

CURRICULUM VITAE

Dorothy Nakimbugwe, PhD – Food & Nutrition Scientist

Associate Professor
Department of Food Technology & Nutrition
School of Food Technology, Nutrition & Bio-engineering
Makerere University
P. O. Box 7062
Kampala, Uganda
Mob. Tel.: +256 782 246089 or +256 704 246089
E-mail: dnakimbugwe@gmail.com

EDUCATION

PhD Bioscience Engineering (Food and Microbial Technology).

Katholieke University of Leuven, Faculty of Bioscience Engineering, Leuven, Belgium. December 2001 – March 2006.

MSc. Food Science (Major) Agricultural Resource Management & Economics (Minor).

Cornell University, Ithaca New York, Aug. 1994 - Aug. 1996.

B.Sc. Food Science & Technology. Makerere University, June 1989-June 1993.

EMPLOYMENT

27 April 2017 - to-date – Associate Professor, Department of Food Technology & Nutrition, Makerere University

2005 – 2017 - Senior Lecturer, Department of Food Technology & Nutrition, Makerere University

1997 – 2005 – Lecturer, Department of Food Science & Technology, Makerere University

PROFESSIONAL BRIEF

Dr. Nakimbugwe is an Associate Professor in the Department of Food Technology & Nutrition at Makerere University, Founding Director for Nutreal Ltd. (www.nutreal.ug), consultant, community worker and researcher. She is also a Board Member of: Community Action for Health (CAfH) an organization implementing World Food Program-supported supplementary feeding programs in Karamoja region for over 10 years and Farm Radio International (an international non-profit organization focused on using radio to help African farming communities help themselves. She is also a past member of the Finance Committee of Uganda National Academy of Science (UNAS) and current member of the Risk and Ethics Committee.

Dr. Nakimbugwe has been engaging communities to improve the nutritional quality of complimentary foods in Uganda for over 10 years and has made significant contributions to introducing, and promoting locally processed, nutritious foods. Her product development is informed by community-based research to assess the nutritional status, dietary adequacy and tastes and preferences of nutritionally vulnerable communities. She has served as PI/Co-PI for 27 international collaborative projects, co-authored over 30 scientific peer reviewed articles and book Chapters as well as mass media articles, given television and radio interviews and made presentations to different audiences within and outside Uganda.

Dr. Nakimbugwe is an Associate Professor in the Department of Food Technology & Nutrition at Makerere University, Founding Director for Nutreal Ltd. (www.nutreal.ug, established in 2010). She has a PhD in Bioscience Engineering from the Katholieke University of Leuven, Belgium; an MSc in Food Science from Cornell University, USA and a BSc. in Food Science & Technology, Makerere University, Uganda. Dr. Nakimbugwe has engaged communities to improve the nutritional quality of complimentary foods in Uganda for over 20 years and has made significant contributions to introducing, commercializing and promoting over 30 locally processed, nutritious foods. Her product development is informed by community-based research to assess the nutritional status, dietary adequacy and tastes and preferences of nutritionally vulnerable communities. She has served as PI/Co-PI for 27 international collaborative projects supported by organizations including: Uganda Government, EU commission, IDRC, ACIAR, Harvest-Plus, CIAT/PABRA, IAEA, Bill & Melinda Gates Foundation, USAID, Inter-University Council for East Africa (UCEA), Carnegie Foundation, Sida, DANIDA, IKEA Foundation and Nestle Foundation. She has authored/co-authored over 50 scientific peer reviewed articles and book Chapters as well as mass media articles, given television and radio interviews and made presentations to different audiences within and outside Uganda. She is a Board Member of: Community Action for Health (CAfH) an organization implementing World Food Program-supported supplementary feeding programs in Karamoja region for over 10 years and Farm Radio International (<https://farmradio.org/>). She is also a past member of the Finance Committee of Uganda National Academy of Science (UNAS, <https://unas.org.ug/>) and current member of the Risk and Ethics Committee. Dorothy joins this team a Private sector partner through Nutreal Limited to support food product development and commercialization, to contribute expertise, experience and existing resources (human, infrastructure and networks).

RESEARCH

1. Increasing food security and decreasing malnutrition via innovation agro-platforms, crop breeding and novel food processing of common beans in Uganda. Swedish Research Council. 2023 – 2026. Total project grant is 4,496,000 SEK, equivalent to 437,810 USD.
2. Refugee Insect Production for Food and Feed (RefIPro). Novo Nordic Foundation (NNF). 2022-2026. DKK 1,013,833 for MAK

