

CURRICULUM VITAE

Name: Juliana Nduku Kiio (PhD)
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Kalimoni, Kenya
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Work experience: Vast experience in the food industry (industrial food processing and quality assurance). Over 14 years (to date) of teaching and research in Kenyatta University.

Research interests: Food processing and preservation, Food security, Food safety, Food fortification and Complementary feeding.

Employment History

Employer: Kenyatta University (Sept. 2006 - To date),

Post: Lecturer

Responsibilities: Teaching and research work in the Dept. of Food, Nutrition and Dietetics, Food Laboratories Committee (Chairperson) Program review committee (member), supervision of postgraduate students, ISO Internal Auditor and student mentor.

Employer: Brookside Dairy Ltd (July 2001 – July 2002),

Post: Quality/Environmental Officer

Responsibilities: Quality Control of finished products, raw material inspection and environmental inspection and implementation of environmental quality standards.

Employer: Wrigley's East Africa Ltd (Feb. 2001 – June 2001),

Post: Quality control (Contract).

Responsibilities: Re-drafting of ISO 9000 Product Quality Standards, Work Instructions.

Employer: Kenya Co-operative Creameries Ltd (July 1997 – Dec. 2000),

Post: Quality and Production Supervisor

Responsibilities: Supervision of personnel to ensure Quality products and timely production targets.

Education Background

2010-2016: **PhD (Food, Nutrition and Dietetics), Kenyatta University, Kenya.**

Research area: Bioequivalence of micronutrient powders to conventional fortification on zinc status of children aged 6-36 months in Thika Informal Settlements, Kenya.

2004 - 2005: **Complementary Studies in Food Science and Nutrition, Ghent University, Belgium **Distinction*.**

Modules: Human Nutrition, Food and Nutrition Interventions, Nutrition Planning, Monitoring and Evaluation, Nutrition Epidemiology, Nutrition Disorders and Rural Development.

2002 - 2004: **Msc. Food Science and Technology, Ghent University, Belgium **Distinction***

Modules: Food Microbiology, Food Chemistry, Food Processing and Preservation, Food Toxicology, Dairy Technology, Food Legislation and Food Colloids.

1992 - 1996: **B.Sc Food Science and Post-Harvest Technology, Jomo Kenyatta University of Agric. & Technology, Kenya. First Class, Hons****

Publications

BOOKS Editor(s): Juliana Kii & Christine Njuguna: Food Safety, from Farm to Fork, Emerging and Re-emerging Issues. Copyright © 2020 Cambridge Scholars Publishing.

Book Chapters

Kii Juliana, Kilonzo Fidelis, Kyalo Daniel, Muui Catherine and Mathenge Scholastica.

"Potential for Wastewater Re-Use in Urban and Peri-Urban Agriculture to Mitigate Household Food Insecurity in Nairobi, Kenya" Book Chapter in the book "Food Safety, from Farm to Fork: Emerging and Re-emerging Issues, Cambridge Scholars Publishing, 2020.

Daniel Kyalo Willy, Fidelis Kilonzo and Juliana Kii. Who Cares? Consumer Attitudes and Purchase Decisions on Peri-Urban Agricultural Commodities in the Absence of Information

Asymmetry". Book chapter in the book "Food Safety, from Farm to Fork: Emerging and Re-emerging Issues, Cambridge Scholars Publishing, 2020

Research articles

Nyakundi, P. N., Kiio, J., Munyaka, A. W., Galgalo, D. A., & Lohner, S. (2024). Consumption Pattern of Tea is associated with Serum Ferritin Levels of Women of Childbearing Age in Nandi County, Kenya: A Cross-sectional Study. *Annals of nutrition & metabolism*.

Kiio, J., Nduati, R., Kuria, E., Ochola, S., & Okoth, J. (2023). Bioaccessibility of iron and zinc in selected complementary foods fortified with micronutrient powders in Kenya. *International Food Research Journal*, 30(2), 514-523.

