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***CURRICULUM VITAE (2003)***

**Onesmo K. ole-MoiYoi, B.A. (Hons. Harvard); M.D. (Harvard); D.Sc. (hc: Soka-Japan)**  
**EBS (Kenya)**

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**BIRTH PLACE & DATE:**

Loliondo: Tanzania/Kenya border, 16th February 1943.

**SPOUSE:** Linda T. ole-MoiYoi, M.A./ M.Phil, University Lecturer.

**CHILDREN:** (23, 21 & 18).

<b><u>EDUCATION:</u></b>	<b><u>Institution</u></b>	<b><u>Degree Conferred</u></b>	<b><u>Field</u></b>
	Ilboru Lutheran Secondary School, Arusha, Tanganyika	Std X Cambridge Territorial Exams Certificate, 1959	First class Highest Score (Tanganyika).
	Ilboru Lutheran Secondary School, Arusha, Tanganyika	Cambridge "O" level Certificate, 1961	9 subjects First class.
	Old Moshi Senior School, Moshi, Tanzania.	Cambridge "A" level Certificate, 1963	Physics (P) Chemistry (P) Biology (P) Maths (S).

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Harvard University Cambridge, Mass.	B.A. (Hons.), 1968	Chemistry.
Harvard University (Medical School) Cambridge, Mass.	M.D., 1972	Medicine.
Peter Bent Brigham Hospital, Boston, Mass. (Brigham & Women's)	Intern/JAR 1972-74; Certified, National Board of Medical Examiners, (USA).	Internal Medicine

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**ACADEMIC AND OTHER HONOURS:**

- 2003 Member, Editorial Board: Journal of Genomics Africa (New:HUGO-Africa)
- 2002** Doctor of Science (D.Sc.) *honoris causa*, Soka University, Tokyo, Japan
- 2001 World Technology Awards (Nominee for Science & Technology Policy).
- 1995: Vice-President (Africa) Molecular Medicine Society.
- 1994: **Elder** of the **Order of the Burning Spear (EBS)**-Honour bestowed by the Government of Kenya for contributions to university education.
- 1979-1982: Capps' Scholar (Molecular Endocrinology), Harvard University.
- 1968-1972: African-American Institute Graduate Fellow, Harvard Medical School, Boston, Massachusetts.
- 1968: BA, *cum laude*, Chemistry.  
(**Supervisor:** Professor Paul T. Doty)  
**Honours Project:** Synthesis and polarographic characteristics of organometallic tellurides (Profs. Lingane/P. McKinney).
- 1968: Mellon Foundation Summer Travelling Fellowship Award: Research on DNA-base/Drug interactions, University of Dar es Salaam/WHO Laboratory, Faculty of Medicine: (Professor R. Toth).
- 1964-1968: Aga Khan Scholar, Harvard University.
- 1966: Mellon Foundation Summer Travelling Fellowship Award. (Taught calculus, Kivukoni College, Dar es Salaam, Tanzania).
- 1964: East African Tobacco Company Award for excellence in Higher School Certificate (A-level) - Science.
- 1962: Winner: Essay on, "Long term strategies for wildlife conservation" (a London [UK] Foundation).
- 1959: Highest Score in Tanganyika in the Standard X **Cambridge School Certificates Examinations.**

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**MEMBERSHIPS IN PROFESSIONAL ORGANIZATIONS:**

- 1998 American Society for Biochemistry & Molecular Biology, Member.
- 1994: Molecular Medicine Society (MMS).
- 1994: Human Genome Organization (HUGO): Member, Informatics Committee.
- 1993: HUGO: Human Genome Diversity Project (Member, Steering Committee).
- 1992: American Society for Tropical Medicine & Hygiene.
- 1992: African Biotechnology Networks (Member, Steering Committee).
- 1992: Federation of African Immunological Societies.
- 1991: Human Genome Organization (HUGO).
- 1979-85: American Association of Immunologists.
- 1980: The New York Academy of Sciences.
- 1978-85: American Association for the Advancement of Science.
- 1977: American College of Physicians, American College of Rheumatology, eligible member.

**PROFESSIONAL EXPERIENCE: RESEARCH AND OTHERS**

- 2001 - Director, Research and Partnerships: International Centre of Insect Physiology and Ecology
- 1999- 2001 Principal Scientist & Founder: **Institute of Molecular and Cell Biology -Africa (IMCB-A)**. **Research on:** Genes for Resistance to Parasitic Diseases; as well as on Bringing Science into Traditional Medicine in Africa.
- 1982-1994: Senior Scientist (1985), and Co-ordinator (1982-91), Biochemistry/Molecular Biology Laboratory, ILRAD, Nairobi, Kenya. Research on the biochemistry and molecular biology of African trypanosomes and *Theileria parva*.
- 1988-June-Aug.: Visiting Professor, Molecular Parasitology, Harvard School of Public Health. Studying multidrug resistance genes and kinases of protozoan parasites.
- 1979-1982: Assistant Professor of Medicine and Capps' Scholar, Harvard University, Cambridge, Massachusetts. **Research** in molecular endocrinology, **teaching** immunology and biochemistry of disease.
- 1979-1982: Assistant Physician, Department of Medicine and Rheumatology and Immunology, Brigham and Women's Hospital, Boston, Massachusetts, USA. **Teaching** clinical medicine and **taking care of patients** both in the hospital and in out patient clinics.
- 1977-1982: Assistant Physician, Department of Medicine, Robert B. Brigham Hospital, Boston, Massachusetts, USA. As above.

- 1977-1979: Instructor-In-Medicine, Harvard University. As above.
- 1974-1977: Post-Doctoral in Molecular Immunology and Clinical Fellow in Medicine, Harvard University and R.B. Brigham Hospital, Boston, respectively.
- 1976-1981: Member, Emergency Ward Associates, Cardinal Cushing General Hospital, Brockton, Massachusetts. Running (one day a week) an emergency ward of a 200-bed hospital.
- 1973-1974: Junior Assistant Resident in Internal Medicine, Peter Bent Brigham Hospital, Boston.
- 1972-1974: Clinical fellow in Medicine, Harvard University.