3. Upscaling the benefits of insect-based animal feed technologies for sustainable agricultural intensification in Africa (PROTeinAfrica). ACIAR. 2022 – 2025; USD 3 Million (\$200,000 for MAK).
4. Sustainable and efficient insect production for livestock feed through selective breeding (FLYgene). DANIDA. 2022 - 2026
5. Innovations and capacity building for inclusive nutrition-sensitive value chains in Kenya and Uganda - Upgrading strategies for underutilised horticultural crops” (InNuSens). Federal Ministry of Education and Research (BMBF) & German Academic Exchange Service (DAAD). 2021 – 2025.
6. Food and Local Agricultural and Nutritional Diversity (FoodLAND). European Commission, 2014-2020 Horizon 2020 - research and innovation framework programme. 2020-2024.
7. Harnessing dietary nutrients of under-utilized fish and fish-based products to combat micronutrient deficiency among vulnerable groups in Uganda (NutriFish) – CultiAF2 (IDRC/ACIAR). 2019 - 2022.
8. A new technique for locust mass culture for food and feeds industry in East Africa. Oct 2018-Sept. 2019. Cooperative Grant Initiative implemented by the EASTECO, UNCST, NRF, NCST, COSTECH and ACTS. Co-PI for Makerere University.
9. Development of safe mass rearing tools and value addition for the desert locust (*Schistocerca gregaria* Forskal) value chain in East Africa. UNCS&T. 1st March 2022 – 28th February 2025.
10. Enhancing food and nutrition security through promotion of edible insects’ value chain in Eastern Africa (Ento-Economy). Leap-Agri. 23 March 2020 – 23rd March 2023.
11. INSBIZ: INSeCT-based agriBIZiness for sustainable grasshopper and cricket production and processing for food in Kenya and Uganda (2017-2020). SIDA/BioInnovate Africa, Phase II.
12. Making Value Chains Work for Food and Nutrition Security of Vulnerable Populations in East Africa; A holistic approach for linking smallholder bean-based production systems in Kenya and Uganda to informal markets for affordable, safe, and nutritious foods. 2016-2019. Bundesministerium für Wirtschaftliche Zusammenarbeit und Entwicklung (BMZ-Germany).
13. Development of high-quality food protein from multi-purpose crops through optimized, sustainable production and processing methods - PROTEIN2FOOD. European Commission, 2014-2020 Horizon 2020 - research and innovation framework programme.
14. Integrating insects in fish and poultry feed in Kenya and Uganda. International Development Research Centre, Canada (IDRC) and Australia Centre for International Agricultural Research (ACIAR). 2014-2017. Principle Investigator – Uganda.
15. Development and Evaluation of a Nutrition Breakfast Cereal and a Snack Suitable for Young Children and Women of Reproductive Age, Using Bio-fortified beans. Harvest Plus Challenge Program. IFPRI/HP/CIAT. 2013 - 2014. Principal Investigator.
16. Enhancing the food and nutrition security of vulnerable communities through value-added iron-enhanced bean products. Pan Africa Bean Research Alliance (PABRA)/International Centre for Tropical Agriculture (CIAT) 2012-2014. Principal Investigator.
17. Use of Stable Isotopes to assess the Prevalence of overweight, Obesity and Non-Communicable Diseases among School Children in Uganda. IAEA **Regional Project** for Africa. 2012-todate. Principal Investigator & Uganda project counterpart.
18. Use of Stable Isotopes to assess the Prevalence of overweight, Obesity and Non-Communicable Diseases among School Children in Uganda. IAEA **national Project**. Approved for implementation 2014-2016. Principal Investigator.

19. Prospects of Breeding and Rearing Grasshoppers (Nsenene, *Ruspolia Nitidula*) for Better Nutrition and Healthy Growth of Infants and Children in Eastern Africa. Round 7 of Grand Challenges Explorations, Bill & Melinda Gates Foundation, 2011-2012. Co-PI (Value Addition).
20. Enhancing the use of Science & Technology through increased interaction between High Education Institutions and the Private Sector. AAU, 2008-2012. Co-PI.
21. Harnessing the commercial potential of indigenous malted and fermented cereal products. BioEarn, Inter University Council for East Africa. 2007- 2011. Co-PI.
22. Grain amaranth production and value addition for improved livelihoods in the Lake Victoria Basin (LVB). VicRes 2008 - 2013. Principal Investigator.
23. Enhancing the Nutritional value and Marketability of Beans through Research and strengthening key value-chain stakeholders in Uganda and Rwanda. USAID Pulse CRSP, 2007-2012. Principal Investigator.
24. Developing an aflatoxin-free Peanut based food therapeutic food suitable for feeding people living with HIV/AIDs. USAID Peanut CRSP, 2007- 2012. Principal Investigator.
25. Nutritional analysis and innovative approaches for value addition to *Ruspolia nitidula* (Nsenene) for income generation in Uganda (2010-2012). Co-PI.
26. Utilization of grain amaranth in nutrient-dense ready-to-eat foods suitable to feeding nutritionally vulnerable people. Nestle, 2007-2010. Co-PI.
27. Developing an improved protocol for handling and processing of honey in Uganda (Carnegie-Makerere University Competitive Research Grants 2008/2009). Co-PI.

