UNIVERSITY OF GHANA

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Memorial Institute for Medical Research
University of Ghana
NMIMR

NEWSLETTER

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IN THIS ISSUE

EDITORIAL

UG_CHS@25 - A Legacy of Impact, A Future of Responsibility

The 25th anniversary of the University of Ghana's College of Health Sciences (CHS) stood as more than a ceremonial milestone. It marked a profound moment of reflection on a legacy built through knowledge, resilience, and an unwavering commitment to improving lives. For a quarter of a century, the College has shaped the landscape of health education, research, and healthcare delivery in Ghana and beyond, emerging as a cornerstone of the nation's health system.

From its official anniversary launch in May 2025 to the grand durbar, symposia, public lectures, sporting activities, recognition ceremonies, and thanksgiving service later in the year, the celebrations told a powerful story — one of growth, impact, and responsibility for the future.

The anniversary launch, and symposium at the West African Genetic Medicine Centre (WAGMC) set an intellectual and cultural tone for the celebrations. While the College's scientific and educational achievements were honoured, the symposium challenged participants to reflect on identity, dignity, and human experience, reminding all that health is deeply connected to history, culture, and self-worth. It was a fitting beginning for a college whose mandate extends beyond laboratories and lecture halls into the social fabric of society.

Throughout the year, CHS demonstrated that celebration and service can walk hand in hand. Public lectures addressed urgent health concerns such as chronic kidney disease and the role of dietary habits in prevention. Scientific discussions on genomics and breast cancer brought global research conversations into local relevance, emphasizing the need for African-led data, culturally sensitive care, and equitable health innovation. The sporting and wellness activities strengthened collegial bonds, reinforcing the idea that a healthy institution must also nurture community and wellbeing.

At the grand durbar, the College's leadership reflected on an extraordinary journey that began in year 2000. From modest beginnings, CHS has grown into a complex and influential academic body encompassing multiple schools, research institutes, and specialized centres across Legon and Korle Bu. Its alumni have become clinicians, scientists, policymakers, and educators whose work continues to shape healthcare systems across continents. The durbar did not dwell only on achievements; it also highlighted pressing needs, infrastructure expansion, faculty development, and equitable support for health professionals — demonstrating a College that is both proud of its past and honest about its challenges and future direction.

The fundraising dinner and recognition night brought another essential dimension into focus: gratitude. By honouring seventy-seven individuals — pioneers, leaders, faculty, administrators, and support staff — the College acknowledged that institutions are built not only by visionaries but also

by steady hands and faithful service. The call to support legacy projects, including modernizing examination systems through a large-scale computer laboratory, signaled a forward-looking commitment to innovation and sustainability.

The thanksgiving service that closed the celebrations offered a moment of spiritual reflection, grounding the year's activities in humility and appreciation. It served as a reminder that beyond strategy and statistics, the work of health scientists is ultimately about compassion, service, and the nurturing of future generations.

At twenty-five, the UG College of Health Sciences stood at a powerful intersection of legacy and possibility. It had helped redefine health education in Ghana, strengthened research capacity, and contributed solutions to some of the country's most pressing health challenges. Yet the message that echoed throughout the anniversary year was clear: the work is far from complete.

The next chapter calls for deeper partnerships, stronger investment in research and infrastructure, expanded training for the health workforce, and continued leadership in addressing emerging and re-emerging diseases as well as longstanding inequities. If the first twenty-five years were about building foundations and proving potential, the years ahead must be about scaling impact and shaping the future of healthcare in Africa.

The silver jubilee did not simply celebrate what the College of Health Sciences had achieved. It reaffirmed why the College exists — to transform lives through excellence in education, research, and healthcare. In doing so, it renewed a promise to generations past, present, and yet to come.

RESEARCH HIGHLIGHTS

Regional variations and socioeconomic factors influencing sex hormone profiles in adolescent girls in Ghana

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Abstract

Adolescence is a critical period of hormonal changes that affect growth, development, and behaviour. Estrogen, progesterone, and androgen are sex hormones that play important roles in reproductive development and functions. Factors including diet, Health care, and genetic variation affect hormone production/ levels. However, the effect of different environments has not been explored in detail. This study aimed to evaluate hormonal levels in adolescent girls from two regions in Ghana and their associated socioeconomic status.

One hundred and sixteen (116) blood samples were drawn from in- school adolescent girls aged 10–19 years who were involved in a qualitative study to explore adolescent girls' knowledge, perceptions and experiences of hormonal imbalance in Northern and Southern Ghana between June and October 2022. Their hormonal levels were assessed in respect of androgen, estrogen and progesterone to determine the influence of environmental and parents' socio-economic factors. Using the Enzyme-Linked Immunosorbent Assay (ELISA), serum levels were determined.

Generally, average serum levels of estrogen, androgen, and progesterone were 195.5 (29.2–899.2.0) pg/ml, 60.7 (8.2–687.3) pg/ml, and 46.0 (5.2–130.6) ng/ml respectively. When categorized by location, serum estrogen level was 195.8 (35.7–899.2) pg/ml in Northern Ghana compared to 195.3 (29.2– 899.2) pg/ml, in the south, p = 0.63. Androgen was 52.8 (8.2–687.3) pg/ml vs. 61.2 (16.0–683.33) pg/ml, p=0.81, and progesterone level was 53.3 (9.2– 130.6) ng/ml vs. 43.0 (5.2–111.3) ng/ml, p = 0.0019. Northern participants whose mothers did not have any formal education had higher androgen (p=0.009) and estrogen (p=0.0012) levels compared to those

from the south. Also, girls with educated fathers had higher progesterone levels (p = 0.03). The proportion of parental unemployment was low across locations. Other covariates did not influence hormonal levels (p > 0.05).
This study provides useful information on the hormonal profiles of adolescent girls in Ghana which can inform the School Health Education Programme's (SHEP) intervention activities related to reproductive health issues. The study shows that there were some variations in the levels of serum progesterone between the two locations with participants from Northern Ghana having higher levels. It also highlights the need for practices that address the differences in hormonal levels among adolescent girls based on the educational levels of mothers, recognizing its potential implications for their health, fertility, and well-being.

