

# BENARD OMONDI OMOGO

## CURRICULUM VITAE

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Pure and Applied Chemistry, MMUST  
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CURRENT AFFILIATION		
<ul style="list-style-type: none"><li>Lecturer-School of Natural Sciences (SONAS), Masinde Muliro University of Science and Technology (MMUST)</li></ul>		
EDUCATION		
<ul style="list-style-type: none"><li>Doctor of Philosophy in Physical Chemistry (PhD)</li></ul>	University of Arkansas, Fayetteville, Arkansas, USA	Awarded, 10 <sup>th</sup> May 2014
Dissertation title: <i>Understanding the Influence of Interfacial Chemistry in Core, Core/Shell and Core/Shell/Shell Quantum Dots on their Fluorescence Properties</i> . Advisor: Prof. Colin D. Heyes.		
<ul style="list-style-type: none"><li>Bachelor of Education (Bed in Chemistry and Mathematics)</li></ul>	Catholic University of Eastern Africa (CUEA), Nairobi-Kenya	Awarded, 2 <sup>nd</sup> October 2008

ACADEMIC CURRENT RESEARCH INTERESTIN BRIEF
Noble bimetallic gels synthesis and catalytic degradation of Persistent Organic Pollutants(POPS)
Understanding the structure of various nano-based materials such as nano-complexes, nanocomposites ad nanoparticles.
COMMUNITY INVOLVEMENT AND INTERESTS
<b>Community empowerments</b> <ul style="list-style-type: none"><li>Umala Community Development Initiative (UCODI)-Chairperson and one of the co-founders of UCODI, CBO based in Ugunja Sub-County and involved with empowering, educating and sensitizing youths and community at large for a positive growth.</li><li>High Achievers Network- Community Outreach Coordinator and co-founder of this network of professionals based in Yala town and its surrounding who are passionate to identify, nurture, motivate and inspire growth among individuals. Through this we organize and host teens and youth conferences and offer motivational and career guidance to students in schools</li><li>Educational Mentor-Identify and guide academically gifted students from financially humble background by exposing them to available local and international scholarships. Through this I have successfully mentored and secured 2 scholarships in USA for Ph.D and Masters and 1 in Europe for Bachelors as well as a number of local scholarships.</li></ul>

PROFESSIONAL AND RESEARCH EXPERIENCE	
<ul style="list-style-type: none"><li>Visiting Scientist</li></ul>	TWA-DFG Cooperation Visits Program, TU-Dresden, Germany. <i>February – April, 2018</i>
<ul style="list-style-type: none"><li>Research Scientist and Students Supervision</li></ul>	Masinde Muliro University of Science and Technology <i>March 2015-Present.</i>
<ul style="list-style-type: none"><li>Scientific Reviewer</li></ul>	Student thesis and conference papers, Masinde Muliro

	University of Science and Technology, <i>March 2015-Present.</i>
• Lecturer	Physical Chemistry Courses, Masinde Muliro University of Science and Technology, <i>March 2015-Present.</i>
• Part-time Lecturer	Undergraduate and Postgraduate Chemistry Courses, Moi University and University of Eldoret, Kenya, <i>January 2015- April 2015</i>
• Professional Teaching Assistant I	Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR, USA, <i>June 2014- December 2014.</i>
• Scientific Mentor	National Science Foundation (NRF), Research Experience for Undergraduate (REU), University of Arkansas, Fayetteville, AR, USA. <i>May-July 2011 and May-July 2012</i>

<b>AWARDS</b>	
• Visiting Scientist	TWA-DFG Cooperation Visits Program, TU-Dresden, Germany. <i>February – April, 2018</i>
• Graduate Research Assistantship	Graduate School Assistantship, University of Arkansas, Fayetteville, AR, USA. <i>August 2008</i>
• Undergraduate Student Scholarship	Ministry of Education (MOE) Kenya, <i>2005 -2008</i>
• Missio Scholarship Student Education Grants	Catholic University of Eastern Africa (CUEA), Nairobi-Kenya, <i>August 2005</i>
• Graduate Research Scientist	Department of Chemistry and Biochemistry, University of Arkansas, Fayetteville, AR, <i>August 2008-May 2014</i>