PUBLICATIONS

1. Ssepunya, G., Claes, J., Van Der Borgh, M., Van Campenhout, L., & Nakimbugwe, D. 2023. Shelf life of the preheated and ready-to-eat long-horned grasshopper *Ruspolia differens* Serville. *Journal of Insects as Food and Feed*, 9(12), 1577-1590. <https://doi.org/10.1163/23524588-20230183>
2. Eva Johansson, Ramune Kuktaite, Maryke Labuschagne, Sbatie Lama, Yuzhou Lana, Dorothy Nakimbugwe, Ritva Repo-Carrasco-Valencia, Firew Tafesse, Kassahun Tesfayee, F, and Daniel Vazquezg. 2023. Adaptation to abiotic stress factors and their effects on cereal and pseudocereal grain quality. Chapter 2 *In: (Editors): Rakszeg, M., Papageorgiou, M., & Rocha, J. M. (2023). Developing Sustainable and Health Promoting Cereals and Pseudocereals. Elsevier. pp. 339-351. https://doi.org/10.1016/C2020-0-03827-2.*
3. Zainah Nampijja, Muhammad Kiggundu, Abas Kigozi, Ashraf Lugya, Henry Magala, Geoffrey Ssepunya, Dorothy Nakimbugwe, Sadhat S. Walusimbi, Swidiq Mugerwa. 2023. Optimal substitution of black soldier fly larvae for fish in broiler chicken diets. *Scientific African*, Volume 20. <https://doi.org/10.1016/j.sciaf.2023.e01636>.
4. Akullo, J. O., Kiage-Mokua, B. N., Nakimbugwe, D., Ng'ang'a, J., & Kinyuru, J. 2023. Color, pH, microbiological, and sensory quality of crickets (*Gryllus bimaculatus*) flour preserved with ginger and garlic extracts. *Food Science & Nutrition*, 00, 1– 14. <https://doi.org/10.1002/fsn3.3262>.
5. Akullo JO Kiage-Mokua B, Nakimbugwe D, Ng'ang'a J, Kinyuru J. 2022. Potential Sources of Natural Antioxidants and Antimicrobials: Comparative Analysis of Turmeric (*Curcuma longa*) Extracts from Different Solvent Extraction Systems. *J Food Chem Nanotechnol* 8(4): 138-146.

6. Oder, J.A., Kiage, B., Nakimbugwe, D., Kinyuru, J. 2022. Effect of aqueous and organic solvent extraction on in-vitro antimicrobial activity of two varieties of fresh ginger (*Zingiber officinale*) and garlic (*Allium sativum*). HELIYON, <https://doi.org/10.1016/j.heliyon.2022.e10457>.
7. Maiyo, Nelly C., Fathiya M. Khamis, Michael W. Okoth, George O. Abong, Sevgan Subramanian, James P. Egonyu, Cheseto Xavier, Sunday Ekesi, Evanson R. Omuse, Dorothy Nakimbugwe, Geoffrey Ssepuuya, Changeh J. Ghemoh, and Chrysantus M. Tanga. 2022. "Nutritional Quality of Four Novel Porridge Products Blended with Edible Cricket (*Scapsipedus icipe*) Meal for Food" *Foods* 11, no. 7: 1047. <https://doi.org/10.3390/foods11071047>
8. Murugu DK, Onyango AN, Ndiritu AK, Osuga IM, Xavier C, Nakimbugwe D and Tanga CM (2021) From Farm to Fork: Crickets as Alternative Source of Protein, Minerals, and Vitamins. *Frontiers in Nutrition*. 8:704002. doi: 10.3389/fnut.2021.704002.
9. Beesigamukama, D., B. Mochoge, N. Korir, K. Menale, B. Muriithi, M. Kidoido, H. Kirscht, G. Diiro, C.J. Ghemoh, S. Sevgan, D. Nakimbugwe, M.W. Musyoka, S. Ekesi and C.M. Tanga (2021) Economic and ecological values of frass fertiliser from black soldier fly agro-industrial waste processing. *Journal of Insects as Food and Feed*, 0 (0)- Pages: 1 – 10. <https://doi.org/10.3920/JIFF2021.0013>.
10. Beesigamukama D., B. Mochoge B, N.K. Korir NK, K.K.M. Fiaboe KKM, D. Nakimbugwe D, Khamis FM, Subramanian S, Wangu MM, Dubois T, Ekesi S, Tanga CM. (2021). Low-cost technology for recycling agro-industrial waste into nutrient-rich organic fertilizer using black soldier fly. *Waste management Journal* 119 (2021) 183–194. <https://doi.org/10.1016/j.wasman.2020.09.043>
11. G. Ssepuuya, F. Sengendo, C. Ndagire, J. Karungi, J. Efitre K. K. M. Fiaboe, D. Nakimbugwe Effect of alternative rearing substrates and temperature on growth and development of the cricket *Modicogryllus conspersus* (Schaum). 2020. *Journal of Insects as Food and Feed*: 0 (0)- Pages: 1 – 10. <https://doi.org/10.3920/JIFF2020.0014>
12. Hedwig Natabirwa, Dorothy Nakimbugwe, Mercy Lung'aho, Kashub S. Tumwesigye and, 13. John H. Muyonga. 2020. Bean-based nutrient-enriched puffed snacks: Formulation design, functional evaluation, and optimization. *Food Science & Nutrition*. <https://doi.org/10.1002/fsn3.1727>.
14. D. Nakimbugwe, G. Ssepuuya, D. Male, V. Lutwama, I. M. Mukisa & K. K. M. Fiaboe. 2020. Status of the regulatory environment for utilization of insects as food and feed in Sub-Saharan Africa-a review, *Critical Reviews in Food Science and Nutrition* 61(8):1269-1278. doi: 10.1080/10408398.2020.1756738
15. Nyangena, D.N.; Mutungi, C.; Imathiu, S.; Kinyuru, J.; Affognon, H.; Ekesi, S.; Nakimbugwe, D.; Fiaboe, K.K. 2020. Effects of Traditional Processing Techniques on the Nutritional and Microbiological Quality of Four Edible Insect Species Used for Food and Feed in East Africa. *Foods* 9(5) 574. <https://doi.org/10.3390/foods9050574>
16. John Njenga Macharia, Gracious Malton Diiro, John Rono Busienei, Kimpei Munei, Hippolyte D. Affognon, Sunday Ekesi, Beatrice Muriithi, Dorothy Nakimbugwe, Chrysantus Mbi Tanga & Komi K. M. Fiaboe. 2020. Gendered analysis of the demand for poultry feed in Kenya, *Agricultural Economics Research, Policy and Practice in Southern Africa (Agrekon)*. Volume 59, - [Issue 4](https://doi.org/10.1080/03031853.2020.1742747), DOI: 10.1080/03031853.2020.1742747
17. [Bbosa](#), T, [Ndagire](#), C.T., [Mukisa](#), K.M., [Nakimbugwe](#), D. 2019. Nutritional Characteristics of Selected Insects in Uganda for Use as Alternative Protein Sources in

