

SHEHU SHAGARI AWANDU CV

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CAREER SUMMARY

As a seasoned lecturer and research scientist, I've pioneered and led groundbreaking studies across Africa to unravel the complexities of infectious and non-communicable diseases. My dedication to mentorship has empowered countless international and national postgraduate students, guiding them to achieve academic excellence. With a strong foundation in laboratory techniques and a wealth of research experience, I've consistently delivered insightful analyses and secured substantial funding. I've successfully managed research programs, fellowships, and training initiatives, bringing in over \$500,000 to the Jaramogi Oginga Odinga University of Science and Technology (JOUST) and elevating its global visibility. My research contributions, published in world-renowned journals and scientific reports, have significantly advanced the fields of malaria control, epidemiology, immunology, and genetics. I actively share my findings at global conferences, inspiring scientific discourse and collaboration. My ultimate goal is to cultivate the next generation of African scientific leaders. I'm committed to fostering innovation and empowering researchers to develop tailored solutions for emerging local challenges.

EDUCATION

- PostDoc, Radboud University Medical Centre, The Netherlands 2017-2019
- PhD Biochemistry, University of Pretoria, South Africa 2014-2019
- Masters of Science, Immunology, Kenyatta University, Kenya 2009-2012
- Bachelor of Science (Botany and Zoology), Moi University, Kenya 2000-2004

INTERNAL AND EXTERNAL EXAMINER

- External Examiner for Microbiology in the School of Medicine of Bachelors of Medicine and Bachelors of Surgery at Uzima University.
- Internal examiner for postgraduate (Masters and PhD) dissertations for the Schools of Health Science and the School of Biological, Physical, Mathematical and Physical Sciences at JOUST.

TEACHING AND SUPERVISION EXPERIENCE

- **Jaramogi Oginga Odinga University of Science and Technology November 2019- date**
Senior Lecturer- Departments of Biomedical Sciences and Biological Sciences
 - Teaching, supervision and mentorship
 - Curriculum Innovation and review of courses.
 - Internal examiner (Masters and PhD thesis)
- **Radboud University Medical Centre, The Netherlands September 2017 - August 2019**
 - Tutorial Fellow, Department of Medical Microbiology
- **University of Pretoria, South Africa August 2014 - June 2017**
 - Tutorial Fellow, Department of Biochemistry

POSTGRADUATE STUDENT SUPERVISION, MENTORSHIP AND EXAMINATION

- Mentored and supervised over 30 postgraduate students (Phd and MSc) resulting in a 95% success rate in thesis completion both locally and internationally.
- Developed a comprehensive curriculum for postgraduate courses, enhancing student engagement.

PEER REVIEWER

- Nature Scientific Reports ; Malaria Journal; American Journal of Tropical Medicine and Hygiene; Plos One; BMC Public Health;MDPI.
- UKRI Medical Research Foundation Meade Epidemiology Travel Award and Africa Research Excellence Fund (AREF) Essentials Grants Writing Workshop Program

POSTDOCTORAL RESEARCH EXPERIENCE AND CONSULTANCIES

- Kenya Medical Research Institute – Center for Global Health Research - 2023 - 2024
- Visiting Scientist, KEMRI/Indiana University (USA) collaborative projects - 2019-2022
- Radboud University Medical Centre, The Netherlands -2017-2019

LEADERSHIP ROLES, SKILLS AND COMPETENCIES

- **Research Leadership:** Successfully managing research projects, overseeing a team of postdoctoral fellows, laboratory technologists, and research assistants.
- **Laboratory Leadership:** Spearheaded the establishment of JOOUST Reference Molecular and Diagnostic Laboratory for Non Communicable diseases (2023 to-date)
- **Academic Leadership:** Chaired the Department of Biomedical Sciences at JOOUST, forging strategic partnerships with Kenya Medical Research Institute (2020-2023)
- **Ethical Oversight:** Serving member of the JOOUST Institutional Ethics Review Committee (2021 to date)
- **Scientific Communication:** Edited the Microbial Times Newsletter for the Department of Medical Microbiology at the Radboud University Medical Centre, Nijmegen, The Netherlands
- **Global Health Advocacy:** Represented the Malaria Eradication Scientific Alliance (MESA) as correspondent for the Multilateral Initiatives on Malaria 2018 conference in Dakar, Senegal.
- **Public Engagement:** Engaged with the public through radio interviews and outreach programs, raising awareness about malaria control and prevention.
- **Grants Acquisition and Fundraising:** Successfully secured over \$1 million USD in grants and equipment through strategic partnerships with local and international organizations.

