

# Andrew Kiggundu P.D.

## Curriculum Vitae

### 1. Personal Information:

**Surname:** Kiggundu  
**Other names:** Andrew  
**Nationality:** Ugandan  
**Date of birth:** 10th April 1969  
**Current address:** National Agricultural Research Organization  
National Agricultural Research Laboratories, Kawanda  
P. O. Box 7065, Kampala, Uganda  
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### 2. Professional Appointments:

1. Project Manager: Virus Resistant and Nutrient Enhanced Cassava for Africa (VIRCA Plus) Project, coordinating project collaborators based in Kenya, Nigeria, Rwanda, Uganda, and USA. Financial, technical, and regulatory oversight for personnel, skill and timely output management, donor relations, project meetings and stakeholder engagement and in-country relations at high-level policy making organs as well as communication across the project. Activity planning, scheduling, ensuring timely excursion, prudent budget operations, approval of reports to ensure successful project performance.
2. Head of Programme: Biodiversity and Biotechnology Programme. At the National Agricultural Research Laboratories, Kawanda. Leading three groups working on plant genetic resource conservation, biological control and biotechnology (working on plant tissue and cell culture, genetic engineering, molecular diagnostics and genotyping, microbial collections, biosafety and training). Scientific interest work was on developing transgenic banana, potato and ground-nut for bacterial wild disease resistance, Late blight resistance and aflatoxin accumulation respectively.
3. Secretary to the National Agricultural Research Organization (NARO), Institutional Biosafety Committee (IBC) Sep 2008 to May 2017. During this period the NARO - IBC reviewed 12 successful Confined Field Trial applications, the highest number in Africa in a single country to-date. Making Uganda a leader in biotechnology development and biosafety at research level.
4. Country Focal Person for Biotechnology Stewardship and Stewardship trainer for the Pan African Project, "Strengthening Agricultural Biotechnology and Stewardship" coordinated by the Forum for Agricultural Research in Africa (FARA) and supported by Syngenta Foundation.
5. Research and Training Professional (Genomics of plants and genetic improvement research) on the Presidential Initiative on Banana Industrial Development (PIBID) in Uganda.

### 3. Project Leadership Experience:

1. Project Management reporting to Principal Investigator of the VIRCA Plus project based at the Donald Danforth Plant Science Center, 2017 to-date. The project is operating in 4 countries in Africa and funded by three diverse donors, The Bill and Melinda Gates Foundation, Beyer Company and the USAID-Washington up to about US\$ 5,000,000.
2. Principal Investigator NARO/CIP GM potato with Late Blight resistance funded by CIP and USAID (US\$150,000 from 2015 to 2017)
3. Principal Investigator PEARL funded by Bill and Melinda Gates Foundation (US\$480,000 from 2014 to 2019)
4. Principal Investigator “Citrus disease diagnosis and cost effective management in Uganda” funded by KOPIA (US\$150,000 from 2015 to 2017)
5. Project Leader SABIMA-FARA (US \$45,000 per year from 2012-14)
6. Novel Biotechnologies for Banana 2<sup>nd</sup> Phase funded by Government of Uganda and Bioversity International (\$100,000 from 2010 to 2012)

### 4. Training:

**2001 – 2005** University of Pretoria, South Africa; Forestry and Agricultural Biotechnology Institute (FABI) and the Department of Botany.

**Award:** PhD. Plant Biotechnology

**1997-2000** University of the Orange Free State, Bloemfontain South Africa

**Award:** MSc. Agriculture - Plant Breeding (with Distinction)

**1990 – 1993** Makerere University, Kampala, Uganda

**Award:** Bachelor of Science (Honours) Degree (Botany and Zoology)

### 5. Leadership, Management and Communication Training:

- a. Transformational Leadership, by Olivier Mythodrama, Berlin October 2018
- b. Alan Alda Communicating Science Training, July 2015, Champaign, Illinois. USA
- c. Advanced Science Leadership and Management Dec. 2015 Kigali, Rwanda; hfp-consulting and Bill and Melinda Gates Foundation
- d. Leadership and Management Skills Course for Senior Scientists; November 2014 Seattle USA; hfp-consulting and Bill and Melinda Gates Foundation
- e. Biotechnology Stewardship Trainer Dec. 2012, Uganda
- f. Stewardship for Transgenic Plant Development Mar. 2011, Entebbe Uganda by PERSEUS and FARA
- g. Biosafety Risk Communication Jun. 2011 Mauritius (See: *Racovita et al., 2013* under publications below)
- h. Enhancing the Communication of Science and Technology by Researchers, Sept, 2007, Entebbe Uganda, by PBS

