

RESUME

Dr. Isaac Masika Wekesa

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Personal Information:

Date of Birth : 13th Dec, 1979

Sex : Male

Nationality : Kenyan

Marital Status : Married

Languages : English, Swahili

ID NO : 21792683

Passport no. :A103470

Career Objective

Working in a busy institution where scientific research, innovations and explorations are done, tailored to have a positive impact on the society

Research Interest

Kinetic and mechanistic investigation on the substitution behaviour of inorganic and organometallic complexes
Computer aided theoretical calculations (DFT) meant to elucidate reaction mechanism
Thermodynamics of complexes formed by metal ions in dilute solutions containing biologically or environmentally important ligands.

Academic Profile

Jan, 2014 – Dec 2015: Post-Doctoral Fellow, "Mechanistic and theoretical studies of platinum(II) complexes" School of Chemistry & Physics, University of Kwazulu-Natal, Pietermaritzburg, South Africa.

Ph.D.(2014) The Influence of Ligand Moiety on the Substitution Behaviour of Mononuclear Platinum (II) Complexes. A Detailed kinetic and Mechanistic study. (University of Kwazulu-Natal, Pietermaritzburg, South Africa)

Master of Science in Physical Chemistry (2009) The Speciation of copper (II) ions in the presence of selected amino acid (Kenyatta University, Nairobi, Kenya).

Bachelor of Education (Science) 2nd Class Upper (2002) (Kenyatta University, Nairobi, Kenya).

High School Examination (1996) KCSE, (Chesamisi High School).

Work Experience

Aug 2016 to date Physical Chemistry lecturer, **Pwani University**

Jan 2017 to date Part-time lecturer, **Technical University of Mombasa**

Jan 2014 to Dec 2015 Post doctoral fellow university of kwazulu, Pietermaritzburg Campus, South Africa.

August 2009 to December 2013 University of Kwa-Zulu Natal Chemistry Department. Demonstrator/Tutor General principles of chemistry, Thermodynamics, electrochemistry, kinetics and Environmental analysis.

September 2003 to July 2009 High school teacher, teaching Chemistry and Mathematics in government schools

Instrumentation

Cary 100 UV **spectrophotometer**

SX 20 Stopped-flow **spectrophotometer**

RX 2000 Rapid stopped-flow **spectrophotometer**

NMR **spectrophotometer**

(General experience on servicing and repair of Cary 100 UV spectrophotometer and SX 20 Stopped-flow spectrophotometer)

Software

Spartan08, Gaussian09, ORIGIN7.5,

List of Publications

1. Synthesis and characterization of whisker-shaped MnO₂ nanostructure at room temperature. Deogratius Jaganyi. Mohammad Altaf and **Isaac Wekesa**. *Appl Nanosci*, 2013, **3**, 329.
2. Kinetic and mechanistic studies of 1,3-bis(2-pyridylimino)isoindolate pt(II) derivatives *Experimental and new computational Approach*. **Isaac M. Wekesa** and Deogratius Jaganyi **Dalton Transactions** 2014,**43**, 2549-2558
3. The deleterious effect of pyrrolic-nitrogen on the substitution reactivity of tridentate N⁺C⁻N Platinum(II) complexes. *A Kinetic and Mechanistic study*. **Isaac Masika Wekesa** and Deogratius Jaganyi. **Journal of Coordination Chemistry**, 2016, 69, 3, 389 - 403.
4. The reactivity of 4'-substituted terpy platinum(II) complexes with bio-relevant azole nucleophiles. *A kinetic and mechanistic study*. Deogratius Jaganyi, Meshack Sitati Kituyi, **Isaac Masika Wekesa**, **Inorganic Chimica Acta**, 2016, 453, 531 -537.