Anti-cancer potential of hydroethanolic extracts of *Kyllinga nemoralis*: an *in vitro* and *in-silico* studies

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Abstract
This study aims to investigate the antioxidant and anti-proliferative properties of *Kalinga nemoralis* to regulate the production and application of herbal preparations. The leaves, roots and the whole plant extracts of *Kyllinga nemoralis* (KNL, KNR and KNW) were evaluated for antioxidant capacity, flavonoid content (TFC), phenolic content (TPC), in vitro cytotoxicity using Folin-Ciocalteu, Aluminium Chloride colorimetric methods and DPPH (2, 2-diphenyl-1-picrylhydrazyl) and FRAP assays respectively. LC-MS chemical profile was obtained by Agilent HPLC system. The results obtained showed that, KNL extracts had the highest TFC (16421.33 ± 0.06 mg QE/g) followed by KNW (10531 ± 0.02 mg QE/g) and KNR extracts (4741±0.04 mg QE/g) with TFC/TPC ratio of 65.03, 58.50 and 23.75 respectively. The EC50 values of both DPPH and FRAP assays for the extracts ranged from 0.033 ± 0.07 to 4.10 ± 0.67 mg/mL. KNL and KNR had the strongest ferric reducing activity (EC50 values of 0.88±0.20 mg/mL and 1.52±0.36 mg/mL) while KNW had the least DPPH radical scavenging activity (2.48±0.35 µg/mL). The IC50 value for each extract was greater than 1000 µg/ml, indicating minimal cytotoxicity against PNT2 cell line. KNR and KNW exhibited the strongest inhibitory activity against the PC3 cell line with an IC50 values of 52.65 ± 1.11 and 53.20 ± 0.80 µg/mL respectively. KNL exhibited a good inhibitory activity against the cancer cell line with an IC50 value

of 68.54 ± 9.99. The selectivity indices of extracts were greater than 2. LC-MS profile showed four primary peaks representing combined plant constituents, with 12 recognized compounds and five undetermined compounds. Kyllinga nemoralis demonstrates antioxidant activity and antiproliferative effects against PC3 cell lines, attributed to its bioactive compounds. Among these, Flufenacet, Diazoxide, and N-(2-Hydroxyphenyl) piperazine exhibited the highest drug-likeness scores with significant bioactivity.

Modulating Ferroptosis in Aging: The Therapeutic Potential of Natural Products

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Abstract

Aging is a multifactorial process driven by accumulating cellular damage. Ferroptosis-an iron-dependent, lipid peroxidation-mediated form of cell death-has emerged as a critical contributor to age-related tissue degeneration. This review synthesizes current evidence linking ferroptosis to key aging hallmarks, including oxidative stress, chronic inflammation, mitochondrial dysfunction, and dysregulated iron metabolism. Central to these interactions is the age-associated decline in antioxidant defenses (e.g., glutathione, glutathione peroxidase 4 [GPx4]) and paradoxical iron dynamics, where systemic deficiency coexists with intracellular overload, promoting reactive oxygen species (ROS) generation via the Fenton reaction. Natural products such as resveratrol, curcumin, and epigallocatechin gallate (EGCG) exhibit promising anti-ferroptotic effects through mechanisms including iron chelation, ROS scavenging, and upregulation of endogenous antioxidants. Preclinical and clinical studies indicate their potential in reducing lipid peroxidation and enhancing cellular resilience in aging contexts. However, challenges such as poor bioavailability and tissue-specific iron dysregulation remain. This review explores how combinatorial approaches-targeting multiple ferroptosis pathways--may offer synergistic therapeutic benefits. Collectively, ferroptosis inhibition emerges as a promising strategy to mitigate age-associated tissue damage and promote healthy aging.

PERSONALITY PROFILE

Professor Samuel Kweku Dadzie is an Associate Prof. of Medical Entomology. He worked at the Parasitology Department of the Noguchi Memorial Institute for Medical Research and has over 29 years' experience in Medical Entomology. He holds a PhD in Vector Biology from the Liverpool School of Tropical Medicine, UK.

Prof. Dadzie's research interest focuses on vector biology with emphasis on the application of modern methods of control to address the burden of vector-borne diseases including arboviral diseases and Neglected Tropical Diseases (NTDs). Prof. Dadzie's contribution to vector research ecosystem is well known both locally and internationally. He has authored several policies and guidelines on malaria vector control for the National Malaria Elimination Program (NMEP) and continues to play pivotal role in the malaria elimination efforts in the country especially in generating vector surveillance data for Ghana.

Prof. Dadzie, since joining the institute in 1993, has nurtured several young scientists in Ghana and internationally and he is proud that most of them are currently in leadership positions in Ghana and across the world.

He continues to provide consultancy services to many national and international agencies such as the WHO, WAHO, National Institute for Health and AU-NEPAD on the use of Gene Drive Technology for the Control of Malaria in Africa, the Ghana Health Service through the National Malaria Elimination Program and other private and governmental

agencies. Prof. Dadzie won several grants with the institute and served as the Head of Parasitology Department of the institute from 2017-2021. Over the years, he has helped build the Vector Research Group in the Department of Parasitology and is very proud to showcase over 100 publications through his research work in high impact journals.

Prof Dadzie has forged several collaborations with scientists across the world including the CDC, the WHO and the West Africa Health Organization (WAHO), and in many other research institutions and universities. His pivotal role in enhancing the arboviral surveillance capacity of West African countries has been globally acknowledged. He is a founding member and currently the chair of the West African *Aedes* Surveillance Network (WAASuN). This network was formed to help build the capacity of West African countries in *Aedes* mosquito surveillance activities to enhance their outbreak prediction and emergency preparedness to *Aedes* transmitted diseases. Through this network, Prof. Dadzie has facilitated the organization of several workshops in Africa totrain medical entomologist on *Aedes* surveillance strategies and also helped WHO/TDR and WAHO develop Entomological Surveillance Protocols for *Aedes*-borne arboviruses which is currently being used in many countries in Africa.

