Thomas Lapaka Odong
Crop Scientist

Department of Agricultural Sciences,
School of Agricultural Sciences,
College of Agricultural and Environmental Sciences,
Makerere University, Kampala, Uganda

Staff ORCID ID: 0000-0002-2801-4549
Tell: +256 (0) 772 986 821
Email: Thomas.odong @mak.ac.ug

Social media accounts

https://www.linkedin.com/in/thomas-odong-358b937/
https://scholar.google.com/citations?user=b-ah3uEAAAAJ&hl=en

About/Introductory statement

Through teaching, research, and consultancies, Dr Odong has accumulated wealth of knowledge in Research methods, Applied statistics/Biometry and Quantitative, population genetics and plant breeding. He is a seasoned trainer/facilitator in areas of Research Methods, Data management and analysis; Dr Odong has facilitated more than 30 trainings/workshops at national and international level. I also have extensive experiences in research project management, students' supervision, and mentoring. I am a team player with experiences in working with a multi-disciplinary and multi-cultural environment.

Qualifications

- PhD in Statistical Genetics, Wageningen University and Research, 2007
- MSc in Biometry, University of KwaZulu Natal, 2003.
- BSc Agriculture (First Class Hons), Makerere University, 2000
- Post-doctoral Fellow, Laboratory of Bioinformatics, Wageningen University 2012 – 2013

- Visiting Scholar, Certificate in Long life Education (Statistics), Michigan State University 2006

Biography

Dr. Odong attained his PhD, Statistical Genetics from Wageningen University, Netherlands in 2012. His areas of expertise include Biometry (Applied Statistics), Research Methods, Statistical genetics and Bioinformatics. He has about 20 years of extensive experience in Biometry/statistical consulting and lecturing. He has been providing technical backstopping in areas of study design and data analysis to several local and international researchers (NARO, IITA, CIP, FAO). He is currently a Senior lecturer at the School of Agricultural Sciences, Makerere University where he teaches applied statistics, Population and Quantitative Genetics. One of his papers won "The 2014 Outstanding Paper in Plant Genetic Resources award" of the American Crop Science Society. From December 2011 to June 2013, Dr Odong was awarded a post-doctoral research fellowship under Ecological and Evolutionary Functional Genomic Project at the Laboratory of Bioinformatics at Wageningen University. As a Post-doc, he worked on SNP discovery using Next Generation Sequencing Data.

Dr Odong has facilitated more than 30 trainings/workshops (*Research methods, experimental design, Data analysis using R statistical software*) at national and international level. Dr Odong regular conduct both online and physical training in data analysis using R statistical software. He has trained 500 Scientists from Africa and Asia.

As a visiting lecturer, he has taught at Africa Center of Crop Improvement, (ACCI) University of KwaZulu Natal (2014), West Africa Center of Crop Improvement (WACCI), University of Ghana (2015, 2016), University of Namibia (2014) and University of Zimbabwe

(2007, 2021, 2022)

He also has extensive experiences in research project management, students' supervision, and mentoring. He is currently coordinating Intra-Africa Academic mobility project (SCIFSA) a partnership five African Universities (Cairo University, Cheikh Anta Diop University of Dakar, Makerere University, University of Eldoret and University of Ghana). He is a great team player with experiences in working with a multi-disciplinary and multi-cultural environment. He has published over 50 papers in peer-reviewed journals https://scholar.google.com/citations?user=b-ah3uEAAAAJ&hl=en

Other Activities

- Coordinator, PhD in Plant Breeding and Biotechnology
-

Teaching

Undergraduate courses taught:

- CRS1208: Introduction to Statistics,
- CRS2101: Biometrics,

Postgraduate courses taught

- CRS7101: Applied statistics and Biometrics (MSc)
- CRS7210: Quantitative Genetic Theory
- CRS8201: Quantitative and Biometrical Genetics
- CRS9103: Applied Agricultural Statistics and Research methods (PhD)
- CRS9203: Bioinformatics and Functional Genomics (PhD)

