

PI: Akuffo, Oye Nana	Title: Capacity Building for Enhanced Research Administration (CaBERA- II) in Africa	
Received: 07/30/2019	FOA: PAR18-335 Clinical Trial: Not Allowed	Council: 01/2020
Competition ID: FORMS-E	FOA Title: Global Infectious Disease Research Administration Development Award for Low-and Middle-Income Country Institutions (G11-Clinical Trial Not Allowed)	
1 G11 AI152201-01	Dual:	Accession Number: 4333864
IPF: 45401	Organization: NOGUCHI MEMORIAL INSTITUTE / MEDICAL RES	
Former Number:	Department:	
IRG/SRG: ZAI1 AMC-D (J1)	AIDS: N	Expedited: N
Subtotal Direct Costs (excludes consortium F&A) Year 1: XXXXXXXXXX	Animals: N Humans: N Clinical Trial: N Current HS Code: 10 HESC: N	New Investigator: Early Stage Investigator:
<i>Senior/Key Personnel:</i>	<i>Organization:</i>	<i>Role Category:</i>
Nana Akuffo	NOGUCHI MEMORIAL INSTITUTE / MEDICAL RES	PD/PI
Griselda Annan	Noguchi Memorial Institute for Medical Research	Other (Specify)-Project Coordinator
KWADWO KORAM Ph.D	Noguchi Memorial Institute for Medical Research	Co-Investigator

Always follow your funding opportunity's instructions for application format. Although this application demonstrates good grantsmanship, time has passed since the grantee applied. The samples may not reflect the latest format or rules. NIAID posts new samples periodically:

<https://www.niaid.nih.gov/grants-contracts/sample-applications>

The text of the application is copyrighted. The awardee provided express permission for NIAID to post this grant application and summary statement for educational purposes. The awardee allows you to use the material (e.g., data, writing, graphics) they shared in the applications for nonprofit educational purposes only, provided the material remains unchanged and the principal investigators, awardee organizations, and NIH NIAID are credited.

Freedom of Information Act (FOIA). NIAID is strongly committed to protecting the integrity and confidentiality of the peer review process. When NIH responds to FOIA requests for grant applications and summary statements, the material will be subject to FOIA exemptions and include substantial redactions. NIH must protect all confidential commercial or financial information, reviewer comments and deliberations, and personal privacy information.

Note on Section 508 Conformance and Accessibility. We have reformatted this sample to improve accessibility for people with disabilities and users of assistive technology. If you have trouble accessing the content, contact the NIAID Office of Knowledge and Educational Resources at deaweb@niaid.nih.gov.

APPLICATION FOR FEDERAL ASSISTANCE

SF 424 (R&R)

3. DATE RECEIVED BY STATE		State Application Identifier	
1. TYPE OF SUBMISSION*		4.a. Federal Identifier	
☐ Pre-application ☒ Application ☐ Changed/Corrected Application		b. Agency Routing Number	
2. DATE SUBMITTED	Application Identifier	c. Previous Grants.gov Tracking Number	
5. APPLICANT INFORMATION		Organizational DUNS*: [REDACTED]	
Legal Name*: NOGUCHI MEMORIAL INSTITUTE / MEDICAL RES Department: Division: Street1*: NOGUCHI MEMORIAL INSTITUTE FOR MEDICAL RESEARCH Street2*: [REDACTED] City*: [REDACTED] County: State*: Province: Country*: GHA: GHANA ZIP / Postal Code*: [REDACTED]			
Person to be contacted on matters involving this application Prefix: First Name*: Nana Middle Name: Oye Last Name*: Akuffo Suffix: Position/Title: Street1*: [REDACTED] Street2: City*: [REDACTED] County: State*: Province: Country*: GHA: GHANA ZIP / Postal Code*: [REDACTED] Phone Number*: [REDACTED] Fax Number: Email: [REDACTED]			
6. EMPLOYER IDENTIFICATION NUMBER (EIN) or (TIN)*		[REDACTED]	
7. TYPE OF APPLICANT*		W: Non-domestic (non-US) Entity	
Other (Specify): ☒ Small Business Organization Type ☐ Women Owned ☐ Socially and Economically Disadvantaged			
8. TYPE OF APPLICATION*		If Revision, mark appropriate box(es).	
☒ New ☐ Resubmission ☐ Renewal ☐ Continuation ☐ Revision		☐ A. Increase Award ☐ B. Decrease Award ☐ C. Increase Duration ☐ D. Decrease Duration ☐ E. Other (specify) :	
Is this application being submitted to other agencies?* ☐ Yes ☒ No What other Agencies?			
9. NAME OF FEDERAL AGENCY*		10. CATALOG OF FEDERAL DOMESTIC ASSISTANCE NUMBER	
National Institutes of Health		TITLE:	
11. DESCRIPTIVE TITLE OF APPLICANT'S PROJECT*			
Capacity Building for Enhanced Research Administration (CaBERA- II) in Africa			
12. PROPOSED PROJECT		13. CONGRESSIONAL DISTRICTS OF APPLICANT	
Start Date* Ending Date* 06/01/2020 12/31/2021		00-000	

14. PROJECT DIRECTOR/PRINCIPAL INVESTIGATOR CONTACT INFORMATION

Prefix: First Name*: Nana Middle Name: Oye Last Name*: Akuffo Suffix:

Position/Title: Research Development Officer

Organization Name*: NOGUCHI MEMORIAL INSTITUTE / MEDICAL RES

Department:

Division:

Street1*: [REDACTED]

Street2:

City*: [REDACTED]

County:

State*:

Province:

Country*: GHA: GHANA

ZIP / Postal Code*: [REDACTED]

Phone Number*: [REDACTED] Fax Number: Email*: [REDACTED]

15. ESTIMATED PROJECT FUNDING

a. Total Federal Funds Requested* \$ [REDACTED]

b. Total Non-Federal Funds* \$0.00

c. Total Federal & Non-Federal Funds* \$ [REDACTED]

d. Estimated Program Income* \$0.00

16. IS APPLICATION SUBJECT TO REVIEW BY STATE EXECUTIVE ORDER 12372 PROCESS?*

- a. YES ☐ THIS PREAPPLICATION/APPLICATION WAS MADE AVAILABLE TO THE STATE EXECUTIVE ORDER 12372 PROCESS FOR REVIEW ON:
- DATE:
- b. NO ☐ PROGRAM IS NOT COVERED BY E.O. 12372; OR
- ☒ PROGRAM HAS NOT BEEN SELECTED BY STATE FOR REVIEW

17. By signing this application, I certify (1) to the statements contained in the list of certifications* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances * and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 18, Section 1001)

☒ I agree*

* The list of certifications and assurances, or an Internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

18. SFLLL or OTHER EXPLANATORY DOCUMENTATION

File Name:

19. AUTHORIZED REPRESENTATIVE

Prefix: Prof. First Name*: Abraham Middle Name: Kwabena Last Name*: Anang Suffix:

Position/Title*: Director

Organization Name*: Noguchi Memorial Institute for Medical Research

Department:

Division:

Street1*: [REDACTED]

Street2:

City*: [REDACTED]

County:

State*:

Province:

Country*: GHA: GHANA

ZIP / Postal Code*: [REDACTED]

Phone Number*: [REDACTED] Fax Number: Email*: [REDACTED]

Signature of Authorized Representative*

Nana Akuffo

Date Signed*

07/30/2019

20. PRE-APPLICATION File Name:**21. COVER LETTER ATTACHMENT** File Name: COVERLETTER_CABERA-II_NANA_2019.pdf

424 R&R and PHS-398 Specific Table Of Contents

SF 424 R&R Cover Page.....	1
Table of Contents.	3
Performance Sites.....	4
Research & Related Other Project Information.....	5
Project Summary/Abstract(Description).....	6
Project Narrative.	7
Facilities & Other Resources.....	8
Research & Related Senior/Key Person.	10
Research & Related Budget Year - 1.....	21
Budget Justification.....	24
Research & Related Cumulative Budget.	26
PHS398 Cover Page Supplement.	27
PHS 398 Research Plan.....	29
Specific Aims.....	30
Research Strategy.	31
PHS Human Subjects and Clinical Trials Information.	42
Bibliography & References Cited.	43
Letters of Support.....	44

Project/Performance Site Location(s)**Project/Performance Site Primary Location**

☐ I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Noguchi Memorial Institute for Medical Research
Duns Number: [REDACTED]
Street1*: [REDACTED]
Street2:
City*: [REDACTED]
County:
State*:
Province:
Country*: GHA: GHANA
Zip / Postal Code*:
Project/Performance Site Congressional District*: 00-000

Project/Performance Site Location 1

☐ I am submitting an application as an individual, and not on behalf of a company, state, local or tribal government, academia, or other type of organization.