Prof Dadzie recently joined a groundbreaking research partnership routed through a vibrant ecosystem of Epidemic Science Leadership and Innovation Networks (EPSILON) set to enhance Africa's preparedness and response to future health crises. This initiative is a multi-million-dollar funded project known as the Africa Pandemic Sciences Collaborative. The aim of the project is to nurture and equip young African scientists with the support of senior scientists across the African continent – to address the current and future challenges of epidemics and pandemics. Partners within the consortium include Institut de Recherche en Sciences de la Santé (IRSS), Burkina Faso (Professor Abdoulaye Diabate); Malaria Research & Training Center, Mali (Dr Adama Dao); Sya Innovation Center (SIC), Burkina Faso (Dr Léa Paré Toé) ; National Institute of Allergy and Infectious Diseases (NIH), USA (Prof. Tovi Lehmann); Max Planck Institute for Infection Biology, Germany (Dr Silvia Portugal).

In recognition of his efforts, he has been appointed a member of the WHO Yellow Fever Risk Assessment Working Group (RAWG), as well as the Vice-Chair of the Technical Advisory Group of the Global Arbovirus Initiative (GAI) of WHO. He is also currently chair of the Advisory Group for the Project "Improving fitness to face arboviral outbreaks in West Africa: development of community-led approaches for vector surveillance, control and risk prediction in Quagadougou, Burkina Faso" funded by NIHR. One remarkable achievement of Prof. Dadzie is the construction and equipping of a new vector surveillance laboratory (Ghana Armed Forces Entomology Center of Excellence) for the Public Health Unit of the 37 Military Hospital. This is the first of such a facility for the Defense forces in West Africa and was facilitated through a collaborative project with the Department of Defense (DOD) through Navy Entomology Center of Excellence (NECE) in the United States of America. Prof. has received several awards including the Excellence in Biomedical Research award by the US Naval Medical Research Unit-3 in April 2019 and the International Leadership Visitors Program for Infectious Diseases award by US State Department in 2020.

Prof. Dadzie officially retired from active service in July 2025 and currently has post-retirement contract with the University of Ghana. He is married with three children.

DEPARTMENT PROFILE

Department of Clinical Pathology Research Highlights and Achievements 2025

The Sickle Cell Laboratory of the Department of Clinical Pathology recorded significant achievements in research collaboration, capacity building, and public engagement. The laboratory successfully organized a symposium in collaboration with the University of Ghana Medical Centre (UGMC) to commemorate World Sickle Cell Day, hosted at the Noguchi Memorial Institute for Medical Research. The symposium served as a platform for scientific exchange, public education, and stakeholder engagement on sickle disease, bringing together clinicians, researchers, and the public. In addition, the laboratory was recommended for international accreditation on ISO 15189:2022 by the Kenya Accreditation Service, making a major milestone in quality assurance and recognition of the laboratory's technical competence and adherence to international standards. This accreditation strengthens the laboratory's credibility and enhances its capacity to support high-quality diagnostic and research.

The laboratory was enrolled in an External Quality Assessment (EQA) programme, further strengthening its commitment to continuous quality improvement, reliability of test results, and adherence to international best laboratory practices.

Furthermore, the laboratory collaborated with the University of Ghana Hospital, Legon, testing and quantifying the number of sickle cell patients that visit the facility, contributing valuable data to support clinical management, surveillance, and future research planning. This collaboration reinforces the laboratory's role in advancing evidence-based approaches to sickle cell disease control and management in Ghana.

EVENTS IN PICTURES

NMIMR Hosts 10th ARM as Minister of Health Announces Acquisition of DVI DNA Testing Device

The Noguchi Memorial Institute for Medical Research (NMIMR) opened its 10th Annual Research Meeting (ARM 2025) at the NMIMR Conference Hall, University of Ghana, under the theme "***Advancing Healthcare Through Impactful Research and Innovation***." The week-long meeting, which also highlighted the 25th Anniversary celebration of the University of Ghana College of Health Sciences, brought together researchers, partners, policymakers, and stakeholders to showcase scientific work, strengthen collaborations, and highlight the Institute's contribution to public health in Ghana and beyond.

The Minister for Health who was also the Special Guest of Honour, Honourable Kwabena Mintah Akandoh, in his address, announced that the Government of Ghana has finalized arrangements for the acquisition of a Disaster Victim Identification (DVI) DNA testing device, to be located at NMIMR. The announcement highlights government commitment to strengthening national diagnostic and forensic capacity and reducing reliance on external testing.

Speakers at the opening session underscored NMIMR's mandate in biomedical research, specialized diagnostics, capacity building, as well as disease surveillance, and emphasized the importance of translating research findings into practical solutions that improve healthcare delivery.

The scientific programme featured key-

note presentations, panel discussions, oral and poster presentations, a debate on the relevance of artificial intelligence of healthcare practice in Africa, and an Open Day designed to expose young students to biomedical research and inspire their interest in scientific careers.

The ARM 2025 reinforced NMIMR's position as a leading centre for biomedical research and innovation, while providing a platform for knowledge exchange and collaboration to advance healthcare outcomes.

