



KENYA MEDICAL RESEARCH INSTITUTE

VACANCY ANNOUNCEMENT

Opening date: February 2, 2022

Vacancy: CGHR/01/250/22

Project description: Genomics of African Vectors for NMCP Management of Insecticide Resistance (GAVENIR) project was designed to develop the capacity of African Scientists to use next-generation sequencing (NGS) data to inform their insecticide resistance management (IRM) strategies. This project was initiated under a Grand Challenges grant, to train African scientists on proper sample collection and preservation for NGS; provide hands-on training on NGS library prep and wet-lab procedures; provide introductory bioinformatics training and sequence RNA libraries to investigate transcriptomic markers of insecticide resistance. The project has recently received a follow-on grant to expand project activities in collaboration with the University of Abomey-Calavi in Benin, US Centers for Disease Control and prevention (CDC) and H3A BioNet. This project seeks to fill the following position.

Position: Assistant Principal Research Scientist - Bioinformatician, **KMR 4 (1 Position)**

Location: Kisumu

Duration: One (1) year with a possibility of extension

Reporting to: Principal Investigator

Job Summary:

We are looking for a motivated Bioinformatician to join our research team in advancing the use of next generation systems of high-throughput RNA and DNA sequencing for informing malaria vector control policy. This individual will support research scientists and students by providing data analysis support for the teams in Kenya and Benin as they analyse RNAseq, WGS and other 'omics data through a virtual high-performance compute (HPC) server. The successful candidate should work well in a team environment, exercise great attention to detail, and have keen analytical insight. This is an exciting opportunity to be a part of a talented and dynamic team working on novel approaches for understanding insecticide resistance in malaria vectors in Africa.

Essential Requirements:

- a) A least PhD in Bioinformatics and/or Computational sciences OR a MSc degree in Bioinformatics with at least 5 years high level experience (equivalent to a senior scientist level).
- b) Expertise in genomics, population genetics, data science, computational biology
- c) Hands on experience with scripting languages such as Linux, Python, R and a strong grounding in biological sciences
- d) Familiarity with commonly used tools for variant detection (samtools, bowtie2, BWA, IGV, ANNOVAR, GATK) and file formats (BED, VCF, FASTQ, BAM, FASTA)
- e) Familiarity with commonly used and publicly available bioinformatics databases (e.g. GenBank, Uniprot, DDBJ, Ensemble, GEO, SRA, ExAC, ESP, ClinVar, VectorBase, KEGG, HGMD, OMIM, PubMed, UCSC)
- f) Experience designing bioinformatics experiments and/or providing oversight for the design of 'omics/bioinformatics experiments.
- g) Experience working with unstructured data sources, (experience with genome assembly)
- h) An understanding of genome sequencing technologies and strategies.
- i) Having a familiarity with Big Data analysis including data mining, complex data visualization.
- j) Strong interpersonal and communication skills (oral and written)
- k) Organized, Hardworking and independent – The candidate must be able to plan and implement their workplans within the required timelines

Desirable Attributes

- a. Enthusiastic and strong interest in mosquito genomics, insecticide resistance and vector control
- b. Experience with mathematical modelling and computational biology
- c. Strong project management, communication, and interpersonal skills
- d. Membership of relevant professional networks (h3A, ASBCB, EASCB, ISCB and ISMB)
- e. Previous work with mosquitoes, or knowledge and ecology of mosquitoes will be an added advantage
- f. Artificial Intelligence and Machine learning skills in design of appropriate statistical analysis of experimental data
- g. Experience working with high-performance computing
- h. Experience in successfully leading teams

Skills and abilities:

- a) Excellent organizational capability to structure and organize tasks and set priorities logically and effectively
- b) Results driven; ability to judiciously spend resources available to achieve the most optimal outcomes
- c) Ability to build and lead strong teams and achieve projected milestones
- d) Ability to identify potential problems and trouble-shoot solutions

Duties and Responsibilities:

- a) Participation in capacity building on bioinformatics by guiding MSc and PhD students on the project in both Kenya and Benin
- b) In charge of reception and storage of raw sequence data from the sequencing facilities, uploading to the high compute servers

- c) Take leadership in setting up virtual classroom discussions; small group discussions; data carpentry workshops, personalized virtual office hours with trainees on the statistical analyses of genomic data
- d) Participation in designing, review and update of the vector genomics and bioinformatics training curriculum
- e) Leadership in conceptualizing, innovating and development of new bioinformatic pipelines for analysis of genomic data
- f) Conduct bioinformatic analysis of raw sequence data to identify molecular markers associated with insecticide resistance in malaria vectors
- g) Attend conferences and workshops to disseminate research findings
- h) Leadership in drafting of technical reports, manuscripts, and outcomes of the project outputs
- i) Perform any other duties as assigned by the principal investigator

Applications should include the following:

1. Letter of Application (**Indicate Vacancy Number**)
2. Current Resume or Curriculum Vitae with Telephone number and e-mail address
3. Three letters of reference with contact telephone numbers
4. Copies of Academic Certificates and Transcripts
5. KRA tax compliance certificate
6. Certificate of good conduct

Terms of Employment: 1-year renewable contract as per KEMRI scheme of service and a Probation period for the first 3 months.

Apply to Deputy Director, CGHR, P.O. Box 1578-40100, Kisumu not later than no later than February 22,2022 and submit application via email address cghr@kemri.go.ke

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Only short-listed candidates will be contacted