Organization Name: Yale University
DUNS Number: [REDACTED]
Street1*: [REDACTED]
Street2:
City*: [REDACTED]
County:
State*: CT: Connecticut
Province:
Country*: USA: UNITED STATES
Zip / Postal Code*: [REDACTED]
Project/Performance Site Congressional District*: CA-012

Additional Location(s)

File Name:

RESEARCH & RELATED Other Project Information

1. Are Human Subjects Involved?* ☐ Yes ☒ No	
1.a. If YES to Human Subjects Is the Project Exempt from Federal regulations? ☐ Yes ☐ No If YES, check appropriate exemption number: 1 2 3 4 5 6 7 8 If NO, is the IRB review Pending? ☐ Yes ☐ No IRB Approval Date: Human Subject Assurance Number	
2. Are Vertebrate Animals Used?* ☐ Yes ☒ No	
2.a. If YES to Vertebrate Animals Is the IACUC review Pending? ☐ Yes ☐ No IACUC Approval Date: Animal Welfare Assurance Number	
3. Is proprietary/privileged information included in the application?* ☐ Yes ☒ No	
4.a. Does this project have an actual or potential impact - positive or negative - on the environment?* ☐ Yes ☒ No	
4.b. If yes, please explain: 4.c. If this project has an actual or potential impact on the environment, has an exemption been authorized or an environmental assessment (EA) or environmental impact statement (EIS) been performed? ☐ Yes ☐ No 4.d. If yes, please explain:	
5. Is the research performance site designated, or eligible to be designated, as a historic place?* ☐ Yes ☒ No	
5.a. If yes, please explain:	
6. Does this project involve activities outside the United States or partnership with international collaborators?* ☒ Yes ☐ No	
6.a. If yes, identify countries: Ghana	
6.b. Optional Explanation:	
7. Project Summary/Abstract*	Filename Projectsummary_CaBERa-II_NOA_2019.pdf
8. Project Narrative*	ProjectNarrative_CaBERa-II_NOA_2019.pdf
9. Bibliography & References Cited	REFERENCE_CaBERa-II_NOA_2019.pdf
10. Facilities & Other Resources	FACILITIES_CABERA-II_NANA_2019.pdf
11. Equipment	

PROJECT SUMMARY

Research underpins the successful implementation of health intervention programs, which is lacking in low-to-middle income countries (LMIC) where most of preventable diseases occur. The LMICs account for 90% of global burden of preventable diseases and yet they are recipients of only 10% of the resources available for research. The obstacles are many and although this situation has improved in recent times through external collaborations with scientists and institutions they do not significantly address the problem. This situation is further compounded by the volume of work required to satisfy the requirements; compliance of pre-and post-award, of the major funding agencies including the NIH, Wellcome Trust, EU etc. The frequent changes in policies and regulations make it more difficult for LMICs to follow without the institutional structures/mechanisms in place. We hypothesize that a major contributing factor to the dearth of health research in LMICs is the inability to secure competitive research grants by LMICs' scientists and research institutions because of the virtual non-existence of offices to support grant applications. We propose the establishment of offices of research management in three selected African tertiary institutions. Over the course of eighteen months, this initiative will set up registered research management offices in at least 3 African institutions and provide training to staff to gain competencies in managing sponsored research grants that meet the requirement of funding agencies. It will build on the successes of CaBERA award that established three offices of research management in Ghanaian tertiary institutions. It will also build on the long standing record of the Ghana-Yale Partnership for Global Health for capacity building for health research.

PROJECT NARRATIVE

The Noguchi Memorial Institute for Medical Research (NMIMR), Ghana collaboration with Yale University's Office of Sponsored Research successfully applied to NIH in 2016 for a G11 capacity building grant *titled Capacity Building for Enhanced Research Administration (CaBERA) at Noguchi Memorial Institute* with the aim to strengthen the ORS at NMIMR and in addition help establish such offices in two other tertiary institutions in Ghana. At the end of the project period, a systematic evaluation of the project, especially in establishing research offices in two other Institutes, revealed the need for such offices across Africa. The overall objective of this project is therefore, building upon the successes of the first project, seek support for the establishment of research management offices in three selected Institutes in Africa.

Facilities and Other Resources

The Noguchi Memorial Institute for Medical Research (<http://www.noguchimedres.org/>)

The Noguchi Memorial Institute for Medical Research (NMIMR), established in 1979 as a semi-autonomous institute of the University of Ghana, is the country's leading biomedical research facility. The Institute is located on the University of Ghana campus at Legon, approximately 5km from Accra International Airport and 25km from the port city of Tema. The Institute is committed to research on national health priorities and training of biomedical scientists. Its vision is to be a world class Institute capable of conducting high quality cutting edge research and training in the biomedical sciences. The broad objectives and mandate of the Institute are:

- To conduct research into health problems of Public Health importance in Ghana.
- To provide training opportunities for postgraduate students in medical research.
- To provide specialized laboratory diagnostic and monitoring services in support of public health programs.

In order to generate quality data to guide evidence based policies, the Institute is committed to conducting high quality research, ensuring integrity of research data, and upholding the highest ethical standards.

A Director heads the Institute and is assisted by an Institute administrator and various supporting staff; . Accounts, Biosafety, Maintenance, etc. Of relevance to the management of research grants is the Office of Research Support which is headed by a coordinator who reports to the Director. The current staff strength 289 which includes 104 scientists, 65 technical staff and 120 support staff.

The Institute has nine scientific Departments, each headed by a Senior Scientist: Animal Experimentation; Bacteriology; Clinical Pathology; Electron Microscopy and Histopathology; Epidemiology; Immunology; Nutrition; Parasitology; and Virology

The Institute's research portfolio is wide and varied, and it includes malaria, soil-transmitted helminthiasis and schistosomiasis, filariasis (lymphatic filariasis and onchocerciasis), diarrheal diseases, Buruli ulcer, tuberculosis, HIV/AIDS, poliomyelitis, sexually transmitted infections, micronutrients, infant and maternal mortality, viral hemorrhagic fevers, EPI Diseases, hemoglobinopathies (sickle cell disease etc.), Plant medicine and drug discovery, allergies, environmental pollution, etc.

In addition to research, the Institute provides extensive training opportunities in biomedical research to undergraduate and postgraduate students, postdocs. The Institute is also active in collaborative research and training with a variety of international partners, including Yale University under the Ghana-Yale Partnership for Global Health, University of Michigan, University of Denmark among others.

The Institute' has a database and archival systems and provides support to most research conducted in the Institute with its biostatistics and epidemiology capabilities. It also has a local area network and provides 24/7 internet connectivity and network services, and dedicated servers for data storage and archiving. The Institute also has a fully functional Office of Sponsored Research (OSR) that manages all research projects. Power supply is from the national grid which is backed up by a 500KV generator that switches on automatically in the event of power outage, and also a back-up 10,000-gallon capacity water storage tank. A solar-farm with the capacity to supply 40% of the Institute's daily power needs also exists.

Administrative resources

Each of the key personnel at the Noguchi Institute has a private office and access to administrative support. Grants Management and compliance will be coordinated by the Office of Research Support at the Noguchi Institute. The ORS has a staff of nine (9) and this includes the Research Development Officer who is also the Coordinator of the Office, three administrative assistants, two finance officers, an Assistant Database officer and a public relations officer.

Research Ethics

An independent institutional review board with a federal wide assurance accreditation (FWA #: 00001824) to ensure that quality research is conducted. It reviews all research proposals and regularly monitors and evaluate both field and laboratory activities.

Yale University Resources

The Yale University School of Medicine, one of the nation's premier educational and research institutions, was established in 1810. Today it has 1472 full-time faculty, 1972 part-time faculty, and 421 MD, 79 MD/PhD, 339 PhD and 99 MPH students. During the past decade, research funding for Yale School of Medicine has almost doubled to over \$400 million per year. The Medical School is the recipient of 53 T32 and 31 K23/24 awards, and more than 50 program project/center grants.

All key personnel have designated personal computers. These computers all have licensed copies of office productivity software (Microsoft), image analysis suites (Adobe), statistical/graphing software (GraphPad), and DNA sequence analysis. Several floating licenses are available to the investigators for DNA Sequencing (both Sanger-style and 'Next-Generation') analysis software from CLCbio and Biomatters, as well as licenses for Fragment Analysis software from Softgenetics and from Applied Biosciences.