NMIMR'S 10TH ARM 2025 DEBATE Sparks Dialogue on Digital Health and Equity

The 10th Annual Research Meeting (ARM 2025) featured a lively inter-campus debate at the Great Hall, University of Ghana. Held as part of the College of Health Sciences' 25th anniversary celebrations under the theme "Advancing Healthcare Through Impactful Research and Innovation," faculty from Legon and Korle-Bu campuses debated the motion: "**Digital Health Will Widen Rather Than Bridge the Equity Gap in Healthcare.**"

Team Legon, comprising main debaters Dr. Lily Paemka, Dr. Justice Kumi, and Dr. Constance Agbemelo-Tsomafo, argued against the motion, highlighting how telemedicine, electronic medical records, and mobile health platforms can expand access to quality care, particularly in underserved communities. Team Korle-Bu, which included main debaters Dr. Mary Naa Barkor Ayettey-Adamafio, Dr. George Henry Acquah, and Dr. Sarah Akua Osafo, supported the motion, cautioning that digital health could worsen inequalities without inclusive policies, infrastructure, and digital literacy.

A panel of distinguished judges evaluated the debate, considering clarity, evidence, delivery, teamwork, and audience engagement. After a closely contested session, Team Legon emerged winners with 74.6 points, ahead of Team Korle-Bu with 68.3 points. The event sparked lively discussions among faculty, students and guests, emphasizing the importance of informed dialogue on the use of digital renovations in tackling emerging healthcare challenges.

The debate highlighted NMIMR's commitment to fostering critical thinking, promoting intellectual engagement, and preparing health professionals to respond to evolving healthcare needs in Ghana.


UG NOGUCHI
ARM 2025
ANNUAL RESEARCH MEETING


ARM 2025
EARCH MEETING
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NMIMR OPEN DAY Inspires Young Scientists at ARM 2025

The Noguchi Memorial Institute for Medical Research (NMIMR) capped its 10th Annual Research Meeting (ARM 2025) with an Open Day that brought together pupils and students from about 17 schools including 4 tertiary institutions from across the country.

Constituent schools, institutes, and centres under the College of Health Sciences also showcased their scholarly works, giving students insight into the wider landscape of health research and healthcare in Ghana.

Through interactive exhibitions, laboratory tours, hands-on demonstrations, and question-and-answer sessions with researchers, young learners engaged directly with biomedical science.

The event highlighted NMIMR's commitment to fostering curiosity, inspiring future scientists, and strengthening the link between education, research, and community engagement.


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ARM
2025
ANNUAL RESEARCH MEETING


ARM
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ANNUAL RESEARCH MEETING


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UG NOGUCHI
SICKLE CELL DISEASE
ARM
2025
ANNUAL RESEARCH MEETING


Ghana
ARM
2025
ANNUAL RESEARCH MEETING

NMIMR SHINES at CHS 25th Anniversary Sporting Games

The Noguchi Memorial Institute for Medical Research (NMIMR) delivered an outstanding performance at the College of Health Sciences (CHS) 25th Anniversary Sporting Games held on Friday, September 19, 2025, at the University of Ghana Athletic Oval. The event, organized under the CHS Provost's Fitness Friday Initiative, brought together all CHS units for friendly competition and team building.

The Provost, Prof. Alfred Yawson, opened the games with remarks encouraging teamwork, fitness, and unity across the College.

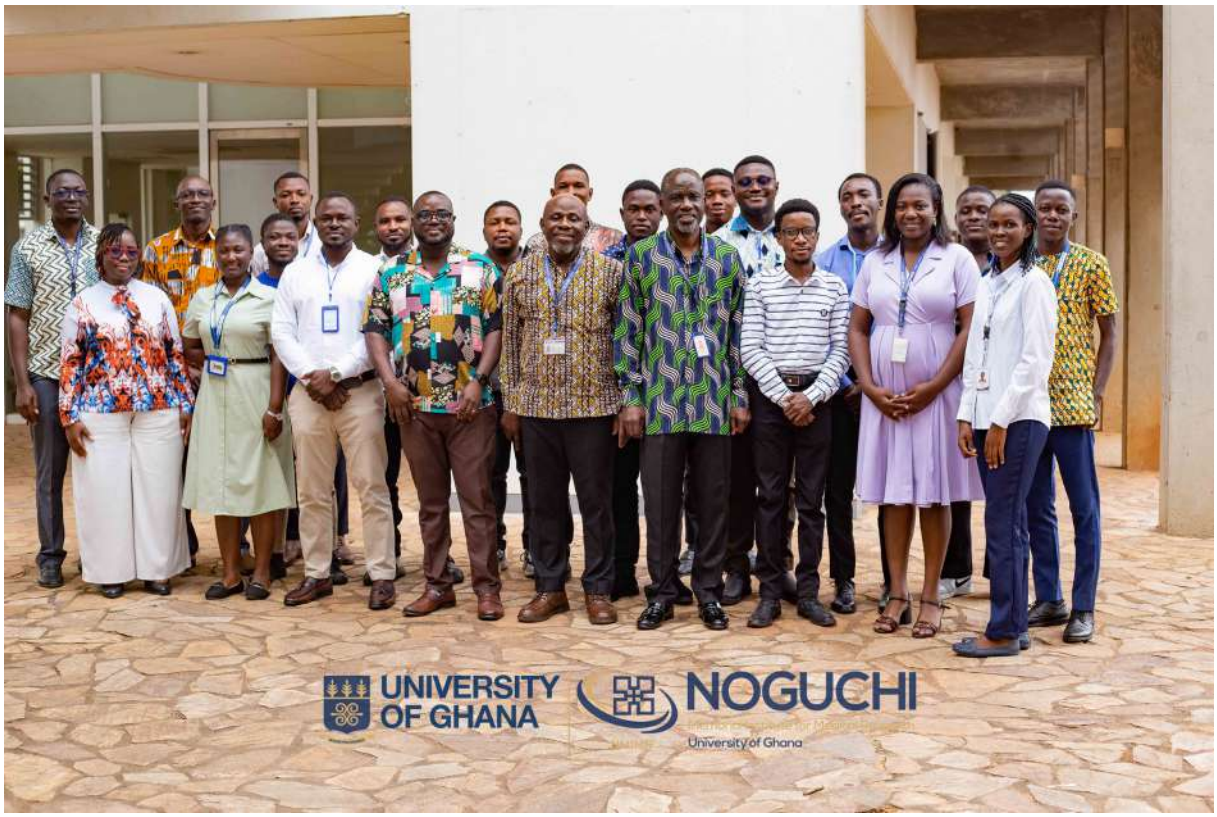
NMIMR emerged as one of the most successful teams of the day, winning **first place** in volleyball, tug of peace, table tennis, and the "*oware*" competitions. The Institute also placed **second** in both the men's and women's football and **third** in "*ampe*", showcasing the team's strength, resilience, and competitive spirit.