### 6. Employment:

#### a) Jan. 2017 to Oct. 2021

**Employer:** Donald Danforth Plant Science Center  
St. Louis Missouri, USA

**Positions:** Project Manager  
Virus Resistant Cassava for Africa Project

**Responsibilities:**

1. Coordination of VIRCA-Plus teams in USA, Kenya, Uganda and Nigeria on planning and efficient implementation of project activities including developing transgenic plants, stewardship, regulatory reviews, field trials, project reporting and financial oversight budgets, agreements and compliance.
2. Training and capacity building, to regulators, inspectors and researchers on GM research and development in Africa
3. Partnerships development for the project in Africa
4. Proposal development and donor relations building
5. Coordinating regulatory approval strategy of GM cassava in Africa
6. Communication, community engagement on GM foods with an African Perspective in Missouri and Illinois, USA

**b) 2005 to 2017**

**Employer:** National Agricultural Research Organisation (NARO)  
National Agricultural Research Laboratories, Kawanda

**Positions:** Programme Leader Biodiversity and Biotechnology Programme  
Head, National Agricultural Biotechnology Centre, Kawanda  
Senior Research Officer (Plant biotechnology)

**Responsibilities:**

1. Managing and caretaking the National Agricultural Biotechnology Centre at Kawanda; providing access to national programmes, and international institutions as center users. Including; IITA, CIAT, and Bioversity International
2. Development of new NARL biotechnology research agenda and its inclusion into the NARO Medium Term Plan to develop regeneration and transformation systems for potato, cotton, passion fruit, groundnut and millet
3. Development of proposals for donor supported projects
4. Scientific publications
5. Training, supervision and mentoring post graduate students in plant molecular biology, genetic engineering and biosafety
6. Participation in National Policy advisory for the Biotechnology and Biosafety Policy, Science & Technology Innovation Policy and Intellectual Property Rights Policy, seed and breeder's rights as well as the associated Acts and guidelines
7. Served in position of acting Director of Research, NARL April – June 2012 and from time to time when the substantive director is out of office

**c) Jan 2001 to 2005**

**Employer:** National Agricultural Research Organisation (NARO)  
Kawanda Agricultural Research Institute (KARI)  
National Banana Research Programme

**Position:** Research Assistant: (Banana germplasm and breeding)

**Responsibilities:**

1. Managing and conducting research on the national banana germplasm collection. This includes evaluation for major pests and diseases. Carrying out multi location trials of imported germplasm, and improved varieties.
2. Computer systems manager: Responsible for supporting institute computer network served by a UNIX/Linux based server, for e-mail, intranet, internet and other shared resources.

**d) Sept 1993 - Dec 2000**

**Employer:** International Institute of Tropical Agriculture (IITA), Banana Weevil Project, National Banana Research Programme

**Position:** Research Assistant

**Responsibilities:**

1. Assisting research on the genetic variability of East African Highland Bananas in Uganda. Setting up experimental trials, collection and entry of vegetative data for identification and characterisation studies of the banana germplasm.
2. Nationwide surveys: a) The Banana Diagnostic Survey, which involved on farm data collection across the banana producing regions in Uganda, to identify banana farming systems and production constraints. b) A nationwide survey on "Farmers Cultivar Selection Criteria", to establish what criteria if any, farmers used to select the banana cultivars they grew. c) A rapid rural appraisal survey to establish the reasons for banana decline in the central region, and why banana production has shifted to the western region
3. Data analysis on phenotypic characterization and survey data and progress and final report preparation and presentation and publication of journal articles.