**OTHER MEMBERSHIPS AND INVOLVEMENT IN SCIENTIFIC, EDUCATIONAL & ADMINISTRATIVE ACTIVITIES:**

- 1-2/1999 Member: **World Bank**: Panel on Biotechnology  
**World Commission on Water for the 21<sup>st</sup> Century**
- 1997/98 Consultative Group of International Agriculture (**CGIAR**): Mobilizing Science for Global Food Security. Member, **Panel on Issues in General Biotechnology**. November 1997 - March 1998.
- 1995: Appointment to the Presidential Task Force to review University Education in Kenya.
- 1994: Member External Review Team: Evaluation of the Kenya Medical Research Institute (KEMRI)/Japanese International Co-operative Agency (JICA) Research Projects in Kenya.
- 1988-present: Presidential appointment as Vice-Chairman/**Chairman**, Kenyatta University Council. I chair the following University Council Committees: Staff Appointments and Promotions (for associate to professorial positions), Terms of Service Committee, General Purposes Committee and Senior Staff Disciplinary Committee. Kenyatta University has an enrolment of about 12,994 students.
- An important part of my job as Chairman of the Council has been to liaise with external funding agencies and institutions of higher learning outside of Kenya that either provide financial support for our programs or have collaborations with us.
- 1993: Member, Steering Committee on African Trypanosomiases: World Health Organization (WHO), Geneva, Switzerland.
- 1991-present: Resource person in biotechnology: Regional Organization for Science and technology in Africa (ROSTA: UNESCO).
- 1991-present Member, Essential National Health Research Centre (ENHRO). Advice on clinical medicine and biotechnology/biosafety aspects of the ENHRO.
- 1990-present: Member, Executive Committee for UNESCO's International Network for Molecular and Cell Biology (IMCBN).
- 1990-1996 Member, the Scientific Co-ordinating Committee (SCC) for UNESCO's involvement in the global activities of the Human Genome Organization (HUGO). This body, *inter alia*, administers an international training program

(mostly in molecular biology) for UNESCO-HUGO and the Third World Academy of Sciences (TWAS).

- 1985-present: Presidential appointment as a Kenya Government representative, Kenyatta University Council.
- 1988-89: **Member:** Technical Advisory Group, United States Agency for International Development (USAID): Improved Animal Vaccines Through Biotechnology: University of California Davis (Rinderpest Recombinant Vaccine).
- 1987/Sept. **Organizer:** Great Neglected Disease Network (GND): Annual Meeting - Rockefeller Foundation/World Bank /WHO, Taita Hills, Kenya.
- 1983-1985: **Co-opted member:** Steering Committee on Chemotherapy and Immunology of African trypanosomiasis – (ChemAf/ImmAf [WHO-TDR]. The Committee reviewed grant applications from laboratories working on trypanosomiasis, one of the six target diseases for WHO-Tropical Disease Research (TDR).
- 1963-1964: Executive Secretary, Maasai Federal Council, Monduli, Tanzania.
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## **INDIVIDUAL TRAINING**

### **POST DOCTORAL FELLOWS:**

- 1) Marcia R. Silver M.D. (1978-1980, Harvard Medical School): Development of radioimmunoassays for quantification of human renal kallikreins.
- 2) Keith P. Iams Ph.D. (1984-1988)\*: Cloning and characterization of genes of *Theileria parva* encoding putative candidate vaccines.
- 3) Patricia A. Conrad D.V.M./Ph.D. (1985-1988): Development of repetitive DNA probes for distinction of *Theileria parva* isolates.
- 4) Brice A. Kukla Ph.D. (1985-1988): Application of nucleic acid probes on epidemiological studies of African trypanosomes.
- 5) Phelix A. O. Majiwa D.Sc. (1985-1989)\*: Development of nucleic acid-based diagnostics for detection and distinction of African trypanosomes.
- 6) Maria del Carmen Hernandez Valladares Ph.D. (1999- ): Identification of quantitative trait loci (QTL) for resistance to malaria.
- 7) Bronwen Lambson Ph.D. (2000- ): Isolation of genes encoding secretory pathway proteins of tick salivary glands.

### **FORMER and CURRENT GRADUATE STUDENTS**

- 1) George W. Khaukha (Ugandan). *Trypanosoma evansi*-derived Haemolytic Activity. M.Sc. (Biochemistry), University of Nairobi (1985).  
**Current affiliation:** Chief Technologist, Department of Biochemistry at the College of Medicine, Sultan Quaboos University, Oman.
- 2) John R. Young (UK). The Molecular Genetic Variation in *Trypanosoma brucei*. Ph.D. (Biochemistry), University of Cambridge (1985).