The Director of NMIMR, Prof. Dorothy Yeboah-Manu, was present to support the teams and was seen motivating players during halftime, boosting morale and reinforcing the Institute's culture of togetherness.

The day ended with the presentation of trophies and a colourful display among staff and participants. The sporting festival not only honoured CHS's anniversary but also promoted wellness, camaraderie, and unity across the College community.

Highlights from NMIMR's outstanding participation in the CHS 25th Anniversary Sporting Games, featuring team competitions, trophy presentations, and moments of celebration.

NMIMR HOSTS TRAINING on Ethical Use of Animals in Biomedical Research



The Department of Animal Experimentation at NMIMR successfully held a four-day training programme on *Laboratory Animal Care and Ethical Use in Biomedical Research (LACEBR)* from 23rd to 26th September 2025. The programme, themed **"Strengthening Ethical Standards and Technical Competence in Laboratory Animal Science for Biomedical Research in Ghana,"** combined lectures, demonstrations, case studies, and hands-on practical sessions.

The Head of the Department, **Dr. Samuel Adjei**, underscored the need to strengthen ethical standards and technical capacity. Topics covered included humane animal care, biosafety, ethical and legal frameworks, facility management, handling and restraint techniques, and blood and organ collection. Experts from NMIMR and partner institutions facilitated the sessions.

A total of **19 participants** from five universities including University of Ghana, Kwame Nkrumah University of Science and Technology, and University of Health and Allied Sciences we among those trained. Participants praised the practical nature of the training, noting its value for enhancing research practices and ethical compliance.

The Department plans to expand future editions to reach a wider research community, reinforcing NMIMR's commitment to best practices in animal care and global standards in biomedical research.

Scenes from the four-day LACEBR training, showcasing hands-on sessions, participant engagement, and promotion of ethical standards in laboratory animal research.

NBC DONATES TO NMIMR to support research on newborn screening and public health during a presentation ceremony at the Institute

NMIMR received a generous donation from the Negotiated Benefits Trust Company (NBC) to advance research in newborn screening and child health. The donation, presented by NBC's CEO, Mr. Maxwell Appiah Danso, and Director, Mr. William Asiedu Yeboah, will help in the development of affordable tools for the detection of metabolic and genetic disorders in newborns, enabling early interventions that can prevent lifelong complications.

Prof. Dorothy Yeboah-Manu, Director of NMIMR, expressed appreciation for NBC's continued support, noting that early diagnosis can significantly improve health outcomes for children. Dr. Bright Adu, Project Lead, shared that ongoing studies involving hundreds of children are already identifying genetic risk factors for conditions such as phenylketonuria and hypothyroidism. Both NMIMR and NBC reaffirmed their commitment to strengthening the partnership to improve child health across Ghana.

Researchers Enhance Skills in Molecular Biology and Sequencing at NMIMR Training Programme

To strengthen skills in molecular biology and sequencing, the Department of Virology at NMIMR hosted a seven-day training programme for researchers. In his welcome remarks, Prof. Kofi Bonney, Head of the Department of Virology, encouraged participants to take full advantage of the training to enhance their knowledge and hands-on skills.

Participants explored key concepts in cell structure, nucleic acids, and amplification techniques, before engaging in practical sessions on DNA/RNA extraction, PCR, gel electrophoresis, sequencing, sequence analysis, amplicon purification, and instrument set-up. The programme concluded with group presentations and discussions on the application of sequencing technologies, marking a successful and engaging capacity-building experience for all participants.


INTRODUCTION TO SEQUENCING
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Bioinformatics Workshop on Working with Bacterial Genomes held at NMIMR

NMIMR launched a five-day Bioinformatics Workshop on working with Bacterial Genomes. Organized with support from the German agency GIZ and in collaboration with the University of Cambridge's Department of Veterinary Medicine and the Cambridge Research Informatics Training facility (CRIT), the workshop brought together 22 participants from various institutions to build capacity in bacterial genomics and strengthen Africa's scientific research ecosystem.

Dr. Prince Asare of the Department of Bacteriology, NMIMR, highlighted the practical focus of the workshop, noting that participants will gain skills to address critical public health challenges.

Prof. Kwadwo Asamoah Kusi, who represented the Director of the Institute, Prof. Dorothy Yeboah-Manu, emphasized the importance of innovation, collaboration, and capacity building, encouraging participants to share their learning with colleagues.

Dr. Nana Ama Mireku-Gyimah, representing GIZ, reaffirmed her organization's support for local pharmaceutical production, good manufacturing practices, and scientific research initiatives across Africa, and encouraged participants to apply their skills to improve healthcare outcomes.

The workshop combined interactive lectures, hands-on sessions, and collaborative group work to ensure participants gained both theoretical knowledge and practical experience. By the end of the training, participants were expected to be fully equipped to undertake bacterial genome analysis independently and contribute meaningfully to research and public health initiatives in their respective institutions.


