

## **CURRICULUM VITAE**

**1. Name:** Alexander Ochieng' Okoth

**2. Education:**

<i>Institution</i>	<i>Dates</i>	<i>Award</i>
Department of Inorganic Chemistry, PFU Lumumba , Moscow, USSR.	1982 – 1986	Ph.D. Chemistry, 1986
Faculty of Physics, Mathematics and Natural Sciences, Peoples' Friendship University (PFU) Patrice Lumumba, Moscow, USSR.	1976 – 1982	M.Sc (Hons) Chemistry, 1982
Mangu High School, Thika, Kenya. Forms V–VI	1974 – 1975	East African Advanced Certificate of Education (EAACE)
Gendia Secondary School, Kendu Bay, Kenya. Forms I–IV	1970 – 1973	East African Certificate of Education ( EACE)
Otati Primary School, Karungu, Kenya	1963 – 1969	Certificate of Primary Education (CPE)

**3. Language Skills: Indicate competence on scale of 1 to 5 (1 –excellent; 5 – basic)**

<i>Language</i>	<i>reading</i>	<i>speaking</i>	<i>writing</i>
<b>English</b>	1	1	1
<b>Russian</b>	1	1	1
<b>Kiswahili</b>	1	1	1
<b>Luo</b>	1	1	1

**4. Other Qualifications:**

- a) Postgraduate Diploma in Education (Chemistry) PFU, Moscow, 1982.
- b) Research Chemist, Diploma, PFU, Moscow, 1982.
- c) Russian/English Languages' Translator, Diploma, PFU, Moscow, 1982.
- d) Computer Literacy: Introduction to computers, Word, PowerPoint and many other application packages.

## 5. Training and Professional Experience:

- 1974 Field Clerk, Central Bureau of Statistics, Kenya.
- 1978 Trainee Chemist, *SPO AZOT* Severodonetsk Chemical Plant, Ukraine.  
Industrial production of ammonia.
- 1980 Trainee Chemist, *SPO AZOT* Severodonetsk Chemical Plant, Ukraine.  
Production of agricultural fertilizers and ammonia-based chemicals,  
Treatment of industrial effluents.
- 1982
1. Trainee Teacher of Chemistry at a Moscow Secondary School.
  2. Supervision of undergraduate laboratory courses.
  3. Conducting tutorials in inorganic chemistry to undergraduate Chemists and agronomists.
- 1983–1985 Responsibilities at Peoples' Friendship University, Moscow:
- I. Teaching:
    - 1) Selected Topics in Inorganic Chemistry
    - 2) Spectral Methods in Inorganic Chemistry
    - 3) Chemistry of Rare Earth Elements
    - 4) X-ray analysis of Inorganic Compounds
  - II. Supervision special laboratory projects.
  - III. Supervision of five (5) M.Sc. Theses.
- 1986–1992 **Lecturer** in the Department of Chemistry, Moi University, Eldoret, Kenya.
- 1987 – 2011 Member of **National Chemistry Panel (NCP)** at the Kenya Institute of Education, Ministry of Education and Manpower Development Kenya.
- 1989 – 1998 Service/ Part-time Teaching in the School of Environmental Studies  
Moi University, Eldoret.
- 1990 – 1991 Visiting Assistant Professor Department of Chemistry, Louisiana State University, Baton Rouge, LA, USA.
- 1991 – 1998 Senior Lecturer in Chemistry, Moi University and Maseno University College.
- 1992 – 2006 Adjunct Lecturer at Western University College of Science and Technology (WUCST) a constituent college of Moi University and University of Eastern Africa, Baraton.