- Food and Feed. *Journal of Insect Science*, Volume 19, Issue 6, November 2019, 23, <https://doi.org/10.1093/jisesa/iez124>.
18. Geoffrey Ssepunya, Ruben Smets, Dorothy Nakimbugwe, Mik Van Der Borgh, Johan Claes. 2019. Nutrient composition of the long-horned grasshopper *Ruspolia differens* Serville: Effect of swarming season and sourcing geographical area. *Food Chemistry*: 301(15). <https://doi.org/10.1016/j.foodchem.2019.125305>
 19. G. Ssepunya, C.M. Tanga, I. Yekko, F. Sengendo, C.T. Ndagire, K.K.M. Fiaboe, J. Karungi, D. Nakimbugwe. 2018. Suitability of egg hatching conditions and commonly available food plants for rearing the long-horned grasshopper *Ruspolia differens* Serville (Orthoptera: Tettigoniidae). *Journal of Insects as Food and Feed*: 4 (4) - Pages: 253 – 261. DOI: 10.3920/JIFF2018.0005.
 20. Catherine T. Ndagire, John H. Muyonga, Benard Odur, Dorothy Nakimbugwe. 2018. Prediction equations for body composition of children and adolescents aged 8-19 years in Uganda using deuterium dilution as the reference technique. *Clinical Nutrition ESPEN* 28: 103-109. doi: 10.1016/j.clnesp.2018.09.004
 21. Keneth Iceland Kasozi, Sarah Namubiru, Abass Alao Safiriyu, Herbert Izo Ninsiima, Dorothy Nakimbugwe, Monica Namayanja, and Miriela Betancourt Valladare. 2018. Grain Amaranth Is Associated with Improved Hepatic and Renal Calcium Metabolism in Type 2 Diabetes Mellitus of Male Wistar Rats. *Evidence-Based Complementary and Alternative Medicine*, vol. 2018 (2012) 1-10 Article ID 4098942, 10 pages, 2018. <https://doi.org/10.1155/2018/4098942>.
 22. Geoffrey Ssepunya, Enya Wynants, Christel Verreth, Sam Crauwels, Bart Lievens, Johan Claes, Dorothy Nakimbugwe, Leen Van Campenhout. 2018. Microbial characterisation of the edible grasshopper *Ruspolia differens* in raw condition after wild-harvesting in Uganda. *Food Microbiology* 77 (2019), 106-117. DOI: [10.1016/j.fm.2018.09.005](https://doi.org/10.1016/j.fm.2018.09.005)
 23. Catherine T. Ndagire, John H. Muyonga, Dan Isabirye, Benard Odur, Serge M. A. Somda, Richard Bukonya, Juan E. Andrade and **Dorothy Nakimbugwe**. 2018. Assessing the reliability of FTIR spectroscopy measurements and validity of bioelectrical impedance analysis as a surrogate measure of body composition among children and adolescents aged 8–19 years attending schools in Kampala, Uganda. *BMC Public Health* 18:687. <https://doi.org/10.1186/s12889-018-5627-y>.
 24. Hedwig Natabirwa, **Dorothy Nakimbugwe**, Mercy Lung'aho, John H. Muyonga. 2018. Optimization of Robal extrusion conditions and bean extrudate properties using response surface methodology and multi-response desirability function, *LWT* 96: 411-418.
 25. V O Onsongo, I M Osuga, C K Gachuri, A M Wachira, D M Miano, C M Tanga, S Ekesi, **D Nakimbugwe**, K K M Fiaboe. 2018. Insects for Income Generation Through Animal Feed: Effect of Dietary Replacement of Soybean and Fish Meal with Black Soldier Fly Meal on Broiler Growth and Economic Performance, *Journal of Economic Entomology*, Volume 111, Issue 4, August 2018, Pages 1966–1973, <https://doi.org/10.1093/jee/toy118>
 26. F. G. Irungu. C. M. Mutungi. A. K. Faraj. H. Affognon C. Tanga. S. Ekesi. D. **Nakimbugwe**. K. K. M. Fiaboe. 2018. Minerals content of extruded fish feeds containing cricket (*Acheta domesticus*) and black soldier fly larvae (*Hermetia illucens*) fractions. *International Aquaculture Research*. <https://doi.org/10.1007/s40071-018-0191-8>
 27. E. Kamaua, C. Mutungi, J. Kinyuru, S. Imathiu, C. Tanga, H. Affognon, S. Ekesi, **D. Nakimbugwe**, K.K.M. Fiaboe. 2018. Moisture adsorption properties and shelf-life