**Current affiliation:** Scientist, Department of Biological Sciences, Institute for Animal Health, Compton, UK.

- 3) Phelix A.O. Majiwa (Kenyan). A Study on Comparative Molecular Properties of *Trypanosoma (Nannomonas) congolense*. D.Sc. (Biochemistry), with High Distinction, Free University, Brussels (1985).  
**Current affiliation:** Senior Scientist, Biochemistry/Molecular Biology Laboratory, ILRI, Nairobi,
- 4) Moses K. Limo (Kenyan). Identification and Characterization of an Antithrombinase Complex Anticoagulant from the Ixodid Tick *Rhipicephalus appendiculatus*. Ph.D. (Biochemistry), University of Nairobi (1987).  
**Current affiliation:** Chairman, Department of Biochemistry, Egerton University, Njoro, Kenya.
- 5) Wilson O. Endege (Kenyan). Purification, Physicochemical and Functional Characterization of *Glossina morsitans centralis* Fibrinolysins. M.Sc. (Biochemistry), University of Nairobi (1987).
- 6) Tamara Aboagye-Kwarteng (Ghanaian). Protein Phosphorylation and Differentiation in Bloodstream Forms of *Trypanosoma brucei*. Ph.D. (Biochemistry), University of London (1990).
- 7) Getachew Abebe (Ethiopian). The Integrity of the Hypothalamic-pituitary-adrenal Axis in Boran (*Bos indicus*) Cattle Infected with *Trypanosoma congolense*. Ph.D. (Biology), Brunel University, Uxbridge, UK (1991).  
**Current affiliation:** Associate Dean, Faculty of Veterinary Medicine, University of Ethiopia, Addis Ababa.
- 8) Wilson O. Endege (Kenyan). Elements of the Cytoskeleton of *Trypanosoma (Nannomonas) congolense*. D.Sc., with Highest Distinction (Biochemistry), Free University, Brussels (1992).  
**Current affiliation:** Senior Scientist I: Millennium Pharmaceuticals, One Kendall Square, Cambridge, Mass, USA.
- 9) Assan B. Jaye (Gambian). Molecular Characterization of a *Trypanosoma (Nannomonas) congolense*-specific Antigen: Identification as a Thiol Protease Precursor. Ph.D. Department of Biology and Biochemistry, Brunel University, Uxbridge, UK) - Degree granted, September, 1993.  
**Current affiliation:** Malaria Programme, Scientist, Medical Research Council (MRC) Laboratory, Cambridge University (part time stationed at Faraja, The Gambia).
- 10) Rozmin Janoo (Kenyan). Characterization of a *Trypanosoma congolense* Casein Kinase II-like Enzymes. M.Sc. (Biochemistry; University of Nairobi 1995).  
**Current affiliation:** Post-doctoral Fellow Boston College, Boston , Massachussetts.
- 11) Michael K. Kibe (Kenyan). Cloning and Characterization of Genes Encoding the P-glycoprotein-like Membrane Proteins of *Theileria parva*. Ph.D. (Biochemistry), Brunel University (granted September 1995).  
**Current affiliation:** Post-doctoral Fellow: University of Hokkaido, Hokkaido, Japan.
- 12) Susan M. Musembi (Kenyan). Identification and characterization of secretory pathway proteins of *Theileria parva*-infected lymphocytes (Ph.D. student 2000- ).

### **External Examinees**

- 13) Michael M. Chirara - D.Phil. candidate: Department of Biochemistry, University of Zimbabwe, Harare.  
  
**Thesis:** Epidemiology of Hepatitis B Virus in the Zimbabwe Population and Molecular Analysis of the Gene Encoding the Surface Antigen.  
Ph.D. degree granted in 1994.
- 14) Kimani Gachuhi - D.Phil. candidate: Department of Medical Microbiology, University of Nairobi.  
  
**Thesis:** Eosinophils in Man: Role in Immunity to Schistosome Infections and in Tissue-mediated Injury. Ph.D. degree granted in 1998.
- 15) External Examiner (2000 - ): For the whole of the M.Sc. Program, Department of Biochemistry, University of Zimbabwe, Harare.

### **SHORT-TERM STUDENTS, RESEARCH FELLOWS AND VISITING SCIENTISTS (IN BOSTON\* & NAIROBI):**

- 1) Norman G. Levinsky\* M.D., Chairman, Faculty of Medicine (Boston University School of Medicine): July 1979-June 1980.
- 2) Lloyd B. Klickstein (M.D., Ph.D. candidate Harvard/MIT Programme in Health Sciences and Technology, Boston): June-August/1982.
- 3) David C. Seldin (M.D., Ph.D. candidate Harvard/MIT Programme in Health Sciences and Technology, Boston): June-August, 1982.
- 4) Elizabeth Hohmann (M.D. candidate, Harvard Medical School, Boston): June-August, 1982.
- 5) Lloyd B. Klickstein (M.D., Ph.D. candidate Harvard/MIT Programme in Health Sciences and Technology, Boston): June-August, 1983.
- 6) James Ntambi Ph.D. (Department of Biochemistry Johns Hopkins University, Baltimore Maryland): Visiting Post-doctoral Fellow/Visiting Scientist, June-Sept. 1986/1989, respectively.
- 7) Takuji Tsukamoto Ph.D. (Department of Biochemistry, Saga University, Saga, Japan): Visiting Scientist, June-Sept. 1987/1990, respectively.
- 8) Moses K. Limo Ph.D. (University of Nairobi): June-December, 1987.
- 9) Jack H. P. Nyeko Ph.D. (Tsetse Control Program, Kampala, Uganda): June 1988-July, 1989.
- 10) Michael M. Chirara (Ph.D. student Department of Biochemistry, University of Zimbabwe, Harare): March - May, 1990.
- 11) Elizabeth Sabin (DVM/PhD student, University of California, Davis, USA): June-August, 1991.
- 12) Marieke Hoeve (Medical student, University of Amsterdam, The Netherlands): April-August, 1992.

- 13) Wilson Liao (Student Harvard College/Medical School): April - September 1997.
- 14) International *Baccalaureate* Program, Higher Biology. Help and supervision of students writing Extended Essays in IB Higher Biology (1995-1998/9).
- 15) Marianne C. Jacobsen (Prospective M Phil/PhD student Oxford University, UK:1998/99).

### **PUBLICATIONS (in chronological order):**

**ole-MoiYoi, O.K.:** Village Settlement Project-planning: Monograph report to the Tanzanian Government, September, 1968.

Toth, R. and **O.K. ole-MoiYoi:** Primycin and DNA-base interactions: A spectrophotometric study. Dar-es-Salaam Medical Journal, **1**: 51-52, 1969.

Maynard, E. and **O.K. ole-MoiYoi:** The Maasai: A pastoral people (serum lipids, dietary habits and atherosclerosis). New England Journal of Medicine (Editorial), **284**: 274-75, 1971.

**ole-MoiYoi, O.K.,** J. Spragg, S.P. Halbert and K.F. Austen: Immunologic reactivity of purified human urinary kallikrein (urokallikrein) with an antiserum directed against human pancreas. Journal of Immunology, **118**: 667-72, 1977.

**ole-MoiYoi, O.K.,** K.F. Austen and J. Spragg: kinin-generating and esterolytic activity of purified human urinary kallikrein (urokallikrein). Biochemical Pharmacology (UK), **26**: 1893-1900, 1977.