RELEVANT WORK EXPERIENCE

- 2013-2014: Research Assistant - International Centre for Insect Physiology and Ecology (ICIPE), Mbita, Kenya.
- 2012-2013: Assistant Research Officer- Kenya Medical Research Institute, Centers for Disease Control and Prevention (KEMRI/CDC/LSHTM), Kisumu, Kenya.

AWARDS AND HONOURS

- **2024:** Honored with the Keystone Symposia Global Health Travel Award and selected for the Equitable Partnerships Training Programme in Accra, Ghana.
- **2023:** Participated in the prestigious Wellcome Trust Sanger MalariaGEN-PAMCA training course in data analysis for genomic surveillance of African malaria vectors.
- **2022:** Awarded the Africa Research Excellence Fund Research Development Fellowship.
- **2021:** Inducted into the esteemed Kenya National Academy of Sciences.
- **2019:** Received the Global Health Travel Award from Keystone Symposia to attend the Malaria Endgame conference in Addis Ababa, Ethiopia.
- **2018:** Honored with the Multilateral Initiative on Malaria (MIM) Travel Grant to attend the conference in Dakar, Senegal.
- **2017:** Awarded the Global Health Travel Award from Keystone Symposia to attend the Malaria from Innovation to Eradication conference in Kampala, Uganda.
- **2016:** Received the American Society of Tropical Medicine and Hygiene (ASTMH) Annual Meeting Travel Award to attend the conference in Atlanta, Georgia, USA.
- **2015:** Awarded a Travel Fellowship to attend the Science of Eradication: Malaria Course in São Paulo, Brazil, organized by Swiss TPH, ISGlobal, Harvard University, and the University of São

Paulo.

- **2013:** Honored with the Multilateral Initiatives on Malaria Travel Grant to attend the conference in Durban, South Africa.
- **2012:** Participated in the Immunology in the Tropics training program at Makerere University and the Uganda Virus Research Institute in Kampala, Uganda.

AWARDED GRANTS

- **Principal Investigator:** Secured **£300,000** from the Medical Research Foundation (UK) to lead the MosKenya project, investigating the impact of climate change on *Anopheles stephensi* and *Aedes aegypti* in Kenya, in collaboration with the University of Glasgow (UK). 2024-2027.
- **Principal Investigator:** Awarded a **£50,000** Africa Research Excellence Fund grant to study the biology of native *Wolbachia* strains in Kenyan *Anopheles* mosquitoes for malaria biological control, in collaboration with the University of Warwick (UK). 2024-2025
- **Principal Investigator:** Received a **£35,000** Africa Research Excellence Fund grant to explore the melanization response in *Anopheles* mosquitoes and its impact on malaria transmission, in collaboration with the Institut de Recherche en Sciences de la Santé/Direction Régionale de l'Ouest (IRSS-DRO) in Bobo Dioulasso, Burkina Faso. 2023-2024
- **Principal Investigator:** Led the establishment of a state-of-the-art reference molecular and diagnostic laboratory at JOOUST, securing over **USD 300,000** worth of laboratory equipment from the Sonic Healthcare Research Foundation, in collaboration with the University of Antwerp, Belgium. 2024-2025
- **Co-Investigator:** Contributed to the Capacity Building in Biostatistics and Epidemiology in Eastern Africa (CDEA) project, a **€750,000** European & Developing Countries Clinical Trials Partnerships (EDCTP) grant, in collaboration with the Africa Population and Health Research Center, Amref International University (AMIU), and Lund University (Sweden). 2022-2024
- **Co-Investigator:** Participated in the Towards COVID-19 Containment project, a **USD 100,000** Medical Research Council of South Africa grant, focusing on serological, fecal, and wastewater epidemiological surveillance of SARS-CoV-2 in Kenya, in collaboration with the Kenya Institute of Research and Development (KIRDI), Masinde Muliro University of Science and Technology (MMUST), and the Kenya Medical Research Institute (KEMRI). 2022-2023
- **Co-Investigator:** Secured **£5,000** from Ogston Foundation Platinum Early Career Grant to my Msc student Cyprian Adala. 2024

