

James Nonoh Ph.D.

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EDUCATION

2013: Ph.D. Microbiology; Max Planck institute for terrestrial Microbiology/ Philips University, Marburg, Germany.

2008: MSc. Microbiology; Jomo Kenyatta University of Agriculture and Technology (JKUAT), Nairobi, Kenya.

2001: BSc. Biological Sciences (Microbiology majors); Jomo Kenyatta University of Agriculture and Technology (JKUAT), Nairobi, Kenya.

RESEARCH EXPERIENCE

Several years research experience and have won the following grants:

2024: Malaria project: Human Foot Bacterial Communities Producing Chemical Constituents that Mediate Attraction of Malaria Vector *Anopheles gambiae* to the Preferred Feeding Site (2024). Awarded to Dr. **James Nonoh** (as PI), Prof. Ahmed Hassanali, Dr. Paul Mireji and Prof. Maurice Omolo. NRF multidisciplinary research grant.

2017: Malaria project: Human Foot Bacterial Communities Producing Chemical Constituents that Mediate Attraction of Malaria Vector *Anopheles gambiae* to the Preferred Feeding Site (2017). Awarded to Dr. **James Nonoh** (as PI), Prof. Ahmed Hassanali, Dr. Paul Mireji and Prof. Maurice Omolo. NRF multidisciplinary research grant.

2017: Jiggers project: Bio-prospecting for Phytochemical Repellants and bio-pesticides of the Jigger Flea *Tunga penetrans* from the Western Kenya Flora (2017). Awarded to Prof. Maurice Omolo (as PI), Dr. **James Nonoh** (co-PI), and others. NRF multidisciplinary research grant. Amount.

2017: Foot Bacterial mediators of malaria vector attraction: Identification of human foot bacterial profile responsible for production of constituents that modulate level of attraction of malaria vector *Anopheles gambiae* (2017). Awarded to Dr. **James Nonoh** (as PI), and Dr. Anthony Kebira as Co-Investigator. KU-VC research grant.

I also have won the following grants with students:

2017: James Muhunyu Gathiru (2017): Profiles of human foot microbiota of individuals with differential attraction to *Anopheles gambiae* in a malaria endemic region in Kenya. NRF MSc research grant.

2015: Regina Mongina Ntobo (2015-2017): Isolation and characterization of bioactive endophytic bacteria associated with selected plants in Kenyan mangrove forests. KU Vice Chancellor's PhD research grant.

I have been research assistant at the following institutions:

2005 – 2009: Senior Research Assistant, Applied Bioprospecting Programme, International Center

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of Insect Physiology and Ecology (ICIPE), Nairobi, Kenya.

2002 – 2004: Research Assistant, Applied Bioprospecting Programme, International Center of Insect Physiology and Ecology (ICIPE), Nairobi, Kenya.

January to June 2000: Research Intern, Ecosystems Rehabilitation Programme, World Agro-forestry center (ICRAF), Nairobi, Kenya.

TEACHING EXPERIENCE

Teaching and examination administration

I have been involved in teaching and administering exams to both undergraduate and postgraduate students for over 10 years.

October 2018 – Date: Senior Lecturer, Department of Biomedical Sciences and Technology, School of Public Health, Maseno University.

September 2014 – September 2018: Lecturer, Department of Microbiology, School of Pure and Applied Sciences, Kenyatta University.

August 2013 – August 2014: Lecturer, Department of Applied and Technical Biology, School of Biological and Life Sciences, Technical University of Kenya.

Supervision of postgraduate students

I have successfully supervised several PhD and Masters Students to completion.

Currently, several postgraduate students are under my supervision at different stages of their research work.

HONORS AND AWARDS

2012: Travel grant from the International Max Planck Research School to participate at the 14th international symposium on Microbial Ecology (ISME) Copenhagen, Denmark, 2012.

2011: Travel grant from the International Max Planck Research School to participate at the annual meeting of VAAM (Association for General and Applied Microbiology), Karlsruhe, Germany, 2011.

2009: German Academic Exchange (DAAD) scholarship for PhD study in Environmental and microbial Ecology at the Max Planck Institute for Terrestrial Microbiology, Germany.