**ole-MoiYoi, O.K.,** J. Spragg and K.F. Austen: Inhibition of human urinary kallikrein (urokallikrein) by anti-enzyme Fab. Journal of Immunology, **121**: 66-71, 1978.

**ole-MoiYoi, O.K.,** G.S. Pinkus, J. Spragg and K.F. Austen: Recognition of a glandular kallikrein in the islet  $\beta$ -cell of human pancreas. New England Journal of Medicine, **300**: 1289-94, 1979.

**ole-MoiYoi, O.K.,** D.C. Seldin, J. Spragg, G.S. Pinkus and K.F. Austen: Sequential cleavage of proinsulin by human pancreatic kallikrein and a human pancreatic kininase. Proceedings of the National Academy of Sciences (USA), **76**: 3612-16, 1979.

**ole-MoiYoi, O.K.,** J. Spragg and K.F. Austen: Structural studies of human urinary kallikrein. Proceedings of the National Academy of Sciences (USA), **76**: 3121-25, 1979.

Levinsky, N.G., **O.K. ole-MoiYoi,** K.F. Austen and J. Spragg: Measurement of human urinary kallikrein and evidence for non-kallikrein urinary TAME esterase by direct immunoassay and by affinity chromatography. Biochemical Pharmacology (UK), **28**: 2491-95, 1979.

Silver, M.R., **O.K. ole-MoiYoi,** J. Spragg and K.F. Austen: An active site radioimmunoassay for human urokallikrein and demonstration by radioimmunoassay of a latent form of the enzyme. Journal of Immunology, **124**: 1551-55, 1980.

Pinkus, G.S., **O.K. ole-MoiYoi,** K.F. Austen and J. Spragg: Antigenic separation of a non-kinin-generating TAME esterase from human urokallikrein and immunohistochemical comparison of their localization in the kidney. Journal of Histochemistry and Cytochemistry, **29**: 38-44, 1981.

Spragg, J., G.S. Pinkus, **O.K. ole-MoiYoi** and K.F. Austen: The antigenic relationship of a contaminant of human kallikrein to Tamm-Horsfall protein. Journal of Histochemistry and Cytochemistry, **29**: 1112-13, 1981.

**ole-MoiYoi, O.K.**, D.C. Seldin and G.S. Pinkus: Human Kidney and pancreatic kallikreins: Structure, immunohistochemical localization and functional characteristics. In: The Role of Chemical Mediators in the Pathophysiology of Acute Illness and Injury. R. McConn, Editor. Raven Press, New York. pp 271-89, 1982.

**ole-MoiYoi, O.K.**, G.S. Pinkus, D.C. Seldin, J. Spragg and K.F. Austen: Structure, functional characteristics and immunohistochemical localization of human glandular kallikreins from kidney and pancreases. In: Plasma and Cellular Modulatory Proteins. Eds. D.H. Bing and R.A. Rosenbaum, Centre for Blood Research. Boston pp 183-201, 1982.

Pinkus, G.S., M. Maier, **O.K. ole-MoiYoi**, K.F. Austen and J. Spragg: Kallikrein Localization in human pancreas with three different antisera to human tissue kallikreins. KININS-III Part A. H. Fritz, N. Back, G.J. Dietze and G.L. Haberland, Editors, Plenum Press, N.Y. pp. 367-76, 1983.

Pinkus, G.S., M. Maier, D.C. Seldin, **O.K. ole-MoiYoi**, K.F. Austen and J. Spragg: Immunohistochemical localization of glandular Kallikrein in the endocrine and exocrine human pancreas. Journal of Histochemistry and Cytochemistry, **31**: 1279-88, 1983.

Nwagwu, M., D.J. Grab, **O.K. ole-MoiYoi**, H. Hirumi and M. Watanabe: Phosphofruktokinase of *Trypanosoma brucei*: purification and some properties. Biochemical Society Transactions, **13**: 890-91, 1985.

Ellis, J.A., S.Z. Shapiro, **O.K. ole-MoiYoi** and S.K. Moloo: Lesions and saliva-specific responses in rabbits with immediate and delayed hypersensitivity reactions to the bites of *Glossina morsitans centralis*. Veterinary Pathology, **23**: 661-67, 1986.

Goddeeris, B.M., C.L. Baldwin, **O.K. ole-MoiYoi** and W.I. Morrison: Improved methods for purification and depletion of monocytes from bovine peripheral blood mononuclear cells: functional evaluation of monocytes in responses to lectins. Journal of Immunological Methods, **89**: 165-73, 1986.

**ole-MoiYoi, O.K.**: Development of trypanosome species-specific DNA probes and their use for detection of infection in tsetse flies. Parasitology Today, **3**: 371-74, 1987.

Kimmel, B.E., **O.K. ole-MoiYoi** and J.R. Young: *Ingi*, a 5.2 kb dispersed sequence element from *Trypanosoma brucei* that carries half of a smaller mobile element at either end and has homology with mammalian LINES. Molecular and Cellular Biology, **7**: 1465-75, 1987.

Conrad, P.A., K. Iams, W.C. Brown, B. Sohanpal and **O.K. ole-MoiYoi**: DNA probes detect genomic diversity in *Theileria parva* stocks. Molecular and Biochemical Parasitology, **25**: 213-26, 1987.

Kukla, B.A., P.A.O. Majiwa, J.R. Young, S.K. Moloo and **O.K. ole-MoiYoi**: Use of species-specific DNA probes for detection and identification of trypanosome infection in tsetse flies. Parasitology, **95**: 1-16, 1987.

Endege, W.O., J.D., Lonsdale-Eccles, N.K. Olembo, S.K. Moloo and **O.K. ole-MoiYoi**: Purification and partial characterization of two fibrinolysins from the midgut of female *Glossina morsitans centralis*. Comparative Biochemistry and Physiology, **92B**: 25-34, 1989.

**ole-MoiYoi, O.K.**, A. Nayar, K.P. Iams, A.J. Musoke and T. Yilma: Molecular aspects of *Theileria parva* and approaches to vaccine development for animals. Annals of the New York Academy of Sciences, **569**: 174-182, 1989.

