

Curriculum Vitae

Contact Information

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Education

- **PhD** (Food Science). University of Pretoria. 2003
- **Advanced Certificate**, Food & Nutrition (United Nations University). 1999
- **M.Sc.** Food Science (Cornell University). 1996
- **B.Sc.** Food Science & Technology, with strong Nutrition coverage (Makerere University). 1994
- Several short courses in Management, Research Methods, training, among other fields

Employment Record

- Professor, Department of Food Science & Technology, Makerere University. Feb 2010 – to date: Teaching courses in food science and human nutrition at Bachelor's and graduate levels; conducting research and engaging in knowledge transfer partnerships.
- Dean, School of Food of Food Technology, Nutrition & Bio-Engineering, Makerere University. Feb 2011 – Jan 2019: Coordinated teaching, research and knowledge transfer in aspects of Food Science, Human Nutrition, Agricultural and Biosystems Engineering.
- Associate Professor, Department of Food Science & Technology, Makerere University. Aug 2006 – to Jan 2010: Taught courses in food science and human nutrition at Bachelor's and graduate levels.
- Head, Department of Food Science & Technology, Makerere University, April 2006 – Jan 2011: Coordinated teaching, research and knowledge transfer in aspects of food science and Human Nutrition.
- Senior Lecturer, Dept of Food Science & Technology, Makerere University, Feb 2002 to July 2006: Taught courses in food science and human nutrition at Bachelor's and graduate levels.
- Lecturer in the Department of Food Science & Technology at Makerere University, March 1997 to Jan 2002: Taught courses in food science and human nutrition at Bachelor's and graduate levels.
- Graduate Assistant, Cornell University, 1995 - 1996

Other Responsibilities

- Associate Editor, Food Bioscience - 2018 - to date
- Associate Editor, Nigerian Food Journal - 2016 - to date
- Chair Advisory Committee for National Agricultural Research Laboratories, Kawanda - 2016 - to date
- Board Chair, Food and Nutrition Solutions. A Food and Nutrition Consulting firm: 2014 - to date

- Board Secretary, Volunteer Efforts for Development Concern, a non-governmental agency - 2018 - to date
- Council member, Uganda National Academy of Sciences - 2016-2022
- Treasurer and Chair Administration, Uganda National Academy of Science - 2016-2019
- Member Scientific Advisory Committee, Banana 21 (Bill & Melinda Gates Funded led by Queensland University)- 2015-2020.
- Member of Makerere University Senate - 2011 - 2019

Some tasks Accomplished

- Led establishment of community based supplementary feeding programme in several districts (Abim, Kaabong and Kotido) of Karamoja. Through this programme coordinated the establishment of 79 supplementary feeding centres in Karamoja which provide nutrition services to an average of 8000 malnourished children and adults per month. Over 100,000 malnourished persons rehabilitated through this intervention.
- Led the transformation of the Department of Food Science and Technology at Makerere University to the multi-department School of Food Technology, Nutrition & Bioengineering
- Team Leader for 19 research projects in field of food science and human nutrition.
- Coordinated implementation of several institutional development projects, including NORAD Department of Food Science & Technology institutional development project
- Spearheaded the setting up of a Technology and Business Incubator at Makerere University, Food Science & Technology Department. This entailed developing the grant proposal, development of plant designs and supervision of construction, identification of required equipment, procurement, supervision of equipment installation and coordinating selection and support to incubatees.
- Coordinated upgrading of labs in the School of Food Technology, Nutrition and Bioengineering at Makerere University, including procurement of equipment costing in excess of 3 million US\$
- Provided consultancy services to several food processors in Uganda.

Graduate students supervised to completion

Student name	Year of completion	Degree	Thesis title
Natocho J.	2023	M.Sc.	Optimization of formulation and processing conditions for production of nutrient enhanced noodles containing orange fleshed sweet potatoes and biofortified beans
Nakitto A.S.	2022	PhD	<i>Solanum anguivi</i> Lam. fruits' nutritional quality and potential effect on type 2 diabetes mellitus
Balamaze J.	2021	PhD	Jackfruit (<i>Artocarpus heterophyllus</i> Lam) as a potential source of pectin.