Research

Research areas include: Genetic diversity and plant genetic resource management and utilization approaches, statistical methods, quantitative genetics and plant breeding

Research groups and Centres

Community based work

- Mobilize Old boys of Sacred Seminary, Lacor, Gulu Arch Diocese to fund the rehabilitation of one of the members (Mr. Kimong George) who became Alcoholic. Over 3 million Uganda shilling was raised from September to October 2022
- Sponsored the training of two farmers group in Kalongo Town Council, Agago district

on soybean production by a team from the department of Agricultural Production
- Started a community nursery school in Kalongo, Town Council, Agago district in 2022

Awards or special recognitions received

- "The 2014 Outstanding Paper in Plant Genetic Resources award" of the American Crop Science Society (https://www.wageningenur.nl/en/newsarticle/CSSA-award-2014-for-PhD-Thomas-Odong.htm).
- Certificate of Merit (best performance) in Time series Analysis and Forecasting course at the University of Kwa-Zulu Natal (2002)
- First Class degree (Best overall student in Faculty of Agriculture and Forestry, Makerere University) (2000)

Publications

- Emmanuel Amponsah Adjei, Williams Esuma, Titus Alicai, Emmanuel Boache Chamba, Richard Edema, Isaac Onziga Dramadri, Alfred Adebo Ozimati, Rolland Agaba, **Thomas Lapaka, Odong**, 2022. Genotype-by-Environment Interaction of Yam (*Dioscorea species*) for Yam Mosaic Virus Resistance, Dry Matter Content and Yield in Uganda. *Agronomy* 12 (9), 1984
- Ivan Chapu, David Kalule Okello, Robert C Ongom Okello, **Thomas Lapaka Odong**, Sayantan Sarkar, Maria Balota, 2022. Exploration of Alternative Approaches to Phenotyping of Late Leaf Spot and Groundnut Rosette Virus Disease for Groundnut Breeding. *Frontiers in Plant Science* 13
- PC Apunyo, M Businge, MH Otim, P Isubikalu, **TL Odong** 2022. Phenotypic characterization of sorghum accessions on farmers' fields in northern and eastern Uganda. *International Journal of Biodiversity and Conservation* 14 (4), 181-189
- Emmanuel Amponsah Adjei, Williams Esuma, Titus Alicai, Ranjana Bhattacharjee, Isaac Onziga Dramadri, Rolland Agaba, Emmanuel Boache Chamba, **Thomas L Odong** 2022. Phenotypic Diversity within Ugandan Yam (*Dioscorea species*) Germplasm Collection. International Journal of Agronomy 2022
- Danielle A Essandoh, **Thomas Odong**, David K Okello, Daniel Fonceka, Joël Nguepjop, Aissatou Sambou, Carolina Ballén-Taborda, Carolina Chavarro, David J Bertioli, Soraya CM Leal-Bertioli, 2022. Quantitative Trait Analysis Shows the Potential for Alleles from the Wild Species *Arachis batizocoi* and *A. duranensis* to Improve