- estimation of dried and pulverised edible house cricket *Acheta domesticus* (L.) and black soldier fly larvae *Hermetia illucens* (L.). *Food Research International* 106: 420–427. DOI: [10.1016/j.foodres.2018.01.012](https://doi.org/10.1016/j.foodres.2018.01.012)
28. Akullo, J., Agea, J.G., Obaa, B. B., Okwee-Acai, J. and **Nakimbugwe, D.** 2018. Nutrient composition of commonly consumed edible insects in the Lango sub-region of northern Uganda. *International Food Research Journal* 25(1): 159 – 165.
 29. Mutungi, C., Irungu, F.G., Nduko, J., Mutua, F., Affognon, H., **Nakimbugwe, D.**, Ekesi, S., Fiaboe, K.K.M. 2017. Postharvest processes of edible insects in Africa: A review of processing methods, and the implications for nutrition, safety and new products development. *Crit Rev Food Sci Nutr.* 30:1-23. doi: 10.1080/10408398.2017.1365330.
 30. Ssepuuya, G. Namulawa V., Mbabazi, D., Mugerwa, S., Fuuna, P., Nampijja, Z., Ekesi, S., Fiaboe K.K.M. and **D. Nakimbugwe.** 2017. Use of insects for fish and poultry compound feed in sub-Saharan Africa – a systematic review. *Journal of Insects as Food and Feed.* 3:4, 289-302. ISSN 2352-4588 online, DOI 10.3920/JIFF2017.0007.
 31. Natabirwa, H., Muyonga, J. H., **Nakimbugwe, D.** and Lungaho, M. 2017. Physico-chemical properties and extrusion behaviour of selected common bean varieties. *J. Sci. Food Agric.* doi:10.1002/jsfa.8618
 32. Akande, O.A., **Nakimbugwe, D.**, Mukisa, I.M. 2017. Optimization of extrusion conditions for the production of instant grain amaranth-based porridge flour. *Food Sci Nutr.* 00:1–10. <https://doi.org/10.1002/fsn3.513>
 33. Akullo, J., Agea, J. G., Obaa, B. B., Acai, J. O., & **Nakimbugwe, D.** 2017. Process development, sensory and nutritional evaluation of honey spread enriched with edible insects' flour. *African Journal of Food Science*, 11(2), 30-39. DOI: 10.5897/AJFS2016.1463.
 34. Akullo, J., Obaa, B.B., Okwee, A. J., **Nakimbugwe, D.**, Agea, J.G. 2017. Knowledge, attitudes and practices on edible insects in Lango sub-region, northern Uganda. *Journal of Insects as Food and Feed.* 2017 3:2, 73-81. <https://doi.org/10.3920/JIFF2016.0033>.
 35. G. Ssepuuya, R.O. Aringo, I.M. Mukisa, and **D. Nakimbugwe.** 2016. Effect of processing, packaging and storage-temperature based hurdles on the shelf stability of sautéed ready-to-eat *Ruspolia differens*. *Journal of Insects as Food and Feed.* 2016 2:4, 245-253. <https://doi.org/10.3920/JIFF2016.0006>
 36. Ssepuuya, G., Mukisa, I. M. and **Nakimbugwe, D.** 2016. Nutritional composition, quality, and shelf stability of processed *Ruspolia nitidula* (edible grasshoppers). *Food Science & Nutrition.* doi: 10.1002/fsn3.369
 37. Nkundabombi, M. G., **Nakimbugwe, D.** and Muyonga, J. H. 2015. Effect of processing methods on nutritional, sensory, and physicochemical characteristics of biofortified bean flour. *Food Science & Nutrition.* 4(3), 384-397. doi: 10.1002/fsn3.301.
 38. Catherine T. Ndagire, John H. Muyonga, Reddy Manju, **Dorothy Nakimbugwe.** 2015. Optimized formulation and processing protocol for a supplementary bean-based composite flour. *Food Science & Nutrition* 2015; 3(6): 527–538. doi: 10.1002/fsn3.244
 39. Aisha Musaaazi Nakitto, John H. Muyonga and **Dorothy Nakimbugwe.** 2015. Effects of combined traditional processing methods on the nutritional quality of beans. *Food Science & Nutrition.* 3(3):233-241. DOI: [10.1002/fsn3.209](https://doi.org/10.1002/fsn3.209)
 40. Tibagonzeka J., Wambete J., Muyinda A.M. **Nakimbugwe D.**, and J. H. Muyonga. 2014. Acceptability and Nutritional Contribution of Grain Amaranth Recipes in Uganda. *African Journal of Food, Agriculture, Nutrition and Development* 14(3) 8979-8997.