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Working with Bacterial Genomes Workshop
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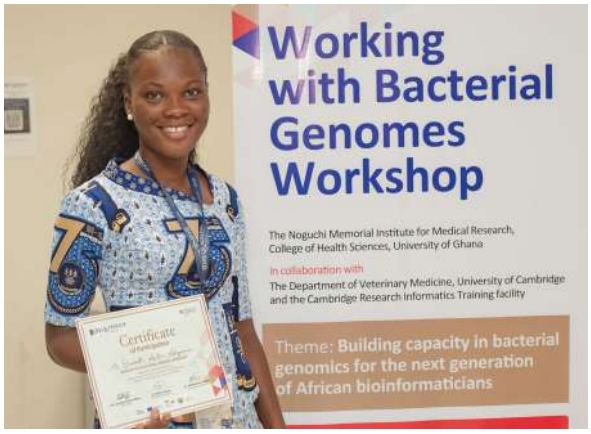
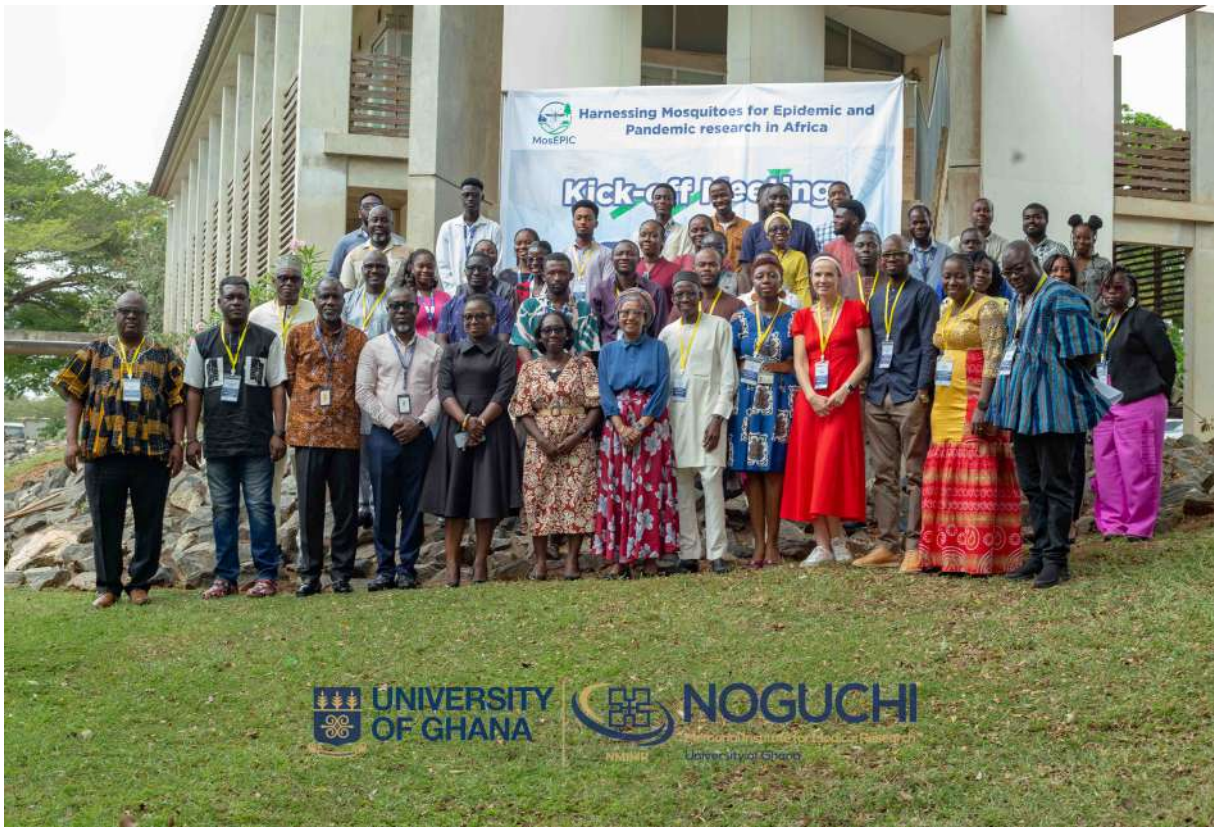

Working with Bacterial Genomes Workshop
The Noguchi Memorial Institute for Medical Research, College of Health Sciences, University of Ghana
In collaboration with
The Department of Veterinary Medicine, University of Cambridge and the Cambridge Research Informatics Training facility
Theme: Building capacity in bacterial genomics for the next generation of African bioinformaticians
Certificate

NMIMR Launches MosEPIC Project to Strengthen Epidemic Preparedness in Africa



The Institute hosted a two-day kick-off meeting of the "Harnessing Mosquitoes for Epidemic and Pandemic Research in Africa (MosEPIC)" project from October 27–28, 2025. The hybrid meeting brought together partners from Ghana, Mali, Burkina Faso, Germany, and the USA, providing a collaborative platform to align project goals, discuss operational frameworks, and plan implementation activities.

In his welcome remarks, Prof. Kwadwo Asamoah Kusi, on behalf of the Director of the Institute, underscored the importance of collaboration among research institutions, health agencies, and communities to improve early detection and control of vector-borne diseases. He further highlighted the timely nature of the project, as it coincided with the start of the Institute's newly accredited One Health programme. Dr. Felicia Owusu Antwi of WHO Ghana, highlighted the project's potential to inform early-warning systems and strengthen epidemic response across the continent.

Prof. Abdoulaye Diabate, Principal Investigator at the Institute for Research in Health Sciences (IRSS) in Burkina Faso, presented an overview of a project aimed at strengthening Africa's preparedness for mosquito-borne epidemics. He explained that the project sought to develop affordable surveillance tools by using mosquitoes as bio-samplers to monitor pathogens across various environments. By combining specialized assays and metagenomics, the project aimed to enhance pathogen tracking and support timely epidemic response throughout the region.

During the meeting, project teams shared updates on field sampling, stakeholder engagement, and technical developments. Sites across urban, peri-urban, rural, and forested zones

in Ghana, Mali, and Burkina Faso were sampled, yielding critical insights into mosquito populations and pathogen circulation. Discussions also covered monitoring and evaluation, grant management, and communications strategies, emphasizing accountability, harmonized reporting, and stakeholder engagement.