Groundnut Disease Resistance. Agronomy 12 (9), 2202

- PC Apunyo, M Businge, MH Otim, P Isubikalu, **TL Odong**, 2022. Diversity and spatial distribution of sorghum on farmers' fields in Uganda. *African Crop Science Journal* 30 (3), 363-374
- JB Odoi, Clement Akias Okia, S Gwali, **TL Odong**, H Agaba, JBL Okullo 2022. Kernel morphometric characteristics and oil content among Shea tree genotypes in Uganda. *African Crop Science Journal* 30 (4), 547-561
- A Akwero, MH Otim, M Ochwo-Ssemakula, **TL Odong**, J Lamo 2022. Host Plant Reaction to Rice Yellow Mottle Virus and Allelic Diversity of RYMV1 Gene in Rice Cultivars in Uganda. *Journal of Agricultural Science* 14 (6)
- Katono, K., Macfadyen, S., Omongo, C.A., **Odong, T.L.**, Colvin, J., Karungi, J. and Otim, M.H., 2021. Influence of Cassava Morphological Traits and Environmental Conditions on Field Populations of Bemisia tabaci. *Insects*, *12*(7), p.604.
- Obua, T., Sserumaga, J.P., Awio, B., Nganga, F., **Odong, T.L.**, Tukamuhabwa, P., Tusiime, G., Mukasa, S.B. and Nabasirye, M., 2021. Multi-Environmental Evaluation of Protein Content and Yield Stability among Tropical Soybean Genotypes Using GGE Biplot Analysis. *Agronomy*, *11*(7), p.1265.
- Bararyenya, A., Olukolu, B.A., Tukamuhabwa, P., Grüneberg, W.J., Ekaya, W., Low, J., Ochwo-Ssemakula, M., **Odong, T.L.**, Talwana, H., Badji, A. and Kyalo, M., 2020. Genome-wide association study identified candidate genes controlling continuous storage root formation and bulking in hexaploid sweetpotato. *BMC plant biology*, *20*(1), pp.1-16.
- Gebremedhn, H.M., Msiska, U.M., Weldekidan, M.B., **Odong, T.L.,** Rubaihayo, P. and Tukamuhabwa, P., 2020. Prediction of candidate genes associated with resistance to soybean rust (Phakopsora pachyrhizi) in line UG-5. *Plant Breeding*, *139*(5), pp.943-949.
- **Odong, T.L**., Tenywa, J.S. and Nabasirye, M., 2019. Revisiting application of statistics in agricultural research in Sub-Saharan Africa: entry points for improvement. *African Crop Science Journal*, *27*(3), pp.529-544.
- Akatwijuka, R., Rubaihayo, P.R. and **Odong, T.L**., 2019. Correlations and path analysis of yield traits in sorghum grown in southwestern highlands of Uganda. *African Crop Science Journal*, *27*(3), pp.437-444.
- Ibanda, A.P., Malinga, G.M., Tanzito, G.A., Ocan, D., Badji, A., Mwila, N., Msiska, U., **Odong, T.L.**, Karungi, J., Tukamuhabwa, P. and Rubaihayo, P.R., 2018. Combining ability and heritability of soybean resistance to groundnut leaf miner. *Euphytica*, *214*(10), pp.1-15.

- Msiska, U.M., **Odong, T.L**., Hailay, M., Miesho, B., Kyamanywa, S., Rubaihayo, P.R. and Tukamuhabwa, P., 2018. Resistance of Uganda soybean germplasm to adzuki bean bruchid. *African Crop Science Journal*, *26*(3), pp.399-415.
- Mwila, N., Nuwamanya, E., **Odong, T.L**., Badji, A., Agbahoungba, S., Ibanda, P.A., Mwala, M., Sohati, P., Kyamanywa, S. and Rubaihayo, P.R., 2018. Genotype by environment interaction unravels influence on secondary metabolite quality in cassava infested by Bemisia tabaci. *Journal of Agricultural Science*, *10*(8), pp.192-209.
- Agbahoungba, S., Karungi, J., **Odong, T.L**., Badji, A., Kumi, F. and Rubaihayo, P.R., 2018. Biochemical constituents influencing the resistance to flower bud thrips in cowpea [vigna unguiculata (l.) walp] germplasm.
- Mohammed, K.E., Afutu, E., **Odong, T.L**., Okello, D.K., Nuwamanya, E., Grigon, O., Rubaihayo, P.R. and Okori, P., 2018. Assessment of groundnut (Arachis hypogaea L.) genotypes for yield and resistance to late leaf spot and rosette diseases.
- Miesho, W.B., Gebremedhin, H.M., Msiska, U.M., Mohammed, K.E., Malinga, G.M., Sadik, K., **Odong, T.L**., Rubaihayo, P. and Kyamanywa, S., 2018. New sources of cowpea genotype resistance to cowpea bruchid Callosobruchus maculatus (F.) in Uganda. *International Journal of Agronomy and Agricultural Research*, *12*(4), pp.39-52.
- Gebremedhn, H.M., Msiska, U.M., Weldekidan, M.B., Asmamaw, F.A., Winnifred, A., Onziga, D.I., **Odong, T.L**., Rubaihayo, P. and Tukamuhabwa, P., 2018. Identification and mapping of quantitative trait loci associated with soybean rust (Phakopsora pachyrhizi) resistance in genotype UG 5. *African Journal of Biotechnology*, *17*(48), pp.1368-1376.
- Agbahoungba, S., Karungi, J., **Odong, T.L**., Badji, A., Sadik, K. and Rubaihayo, P.R., 2017. Stability and extent of resistance of cowpea lines to flower bud thrips in Uganda. *African Crop Science Journal*, *25*(1), pp.1-24.
- Agoyi, E.E., **Odong, T.L**., Tumuhairwe, J.B., Chigeza, G., Diers, B.W. and Tukamuhabwa, P., 2017. Genotype by environment effects on promiscuous nodulation in soybean (Glycine max L. Merrill). *Agriculture & Food Security*, *6*(1), pp.1-14.
- Okello, D.K., Ugen, M.A., Tukamuhabwa, P., Ochwo-Ssemakula, M., **Odong, T.L.**, Adriko, J., Kiconco, F., Male, A. and Deom, C.M., 2017. Molecular diagnostics of groundnut rosette disease agents in Uganda: Implications on epidemiology and management of groundnut rosette disease. *Journal of plant breeding and crop*

