**IBRAHIM KARUME**

**Contact address**

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**Academic Qualifications**

**2012-2017**:Ph.D., Chemistry, King Fahd University of Petroleum & Minerals, Dhahran,

Kingdom of Saudi Arabia

**2008-2011**: M.Sc., Chemistry, Makerere University, Kampala, Uganda

**2004-2008**: B.Sc., Makerere University, Kampala, Uganda

**Professional Experience**

**2017 to date:**  *Lecturer*, Department of Chemistry, Makerere University, Kampala,

Uganda

**2012-2016**: Assistant Lecturer, Department of Chemistry, Makerere University,

Kampala, Uganda

**2012-2016**: Ph.D. Research Fellow, King Fahd University of Petroleum & Minerals,

Dhahran, Kingdom of Saudi Arabia

**2010-2012**: Teaching Assistant, Department of Chemistry, Busitema University,

Tororo, Uganda

**2008-2011**: Research Assistant, Department of Chemistry, Makerere University,

Kampala, Uganda

**Research Experience**

**2012-2016**:PhDResearch Fellow, King Fahd University of Petroleum & Minerals,

Dhahran, Kingdom of Saudi Arabia

* Devised a bio-catalyzed route to chiral alcohols using a single enzyme
* Developed encapsulation supports for enzymes in harsh media environments
* Engineered solvent systems that alter enzyme selectivity

**2008-2010**: Research Assistant**,** International Science Program, Makerere University

* Developed polyoxometalate-based catalyst systems for olefin epoxidation
* Developed efficient heterogeneous supports for palladium nanoparticles for cross-coupling reactions

**Instrumentation skills:** Have hands-on experience in

* Nuclear magnetic resonance spectroscopy
* DNA and Protein Purification
* Chromatography
* Mass spectrometry
* IR spectroscopy
* Ultraviolet-visible spectroscopy

**Research Interests**

* Chemistry of water environment
* Bio and Heterogeneous catalysis
* Medicinal chemistry

**Awards**

**2016:** Best research article in volume 8 published by ChemCatChem

**Grants**

1. Makerere University Research and Innovations Funds, No. RIF1/CONAS/006
2. TWAS Research Grants, No. 19-059 RG/CHE/AF/AC\_I – FR3240310151

**Publications**

**ProQuest Publication No. 10745924**

**Peer-reviewed articles**

1. Mukasa-Tebandeke I. Z., **Karume I**., Wasajja H. Z. and Nankinga R., Improving Quality of Water from Murchison bay Using Clay from Chelel, Kapchorwa District, Uganda, *Academic Journal of Chemistry*, **2019**, *4*, 102-117.
2. Mukasa-Tebandeke I. Z., **Karume I**., Mutesasira J., Wasajja H. Z. and Nankinga R., Biogas Synthesis as Means of Solid Waste Management in Kampala, Uganda, *Scientific Review*, **2019**, *5*, 198-204.
3. **Ibrahim Karume**, Emmauel Tebandeke, Joloccam Mbabazi, Henry Ssekaalo and Ola.F. Wendt; C-C cross-coupling reactions by palladium on barium and potassium polyoxotungstate supports, *Asian J. Chem.* **2018**, *30*, 2357-2360.
4. Musa M. Musa, **Ibrahim** **Karume**, Masateru Takahashi and Samir M. Hamdan, Nisar Ullah; Stereoinversion of *R* configured secondary alcohols using a single enzymatic approach, *ChemistrySelect*,**2018**, *3*, 10205-10208.
5. Musa M. Musa, Odey Bsharat, **Ibrahim** **Karume**, Claire Vieille, Masateru Takahashi and Samir M. Hamdan; Expanding the substrate specificity of *Thermoanaerobacter pseudoethanolicus* secondary alcohol dehydrogenase by a dual site mutation, *Eur. J. Org. Chem.,* **2018**, 798-805.
6. **Ibrahim** **Karume**, Masateru Takahashi, Samir M. Hamdan and Musa M. Musa;Deracemization of secondary alcohols using a single alcohol dehydrogenase, *ChemCatChem.,* **2016**, *8*, 1459-1463.
7. **Ibrahim** **Karume**, Musa M. Musa, Odey Bsharat, Masateru Takahashi, Samir M. Hamdan and Bassam El Ali; Dual enzymatic dynamic Kinetic resolution by *Thermoanaerobacter ethanolicus* secondary alcohol dehydrogenase and *Candida antarctica* Lipase b, *RSC Adv.*, **2016**, *6*, 96616-96622.
8. Musa M. Musa, Jay M. Patel, Christopher M. Nealon, Chang Sup Kim, Robert S. Phillips and **Ibrahim** **Karume**; *Thermoanaerobacter ethanolicus* secondary alcohol dehydrogenase mutants with improved racemization activity, *Journal of Molecular Catalysis B: Enzymatic*,**2015**, *115*, 155-159.

**Conference abstracts**

1. **Ibrahim** **Karume**, Musa M. Musa, Masateru Takahashi and Samir M. Hamdan; “Compatibility of *Thermoanaerobacter* *ethanolicus* Secondary Alcohol Dehydrogenase and *Candida antarctica* Lipase B: An Approach for Dual Enzymatic Dynamic Kinetic Resolution” *CHEMINDIX*, **2016**, *Abstract Ref No. CI2016A-1050*, Manama, Bahrain.
2. **Ibrahim** **Karume**, Amer El-Batta, Amjad B. Khalil, Musa M. Musa, Masateru Takahashi and Samir M. Hamdan; “Racemization of enantiopure alcohols by a xerogel-immobilized alcohol dehydrogenase in organic solvent” *248th ACS National Meeting and Exposition* **2014**,*ORG 182*, San Francisco, USA.
3. Musa M. Musa.; **Ibrahim** **Karume**; Patel, J.; Masateru Takahashi, M.; Robert S. Phillips.; Samir M. Hamdan; “Turning alcohol dehydrogenases to recemases” *8th Singapore International Chemistry Conference*, **2014**, *167*, Singapore.
4. **Ibrahim** **Karume**, Emmanuel Tebandeke, Jolocam Mbabazi, Henry Ssekaalo and Ola F. Wendt; “Polyoxometalate supported palladium nanoparticles as efficient heterogeneous catalysts in Suzuki and Heck C-C cross-coupling reactions” *1st PACN RSC Green Chemistry Congress* **2010**, Addis Ababa, Ethiopia.