PROFESSIONAL AFFILIATIONS

- Member; Kenya National Academy of Sciences (MKNAS), American Society of Tropical Medicine and Hygiene (ASTMH), Member, Kenya Society of Immunology (KSI) and the Pan African Malaria Control Association (PAMCA)

SHORT COURSES/TRAININGS

2024. Equitable Partnerships Programme, Accra, Ghana.

2024: Kenya Africa Science Leadership Programme; Nairobi Kenya, August 2024

2023: Wellcome Trust Sanger Institute MalariaGEN-PAMCA training course in data analysis for genomic surveillance of African malaria vectors -7th of June to the 26th of July 2023.

2022: Advanced Epidemiological Analysis. 5-6 September 2022. London School of Hygiene and Tropical Medicine, UK

2022: Professional and Communications Training for Scientists, 23-27th May, 2022. ICTP, Italy

2021: National Research Fund Training on Research Capacity (Kisumu Hotel), 11th -13th May 2021

2021: 6th African Research Excellence Fund Essential Grant Writing Skills Workshop (15th Jan 2021)

2020: Research Methods Certificate Course -Kenya Medical Research Institute, 11th -15th May 2020

2019: Media Skills for Scientists online course by Script SciDev.Net training

2019: The Art of Presenting Science- Radboud University Medical Centre, Nijmegen, The Netherlands

INTERNATIONAL CONFERENCE PROCEEDINGS

- ANTI-VeC Network Meeting: Genetic and Symbiont-based Control Approaches for Vector Control', 26-28 February 2023, Kilifi, Kenya. **Poster**
- Pan Africa Mosquito Control Association PAMCA meeting, 26-28th Sept, Kigali Rwanda. **Poster**
- American Society of Tropical Medicine and Hygiene. **Oral**. Virtual 17-21 November 2021
- American Society of Tropical Medicine and Hygiene. **Poster** Virtual 15-19 November 2020
- Keystone Symposium The Malaria Endgame: Innovation in Therapeutics, Vector Control and Public Health Tools in Addis Ababa, Ethiopia November 2019. **Poster presentation**
- LSHTM Malaria Center meeting April 2019 Oxford, United Kingdom. **Oral presentation**
- Radboud Center for Infectious Diseases . December 2018, Nijmegen, the Netherlands. **Oral**
- MIM Multilateral Initiatives on Malaria April 2018 Dakar, Senegal: **Oral presentation**
- Malaria: From Innovation to Eradication (B5) February 2017, Speke Resort & Conference Centre, Kampala, Uganda. **Poster presentation**
- American Society of Tropical Medicine and Hygiene (ASTMH 65th Annual Meeting November 13-17, 2016, Atlanta Marriott Marquis, Atlanta, Georgia, United States. **Poster presentation**
- São Paulo Schools of Advanced Science – Science of Malaria Eradication: October 2015. School of Public Health, University of São Paulo, São Paulo, Brazil. **Poster presentation.**
- 2nd South African Malaria Research Conference. Towards Malaria elimination: Research, Innovation and Education. August 2016. Pretoria, South Africa. **Oral presentation.**
- 1st South African Malaria Research Conference. Investing in elimination. August 2015. Durban, South Africa. **Oral presentation.**

SELECTED PUBLICATIONS

Complete list of my publication can be found https://www.ncbi.nlm.nih.gov/myncbi/shehu_shagari.awandu.1/bibliography/public/