Asiimwe A	2021	M.Sc.	Passion fruit drying using refractance window dryer and evaluation of output powder as ingredient for yogurt
Nakonsimbi N.	2020	PhD	Bioactivity, functionality, nutrient digestibility and storage stability of fruits of the major pumpkin varieties in Uganda
Akullo D.E.	2019	M.Sc.	Development of calcium enriched shelf stable fish-based sausages
Namirembe L.	2019	M.Sc.	Development of stable flavored Nile perch oil emulsion
Ndagire, C.T.	2019	PhD	Reliability and validity of measures of body composition, dietary intake and physical activity among children and adolescents in Uganda, a case of Kampala district
Natabirwa H.	2019	PhD	Common beans (<i>Phaseolus vulgaris</i>) extrusion studies
Gafabusa G.	2018	M.Sc.	Composition and physico-chemical properties of grain amaranth flour and leaves of different amaranth accessions
Byarugaba R.	2018	M.Sc.	Production of flour from roasted beans and determination of it's nutritional, sensory and storage properties
Bukenya R.	2017	PhD	Development and validation of general nutrition knowledge questionnaire in Uganda
Kesselly S.R.	2015	M.Sc.	The production of fish sauce from fish fillets
Fungo R.	2015	PhD	Contribution of forest foods to nutrient intake and food security of forest dependent communities in Cameroon
Akumu G.	2015	M.Sc.	Assessment of postharvest quality of grains, dried roots and tuber crops in Kamuli, Nakasongola and Apac districts of Uganda.
Kisambira A.	2014	M.Sc.	Physicochemical characteristics of yam bean (<i>Pachyrhizus spp</i>) seed flour
Andabati B.	2014	M.Sc.	Nutraceutical potential of selected Uganda traditional foods
Ndagire C.T.	2013	M.Sc.	Optimised formulation and processing protocol for a supplementary bean-based composite flour
Natukunda S.	2013	M.Sc.	Utilisation of <i>Tamarindus indica</i> seed as a nutraceutical ingredient in selected foods
Tibangozeka J.	2012	M.Sc.	Effect of dietary incorporation of grain amaranth on nutrition and food security of rural household in Apac, Kamuli and Nakasongola districts, Uganda
Nakitto A.S.	2012	M.Sc.	Development and evaluation of nutritious fast-cooking bean flours
Namusoke H.	2012	PhD	Nutritional status of women living with HIV/AIDS

			in Uganda: anthropometry and body composition assessment
Tumuhimbise G.	2011	PhD	Microstructure and beta-carotene bioaccessibility of processed and stored orange-fleshed sweetpotatoes (<i>Ipomoea batatas</i> (L) Lam)
Kyampaire A.K.	2009	M.Sc.	Comparison of food insecurity between HIV/AIDS affected households of food assistance and those not on food assistance in Uganda
Wamono E.B.K.	2008	M.Sc.	Nutrient enhancement of banana for improved nutrient intake of people living with HIV/AIDS in Rakai district.
Ogwok P.	2008	PhD	Chemical characteristics of oil from Nile perch (<i>Lates niloticus</i>) belly flaps.
Kiiza J.B	2008	M.Sc.	Prevalence of malnutrition among female school going adolescents in Wakiso district and associated environmental factors
Nabubuya A.	2007	M.Sc.	Evaluation of the nutritional and nutraceutical properties of sun dried <i>Termitomyces microcarpus</i> mushrooms
Balamaze J.	2007	M.Sc.	Influence of storage conditions on development of “hard to cook” defect in local and improved bean varieties
Nyakuni G.	2006	M.Sc.	The effect of “hard to cook” defect on the consumption patterns and nutritional value of common bean varieties in Uganda
Orukushabe P.	2006	M.Sc.	Evaluation of use of nutrition guidelines on feeding of people infected with HIV/AIDS
Kaddumukasa P.	2006	M.Sc.	Effect of drying method on the quality of banana.
Wendiro D.	2005	M.Sc.	Optimisation of cassava detoxification by application of <i>Neurospora sitophila</i> enzymes.
Kiri A. A.	2002	M.Sc.	Spoilage indices for Nile perch (<i>Lates niloticus</i>) fish fillet stored under controlled chilled conditions.

Peer Reviewed Journal Publications

1. Nakitto, A. M. S., Byaruhanga, Y. B., Wagner, A. E., & **Muyonga, J. H.** 2023. Influence of ripeness stage on the bioactive compounds' contents and antioxidant activities of *Solanum anguivi* Lam. fruits accessions. *Heliyon*, 9(11)
2. Nansereko, S., **Muyonga, J.**, & Byaruhanga, Y. 2023. Production and evaluation of an instant maize-soy flour enriched with refractance window dried jackfruit (*Artocarpus heterophyllus* L.) powder. *International Journal of Food Studies*, 12(1). <https://doi.org/10.7455/ijfs/12.1.2023.a3>
3. Akumu G., Ogenrwoth B., Mugisha J. & **Muyonga, J.H.** 2023. Dietary patterns in Uganda and their influencing factors: A critical Review. *African Journal of Food*,

Agriculture, Nutrition & Development, 23(2).
<https://doi.org/10.18697/ajfand.117.22345>