**7. Consultancies:**

1. Programme for Biosafety Systems (PBS) consultant to develop the Uganda Institutional Biosafety Committee (IBC) terms of reference and SOPs booklet June 2016
2. Programme for Biosafety Systems (PBS) consultant to develop Information Brochure on "Advances in Biotechnology Research in Uganda" June 2014
3. Consultant FAO project to setup a GMO detection laboratory at the Ministry of Agriculture Animal Industry and Fisheries, post entry quarantine laboratories, Namalere. January 2013
4. Managed the establishment of a national GMO detection laboratory at Namalere, ordering equipment, installation, commissioning and training various staff.
5. Consultant to Government of Rwanda to initiate coffee tissue culture at Institut des Sciences Agronomiques du Rwanda (ISAR), Rubona, Rwanda
6. Development of the National Guidelines for Containment: For regulation of Research with Genetically Modified Organisms and Microbes, Program for Biosafety Systems Uganda National Council for Science and technology May 2007

**8. Board and Committee appointments:**

1. Member of Expert Committee on proposal review and grant award of the LEAP-Agri (A long term EU-Africa research and innovation partnership on food and nutrition security and sustainable agriculture) 2018 to-date
2. This is joint project of 30 European and African country partners (including 24 Funding Agencies from 18 countries) with the financial support of the European Commission to fund and implement long term EU-Africa research and innovation flagship partnerships on food and nutrition security and sustainable agriculture.
3. Member editorial board Uganda Journal of Agricultural Sciences (UJAS) 2014 to-date
4. Member NARO Intellectual Property Rights (IPR) policy development Task Force
5. Member ASARECA Committee to develop Regional IP Policy for the EAARP Project; "EAAPP 2013. *Intellectual Property Policy*. EAAPP (Eastern Africa Agricultural Productivity Project) and ASARECA (Association for Strengthening Agricultural Research in Eastern and Central Africa), Entebbe).

6. Member Uganda National Laboratory and Testing Committee on Global Gap Standards
7. Committee Member on consensus study “The Scope of Biosafety and Bio-security in Uganda: Policy Recommendations for the Control of Associated Risks” Uganda National Academy of Sciences, April 2010. ISBN 9970-866-03-9
8. Founding Member and Member of the Interim Management Committee of the Uganda Biotechnology and Biosafety Consortium (UBBC)
9. Member, National Drug Authority Clinical Trials Review Board, representing NARO
10. Member MAAIF Task Force on Negative Publicity of Biotechnology/GMOs in Uganda

## 9. Graduate training and examination:

### 1. Completed MSc. students and theses supervised

- i. Molecular Characterization of Aflatoxin Producing *Aspergillus* Section *Flavi* from Groundnuts in Selected Agro-ecological Zones of Uganda (*Acur Amos*) 2020
- ii. Identification of Suitable Genes for RNAi Silencing of Aflatoxigenic *Aspergillus flavus* Isolates from Groundnuts in Uganda (*Ssekandi Joseph*) 2019
- iii. Regeneration and genetic transformation of Passion fruit (*Samuel Tuhaise*) 2016
- iv. Banana weevil population genetics in Uganda (*Sekatawa Kenneth*) 2016
- v. Identification of cellulose genes in banana stem (*Paul Akuyenze*) 2016
- vi. Identification of RNAi genes for black Sigatoka and fusarium wilt control in banana (*Francis Mumbanza*) 2015
- vii. Identification and evaluation of RNAi genes against passion fruit collar rot disease (*Florence Nasimbwa*) 2015
- viii. Safety studies on two candidate genes (papaya and maize cystatin) for banana nematode and weevil resistance control in transgenic using protein toxicity analysis (*Moses Matovu*) 2015
- ix. A novel bioassay system for protein testing against the banana weevil *in-vitro* (*Eryeza Bakaze*) 2015
- x. Genetic transformation of banana cv. Sukaali Ndiizi with papaya cystatins gene (*Annet Namuddu*) 2013
- xi. Characterisation and molecular assessment of soil nematode community as a tool to access non target effects of transgenic banana to the environment (*Rebecca Nakacwa*) 2013