## 6. Academic Experience

### (a) Pedagogical:

I have served in the following capacities:

- 1982 Trainee Secondary School Teacher of Chemistry in Moscow USSR.
- 1982 – 1986 Tutorial Fellow PFU - Moscow, USSR
- 1986 – 1990 Lecturer in Chemistry – Moi University, Kenya
- 1990 – 1991 Assistant Professor in Chemistry, Louisiana State University, Baton Rouge, LA
- 1991 – 1992 Senior Lecturer in Chemistry – Moi University, Kenya
- 1992 – 1998 Senior Lecturer in Chemistry – Maseno University, Kenya

### 1998 to date – Associate Professor of Chemistry – Maseno University

In addition I have served as an **Adjunct Professor** at the following Universities:

- 1992 – 2004 School of Environmental Studies, Moi University
- 2005 – 2006 Masinde Muliro University of Science and Technology (MMUST), Kenya
- 2005 – 2006 University of Eastern Africa, Baraton, Kenya

### 6.(a)(i) Bachelor of Science Courses that I have taught at Maseno University:

CODE	TITLE
SCH 101	Basic Physical Chemistry
SCH 102	Basic Inorganic Chemistry
SCH 104	Basic Analytical Chemistry
SCH 201	Physical Chemistry I
SCH 202	Inorganic Chemistry I
SCH 203	Organic Chemistry I
SCH 205	Inorganic Chemistry II
SCH 206	Organic Chemistry II
SCH 301	Chemical Thermodynamics and Equilibrium
SCH 302	Application of Spectroscopic Methods
SCH 304	Group Theory
SCH 306	Inorganic Chemistry III
SCH 307	Instrumentation in Chemical Analysis
SCH 308	Kinetics of Chemical Reactions
SCH 310	Analytical Chemistry I
SCH 311	Electrochemistry
SCH 402	Inorganic Reaction Mechanisms
SCH 403	Lanthanides and Actinides
SCH 404	Quantum Chemistry I
SCH 408	Statistical Thermodynamics
SCH 412	Quantum Chemistry II
SCH 413	Project I & II

**6.(a)(ii) Bachelor of Science in Industrial Chemistry Courses that I have taught at Maseno University:**

CODE	TITLE
SIC 301	Industrial Chemical Processes and Technology
SIC 302	Introduction to Metallurgy
SIC 303	Principal Non Metals in Chemical industry
SIC 304	Alkali Metals and Halogens in Chemical Industries
SIC 308	Kinetics and Electrochemistry
SIC 409	Theory and Applications Fluid Mechanics
SIC 410	Silicate Glasses
SIC 415	Manufacture of Pulp and Paper
SIC 416	Synthetic Gas, Production and Technology
SIC 417	Industrial Research Project II
SIC 419	Cement manufacturing

**6.(a)(iii) Postgraduate Courses I have taught at Maseno University:**

CODE	TITLE
SCH 801	Analytical Techniques
SCH 812	Physico-Chemical Characterization of Complexes
SCH 813	Industrial Chemistry
SCH 815	Treatment of Industrial Effluents
SCH 816	Atmospheric Chemistry
SCH 817	Environmental Impact Assessment
SCH 822	Inorganic Chemistry of Non-transition Elements
SCH 823	Inorganic Chemistry of Transition Elements
SCH 833	Classical and Statistical Thermodynamics
SCH 852	Computer Applications in Chemistry
SCH 909	Charge Transfer in Chemistry
SCH 915	Solid State Chemistry: Catalysis I

**6.(a)(iv) Courses I have taught at various Universities:**

CODE	TITLE	Institution
SES 830	Practical Environmental Chemistry/Instrumentation in Chemical Analysis	School of Environmental Studies, Moi University, Eldoret
SES 834E	Environmental Health Criteria	
SES 882	Industrial Processes and Pollution.	
CHE 200	Basic chemistry for forestry, wildlife Management, wood Science and Technology	

CHE 210	Atomic Structure and Chemical Bonding.	Department of Chemistry, Moi University, Eldoret, Kenya
CHE 213	Physical Chemistry I	
CHE 313	Physical Chemistry II	
CHE 315	Analytical Chemistry II	
CHE 413	Physical Chemistry IV	
CHE 420	Physical Chemistry V	
CHE 410	Transition Metal Chemistry	Department of Physical and Biological Sciences, Masinde Muliro University of Science and Technology (MMUST), Kakamega, Kenya
CHE 413	Statistical Thermodynamics	
CHE 414	Industrial Chemistry	
CHE 416	Photochemistry	
CHEM 1201	Basic (Undergraduate) Chemistry	Department of Chemistry, Louisiana State University, Baton Rouge, LA, USA.
CHEM 440	Industrial Chemistry	School of Sciences, University of Eastern Africa, Baraton, Kenya
CHEM 441	Inorganic Chemistry	

**(b) External Examination**

2005–2007 External Examiner Department of Chemistry, University of Swaziland (UNISWA).