4. Nabakabya, D., Fungo, R., Tumwine G., **Muyonga J.H.**, Kaaya A.N., Keding G.B. and Sarfo, J. Dietary diversity and micronutrient rich food consumption patterns among women of reproductive age in Kayunga and Jinja, Uganda. *African Journal of Food, Agriculture, Nutrition & Development*, 23(5).
5. Ogenrwoth B., Akumu G., Mugisha J. & **Muyonga, J.H.** 2022. Nutritional status research in Uganda: A critical review and trend analysis. *African Journal of Food, Agriculture, Nutrition & Development*, 22(8).
6. Asimwe, A., Kigozi, J. B., Baidhe, E., & **Muyonga, J. H.** 2022. Optimization of refractance window drying conditions for passion fruit puree. *LWT*, 154: 112742.
7. Ssenyimba, S., Kigozi, J., Tumutegyereize, P., **Muyonga, J.H.** & Mutumba, R. 2022. Design and evaluation of a refractance window lab-scale dryer. *Journal of Engineering, Design and Technology*, 20(6): 1499-1518.
8. Fungo, R., Tieguhong, J.C., Iponga, D.M., Tchatat, M., Kahindo, J.M., **Muyonga, J.H.**, Donn, P., Tchingsabe, O., Kaaya, A., Ngondi, J.L. & Tutu, S. 2022. Can wild forest foods contribute to food security and dietary diversity of rural populations adjoining forest concessions? Insights from Gabon, DR Congo and Cameroon. *International Forestry Review*.
9. **Muyonga, J. H.**, Natocho, J., Kigozi, J., Baidhe, E., & Nansereko, S. 2021. Drying behaviour and optimization of drying conditions of pineapple puree and slices using refractance window drying technology. *Journal of Food Science and Technology*, 1-10.
10. Wasswa, M.S., Fungo, R., Kaaya, A. & **Muyonga, J.H.** 2021. Proximate composition and sensory characteristics of refractance window dried cowpea porridges. *African Journal of Food, Agriculture, Nutrition and Development*. 21(10): 18965-18979. <https://doi.org/10.18697/ajfand.105.21395>
11. Namayengo, F. M., Raymonds, M., Alex, A., & **Muyonga, J. H.** 2021. Techno Economic Analysis of Refractance Window Drying of Fruits: A Case of Small-Medium Scale Agro Processors in Uganda. DOI: 10.51542/ijscia.v2i5.23
12. Nansereko, S., & **Muyonga, J. H.** 2021. Exploring the Potential of Jackfruit (*Artocarpus heterophyllus* Lam). *Asian Food Science Journal*. DOI: 10.9734/AFSJ/2021/v20i930346
13. Wasswa, M.S., Fungo, R., Kaaya, A. Byarugaba, R. & **Muyonga JH.** 2021. Influence of sun drying and a combination of boiling and sun drying on the retention of nutrients and bioactive compounds in cowpea (*Vigna unguiculata* (L). Walp) leaves. *African Journal of Biological Sciences* 3, no. 3 (2021): 48-58.

14. Mutumba, R., Kigozi, J., Tumutegyereize, P., Ssenyimba, S., & **Muyonga, J.** Performance Analysis of An Arduino Based Calibration and Temperature Control System for A Refractance Window Dryer. *International Journal of Scientific Advances*, 2: 822-828
15. Nakitto, A. M. S., **Muyonga, J. H.**, Byaruhanga, Y. B., & Wagner, A. E. 2021. *Solanum anguivi* Lam. Fruits: Their Potential Effects on Type 2 Diabetes Mellitus. *Molecules*, 26(7), 2044.
16. Asiimwe, A., Kigozi, J. B., & **Muyonga, J.** 2021. Physicochemical Properties, Sensory Acceptance and Storage Stability of Yogurt Flavored with Refractance Window Dried Passion Fruit Powder. *Asian Food Science Journal*, 38-49.
17. Mutumba, R., Kigozi, J., Tumutegyereize, P., Ssenyimba, S., & **Muyonga, J.** 2021. Arduino based control of the Food and Water Conveyance Systems of a Refractance Window Dryer. , 2:810-821.
18. Kigozi, J., Ssenyimba, S., Mutumba, R., Baidhe, E., Oluk, I., Tumutegyereize, P. & **Muyonga, J.** 2021. Adoption of refractance window drying technology in the drying of fruits and vegetables in Uganda. *Journal of Advances in Food Science & Technology*, 8(2), 1-10.
19. Bukenya, R., Ekesa, B., Andrade, J. M., Grigsby-Toussaint, D. S., Mugabi, R., **Muyonga, J.**, & Andrade, J. E. 2021. Reliability of the general nutrition knowledge questionnaire among head teachers from schools in Uganda. *Asian Food Science Journal*, 20(10), 125-136. <https://doi.org/10.9734/afsj/2021/v20i1030368>
20. Bisikwa, J., Walukano, W., Ugen, M. A., Muyinda, A. M., & **Muyonga, J. H.** 2020. Effect of variety and soil fertility management on performance of grain amaranth in different agro-ecological zones in Uganda.
21. Natabirwa, H. Nakimbugwe, D., Lun'gaho, M. Mumwesigye, K.S., & **Muyonga, J.H.** 2020. Bean-based nutrient-enhanced puffed snacks: Formulation design, functional evaluation, and optimisation. *Food Science & Nutrition*, 8: 4763-4772.
22. Akumu, G.; Atukwase, A. Tibagonzeka, J. E.; Apil, J. Wambete, J. M. Atekyereza, P. R.; Kiyimba, F. J. **Muyonga, J. H.** 2020. On-farm evaluation of effectiveness of improved postharvest handling of maize in reducing grain losses, mold infection and aflatoxin contamination in rural Uganda. *African Journal of Food, Agriculture, Nutrition & Development*, 20: 16522-16539.
23. Fungo, R., Tieguhong, J.C., Iponga, D.M., Tchatata, M., Kahindo, J.M., **Muyonga, J.H.**, Mikolo-Yobo, C., Donn, P., Tchingsabe, O., Kaaya, A.N., Ngodi, J.L., Tutu, S., Emeleme, R., Odjo, S., Loo, J., & Snook, L. 2020. Can wild forest foods contribute to food security and dietary diversity of rural populations adjoining forest concessions? Insights from Gabon, DR Congo and Cameroon. *International Forestry Review*, 22 (S2).