**ole-MoiYoi, O.K.**: *Theileria parva*: An intracellular protozoan parasite that induces reversible lymphocyte transformation. Experimental Parasitology, **69**: 204-210, 1989.

Conrad, P.A., C.L. Baldwin, W.C. Brown, B. Sohanpal, B.M. Goddeeris, J.C. De Martini and **O.K. ole-MoiYoi**: Infection with genotypically distinct *Theileria parva* stocks and the expression of cell surface antigens on bovine T cell clones. Parasitology, **99**: 205-213, 1989.

Aboagye-Kwarteng T., **O.K. ole-MoiYoi** and J.D. Lonsdale-Eccles: Protein Phosphorylation in *Trypanosoma brucei*. In: Protein Traffic in Parasite and Mammalian Cells. Proceedings of an International Workshop, 1988 (J.D. Lonsdale-Eccles and J.K. Lenahan, Editors). Published by The International Laboratory for Research on Animal Diseases, Nairobi, Kenya. pp. 1-6, 1989.

**ole-MoiYoi, O.K.**, K.P. Iams, A. Nayar, W.C. Brown, C. Sugimoto, D.J. Grab and P.A. Conrad: Protein kinase activation in *Theileria*-infected cells. In: Protein Traffic in Parasite and Mammalian Cells. Proceedings of an International Workshop, 1988 (J.D. Lonsdale-Eccles and J.K. Lenahan, Editors). Published by The International Laboratory for Research on Animal Diseases, Nairobi, Kenya. pp. 127-129, 1989.

Conrad, P.A., **O.K. ole-MoiYoi**, C.L. Baldwin, T.T. Dolan and C.J. O'Callaghan, R.E.G. Njamungeh, J.G. Grootenhuis, D.A. Stagg, B.L. Leitch and A.S. Young: Characterization of buffalo-derived theilerial parasites with monoclonal antibodies and DNA probes. Parasitology, **98**: 179-188, 1989.

Nyeko, J.H.P., **O.K. ole-MoiYoi**, P.A.O. Majiwa, L.H. Otieno and P.M. Ociba: The characterization of trypanosome isolates from Uganda using species-specific DNA probes reveals predominance of mixed infections. Insect Science and Its Applications, **11**: 271-280, 1990.

**ole-MoiYoi, O.K.** and S. Chema (Editors): **Biotechnology**: A means for improving agricultural productivity in Kenya; An experts' report and proposed plan of action (1990: Ministry of Science and Technology, Kenya; pp 1-36).

Iams, K.P., J.R. Young, V. Nene, J. Desai, P. Webster, **O.K. ole-MoiYoi** and A.J. Musoke: Characterization of the gene encoding a 104 kilodalton microneme-rhoptry protein of *Theileria parva*. Molecular and Biochemical Parasitology, **39**: 47-60, 1990.

Chen, P.P., P.A. Conrad, **O.K. ole-MoiYoi**, W.C. Brown and T.T. Dolan: DNA probes detect *Theileria parva* in the salivary glands of *Rhipicephalus appendiculatus* ticks. Parasitology Research, **77**: 590-594, 1991.

Limo, M.K., W.P. Voigt, A.G. Tumboh-Oeri and **O.K. ole-MoiYoi**: Purification and partial characterization of an anticoagulant from the salivary glands of the brown ear tick *Rhipicephalus appendiculatus*. Experimental Parasitology, **72**: 418-429, 1991.

T. Aboagye-Kwarteng, **O.K. ole-MoiYoi** and J.D. Lonsdale-Eccles: Phosphorylation differences among proteins of bloodstream developmental stages of *Trypanosoma brucei brucei*. Biochemical Journal, **275**: 7-14, 1991.

**ole-MoiYoi, O.K.**, C. Sugimoto, P.A. Conrad and M.D. Macklin. Cloning and characterization of the casein kinase II  $\alpha$ -subunit gene from the lymphocyte-transforming intracellular protozoan parasite *Theileria parva*. Biochemistry, **31**: 6193-6202, 1992.

**ole-MoiYoi, O.K.**, W.C. Brown, K.P. Iams, A. Nayar and M.D. Macklin: Evidence for the induction of casein kinase II in bovine lymphocytes transformed by the intracellular protozoan parasite *Theileria parva*. The European Molecular Biology Organization (EMBO) Journal, **12**: 1621-1631, 1993.

Majiwa, P.A.O., **O.K. ole-MoiYoi** and V.M. Nantulya. New techniques for diagnosis of the African trypanosomiasis. AgBiotechnology News and Information, **5**: 115N-120N, 1993.

Abebe, G., R.M. Eley and **O.K. ole-MoiYoi**. Reduced responsiveness of the hypothalamic-pituitary-adrenal axis in Boran (*Bos indicus*) cattle infected with *Trypanosoma congolense*. Acta Endocrinologica, **129**: 75-80, 1993.

Nene, V., R. Bishop, T.T. Dolan, D. McKeever, **O.K. ole-MoiYoi**, S.P. Morzaria, A.J. Musoke, M.K. Shaw, P. Toye and A.S. Young. *Theileria parva*: current status. In: Morzaria, S.P., Editor. Genome Analysis of Protozoan Parasites: Proceedings of a Workshop held at ILRAD, Nairobi, Kenya, 11-13 November, 1992. International Laboratory for Research on Animal Diseases, pp 17-20, 1993.

Limo, M.K., D.C. Seldin, W.P. Voigt and **O.K. ole-MoiYoi**: *Rhipicephalus appendiculatus* salivary glands: Identification of bioactive molecules and antigens. Insect Science and its Applications, **14**(2): 235-245, 1993).

Masake, R.A, V.M. Nantulya, R. Pelle', J.M. Makau, H. Gathuo and **O.K. ole-MoiYoi**. A species-specific antigen of *Trypanosoma (Duttonella) vivax* detectable in the course of infection is encoded by a differentially-expressed tandemly reiterated gene. Molecular and Biochemical Parasitology, **64**: 207-218, 1994.