Kiio, J., Ochola, S., Nduati, R., Kuria, E., Mathenge, S., & Okoth, J. (2022). Bioequivalence of micronutrient powders to Corn-soy Blend on serum zinc concentration of children (6-36 months) with Moderate Acute Malnutrition in Thika urban slums, Kenya: A cluster-randomized controlled trial. *PloS one*, 17(9), e0274870. <https://doi.org/10.1371/journal.pone.0274870>

Kivaya, S. K., Kiio, J. N., & Njogu, E. W. (2022). Training, knowledge and skills of community health volunteers on complementary feeding of children aged 6-23 months in Machakos, Kenya. *International Journal of Community Medicine and Public Health*, 9(7), 3082.

Nyakundi, P., Kiio, J., & Munyaka, A. (2022). Serum ferritin levels are associated with frequent consumption of iron- and ascorbate-rich foods among women of childbearing age in Nandi County, Kenya. *Journal of Nutritional Science*, 11, E6. doi:10.1017/jns.2022.5

Mwanzia, M., Kiio, J., & Okoth, E. (2022). Formulation, Processing and Characterization of Fermented Probiotic Mango Juice Using Selected Starter Cultures. *European Journal of Agriculture and Food Sciences*, 4(1), 86-91. <https://doi.org/10.24018/ejfood.2022.4.1.437>

Patrick Nyamemba Nyakundi, Juliana Kiio & Ann Munyaka: Does Education Level, Household Income, Budget for Food and Birth Interval Predict the Iron Status of Women of Childbearing age in Nandi County, Kenya?". *EC Nutrition* 15.10 (2020): 41-49.

Fidelis N. Kilonzo, Winnie M. K., Joyce W. K., Juliana K., Daniel K., Catherine M., and Scholastica M., (2020) Wastewater Reuse For Urban And Peri-Urban Agriculture: Why It's Not Happening Soon? *Journal of Engineering in Agriculture and the Environment (JEAE)*, Volume 6. No 2 pg .32-40

Co-author, Kenyan Food Composition Tables (KFCT) policy brief 2018. Improving decision making through food composition data, the Kenyan Food Composition Tables (KFCT): an essential tool for policy makers, health practitioners, researchers, industry and agricultural sector.

J. Kii & B. De Meulenaer (2011). Immuno-chemical detection of peanut (*Arachis hypogaea* L.) proteins using chicken antibodies. *Food and Agricultural Immunology*, 1-10.

J. Kii & B. De Meulenaer. (2014). Generation of chicken antibodies for the immuno-chemical detection of peanut (*Arachis hypogaea* L.) proteins. The National Council for Science (NCST) - 4th Annual Conference for Dissemination of Research Results and Exhibition of Innovations held between 3rd to 6th May, 2011. Conference proceedings.

CONFERENCES

Kii J. N., Kilonzo F., Kyalo D., Muui C. & Mathenge S. Potential For Wastewater Re-use In Urban and Peri-Urban Agriculture to Mitigate Household Food Insecurity in Nairobi, Kenya. International Food Safety Conference, 20th to 24th May, 2019, Kenyatta University Kenya.

Cherono S., Munyaka A.W. & Kii J. N. Effect of Aflatoxin Exposure on Micronutrient Deficiencies and Growth Retardation among Young Children: A Review. International Food Safety Conference, 20th to 24th May, 2019, Kenyatta University Kenya.

Cherono S., Munyaka A.W. & Kii J.N. Assessment of Dietary Aflatoxin Awareness and Exposure Levels and Vitamin A Status of Children (6-23) Months Attending Makeni County Referral Hospital. International Food Safety Conference, 20th to 24th May, 2019, Kenyatta University Kenya.

Kyalo D., Kilonzo F., & Kii J. N., Who Cares? Consumer Attitudes and Purchase Decisions on Peri-urban Agricultural Commodities in the Absence of Information

Asymmetry. International Food Safety Conference, 20th to 24th May, 2019, Kenyatta University Kenya.

Munyaka A., Kiio J. N., Gachoya J.& Ondiek F. Heavy Metal Contamination of Sugar and the Sugar Chain Products in Nairobi and the Environs, Kenya. International Food Safety Conference, 20th to 24th May, 2019, Kenyatta University Kenya.

Kiio Juliana & Bruno De Meulenaer. Is the detection of peanut proteins by ELISA method affected by processing treatments? International Food Safety Conference, 20th to 24th May, 2019, Kenyatta University Kenya.