24. Akullo, D., Kigozi, J., & **Muyonga, J.H.** 2020. Nutritional, sensory and shelf life quality of tilapia and Nile perch sausages enriched with fish bone soup. *International Journal of Fisheries and Aquatic Studies*, 8(3): 646-653.
25. Byarugaba, R., Nabubuya, A., & **Muyonga, J.H.** 2020. Descriptive sensory analysis and consumer preferences of bean sauces. *Food Science & Nutrition*, 8: 4252-4265.
26. Natukunda, S., Kamoga, K.R., Kizza, M.D., Namayengo, F.M., & **Muyonga, J.H.** 2020. Optimisation of extrusion conditions for production of instant millet-soybean blended flour. *Journal of Food Studies*, 9(1): 42-60.
27. Nansikombi, N., **Muyonga, J.H.** & Byaruhanga, Y.B. 2020. Optimising drying conditions for maximum nutritional quality and bioactivity of Cucurbita pepo L var. fastigata flesh and seeds. *Journal of Horticulture and Postharvest Research*, 3: 333-346.
28. Apil, J., Atekyereza, P., Akumu, G., **Muyonga, J. H.**, Wambete, J. M., Kato, J. S., & Kiyimba, F. 2020. Comparative Analysis of Farmer-to-Farmer and Participatory Extension Approaches in promoting Adoption of Maize Postharvest Handling Technologies among Smallholder Farmers in Uganda. *African Journal of Rural Development*, 5(4), 221-234.
29. Akumu, G., Atukwase, A., Tibangozeka, J.E., Apil, J., Kato, J.S., Kiyimba, F. and **Muyonga, J.H.** 2019. The influence of extension approaches on uptake of postharvest technologies among maize farmers in Uganda. *African Journal of Rural Development*, 3 (4): 955-971.
30. Atukuri, J. Odong, B.B, and **Muyonga, J.H.** 2019. Multi-response optimization of extrusion conditions of grain amaranth flour by response surface methodology. *Food Science & Nutrition*, 7:4147–4162.
31. Fungo, R., **Muyonga, J.H.**, Ngondi, J.L., Mikolo-Yobo, C., Iponga, D.M. Ngoye, A., Tang, E.N and Teguhong, C. 2019. Nutrient and Bioactive Composition of Five Gabonese Forest Fruits and Their Potential Contribution to Dietary Reference Intakes of Children Aged 1–3 Years and women 19-60 years. *Forests*, 10:86. ...
32. Ndagire, C.T., **Muyonga, J.H.** and Nakimbugwe, D. 2019. Fruit and vegetable consumption, leisure-time physical activity, and sedentary behavior among children and adolescent students in Uganda. *Food Science and Nutrition*, 7: 599-607
33. Balamaze, J., **Muyonga, J. H.** and Byaruhanga, Y.B. 2019. Physico-chemical characteristics of selected jackfruit (*Artocarpus heterophyllus* Lam.) varieties. *Journal of Food Research*, 8(4):11-22.
34. Nansikombi, N., **Muyonga, J.H.** and Byaruhanga, Y.B. 2019. Association between Fruit Characteristics and Postharvest Stability of Different Pumpkin (*Cucurbita*) Species. *Journal of Food Research*, 8(4): 131-145.
35. Balamaze, J., **Muyonga, J.H.** and Byaruhanga, Y.B. 2019. Production and utilization of jackfruit (*Artocarpus heterophyllus*) in Uganda. *African Journal of Food, Agriculture, Nutrition and Development*, 19(2): 14289-14302
36. Ndagire, C.T., **Muyonga, J.H.**, Odur, B., and Nalibugwe, D. 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

