

**OFFICE OF THE VICE-CHANCELLOR**



**INAUGURAL LECTURE OF PROFESSOR ERIC SAMPANE-DONKOR**

**THEME:**

***“THE 130-YEAR WAR BETWEEN MAN AND PNEUMOCOCCUS: WHO IS WINNING?”***

**ADDRESS BY:**

**PROFESSOR NANA ABA APPIAH AMFO  
VICE – CHANCELLOR, UNIVERSITY OF GHANA**

**THURSDAY, FEBRUARY 10, 2022  
GREAT HALL, UNIVERSITY OF GHANA**

Pro Vice-Chancellors  
Registrar,  
Provosts, Deans and Directors,  
Our Distinguished Lecturer, Professor Eric Sampene-Donkor, Faculty,  
Staff and Members of Convocation,  
Past and Present Senior Officers of the University, Alumni  
and Students,  
Family and Friends of the Lecturer, Invited  
Guests,  
Members of the Diplomatic Corps,  
Esteemed Traditional Rulers,  
Eminent Clergy,  
The Press,  
Distinguished Ladies and Gentlemen present in the Great Hall and those joining us  
across our various media platform;

Good evening to you all.

I am excited to be presiding over the first Inaugural Lecture to be organized subsequent to my appointment as Vice-Chancellor of the University.

Inaugural lectures provide the platform to disseminate the outcomes of researches conducted by outstanding scholars upon attainment of the highest academic profile. This evening's lecture puts the spotlight on the scholarly works of Prof. Eric Sampene-Donkor and his contribution through his field of study and work to humanity.

As we celebrate the lecturer, we congratulate the Department of Medical Microbiology, University of Ghana Medical School and College of Health Sciences for producing yet another Professor.

Although I am not an expert in the specialized area of Medical Microbiology, permit me to share these brief initial thoughts as a teaser, while I prepare the way for the Lecturer to mount the podium.

Several infectious diseases have plagued the human race over centuries. Microbial agents, including bacteria, fungi and parasites are implicated in life threatening infectious diseases such as pneumonia, meningitis, otitis media and sepsis

worldwide. Owing to this, efforts have been made over centuries to curb the health burden of infectious diseases via the discovery of antimicrobial agents and vaccines for effective treatment and prevention.

Pneumonia is a serious ailment characterised by inflammation in the lower respiratory system (involving the lungs). Inflammation in the respiratory tract may be caused by microbes such as bacteria and fungi. An important bacterium implicated in pneumonia and other acute bacterial infections like meningitis and otitis media is known as *Streptococcus pneumoniae*, also referred to as pneumococcus.

Pneumococcus was first discovered and isolated from a rabies patient by the scientist, Louis Pasteur over a hundred years ago and has been identified as the most common bacteria implicated as the cause of childhood pneumonia, especially in children under 5 years. Globally, there are about 14.5 million episodes of serious pneumococcal disease among children under 5 years annually, resulting in approximately 500,000 deaths. This bacterium is known to commonly inhabit the upper portions of the human respiratory tract. However, infections of pneumococcus may arise when the bacteria relocates into ‘undesired’ areas such as the lungs, other sterile sites of the respiratory tract and beyond.

Following its isolation in 1881, extensive studies spanning several decades have been done in the light of drug discovery, and vaccine development against the pneumococcus and its disease. We have had breakthroughs with treatment drugs such as penicillin and other antibacterial compounds against the pneumococcus. However, the trend of increasing resistance of the pneumococcus to these drugs seems to be nullifying the treatment efforts. As a result, there has been a constant war between humans and the pneumococcus, spanning over a century.

Today, Professor Eric Sampene-Donkor, an expert in the study *Streptococcus pneumoniae* and its disease, will enlighten us on the biology and pathogenicity of the organism. He will discuss pneumococcal interventions and evolutionary responses of the organism to these interventions. He will provide us with an in- depth review of the successes, struggles, casualties and conquests of the all- important clinical/medical ‘war’ between man and Pneumococcus.

I anticipate a very revealing and exciting lecture on the topic "**The 130-Year War between Man and Pneumococcus: Who is Winning?**"

At this juncture, distinguished ladies and gentlemen, I will introduce the scholar for this evening's lecture, Professor Eric Sampene-Donkor.

## **Profile**

Professor Eric Sampene-Donkor is a Professor of Bacteriology and Global Health in the Department of Medical Microbiology, University of Ghana Medical School, College of Health Sciences. He holds a PhD in Medical Microbiology from the London School of Hygiene and Tropical Medicine, UK, and another PhD in Public Health from the University of Iceland, Reykjavik. He undertook postdoctoral studies in Microbial Genomics at University of Cambridge, UK. His other academic qualifications include MSc Structural Molecular Biology from Birkbeck College, University of London, UK, MPhil Animal Microbiology and Immunology from the University of Ghana, Legon, MBA Management from Kwame Nkrumah University of Science and Technology, Kumasi, Postgraduate Diploma in Infectious and Tropical Diseases from the London School of Hygiene and Tropical Medicine, UK, and a BSc (Hons) degree in Biochemistry from the University of Ghana, Legon. With a broad academic background, Professor Sampene-Donkor applies concepts from several fields to help address the global infectious disease challenge through research. His current research interests focus on understanding the dynamics of infectious pathogens in at-risk populations, such as patients with stroke, sickle cell disease and diabetes. He has authored 112 journal articles, mainly in international journals, of which he is first and/or senior author of 62. Many of Professor Sampene-Donkor's publications appear in reputable journals, such as MBio, BMC Genomics, Lancet Infectious Diseases, Lancet EClinical Medicine, Frontiers in Infection and Cellular Microbiology, Journal of Antimicrobial Chemotherapy, and Genes. Additionally, he has 15 publications in the form of bookchapters (5), books (2) and technical reports (8).