41. Deborah Nabuuma, **Dorothy Nakimbugwe**, Yusuf B. Byaruhanga, Firibu Kwesi Saalia, Robert Dixon Phillips and Jinru Chen. 2013. Development of the process for a drinkable plant-based Infant Food. *Journal of Nutrition and Food Sciences* 3:210. Volume 3 issue 4. 1000210. An online open access journal. DOI 10.4172/2155-9600.1000210.
42. Deborah Nabuuma, **Dorothy Nakimbugwe**, Yusuf B. Byaruhanga, Firibu Kwesi Saalia, Robert Dixon Phillips and Jinru Chen. 2012. Formulation of a drinkable peanut-based therapeutic food for malnourished children, using plant sources. *International Journal of Food Science & Nutrition* 64(4), pp. 467-475.
43. Kwikiriza, N., Mugisha J., Ainebyona, R., **Nakimbugwe, D**, Masinde, D.M. and Nyankanga, R.O. 2012. Economic Evaluation of Grain Amaranth Production in Kamuli District, Uganda. *Journal of Agricultural Science and Technology* A2.
44. **Dorothy Nakimbugwe**, Barbara Masschalck, Grace Anim and Chris W. Michiels. 2006. Inactivation of gram-negative bacteria in milk and banana juice by hen egg white and lambda lysozyme under high hydrostatic pressure. *International Journal of Food Microbiology* 112:19-25. <https://doi.org/10.1016/j.ijfoodmicro.2006.06.010>.
45. **Dorothy Nakimbugwe**, Barbara Masschalck, Daphne Deckers, Lien Callewaert, Abram Aertsen & Chris W. Michiels. 2006. Cell wall substrate specificity of six different lysozymes and lysozyme inhibitory activity of bacterial extracts. *FEMS Microbiology Letters* 259, 41–46.
46. **Nakimbugwe Dorothy**, Masschalck Barbara, Zewdie-Bosuner Abebech, Atanassova Miroslava and Michiels Chris. 2006. Bacterial inactivation by different lysozymes in combination with High Hydrostatic Pressure. *International Journal of Food Microbiology* 108, 355–363. <https://doi.org/10.1016/j.ijfoodmicro.2005.11.021>.
47. **Dorothy Nakimbugwe** and Kathryn J. Boor. 2010. Food Safety as a bridge between Food Systems and Human Health in Sub-Saharan Africa. Chapter 8 In: *The African Food System and its interaction with Human Health and Nutrition*. Per Pinstrup-Andersen (ed.). United Nations University & Cornell University Press. London & Ithaca NY.
48. Nyakuni, G., Kikafunda, J.K., Muyonga J.H., Kyamuhangire, W., **Nakimbugwe, D.N** and Ugen, M. 2008. Chemical and nutritional changes associated with development of HTC defect in common beans. *International Journal of Food science & Nutrition*. 59(7-8): 652-659.
49. Balamaze, J. Muyonga, J.H., Kikafunda, J.K., Kyamuhangire, W., **Nakimbugwe, D.N** and Ugen, M. 2008. Influence of variety, growth location and storage conditions on development of hard-to-cook defect in common bean (*Phaseolus vulgaris*. L). *African Journal of Food, Agriculture, Nutrition and Development*, 8(3) 334-348.
50. Callewaert L, Aertsen A, Deckers D, Vanoirbeek KGA, Lise Vanderkelen, Joris M. Van Herreweghe, Barbara Masschalck, **Dorothy Nakimbugwe**, Johan Robben, and Chris W. Michiels. 2008. A New Family of Lysozyme Inhibitors Contributing to Lysozyme Tolerance in Gram-Negative Bacteria. *PLoS Pathog* 4(3)
51. Lien Callewaert, Barbara Masschalck, Daphne Deckers, **Dorothy Nakimbugwe**, Miroslava Atanassova, Abram Aertsen, Christiaan W. Michiels. 2005. Purification of Ivy, a lysozyme inhibitor from *Escherichia coli*, and characterisation of its specificity for various lysozymes. *Enzyme and Microbial Technology* 37: 205–211.
52. S. Vellema, **D. Nakimbugwe** and D. Mwesige. 2011. The Ugandan Oilseed Sub-sector Platform. Chapter V In: *Putting heads together: Agricultural innovation platforms in practice* Suzanne Nederlof, Mariana Wongtschowski and Femke van der Lee (Eds.).

Development, Policy & Practice. Bulletin 396. KIT Publishers. Amsterdam, The Netherlands.

53. Muyonga, J.H., Nabakabya, D., Nakimbugwe, D.N. & Masinde, D. 2008. Efforts to promote amaranth production and consumption in Uganda to fight malnutrition. *In Using Food Science and Technology to Improve Nutrition and Promote National Development*. Robertson, G.L. & Lupien, J.R. (Eds), Chapter 8. International Union of Food Science & Technology.
<http://www.iufost.org/publications/books/IUFoSTFoodScienceandTechnologyHandbook.cfm>
54. **Dorothy Nakimbugwe**. 2010. Evaluation of the Dutch Ministry of Foreign Affairs Support to Capacity Development: An evidence-based study. SNV Support to the Uganda Oilseed Sub-sector. SNV/Dutch Ministry of Foreign Affairs.

NON-SCIENTIFIC PUBLICATIONS

Nakimbugwe, D. (contributor) Uganda Value Chain Roadmap for Sunflower, 2016-2020.
http://www.intracen.org/uploadedFiles/intracenorg/Content/Redesign/Projects/SITA/Uganda%20Sunflower%20Roadmap_final_web.pdf (accessed 19 May 2017).