37. Fungo,R., Tieguhong,J.C., **Muyonga, J.H.**, Odjo, S., Tchingsabe, O. and Tchatat, M. 2018. Perceived nutrition benefits and socio-demographic factors affecting consumption of forest foods in eastern and southern Cameroon. *African Crop Science Journal*, 26(2): 203 - 217
38. Ndagire, C.T , **Muyonga, J.H.**, Isabirye, J., Odur, B., Somda, S.M.A , Bukenya, R., Andrade,J.E. and Nakimbugwe, D. 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>
39. Tibagonzeka, J.E., Akumu, G., Kiyimba, F., Atukwase, A., Wambete, J.M., Bemba, J. and **Muyonga, J.H.** 2018. Post-harvest handling practices and losses for legumes and starchy staples in Uganda. *Agricultural Science*, 9: 141-156.
40. Natabirwa, H., Nakimbugwe, D., Lung'aho, M. and **Muyonga, J.H.** 2018. Optimization of Robal extrusion conditions and bean extrudate properties using response surface methodology and multi-response desirability function, *LWT*, 96: 411-418
41. Natabirwa, H., **Muyonga, J.H.**, Nakimbugwe, D and Lungaho, M. 2018. Physico-chemical properties and extrusion behaviour of selected common bean varieties. *Journal of the Science of Food and Agriculture*. 98(4): 1492-1501. DOI 10.1002/jsfa.8618
42. Fungo R, Ngondi JL, **Muyonga J.H.**, Tchatat M, Odjo S, and Tieguhong JC. 2017. Physico-chemical characteristics and fatty acid profile of Baillonella toxisperma Pierre traditionally extracted edible oil from Cameroon forests. *African Journal of Food, Agriculture, Nutrition and Development*, 17(4):12758-12774
43. Natukunda, S., **Muyonga, J.H.** and Mukisa, I.M. 2017. Effect of tamarind (*Tamarindus indica* L.) seed on antioxidant activity, phytochemicals, physicochemical characteristics, and sensory acceptability of enriched, *Food Science & Nutrition*, 4(3): 494-507.
44. Losso, J.N., Karki, N., **Muyonga, J.**, Wu, Y., Fusilier, K., Jacob, G., Yu, Y., J.C. Rood, J.C., Finley J.W., Greenway, F.L. 2017. Iron retention in iron-fortified rice and use of iron-fortified rice to treat women with iron deficiency: A pilot study. *BBA Clinical* 8: 78–83.
45. Bukenya, R., Abhiya, A., Andrade, J.M., Grigsby-Toussaint, D.S., **Muyonga, J.H.** & Andrade, J.E. 2017. Validity and Reliability of General Nutrition Knowledge Questionnaire for Adults in Uganda. *Nutrients*, 9(2), 172; doi:[10.3390/nu9020172](https://doi.org/10.3390/nu9020172)
46. Fungo, R., **Muyonga, J. H.**, Kabahenda, M., Kaaya , A., Okia, C.A. Loo, J. , Tiegehongo, C. J. and Snook, L. 2016. Contribution of forest foods to nutrient intake and association with household food insecurity: A cross-sectional study in women from rural Cameroon. *Public Health*, 19: 3185-3196
47. Fungo, R., **Muyonga, J.H.**, Kabahenda, M., Okia, C.A. & Snook, L. 2016. Factors influencing consumption of nutrient rich forest foods in rural Cameroon. *Appetite*, 97: 176-184.
48. Kyagulanyi, J. Kabenge, I., Banadda, N., **Muyonga, J.**, Mulumba, P. and Kiggundu, N. 2016. Estimation of spatial and temperol water requirements of grain amaranth

using satellite, local and virtual weather stations datasets in Uganda. *International Journal of Agricultural and Biosystems Engineering*, 9(2): 85-97.

49. Bukenya, R., Ahmed, A., Chapman-Novakofski, K. M., Muyonga, J., & Andrade, J. (2016). Validation of general nutrition knowledge questionnaire for adults in Uganda. *The FASEB Journal*, 30, 896-13.
50. Fungo R, **Muyonga J**, Kaaya A, Okia C, Tieguhong JC & Baidu-Forson JJ. 2015. Nutrients and bioactive compounds content of *Baillonella toxisperma*, *Trichoscypha abut* and *Pentaclethra macrophylla* from Cameroon. *Food Science and Nutrition*. doi: 10.1002/fsn3.217
51. Kisambira, A., **Muyonga, J.H.**, Byaruhanga, Y.B., Tukamuhabwa, P., Tumwegamire, S. and Grüneberg, W.J. 2015. Composition and functional properties of yam bean (*Pachyrhizus spp.*) Seed Flour. *Food and Nutrition Sciences*, 6, 736-746. <http://dx.doi.org/10.4236/fns.2015.68076>.
52. Ndagire, C.T., **Muyonga, J. H.**, Manju, R. & Nakimbugwe, D. 2015. Optimized formulation and processing protocol for a supplementary bean-based composite flour. *Food Science and Nutrition*. Doi: 10.1002/fsn3.244.
53. Nabaterega, R., Banadda, N., **Muyonga, J.H.**, Kiggundu, N. Kabenge, I. & Tumutegyereize, P. 2015. Determining the most appropriate and optimum ratios of organic waste for biogas generation from small-scale food processing units. *International Journal of Applied Science and Engineering*, 4: 758-766.
54. Kamatara K., D.Mpairwe, M.Christensen, C.E.Eskildsen, D.Mutetikka, **J. Muyonga**, D. Mushi, S.Omagor, Z. Nantongo, J. Madsen. Influence of age and method of carcass suspension on meat quality attributes of pure bred Ankole bulls. *Livestock Science*, 169: 175-179.
55. **Muyonga, J.H.**, Andabati, B. & Ssepuuya, G. 2014. Effect of heat processing on selected grain amaranth physicochemical properties. *Food Science and Nutrition*, 2(1): 9-16.
56. Tibagonzeka, J., Wambete, J., Muyinda, A.M. & **Muyonga, J.H.** Acceptability and nutritional contribution of grain amaranth recipes in Uganda. 2014. *African Journal of Food, Agriculture, Food, Nutrition and Development*. 14 (3): 8979 - 8997.
57. Andabati, B. & **Muyonga, J.H.** Phenolic content and antioxidant activity of selected Ugandan medicinal foods. *African Journal of Food Science*, 8(8):427-434.
58. Abbas Kisambira, **John H. Muyonga**, Yusuf B. Byaruhanga, Phinehas Tukamuhabwa, Silver Tumwegamire, Wolfgang Gruenberg. 2014. Physicochemical Characteristics of Yam Bean (*Pachyrhizus erosus*) Seed Proteins. *Journal of Food Research* 3(6): 168- 178
59. Tumuhimbise, G.A., Namutebi, A., Turyashemererwa, F., **Muyonga, J.** Provitamin A Crops: Acceptability, Bioavailability, Efficacy and Effectiveness. *Food and Nutrition Sciences*, 2013, 4, 430-435
60. Wamono EBK, Kaaya AN, Ng'ang'a Z, Wamue G, Manyama A, Mwangi M and JH Muyonga. 2011. Nutrient-enhancement of *matooke* banana for improved nutrient intake of people living with HIV/AIDS in Rakai district, Uganda. *African Journal of Food, Agriculture, Nutrition and Development*, 11, 4: 5018-5034.
61. Masa, Justus Ogwok, Patrick , **Muyonga John Herbert**, Kwetegyeka Justus , Makokha Vincent and Ocen Denis. 2011. Fatty Acid Composition of Muscle, Liver,