2012–2016 External Examiner Department of Chemistry, Kenyatta University (KU), Kenya.

**(c) Thesis Supervisions**

- 1) Safronenko Marina (MSc, 1985 in Russian) Phase Equilibria in the  $\text{NbO}_2 - \text{V}_2\text{O}_3$  System at  $1400^\circ\text{C}$
- 2) Manuel Mata, R. (MSc, 1985 in Russian) Phase Equilibria in the System  $\text{Ho}_2\text{O}_3 - \text{VO}$  at  $1400^\circ\text{C}$
- 3) Adoli F.K.L. (MSc, 2010) Analysis of Moss and Topsoil to Monitor Metal Emissions from a Pulp and Paper Mill in Western Kenya.
- 4) Nyamato G.S. (MSc, 2012) Multidentate bis(pyrazolylmethyl)pyridine ligands: coordination chemistry and binding properties with zinc(II) and cadmium (II) cations.

**(d) Administrative**

1994 – 2004 Chairman, Department of Chemistry, Maseno University

2005 to date – Representative of Faculty of Science in the Board of School of Postgraduate Studies (SGS) Maseno University.

2006 Faculty of Science Representative at ODeL Coordinating Committee Maseno University.

2011–2019 Coordinator Capacity Building and Change Management, in charge of examinations, Maseno University eCampus.

## 7. Awards:

1976 **Kenya – USSR scholarship** to study chemistry at MSc level

1986 **USSR Afro-Asian Friendship and Solidarity distinguished Scholarship** to pursue doctorate degree

1990 **Visiting Assistant Professor** Department of Chemistry, Louisiana State University at Baton Rouge LA USA.

## 8. Community Service

1990 **Member of Task Force** on Use of Nuclear Technology at the National Science and Technology Council, Nairobi, Kenya.

1986 - 1991 **Committee Member, PTA** Kandie Primary School, Eldoret, Kenya.

1993 - 1995 **Patron**, Maseno University College, Seventh-Day Adventist Group.

Dec. 1993 **Head of Delegation** to University SDA Students' Retreat at the University of Dar-Es-Salaam, Tanzania.

1994 – 1999 **Hall Warden**, Kilimanjaro II, Maseno University College.

1994 – 2003

1. Member of **Students Disciplinary Committee**, MUC.
2. **Senator**, Maseno University Senate.
3. **Chairman**, University Farm Management Sub-Committee of Investments and Economic Enterprises (IEE) - MUC.

**June 26–27, 1998:** Chief Judge at the 36<sup>th</sup> Kenya National Students' Congress on Science and Technology with theme: Science & Technology for Industrialization.

2003 to date – **Church Elder** Seventh Day Adventist (SDA) Church, Kenya-RE Kisumu, KENYA

2004 – 2016 National Trustee **Universities' Academic Staff Union (UASU)** and member of Maseno University UASU Chapter Executive Committee.

2006 – 2016 National Convener for UASU–IPUCCF CBA Negotiations for 2006–2008, 2008–2010, 2010–2013 and 2013–2017 Collective Bargaining Agreements.

## 9. Acquired Skills

- 1) Hands-on supervisory skills at undergraduate, master and PhD levels i.e., all the three levels of certification degrees at the University.
- 2) Management and leadership skills for running busy academic department in a university setting in developed and developing countries.
- 3) Development of academic programs and curricula for both undergraduate and postgraduate courses at the University level.
- 4) Development of recruitment criteria for university support staff (technicians and technologists) and organizing their work with academic staff especially laboratory sessions.
- 5) Time management and decision making, problem solving.
- 6) IT skills applied in data collection, processing and for instruction and presentation.

