

# CURRICULUM VITAE for Joel Winyo Ochieng, PhD (June 2016)

## PERSONAL INFORMATION

SEX	<b>Male</b>
NATIONALITY	<b>Kenya</b>
DATE OF BIRTH	<b>30 December 1975</b>
EXPERTISE	<b>Genetics and Biotechnology</b>
MARITAL STATUS	<b>Single parent with 13 year old daughter</b>
EMPLOYMENT	<b>Senior Researcher, Genetics &amp; Biotechnology, University of Nairobi</b>
CONTACTS	<b>jochieng@uonbi.ac.ke ; +254 711 121359</b>



## GOOGLE SCHOLAR RANKING (AS AT JUNE 2016)

<b>Citation indices</b>	<b>All years</b>	<b>Since 2011</b>
Citations	1024	521
<i>h</i> -index	13	11
i10-index	16	14

*h*-index – largest number of *h* such that *h* publications have at least *h* citations

i10-index – number of publications with at least 10 citations

## EDUCATION

2009	PhD	AWARD	<b>Doctor of Philosophy in Evolutionary Genetics</b>
		UNIVERSITY	Southern Cross University/ University of New England
		SCHOLARSHIP	Commonwealth & Australian Research Council (ARC)
		ADVISORS	Profs. Robert J. Henry, Peter R. Baverstock
2003	MSc	AWARD	<b>Master of Science in Population genetics</b>
		UNIVERSITY	Southern Cross University/ University of New England
		SCHOLARSHIP	Commonwealth Government of Australia
		ADVISORS	Prof. Peter Baverstock, Prof. Han Jianlin
1999	BSc	AWARD	<b>Bachelor of Science in Biology</b>
		UNIVERSITY	Trinity University

## EMPLOYMENT

2015 – present	University of Nairobi	Senior Lecturer, Genetics & Biotechnology; Programme Leader, Agricultural Biotechnology
2010 to 2014	University of Nairobi	Lecturer, Genetics & Breeding
2008 – 2010	University of Nairobi	Assistant Lecturer, Genetics & Breeding
1999-2003	International Livestock Research Institute	Research Assistant/ Molecular Biologist

## PROFESSIONAL ASSIGNMENTS

2015 – Current: Secretary General, Kenya University Biotechnology Consortium

2015 – Current: Programme Leader, Agricultural Biotechnology, University of Nairobi

2015 – Current: Expert appointed by East Africa Community (EAC) to help set up Centre of Excellence (East Africa Nutritional Sciences Institute, Republic of Burundi), under the Africa Development Bank (AfDB).

2015 – Current: Consultant appointed by Vice-Chancellor, University of Nairobi, to set up a Centre of Excellence under the Directorate of University Advancement Programme.

2013 – Current: Member of Biotechnology Technical Committee, Kenya Bureau of Standards

2013 – Current: Expert lecturer, International Atomic Energy Agency (IAEA) – Course on use of gene technology in agricultural production.

2013 – 2014: Appointed Chief Judge for the National Commission for Science Technology and Innovation (NACOSTI) Science week (STI)

2012 – 2014: Appointed by Government of Kenya to the Organizing Committee for the 6th All Africa Conference on Animal Agriculture.

2013 – Current: Member of Institutional Biosafety Committee (IBC), University of Nairobi (set up pursuant to the Biosafety Act 2009, Laws of Kenya)

2013 – Current: Faculty Postgraduate Committee, University of Nairobi (Committee in charge of proposal and theses review and approval)

2012: Facilitator for *Principles of tsetse population genetics*, in FAO/IAEA Regional Training on Molecular Tsetse Population Genetic Analyses, KARI TRC, Nairobi

2012: Lead expert consultant for the Kenya National Assembly (Parliament) on Genetic tests for maize consignment to verify its safety and GM status.