2009: German Academic Exchange (DAAD) sponsorship for an Intensive German Language Course at the Speak and Write (S+W) Institute in Marburg, Germany.

2005: ICIPE Dissertation Research Internship Programme (DRIP) scholarship for MSc. Study in Microbiology at JKUAT, Nairobi, Kenya.

2000: Babaroa Trust Award (JKUAT) for academic excellence in Biological Sciences.

1999: Babaroa Trust Award (JKUAT) for academic excellence in Biological Sciences.

PROFESSIONAL MEMBERSHIP

I am affiliated to the following professional bodies:

- Member, DAAD scholars association.
- Associate member of International Society for Microbial Ecology (ISME).

- Associate member of German Society for General and Applied Microbiology (VAAM).
- Member, International Max Planck Research School (IMPRS) for Environmental, Cellular and Molecular Microbiology.
- Member, Kenya Society of Microbiology (KSM).
- Associate member of Biochemical Society of Kenya (BSK).
- Associate member of American Society of Microbiology (ASM).

SKILLS AND TRAINING

2023: Research Ethics

2022: Attended a workshop on Malaria Surveillance Mentorship Training, Organized by USAID, Ufanisi Hotel, Kisii, Kenya, (Dec. 6-8th, 2022).

2019: Training on Collaborative Research Grant writing and Applications, organized by National Commission for Science, Technology and Innovation (NACOSTI) and International Center for Genetic Engineering and Biotechnology (ICGEB) at KICC, Nairobi, Kenya, (5th- 6th August 2019).

2017: In-house training on setting and marking exams, organized by Centre for Teaching Excellence & Research Training, BSSC room 14, Kenyatta University, Kenya, (5th- 6th April 2017).

2016: Training on Chemo-Ecology and Chemosensory control of Disease vectors, organized by Biotechnology Research Institute, Yale University (USA) and Kenyatta University at BRI-KARLO, Muguga, Kenya, (31st Dec- 5th November 2016).

2016: In-house Campusvue training on bulk score upload tool in the faculty portal in the main campus, organized by the directorate of ICT, BSSC room 276, Kenyatta University, Kenya, (20th- 23rd September 2016).

2010: Good Scientific Practices, Max-Planck Institute for terrestrial Microbiology, Marburg, Germany, (10th- 13th December 2010).

2008: Molecular microbial ecology, Max-Planck Institute for terrestrial Microbiology, Marburg, Germany. (10th November- 19th December 2008).

2004: Use of molecular techniques in identification and quantification of non-culturable bacteria, Kenyatta University, Kenya, (4th- 8th October 2004).

2004: Training on Bioinformatics, Egerton University, Kenya, (6th- 8th September 2004).

2004: Molecular characterization of fungi and bacteria, ICIPE, Nairobi, Kenya, (24th- 28th May 2004).

LEADERSHIP EXPERIENCE

Sept. 2024 - Date: Head of Department, Department of Biomedical Science and Technology, Maseno University, Kisumu, Kenya.

July 2024: Member, Vice Chancellor's Ad-hoc Committee to address Issues raised by Public Health Officers and Technicians Council (PHOTCK).

March 2024: Member, Vice Chancellor's Appeals Committee to address Maseno University Students Examination Irregularity Appeals cases.

May 2020 – Sept. 2024: Examinations and Timetabling coordinator, Department of Biomedical Sciences and Technology, Maseno University, Kisumu, Kenya.

Sept. 2020 – Date: Member, Directorate of Research, Publications and Innovations (RPI) Board, Maseno University, Kisumu, Kenya.

Nov. 2019 - Date: Chairman, School curriculum development and review committee, School of Public Health and Community Development, Maseno University, Kisumu, Kenya.

Oct. 2017- Oct. 2018: Chairman, Departmental Board of Postgraduate Studies, School of Pure and Applied Sciences, Kenyatta University, Nairobi, Kenya.

2016: Together with others, reviewed the Bachelor of Science in Microbiology curriculum at the Department of Microbiology, School of Pure and Applied Sciences, Kenyatta University to be in line with Commission for University Education (CUE) format.