- and Adipose Tissue of Freshwater Fish from Lake Victoria, Uganda. *Journal of Aquatic Food Product Technology*, 20: 1, 64 — 72
62. Tumuhimbise GA, Namutebi A. & **Muyonga, J.H.** 2010. Changes in microstructure, B-carotene content and *in vitro* bioaccessibility of orange-fleshed sweet potato roots stored under different conditions. *African Journal of Food, Agriculture, Nutrition and Development*, 10, 8: 3015-3028.
 63. Nabubuya, A. **Muyonga, J.H.** & Kabasa, JD. 2010. Nutritional and hypocholesterolemic properties of *Termitomyces microcarpus* Mushrooms. *African Journal of Food, Agriculture, Nutrition and Development*. 10, 3: 2235- 2257.
 64. Manyama, A. A. A., Wamono, E., **Muyonga, J. H.**, Wamue-Ngare, G., & Mwangi, M. N. 2010. Banana tissue culture and nutrient enhancement for food security and income generation among people living with AIDS in the Lake Victoria basin. *Asian Journal of African Studies*, (28), 63-89.
 65. Tumuhimbise, G.A., Namutebi, A.S. & **Muyonga, J.H.** 2009. Microstructure and In Vitro Beta Carotene Bioaccessibility of Heat Processed Orange Fleshed Sweet Potato. *Plant Foods for Human Nutrition*. 64:312–318
 66. Ogwok P., **Muyonga, J. H.**, Sserunjogi, M, L., Kiri, A. A. & Makokha, V. 2009. Variation in chemical composition of oils from Nile perch (*Lates niloticus*) belly flaps with capture site and season. *Journal of Aquatic Food Product Technology*. 18: 4, 331 - 344.
 67. Ogwok, P., **Muyonga, J.H.** and Sserunjogi, M.L. 2009. Pesticide residues and heavy metals in Nile perch (*Lates niloticus*) belly oil. *Bulletin of Environmental Contamination and Toxicology*. 82: 529-533.
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77. **Muyonga, J.H.**, Ramteke, R.S. and Eipeson, W.I. 2001. Predehydration steam blanching changes physicochemical properties of unripe banana flour. *Journal of Food Processing and Preservation*. 25, 35 - 47.
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Books/Book Chapters

1. Badiane, O., Hendriks, S.L., Glatzel, K., Abdelradi, F., Admassie, A., Adjaye, J.A., Ayieko, M., Bekele, E., Chaibi, T., Hassan, M.H.A., .. **Muyonga, J.H.** ... Mbaye, M.S. 2023. Policy Options for Food System Transformation in Africa and the Role of Science, Technology and Innovation. *Science and Innovations for Food Systems Transformation*, p.713.
2. **Muyonga, J.H.**, Aworh, O.C., Kinyura, J., Manley, M. Nansereko, S. and Nyagena, D.N. 2018. Nutritional and nutraceutical properties of traditional African foods. *In Public Health, Disease and Development in Africa* (Editors Kalipeni, E., Lwelunmor, J., Grigsby-Toussaint, D.S. and Moise, I.K. Taylor and Francis Group.
3. **Muyonga, J.H.**, Nansereko, S., Steenkamo, I., Manley, M. & Okoth, J.K. 2017. Traditional African Foods and Their Potential to Contribute to Health and Nutrition. *In Exploring the nutrition and health benefits of functional foods*. Shekhar, H.U., Howlader, Z.H. & Kabir, Y (Editors). IGI Global. Doi. 10.4018/978-1-5225-0591-4.ch015.
4. **Muyonga, J.H.**, Tumuhimbise, G.A. and Namayengo, F.M. 2010. Food and nutrition essentials. Fountain Publishers, Kampala, Uganda.
5. **John H. Muyonga**, Dorothy Nabakabya, Dorothy, N. Nakimbugwe and Dorothy Masinde. 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>

6. **Muyonga, J.H.** and Namusoke, H. 2007. Feeding of PLWHA. *In* Food and nutrition for Uganda: Principles and community needs. *Edited by* Namutebi, A., **Muyonga, J.H.** and Tumuhimbise, G.A. Fountain Publishers, Kampala, Uganda.
7. Editor Food and nutrition for Uganda: Principles and community needs. Fountain Publishers, Kampala, Uganda.