### 2. Completed Ph.D students and theses supervised

- i. Distribution, incidence and severity of maize lethal necrosis disease in major maize growing agro-ecological zones of Uganda (*Barnabas Mudde*) 2019
- ii. Regeneration and transformation systems for improving resistance to weevils in Ugandan sweet potato cultivars (*Abel Sefasi*)
- iii. Defence gene responses during *Xanthomonas vasicola* pv. *musacearum* interaction with both resistant and susceptible banana (*Fred Ssekiwoko*)
- iv. Inheritance of resistance to *Fusarium oxysporum* f. sp. *cubense* race 1 in bananas (*Ssali Tendo*)
- v. Expressing stacked HRAP and PFLP genes in transgenic banana has no synergistic effect on resistance to *Xanthomonas* wilt disease (*Abu-Backer Muwonge*)

## 10. Publications:

### BOOKS AND BOOK CHAPTERS

- Kiggundu, A. 2011. Incorporating stewardship practices into the development of genetically modified banana: Uganda case study. In: Johnson L, Anthony V, Alhassan WS and Rudelsheim P, eds. 2011 Agricultural Biotechnology in Africa: Stewardship Case Studies. Forum for Agricultural Research in Africa (FARA). Accra. Ghana. Pp5-13 ISBN 978-9988-93-4-3
- Atkinson, H., Dale, J., Harding, R., Kiggundu, A., Kunert, K., Muchwezi, J.M., Sagi, L. and Viljoen, A. 2003. Genetic transformation strategies to address the major constraints to banana and plantain production in Africa: Technical manual of the training workshop on enhancing capacity for nematode management in small-scale banana cropping systems held at the Institute of Plant Breeding, University of the Philippines Los Baños Laguna, Philippines, 1-5 December 2003. INIBAP
- Gold, C. S., E. B. Karamura, A. Kiggundu, F. Bagamba, and A. M. K. Abera, 1999, Monograph on Geographic shifts in the highland cooking banana (*Musa* spp., group AAA-EA) production in Uganda. African Crop Science Society, Makerere University Kampala.

### REFERRED JOURNALS

- Wagaba, H., Kuria, P., Wangari, P., Aleu, J., Obiero, H., Beyene, G., ... MacKenzie, D. J. (2021). Comparative compositional analysis of cassava brown streak disease resistant 4046 cassava and its non-transgenic parental cultivar. *GM Crops and Food*, 12(1), 158–169. <https://doi.org/10.1080/21645698.2020.1836924>
- Acur, A., Arias, R. S., Odongo, S., Tuhaise, S., Ssekandi, J., Adriko, J., ... Kiggundu, A. (2020). Genetic diversity of aflatoxin-producing *Aspergillus flavus* isolated from selected groundnut growing agro-ecological zones of Uganda. *BMC Microbiology*, 20(1), 1–12. <https://doi.org/10.1186/s12866-020-01924-2>
- Ghislain, M., Byarugaba, A. A., Magembe, E., Njoroge, A., Rivera, C., Román, M. L., Kiggundu, A. (2019). Stacking three late blight resistance genes from wild species directly into African highland potato varieties confers complete field resistance to local blight races. *Plant Biotechnology Journal*, 17(6), 1119–1129. <https://doi.org/10.1111/pbi.13042>
- Wagaba H, Kiggundu A, Taylor N. (2018) Development and Delivery of Transgenic Virus-resistant Cassava in East Africa. In: *Genes, Genetics and Transgenics for Virus Resistance in Plants*. (Patil, B.L., ed.) Ch. 8, pp 159-176. Poole, UK: Caister Academic Press.
- Tuhaise, S., Nakavuma, J. L., Adriko, J., Ssekatawa, K., & Kiggundu, A. (2019). In-vitro regeneration of Ugandan passion fruit cultivars from leaf discs. *BMC Research Notes*, 12(1), 425. <https://doi.org/10.1186/s13104-019-4469-8>
- Tuhaise, S., Jesca, L. N., John, A., Kenneth, S., & Andrew, K. (2019). Establishment of a transformation protocol for Ugandan yellow passion fruit using the GUS gene. *African Journal of Biotechnology*, 18(20), 416–425. <https://doi.org/10.5897/AJB2019.16795>
- Mudde, B., Kilalo, D. C., Olubayo, F. M., Asea, G., Kiggundu, A., Kwemoi, D. B., & Miano, D. W. (2019). Role of Prevalent Weeds and Cultivated Crops in the Epidemiology of Maize Lethal Necrosis Disease in Major Maize Growing Agroecological Zones of

