


# Daystar University Staff Profile for Dr. Monica N. Opiyo

---

<b>1. Name:</b>	<p>Monica Naomi Opiyo  Lecturer and Biomedical Science Program Course Co-ordinator -Daystar University  PhD Biomedical Sciences</p>
<b>2. Passport photo:</b>	
<b>3. Job Title and Responsibilities:</b>	<p><b><i>Lecturer and Course Co-ordinator of the Biomedical Science (BMS)Program</i></b></p> <ol style="list-style-type: none"> <li>1. Teaching courses under Biomedical Science Program</li> <li>2. Projecting courses that are to be taught every semester</li> <li>3. Co-ordinate Industrial Attachment and Internship for students under BMS Program</li> <li>4. Championing curriculum review when required</li> <li>5. Addressing other emerging issues that will culminate to effective learning and a successful program</li> </ol>
<b>4. Biography (About Me):</b>	<p>I have been a teacher at Brookhouse Senior Secondary School and lecturer during my postgraduate training and at Daystar University, School of Science Engineering and Health. In the area of management and administration, I have been co-ordinating Biomedical Science program at Daystar University. Additionally, I possess skills in grant and proposal writing for funding and scholarship, and laboratory and institution collaborative projects. I have at University of Edinburgh, KEMRI Kisian and Wellcome Trust Research Laboratories, Nairobi accrued the following laboratory, biomedical research and analytical skills as outlined below;</p> <p><i>In vivo physiology</i>      Mouse genotyping, laboratory husbandry of rodents, drug administration <i>via</i> osmotic mini-pump and diet, analysis of <i>in vivo</i> ultrasound of cardiac function, dissection, tail bleeding &amp; plethysmography , surgery and euthanasia of small rodents.</p> <p><i>Molecular Biology</i>      RNA and DNA extraction, PCR, qRT-PCR including assay design, gel electrophoresis, protein extraction and separation,</p>

	<p>qRT-PCR arrays, western blotting, experience of reporter gene assays, bacterial transformation, recombinant protein expression and vesicle preparation.</p> <p><i>Biochemical assays</i> ELISA, Radioimmunoassays, urinalysis, HIV/AIDS using commercial kits. Stool testing using KATO Katz technique, Liquid and gas Chromatography (HPLC-UV)</p> <p><i>Cell culture</i> Culture of stable mammalian and bacterial cell lines, culture of human embryonic stem cells ,culture of murine embryonic stem cells and hematopoietic differentiation, experience of plasmid transfection.</p> <p><i>Histology</i> Harvesting tissue, fixing, decalcification, cryosectioning, microtoming, immunohistochemistry and tissue staining</p> <p><i>Imaging</i> Excellent skills in Light and fluorescence microscopy, experience of confocal and electron microscopy</p> <p><i>Software</i> Familiarity with Windows 7, MS Word, MS Excel, MS PowerPoint, MS Outlook, GraphPad Prism, Adobe Photoshop, Image-J analysis and other specialist software packages for image acquisition and experimental analysis (Light Microscopy: MCI Basic 7.0, and Zeiss KS300; Fluorescence microscopy: Q-Capture Pro, Ultrasound: Visualsonics Vevo 770, Western Blotting: LI-COR Odyssey, qRT-PCR: Roche Light Cycler 480 SW 1.5,</p> <p><i>Field work</i> Extensive experience in data collection ( questionnaire design, focus group discussions, live sample collection) data analysis (EpiInfo, CSpro &amp; SPSS) and evaluation; record keeping; report writing; oral presentations and poster presentations to a variety of audiences.</p>
--	---

**5. Academic Qualifications:**

<b>Academic Qualification</b>	<b>Year of Award</b>	<b>Institution</b>	<b>Thesis Title</b>
<b>PhD-</b> Biomedical Science	2016	University of Edinburgh, Scotland (2012-2015)	<b>The role of Glucocorticoids in bile acid metabolism</b>
<b>MSc-</b> Masters in Biomedical Science	2011	University of Edinburgh, Scotland (2010-2011)	<b>Project I-</b> “Impact of estrogen receptor (ER)-beta Isoforms in ER-alpha turnover” <b>Project II -</b> “Effects of aldosterone in bile acid homeostasis” <b>Project III-</b> “Effects of