Juliana Kiio, S.Ochola, E. Kuria and R. Nduati. Bioequivalence of Micronutrient Powders to Conventional Fortification on Serum Zinc Levels. IUNS 21st ICN International Congress of Nutrition at Buenos Aires, Argentina 15-20th October 2017 at the Sheraton Buenos Aires Hotel & Convention Centre.

Juliana Kiio, S. Ochola, E. Kuria and R. Nduati. Is Home Fortification Effective on Improving Serum Zinc Levels Among Moderately Malnourished Children – A Case of Thika Urban Slums, Kenya. National Food and Nutrition Symposium “Mainstreaming Nutrition Innovations for Sustainable development” November 23 – 24, 2016, Nairobi, Kenya (Oral Presentation).

J. Kiio, S.Ochola, E. Kuria, R. Nduati and J. Okoth. Micronutrient Powders: Does the Anti-Nutrient Content Affect the *In Vitro* Bio-accessibility of Iron and Zinc? Integrated Nutrition Conference, Catholic Relief Services (CRS), November 14-15, 2016, Nairobi, Kenya, (Oral Presentation).

Juliana Kiio, Sophie Ochola, Elizabeth Kuria and Ruth Nduati. Community Screening and Assessment of Dietary Intake for Food Supplementation among Malnourished Children Aged 6-36 Months in Thika Urban Slums, Kenya. 1st Global Conference on Patient - Centered Care at Kenyatta University; 29 September -2nd October 2015, Nairobi, Kenya (Oral Presentation).

Juliana Kiio, Sophie Ochola, Elizabeth Kuria and Ruth Nduati. Dietary Intake, Iron and Zinc Status of Moderately Malnourished Children Aged 6-36 Months in Thika Urban Slums, Kenya at the Federation of African Nutrition Societies (FANUS) 3rd Conference 25-29 May 2015, Arusha, Tanzania (Poster Presentation).

Juliana Kiio & Bruno De Meulenaer. Generation of chicken antibodies for the immunochemical detection of peanut (*Arachis hypogaea* L.) proteins. The National Council for Science (NCST)- 4th Annual Conference for Dissemination of Research Results and Exhibition of Innovations held between 3rd to 6th May, 2011.

Juliana Kiio. Kenya Institute of Food Science and Technology Students (KIFSTS 1996) Conference, Nairobi, Kenya. Meat preservation using natural plant extracts (*Tamarindus indica*).

RESEARCH PROJECTS

2023-2025: Consumer Acceptance of Biofortified Iron Beans in Kenya: A Willingness to Pay and Choice Experiment Approach- A project funded African Economic Research Consortium (AERC) under the Policy Analysis for Sustainable and Healthy Foods in African Retail Markets (PASHFARM) project. Collaborators: Kenyatta University, Jomo Kenyatta University of Agriculture and Technology GROOTS Kenya.

2023-2028: *HEALTHYDIETS4AFRICA PROJECT*-Combating malnutrition in Africa through diversification of the food system. EU funded project under a research Consortium; Justus-Liebig University Giessen (Germany)- Project Lead, Kenyatta University (Kenya), AfricaRice (Ivory Coast), Katolieke Universiteit Leuven (Belgium), Universiteit Gent (Belgium), Max Planck Gesellschaft (Germany), Centro de Investigación y Tecnología Agroalimentaria de Aragon (Spain), Centre d'Excellence Régional contre la Faim et la Malnutrition (Ivory Coast), Africa Projects Development Centre (Nigeria), MANOBI Africa (Mauritius), International Institute of Tropical Agriculture (Nigeria), Food Security for Peace and Nutrition Africa (Kenya), De Montfort University (United Kingdom), University of Dschang (Cameroon), Entreprise en Sante et Sécurité au Travail (Ivory Coast), Universitätsklinikum Heidelberg (Germany), Agri-Business Vocational Training Center

(Cameroon), International Plant Genetic Resources Institute (Italy), Opportunities Industrialization Center (Ivory Coast) & University of Copenhagen (Denmark).