Professor Sampene-Donkor is a high-level expert on the pneumococcus (*Streptococcus pneumoniae*), a highly virulent microbial pathogen that causes severe invasive and non-invasive diseases, such as pneumonia, meningitis and septicaemia. His work on this pathogen contributed to the introduction of the Pneumococcal Conjugate Vaccine in Ghana in 2012, and also earned him the first African Prize of the Robert Austrian Award in Pneumococcal Vaccinology from Pfizer Pharmaceuticals, USA. He has also researched extensively on the evolution of antibiotic resistance in Ghana, providing timely data for empirical treatment of bacterial infections in the country. For instance, a paper he published on antibiotic resistance of uropathogens in 2016 was the basis for discontinuation of ciprofloxacin in the treatment of urinary tract infections among bladder outlet obstruction patients at the Korle Bu Teaching Hospital in Ghana. Researching in the area of global health, Professor Sampene-Donkor has been involved in extensive collaborations across the globe, working with institutions such as the Sanger Institute in Cambridge, UK, Centres for Disease Control in Atlanta, Georgia, USA, Murdoch Children's Research Institute in Melbourne, Australia, Sackler School of Public Health, Tel Aviv University in Israel, Nationwide Children's Hospital, Ohio State University College of Medicine in Columbus, USA, and the

Department of Clinical Laboratory Sciences, Taif University in Saudi Arabia. Professor Sampane-Donkor provides consultancy services to several local and international institutions, such as the National Accreditation Board of Ghana, Clinton Health Access Initiative and the World Health Organization. In a recent assignment, he undertook and led a nationwide study for the Ghanaian Ministry of Health towards a public-private partnership in diagnostics as part of the African Health Diagnostics Platform. This study formed the basis for assessing Ghana's share of a € 76-million loan from the European Investment Bank to four African countries, namely Ethiopia, Kenya, Rwanda and Ghana, to improve diagnostics in the sub-region. Overall, Professor Sampane-Donkor has undertaken 15 funded research projects, with funding support from several institutions, such as the Global Alliance for Vaccines and Immunizations, World Health Organization, Wyeth Vaccines and Eimkisp Fund. Currently, he is the Principal Investigator of a US\$ 622,000 project funded by the National Institutes of Health, USA, to unravel the impact of vaccination on the population biology of *Streptococcus pneumoniae* with regard to children with sickle cell disease; he is also the site (Ghana) Principal Investigator of an ongoing £ 3.1 million Fleming Fund regional grant project aimed at addressing the problem of antimicrobial resistance in developing countries through surveillance; moreover he is the Principal Investigator of an ongoing US\$ 100,000 project funded by Pfizer Pharmaceuticals, USA on surveillance of invasive pneumococcal disease in Ghana. In the last five years, Prof. Sampane-Donkor has received research funds to the tune of US\$ 6.5 million as either Principal Investigator or Co-investigator. He serves as Academic Editor for several journals, including *Frontiers in Tropical Medicine* (USA), *Pathogens Journal* (Switzerland), and the *Journal of Ghana Science Association*. He also serves as an adhoc reviewer for many local and international journals. Prof. Sampane-Donkor had been a visiting faculty/scientist to several international institutions, such as the University of Copenhagen in Denmark, University of Sussex in the UK and University of Minnesota in the United States. Currently, he is a Visiting Professor of Infectious Diseases at the Sackler School of Public Health, Tel Aviv University, Israel and a Life Fellow of Wolfson College, University of Cambridge, UK. He is part of several international initiatives, including the Global Pneumococcal Sequencing Consortium, Fleming Fund Convening of Antimicrobial Resistance Experts, Partnerships for International Medical Education, and the Global Bacterial Vaccinology Network (BactiVac). At the University of Ghana, Professor Sampane- Donkor has served on several committees, including the Graduate School Board, Ethical and Protocol Review Committee of the College of Health Sciences, Scientific and Technical Committee of the Noguchi Memorial Institute for Medical Research, Editorial Board of the UG Readers Project, College of Health Sciences Research Board (Chairman), Board of the Office of Research, Innovation and Development (ORID), UG Academic Board, and Academic Board of the College of Health Sciences. Currently, he is the Vice Chancellor's representative on the Management Committee of the School of Biological Sciences and the Head of the Department of

Medical Microbiology, University of Ghana Medical School. Professor Sampene-Donkor has mentored 8 junior faculty members and supervised 3 postdoctoral fellows, 10 PhD students and 31 MPhil/MSc students in Ghana and abroad. He has contributed to the training of about 3000 undergraduate medical students in Ghana, across the University of Ghana Medical School, Accra College of Medicine and Family Health Medical School, in the subject area of Medical Microbiology and Infectious Diseases. He has served as external examiner for several institutions such as the University of London's MSc programme in Communicable Diseases. In recognition of his outstanding achievements, contribution to science in Ghana, and excellent academic scholarship, Professor Sampene-Donkor was elected to fellowship of the Ghana Academy of Arts and Sciences in 2021. He is also a fellow of the Institute of Biomedical Science in the UK. Professor Eric Sampene-Donkor fellowships with the Deeper Life Campus Fellowship. He is married to Gloria Sampene-Donkor and they have four daughters: Richelle, Micheline, Shirley and Johanna.

Prof. Eric Sampene-Donkor you have the floor.

***Professor Nana Aba Appiah Amfo  
Vice-Chancellor***

***February 10, 2022***