- 1) Collins KA, Ouedraogo A, Guelbeogo WM, Soulama I, Ouattara MS, Sombie S, Ouedraogo N, Coulibaly AS, Nombre A, Lanke K, Ramjith J, **Awandu SS**, Serme SS, Henry N, Stone W, Ouedraogo IN, Diarra A, Holden TM, Sirima SB, Bradley J, Soremekun S, Selvaraj P, Gerardin J, Drakeley C, Bousema T, Tiono AB. Effect of weekly fever-screening and treatment and monthly RDT testing and treatment on the infectious reservoir of malaria parasites in Burkina Faso: a cluster-randomised trial. *Lancet Microbe*. 2024 Sep;5(9):100891. doi: 10.1016/S2666-5247(24)00114-9. Epub 2024 Jul 25. PubMed PMID: 39068937.
- 2) Akinyi I, Ouma OJ, Ogutu S, Ogola E, Owenga J, Ayodo G, Omondi D, **Awandu SS**, Vanden Broeck D, Redzic N, Pereira AR, Bogers J. HPV infection patterns and viral load distribution: implication on cervical cancer prevention in Western Kenya. *Eur J Cancer Prev*. 2024 Aug 29; . doi: 10.1097/CEJ.0000000000000920. [Epub ahead of print] PubMed PMID: 39230048.
- 3) Akinyi I, **Awandu SS**, Broeck DV, Pereira AR, Redzic N, Bogers J. Prevalence and genotype distribution of potential high-risk and high-risk human papillomavirus among women attending selected reproductive health clinics in lake victoria basin-kenya: a cross-sectional study. *BMC Womens Health*. 2024 Aug 24;24(1):468. doi: 10.1186/s12905-024-03303-9. PubMed PMID: 39182068; PubMed Central PMCID: PMC11344458.
- 4) Odongo DO, Osir E, **Awandu SS**. An evaluation of physical access barriers to COVID-19 vaccines uptake among persons with physical disabilities in western Kenya. *BMC Public Health*. 2024 Apr 22;24(1):1112. doi: 10.1186/s12889-024-18592-w. PubMed PMID: 38649905; PubMed Central PMCID: PMC11036731.
- 5) Simbeye AJ, Kumwenda S, Cohee LM, Omondi D, Masibo PK, Wao H, **Awandu SS**. Factors associated with malaria vaccine uptake in Nsanje district, Malawi. *Malar J*. 2024 Apr 17;23(1):105. doi: 10.1186/s12936-024-04938-7. PubMed PMID: 38627704; PubMed Central PMCID: PMC11022426.
- 6) Oloo MA, **Awandu SS**, Onyango B, Magwanga RO, Oluoch AO, Lidechi S, Muok EM, Munga S, Estambale B. Comparative analysis of SARS-CoV-2 detection methods using stool, blood, and nasopharyngeal swab samples. *Pan Afr Med J*. 2023;46:21. doi: 10.11604/pamj.2023.46.21.39483. eCollection 2023. PubMed PMID: 38107343; PubMed Central PMCID: PMC10724033.
- 7) Olewe PK, **Awandu SS**, Munde EO, Anyona SB, Raballah E, Amolo AS, Ogola S, Ndenga E, Onyango CO, Rochford R, Perkins DJ, Ouma C. Hemoglobinopathies, merozoite surface protein-2 gene polymorphisms, and acquisition of Epstein Barr virus among infants in Western Kenya. *BMC Cancer*. 2023 Jun 20;23(1):566. doi: 10.1186/s12885-023-11063-2. PubMed PMID: 37340364; PubMed Central PMCID: PMC10280846.
- 8) Delylah Ondieki E, Cherono Barsosio H, Omondi Obinge E, **Shagari Awandu S**. Knowledge, attitude and practice of COVID-19 preventive measures among pregnant women in antenatal clinics in western Kenya. *J Infect Dev*