2022-2024: Catalyzing food environment policy actions towards a healthy diet and prevention of non-communicable diseases in Kenya (Food Environment Policy-Action; FEP-Action)". Funded by IDRC, Canada. Collaborators: APHRC-Lead, Ministry of Health (Kenya), Kenyatta University, JKUAT & GAIN

2016-2017: Evaluation of the potential for an Eco-friendly Urban and Peri-Urban Agriculture (UPA) system. A collaborative project funded by the Kenyatta University Vice Chancellor Grant.

2012-2014: Bioequivalence of Micronutrient Powders to Conventional Fortification on Zinc Status of Moderately Malnourished Children Aged 6-36 Months in Thika Informal Settlements, Kenya. A research project funded by the National Research Fund (NRF), Kenya.

CONSULTANCY

December 2022. Desk review on the link between Non-Communicable Diseases and the Consumption of Sugar-Sweetened Beverages, Salt and Fats: A Review of the Global and Kenyan Perspective- A review to guide policy development on marketing of healthy foods. APHRC led project funded by IDRC, Canada.

October 2018: Training of farmer groups on Post-harvest handling of fruits and vegetables and value addition of the produce. A project funded by the African Institute for Capacity Development (AICAD).

May 2010: Acceptability of Wheat and Maize Flour Fortified using Different Iron Fortificants (Sulphate, Fumerate, EDTA), A project funded by Flour Fortification Initiative (FFI). This work was published: Randall, P., Johnson, Q. and Verster, A. (2012). Fortification of wheat flour and maize meal with different iron compounds: Results of a series of baking trials. Food & Nutrition Bulletin. Supplement 3, Vol. 33, pS344-S359. 16p.

SURVEYS

Field supervisor in a National Large Country-Lot Quality Assurance Survey on Micronutrient Supplementation in Kenya by the Micronutrient Initiative (MI) and the Ministry of Health (MoH) from 10th to 22th January 2016.

Field supervisor in a National Large Country-Lot Quality Assurance Survey on Micronutrient Supplementation in Kenya by the Micronutrient Initiative (MI) and the Ministry of Health (MoH) from 5th to 17th February 2014.

Supervision of Postgraduate Students

PhD Supervision

Ongoing

1. Leah Mututho (H87/37154/2017). Effect of Provision of Breast Pumps and Breastfeeding Counselling on Exclusive Breastfeeding among Mothers Working In Horticultural Farms, Nakuru County, Kenya.

Masters Supervision

Completed

1. Beatrice Mugo (H60/38441/16). Blanching Time-Temperature Optimization in Kales and Spinach for Potassium Reduction and Vitamin Retention for Renal Patients in Kiambu County, Kenya.
2. Susan Katunge Kivaya (H60/CE/21259/2012). Competency of Community Health Volunteers on Complementary Feeding Strategies of Children 6-23 Months in Masinga, Machakos County, Kenya.
3. Nyakundi Patrick Nyamemba (H60/CE/34205/2017). Consumption Patterns of Tea, Iron- and Ascorbate-Rich Foods and Iron Status among Women of Childbearing Age in Nandi County, Kenya.
4. Margaret M. Mwanzia (H60/CTY/PT/33368/14). Formulation of Probiotic Mango Juice and Assessment of Physiochemical Characteristics, Nutritive Quality, Culture Viability and Storage Stability.
5. Miriam Bosire (H60/33060/2015). Determination of Antioxidants in Fresh and Solar-Dried Oyster Mushrooms and Sensory acceptability of Mushroom-Finger Millet Porridge-Blend among Adults With HIV/AIDS, Kenya.