science, 9(5), pp.63-70.

- Agoyi, E.E., Afutu, E., Tumuhairwe, J.B., **Odong, T.L**. and Tukamuhabwa, P., 2016. Screening soybean genotypes for promiscuous symbiotic association with Bradyrhizobium strains. *African Crop Science Journal*, *24*(1), pp.49-59.
- Akatwijuka, R., P. R. Rubaihayo, and **T. L. Odong.** "Genetic diversity among sorghum landraces of southwestern highlands of Uganda." *African Crop Science Journal* 24, no. 2 (2016): 179-190.
- Afutu, E., Mohammed, K.E., **Odong, T.L.,** Biruma, M. and Rubaihayo, P.R., 2016. Evaluation of Ugandan cowpea germplasm for yield and resistance to scab disease. *Journal of Experimental Agriculture International*, pp.1-18.
- **Odong TL**, van Heerwaarden, J, van Hintum ThJL, van Eeuwijk FA and J Jansen (*2013*) Improving hierarchical clustering of genotypic data by Principal components analysis. Crop Science 53:1546-1554
- Okello DK, Akello LB, Ochwo-Semakula M, ***TL* Odong** and Tukamuhabwa (2014) Groundnut rosette disease symptoms types distribution and management of the disease in Uganda. African Journal of Plant Sciences 8(3) 153-163.
- Okii D, Tukamuhabwa P, ***TL* Odong**, Namayanja A. and Mukabaranga J (2014) Morphological diversity of tropical common bean germplasm. African Crop Science Journal 22(1) 59-68
- **Odong TL**, Jansen J, van Eeuwijk FA and van Hintum ThJL (2013) Quality of Core Collections for Effective Utilization of Genetic Resources *Review, Discussion and Interpretation*. Theoretical and Applied Genetics.
- Joost van Heerwaarden, ***TL Odong***, FA van Eeuwijk (2013) Maximizing genetic differentiation in core collections by PCA-based clustering of molecular marker data. Theoretical and Applied Genetics 126(3) 763-772
- **Odong TL**, van Heerwaarden J, Jansen J, van Hintum ThJL, and van Eeuwijk FA (2011) Determination of genetic structure of germplasm collections: are traditional hierarchical clustering methods appropriate for molecular marker data? Theoretical Applied Genetics 123(2): 195-205
- **Odong TL**, van Heerwaarden J, Jansen J, van Hintum ThJL, and van Eeuwijk FA (2011) Statistical techniques for defining reference sets of accessions and microsatellite markers. Crop Science 51(6): 2401-2411.

Podcasts

Videos

https://www.youtube.com/watch?v=Rfw10T5sFu8
https://www.youtube.com/watch?v=qYSwQndhol4

https://www.youtube.com/watch?v=8dOlyaKz-J0