The MosEPIC kick-off meeting set the stage for a continent-wide, data-driven approach to mosquito surveillance, aiming to transform vector monitoring into a powerful tool for epidemic and pandemic preparedness in Africa.

National Service Personnel made an impact during NSP week 2025

During the 2025 National Service Personnel (NSP) Week, NMIMR's service personnel rolled up their sleeves to give back to the community and inspire young learners. The week began with a cleanup of the old building and the Animal Experiment Department, where personnel cleared weeds, removed debris, and ensured a safe environment for everyone.

From 22nd to 26th September, about 40 NSPs visited the La-Nkwantanang Cluster of Schools to support classroom teaching in subjects including Mathematics, Science, English, Computing, Ga, and Social Studies. The Institute provided transportation and resources, and on the final day, personnel donated books and stationery to the schools.

The week concluded with a community engagement event, organized in partnership with NSP Patron Dr. Sawudatu Zakariah-Akoto and the Municipal Directorate of Education. Students, teachers, and parents learned about adolescent health from Dr. Akoto's research, while NSPs from the Nutrition Department delivered presentations and supported event organization.

Through their dedication, NMIMR's National Service Personnel demonstrated the Institute's commitment to education, community welfare, and public engagement.

AWARDS

Prof. George Armah Honoured with Rotavirus Champion Award

Prof. George Armah of the Department of Electron Microscopy and Histopathology, NMIMR was awarded the Rotavirus Champion Award at the 15th International Rotavirus Symposium, organized by the Sabin Vaccine Institute in Cape Town, South Africa. The award recognized his outstanding contributions to rotavirus prevention and control, and his significant impact on improving child health globally.

Prof. Armah's research has played a key role in advancing knowledge, policies, and interventions to reduce the burden of rotavirus, a leading cause of severe diarrhoea and child mortality worldwide. His work continues to strengthen public health initiatives, promote vaccination, and improve child health outcomes both in Ghana and internationally.

The recognition highlights Prof. Armah's leadership, dedication, and commitment to scientific excellence, and celebrates his contributions as a global advocate for rotavirus prevention. NMIMR congratulates him on this well-deserved honour and celebrates his ongoing efforts to improve lives through research.

Dr. Stephen Osei-Wusu Awarded Prestigious AREF Fellowship to Advance Tuberculosis Research in West Africa

Dr. Stephen Osei-Wusu of the Department of Bacteriology, NMIMR has been awarded the prestigious **Africa Research Excellence Fund (AREF) Fellowship**. The fellowship will support his research on cell biology and the immunological interactions driving the Mycobacterium tuberculosis complex epidemic in West Africa.

The training will equip him with advanced skills in 3D granuloma culture models that closely mimic the human tuberculosis environment, helping to uncover how different Mycobacterium tuberculosis lineages evolve and cause disease. Reflecting on the award, Dr. Osei-Wusu said, *"The research we pursue as scientists should provide the building blocks for future studies and ultimately translate into the betterment of lives."*

The AREF Fellowship empowers early-career African scientists to conduct impactful research addressing Africa's pressing health challenges. Dr. Osei-Wusu's award underscores NMIMR's commitment to scientific excellence and developing the next generation of African research leaders. He is the fourth NMIMR scientist to receive the AREF Fellowship in the past three years.

VISIT

International Delegates Visit NMIMR During UBIAS Conference

The Noguchi Memorial Institute for Medical Research (NMIMR) hosted a delegation of international institute heads and managers as part of the University-Based Institutes for Advanced Study (UBIAS) biennial Directors' Conference, held in Africa for the first time. About 40 participants from countries including Japan, Germany, the United States, France, Denmark, the United Kingdom, the Netherlands, Brazil, Finland, Australia, India, and South Africa visited the Institute to learn about its research programs and explore potential collaborations.

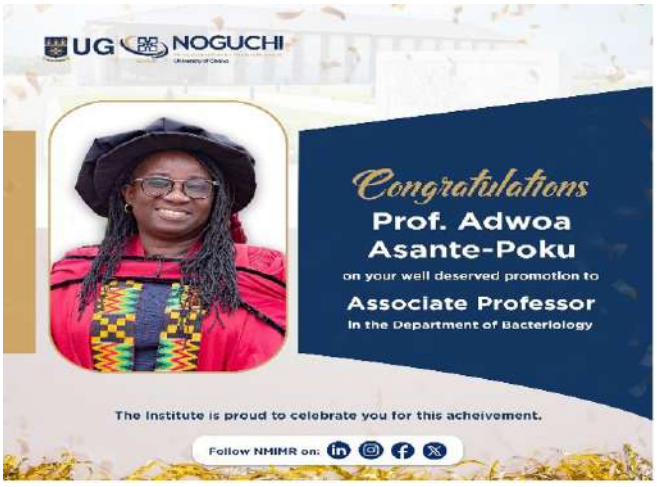
The visit formed part of activities coordinated by the Director of the Merian Institute for Advanced Studies in Africa (MIASA), Ghana, Prof. Grace Diabah, aimed at showcasing selected units of the University of Ghana to the international delegation.

The Head of the Immunology Department, Prof. Asamoah Kusi, representing the Director, engaged the delegates in discussions on NMIMR's mandate, research activities, and collaborative partnerships. He provided insights into the Institute's work in communicable and non-communicable diseases, advanced diagnostic and disease monitoring services, and the training of scientific personnel at all levels.

The visit offered delegates the opportunity to interact with NMIMR's nine research departments, exchange ideas on issues of mutual interest, and identify avenues for future collaboration, reinforcing the Institute's standing as a centre of excellence for health research in Africa.