- Uganda. Annual Research & Review in Biology, 1–17.  
<https://doi.org/10.9734/arrb/2019/v32i330084>
- Mudde, B., Olubayo, F. M., Miano, D. W., Asea, G., Kilalo, D. C., Kiggundu, A., Adriko, J. (2018). Distribution, Incidence and Severity of Maize Lethal Necrosis Disease in Major Maize Growing Agro-ecological Zones of Uganda. *Journal of Agricultural Science*, 10(6), 72. <https://doi.org/10.5539/jas.v10n6p72>
- Tripathi, L., J. N. Tripathi, A. Kiggundu, S. Korie, F. Shotkoski & W. K. Tushemereirwe 2014 Field trial of *Xanthomonas* wilt disease-resistant bananas in East Africa. *Nature Biotechnology* 32, 868–870
- Ssekiwoko, F., Kiggundu, A., Tushemereirwe, W. K., Karamura, E. and Kunert, K. (2015). *Xanthomonas vasicola* pv. *musacearum* down-regulates selected defense genes during its interaction with both resistant and susceptible banana. *Physiological and Molecular Plant Pathology*, 90, 21-26. doi: <https://doi.org/10.1016/j.pmpp.2015.02.007>
- Ssekiwoko F., K. Kunert, A. Kiggundu, W. K. Tushemereirwe, E. Karamura 2013 *Musa balbisiana* resists *Xanthomonas* wilt disease through interfering with the multiplication of *Xanthomonas vasicola* pv *musacearum* coupled with whole organ (leaf) death. *Uganda Journal of Agricultural Sciences* 14(2):13.
- Ssekiwoko F, Talengera D, Kiggundu A, Namutebi M.K, Karamura E, and Kunert K, 2014. *In-vitro* proliferation of *Musa balbisiana* improves with increased vitamin-A concentration and dark culturing. *Journal of Applied Biotechnology*; 2 (03): 1-7
- Kumakech A., A. Kiggundu, and P. Okori 2013 Reaction of *Musa balbisiana* to banana bacterial wilt infection. *African Crop Science Journal*, Vol. 21, No. 4, pp. 337 - 346
- Nakacwa R. , A. Kiggundu, H. Talwana, J. Namaganda, C. Lilley, W. Tushemereirwe, H. Atkinson, 2013. Nematode 18S rRNA gene is a reliable tool for environmental biosafety assessment of transgenic banana in confined field trials *Journal of Transgenic Research* DOI: 10.1007/s11248-013-9712-9
- Namuddu, A., Kiggundu, A., Mukasa, S. B., Kurnet, K., Karamura, E. and Tushemereirwe, W. 2013. Agrobacterium mediated transformation of banana (*Musa* sp.) cv. Sukali Ndiizi (ABB) with a modified *Carica papaya* cystatin (CpCYS) gene. *African Journal of Biotechnology* 12(15) 1811-1819 DOI:10.5897/AJB12.2478
- Sefasi A., G. Ssemakula, M. Ghislain, K. Prentice, A. Kiggundu, R. Mwanga & S.B. Mukasa. 2013. Transient Expression of B-Glucuronidase in Recalcitrant Ugandan Sweetpotato and Putative Transformation with two Cry Genes. *African Crop Science Journal*, Vol. 22, No. 3, pp. 215 - 227
- Sefasi, A., Ghislain M., Kiggundu A., Ssemakula G., Rukarwa R., Mukasa SB., 2013. Thidiazuron improves adventitious bud and shoot regeneration in recalcitrant sweet potato. *African Crop Science Journal* 21(1) 85 - 95.
- Mumbanza, F M, Kiggundu A., Tusiime G., Tushemereirwe W., Niblett C., Bailey A. 2013. *In vitro* antifungal activity of synthetic dsRNA molecules against two pathogens of banana, *Fusarium oxysporum* f. sp. *cubense* and *Mycosphaerella fijiensis*. *Pest Management Science*, Article first published online: 7 MAR 2013 DOI: 10.1002/ps.3480
- Racovita M, Obonyo D, Abdallah R, Anguzu R, Bamwenda G, Kiggundu A, Maganga H, Muchiri N, Nzeduru C, Otadoh J, Rumjaun A, Suleiman I, Sunil M, Tepfer M, Timpo S, van der Walt W, Kaboré-Zoungrana C, Nfor L, Craig W. 2013. Experiences in sub-Saharan Africa with GM crop risk communication: Outcome of a workshop. *GM Crops and Food: Biotechnology in Agriculture and the Food Chain*; 4:1, 1-9

