 11-14 June. New Orleans LA. p.75.

Klu, Y., R. D. Phillips, and J. Chen. 2011. Influence of fat content on the survival of *Lactobacillus rhamnosus* GG during storage. IFT Annul. Mtg. Prog. Book. 11-14 June. New Orleans LA. p.72.

CONFERENCE
PRESENTATIONS

Klu, Y., Williams J.H., R. D. Phillips, and J. Chen. 2013. Survivability of selected *Lactobacillus*, *Bifidobacterium* and *Streptococcus* species in peanut butter at different storage conditions. 2013 Global Education Forum. 2 April. Athens GA.

Klu, Y. 2012. Fate of selected probiotic cultures in peanut butter during storage and in simulated gastrointestinal fluids with/without the protection of food matrixes. Georgia Nutrition Council Annual Meeting, 24 February. Macon, GA (Oral Presentation).

Klu, Y., R. D. Phillips, J. H. Williams, and J. Chen. 2011. Use of peanut based probiotic food to manage diarrheal diseases among children in the developing world. Peanut CRSP PI meeting, 11-15 December, St. Julians, Malta.

Klu, Y. 2011. Survival of *Lactobacillus rhamnosus* GG in peanut butter and peanut spread as influenced by storage conditions. IFT Annul. Mtg. 11-14 June. New Orleans, LA. (Oral Presentation).

Klu, Y. 2011. Formulation of a nutritional supplement functional towards hypertension. Georgia Nutrition Council Annual Meeting, 24-25 February. Athens, GA.

Klu, Y. 2011. Survival of *Lactobacillus rhamnosus* GG in peanut butter and peanut spread as influenced by storage conditions. Georgia Nutrition Council Annual Meeting, 24-25 February. Athens, GA.

PROFESSIONAL
MEMBERSHIP AND
SERVICE

Member

Institute of Food Technologists
International Association for Food Protection
Georgia Nutrition Council
African Association for Food Protection

Reviewer

Journal of Food Science, 2016 to date
Research Proposal, KNUST Office of Grants and Research, June 2017

Committee Member

Committee for Investigation of Alleged Examination Malpractice, June 2017

Kwame Nkrumah University of Science and Technology (KNUST) and Local Government Service Project (LGS): District assemblies enabled program for accelerated economic and social development at the district level project, 2016 - 2017

Kwame Nkrumah University of Science and Technology (KNUST) and Rural Enterprises Program (REP) technology promotion and dissemination project, 2016

Department of Food Science and Technology Awards Committee, 2016 - 2017

Department of Food Science and Technology Kitchen/Sensory Committee 2016 - 2017

Local Organizing Committee, 6th Conference, Ghana Science Association, Kumasi Branch, 2017

SCHOLARSHIPS, HONORS AND AWARDS	The University of Georgia Griffin Campus Dean's Travel Award, 2014	
	Member, Phi Tau Sigma (Honor Society of Food Science and Technology), 2013	
	First Place Winner, UGA Global Education Forum Student Research Competition, 2013	
	Selected participant, UGA Graduate School Emerging Leaders Program, 2013	
	Richard B Russell Leadership Fellow, 2012	
	First Place Winner, Georgia Nutrition Council Student Research Competition, 2012	
	Peanut Proud Scholarship, 2012	
	Finalist, Georgia Nutrition Council Student Research Competition, 2011	
	The University of Georgia Graduate School Travel Award, 2011-2014	
	John J. Powers Graduate Scholarship, The University of Georgia 2010	
INDUSTRY EXPERIENCE	Health Research Training Program	June, September, 2018
	Department of Health and Mental Hygiene, New York City, NY	
	Bureau of Chronic Disease Prevention & Tobacco Control	
	<i>Healthy Living by Design (Recreational Placemaking) Intern</i>	
	Ernest Chemists Limited , Tema, Ghana	
	<i>Quality Assurance and Control Officer</i>	July, 2006 - July, 2009
	Prepared protocols for validating laboratory analytical methods which was approved by the Ghana Food and Drugs Board	
	Trained colleagues, national service personnel and interns on validation of analytical methods	
	Ensured all factory procedures and activities are in accordance to ISO 9001:2000 standards	
EXTRACURRICULAR AND VOLUNTEER ACTIVITIES	New York City Science and Engineering Fair (NYCSEF), March 4, 2018, City College of New York and The American Museum of Natural History, New York	
	Columbia University Mailman School of Public Health Admitted Students' Day, March 2, and April 6, 2018, Columbia University, New York	
	All Ivy Environmental and Sustainable Development Career Fair, February 9, 2018, Columbia University, New York	
	International Conference on Sustainable Development (ICSD), September 18-20, 2017, Columbia University, New York	
	Columbia University Graduate Students Association, Environmental Health Sciences Department Representative, November, 2017 - Present	
	Columbia University Students for Environmental Action, August, 2017 - Present	
	Columbia University Students for Food Policy and Obesity Prevention, August, 2017 - Present	
	Mailman Student Life, August, 2017 - Present	
	Columbia One Health Initiative, Events Chair, November, 2017 - Present	
	Fellow, Queen Elizabeth Hall, KNUST, 2016 - 2017	

General Committee Member, UGA Graduate Students Association Interdisciplinary Research Conference, 2013

Trained Advocate: Stewards of Children, 2013

Senior Division Tier 1 Judge: Georgia Science and Engineering Fair. March 22, 2013. Athens, GA

Executive Board Member: UGA Graduate Students and Postdocs in Science. September 2012 to May 2013. Athens, GA

Organizing and Planning Committee Member: The 13th Annual UGA GSA Interdisciplinary Research Conference. April 12, 2013. Athens, GA

Team member: 2010 and 2012. UGA Developing Solutions for Developing Countries Product Development Competition Team for Institute of Food Technologists

Reader and Judge: Georgia Science and Humanities Symposium. March 2, 2010. Athens, GA

COMPUTER SKILLS • Statistical Package: SAS, R, STATA, QGIS
 • Microsoft Office Applications