Kibe, M.K., **O.K. ole-MoiYoi**, V. Nene, B. Khan, B.A. Allsopp, N.E. Collins, S.P. Morzaria, E.I. Gobright and R.P. Bishop. Evidence for two single copy units in *Theileria parva* ribosomal RNA genes. Molecular and Biochemical Parasitology, **66**: 249-259, 1994.

**O.K. ole-MoiYoi**. Perspective: Casein kinase II in theileriosis. Science **267**: 834-837, 1995.

Masake, R.A., **O.K. ole-MoiYoi**, T. Urakawa, H. Hirumi, P.A.O. Majiwa, C.W. Wells, S.H. Minja, J.M. Makau and V.M. Nantulya. Immunological characterization and production in a baculovirus expression system of a *Trypanosoma vivax*-specific antigen detectable in the blood of infected animals Experimental Parasitology, **81**: 536-545, 1995.

Masake, R.A., A.J. Musoke and **O.K. ole-MoiYoi**: Application of Biotechnology in Disease Diagnosis and Vaccine Development. In: Biotechnology Application to Livestock Health and Production: Proceedings of a Workshop: St. Lucia Park, July 5-7, Harare Zimbabwe. Zimbabwe Biotechnology Advisory Committee.pp. 62-70, 1995.

Masake, R.A., P.A.O. Majiwa,, S.K. Moloo, J.M. Makau, J.T. Njuguna, M. Maina, J. Kabata, **O.K. ole-MoiYoi** and V.M. Nantulya: Sensitive and specific detection of *Trypanosoma vivax* using the polymerase chain reaction. Experimental Parasitology, **85**:193-205, 1997.

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Suliman, H.B., L. Logan-Henfrey, P.A.O. Majiwa, **O. K. ole-MoiYoi**, and B.F. Feldman. Analysis of erythropoietin and erythropoietin receptor gene expression in cattle during acute infection with *Trypanosoma congolense*. Experimental Hematology **27**: 27-45, 1999.

Nene, V, R. Bishop, S. P. Morzaria, M. J. Gardner, C. Sugimoto, **O. K. ole-MoiYoi**, C. M. Fraser and A. Irvin. *Theileria parva* genomics reveals an atypical apicomplexan genome. International J. Parasitology **30**: 465-474, 2000.

Musembi, S., R. Janoo, B. Sohanpal, H. Ochanda, **O.K. ole-MoiYoi**, R. Bishop and V. Nene. Screening for *Theileria parva* secretory products by functional analysis in *Saccharomyces cerevisiae*. Molecular and Biochemical Parasitology **109**:81-87, 2000.

Kibe, M.K., M.D. Macklin, E. Gobright, R. P. Bishop, T. Urakawa and **O.K. ole-MoiYoi**: Characterisation of single domain ATP-binding cassette protein homologues of the lymphocyte-transforming parasite *Theileria parva*. Parasitology Research (May 31<sup>st</sup>, 2001 – electronic version: in press 2001).

**ole-MoiYoi, O.K.** and M. D. Macklin. Dysregulation of casein kinase II in lymphocytes transformed by the intracellular protozoan parasite *Theileria parva* and in transgenic mouse

lymphoid neoplasms: A likely oncogenic role for a serine/threonine kinase. **Proceedings:** Pan-African Conference on Biochemistry and Molecular Biology, Nairobi, Kenya (in press).

**ole-MoiYoi, O.K.** and Slawomir A. Lux. Fruit flies in sub-Saharan Africa: A long-neglected problem devastating local fruit production and a threat to horticulture beyond Africa. **Proceedings:** Fruit fly Symposium, Stellenbosch, South Africa (in press).

## REPORTS

Report of the Technical Advisory Group, United States Agency for International Development (USAID):

**Improved Animal Vaccines Through Biotechnology:** University of California Davis (Rinderpest Recombinant Vaccine); University of California, Davis, & USAID, 1989 .

Mungai, J.M., G.K. Kinoti, **O.K. ole-MoiYoi**, P.N. Nyaga, J.K. Omuse, E.M. Wafula and C. Maitamei:

Evaluation of Technical Co-operation on the Japanese International Co-operative Agency/Kenya Medical Research Institute Project on the Control of Infectious Diseases. Essential National Health Research Centre, Nairobi, Kenya pp 149, 1994.

Mungai, J.M., F.N. Owako, S.K. Onger, W.O. Omamo, R.K. Onian'go,

**O.K. ole-MoiYoi**, M. Hyder, P.N. Nyaga, J.K. Kithome, M.K. Maleche and J.T. Kisa: **Future Development of University Education in Kenya: A Presidential Committee Report.** Government Printer. Pp. 334, March 1995.

**Mobilizing Science for Global Food Security:**

Report of the Consultative Group of International Agricultural Research Centres' (CGIAR) Panel on General Issues in Biotechnology. Consultative Group of International Agricultural Research Centres' (CGIAR) Secretariat, pp 1-12 (Annex: I - VI: 13-40) May 1998.

**Biotechnology and Water Security in the 21<sup>st</sup> Century:**

The World Bank: Report of the Panel on Biotechnology of the World Commission on Water for the 21<sup>st</sup> Century pp18, 1999.