2010: Expert consultant to Oxfam Novib on Child Protection and Monitoring

2008: Anti-Slavery International & ANPPCAN, Review of progress on implementation of ILO Convention against Child labour in Kenya

## STUDENTS SUPERVISED TO COMPLETION AS PRINCIPAL SUPERVISOR

Candidate and Level:	<b>Dorcas Lusweti, PhD</b> in Genetics & Biotechnology
Study topic:	Genetic structure and modeling the persistence and Extinction risk of introduced Nile perch
Funding:	Lake Victoria Fisheries Organization (LVFO); IFMP
My role:	Principal Supervisor
Start date and status:	April 2009; graduated Dec 2013
Graduate destination:	Became Assistant Director of Fisheries; Now Lecturer in Fisheries, <b>Moi University</b> , Kenya

Candidate and Level: **Grace Mukiri Mariene, MSc** in Bioinformatics  
Study topic: Ascertainment bias and secondary structure morphometrics as phylogenetic signals  
Funding: Omega Farms Ltd (Industry partnership)  
My role: Principal Supervisor  
Start date: June 2011; graduated Dec 2013  
Graduate destination: PhD programme in Bioinformatics at the **University of Calgary**, Canada, studying host-parasite interactions at the genomic level under James Wasmuth (started 2016)

## **PUBLICATIONS:**

Highlight of premier Journals published:

- Science
- Molecular Ecology
- Heredity
- Science Translational Medicine
- Molecular Phylogenetics & Evolution
- Conservation Genetics
- Animal Genetics
- Book Chapters

Oduor RO, Ngugi M, Tui VC, Milugo TK and **Ochieng JW** (Book Chapter, **2015**) *How Ready is Sub-Saharan Africa to Adopt Biotech Crops? Lessons from Kenya*. In: USHEPiA Crossing Boundaries: Knowledges from the Continent, by Emma Arogundade (Ed), Siberink, **ISBN: 978-1-928309-07-9**

Hall J, Ananga A, Georgiev V, **Ochieng J**, Cebert E, Tsoлова V (**2015**) Molecular Cloning, Characterization, and Expression Analysis of Flavanone 3-Hydroxylase (F3H) Gene during Muscadine Grape Berry Development. **Biotechnology and Biomaterials** 5: 180. doi:10.4172/2155-952X.1000180

Corbiere P, Ananga A, **Ochieng JW**, Cebert E, Tsoлова V (**2015**) Gene Expression and Molecular Architecture Reveals UDP-Glucose: Flavonoid-3-O-Glucosyltransferase UFGT as a Controller of Anthocyanin Production in Grapes. **JJ Biotechnology and Bioengineering**, 1(2): 012.

**Ochieng JW** and Milugo TK (Book Chapter, **2014**) **Genetic diversity in Eucalypts**. In: Genetics, Genomics and Breeding of Eucalypts, by Robert Henry & Chittaranjan Kole (Eds), **CRC Press, Taylor & Francis**, Print ISBN: **13: 978-1-4822-5412-9** (Hardback); eBook ISBN: 978-1-4822-5413-6 pages 34-44. Series on: Genetics, Genomics and Breeding of Crop Plants, by Chittaranjan Kole (Ed).

Milugo TK and **Ochieng JW** (**2014**) Reversed pH gradient explains antioxidant-mediated acceleration in lung cancer. **Science Translational Medicine**, 6 (221): 221ra15/reply (9 March 2014)

Milugo TK, Omosa KL, Ochanda JO, Owuor BO, Wamunyokoli FA, Oyugi JO, and **Ochieng JW (2013)** Antagonistic effect of alkaloids and saponins on bioactivity in quinine tree (*Rauvolfia caffra* Sond.): Further evidence to support biotechnology in traditional medicinal plants. (**BMC Complementary and Alternative Medicine 2013, 13:85.** (26 October 2013)

Ananga A, Georgiev V, **Ochieng JW**, Phills B, and Tsolova V (2013) **Production of Anthocyanins in Grape Cell Cultures: A potential Source of Raw Material for Pharmaceutical, Food, and Cosmetic Industries.** In: The Mediterranean Genetic Code - Grapevine and Olive, by Sladonja B (Ed), Intech, ISBN 980-953-307-597-1.