Oct. 2015- Oct. 2018: Chairman, Departmental Board of Undergraduate Studies, Department of Microbiology, Kenyatta University, Nairobi, Kenya.

Sept. 2015- Dec. 2018: Member, Faculty consultancy coordination committee, School of Pure and Applied Sciences, Kenyatta University, Nairobi, Kenya.

Sept. 2014- Dec. 2018: Member, Departmental curriculum development and review committee, Department of Microbiology, Kenyatta University, Nairobi, Kenya.

Sept. 2014- Dec. 2018: Member, Departmental examinations moderation committee, Department of Microbiology, Kenyatta University, Nairobi, Kenya.

Feb. - Sept. 2014: Member, Faculty curriculum development and review committee, Faculty of Applied Sciences and Technology, Technical University of Kenya, Nairobi, Kenya.

Jan. – Sept. 2014: Chairman, Committee for development of curriculum for the newly created department of Ecology and Conservation Biology, Faculty of Applied Sciences and Technology, Technical University of Kenya, Nairobi, Kenya.

Aug. 2013- August 2014: Examinations coordinator, Department of Applied and Technical Biology, Technical University of Kenya, Nairobi, Kenya.

2014: Together with others, developed Bachelor of Technology in Ecology and Biodiversity Conservation, at the Department of Ecology and Conservation Biology, School of Biological and Life Sciences, Technical University of Kenya (**Chairman of the committee**).

2014: Together with others, developed Bachelor of Technology in Environmental Biology at the Department of Ecology and Conservation Biology, School of Biological and Life Sciences, Technical University of Kenya (Chairman of the committee).

CONFERENCES AND WORKSHOPS

2022: Attended a workshop on Malaria Surveillance Mentorship Training, Organized by USAID, Ufanisi Hotel, Kisii, Kenya, Dec. 6-8th, 2022.

2019: Attended a workshop on Collaborative Research Grant writing and Applications, organized by National Commission for Science, Technology and Innovation (NACOSTI) and International Center for Genetic Engineering and Biotechnology (ICGEB) at KICC, Nairobi, Kenya, August 5-6th 2019.

2016: Invited as a guest speaker on the topic “Ecology of bacterial mediators of vector attraction to preferred hosts” at the Training Workshop on Chemo-Ecology and Chemosensory control of

Disease vectors, organized by Biotechnology Research Institute, Yale University (USA) and Kenyatta University at BRI-KARLO, Muguga, Kenya, (31st November - 5th December 2016).

- 2013:** Attended and gave oral presentation on “Analysis of microbial communities using phylogenetic and functional marker genes” at an international workshop on a network for capacity building in molecular biology and bioinformatics organized by Alexander Von Humboldt Foundation and Taita Taveta University at ICIPE, Nairobi, Kenya, (November 2013).
- 2013:** Attended and gave oral presentation on Current status of termites as a source of the global atmospheric greenhouse gas methane and Biodiversity of archaea in higher termites, Humboldt-Kolleg, organized by Alexander Von Humboldt Foundation and Technical University of Kenya at Boma Hotel, Nairobi, Kenya (April 9th to 12th, 2013).
- 2012:** Attended and presented a poster on Community structure of archaea and potential rates of methanogenesis in the guts of higher termites. 14th session of the Annual meeting of International Society for Microbial Ecology (ISME), Copenhagen, Denmark (August 19th to 24th, 2012).
- 2012:** Attended and presented a poster on Enrichment of a novel lineage of methanogenic archaea distantly related to the Thermoplasmatales from the intestinal tract of termites. 14th session of the Annual meeting of International Society for Microbial Ecology (ISME), Copenhagen, Denmark (August 19th to 24th, 2012).
- 2012:** Attended and gave oral presentation on Archaeal biodiversity of higher termites. Humboldt-Kolleg, organized by Alexander Von Humboldt Foundation and Taita Taveta University at Sarova Salt Lick Lodge, Taita Hills, Kenya, (July 17th to 21st, 2012).
- 2011:** Attended and presented a poster on Deep-branching lineage of Euryarchaeota colonizing the guts of higher termites represents a new order of methanogens. Annual meeting of VAAM (Association for General and Applied Microbiology), Karlsruhe, Germany (April 3rd to 6th, 2011).
- 2011:** Attended and presented a poster on Diversity and distribution of methanogens in higher termites. 2nd VAAM (Association for General and Applied Microbiology) Fachgruppe, Symbiotic Interactions, Wurzburg, Germany (October 7th to 8th, 2010).
- 2010:** Attended and gave oral presentation on Enzymatic activity of selected novel *Streptomyces* species from JKUAT farm soil. JKUAT Annual Scientific Conference, Nairobi, Kenya (November 17th to 18th, 2010).
- 2010:** Attended and gave oral presentation on Growth characteristics and production of secondary metabolites from selected novel *Streptomyces* species. JKUAT Annual Scientific Conference. Nairobi, Kenya (November 17th to 18th, 2010).
- 2007:** Attended and gave oral presentation on Isolation and characterization of actinobacteria producing secondary metabolites with potential for control of *Fusarium* sp. and *Collectotrichum kahawae*. JKUAT Annual Scientific Conference. Nairobi, Kenya (October 25th to 26th, 2007).