Ongoing

1. Bridgit Nduta (H60/CTY/PT/38439/16). Eating Habits, Overweight and Obesity among Nutrition Students from Molo, Karen and Nyandurua Kenya Medical Training Colleges, Kenya.
2. Jean Paul Zihahirwa Hakizimwami (H60EA/22030/2021). Caregiver attitudes, feeding practices, morbidity, and recovery among children enrolled in outpatient therapeutic feeding programs Goma, Democratic Republic of Congo.
3. Sheila Cheron Rotich (H60/ CTY/PT /32822/2015). Dietary Aflatoxin Exposure Levels and Vitamin A Status among Children (6-23) Months Attending Makueni County Referral Hospital in Kenya.
4. Ombayo Merselline Kung'a (H60/33646/2015). Complementary Feeding Practices, Nutrition Status and Motor Developmental Milestones among Preterm Children (6-23 Months) Attending County Referral Hospitals, Western Kenya.
5. Janet Chebet Rotich (H60/CE/26393/2014). Household Food Security, Morbidity Patterns, and Nutrition Status of HIV Sero-Positive Geriatric Patients Attending Longisa Hospital Comprehensive Care Clinic, Bomet County.
6. Beatrice Kanario Mutiga (H60/CE/28302/2015). Growth Monitoring and Promotion Practice Among Health Workers and Caregivers and Stunting Among Children 0-23 Months Attending Meru Subcounty Hospitals.
7. Mutai Celestina Chepkorir (H60/32786/2015). Household Food Security, Dietary Practices and Nutrition Status of Children (6-24 Months) In Fishing and Non-Fishing Households in Budalangi, Busia County.
8. Catherine Mutete King'oo (H60/27008/2019). Agricultural Food Production and Household Food Security along the River Basins in Makueni County, Kenya.
9. Kamau Margaret Mwihi (H60/CE/34029/2017). Healthcare Workers' Knowledge and Skills on Anthropometric Assessment and Counselling of Caregivers to Children Attending Well-Baby Clinic in Uasin Gishu County.
10. Anthony Irungu Mwangi (H60/CTY/P/25461/2011). Iron Content of Commonly Consumed Complementary Feeding Flours, Dietary Diversity and Iron Status among Children 6-23 Months in Mathare Slums, Kenya
11. Carolyne Okiko (H60/38357/17). Heavy Metals Concentration in Assorted Vegetables in Kiambu County and the Health Implications to the Consumers
12. Naomi Njoki (H60/CTY/PT/32787/15). Cassava Acceptability, Utilization and Contribution to Household Food Security among Small Scale Farmers in Embu County

WORKSHOPS & TRAINING

- WHO training on food environment policy actions on 12th to 16th June 2023, Sawela Lodge, Naivasha Kenya

-Health Education Partnership Initiative HEPI Manuscript Writing Workshop: 27TH Oct, 29, to Nov 5, 2020 Virtual training

-Participated in a three-day online training on FoodEx2 software use to harmonize food consumption datasets 26th through to 29th October 2020. FAO ROME

-Kenya: Integrated phase classification of Acute Malnutrition Training (IPC AMN v3) Level 1 training conducted virtually in Kenya, 3rd-8th August 2020 FUNDED BY EU, UKaid AND USAID

-FAO/INFOODS training on Food composition databases 17 – 20 November 2015 - Nairobi Kenya.

-Nutrition in emergencies module, Kenyatta University FAO/FSAU: training workshop may 3rd-6th 2011.

-Training of millers and regulatory staff on quality assurance and quality control (QA/QC) in support of national flour fortification programmes and workshop on monitoring and surveillance for public health and nutrition managers organized by Flour Fortification Initiative(FFI)/smarter futures – 4-7 April 2011 Dar es salaam, Tanzania.

-*Neglected and Underutilized Plant Species (NUS)*, Nairobi 24 - 28 November 2008 - Organized by Bioversity International and International Foundation for Science, Sweden.

-The 20th anniversary symposium on "Research in Applied Nutrition: Challenges and Expectations" in Brussels 3rd December, 2004 organized by Nutrition Third World and the Royal Academy of Overseas Sciences of Belgium.

Professional Bodies

Nutrition Society (UK), African Nutrition Society, Kenya Nutritionists & Dietitians Institute, Kenya Association of Food Safety and Protection (KAFSAP).

Other Professional Assignments:

- Member of Kenya Bureau of Standards (KEBS) Technical Committees:
 - o KEBS/TC 164 - Nutrition and Health
 - o KEBS/TC 018 - Food Hygiene
 - o KEBS/TC 022 - Food additives
- Secretary General, Kenya Association of Food Safety and Protection (KAFSAP): 2019 to 2024.
- Member (Scientific Committee) Local Organizing Committee; International Food Safety Conference, 20th to 24th May, 2019, Kenyatta University Kenya.
- Member of the committee reviewing the Kenyan Food Composition databases coordinated by FAO, KALRO and MOH; 2015-2018.