Davis G, Ananga A, Krastanova S, Sutton S, **Ochieng JW**, Leong S, and Tsolova V (2012) Elevated gene expression at chalcone synthase (CHS) enzyme suggests an increased production of flavonoids in skin and synchronized red cell cultures of North American native grape berries. **DNA and Cell Biology**, 31 (6):939-945.

Ananga A, Cebert E, **Ochieng JW**, Kumar S, Kambiranda D, Vasanthaiah H, Tsolova V, Senwo Z, Konan F and Anike FN (2012). **Prospects for Transgenic and Molecular Breeding for Cold Tolerance in Canola (Brassica napus)** In: Oilseeds, by Akpan U.G. (Ed), Intech, ISBN 979-953-307-671-3. Pages 1-32

**Ochieng JW**, Shepherd M, Baverstock PR, Nikles G, Lee D & Henry RJ (2010). Two sympatric spotted gum species are molecularly homogeneous. **Conservation Genetics** 11 (1): 45-56.

**Ochieng JW**, Shepherd M, Baverstock PR, Nikles G, Lee DJ & Henry RJ (2008) Genetic variation within two sympatric spotted gum eucalypts exceeds between species variation. **Silvae Genetica** 57: 249-256.

Shepherd M, Kasem S, Ablett G, **Ochieng JW** & Crawford A (2008). Genetic structuring in the spotted gum complex (genus *Corymbia*, section *Politaria*). **Australian Systematic Botany** 21: 1-11

**Ochieng JW**, Henry RJ, Baverstock PR, Steane DA, and Shepherd M (2007) Nuclear Ribosomal Pseudogenes resolve a corroborated Monophyly of the eucalypt genus *Corymbia* despite misleading hypotheses at functional ITS paralogs. **Molecular Phylogenetics & Evolution** 44(2): 752-764.

**Ochieng JW**, Steane DA, Ladiges PY, Baverstock PR, Henry RJ and Shepherd M (2007) Microsatellites retain phylogenetic signals across genera in eucalypts (Myrtaceae). **Genetics & Molecular Biology** 30(4): 1125-1134.

Tilahun Y, Soliman K, Lawrence KS, Cseke LJ, & **Ochieng JW (2008)**. Nuclear ribosomal DNA diversity of a cotton pest (*Rotylenchulus reniformis*) in the United States. **Afr. Journal of Biotechnology** 7(18): 3217-3224

Mwang'ombe A.W., P.K. Kipsumbai, E.K. Kiprop, F.M. Olubayo and **J.W. Ochieng (2008)** Analysis of Kenyan isolates of *Fusarium solani* f. sp. *phaseoli* from common bean (*Phaseolus vulgaris* L.) using colony characteristics, pathogenicity and microsatellite DNA. **Afr. Journal of Biotechnology** 7(11): 1662-1671.

Ananga AO, Cebert E, Soliman K, Kantety R, Konan K & **Ochieng JW (2008)** Phylogenetic relationships within and among Brassica species from RAPD Loci

associated with blackleg resistance. **Afr. Journal of Biotechnology** 7(9): 1287-1293

**Ochieng JW**, Muigai AWT & Ude GN (2007) Phylogenetics in Plant Biotechnology: Principles, obstacles and opportunities for the resource poor. **Afr. Journal of Biotechnology** 6(6): 639-649.

**Ochieng JW**, Muigai AWT & Ude GN (2007) Localizing genes using Linkage Disequilibrium in Plants: Integrating Lessons from the Medical Genetics. **Afr. Journal of Biotechnology** 6(6): 650-657.

Jianlin H, **Ochieng JW**, Lkhagva B and Hanotte O (2004) Genetic diversity and relationship of domestic bactrian camels (*Camelus bactrianus*) in China and Mongolia. **Journal of Camel Practice & Research** 11(2): 97-99

Nijman IJ, Otsen M, Verkaar ELC, de Ruijter C, Hanekamp E, **Ochieng JW**, Shamshad SBM, Rege JEO, Hanotte O, Barwegen MW, Sulawati T and Lenstra JA (2003) Hybridization of banteng (*Bos javanicus*) and zebu (*Bos indicus*) revealed by mitochondrial DNA, satellite DNA, AFLP and microsatellites. **Heredity** 90(1): 10-16.