The trainees will be hosted at OSP. The Office of Sponsored Projects (OSP), under the direction of the **Office of Research Administration (ORA)**, provides assistance to faculty and staff in obtaining and managing sponsored awards that support scholarly activities. OSP is charged with reviewing and approving proposals submitted to all sponsors, for interpreting, negotiating, and accepting grants and contracts for sponsored projects funded by federal and state agencies, foundations and other public and private sources, and providing guidance to assure proper stewardship of funds that are received. In addition, OSP prepares and negotiates subawards for collaborative research and works closely with faculty and business office staff to ensure financial compliance and proper accounting of externally sponsored funds. OSP's financial management responsibilities include cash management, financial reporting, award closeout, and effort reporting. The OSP has about eighty (80) staff including financial analyst, sponsored project specialist, senior grant manager, effort reporting administrator, proposal manager etc. It also has sub units which operate under the supervision of Directors and Managers:

- ☐ Sponsored office
- ☐ Project Management office
- ☐ Contract office
- ☐ Financial office
- ☐ Contact office
- ☐ Accounts office
- ☐ Project management office
- ☐ Project coordination office

RESEARCH & RELATED Senior/Key Person Profile (Expanded)

PROFILE - Project Director/Principal Investigator			
Prefix:	First Name*: Nana	Middle Name Oye	Last Name*: Akuffo
Suffix:			
Position/Title*:	Research Development Officer		
Organization Name*:	NOGUCHI MEMORIAL INSTITUTE / MEDICAL RES		
Department:			
Division:			
Street1*:			
Street2:			
City*:			
County:			
State*:			
Province:			
Country*:	GHA: GHANA		
Zip / Postal Code*:			
Phone Number*:		Fax Number:	
E-Mail*:			
Credential, e.g., agency login:			
Project Role*: PD/PI	Other Project Role Category:		
Degree Type:	Degree Year:		
Attach Biographical Sketch*:	File Name:	BIOSKETCH_NANA_CABERA-II_2019.pdf	
Attach Current & Pending Support:	File Name:		

PROFILE - Senior/Key Person			
Prefix:	First Name*: KWADWO	Middle Name ANSAH	Last Name*: KORAM Suffix: Ph.D
Position/Title*:	PROFESSOR OF EPIDEMIOLOGY		
Organization Name*:	Noguchi Memorial Institute for Medical Research		
Department:	Epidemiology		
Division:			
Street1*:			
Street2:			
City*:			
County:			
State*:			
Province:			
Country*:	GHA: GHANA		
Zip / Postal Code*:			
Phone Number*:		Fax Number:	
E-Mail*:			
Credential, e.g., agency login:			
Project Role*:	Co-Investigator	Other Project Role Category:	
Degree Type:	Degree Year:		
Attach Biographical Sketch*:	File Name:	BIOSKETCH_KORAM_CABERA-II_2019.pdf	
Attach Current & Pending Support:	File Name:		

PROFILE - Senior/Key Person			
Prefix:	First Name*: Griselda	Middle Name	Last Name*: Annan Suffix:
Position/Title*:	Senior Administrative Personnel		
Organization Name*:	Noguchi Memorial Institute for Medical Research		
Department:	Office for Research Support		
Division:			
Street1*:			
Street2:			
City*:			
County:			
State*:			
Province:			
Country*:	GHA: GHANA		
Zip / Postal Code*:			
Phone Number*:		Fax Number:	
E-Mail*:			
Credential, e.g., agency login:			
Project Role*:	Other (Specify)	Other Project Role Category:	Project Coordinator
Degree Type:	Degree Year:		
Attach Biographical Sketch*:	File Name:	BIOSKETCH_ANNAN_CABERA-II_2019.pdf	
Attach Current & Pending Support:	File Name:		

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Akuffo, Nana Oye

eRA COMMONS USER NAME (credential, e.g., agency login): [REDACTED]

POSITION TITLE: Research Development Administrator

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
University of Cape Coast	B.Ed (Hons)	2001	Business Management
Central University College	MBA	2008	Human Resource Management
African Center for Capacity Building	Certificate	2012	Project Management
Society of Research Administrators, Virginia	Certificate	2016	Introduction to Research Admin-NIH

A. Personal Statement

I am the Research Development Officer/Coordinator for the Office for Research Support at the Noguchi Memorial Institute for Medical Research Institute. I played a key role in setting up the Office of Sponsored Research, which was set up in order to streamline the grants administration process at the Institute and am fully committed to the successful running of this project. In 2016, in collaboration with Yale Office of Sponsored Projects, I applied for and was awarded a grant by NIH for the project titled "Capacity Building for Enhanced Research Administration (CaBERA) at Noguchi Memorial Institute for Medical Research" for capacity building of the ORS and establishing an office of sponsored research in two identified universities in Ghana. The aims of the project include training two administrators at Yale Office for sponsored research to acquire skills in research administration and establishing a bi-directional relationship between NMIMR and Yale University for ongoing support and knowledge exchange. A main feature of the grant is to identify two Institutions with NIH funded grants and assist them establish a research support office with a working knowledge of NIH policies and regulations. In 2018, I was awarded the maiden Research Administrators Mobility Program (RAMP) Scholarship by Society of Research Administrators International (SRAI). The newly established scholarship was designed to provide financial support for an in-house training at the Office of Sponsored Projects (OSP) at Yale University for the purpose of observing, learning and understanding more about the business operations and processes involved with sponsored projects at Yale University. I believe these experiences puts me in the right position to apply for this grant to support other Institutions to establish and strengthen their research support office

B. Positions and Honors**Positions and Employment**

2002 – 2004 Senior Administrative Assistant, Noguchi Memorial Institute for Medical Research
 2004 – 2008 Principal Administrative Assistant, Noguchi Memorial Institute for Medical Research
 2008 – 2010 Project Assistant, Noguchi Memorial Institute for Medical Research
 2010 – Date Coordinator, Postdoctoral/Fellowship Programme, Noguchi Memorial Institute for Medical Research
 2010 – Date Coordinator, Office of Sponsored Research, Noguchi Memorial Institute for Medical Research

Other Experience and Professional Memberships

2010	Member, Reviewing Committee for the Implementation, Postdoc
2011 –	Coordinator, ORS
2011 –	Coordinator, Postdoctoral Fellowship Program
2011 –	Member, NMIMR Administrative Committee Member
2011 – Date	Research Development Officer, Office of Research Support, NMIMR
2012 – Date	Coordinator for H3Africa Kidney
2012 –	Member, Establishment of NIACUC
2012 –	Member, Faculty Board, NMIMR

C. Contribution to Science

As the Coordinator of the ORS, I have facilitated in winning several research awards for the institute. Most of these grants have over the years contributed towards the elimination of infectious disease such as malaria, buruli ulcer, neglected tropical disease (NTDs), sexually transmitted diseases (STDs), tuberculosis (TB) and many others. Though complete elimination has not yet being achieved in most of the endemic communities, their research have resulted in significant health policy development and health promotion initiatives in Ghana. Amongst the countless contributions made by the researches coordinated by the ORS, the following

1. Establishment of clinics in rural areas and the introduction of services such as childhood immunisation, antenatal care, treatment of parasitic diseases and minor illnesses as well as health education and basic sanitation programmes to reduce infant and child morbidity and mortality.
2. Students from the country's tertiary institutions and foreign universities are regularly attached to NMIMR for laboratory experience and conducting research projects for university degrees. Additionally, NMIMR's Research Studentship Programme which provides opportunities for graduate students to undertake their project work with full sponsorship from the Institute is well known and highly rated.
3. Through specialized training of middle level manpower and programme managers, the Institute has enhanced the preparedness of health systems for disease diagnosis and control and currently acts as the first point of call in providing research capacity to manage emerging and re-emerging epidemics such as Avian Influenza.
4. Train postdoctoral scientists to increase the human resource of the institute.
5. NMIMR provides scientific evidence to inform Malaria treatment and control policy, and has made available laboratory diagnostic support towards Polio eradication, control of Measles, management of Buruli ulcer, as well as epidemiological and diagnostic support for the control of schistosomiasis (bilharzias)/ intestinal worms. Additionally it provides support for the development of plant medicines

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

NIAID/NIH (1U19AI129916)	Wilson (PI)	2017-2022
Noguchi Institute Initiative for Neglected Tropical Diseases Elimination (NIINE)		

Overall Goals: To identify the major individual, community, environmental and the parasitic risk factors associated with hookworm infections, treatment failures and reinfections. Also in the implementation of NIINE to identify genetic markers of resistance and subsequently use them to map drug responses and monitoring of resistance. It is envisaged that products of NIINE will improve the monitoring and evaluation of existing deworming campaigns.

Role: Grants Administrator

NHGRI 1U54HG010275-01

Ghansah, Tindana (PIs)

2018-2023

Title: Community Engagement in Biobanking and Genomics (CEBioGen)

Description: This study will investigate the role of community engagement in genomic research and biobanking in sub-Saharan Africa through collaborative research projects across six African countries: Ghana, Nigeria, South Africa, The Gambia, Tanzania and Kenya.

Role: Grants Administrator

Completed Research Support

NIAID/NIH1G11AI131250-01

Akuffo (PI)

2017-2018

Title: Capacity Building for Enhanced Research Administration (CaBERA) at Noguchi Memorial Institute for Medical Research

Goal: develop a robust and sustainable ORS that can efficiently manage pre- and post-award research grants, and to build capacity of a cadre of staff knowledgeable in research administration.

Role: PI

Grant ref. no. 1U01IP000607-01

William Ampofo (PI)

2012-2017

Centres for Disease Control and Prevention (CDC), USA

Epidemiology, Prevention and Treatment of Influenza and Other Respiratory Infections in Ghana.