- Tindamanyire, JM, Townsley B, Kiggundu A., Tushemereirwe W. and Sinha N, 2013. Building a bi-directional promoter binary vector from the intergenic region of *Arabidopsis thaliana* cab1 and cab2 divergent genes useful for plant transformation. *African Journal of Biotechnology* 12(11): 1203-1208
- Tripathi, L. Tripathi J.N., W.K. Tushemereirwe, G. Arinaitwe and Kiggundu A., 2013. Transgenic Bananas with Enhanced Resistance against Xanthomonas Wilt Disease. In: Proc. 2nd Genetically Modified Organisms in Horticulture Symposium Ed. M.A. Veale *Acta Horticulturae* 974, ISHS, 81-90
- Sefasi A., J. Kreuze, M. Ghislain, S. Manrique, A. Kiggundu, G. Ssemakula, S.B. Mukasa. 2012 Induction of somatic embryogenesis in recalcitrant sweetpotato (*Ipomoea batatas* L.) cultivars *African Journal of Biotechnology* 11:16055-16064.
- Schlüter, U., Benchabane M., Munger A., Kiggundu A., Vorster J., Goulet MC., Cloutier C., Michaud D. 2010. Recombinant protease inhibitors for herbivore pest control: a multitrophic perspective *Journal of Experimental Botany* 61(15): 4169-4183
- Shotkoski, F.A., Tripathi, L., Kiggundu, A., Arinaitwe, G. and Tushemereirwe, W. 2010. Role of Biotechnology and Transgenics in Bananas (*Musa* Spp.) in Africa. *Acta Horticulturae* 879:275-279
- Kiggundu A., Muchwezi J., Van der Vyver C., Viljoen A., Vorster J., Schlüter U., Kunert K. & Michaud D. 2010 Deleterious effects of plant cystatins against the banana weevil *Cosmopolites sordidus*. *Archives of Insect Biochemistry and Physiology* 73:2, 87-105
- Kiggundu A., K. Kunert<sup>2</sup>, D. Michaud, A. Viljoen, W. Tushemereirwe & E. Karamura 2009. Digestive proteolysis in the banana weevil (*Cosmopolites sordidus*) gut and the effects of recombinant phytocystatins on early larval growth and development *Aspects of Applied Biology* 96, 234 -355
- Tinzaara W., Kiggundu A., Gold C.S., Tushemereirwe W.K., and Karamura E.B. 2009 Management options for highland banana pests and diseases in East and Central Africa *Outlooks on Pest Management* 20, (5) 204-208
- Endah R., Beyene G., Kiggundu A., van den Bergd N., Schlüter U., Kunert K. & Chikwamba R., 2008, Elicitor and Fusarium-induced expression of NPR1-like genes in banana. *Plant Physiology and Biochemistry* 46, 1007-1014.
- Girard C, D. Rivard, A. Kiggundu, K. Kunert, S. C. Gleddie, C. Cloutier and D. Michaud. 2007. A multicomponent, elicitor-inducible cystatin complex in tomato, *Solanum lycopersicum*. *New Phytologist* 173:4, 841–851
- Kiggundu, A., Goulet C., Dubé J. F., Rivard D., Badri A., Odobasic A., Benchabane M., Duceppe M. O., Khalf M., Pépin G., Vaillancourt L., Christell van der Vyver, Kunert K., and Michaud D. 2006. Evidence of adaptive evolution among plant cystatins, and modulation of their anti-papain inhibitory activity by single mutations at a positively selected amino acid site *The Plant Journal* 48 (3), 403–413
- Viljoen, A., Kunert, K., Kiggundu, A., Escalant, J.V. 2004. Biotechnology for sustainable banana and plantain production in Africa. The South African Contribution. *South African Journal of Botany* 70, 67-74
- Kiggundu, A., Pillay, M., Viljoen, A., Gold, C., Tushemereirwe, W., Kunert, K. 2003. Enhancing banana weevil (*Cosmopolites sordidus*) by genetic modification. A perspective. *African Journal of Biotechnology* 2, 563-569
- Kiggundu, A., Gold, C.S, Labuschagne, M., Vuylsteke, H.K., Louw, S. V.D.M., 2003. Levels of host plant resistance to banana weevil *Cosmopolites sordidus* (Germar) (Coleoptera: Curculionidae) in African *Musa* germplasm. *Euphytica* 133, 267-277