Mburu DN, **Ochieng JW**, Kuria SG, Jianlin H, Kaufmann B, Rege JEO, Hanotte O (2003) Genetic diversity and relationships of indigenous Kenyan camel (*Camelus dromedarius*) populations: implications for their classification. **Animal Genetics** 34(1): 26-32.

Lkhagva B, **Ochieng JW**, Yoon DH, Hanotte O, and Jianlin H (Book Chapter, 2003) *Genetic diversity and differentiation of Mongolian cattle*. In: Proceedings of the FAO/IAEA International Symposium on Application of Gene Based Technologies for Improving Animal Production and Health in Developing Countries held in Vienna, Austria (Makkar H.P.S., Viljoen G.J. Eds).

Hanotte O, Bradley DG, **Ochieng JW**, Verjee Y, Hill EW & Rege JEO. (2002) African Pastoralism: Genetic Imprints of Origins and Migrations. **Science** 296: 336-339. (April).

Jianlin, H., **Ochieng, J.W.**, Rege, J.E.O., Hanotte, O. (2002) *Low level of cattle introgression in yak populations from Bhutan and China: evidences from Y-specific microsatellites and mitochondrial DNA markers*. In: Jianlin, H., Richard, C., Hanotte, O., McVeigh, C., Rege, J.E.O. (eds). **Yak production in central Asian highlands**. Yak and Camel Foundation of Germany, ILRI, Nairobi ISBN 92-9146-102-0; pp. 190-196.

Hanotte O, Tawah CL, Bradley D, Okomo M, Verjee Y, **Ochieng JW**, & Rege E (2000). Geographic distribution and frequency of taurine (*Bos taurus*) and zebu (*Bos indicus*) Y chromosome Haplotypes amongst sub-Saharan African Cattle breeds. **Molecular Ecology** 9(4): 387-396.

Jianlin H, Mburu D, **Ochieng JW**, Rege JEO, Hanotte O (2000) Usefulness of New World Camelidae microsatellite primers for amplification of polymorphic loci in Old World camelids. **Animal Genetics** 31(6): 404-406.

Hanotte, O., Verjee, Y., **Ochieng, J.**, Rege, J.E.O. (2000). *Cattle microsatellite markers for amplification of polymorphic loci in Asian bovidae*. In: Shrestha, J.N.B. (ed.). **Rare Breeds International**. Shropshire, U.K. pp. 152–155

## ARTICLES UNDER REVIEW

The following articles are under review for the various journals as indicated.

**Ochieng JW**, Limo MK and Ochanda JO. An optimized outreach model for genetic foods and biotechnology adoption in a developing country. **New Biotechnology**).

Milugo TK, Omosa LK, Owuor BO and **Ochieng JW**. Caveat emptor: Why laboratory assessment of bioactivity and safety on traditional medicinal plants need cautious interpretation in ethnomedicine. (**Journal of Herbal Medicine**, Elsevier)

**Ochieng JW** and Lusweti D. Molecular signatures of endangered Nile perch. (**Proc Royal Society of London B, Royal Society Publishing**)

Jianlin H, **Ochieng JW**, Batsuuri L, Hiendleder S, Erhardt G, Rege JEO and Hanotte O. Genetic evidence for independent domestications and a new species of Old World camelids (**Proceedings of the National Academy of Sciences of the United States, PNAS**)

Lusweti D and **Ochieng JW**. Early speciation: Divergence at adaptive traits in molecularly panmictic Victoria Nile perch. (**Journal of Fish Biology**)

**Ochieng JW**, Shepherd M, Lee DJ, Raymond CA, Nikles G, Baverstock PR and Henry RJ. A sympatric zone of genic species of spotted gum eucalypts are a consequence of a recent favourable mutation (**Heredity, Nature Publishing Group**)

## INTERNATIONAL HONORS AND AWARDS:

2003: Outstanding Scientific Article Award of the **Consultative Group on International Agricultural Research (CGIAR)**

2004: Collaborative Project Award of the **European Commission /European Union (EU)**