Goal: Determining the epidemiology, treatment and prevention of respiratory infections to assist in producing reliable estimates of the burden of ALRI and to inform the preparation of national preparedness plans against influenza epidemics

Role: Administrator

Grant ref.no.1U54HG006939-01

Dwomoh Adu (PI)

2012-2017

H3Africa Kidney,(NIH,USA)

Goal: Establish a kidney disease cohort of 4,000 participants and 4,000 controls (from a target population of 312 million in Ethiopia, Ghana, Kenya and Nigeria and to establish and maintain two sustainable genomic research laboratories in sub-Saharan Africa (Ghana, Nigeria and Kenya) using rugged , low capital-intensity laboratory technology platform developed at University of Michigan (U-M), Department of Human Genetics. Role: Coordinator.

Grant ref. no. 1P50AI098505-01

Seydou Doumbia PI)

2012-2017

Cutaneous Leishmaniasis in West Africa: the Parasite, Vector and Disease

Goal: Characterize post-epidemic CL transmission in 3 atypical foci located in the Ho District, Ghana and determine the prevalence of CL (infection and disease) in 3 atypical foci located in the Ho District, Ghana. Role: Coordinator

Grant ref.no. [REDACTED]

Micheal Ofori (PI)

2013-2017

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Role: Coordinator

Grant ref.no. [REDACTED]

James Brandful (PI)

2012-2017

[REDACTED]
[REDACTED]
[REDACTED]

Role: Coordinator

BIOGRAPHICAL SKETCH

NAME: Koram, Kwadwo Ansah

eRA COMMONS USER NAME (credential, e.g., agency login): [REDACTED]

POSITION TITLE: Professor of Epidemiology

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Ghana Medical School, Accra, Ghana	MB, ChB	05/1982	Medicine
University of Tulane, School of Public Health, New Orleans, USA	MPH & TM	06/1988	Public Health /Tropical Medicine
London School of Hygiene and Tropical Medicine, London, UK	PhD	07/1993	Public Health and Epidemiology

A. Personal Statement

My work in rural and deprived communities in Ghana at the beginning of my medical career exposed me early to the challenges of mounting an effective public health response to the high burden of infectious diseases if one is to make a significant contribution to the improvement of health in the country. My broad training in epidemiology and public health with practical hands-on training at the MRC Labs in The Gambia allowed me to develop skills in all aspects of large-scale epidemiologic research including field organization, data management, and analysis, especially as it relates to vector-borne diseases. Since returning home after my doctorate, I have worked at the Noguchi Memorial Institute for Medical Research (NMIMR) as an infectious disease epidemiologist and, most recently, as the Director NMIMR. I devoted much of my early career to studies of the immuno-epidemiology of malaria, treatment efficacy and intervention studies. I served as PI or Co-Investigator on a number of such projects, leading studies from protocol design, staffing, recruitment, data collection and analysis, to publication of manuscripts in peer-reviewed journals. Through these studies, I have been able to establish strong ties with several communities and gained experience coordinating large collaborations across several countries and diverse groups. As Director of NMIMR, I worked to expand our research portfolio to address breadth of public health priorities for Ghana, from chronic diseases to emerging infections. I also have long valued mentoring students and junior scientists, activities I will be able to engage more now that I have stepped down as the substantive director of the Institute. I am particularly enthusiastic about the proposed research on computational models of immunity as I will be able to engage further in the earlier work on immune-epidemiology of malaria that I was actively involved in. Expanding the research to include computational biology should lead to new insights in the control of natural infections in endemic populations and ultimately lead to the development of novel tools for the control of malaria. The proposed research will also allow us support training of our staff in computational biology with our US collaborators at the Loyola University and eventually build a critical mass of young researchers in this area at the Institute. I will serve as subcontract PI and see this as an ideal opportunity to undertake innovative science and build research capacity for an important and emerging research area in West Africa.

- Asante KP, Owusu-Agyei S, Cairns M, Boamah E, Manu G, Twumasi M, Gyasi R, Adjei G, Kayan K, Mahama E, Dosoo DK, **Koram K**, Greenwood B, Chandramohan D. Non-malaria fevers in a high malaria endemic area of Ghana. *BMC Infect Dis*. 2016;16:327. PubMed PMID: 27400781.
- Greenwood B, Koram K. Malaria control in Africa: progress but still much to do. *Lancet*. 2014;383(9930):1703-4. Epub 2014/02/25. PubMed PMID: 24559538.
- Dadzie S, Boakye D, Asoala V, **Koram K**, Kiszewski A, Appawu M. A community-wide study of malaria reduction: evaluating efficacy and user-acceptance of a low-cost repellent in northern Ghana. *Am J Trop Med Hyg*. 2013;88(2):309-14. PubMed PMID: 23249683.

4. Awini EA, Bonney JHK, Frimpong JA, Ampofo WK, **Koram KA**. Information gaps in surveillance data and effects on the Ghanaian response to the Ebola outbreak in West Africa. *Ghana Med J*. 2017;51(3):115-9. Epub 2018/04/07. PubMed PMID: 29622822.

B. Positions and Honors

Positions and Employment

2017 -	Professor (Research), Epidemiology Department, Noguchi Memorial Institute for Medical Research, University of Ghana, Legon
2012 – 2017	Director, Noguchi Memorial Institute for Medical Research, University of Ghana, Legon, Ghana
2009 – 2012	Deputy Director, Noguchi Memorial Institute for Medical Research, University of Ghana, Legon, Ghana
2005 – 2009	Associate Professor & Head, Department of Epidemiology,
1999 – 2005	Senior Research Fellow & Head
1994 – present	Coordinator /Lecturer. Principles of Epidemiology course, School of Public Health, University of Ghana. Legon
1993 – 1998	Research Fellow, Epidemiology
1989 – 1992	Scientific Officer (Epidemiology) MRC Labs, Atlantic Boulevard, Fajara, Banjul, The Gambia
1989	District Medical Officer of Health, Bawku District, Bawku Hospital, Bawku, Ghana
1984 – 1987	Medical Officer, Bawku District, Bawku Hospital, Bawku, Ghana
1982 – 1983	House Officer (Pediatrics, Obstetrics and Gynecology, University of Ghana Medical School Korle-Bu Teaching Hospital, Korle-Bu, Accra, Ghana

Other Experience and Professional Memberships

1995 – 2000	Member, Coordinating Committee, African Malaria Vaccine Testing Network
1999	Member, Planning committee for 21 st African Health Sciences Congress meeting
2000 – present	Member, Editorial Board, Ghana Medical Journal
2001 – 2005	Member, Scientific Coordinating Committee, African Malaria Vaccine Network Trust
2004 – present	Member, Independent Data Monitoring Committee for RTS,S Malaria Vaccine Trials sponsored by GSK Biologicals
2004 – present	Chair, Quality Assurance Task Force, Noguchi Memorial Institute for Medical Research
2004 – 2008	Member of the Scientific Review Panel for the Ghana – Dutch Joint Programme Committee
2008	Examiner, MPH, Wits School of Public Health
2009	Member Scientific Review Committee, EDCTP
2009	Reviewer for the BMGF
2009 -present	Member, Editorial Board, Malaria Research & Treatment

Honors

1989	WHO/TDR Fellowship in Epidemiology, MRC Labs Fajara, The Gambia
------	---

C. Contribution to Science

1. Socio-economic status and severe malaria. Risk factors for severe malaria have not been well established and we still do not understand why children in the same community with apparently similar exposure to infectious bites have different disease courses. My early research established that while socio-economic factors may be important in changing the risk of infection, once infected, the course of the disease, whether a child develops severe malaria or uncomplicated malaria was less affected by the socio-economic status. I was the PI on the key study on socio-economic risk factors for severe malaria, a part of a large-scale study on the risk factors of severe malaria in The Gambia.

- a) **Koram KA**, Bennett S, Adiamah JH, Greenwood BM. Socio-economic determinants are not major risk factors for severe malaria in Gambian children. *Trans R Soc Trop Med Hyg*. 1995;89(2):151-4. PubMed PMID: 7778138.
- b) **Koram KA**, Bennett S, Adiamah JH, Greenwood BM. Socio-economic risk factors for malaria in a peri-urban area of The Gambia. *Trans R Soc Trop Med Hyg*. 1995;89(2):146-50. PubMed PMID: 7778137.
- c) Adiamah JH, **Koram KA**, Thomson MC, Lindsay SW, Todd J, Greenwood BM. Entomological risk factors for severe malaria in a peri-urban area of The Gambia. *Ann Trop Med Parasitol*. 1993;87(5):491-

500. PubMed PMID: 8311575.

2. Malaria immunity in young children. Subsequent to these early studies, I was involved in the design and execution of immune- epidemiological studies on malaria in collaboration with several investigators both at home and outside my home institution. The studies were designed with a view to understanding the acquisition of natural immunity in a malaria endemic area. We documented that maternal immunity wanes very early in life and infections are relatively common in infancy even in areas of moderate transmission. In addition, we were able to establish that infants are able to control low density infections without getting ill and that illness usually meant either exposure to a “new” parasite strain or high density infection. This work also demonstrated that immunity to some parasite antigens were associated with clinical protection from malaria.