**SELECTED (1987-2001) PRESENTATIONS AND PARTICIPATION IN MEETINGS,  
SYMPOSIA AND SEMINARS:**

- 1) **Inauguration:** **The International Trypanotolerance Centre:**  
**Presentation:** Recent advances in the biochemistry and molecular biology of African trypanosomes (Banjul, The Gambia, March 23-27<sup>th</sup>, 1987).
- 2) **Meeting:** International Commission for Health Research in Developing Countries. Establishment of the Global Essential National Health Research Initiative. **Chairperson:** Session on Basic Science ( Nyon, Switzerland, July 1987).
- 3) **Conference:** Molecular Aspects of Parasitism: Use of Species-specific DNA probes for detection and identification of trypanosome infections in tsetse flies (Plymouth College, New Hampshire, August 1987).
- 4) **Meeting:** The Great Neglected Diseases Network Annual Meeting. Topic: *Theileria parva*: A protozoan parasite that transforms lymphocytes (Sponsors - The Rockefeller Foundation/WHO; Taita Hills, Kenya, 8-14<sup>th</sup> September 1987).
- 5) **Meeting:** University of California Davis. USAID-sponsored vaccinia-based rinderpest vaccine project. I prepared the majority document dealing with the molecular biological aspects of the project (30<sup>th</sup> March-1<sup>st</sup> April, 1988).
- 6) **Meeting:** Institute of Primate Research (Nairobi). A WHO/Tropical Disease Research (TDR)-sponsored meeting to discuss approaches to testing candidate vaccines for *Leishmania* spp. (20-21<sup>th</sup> May 1988).
- 7) **Seminar:** Channing Laboratories, Harvard Medical School (Beth Israel Hospital). Topic: Mechanisms common to eukaryotic cellular growth and transformation: Can transforming intracellular protozoan parasites provide clues at the molecular level? (June 24<sup>th</sup>, 1988).
- 8) **Seminar:** Harvard School of Public Health. Topic: Protein kinases in *Theileria parva*-transformed bovine lymphocytes (July 12<sup>th</sup>, 1988).
- 9) **Lecture:** Woods Hole Molecular Parasitology Course (Woods Hole, Massachusetts). Topic: *Theileria parva* and lymphocyte transformation (20<sup>th</sup> July 1988).
- 10) **Symposium:** (invited speaker): The New York Academy of Sciences: "**Biomedical Sciences and the Third World: Under the Volcano**". Presentation: Molecular Aspects of *Theileria parva* and Approaches to Vaccine Development for Animals (Rockefeller University, New York: 17-21<sup>th</sup> October, 1988).
- 11) **Presentation:** Human Genome Organization (HUGO): An UNESCO-Russian Academy of Sciences-sponsored meeting. I presented one of the three papers on "Points of view from, and potential areas of participation by, developing countries in HUGO" (Moscow, USSR: June 25-28<sup>th</sup>, 1989).
- 12) **Seminar:** University of Bern. Topic: The cytoskeleton of African trypanosomes and its potential as a target for chemotherapy (Bern, Switzerland: 29<sup>th</sup> June, 1989).
- 13) **Meeting:** University of California, Davis. As a member of the Review Team of the USAID-sponsored Rinderpest recombinant vaccine project (Davis, CA, 25-27<sup>th</sup> October 1989).
- 14) **Seminar:** Cold Spring Harbor Laboratory, New York. Topic: Casein Kinase II from *Theileria parva* an intracellular protozoan parasite that induces lymphocyte transformation (24<sup>th</sup> October 1989).

- 15) **Seminar:** The London Molecular Parasitology Club (invited speaker, LSHTM). Topic: Molecular aspects of transformation in *Theileria parva*-infected lymphocytes (1<sup>st</sup> November 1989).
- 16) **Presentation:** Committee on Genetic Experimentation (COGENE; invited speaker): Topic: Participation by developing countries in the generation of genome maps: Are there potential benefits? (Paris: January 29-31<sup>th</sup>, 1990).
- 17) **Meeting:** Scientific Co-ordinating Committee for UNESCO's participation in the activities of the human genome organization (HUGO: February 1<sup>st</sup>, 1990: Paris)
- 18) **Keynote Address** (1 of 3): National Conference on Plant and Animal Biotechnology; Topic: Applications of biotechnology for improvement of animal productivity. (February 25<sup>th</sup> to March 3<sup>rd</sup>, 1990: Nairobi, Kenya)
- 19) **Meeting:** Executive Committee for the International Network of Molecular and Cell Biology (UNESCO Headquarters, Paris: May 21-22<sup>nd</sup>, 1990).
- 20) **Seminar:** Cloning and sequencing of a Casein Kinase II from an intracellular protozoan parasite *Theileria parva* that induces transformation of bovine lymphocytes (University of California, San Francisco: September 6<sup>th</sup>, 1990).
- 21) **Meeting** Molecular Parasitology, Woods Hole, Massachusetts: Topic: Activation of Casein Kinase II in *Theileria parva*-infected bovine lymphocytes (September 9-12<sup>th</sup>, 1990).
- 22) **Conference:** Environmental biosafety for developing countries: Establishment of a biosafety advisory panel (Stockholm, Sweden: 18-19<sup>th</sup> December, 1990).
- 23) **Symposium:** Immunity to Intracellular Protozoan Parasites. (Invited Speaker: American Society of Microbiology, Annual Meeting). Presentation: *Theileria parva* an Intracellular Protozoan Parasite which transforms lymphocytes (Dallas, Texas: 9<sup>th</sup> May, 1991).
- 24) **Meeting:** Executive Committee for the International Network of Molecular and Cell Biology & the Scientific Co-ordinating Committee for UNESCO's contribution to the Human Genome (Paris, France: 18-22<sup>nd</sup> June, 1991).
- 25) **Keynote Address** (1 of 3): Consultative Group of International Agricultural Research (CGIAR): International Centres' Day; Topic: Applications of Biotechnology to Agricultural Development in Kenya (ICRAF, Nairobi, Kenya: 19<sup>th</sup> November, 1991).
- 26) **Symposium:** African Biotechnology Networks. Presentation: Application of biotechnology for improvement of animal and human health (Nairobi, Kenya: February 17-22<sup>th</sup>, 1992).
- 27) **Presentation:** Human Genome Organization (HUGO). Title: Application of modern biological techniques to solving development problems in Africa (Caxambu, Minas Gerais, Brazil: 12-15<sup>th</sup> May, 1992).
- 28) **Seminar:** Molecular aspects of cellular transformation induced by the intracellular protozoan parasite *Theileria parva*: The Howard Hughes Program in the Life Sciences, Wesleyan University, Middletown, Connecticut (7<sup>th</sup> July 1992).
- 29) **Seminar:** Induction of casein kinase II is associated with lymphocyte transformation by *Theileria*: Department of Biochemistry, The Swiss Institute for Cancer Research, Eppalinges/Lausanne, Switzerland (31<sup>st</sup> August 1992).