Mazur, R. Nakimbugwe, D. Ugen, M. and Musoke, H.K. Enhancing the nutritional value and marketability of beans through research and strengthening key value-chain stakeholders in Uganda. A Case study Prepared for the IFPRI 2020 international conference “Leveraging Agriculture for Improving Nutrition and Health,” February 10–12, 2011, New Delhi, India.
<https://www.scribd.com/document/78559604/Value-Chains-for-Nutrition>, accessed 20 May 2017.

Muyonga, J., Kibazohi, O., Byaruhanga, Y.B. Gideon, H., **Nakimbugwe, D.** 2010. Adopt Science & Technology to enhance Business Performance. A Policy Brief is based on research supported by the Association of African Universities, Mobilizing Regional Capacity Initiatives Program under project MRCI/08/F02/P49

Muyonga, J., Kibazohi, O., Byaruhanga, Y.B. Gideon, H., **Nakimbugwe, D.** 2010. Reconfiguring Universities and Research Institutes to Respond to Development Needs. A Policy Brief is based on research supported by the Association of African Universities, Mobilizing Regional Capacity Initiatives Program under project MRCI/08/F02/P49.

Muyonga, J., Kibazohi, O., Byaruhanga, Y.B. Gideon, H., **Nakimbugwe, D.** 2010. Supporting Micro, Small and Medium Enterprises in Uganda to benefit from Science & Technology Innovation. A Policy Brief is based on research supported by the Association of African Universities, Mobilizing Regional Capacity Initiatives Program under project MRCI/08/F02/P49.

SERVICE TO THE COMMUNITY

Board Member for:

- Community Action for Health (CAfH) an organization implementing World Food Program-supported supplementary feeding programs in Karamoja region for over 10 years
- Farm Radio International (an international non-profit organization focused on using radio to help African farming communities help themselves.
- Food & Nutrition Solutions Limited (FONUS)

Member of the Finance Committee of Uganda National Academy of Science (UNAS).

SUPERVISION OF GRADUATE STUDENTS

Name of student	Degree	Thesis title	Status
Bbosa Tom Registered at KU Leuven, Belgium Student No. r0818780	PhD, Engineering Technology (Biosciences)	Potential of cricket-enriched products to improve nutrition and health of lactating women and children (6 - 24 months)	In Progress
Jolly Akullo AGF/421/3589/2017 (Registered at JKUAT	PhD Food Science & Nutrition	Preserving the quality of insects consumed in Uganda using plant extracts	In Progress
Rachael Byarugaba Registered at Humboldt University	PhD	Development of food products from leaf amaranth for improved utilization	In progress
Hedwig Nattabirwa Reg. #: 2014/HD02/18669U	PhD Food Science & Technology	Common Beans (<i>Phaseolus Vulgaris</i> L.) Extrusion: Process Optimization and Product Evaluation.	Completed in 2019
Geoffrey Ssepuuya R0359995 (Registered at KU Leuven, Belgium)	PhD, Engineering Technology (Biosciences)	Optimizing the shelf-life, sensorial and nutritional quality of an edible grasshopper (<i>Ruspolia nitidula</i>) in Uganda	Completed in 2019
Catherine Ndagire Tamale Reg. #: 2013/HD02/18558U	PhD Human Nutrition	Reliability and validity of measures of body composition, dietary intake and physical activity among children and adolescents in Uganda – case of Kampala district	Completed in 2018

Bbosa Tom Reg #: 2014/HD02/621U	MSc. Applied Human Nutrition	Processing and characterization of insect meal for use as an alternative protein source for food and feed	Completed in 2017
Oola Stephen Kidega Reg. #: 2010/HD13/542U	MSc. Biochemistry (2017)	Body composition, physical activity and blood pressure levels among public primary school children in Kampala district	Completed in 2017
Felix Tombe Reg. #: 2014/HD02/632X	MSc. Applied Human Nutrition (2017)	Optimization of a protocol for processing an amaranth-based porridge flour suitable for feeding children 6 to 59 months	Completed in 2017
Nwatarali Philomena Onwuamaeze Reg.#: 2013/HD02/1955X	MSc. Applied Human Nutrition (2016)	Vegetable-enriched nutrient dense flours for school-age children 5-13 years	Completed in 2016
Jolly Akullo Reg.#: 2011/HD02/4223U	MSc. Food Science (2016)	Indigenous Knowledge, Nutritional Quality and Processing of Commonly Consumed Insects in the Lango Sub-region, Uganda	Completed in 2016
Olamde Abigael Oladimeji Reg. #: 2013/HD02/2093X	MSc. Food Science (2016)	Development and Optimization of Amaranth Based Instant Soup and Porridge Flours	Completed in 2016
Grace Marie Nkundabombi Reg.#: 2011/HD02/4779X	MSc. Applied Human Nutrition (2015)	Development and characterization of flours from iron-bio-fortified beans	Completed in 2015
Tebah Y. Smith Reg. #: 2013/HD02/1956X	MSc. Applied Human Nutrition (2015)	Potential of Grain Amaranth (<i>Amaranthus hypochondriacus</i>) for Management of Type II Diabetes in Streptozotocin-induced Diabetic Rats	Completed
Evas Juliet Tibagonzeka Reg. #: 2009/HD02/14705U	MSc. Applied Human Nutrition (2014)	Potential of Grain Amaranth to Improve Food and Nutrition Security in Rural Uganda	Completed