- a) Riley EM, Wagner GE, Ofori MF, Wheeler JG, Akanmori BD, Tetteh K, McGuinness D, Bennett S, Nkrumah FK, Anders RF, **Koram KA**. Lack of association between maternal antibody and protection of African infants from malaria infection. *Infect Immun*. 2000;68(10):5856-63. Epub 2000/09/19. PubMed PMID: 10992495.
- b) Riley EM, Wagner GE, Akanmori BD, **Koram KA**. Do maternally acquired antibodies protect infants from malaria infection? *Parasite Immunol*. 2001;23(2):51-9. PubMed PMID: 11240896.
- c) Franks S, **Koram KA**, Wagner GE, Tetteh K, McGuinness D, Wheeler JG, Nkrumah F, Ranford-Cartwright L, Riley EM. Frequent and persistent, asymptomatic *Plasmodium falciparum* infections in African infants, characterized by multilocus genotyping. *J Infect Dis*. 2001;183(5):796-804. PubMed PMID: 11181157.
- d) Theisen M, Dodoo D, Toure-Balde A, Soe S, Corradin G, **Koram KK**, Kurtzhals JA, Hviid L, Theander T, Akanmori B, Ndiaye M, Druilhe P. Selection of glutamate-rich protein long synthetic peptides for vaccine development: antigenicity and relationship with clinical protection and immunogenicity. *Infect Immun*. 2001;69(9):5223-9. PubMed PMID: 11500389.

3. Chloroquine resistance for uncomplicated malaria. The effectiveness of malaria treatment had become an issue by the late 1990s and chloroquine and SP, which had been the mainstay of treatment, had begun to fail in several places. We conducted a series of studies to assess the efficacy of malaria treatment in Ghana and documented conclusively that Chloroquine was no longer effective for the treatment of uncomplicated malaria. We went on further to conduct trials to determine which treatment could be used in place of these two. We developed further studies to further understand the underlying molecular determinants of the observed resistance and confirmed that parasites in Ghana had similar mutations to those observed previously. These studies had clear policy implications and we worked with the National Malaria Control Program to develop new treatment guidelines based on the results of our studies. I was the PI of these studies responsible for the overall management of these studies from concept design, through field work and manuscript preparation.

- a) **Koram K**, Quaye L, Abuaku B. Efficacy of amodiaquine/artesunate combination therapy for uncomplicated malaria in children under five years in Ghana. *Ghana Med J*. 2008;42(2):55-60. PubMed PMID: 19180204.
- b) Alam MT, de Souza DK, Vinayak S, Griffing SM, Poe AC, Duah NO, Ghansah A, Asamoah K, Slutsker L, Wilson MD, Barnwell JW, Udhayakumar V, **Koram KA**. Selective sweeps and genetic lineages of *Plasmodium falciparum* drug -resistant alleles in Ghana. *J Infect Dis*. 2011;203(2):220-7. PubMed PMID: 21288822.
- c) **Koram KA**, Abuaku B, Duah N, Quashie N. Comparative efficacy of antimalarial drugs including ACTs in the treatment of uncomplicated malaria among children under 5 years in Ghana. *Acta Trop*. 2005;95(3):194-203. Epub 2005/08/02. PubMed PMID: 16054584.
- d) Abuaku B, Duah N, Quaye L, Quashie N, Malm K, Bart-Plange C, **Koram K**. Therapeutic efficacy of artesunate-amodiaquine and artemether-lumefantrine combinations in the treatment of uncomplicated malaria in two ecological zones in Ghana. *Malar J*. 2016;15:6. PubMed PMID: 26728096.

D. Research Support

Ongoing Research Support

Role: Co PI

2014-2019

Role: Ghana PI

2014 – 2019

Major goals of the project are to provide advanced bioinformatics and statistical training for young African scientist on the continent.

Recently Completed Projects

Epidemiology, Prevention and Treatment of Influenza and Other Respiratory Infections in Ghana CDC
1U01IP000607-01 (Ampofo, PI) 10/2012-9/2017

Role Co PI

The major goals of this project were to collect and analyze the data from these studies to determine the relative importance of influenza and other respiratory pathogens as causes of ill health in the Ghana

The Impact of Seasonality and Vector Control on the Population Structure of *Plasmodium falciparum*
FIC/NIH 1R01TW009670-01 (Pascual, PI) 9/1/2013 – 8/31/2017

Role PI for Ghana studies

The major goals of this project were to (1) develop a strain theory for *Plasmodium falciparum* malaria to explain the population structure and genetic diversity of the pathogen, from the perspective of a major antigen (PfEMP1) encoded by the multi-copy var gene family; (2) to test this theory with a unique genetic data set that will be obtained as part of this project and allow us to document changes in population structure through time, space, and a major vector intervention.

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. DO NOT EXCEED FIVE PAGES.

NAME: Annan, Griselda

eRA COMMONS USER NAME (credential, e.g., agency login): [REDACTED]

POSITION TITLE: Senior Research Administrative Personnel

EDUCATION/TRAINING (*Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.*)

INSTITUTION AND LOCATION	DEGREE (if applicable)	END DATE MM/YYYY	FIELD OF STUDY
University of Ghana	BA (Hons)	2010	English
University of Ghana	MPhil	2018	English
Society of Research Administrators, Florida	Certificate	2018	Introduction to NIH

A. Personal Statement

I am the Research Administrative Personnel in the Office for Research Support and work closely with the Research Development Officer since the inception of the ORS. I assist both students and staff in the areas of training opportunities and involvement in research activities. I play a key role in grants submission processes, tracking of submitted grants, coordination of project activities, post-award processes such as preparation and submission of progress reports, request for funds, compliance issues, etc. I have attended some international workshops and the knowledge acquired from these workshop equipped me to facilitate and organize two major workshops in my Institute. In 2018, I attended the NIH sponsored in-house training at the Yale Office for Sponsored Projects for two-weeks where I shadowed the grants management activities of the office. Based on this, I assisted in training staff of research support offices in Noguchi and two other Universities in Ghana. This platform has offered me the opportunity to enhance my training capacity as well as broaden my knowledge in establishing research support offices. This grant will therefore be another stepping stone to further develop my capacity in research management and assist other staff to improve their grants management skills.

B. Positions and Honors**Positions and Employment**

2010 – 2016 Research Administrative Personnel, Noguchi Memorial Institute for Medical Research
2017- present Senior Research Administrative Personnel, Noguchi Memorial Institute for Medical Research

Other Experience and Professional Memberships

2013 - Facilitator- Workshop for Departmental Secretaries, NMIMR. August 2013.
2014 - Participant- West African Research Innovation and Management Association (WARIMA) Conference.
2015 - Participant- Seminar on Academic Writing. NMIMR
2015 - Organizer- West African Research Innovation and Management (WARIMA). NMIMR.
2016 - Participant Research Grant Development Management Workshop. Obstetrics and

2016- Facilitator	Gynecology Conference Room, Korle-Bu. Research Administration Training. College of Health Science, University of Ghana.
2016 Participant-	South African Research Innovation and Management (SARIMA). Durban, South Africa.
2017 - Member	Society for Research Administrators, 2017 Annual General Meeting
2018 – Participant	National Institute of Allergy and Infectious Diseases, NIAID/NIH Post Award Grants Policy and Management Training, Dakar, Senegal
2018 – Facilitator	Research Management Training Workshop for ORS Staff and Administrative Assistants, NMIMR
2018 – Facilitator	Grants Management Training workshop for Research Faculty, NMIMR
2018 – Resource Person	Establishment of a Research Support Office at the University of Development Studies (UDS), Tamale
2018 – Resource Person	Enhancing Research Support at the University of Mines and Technology (UMaT), Tarkwa

C. Contribution to Science

D. Additional Information: Research Support and/or Scholastic Performance

Ongoing Research Support

NIAID/NIH (1U19AI129916) Wilson (PI) 2017-2022

Noguchi Institute Initiative for Neglected Tropical Diseases Elimination (NIINE)

Overall Goals: To identify the major individual, community, environmental and the parasitic risk factors associated with hookworm infections, treatment failures and reinfections. Also in the implementation of NIINE to identify genetic markers of resistance and subsequently use them to map drug responses and monitoring of resistance. It is envisaged that products of NIINE will improve the monitoring and evaluation of existing deworming campaigns.

Role: Administrative Assistant

NHGRI 1U54HG010275-01 Ghansah, Tindana (PIs) 2018-2023

Title: Community Engagement in Biobanking and Genomics (CEBioGen)

Description: This study will investigate the role of community engagement in genomic research and biobanking in sub-Saharan Africa through collaborative research projects across six African countries: Ghana, Nigeria, South Africa, The Gambia, Tanzania and Kenya.