Intellectual properties

Muyonga, J.H., Kigozi, J. & Senyimba, S. 2020. The electric and biomass powered refractance window dryer apparatus. Utility model # **UG/U/2020/12**. Granted by the Uganda Registration Services Bureau.

Muyonga, J.H., Kigozi, J. & Senyimba, S. 2020. The decker refractance window dryer apparatus. Utility model application. Submitted to the Uganda Registration Services Bureau.

Selected popular science publications

1. Hendriks, S. L., Bekele, E., Chaibi, T., Hassan, M., Miano, D. W., & Muyonga, J. H. (2021). The Role of Science, Technology, and Innovation for Transforming Food Systems in Africa. <https://doi.org/10.48565/scfss2021-a948>
2. Muyonga, J. (2014). Processing as a driver of agricultural development: the case of Makerere University Food Technology and Business Incubation Centre, Uganda. knowledge.cta.int
3. Muyonga, J.H. Building competitive enterprises in Uganda through adoption of research innovations. MRCI (Mobilising Regional Capacity Initiative) policy brief.

Selected Presentations at Conferences

- NORHED - Makerere Meeting, October 2023. Enhancing development impact of research.
- Makerere University Professerial Inagural Lecture, June 2023. Circular Bioeconomy. Application to the agri-food sector
- Makerere-Bergen Research School December, 2022. Agri-food waste minimisation and valorisation for sustainability
- Young African Professionals & Leaders Forum, June 2022. Writing successful funding proposals
- FoodLand Research e-Conference, 30th September - 2nd October 2020. Secondary food processing.
- Uganda Ministry of Science, Technology and Innovation (MoSTI), Policy Seminar, 28th March 2019. The role of universities, public sector science-based institutions and private businesses in fostering the growth of bio-based enterprises in Eastern Africa.
- Regional workshop on the development context of East Africa, Zanzibar, Tanzania, 27th- 30th Nov 2019. Innovations and development: Policy perspectives
- NASAC Opportunities and Challenges for Research in FSNA in Africa Conference, Nairobi, Kenya, Sept 17th 2018. Climate change and food production risks: options for climate smart agriculture

- 19th World Food Congress of Food Science & Technology, Mumbai, India, 23rd - 27th October 2018. Opportunities and challenges for research on food and nutrition security and agriculture in Africa.
- 19th World Food Congress of Food Science & Technology, Mumbai, India, , 23rd - 27th October 2018. Effectiveness of improved maize postharvest handling in loss reduction and quality improvement under smallholder farmer conditions
- Bioinnovate II program launch, Kigali, Rwanda, Oct 29th - Nov 3rd 2017. Adaptation and promotion of refractance window drying technology for production of high quality bioproducts.
- Food Summit-2016. 11th Global Summit on Food & Beverages, September 22-24, 2016. Las Vegas, USA. Oil and gelatin from Nile perch (*Lates niloticus*) processing byproducts.
- 18th World Congress of Food Science & Technology. Dublin, Ireland, 21st-25th August 2016. Micro and small scale food processing for improved nutrition, food security, livelihoods and sustainability.
- McKnight Foundation CoP 7 Meeting, May 2016. Addis Ababa. Matching technologies to farmer needs. Oral Presentation
- INWES Conference, Oct 22nd 2015, Kampala, Uganda. Potential Role of Traditional African Foods in the Alleviation of Malnutrition and Emerging Health Challenges in Africa.
- Africa Health Conference, Champaign, IL, May 2015. Can return to traditional African foods help alleviate malnutrition and disease in Africa? Oral Presentation.
- Food Processing and Preservations: Implications for Food and Nutrition Security. East and Horn of Africa Regional Workshop on Community Level Food Processing for Improvement Food Security, Nutrition and Livelihoods: Entebbe, Uganda, April 2013.
- Sustainability Post-harvest: Ecological considerations of food after harvest. Socio-ecological novelty – Frontiers in sustainability research symposium, Berlin Germany, March 2013.
- Promoting production and utilization of grain amaranth for improvement in nutrition and food security. McKnight Foundation CoP meeting, Kampala, May 2012.
- Banana tissue culture and value addition for improved nutrition, food security and incomes in the Lake Victoria Basin. VicRes Annual Cluster meeting. Entebbe Uganda, Nov 2011.
- Contribution of the International Foundation of Science to Career development of a Young Scientist. Presented at RUFORUM biennial meeting, September 2010, Entebbe Uganda.
- Postharvest Technology and Food Processing: Implications for Uganda's Food and Nutrition Security. Presented and the Nutritionalising of Agriculture Workshop, September 2010, Kampala, Uganda.
- Agribusiness innovation incubation in Africa in the new millennium – Way forward. Presented at the Agribusiness Incubator's Workshop, Nairobi, 6th August 2010
- Exploring the nutritional, nutraceutical and functional value of Nile perch processing by products. Third World Academy of Sciences. 19th-22nd October 2009. Durban, South Africa.
- The state of Food Security and Nutrition in Uganda. Uganda National Academy of