## 11. Presentations:

- 1) Phase Equilibria in the  $\text{Ho}_2\text{O}_3$ - VO System, *7<sup>th</sup> Conference of the Faculty of Physics, Mathematics and Natural Sciences, PFU Lumumba, Moscow, March 13 – 16, 1984.*
- 2) Phase Equilibria in the  $\text{HoVO}_3$  – VO System, *7<sup>th</sup> Conference of the Faculty of Physics, Mathematics and Natural sciences, PFU Lumumba, Moscow, March 13 – 16, 1984.*
- 3) Phase Equilibria in the systems  $\text{Ln}_2\text{O}_3$  – VO, *8<sup>th</sup> Conference of the Faculty of Physics, Mathematics and Natural Sciences, PFU Lumumba, Moscow, February 8, 19 – 23, 1985.*
- 4) Phase Equilibria in the  $\text{Tb}_2\text{O}_3$  – VO System, *8<sup>th</sup> Conference of the Faculty of Physics, Mathematics and Natural Sciences, PFU Lumumba, Moscow USSR, February 8, 19 – 23, 1985.*
- 5) Phase Equilibria in the System  $\text{Ho}_2\text{O}_3$  – VO at 1500 °C, *International Rare Earth Conference, IREC 1985. ETH, Honggerberg, Zurich, Switzerland, 3 - 8<sup>th</sup> March 1985.*

- 6) Interactions in the Lanthanum – Vanadium(II) oxide System, *8<sup>th</sup> Conference of the Faculty of Physics, Mathematics and Natural Sciences, PFU Lumumba, Moscow, 13 – 17, May 1985.*
- 7) Interactions in the Praseodymium – Vanadium(II) oxide System, *8<sup>th</sup> Conference of the Faculty of Physics, Mathematics and Natural Sciences, PFU Lumumba, Moscow, 13 –17 May 1985.*
- 8) Member of Organizing Committee, *Regional Workshop on Teaching Equipment For Chemistry at Graduate Level, Moi University, Eldoret, Kenya, December 15 – 19, 1986.*
- 9) Phase Equilibria in the  $\text{Ho}_2\text{O}_3$  – VO System, *23<sup>rd</sup> Conference of the Faculty of Physics, Mathematics and Natural Sciences, PFU Lumumba, Moscow, May 18 –24, 1987.*
- 10) General Applications of Differential Thermal Analysis, *International Symposium in the Chemistry of Tropical Natural Products, Moi University, Eldoret, Kenya, August 24 – 29, 1987.*
- 11) Member of Organizing Committee, *Practical Regional Workshop on Computers and Science Education, Moi University, Eldoret, Kenya, July 8 – 12, 1988.*
- 12) Participant, *Second NAPRECA Symposium on Natural Products and Workshop on Development of DATABASES, Nairobi, Kenya, September 12 – 16, 1988*
- 13) Participant, *Kenya/UNEP/GIPA (Groupment Internationale des Association Nationales de Fabricants de Produits Agrochimique) Conference on Pesticides, Nairobi, Kenya, December 6, 1989.*
- 14) Participant, *African Water Technology Conference/Exhibition, Nairobi, Kenya, February 19 – 23, 1990.*
- 15) Interactions in the  $\text{HoVO}_3$  – VO System, *16<sup>th</sup> Course: Direct Methods of Solving Crystal Structures Erice, Italy, April 18 – 29, 1990.*
- 16) Participant, *American Chemical Society Joint 42<sup>nd</sup> Southeast/Southwest Regional Meeting, New Orleans, LA, USA, December 5 – 7, 1990.*
- 17) Environmental Conflicts: Wastes and multi-pollutant Situations, *Historical Association of Kenya Conference on Conflicts in Post-Colonial Africa. Lakers' Inn, Kisumu, Kenya, November 1 –2, 1997.*