Role: Administrative Assistant

Completed Research Support

NIAID/NIH1G11AI131250-01 Akuffo (PI) 2017-2018

Title: Capacity Building for Enhanced Research Administration (CaBERA) at Noguchi Memorial Institute for Medical Research

Goal: develop a robust and sustainable ORS that can efficiently manage pre- and post-award research grants, and to build capacity of a cadre of staff knowledgeable in research administration.

Role: Administrative Assistant

RESEARCH & RELATED BUDGET - SECTION A & B, Budget Period 1

ORGANIZATIONAL DUNS*: [REDACTED]

Budget Type*: ☒ Project ☐ Subaward/Consortium

Enter name of Organization: NOGUCHI MEMORIAL INSTITUTE / MEDICAL RES

Start Date*: 06-01-2020

End Date*: 12-31-2020

Budget Period: 1

A. Senior/Key Person

Prefix	First Name*	Middle Name	Last Name*	Suffix	Project Role*	Base Salary (\$)	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits (\$)*	Funds Requested (\$)*
1.	Nana	Oye	Akuffo		PD/PI	[REDACTED]	3.0			[REDACTED]	0.00	[REDACTED]
2.	Prof. Kwadwo	Ansah	Koram		Co-Investigator	[REDACTED]	1.2			[REDACTED]	0.00	[REDACTED]
3.	Griselda		Annan		Project Coordinator	[REDACTED]	6.0			[REDACTED]	0.00	[REDACTED]

Total Funds Requested for all Senior Key Persons in the attached file

Additional Senior Key Persons:

File Name:

Total Senior/Key Person

B. Other Personnel

Number of Personnel*	Project Role*	Calendar Months	Academic Months	Summer Months	Requested Salary (\$)*	Fringe Benefits*	Funds Requested (\$)*
	Post Doctoral Associates						
	Graduate Students						
	Undergraduate Students						
1	Secretarial/Clerical	6.0			[REDACTED]	0.00	[REDACTED]
1	Total Number Other Personnel					Total Other Personnel	[REDACTED]
					Total Salary, Wages and Fringe Benefits (A+B)		[REDACTED]

RESEARCH & RELATED Budget {A-B} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTION C, D, & E, Budget Period 1**ORGANIZATIONAL DUNS*:** [REDACTED]**Budget Type*:** ☒ Project ☐ Subaward/Consortium**Organization:** NOGUCHI MEMORIAL INSTITUTE / MEDICAL RES**Start Date*:** 06-01-2020**End Date*:** 12-31-2020**Budget Period:** 1**C. Equipment Description**

List items and dollar amount for each item exceeding \$5,000

Equipment Item**Funds Requested (\$)*****Total funds requested for all equipment listed in the attached file****Total Equipment** 0.00**Additional Equipment:** File Name:**D. Travel****Funds Requested (\$)***

1. Domestic Travel Costs (Incl. Canada, Mexico, and U.S. Possessions)

2. Foreign Travel Costs

Total Travel Cost [REDACTED]**E. Participant/Trainee Support Costs****Funds Requested (\$)***

1. Tuition/Fees/Health Insurance

2. Stipends

3. Travel

4. Subsistence

5. Other:

Number of Participants/Trainees**Total Participant Trainee Support Costs** 0.00

RESEARCH & RELATED Budget {C-E} (Funds Requested)

RESEARCH & RELATED BUDGET - SECTIONS F-K, Budget Period 1**ORGANIZATIONAL DUNS*:** [REDACTED]**Budget Type*:** ☒ Project ☐ Subaward/Consortium**Organization:** NOGUCHI MEMORIAL INSTITUTE / MEDICAL RES**Start Date*:** 06-01-2020**End Date*:** 12-31-2020**Budget Period:** 1

F. Other Direct Costs	Funds Requested (\$)*
1. Materials and Supplies	[REDACTED]
2. Publication Costs	[REDACTED]
3. Consultant Services	
4. ADP/Computer Services	
5. Subawards/Consortium/Contractual Costs	
6. Equipment or Facility Rental/User Fees	
7. Alterations and Renovations	
8 . sustainability	[REDACTED]
9 . webinar	[REDACTED]
10 . training and communication	[REDACTED]
Total Other Direct Costs	[REDACTED]

G. Direct Costs	Funds Requested (\$)*
Total Direct Costs (A thru F)	[REDACTED]

H. Indirect Costs				Funds Requested (\$)*
Indirect Cost Type	Indirect Cost Rate (%)	Indirect Cost Base (\$)		
1 . facilities and administrative charges	8.0	[REDACTED]		[REDACTED]
		Total Indirect Costs		[REDACTED]
Cognizant Federal Agency				
(Agency Name, POC Name, and POC Phone Number)				

I. Total Direct and Indirect Costs	Funds Requested (\$)*
Total Direct and Indirect Institutional Costs (G + H)	[REDACTED]

J. Fee	Funds Requested (\$)*

K. Total Costs and Fee	Funds Requested (\$)*
	[REDACTED]

L. Budget Justification*
File Name: BUDGETJUSTIFICATIONS_CaBERA- II_NOA_2019.pdf (Only attach one file.)

RESEARCH & RELATED Budget {F-K} (Funds Requested)

NMIMR BUDGET JUSTIFICATION

Personnel

Mrs. Nana Oye Akuffo, Principal Investigator (30% effort for the entire 18 months period)
Base Salary: [REDACTED]

Funds are requested for 3 calendar months' salary support for Ms. Akuffo, a Research Development Officer in the Office for Research Support (ORS) at NMIMR. Ms. Akuffo will receive a two-week training at the Yale University, and in turn train the staff of NMIMR and also other local institutions. She will also coordinate activities of training sessions both at NMIMR and other institutions.

Prof. Kwadwo Ansah Koram, Co-Investigator (10% effort for the entire 18 months period)
Base Salary: [REDACTED]

Prof. Kwadwo Ansah Koram is a former Director of Noguchi and has supervised over one hundred projects. He will coordinate with the PI to run the project effectively and supervise trainings. He will also assist in evaluating the needs assessment test and be part of communications between the PI and selected institutions.

Griselda Annan, Project Coordinator (40% effort for the entire 18 months period)
Base Salary: [REDACTED]

Funds are requested for 6 calendar months' salary support for the Project Coordinator who will be coordinating meetings and the managing the activities of the project. She will supervise the needs assessment test at the selected Institutions and compile them for evaluation. She has worked closely with the PI since the inception of the ORS and she has knowledge in project and grants management because she has been coordinating projects for a while.

Financial and Administrative Assistant (40% effort for the entire 18 months period)
Base Salary: [REDACTED]

Funds are requested for 6 calendar months' salary support for a Financial and Administrative Personnel who will provide support for trainings, conference calls, provide administrative and financial support for the entire period.

Equipment

N/A

Supplies

Two laptops will be purchased for the PI and Co-PI at [REDACTED] each for effective management of the project.

Travel

Domestic Travel: Funds have been set-aside in for the 18 months to allow the PI and the project coordinator plus one senior administrator from the beneficiary CaBERA Institutions to travel to Yale University for two-weeks training. The costs include transportation from Ghana on

US flag air carries, accommodation, in country transport, and in food/incidentals. All travel will follow NIH guidelines. The project coordinator and the senior administrator to be named will also attend the NIH regional seminar on program funding and grants administration in 2020 which has been costed in the travel budget. The PI and the project Coordinator will attend a five-day of in-house training with the Grants Management Program (GMP) at NIAID in Rockville, MD. The total amount budgeted for all domestic travel is [REDACTED]

Local/International Travel: Funds have been set-aside for the 18-month period to allow the grants management team travel to the local institutions for training. This will include visit to the two CaBERA beneficially Universities for grant submission workshops. Funds will also be used to visit the two selected institutes in the sub region during period two and three for training and evaluation. All travel will follow NIH guidelines. The total is [REDACTED].

Other Expenses

Consultancy: the US host institution is not requesting funds for consultant services.

Training: A total of [REDACTED] have been allocated for the 18-month period for the organization of grants submission workshop for the research faculty of NMIMR, UDS and UMaT. Grants management training will also be organized for two selected institutions in the sub region during period two and three.

Communication: There will be regular communication between the PI and the mentors in Yale. The Project coordinator will also communicate with the various Institutions to organize training and set up meeting. This will be at a cost of [REDACTED] for the 18-month period.

Publications: a total of [REDACTED] has been budgeted in year 2 for publication of project data at the end of the project.

Webinar and Video Conferencing: [REDACTED] has been allocated for webinar training and video conferencing for the 18-months period.

Sustainability Initiative: a total of [REDACTED] has budgeted for the 18-months period for sustainability of the training program.

Indirect Costs

As an International Institution, Facilities & Administration (F&A) costs of 8% will be applied towards the Total Modified Direct Costs (TMDC).