PUBLICATIONS

- 2023:** Protasov E, Nonoh JO, Kästle Silva JM, Mies US, Hervé V, Dietrich C, Lang K, Mikulski L, Platt K, Poehlein A, Köhler-Ramm T, Miambi E, Boga HI, Feldewert C, Ngugi DK, Plarre R, Sillam-Dussès D, Šobotník J, Daniel R and Brune A (2023). Diversity and taxonomic revision of methanogens and other archaea in the intestinal tract of terrestrial arthropods. *Front. Microbiol.* 14:1281628. doi: 10.3389/fmicb.2023.1281628.

- 2023:** Kagika, M. W., Chhabra, S.C., Nonoh J.O.M. and Hassanali, A. (2023). Antimicrobial Activities of Some Constituents Isolated from a Kenyan Medicinal Plant, *Capparis fascicularis* DC. *Journal of Chemistry*, 2023: 1-17.
- 2023:** Omondi, C., Nonoh J. and Ntabo, R. (2023). Characterization of *Anopheles funestus* Larval Habitats in Kenya: Insights into Malaria Vector Ecology and Control. *European Journal of Ecology*, 9(2): 40-51.
- 2023:** Mutinda, J., Mwamburi, S.M., Oduor, K.O., Omolo, M.V., Ntabo, R.M., Gathiru, J.M., Mwangangi, J. and Nonoh J.O.M. (2023). Profiles of bacterial communities and environmental factors associated with proliferation of malaria vector mosquitoes within the Kenyan Coast. *Access Microbiology*, 5(8): 1-37.
- 2022:** Ogumbo, F., Odero, R., Odhiambo, B., Emojong P., Odoyo, A., Okumu A., Nonoh J., Guya B. and Wandiga, S. (2022). Comparison of Geno type MTBDRplus with Bactec MGIT 960 for Isoniazid and Rifampicin *Mycobacterium tuberculosis* Drug Resistance Monitoring in HIV Predominant Region of Western Kenya. *International Journal of Innovation Scientific Research and Review*, 4(8): 3183-3189.
- 2022:** Ogumbo, F., Odero, R., Odhiambo, B., Emojong P., Odoyo, A., Okumu A., Nonoh J., Guya B. and Wandiga, S. (2022). Profiles of Isoniazid and Rifampicin drug resistance conferring mutations in *Mycobacterium tuberculosis* among new and previously treated pulmonary tuberculosis cases from Kisumu County, Kenya. *East African Journal of Science, Technology, and Innovation*, 3(4): 1-17.
- 2022:** Ogumbo F., Odero R., Odhiambo B., Emojong P., Okumu Albert., Nonoh J., Wandiga S. and Guya B. (2022). Isoniazid and Rifampicin Tuberculosis Drug Resistance in HIV Endemic Region of Western Kenya. *East Africa Science Journal*, 6(1): 37-47.
- 2021:** Wavinya, F., Omolo, M., Malebo, H., Sifuna, A., Nyongesa, P. and Nonoh, J. (2021). Antibacterial Activity of Honey from Wild Species of Stingless Bees; *Plebeinia hylderbrandii* and *Meliponula bocandei*. *Journal of Biosciences and Medicines*, 9, 67-84.
- 2021:** Musonye H.A., Njeru E.M., Hassanali A., Langata L.M. and Nonoh J. (2021). Molecular Identification and Antibiotic Susceptibility Patterns of Bacterial Isolates from Urine Samples of African Buffalo, Eland and Cattle. *International Journal of Applied Biology*, 5(1): 1-12.
- 2021:** Onyango K.O., Nyamache A.K., Mabeya S.N. and Nonoh J. (2021). Hepatitis B and C virus co-infections and genetic diversity among hiv-1 infected individuals in Siaya County, Kenya. *East African Medical Journal*, 98(2): 3508-3518.