Seminar and Conference

Oral

1. The INORG 2015 Conference, Rhodes University, South Africa June/July 2015
Kinetic and mechanistic studies of 1,3-bis(2-pyridylimino)isoindolate pt(II) derivatives *Experimental and new computational Approach*.
2. Post graduate Seminar, October 2013 University of Kwazulu-Natal, Chemistry Department , PMB *The Influence of Ligand Moiety on the Substitution Behaviour of Mononuclear Platinum (II) Complexes. A Detailed kinetic and Mechanistic study*
3. The INORG 2013 Conference, Durban, South Africa 30th – 4th July 2013. *Tuning the Reactivity of Tridentate Platinum(II) Complexes by cis-Ligand Moieties. A kinetic and Computational Study*.
4. The 7th International Conference of the Kenya Chemical Society, Maseno University, Kenya 15th – 18th October 2012. *The cis-Effect of Aromatic Donor Groups on the Substitution Behaviour of Tridentate N³C¹N Platinum(II) complexes*
5. The 2nd Tanzania Chemical Society International Conference, Dar es Salaam, Tanzania 5th – 7th October 2011. *Kinetic and Mechanistic studies of Platinum(II) complexes with Uninegative Tridentate 3-bis(2-pyridylimino) isoindoline Derivatives*.
6. Post graduate Seminar, 2009 Kenyatta University
Oral presentation: *The Speciation of Copper (II) Ions in the Presence of Selected Amino Acid Contaminants*

Poster

1. The 2nd Tanzania Chemical Society International Conference, Dar es Salaam, Tanzania 5th – 7th October 2011. *Kinetic and Mechanistic studies of Platinum(II) complexes with Uninegative Tridentate 3-bis(2-pyridylimino) isoindoline Derivatives*
2. The INORG 2013 Conference, Durban, South Africa 30th – 4th July 2013. *Mechanistic Studies on the Reactions of N²C²N Platinum(II) complexes with Nitrogen Donor Nucleophiles. Experimental and Computational Approach.*
3. Dalton 2012 Conference, Warwick University, United Kingdom on 2nd to 5th April 2012. *The Electronic Effect of Quinoline Moiety on the Lability of Tridentate Polypyridine Platinum(II) Complexes: A Kinetic, Mechanistic and Theoretical study*
4. The 2nd Tanzania Chemical Society International Conference, Dar es Salaam, Tanzania 5th – 7th October 2011. *Kinetic and Mechanistic studies of Platinum(II) complexes with Uninegative Tridentate 3-bis(2-pyridylimino) isoindoline Derivatives*
5. SACI colloquium 2011, University of KwaZulu-Natal, Westville Campus, South Africa. *The σ -donor and π - acceptor properties of bis- (pyrazolyl) platinum(II) complexes: A kinetic and mechanistic study.*
6. 2010 Centenary Celebrations University of KwaZulu-Natal, Pietermaritzburg Campus, South Africa. *The σ -donor and π - acceptor properties of bis- (pyrazolyl) platinum(II) complexes: A kinetic and mechanistic study.*

Supervision

1. **Ngubane Musawenkosi Msc Student** *mechanistic Studies on the Reactions of N^C^N and N^N^N Platinum(II) complexes with Nitrogen Donor Nucleophiles. Experimental and Computational Approach. (Graduated 2014, cum laude)*
2. **Meshack k. sitati Msc Student** *The Substitution Behaviour of Terpy polyglycoxyl and Ruthenium-Platinum Complexes with Biological Nucleophiles. A Kinetic and Mechanistic study (completed 2014, cum laude)*
3. **Thabani Xulu Honours Student** *Pyridyl)Benzoazole Ruthenium(III) Complexes: Kinetics of Ligand Substitution Reactions and Anti-Cancer Studies (Completed 2015)*
4. **NGUI FESTUS, Phd student, Pwani University,** Theoretical studies of platinum(II) complexes. **On going**

Other research activities

Reviewer, South African Journal of Chemistry (SACI)

Community Work

Active member of Kariokor friends Church

Member Tongaren Yearly Meeting

Affiliations

Royal Society of Chemistry (UK)

Referees

Prof. DEOGRATIUS JAGANYI PostDoc&Phd Supervisor, DVC College of Engineering, Science and Agriculture University of KwaZulu-Natal, South Africa Private Bag X01 Scottsville 3209 jaganyi@ukzn.ac.za	Dr. STEPHEN OJWACH Lecturer School of Chemistry and Physics Pietermaritzburg Campus University of KwaZulu-Natal, South Africa Private Bag X01 Scottsville 3209 ojwach@ukzn.ac.za
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DR. SHIKUKU LIBENDI HEAD OF DEPARTMENT Chemistry Department PWANI UNIVERSITY, Kenya P.O Box 195-80180 KILIFI. s.shikuku@pu.ac.ke	Prof. Simon Lotz Editor South African Journal of Chemistry