RESEARCH & RELATED BUDGET - Cumulative Budget

	Totals (\$)	
Section A, Senior/Key Person		
Section B, Other Personnel		
Total Number Other Personnel	1	
Total Salary, Wages and Fringe Benefits (A+B)		
Section C, Equipment		0.00
Section D, Travel		
1. Domestic		
2. Foreign		
Section E, Participant/Trainee Support Costs		0.00
1. Tuition/Fees/Health Insurance	0.00	
2. Stipends	0.00	
3. Travel	0.00	
4. Subsistence	0.00	
5. Other	0.00	
6. Number of Participants/Trainees	0	
Section F, Other Direct Costs		
1. Materials and Supplies		
2. Publication Costs		
3. Consultant Services	0.00	
4. ADP/Computer Services	0.00	
5. Subawards/Consortium/Contractual Costs	0.00	
6. Equipment or Facility Rental/User Fees	0.00	
7. Alterations and Renovations	0.00	
8. Other 1		
9. Other 2		
10. Other 3		
Section G, Direct Costs (A thru F)		
Section H, Indirect Costs		
Section I, Total Direct and Indirect Costs (G + H)		
Section J, Fee		0.00
Section K, Total Costs and Fee (I + J)		

PHS 398 Cover Page Supplement

OMB Number: 0925-0001

Expiration Date: 03/31/2020

1. Vertebrate Animals Section

Are vertebrate animals euthanized? ☐ Yes ☒ No

If "Yes" to euthanasia

Is the method consistent with American Veterinary Medical Association (AVMA) guidelines?

☐ Yes ☐ No

If "No" to AVMA guidelines, describe method and provide scientific justification

.....

2. *Program Income Section

*Is program income anticipated during the periods for which the grant support is requested?

☐ Yes ☒ No

If you checked "yes" above (indicating that program income is anticipated), then use the format below to reflect the amount and source(s). Otherwise, leave this section blank.

*Budget Period	*Anticipated Amount (\$)	*Source(s)
----------------	--------------------------	------------

PHS 398 Cover Page Supplement

3. Human Embryonic Stem Cells Section

*Does the proposed project involve human embryonic stem cells? ☐ Yes ☒ No

If the proposed project involves human embryonic stem cells, list below the registration number of the specific cell line(s) from the following list: http://grants.nih.gov/stem_cells/registry/current.htm. Or, if a specific stem cell line cannot be referenced at this time, check the box indicating that one from the registry will be used:

☐ Specific stem cell line cannot be referenced at this time. One from the registry will be used.

Cell Line(s) (Example: 0004):

4. Inventions and Patents Section (Renewal applications)

*Inventions and Patents: ☐ Yes ☒ No

If the answer is "Yes" then please answer the following:

*Previously Reported: ☐ Yes ☐ No

5. Change of Investigator/Change of Institution Section

☐ Change of Project Director/Principal Investigator

Name of former Project Director/Principal Investigator

Prefix:

*First Name:

Middle Name:

*Last Name:

Suffix:

☐ Change of Grantee Institution

*Name of former institution:

PHS 398 Research Plan

OMB Number: 0925-0001

Expiration Date: 03/31/2020

Introduction**1. Introduction to Application**

(for Resubmission and Revision applications)

Research Plan Section**2. Specific Aims**

SpecificAims_NOA_CaBERa-II_2019.pdf

3. Research Strategy*

ResearchStrategy_CaBERa-II_NOA_2019.pdf

4. Progress Report Publication List**Other Research Plan Section****5. Vertebrate Animals****6. Select Agent Research****7. Multiple PD/PI Leadership Plan****8. Consortium/Contractual Arrangements****9. Letters of Support**

LOS_CaBERa-II_NOA_2019.pdf

10. Resource Sharing Plan(s)**11. Authentication of Key Biological and/or Chemical Resources****Appendix****12. Appendix**

Capacity Building for Enhanced Research Administration (CaBERA) in Africa

SPECIFIC AIMS

In Low- and Middle-Income Countries (LMICs) where significant health improvements and health services are needed most, several adverse constraints exist that prevent the achievement of these goals. Foremost among these include inadequate infrastructure, insufficient funds, and lack of research to underpin health strategies [1]. As a consequence, health inequalities exist whereby 90% of the resources available for health research are spent on countries with 10% of the world's problems and less than 10% of global resources for health research are available to developing countries where over 90% of all preventable deaths occur [1], a phenomenon universally known as the 90/10 gap. To address global health inequalities and to resolve internationally-connected health issues, will require building research capacity across this 90/10 divide.

To this end, the Noguchi Memorial Institute for Medical Research (NMIMR) in 2016 applied for and won a NIH funded grant for capacity building in the area of research management; titled "Capacity Building for Enhanced Research Administration (CaBERA) at Noguchi Memorial Institute. Notable achievements of the project were the training of NMIMR research support staff, NMIMR research faculty, University of Ghana Research Development Officers, and the revamping of research support office at two Universities in Ghana; University of Development Studies (UDS), Tamale and University of Mines and Technology (UMaT), Tarkwa. The successful implementation of the project was due in part to the in-house training at the Yale Office for Sponsored Project attended by two senior administrators from Noguchi. The implementation of the project also led to policy changes and system development at NMIMR.

Due to the success of the CaBERA project and the recognition of the utility of a well functioning research support office in enhancing the research enterprise, there were invitations from other institutions in Ghana and within the sub region requesting support in enhancing research management. The Noguchi Memorial Institute for Medical Research (NMIMR) is therefore applying for this support to continue where the CaBERA project left off and assist other institutions to benefit from the expertise and experience gained in the previous project. This project has the following specific aims:

1. Expand on the success of the CaBERA project to include other institutions in the sub region and assist them revamp their research management offices.
2. Provide training and capacity building services to staff of the selected research management offices
3. Serve as a resource hub for Grant Management and Sustainability to institutions in the sub region.
4. Sustain and support the two Universities from the CaBERA project to submit at least one award winning grant

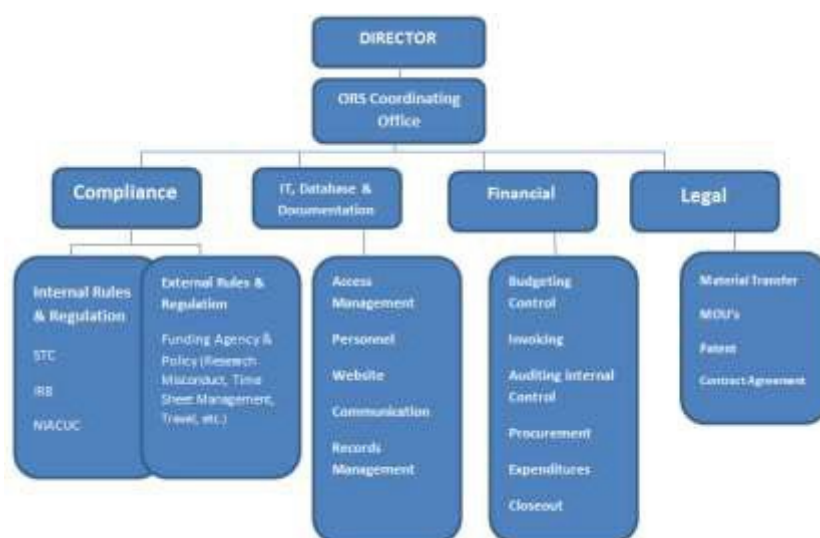
Additionally, this initiative will create a network of experienced Grant Administrators from the various institutions and enhance their research grant management. This is a step towards addressing the 90/10 divide and resolve some of the inequalities in global health issues.

CAPACITY BUILDING FOR ENHANCED RESEARCH ADMINISTRATION II (CaBERA-II) IN AFRICA

RESEARCH GRANTS ADMINISTRATION/FINANCIAL MANAGEMENT PLAN

Grant Administration Plan at NMIMR

The office for Research Support (ORS) was set up in 2006 as a unit of the Administration department of the Institute, to coordinate research projects activities and provide pre- and post-award administrative services for all sponsored projects. The ORS is headed by a Research Development Officer in the Coordinating office who reports directly to the Director of the Institute. The Coordinating Office has direct oversight of the four sub-units of the ORS; Finance (working in collaboration with the Institute's Finance Office), Compliance, Documentation and IT/Database Management, and Publications. The functions and the reporting structures are outlined in the Figure below.



Briefly, the ORS ensures that Principal Investigators (PIs) comply with all procedures on administrative, financial, audit and procurement systems of various funding agencies. The Office is also able to track the expenditure and balance of each project through the use of the Integrated Technology System (ITS). Under the CABERA 1 project, departmental administrative assistants were trained to assist faculty members with

grant application development and submissions. This has resulted in an increase in grant submissions, such that currently the ORS manages over one hundred externally-funded research projects. Principal Investigators are also notified accordingly of their technical and scientific reporting due dates to avoid missing deadlines. For the purposes of compliance to audit requirements, start and end dates of all projects, total budget for each project and number of inflows received by each project are documented. One of the topics discussed during the Grants Management training is the NIH Yellow Book Audit and this has given faculty members an overview of the audit requirements.