<b>LEADERSHIP AND RESPONSIBILITIES</b>	
• Secretary General	University Academic Staff Union (UASU), MMUST Chapter
• Examination Coordinator	School of Natural Science (SONAS), Masinde Muliro University of Science and Technology. <i>June 2017-Present</i>
• Ag. Chairperson	Department of Pure and Applied Chemistry, <i>July 1- August 1, 2016 and April 15-May 1, 2015 and several short time acting(Cumulative experience over 2 months)</i>
• Examination and Timetable Coordinator	Department of Pure and Applied Chemistry, Masinde Muliro University of Science and Technology. <i>March 2015-June 2017</i>
• Staff Representative	3 <sup>rd</sup> Year Bachelor of Science Chemistry and Industrial Chemistry
• Secretary General	Catholic University of Eastern Africa Students Organization (CUEASO), Nairobi, Kenya, <i>March 2007-March 2008.</i>
• Young Student Leader Representative	Study of the United States Institute for Student Leaders, Spring International Language center, University of Arkansas and U.S. Department of State, Washington D.C <i>June 2007</i>
• Chairperson	Social Welfare Committee, Catholic University of Eastern Africa Student Organization, Nairobi, Kenya, <i>March 2006-March 2007.</i>

<b>COMMITTEES AND PROFESSIONAL AFFILIATIONS</b>	
• BOM Member and Academic Committee Chairperson	Umina Mixed Secondary School, Ugunja, Siaya Countu March 2019- Present
• Member	Internal Complaints Committee (ICC), Masinde Muliro University of Science and Technology. <i>January 2017-Present</i>
• Member	Kenya Chemical Society (KCS), <i>May 2015-Present</i>
• Member	America Chemical Society (A.C.S), <i>August 2009-Present</i>
• Student Representative Member	Catholic University of Eastern Africa, Senate <i>March 2006-March 2007</i>

STUDENTS SUPEVISION	
1. Stanislaus Lusambili Mayengo (Ph.D Candidate-SCH/H/02/2015)	<b>Title:</b> Design and Fabrication of Clay Nanocomposites for Controlled Release of Nutrients. <b>Status:</b> <i>First draft of the dissertation under preparation.</i> <i>(Projected Defense in March 2020)</i>
2. Adelaide Khasila (MSc Student-SCH/G/02/13)	<b>Title:</b> Environmental Remediation off Dioxin-Like Compound, 3, 3', 4, 4' - Tetra Chlorobiphenyl, (Pcb 77), Using Palladium-Copper Bimetallic Aerogels. <b>Status:</b> <i>Submitted for Examination</i> <i>(Projected Defense in November 2019)</i>
3. Kamau Julius Thuku (MSc Student- SCH/G/07/14)	<b>Title:</b> Influence of Filter Mud(Organic Amendment) Concentration on Degradation Kinetic Models of Chlorpyrifos and Diuron Within the Drainage Basin of Nzoia River in Kenya <b>Status:</b> <i>Final draft of thesis under preparation</i> <i>(Projected Defense in December 2019)</i>
4. John Ombogo (MSc Student-HMD/G/01/15)	<b>Title:</b> Genomic DNA Methylation Changes In Response to Folic Acid Supplementation among Pregnant Women in Kakamega, County <b>Status:</b> <i>Data Analysis in Progress</i> <i>(Projected Defense in March 2020)</i>
5. Rebecca Wechuli (MSc Student-SCH/G/07/2015)	<b>Title:</b> Determination of Pyrethroids in Water and Soil Samples from River Isukhu Watershed in Kakamega County and their Adsorption onto Sisal Waste Adsorbent <b>Status:</b> <i>Proposal Defended and Data Collection in Progress</i> <i>(Projected Defense in June 2020)</i>
6. Undergraduate Projects	<b>Supervised a total of 17 undergraduate Projects since 2015</b>
SELECTED PUBLICATIONS	
<b>Omogo, B.,</b> Gao, F., Bajwa, P., Kaneko M., Heyes, C. D. (2016): Reducing Blinking in Small Core–Multishell Quantum Dots by Carefully Balancing Confinement Potential and Induced Lattice Strain: The “Goldilocks” Effect: ACS Nano, 10 (4), 4072–4082. <b>(Impact Factor 13.903)</b>	
Bajwa, P., <b>Omogo, B.,</b> Gao, F., Nguyen, A., Heyes, C. D. (2016): Influence of the Inner-Shell Architecture on Quantum Yield and Blinking Dynamics in Core/Multishell Quantum Dots: Chemphyschem, 17(5), 550–776. <b>(Impact Factor 3.077)</b>	
<b>Omogo, B.</b> (2014): Understanding the Influence of Interfacial Chemistry in Core, Core/Shell and Core/Shell/Shell Quantum Dots on their Fluorescence Properties: Theses and Dissertations, 2256. <b>(Locally reviewed)</b>	
Takeuchi, H., <b>Omogo, B.,</b> Heyes, C. D. (2013): Are Bidentate Ligands Really Better than Monodentate Ligands for Nanoparticles?: Nano Lett.,13, 4746–4752. <b>(Impact Factor 12.080)</b>	
<b>Omogo, B.,</b> Aldana, J., Heyes, C. D. (2013): Radiative and Non-Radiative Lifetime Engineering of Quantum Dots in Multiple Solvents by Surface Atom Stoichiometry and Ligands: J. Phys. Chem. C, 117, 2317-2327. <b>(Impact Factor 4.309)</b>	