STAFF PROMOTIONS AND APPOINTMENTS

We are proud to celebrate the promotion of the following distinguished individuals to the rank of Associate Professors:



Administrative Appointments made by the Vice-Chancellor

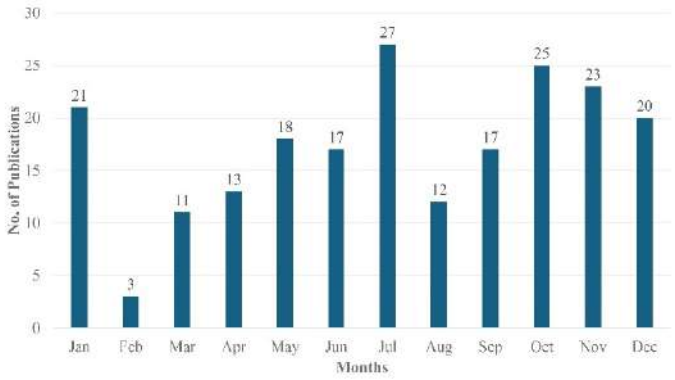
Name	Position	Department/Uni
Prof. Adwoa Asante-Poku	HOD	Bacteriology
Prof. Kwadwo Asamoah Kusi	HOD	Immunology
Dr. Gloria Folson	HOD	Nutrition

GRANTS AWARDED IN 2025

Project Title	Duration	Funding Agency
Antimicrobial Resistance as a Public Health Threat: An analysis of stakeholder's opinion from Bolivia, Italy, Ghana, Guatemala, and Nepal	01/Jan/2025-30/Jun/2026	German Academic Exchange Service (DAAD) with funds from the Federal Ministry for economic cooperation and development (BMZ)
CONTAIN: CONtact Tracing, Infection and Transmission: An Interdisciplinary approach	01/Jan/2025-31/Dec/2026	UKRI
Scaling up biomarker discovery to understand the role of preeclampsia in women with sickle cell disease	06/Jan/2025-31/Jan/2026	AREF
In Support of WHO Schistosomiasis Control and Elimination Programs: Progressing a TPP-compliant serological test for Schistosoma mansoni to Field Testing and Manufacturing Process Development	10/Jan/2025-10/Jan/2027	GHIT
Dissecting the quality of antibody responses to a polymorphic Plasmodium vaccine antigen	01/Mar/2025-28/Feb/2026	Noguchi Vestergaard
Identification of novel resistant markers for monitoring old and new generations of insecticides in Anopheles gambiae s. l. populations	01/Mar/2025-28/Feb/2026	Noguchi Vestergaard
Assessing the effect of placental malaria on the pathophysiology of Hypertensive disorders in pregnancy	01/Mar/2025-29/Feb/2028	GSK
A Multi-stage Malaria Vaccine for Control and Elimination	01/Mar/2025-28/Feb/2030	EDCTP3

Comparing facility-based and molecular xenomonitoring pre-validation prevalence surveys in districts that have stopped mass drug administration for lymphatic filariasis	21/Mar/2025-31/Mar/2027	Sightsavers/ Foreign, Commonwealth & Development Office (FCDO)
MAP-FGS, Ghana	Jan-25	Task Force for Global Health
Enhancing Global Health Security: Expanding Efforts and Strategies to Protect and Improve Public Globally (AFIs) - Subaward	03/Jun/2025-30/Sep/2026	CDC
Harnessing mosquitoes for epidemic and pandemic research in Africa (MOSEPIC)	01/Jul/2025-30/June/2030	SFA/IRSS
Building capacity in cell biology to explore the immunological interplay driving the Mycobacterium tuberculosis complex epidemic in West Africa	28/Jul/2025-30/May/2026	AREF
Semi-field evaluation (Outdoor/Indoor) of the space spray efficacy of Fludora Co-Max against *Anopheles* spp. *Culex* spp. and *Aedes* spp. for Fludora Co-Max Registration in Ghana	05/Aug/2025-28/Feb/2026	Environmental Science (ENVU)
A phase 2, randomized, observer-blind, placebo-controlled study to assess the safety, tolerability and immunogenicity of a bivalent Huma Papiloma Virus (HPV) vaccine in infants and toddlers aged 9 and 15 months and an open label single dose study in young unmarried females aged 15-20 years in Ghana	29/Aug/2025-31/Oct/2028	International Vaccine Institute (IVI)
Exploring the Anticancer Potential of Medicinal Plants from Ghana and Zambia: A Novel Path to Innovative Therapeutics (NATUCARE)	01/Sept/2025 -31/Aug/2029	MEST
GLOBE	25/Sept/2025-25/Sept/2026	NAMRU-3
Effects of microbiome dysbiosis in pregnant women with HIV on immune function in HIV-exposed uninfected children	01/Nov/2026-30/April/2028	Cambridge-Africa ALBORADA Fund
Developing High-Throughput Antimalarial Screening Capacity at NMIMR	12/Nov/2025-31/May/2026	MEDICINES FOR MALARIA VENTURE (MMV)
Technical Service Agreement (TSA)	14/Nov/2025-31/Dec/2025	WHO
Epidemiology and Treatment Outcomes of Recurrent Tuberculosis at Three Referral Hospitals in Ghana over a Ten-Year Period (2015-2024)	01/Dec/2025-30/Nov/2026	University of Ghana

PUBLICATIONS



Summary of NMIMR Publications for 2025

Scan for list of all Publications

ACKNOWLEDGEMENT

We acknowledge the following people for their various contributions in getting the Newsletter completed.

- Ms. Pamela Nai
- Ms. Millicent Asante
- Mr. Frederick Ofori Addo
- Mr. Pius Dickson-Sarpeh
- Mr. Michael Nartey Addy

COMMITTEE MEMBERS

Prof. Kwadwo Asamoah Kusi, **Chairman**

Dr. Charles Quaye, **Member**

Prof. Gloria Ivy Mensah, **Member**

Dr. Sawudatu Zakariah-Akoto, **Member**

Dr. Constance Agbemelo-Tsomafo, **Member**

Mrs. Evelyn Beloved Amenuke, **Member**

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