- Ctries. 2022 Dec 31;16(12):1800-1808. doi: 10.3855/jidc.17070. PubMed PMID: 36753645.
- 9) **Awandu SS**, Ochieng Ochieng A, Onyango B, Magwanga RO, Were P, Atieno Ochung' A, Okumu F, Oloo MA, Katieno JS, Lidechi S, Ogutu F, Awuor D, Kirungu JN, Orata F, Achieng J, Oure B, Nyunja R, Muok EMO, Munga S, Estambale B. High seroprevalence of Immunoglobulin G (IgG) and IgM antibodies to SARS-CoV-2 in asymptomatic and symptomatic individuals amidst vaccination roll-out in western Kenya. *PLoS One*. 2022;17(12):e0272751. doi: 10.1371/journal.pone.0272751. eCollection 2022. PubMed PMID: 36548358; PubMed Central PMCID: PMC9778630.
 - 10) Barry A, **Awandu SS**, Tiono AB, Grignard L, Bousema T, Collins KA. Improved Detectability of *Plasmodium falciparum* Clones with Repeated Sampling in Incident and Chronic Infections in Burkina Faso. *Am J Trop Med Hyg*. 2021 Nov 1;106(2):664-666. doi: 10.4269/ajtmh.21-0493. PubMed PMID: 34724629; PubMed Central PMCID: PMC8832917.
 - 11) Meibalan E, Barry A, Gibbins MP, **Awandu S**, Meerstein-Kessel L, Achcar F, Bopp S, Moxon C, Diarra A, Debe S, Ouédraogo N, Barry-Some I, Badoum ES, Fagnima T, Lanke K, Gonçalves BP, Bradley J, Wirth D, Drakeley C, Guelbeogo WM, Tiono AB, Marti M, Bousema T. *Plasmodium falciparum* Gametocyte Density and Infectivity in Peripheral Blood and Skin Tissue of Naturally Infected Parasite Carriers in Burkina Faso. *J Infect Dis*. 2021 May 28;223(10):1822-1830. doi: 10.1093/infdis/jiz680. PubMed PMID: 31875909; PubMed Central PMCID: PMC8161640.
 - 12) Barry A, Bradley J, Stone W, Guelbeogo MW, Lanke K, Ouedraogo A, Soulama I, Nébié I, Serme SS, Grignard L, Patterson C, Wu L, Briggs JJ, Janson O, **Awandu SS**, Ouedraogo M, Tarama CW, Kargougou D, Zongo S, Sirima SB, Marti M, Drakeley C, Tiono AB, Bousema T. Higher gametocyte production and mosquito infectivity in chronic compared to incident *Plasmodium falciparum* infections. *Nat Commun*. 2021 Apr 26;12(1):2443. doi: 10.1038/s41467-021-22573-7. PubMed PMID: 33903595; PubMed Central PMCID: PMC8076179.
 - 13) **Awandu SS**, Raman J, Bousema T, Birkholtz LM. Ultralow-density *Plasmodium falciparum* Infections in African Settings. *Clin Infect Dis*. 2019 Sep 27;69(8):1463-1464. doi: 10.1093/cid/ciz147. PubMed PMID: 30763434; PubMed Central PMCID: PMC6763629.
 - 14) Collins KA, Ouedraogo A, Guelbeogo WM, **Awandu SS**, Stone W, Soulama I, Ouattara MS, Nombre A, Diarra A, Bradley J, Selvaraj P, Gerardin J, Drakeley C, Bousema T, Tiono A. Investigating the impact of enhanced community case management and monthly screening and treatment on the transmissibility of malaria infections in Burkina Faso: study protocol for a cluster-randomised trial. *BMJ Open*. 2019 Sep 13;9(9):e030598. doi: 10.1136/bmjopen-2019-030598. PubMed PMID: 31519680; PubMed Central PMCID: PMC6747640.
 - 15) Graumans W, Andolina C, **Awandu SS**, Grignard L, Lanke K, Bousema T. *Plasmodium falciparum* Gametocyte Enrichment in Peripheral Blood Samples by Magnetic Fractionation: Gametocyte Yields and Possibilities to Reuse Columns. *Am J Trop Med Hyg*. 2019 Mar;100(3):572-577. doi: 10.4269/ajtmh.18-0773. PubMed PMID: 30608048; PubMed Central PMCID: PMC6402936.