- 18) Food Chemistry of Sorghum and Millet: Effects of Grain Processing Technology on food value. *Kenya Chemical Society Seminar on Chemistry for Health and Environmental Protection, University of Nairobi, Kenya, July 17 – 18, 1998.*
- 19) Analysis of Mineral contents of *Montmorillonites*. A paper presented together with Ngava N.C., and Ogoche J.I.J. at the *3<sup>rd</sup> Annual conference of The Kenya Chemical Society, Sept 14<sup>th</sup>, 2001 at The Department of Chemistry University of Nairobi.*
- 20) Removal of Fluoride ion by Alumina Column. A paper presented together with Opiyo G.O., and Amoke P.O. at the *4<sup>th</sup> International Conference of the Kenya Chemical Society. August 19<sup>th</sup> – 23<sup>rd</sup>, 2002 at Egerton University, Njoro, Kenya.*
- 21) Physico-Chemical Analysis of Praseodymium(III) and vanadium(III) oxides' System: A paper presented at the *Ninth International Chemistry Conference in Africa (ICCA-9) 2<sup>nd</sup> – 7<sup>th</sup> August 2004, Arusha, Tanzania*

## 12. Publications

- 1) **Okoth, A.O.**, Bogatov, Yu.E., Molodkin, A.K. “Phase Equilibria in the System  $\text{HoVO}_3 - \text{VO}$ ”. Proceedings of the 7<sup>th</sup> Conference of young scientists and specialists of the Faculty of Physics, Mathematics and Natural Sciences, PFU Lumumba, Moscow, 13 – 16<sup>th</sup> March 1984. Part I pp. 113- 114/ *VINITI 12<sup>th</sup> July 1984, No. 5036 – 84 DEP.*
- 2) Manuel Mata, **Okoth, A.O.**, Bogatov, Yu. E. “Phase Equilibria in the System  $\text{Ho}_2\text{O}_3 - \text{VO}$ ”. Proceedings of the 7<sup>th</sup> Conference of young scientists and specialists of the Faculty of Physics, Mathematics and Natural Sciences, PFU Lumumba, Moscow, 13 – 16<sup>th</sup> March 1984. Part I pp. 116 – 120/ *VINITI 12<sup>th</sup> July 1984, No. 5036 – 84 DEP.*
- 3) **Okoth, A.O.**, Bogatov, Yu.E., Molodkin,A.K. “Phase Equilibria in the System  $\text{Ho}_2\text{O}_3 - \text{VO}$  at 1500 °C ”. International Rare Earth Conference, **IREC 1985**, 3<sup>rd</sup> to 8<sup>th</sup> March 1985, ETH Honggerberg, Zurich, Switzerland. *Abstracts pp.11.*
- 4) **Okoth, A.O.**, Bogatov Yu.E., Molodkin A.K. “Phase Equilibria in the Systems  $\text{Ln}_2\text{O}_3 - \text{VO}$  at 1400 °C ”. Proceedings of the 8<sup>th</sup> Conference of the young scientists and specialists of the Faculty of Physics, Mathematics and Natural Sciences, PFU Lumumba, Moscow, 8<sup>th</sup>, 19<sup>th</sup> – 23<sup>rd</sup> February 1985/ *VINITI, 29<sup>th</sup> May 1985, No.3713 - 85 DEP.*
- 5) **Okoth, A.O.** “Phase Equilibria in the Dysprosium oxide – Vanadium (III) oxide System”. *M.Sc. Thesis, PFU Lumumba, Moscow, (1982).*