- 2019:** Gatheru J.W., Khamis F.M., Ombura F.L.O., Nonoh J., Tanga C.M., Maina J., Mohamed S.A., Subramanian S., Ekesi S and Fiaboe K.K.M. (2019). Impacts of processing methods on microbial load of reared and wild-caught edible crickets (*Scapsipedus icipe* and *Gryllus bimaculatus*) in Kenya. *Journal of Insects as Food and Feed*, 5(3): 171-183.
- 2019:** Musonye H.A., Njeru E.M., Hassanali A., Langata L.M., Mijeje D., Kaitho T., King'ori E. and Nonoh J. (2019). 16S rRNA gene profiling of bacterial communities mediating production of tsetse attractive phenols in mammalian urine. *Onderstepoort Journal of Veterinary Research OJVR*, 86: 1-12.
- 2019:** Ogari C.O., Kebira A.N., Nonoh J. and Amukoye, E. (2019). Prevalence and detection of drug resistant mutations in *Mycobacterium tuberculosis* among drug naïve patients in Nairobi, Kenya. *BMC infectious Diseases*, 19: 279-285.
- 2018:** Ntabo R.M., Kebira A.N., Lwande W., Kabii, J. and Nonoh J. (2018). Enzymatic activity of endophytic bacterial isolate from selected mangrove plants in Kenya. *The Open Microbiology Journal*, 12: 354-363.
- 2018:** Obare B. A., Yole, D., Nonoh J. and Lwande W. (2016). Evaluation of cercaricidal and miracidal activity of selected plant extracts against larval stages of *Schistosoma mansoni*. *Journal of Natural Sciences Research*, 6: 24-31.

- 2018:** Obare B. A., Yole, D., Nonoh J. and Lwande W. (2016). Molluscicidal activity of selected plant extracts against adult and juvenile *Biomphalaria pfeifferi*. *Journal of Biology, Agriculture and Healthcare*, 6: 31-38.
- 2015:** Rossmassler K., Dietrich C., Thompson C., Mikaelyan A., Nonoh J.O., Scheffrahn R.H., Sillam-Dussès D. and Brune A. (2015). Metagenomic analysis of the microbiota in the highly compartmented hindguts of six wood- or soil-feeding higher termites. *Microbiome*, 3:56.
- 2012:** Kristina P., Nonoh J.O., Mikulski L. and Brune A. (2012). “Methanoplasmatales,” Thermoplasmatales-related archaea in termite guts and other environments, are the Seventh order of methanogens. *Applied and Environmental Microbiology*, 78: 8245-8253.
- 2012:** Nonoh J.O, Lwande W., Masiga D., Herrmann R., Presnail J.K., Schepers E., Okech M.A., Mungai P., Nyende A.B. and Boga H.I. (2010). Isolation and characterization of *Streptomyces* species with antifungal activity from selected National Parks in Kenya. *African Journal of Microbiology Research*, 4: 856-864.

Book Chapter

- 2017:** Obare B. A., Yole, D., Nonoh J. and Lwande W. (2017). A biorational for control of host snails, larvae of *Anopheles gambiae* and *Schistosoma mansoni*. In: Fymat L. A and Kapalanga J (eds). *Science Research and Education in Africa. Proceedings of a Conference on Science Advancement*. Cambridge scholars publishing. Toronto, Canada.