- 30) **Meeting:** Annual Meeting of the American Society of Tropical Medicine and Hygiene: **Paper Presented:** Protein kinases of parasitic protozoa. Seattle Washington (November 15<sup>th</sup>-21<sup>st</sup>, 1992).
- 31) **Meeting:** UNESCO's Scientific Co-ordinating Committee: **Training in science for developing and re-structuring countries.** UNESCO Headquarters, Paris, France (17 - 18<sup>th</sup> December 1992).
- 32) **Meeting:** Steering Committee for African Trypanosomiasis: Reviewing **grant applications.** World Health Organization (WHO), Geneva, Switzerland (21-25<sup>th</sup> March 1993).
- 33) Seminar: **Evidence for the induction of casein kinase II in lymphocytes transformed by the intracellular parasite *Theileria parva*,** Harvard Medical School/School of Public Health, Boston (16<sup>th</sup> April, 1993).
- 34) **Symposium:** Keystone Symposia on Molecular and Cellular Biology: B and T Cell Lymphomas: **Poster:** Induction of casein kinase II in lymphocytes transformed by the intracellular protozoan parasite *Theileria parva*. Copper Mountain, Colorado (17-20<sup>th</sup> April 1993).
- 35) **Meeting:** From the Double Helix to the Human Genome: 40 Years of Molecular Genetics: **Invited participant,** Paris, France (21-22<sup>nd</sup> April 1993).
- 36) **Meeting:** UNESCO's Scientific Co-ordinating Committee: **Selection of candidates for training under the HUGO-TWAS Program,** UNESCO Headquarters, Paris, France (23<sup>rd</sup> April 1993).
- 37) **Workshop:** The Human Genome Diversity Project: **Issues, strategies and selection of populations for sampling,** Alghero, Sardinia (7-13<sup>th</sup> September 1993).
- 38) **Meeting:** Cambridge Health Institute Meeting - Vaccines: Modern Approaches, Alexandria, Virginia (21-24<sup>th</sup> March 1994).
- 39) **Meeting:** UNESCO's Executive Committee for the International Molecular and Cell Biology Network, UNESCO Headquarters, Paris (6-8<sup>th</sup> June 1994).
- 40) **Meeting:** Human Genome Diversity Project, Executive Committee Meeting: HUGO-Europe Headquarters, London (16-17<sup>th</sup> September 1994).
- 41) **Meeting:** UNESCO's International Bioethics Committee: Presentation of the Human Genome Diversity Project, UNESCO's Headquarters, Paris (20-23<sup>th</sup> September 1994 ).
- 42) **Meeting Second South-North Human Genome (HUGO) Conference:** Presentation: **Studies on *Theileria parva*-An Intracellular Protozoan Parasite that Provides a Model of Mammalian Cellular Transformation.** Beijing (Beijing International Convention Centre, 6-10<sup>th</sup> November 1994).
- 43) **Meeting: Audience Africa:** Africa's Common Position on Human and Social Development in Africa (I participated in drafting the section of **Audience Africa** dealing with **The Role of Science in Development,** Paris, France (6-10<sup>th</sup> February, 1995).
- 44) **Conference:** Pan-African Conference on Biochemistry and Molecular Biology. **Plenary Presentation:** Dysregulation of casein kinase II in bovine lymphocytes transformed by the intracellular protozoan parasite *Theileria parva*: A possible oncogenic role for a serine/threonine kinase. Nairobi, Kenya (2-6<sup>th</sup> September 1996).
- 45) **Meeting:** UNESCO's Executive Committee for the International Molecular and Cell Biology Network, UNESCO Headquarters, Paris (3-6<sup>th</sup> December 1996).

- 46) Meeting: Oxford International Biomedical Centre: Potential Ventures Between Africa & the Biomedical Community. Worcester College, Oxford (14-17th April 1997).
- 47) Lecture: *Theileria parva*, Transformation and Transgenic Mouse Models Bearing Casein Kinase II $\alpha$  and Dysregulated Oncogenes. Howard Hughes Medical Institute, University of California, San Francisco (12th December 1997). .
- 48) Meeting: Oxford International Biomedical Centre Meeting.  
Biomedicine in Developing Countries:  
The Conference Lecture: (O.K. ole-MoiYoi):  
**Molecular Aspects of Lymphocyte Transformation Induced by the Protozoan Parasite *Theileria parva*** (31st March 1998).
- 49) Gordon Research Conference on Malaria. Somerville College, Oxford University (25-31<sup>st</sup> July 1998).
- 50) Meeting Developing Global Bioresources through the European Union; Oxford International Biomedical Centre (7-8<sup>th</sup> December 1998).
- 51) Meeting Biomedicine in Africa, Asia, Eastern Europe and Latin America. Oxford International Biomedical Centre (12-15 April 1999).
- 52) Symposium: Genomics: Shaping the Future of Animal Agriculture. The Institute for Genomics Research (TIGR), Rockville, Maryland, USA (4-6<sup>th</sup> May 1999).
- 53) UNESCO: World Conference on Science: Science for the 21<sup>st</sup> century -A New Commitment. Budapest, Hungary (26<sup>th</sup> June-1<sup>st</sup> July 1999).
- 54) Roundtable: Agribusiness in Sustainable Natural African Plant Products (A\_SNAPP)-Development of African Businesses in the Natural Product Sector. Cape Town, South Africa (4-6<sup>th</sup> April, 2000).
- 55) Meeting Biomedicine in Africa, Asia, Eastern Europe and Latin America. Oxford International Biomedical Centre, Magdalene College, Oxford (9-13 April, 2000).
- 56) Meeting: Setting collaboration between developing country institutions. St. George's Hospital Medical School, London (April 1-5<sup>th</sup>, 2001).
- 57) World Technology Summit & Award Ceremony, Imperial College of Science, Technology & Medicine, London (UK) (July 1<sup>st</sup> – 2<sup>nd</sup>, 2001).