- 6) **Okoth, A.O.** “Interactions between vanadium(II) oxide and oxides of Rare Earth Elements”. *Ph.D. Dissertation, PFU Lumumba, Moscow, (1986).*
- 7) **Okoth, A.O.** “ Interactions between Vanadium (II) oxide and Oxides of Rare Earth Elements”. *Ph.D. Dissertation synopsis, PFU, Lumumba, Moscow, (1986).*
- 8) **Okoth, A.O.**, Molodkin, A.K., Bogatov, Yu.E., Manuel Mata, R. “Phase Equilibria in the System  $\text{Ho}_2\text{O}_3 - \text{VO}$  at 1400 °C ”. *Russian Journal of Inorganic Chemistry, Vol. 31, (1986) 12<sup>th</sup> issue, pp. 3128 - 3134.*
- 9) **Okoth, A.O.** “ Food Chemistry of Sorghum and Millet: Effects of Grain Processing Technology on Food Value”. *Kenya Chemical Society Seminar Brochure, University of Nairobi, (1998), pp. 7.*
- 10) *Secondary Chemistry Form 3 Pupils’ Book.* A Kenya Institute of Education National Chemistry Panel Publication for Ministry of Education © Kenya Literature Bureau, 1988, Nairobi, Kenya.
- 11) *Secondary Chemistry Form 3 Teachers’ Guide.* A Kenya Institute of Education National Chemistry Panel Publication for Ministry of Education © Kenya Literature Bureau, 1988, Nairobi, Kenya.
- 12) *Secondary Chemistry Form 4 Pupils’ Book.* A Kenya Institute of Education National Chemistry Panel Publication for Ministry of Education © Kenya Literature Bureau, 1990, Nairobi, Kenya.
- 13) *Secondary Chemistry Form 4 Teachers’ Guide.* A Kenya Institute of Education National Chemistry Panel Publication for Ministry of Education © Kenya Literature Bureau, 1990, Nairobi, Kenya.
- 14) **Okoth, A.O.** “Environmental Conflicts: Wastes and Multi-Pollutant Situations”. *Chapter 22 in Historical Association of Kenya’s Conference on Conflicts in Post-Colonial Africa.* Ed. Okoth P.G. and Ogot B.A. ISBN 9966-22-178-6 *Jomo Kenyatta Foundation, Nairobi, Kenya.* (2000) pp. 257-268.
- 15) **Okoth, A.O.**, Molodkin, A.K., Bogatov, Yu.E. Physico-Chemical Analysis of Praseodymium(III) and vanadium(III) oxides’ System in *Chemistry towards Disease and Poverty Eradication.* ISBN 9987-9005-3-4 *Proceedings of the Ninth International Chemistry Conference in Africa (ICCA-9) 2<sup>nd</sup> – 7<sup>th</sup> August 2004, Arusha, Tanzania. Department of Chemistry University of Dar es Salaam (2005).* pp 131 – 137.
- 16) Adoli F.K.L., Lalah J.O., **Okoth A.O.** Analysis of Moss and Topsoil to Monitor Metal Emissions from a Pulp and Paper Mill in Western Kenya. *Bull Environ Contam Toxicol (2011) 86: 137 – 143.*  
[DOI 10.1007/s00128-010-0163-1](https://doi.org/10.1007/s00128-010-0163-1)
- 17) Ojwach S.O., Nyamato G.S., Omondi B., Darkwa J., and **Okoth A.O.** Multidentate bis(pyrazolylmethyl)pyridine ligands: coordination chemistry

and binding properties with zinc(II) and cadmium (II) cations. *Journal of Coordination Chemistry Vol. 65, No. 2, 20 January 2012, 298 – 307. ISSN 1029-0389 online [http:// dx.doi.org/10.1080/00958972.2011.651718](http://dx.doi.org/10.1080/00958972.2011.651718)*

## 12. Referees:

- 1) **Betty Obura Ogange, PhD**  
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- 2) **Prof. Philip Okinda Owuor**  
Department of Chemistry  
Maseno University  
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- 3) **Prof. Chrispin Kowenje**  
Assoc. Prof.: Materials, Physical and Environmental Chemistry, and  
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## 13. Personal Details:

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40105 MASENO  
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**E-mail:** [alexanderokoth@gmail.com](mailto:alexanderokoth@gmail.com)

**BORN:** May 30, 1956 Kisii, Kenya

### MARITAL STATUS:

**Married** to Tabitha Atieno Ochieng' - DOB November 28<sup>th</sup>, 1965  
**Children:** 1. Joel Okoth Ochieng' - DOB May 15<sup>th</sup>, 1993.  
2. George Siage Ochieng' - DOB December 28<sup>th</sup>, 1995.  
3. Crystie Topaz Ochieng' – DOB June 21<sup>st</sup>, 2004.

*The end*