**SELECTED PRESENTATIONS**

**Omogo, B** and Gaponik, N, 2018, Pd-Ni Bimetallic Aerogels for Efficient Nanocatalytic Transformation of Lindane. Kessa-Multimedia University of Kenya Joint Interdisciplinary Conference. Multimedia University, Kenya

**Omogo, B** 2018. Biophysical Projects, Heyes Group-University of Arkansas-USA. First Biophysical Society(BPS)-Sponsored Conference on Harnessing Scholarly Biophysical Potential in Kenya , SPD-Room 314-MMUST-Kakamega, Kenya

**Omogo, B** and Gaponik, N, 2018. Pd-Ni Bimetallic Aerogels for Efficient Nanocatalytic Transformation of Lindane. First Pan African International Research Congress on Knowledge generation and Dissemination, Grand Royal Swiss Hotel-KISUMU, Kenya.

**Omogo, B** Mayengo, L.S.; Manyali, G, Andala, D, 2016. Design and Fabrication of Clay Nanocomposites for Controlled Release of Nutrients, Busia County Annual Stakeholders conference at the Agricultural Training Center, Busia, Kenya.

**Omogo, B** and Heyes, C. D. 2013. Connecting Structural Defects and Optical Properties of Core/Shell/Shell Quantum Dots Induced by Interfacial Lattice Strain. ACS National Meeting, New Orleans, LA.

**Omogo, B.**; Benamara, M and Heyes, C. D. 2012. Contribution of Core/Shell and Core/Shell/Shell Lattice Interfaces on the Optical Properties of Quantum Qots, ACS National Meeting, San Diego, CA.

**Omogo, B** and Heyes, C. D. 2012. Surface-Ligand and Core-Shell Interfaces in Quantum Dot Fluorescence at the Ensemble and Single Nanoparticle Level. South Western ACS Regional Meeting, Baton Rouge, LA.

**Omogo, B.**; Benamara, M and Heyes, C. D. 2011. Elemental Distribution and Lattice Mismatch Across CdSe/CdS and CdSe/CdS/ZnS Core/Shell and Core/Shell/Shell Nanocrystals on their Optical Properties, South Western ACS Regional Meeting, St. Louis, MO.

TECHNICAL SKILLS	
• Spectroscopy	UV-VIS, FTIR, XRD, BET, ICP-OES, GC-MS
• Microscopy	Confocal microscopy, TEM and HRTEM
• Computer skills	MS office, Origin, Digital Micrograph and SPSS softwares
• Chemical Safety Expert	Bio-chemical Safety and Security, Chemical Inventory, Chemicals Waste Disposal

REFEREES	
<p><b>1.</b> Prof. Dr. Colin D. Heyes Assistant Professor Chemistry and Biochemistry Dept. 219 Chemistry Building Fayetteville, AR 72701. 479-575-5607 <a href="mailto:cheyes@uark.edu">cheyes@uark.edu</a> <a href="https://cheyes.hosted.uark.edu">https://cheyes.hosted.uark.edu</a></p>	<p><b>2.</b> Prof. Dr. habil. NIKOLAI GAPONIK Physical Chemistry, TU Dresden Bergstr. 66b, 01062 Dresden GERMANY Tel. +49(0)351-463-35203 Fax: +49(0)351-463-37164 <a href="mailto:nikolai.gaponik@chemie.tu-dresden.de">nikolai.gaponik@chemie.tu-dresden.de</a> <a href="http://tu-dresden.de/chemie/gaponik">http://tu-dresden.de/chemie/gaponik</a></p>
<p><b>3.</b> Dr. John O .Muoma Director SPIIC and Senior lecturer Department of Biological Sciences Masinde Muliro University of Science and Technology P.O.Box 190-50100 Kakamega <a href="mailto:jmuoma@mmust.ac.ke">jmuoma@mmust.ac.ke</a></p>	