- Science Annual Forum. 31st October 2008, Kampala, Uganda.
- Nutrition as a basis for a healthy population: Case for Uganda. RUFORUM conference. 22nd -24th April 2007. Magochi, Malawi.
 - Nile perch gelatin extraction and physico-chemical characterisation. Total Food 2004 Conference. 25th – 28th April 2004. Norwich, UK.
 - Extraction and physico-chemical characterization of Nile perch (*Lates niloticus*) skin and bone gelatin. The 17th South African Association of Food Science and Technology International Congress. 1st – 4th September 2003. Pretoria, South Africa.
 - Effect of delayed icing on the quality deterioration of iced fish; case of Nile perch (*Lates niloticus*). Food Africa Workshop. Yaoundé, Cameroon. 5th – 10th May 2003.

Projects implemented

Project title	Funding agency	Duration	Grant amount & currency
Evaluating the changes in frozen Nile perch (1)	International Foundation for Science	2001-03	76000 SEK
Evaluating the changes in frozen Nile perch (2)	International Foundation for Science	2005-06	75979 SEK
Hard-to-cook phenomena in common beans	RUFORUM	2006-08	60000\$
Enhancing use of science and technology for enterprise development through increased interaction between URI (universities and research institutions) and business enterprises	Association of African Universities	2008-09	100000£
Potential of amaranthus grain seeds to improve the nutrition and health status of under-fives	Nestle Foundation	2007-11	36000\$
Banana tissue culture and nutrient enhancement for food security and income generation among PLHIV	Sida, VicRes	2009-12	150000\$
MNP (micronutrient project) endline survey	WFP	2016	1972677 47 Ug Shs
Food and nutrition security assessment in Acholi region	WFP	2010	1798020 00 Ug Shs
Improving the health and nutrition status of children, mothers and other vulnerable persons by promoting consumption of locally available micronutrient foods linked to MCHN in Northern Uganda, Teso and Karamoja	WFP	2006-7	1078110 00 Ug Shs
Nutrition and health education in Northern Uganda and Karamoja region	WFP	2004-5	2907000 00 Ug Shs
Foods and nutrition introductory book	I@mak, World Bank	2004-6	100000\$
Student training in entrepreneurship	I@mak, World Bank	2007	41200\$
Establishing food business and technology incubation centre	I@mak, World Bank	2009-10	200550\$
Workshop on community level food processing to improve nutrition, food security, livelihoods and sustainability	McKnight Foundation	2009-10	60000\$

Partnership for Agro-processing and entrepreneurship develop in Uganda	Danida, FARA UniBrain	2011	50000\$
Grain amaranth promotion for improved nutrition	McKnight Foundation	2012-14	300000\$
Promoting community and home based appropriate postharvest handling and processing of starchy staples to improve food and nutrition security	McKnight Foundation	2015-18	300000\$
Evaluation of performance and utilisation of grain amaranth in Uganda	NARO	2014-16	2250000 Ug Shs
Nutraceutical potential of Ugandan traditional foods	Sida	2010-11	30000\$
Developing low cost tissue culture incubation in East Africa	ASARECA	2011	66700\$
Multisectoral Food Security and Nutrition Project	MAAIF, World Bank	2017	745716172 Ug Shs
Fruits and vegetables for all seasons: Improved resource-efficient processing techniques and new market solutions for surplus fruits and vegetables for rural development in sub-Saharan Africa	BLE (Germany)	2018-2023	143375€
Adaptation and promotion of refractance window technology for production of high quality bioproducts	BiInnovate Africa	2018-2021	750000\$
Yam bean project	AHIPA	2010-2012	34800\$
Achieving economic growth through post-harvest value addition: case of precooked beans	Chemonics	2014	11495400/=
Partnerships to strengthen university food and nutrition sciences training and research in eastern and southern Africa	EU	2013-2018	500000€
FOOD and Local, Agricultural, and Nutritional Diversity	EU	2020-24	451105€
Community based supplementary feeding program	WFP	2009	343119\$
Community based supplementary feeding program	WFP	2010	332892\$
Community based supplementary feeding program	WFP	05-06 2015	2064914713 Ug Shs
Community based supplementary feeding program	WFP	2017-18	28811877

			26 Ug Shs
Community based supplementary feeding program	WFP	05-06 2020	4952002 97 Ug Shs
Community based supplementary feeding program	WFP	06 2020	2362786 18 Ug Shs
Extraction and characterisation of Nile perch oil	NORAD	2008	30000\$
Aquaculture for Food Security, Poverty Alleviation and Nutrition	EU	2012-14	999380€
What do people in Kampala eat and where do they get it	AAUN	2016	5000\$

Professional Affiliations and Awards

- Fellow, Uganda National Academy of Sciences
- Member, Nutrition Society of Uganda
- Professional Member Institute of Food Technologists
- Member, South African Association of Food Science and Technology
- Alumni Global Young Academy
- TWAS Affiliate, 2009
- TWAS young scientist of 2007
- University of Pretoria Academic Honorary Colours Award