 - 16) Mooney JP, Barry A, Gonçalves BP, Tiono AB, **Awandu SS**, Grignard L, Drakeley CJ, Bottomley C, Bousema T, Riley EM. Haemolysis and haem oxygenase-1 induction during persistent "asymptomatic" malaria infection in Burkinabé children. *Malar J*. 2018 Jul 6;17(1):253. doi: 10.1186/s12936-018-2402-6. PubMed PMID: 29980206; PubMed Central PMCID: PMC6035425.
 - 17) **Awandu SS**, Raman J, Makhanthisa TI, Kruger P, Frean J, Bousema T, Niemand J, Birkholtz LM. Understanding human genetic factors influencing primaquine safety and efficacy to guide primaquine roll-out in a pre-elimination setting in southern Africa. *Malar J*. 2018 Mar 20;17(1):120. doi: 10.1186/s12936-018-2271-z. PubMed PMID: 29558929; PubMed Central PMCID: PMC5859786.
 - 18) Stresman GH, Giorgi E, Baidjoe A, Knight P, Odongo W, Owaga C, **Shagari S**, Makori E, Stevenson J, Drakeley C, Cox J, Bousema T, Diggle PJ. Impact of metric and sample size on determining malaria hotspot boundaries. *Sci Rep*. 2017 Apr 12;7:45849. doi: 10.1038/srep45849. PubMed PMID: 28401903; PubMed Central PMCID: PMC5388846.
 - 19) Baidjoe AY, Stevenson J, Knight P, Stone W, Stresman G, Osoti V, Makori E, Owaga C, Odongo W, China P, **Shagari S**, Kariuki S, Drakeley C, Cox J, Bousema T. Factors associated with high heterogeneity of malaria at fine spatial scale in the Western Kenyan highlands. *Malar J*. 2016 Jun 4;15:307. doi: 10.1186/s12936-016-1362-y. PubMed PMID: 27259286; PubMed Central PMCID: PMC4893231.
 - 20) Bousema T, Stresman G, Baidjoe AY, Bradley J, Knight P, Stone W, Osoti V, Makori E, Owaga C, Odongo W, China P, **Shagari S**, Doumbo OK, Sauerwein RW, Kariuki S, Drakeley C, Stevenson J, Cox J. The Impact of Hotspot-Targeted Interventions on Malaria Transmission in Rachuonyo South District in the Western Kenyan Highlands: A Cluster-Randomized Controlled Trial. *PLoS Med*. 2016 Apr;13(4):e1001993. doi: 10.1371/journal.pmed.1001993. eCollection 2016 Apr. PubMed PMID: 27071072; PubMed Central PMCID: PMC4829260.
 - 21) Stresman GH, Baidjoe AY, Stevenson J, Grignard L, Odongo W, Owaga C, Osoti V, Makori E, **Shagari S**, Marube E,

- Cox J, Drakeley C, Bousema T. Focal Screening to Identify the Subpatent Parasite Reservoir in an Area of Low and Heterogeneous Transmission in the Kenya Highlands. *J Infect Dis.* 2015 Dec 1;212(11):1768-77. doi: 10.1093/infdis/jiv302. Epub 2015 May 27. PubMed PMID: 26019285.
- 22) Baidjoe A, Stone W, Ploemen I, **Shagari S**, Grignard L, Osoti V, Makori E, Stevenson J, Kariuki S, Sutherland C, Sauerwein R, Cox J, Drakeley C, Bousema T. Combined DNA extraction and antibody elution from filter papers for the assessment of malaria transmission intensity in epidemiological studies. *Malar J.* 2013 Aug 2;12:272. doi: 10.1186/1475-2875-12-272. PubMed PMID: 23914905; PubMed Central PMCID: PMC3750228.