				bile acids on corticosteroid biosynthesis and metabolism”
	<b>MPH-</b> Masters in Public Health ( <i>Epidemiology &amp; Disease Control</i> )	2015	MOI University, AMREF Campus (2008-2015)	Anti-tuberculosis drug toxicities: management practices and patient outcome”
	<b>BSc-</b> Bachelor of Science in Biomedical Science & Technology ( <i>Medical Biotechnology</i> )	2004	Maseno University, Maseno (1999-2003)	Prevalence of Schistosomiasis among the Kisumu car lake washers (KEMRI, Kisian)
<b>6. Research Interests:</b>	<p><b><i>Type your Research Interests here:</i></b>  <i>Endocrine Physiology &amp; Epidemiology &amp; Disease Control</i></p> <ol style="list-style-type: none"> <li>1. The role of glucocorticoid metabolism in bile acid homeostasis (<b><i>University of Edinburgh</i></b>)</li> <li>2. Effects of Aldosterone on bile acid biosynthesis (<b><i>University of Edinburgh</i></b>)</li> <li>3. Impact of Estrogen receptor (ER)-beta Isoforms in ER-alpha turnover (<b><i>University of Edinburgh</i></b>)</li> <li>4. Baseline survey on the different House-hold illness and disease episodes experienced by the community living in Mbirikani Group Ranch –Loitoktok (<b><i>School of Field Studies- Loitoktok</i></b>)</li> <li>5. Resistance to schistomiasis among car washers along lake Victoria-Kisumu (<b><i>Center for Vector Biology, KEMRI, Kisian</i></b>)</li> <li>6. Anti-tuberculosis drug toxicities: management practices and patient outcomes (<b><i>Thika District Hospital, Thika</i></b>)</li> </ol>			
<b>7. Publications:</b>	<p>Johnson, JS., <b>Opiyo, MN.</b> Thomson, M, Gharbi, K, Seckl, JR, Heger, A and Chapman, KC.(2016) 11<math>\beta</math>-hydroxysteroid dehydrogenase-1 alters the gut microbiome response to a high-fat “western” diet." J Endocrinol <b>232</b>(2):273-283.</p> <p><b>Opiyo, MN.</b>, Escher, G, Kenyon, CJ, Andrew, R, Odermatt, A and Chapman, KC. "11b-hydroxysteroid dehydrogenase-1 is required for the synthesis of 7b-hydroxylated bile acids in mice." In preparation.</p> <p><b>Opiyo, MN.</b>, Escher, G, Kenyon CJ, Seckl, JR, Andrew, R and Chapman, KC. (2014). "The role of glucocorticoid metabolism in bile acid homeostasis." Endocrine Abstracts <b>34</b>: 252.</p> <p><b>Opiyo, MN,</b> Kenyon, CJ, Manwani, K, Tak, YM, Seckl, JR, Andrew, R and Chapman, KC. (2013). "The role of glucocorticoid metabolism in bile acid homeostasis." Endocrine Abstracts <b>31</b>: 189.</p>			

	<p><b>Scholarships &amp; Travel Grants</b></p> <ol style="list-style-type: none"> <li>1. Edinburgh Global Overseas Research Scholarship (2011-2012)</li> <li>2. Charles Darwin Scholarship (2011-2012)</li> <li>3. University of Edinburgh Global Research Scholarship (2013-2015)</li> <li>4. Society for Endocrinology Travel Grant to attend BES £500 (2012, 2013 and 2014)</li> </ol> <p><b>Professional Development Training (Transferable Skills)</b></p> <ol style="list-style-type: none"> <li>1. 2014 Introductory Statistics for Life Scientists (10 module course) <i>Institute for Academic Development, University of Edinburgh</i></li> <li>2. 2014 Managing bibliographies with Endnote X6 <i>Institute for Academic Development, University of Edinburgh</i></li> <li>3. Producing a thesis by word 2010 <i>Institute for Academic Development, University of Edinburgh</i></li> <li>4. 2013 Genetically modified organisms, Disposal of Biological Waste, Compressed gas , <i>Health and Safety Department, University of Edinburgh</i></li> <li>5. 2012 Introduction to laboratory demonstrating <i>Institute for Academic Development, University of Edinburgh</i></li> <li>6. 2012 Light microscopy, Workshop Series (16 hours) <i>CALM facility, University of Edinburgh</i></li> <li>7. 2012 Biosafety, Late and Lone working <i>Health and Safety Department, University of Edinburgh</i></li> <li>8. 2011 writing a literature review <i>Institute for Academic Development, University of Edinburgh</i></li> <li>9. 2011 Managing your research project <i>Institute for Academic Development, University of Edinburgh</i></li> <li>10. 2011 Handling of Radiochemicals, Handling of Liquid Nitrogen <i>Health and Safety Department, University of Edinburgh</i></li> <li>11. 2011 Writing Up Science, Project Planning and Ethics in Scientific Research, Effective Presentations <i>Transkills Workshops, University of Edinburgh</i></li> <li>12. 2010 ScotPIL Training course modules I-IV <i>Home Office Licence training, University of Edinburgh</i></li> </ol>
<p><b>8. Classes you teach:</b></p>	<ol style="list-style-type: none"> <li>1. Human Anatomy</li> <li>2. Medical Physiology</li> <li>3. Histology &amp; Histological Techniques</li> <li>4. Pathology</li> <li>5. Medical Bacteriology</li> </ol>

	<p>6. Medical Virology 7. Pharmacology 8. Laboratory Animal Husbandry 9. Epidemiology &amp; Public Health 10. Medical Toxicology 11. Medical Mycology</p>
<b>9. Other relevant links:</b>	Research Gate
<b>10. Official Contact Details:</b>	<p><a href="mailto:mopiyo@daystar.ac.ke"><u>mopiyo@daystar.ac.ke</u></a> / <a href="mailto:monica_opiyo@yahoo.com"><u>monica_opiyo@yahoo.com</u></a>  + 254 718 771 607 Social Media details: LinkedIn-Monica Opiyo</p>