Deborah Nabuuma Reg. #:2009/HD02/1470U	MSc. Applied Human Nutrition (2013)	Development of a drinkable, peanut-based therapeutic food	Completed
Catherine Tamale Ndagire Reg. #: 2010/HD02/3203U	MSc. Applied Human Nutrition (2013)	Optimized formulation and processing protocol for a supplementary bean-based composite flour	Completed
Aisha Musaazi Nakitto Reg. #: 2007/HD02/9073U	MSc. Applied Human Nutrition (2012)	Development and Evaluation of Nutritious Fast-Cooking Bean Flours	Completed
Zainah Nampijja Reg. #: 2014/HD02/164U	MSc. Animal Science	Assessing the potential of insect meal as an alternative protein source in broiler rations	Completed 2019
Vincent Lutwama Reg. #: 2014/HD02/612U	MSc. Animal Science	Safety of Insects and insect meal for animal	Completed 2021
Irene Yeko	MSc. Zoology	Establishing the most suitable diet and temperature for growth and development of <i>Ruspolia differens</i>	In Progress
Muhsin Musinguzi Reg. #: 2014/HD02/626U	MSc. Applied Human Nutrition	Effectiveness of electronic and print media for disseminating information on nutrient-rich foods	In Progress
Hadijah Kibirige Reg. #: 2015/HD02/590U	MSc. Food Science	Effectiveness of the Purdue Improved Crop Storage (PICS) Bags for preservation of common dry beans (<i>Phaseolus vulgaris</i> L.) during storage	Completed in 2023
Winnie Tugonza Reg. #: 2015/HD02/587U	MSc. Food Science	Effect of Triple bag hermetic storage on the physicochemical and safety characteristics of whole and degermed maize flour	Completed in 2022
Rachael Namuyomba Reg. #: 2014/HD13/834U	MSc. Zoology	Formulation and Evaluation of Black an Insect (Black Soldier Fly, BSF) based feed as Feed for Fish (Nile Tilapia, <i>Oreochromis Niloticus</i>)	Completed in 2022

Martha Niyibigira	2018/HD02/305 X	MSc	Completed 2022
NSIMIRE RHULOLE MIREILLE	2018/HDO2/35 94X	MSc	Completed in 2023

EXAMINATION OF GRADUATE STUDENTS' THESES

Name of student	Degree	Thesis title	Date examined
Brian Andabati	MSc. Food Science	Nutraceutical Potential of Selected Ugandan Traditional Foods	November 2013
Joseph Mulindwa, Reg No.2010/HD02/3486U	MSc. Food Science	Physicochemical, microbial and sensory properties of peanut butter enhanced with orange fleshed sweet potatoes	January 2015
Eunice Achiro, Reg. No. 2009/HD02/U/17950U	MSc. Food Science	Effect of modification of traditional processing methods on micronutrient content of green leafy vegetables in northern Uganda	January 2015
Madiesse Fogaing Diana Lyse, Reg No.2013/HD02/2092X	MSc. Food Science	Physical modification of starches from three Ugandan cassava varieties for food thickening applications	October 2015
Robert Fungo	PhD Nutrition	Contribution of forest foods to nutrient intake and food security of forest dependent communities in Cameroon	January 2016

EXTERNAL EXAMINATION ASSIGNMENTS

- Kyambogo University, Kampala - Uganda
 - Bachelor of Food Processing Technology, Department of Food Processing Technology, Faculty of Science at Kyambogo University, Semester II of academic year 2011/2012.
 - Diploma in Food Processing Technology, Department of Food Processing Technology, Faculty of Science at Kyambogo University, Semester II of academic year 2011/2012.

- Bachelor of Food Processing Technology, Department of Food Processing Technology, Faculty of Science at Kyambogo University, Semester II of academic year 2012/2013.
- Diploma in Food Processing Technology, Department of Food Processing Technology, Faculty of Science at Kyambogo University, Semester II of academic year 2012/2013.
- Nkumba University, Dept. Hotel Management and Institutional catering. May 2007 Quarter

Vetting of Publications

- Vetted 3 journal articles presented by Dr. Patrick Ogwok as part of his application for promotion to the rank of Associate Professor in the Department of Food Technology, Kyambogo University.

PARTICIPATION IN CURRICULUM DEVELOPMENT AND REVIEW ACTIVITIES

- Actively participated in the development, of a Proposed Curriculum for an MSc Food Safety and Quality Management deigned to be offered in the School of Food Technology, Nutrition & Bio-engineering, Makerere University (April – July 2016).
- Member of the core team for reviewing the MSc. Food Science & Technology Curriculum of the Dept. of Food Technology & Nutrition at Makerere University (January – April 2015).
- Actively participated in reviewing the BSc. Food Science & Technology Curriculum of School of Food Technology, Nutrition & Bio-engineering, Makerere University (January 2015).

MEMBERSHIP OF PROFESSIONAL BODIES

Fellow of the Uganda National Academy of Sciences
 Agriculture Nutrition and Health (ANH) Academy member
 Institute of Food Technologists