- Gold, C. S., Kiggundu A., Abera A. M. K. and Karamura D. 2002 Selection criteria of *Musa* cultivars through a farmer participatory appraisal survey in Uganda. *Experimental Agriculture* 38 29-38
- Gold, C. S. Kiggundu, A., Abera, A. M. K., and Karamura, D. 2002. Diversity, distribution and farmer preference of *Musa* cultivars in Uganda. *Experimental Agriculture* 38: 39-50
- Gold, C. S., Karamura E. B., Kiggundu A., Bagamba F., and Abera A. M. K 1999. Geographic shifts in the highland cooking banana (*Musa* spp., group AAA-EA) production in Uganda. *International Journal of Sustainable Development and World Ecology* 6 45-59.
- Karamura, D., Pickersgrill, B., Vuylsteke, D.R., Gold, C.S., Karamura, E. and Kiggundu, A. 2000. Multivariate analyses of supposedly duplicate accessions of East African highland bananas in germplasm collections in Uganda. *Acta Hort. (ISHS)* 540:89-97
- Gold C. S., Kiggundu A., and Abera A. M. K. 1997; Farmer based banana cultivar selection criteria in Uganda. *African Crop Science Journal* Vol. 3 (part 1) 140-157.

### CONFERENCE AND WORKSHOP PROCEEDINGS

#### KEY NOTE PRESENTATIONS, INVITED TALKS

1. "Application of crop biotechnology in African vegetatively propagated food crops. The case of cooking banana bacterial wilt, potato late blight and cassava brown streak disease", "The evolving GM regulatory and policy environments in Africa. Lessons from Kenya and Uganda" and "Media engagements on GM crops challenges and solutions: A personal experience". Invited lectures at Alliance for Science Programme at Cornell University, for the 2019 international fellows. September 2019
2. "Uncertain regulatory and policy environments. Lessons from the Virus Resistant Cassava for Africa Plus (VIRCA Plus) project in Kenya and Uganda" 15th International Society for Biosafety Research (ISBR) Symposium, 1-4 April 2019, Terragona Spain.
3. "GM technologies for staple crops in Africa – the case of R&D in Uganda regulations and public perceptions" Global Status, Acceptance, and Challenges of GM Crops Symposium part of the XXV International Congress of Entomology (ICE 2016) September Orlando, Florida USA
4. "Towards Zero-Fungicide Genetically Modified Potatoes for Africa" Keynote at the 10<sup>th</sup> Triennial African Potato Conference, of the African Potato Association Addis Ababa Ethiopia, October, 2016.
5. "Biotechnology's potential to impact the livelihood of producers in Africa". In Symposium Impact of Agriculture Biotechnology on the Developing World – at World Trade Organization September 2015.
6. Bioscience-Based Research for African Staple Crops; the application of gene technology to banana and cassava in Uganda Symposium on Biosciences for Farming in Africa as Part of the American Association for Advancement of Science, Annual Meeting February 2014, Chicago, USA
7. "Efforts in genetic engineering of banana and key strategies of general GMO developments in Uganda" Keynote at the 5<sup>th</sup> International Symposium on Tropical and Subtropical Fruits. Guangzhou China June 2012
8. "Agriculture in Uganda and the Application of Gene Technology to Staple Foods Crops". The Whitney Laboratory for Marine Bioscience is a full time University of Florida research Centre for biomedical research and biotechnology

## 11. References:

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