Financial Administration Plan

Funds are requested by PIs using the Requisition Form developed by the Finance Unit of the ORS. The form is then submitted to ORS and vetted for compliance with funding agency's regulations. After it receives initial approval by ORS, the Director approves it subject to internal audit by the University of Ghana audit office and final approval given by the NMIMR Accountant. PIs retire funds to the Accounts office through the ORS using receipts and payment vouchers.

Other functions provided by the finance unit are budgeting control, invoicing and procurement among others (Fig 1).

Procurement of Equipment and supplies requests are made by PIs and vetted by the finance unit for compliance with national procurement laws and funding agencies' regulations. The Director approves it subject to internal audit by the University of Ghana audit office and final approval given by the NMIMR Accountant, and payments made directly to suppliers. Items and supplies are received by the institute's storekeeper. The goods are released to the PIs upon a formal request. All the items purchased by research projects are documented by the documentation unit.

Funding agencies and University of Ghana require an annual audit report and this is performed by internationally recognized accounting/auditing firms.

Requests to funding agencies depends on the status of current account of projects and it's in compliance with NIH regulations covering this activity.

PRELIMINARY INFORMATION

In recognition of the need to improve the upon the efficiencies of the ORS at the Noguchi Memorial Institute for Medical Research (NMIMR), University of Ghana, and introduce the benefits of a well-functioning research management office to other tertiary institutions, the Institute successfully applied to NIH for a G11 capacity building grant *titled Capacity Building for Enhanced Research Administration (CaBERA)*. The grant, which was in collaboration with Yale University's Office of Sponsored Research, was to strengthen the ORS at NMIMR and in addition help establish such offices in two other tertiary institutions in Ghana. In addition to the NMIMR, two other beneficiary Institutions of the project were the University of Mines and Technology, Tarkwa (UMaT) and the University of Development Studies, Tamale (UDS).

Table 1 provides the summary of activities undertook during the implementation of the CaBERA project at the various tertiary institutions as follows:

NMIMR, UG

One of the specific aims of CaBERA was to develop a robust and sustainable ORS that could efficiently manage entire processes of research grant administration and build capacity of a cadre of staff knowledgeable in research administration. To this end, two Senior Administrators from the ORS received one-month in-house training at the Yale Office for Sponsored Project (Yale-OSP). With the experience gained at Yale-OSP, a Research Management Training Workshop was organized for staff of the NMIMR ORS, NMIMR Research Faculty and NMIMR Departmental Administrative Assistants. A measurable impact of this trainings was ability of Administrative Assistants to support research faculty members in dissemination of eligible grant opportunities and assisting them in applying and submitting grants. Members of the research faculty also received knowledge in NIH policies and regulations, and this promoted effective communication between the ORS and the research faculty.

A Grants` Management Training Workshop was also organized for Research Development Officers from the various faculties in the University of Ghana (UG). To this end, three Research Development officers from UG were assigned to the Noguchi ORS to understudy.

In addition to these trainings, other successes achieved during the CaBERA project was the revision of the Noguchi Grants Management Manual which has been submitted for approval by Management Board. Various policies and SOPs relating to research and research administration were also developed and submitted for reviews.

University of Mines and Technology (UMaT), Tarkwa, Ghana

The University of Mines and Technology (UMaT), is a mining-related university and is committed to excellence in teaching, research and development. An Office for Research, Innovation and Consultancy (ORIC) for this purpose was recently established. However, it was understaffed, and the personnel lacked knowledge of the basic rudiments of research administration. The office also had no registrations with funding agencies. The CaBERA team had meetings with the Pro-Vice Chancellor (ORIC), University Registrar, Provost and Assistant Provost which led to the signing of MOU between ORS-Noguchi and the UMaT to provide assistance in this regard, ultimately to make the University certifiable and to apply for grants.

Training workshops

The PI and Administrative Assistant of the CaBERA project visited the University thrice and spent five days on each visit with the staff of the office were instructed on all aspects of good research management practices.

Registrations with funding agencies

Currently, the University has been registered in the eRA commons and has a DUNS and CAGE No. Other registrations include registration in Grants.gov, European Union, Wellcome Trust, DANIDA and EDCTP. A one-day workshop was organized for the research faculty to educate them on the role of the research support office and the services available to them.

Compilation of research portfolios and SOPs

The staff were also assisted to compile the research portfolios of faculty members and a draft Grants Management Manual was developed. The CaBERA team assisted the office to revise existing and new policies and procedures governing research administration.

University of Development Studies (UDS), Tamale, Ghana

The University of Development Studies (UDS) is based in Tamale in the Northern Region of Ghana. The University for Development Studies, Tamale was established in 1992 as the fifth public university in Ghana. The mission of UDS is to promote equitable and socioeconomic transformation of communities through practically oriented, community based, problem solving, gender sensitive and interactive research, teaching, learning and outreach activities in order to advance community and national development. The University had also recently established a research administration unit which was called the Institute for Interdisciplinary Research and Consultancy (IIRAC). However, IIRAC lacked dedicated and skilled staff and also the required certification/registration to apply for grants applications.

Based on a meeting with the Vice-Chancellor, the Deans of various department and the Director of IIRACS, an MOU was signed between ORS-Noguchi and the UDS to assist them restructure the office and make the University certifiable to apply for grants. The PI and Administrative Assistant of the CaBERA project visited the University twice and spent five days on each visit to train staff of the research support office in grants management. Currently, the University has been registered in the SAM and has a DUNS and CAGE No. The Registration in the eRA commons is

also completed. Other registrations include registration in Grants.gov, European Union, Wellcome Trust, DANIDA and EDCTP. Staff of the Office were also assisted to compile the research portfolio of faculty members and have also drafted a Grants Management Manual.

Table 1: Summary of training workshops and meetings held during of the CaBERA I project

Training	Institution	Date	Academic Level	Number of Attendees
Research Management	NMIMR	12-13 September 2017	Administrative Assistants, Departmental Secretaries	30
Grants Management	NMIMR, School of Public Health UG, UDS, UMat, University of Cape Coast (UCC)	10-11 April 2018	RDOs, Research assistants, research faculty, research board members	45
Research Management	UDS	11-15 December 2017	Research Fellows, Research Assistants, Grants Administrators	31
Grant Application and Submission Processes	UDS	25-27 April 2018	Grant Administrators, Departmental Secretaries, research support staff, Finance/Accounts staff	18
Basic Grant Management Principles	UDS	20-21 November 2018	Grant Administrators, Departmental Secretaries, research support staff, Finance/Accounts staff	15
Research Management	UMaT	17-21 December 2017	Research Fellows, Research Assistants, Grants Administrators	48

Grant Application and Submission Processes	UMaT	16-20 April 2018	Grant Administrators, Departmental Secretaries, research support staff, Finance/Accounts staff	7
--	------	------------------	--	---

Other significant achievements of CaBERA

After the completion of the CaBERA project, the team was invited by UDS on two occasions to assist faculty members submit three grants to Wellcome Trust (2) and NIH (1).

Significant outcomes of CaBERA were the interest expressed and invitations from other Ghanaian universities/institutions namely University of Cape Coast (UCC), University of Professional Studies (UPS), Ashesi University, Pentecost University, HopeXchange Medical Center and Methodist University all seeking assistance to establish research administration offices. The interests have not been limited to Ghanaian institutions only, but also Universities/Institutes in other African countries have expressed their desire to have offices of research support also established. These African institutions include the National Public Health Institute of Liberia (NPHIL), Ministry of Higher Education, Sierra Leone and The Catholic University of Cameroon (CATUC). Though communication links have been established with these Institutions, further progress have not been made due to the completion of the CaBERA project. The NMIMR is therefore applying for this grant to expand on the success of the CaBERA project and extend the experiences and knowledge gained to three of these Institutions.

ROLE OF US HOST INSTITUTION

Lisa Mosley, Director of the Office of Sponsored Projects (OSP), will oversee the hosting of senior administrators from Ghana, as outlined in the letter of support (attached). The Director's office is responsible for managing all aspects of sponsored research at Yale, including federal grants, foundation awards, and contracts from industry that involve research performed by Yale faculty. She will communicate directly with Professor Annan (the Director of the NMIMR) in advance to ensure that the training provided to the administrators is relevant to the needs of the institution and their individual expertise. When the trainees arrive, they will be assigned to spend 1-3 days shadowing the managers of each unit at OSP, which will provide an opportunity for direct observation of specific research policies and practices implemented at Yale. Trainees will attend staff meetings and also engage informally with OSP project managers. At the end of each day, the participants will have an opportunity to ask questions and debrief to better understand the operations and policies of the institution. At the end of each week, there will be a summary discussion of the activities and further opportunity for answering questions and defining ways in which to transfer best practices to the NMIMR in specific areas of grants management.

At the conclusion of the 2-week visit, participants will provide formal, in person feedback to the Director of Yale OSP so that future training experiences can be improved. A follow up conversation will be arranged so that the Director and PI of CaBERA II can review together the trainees' feedback. By establishing direct, personal relationships between the Yale OSP staff and the visiting administrators from Ghana, there will be ongoing opportunities to exchange email

queries, seek further advice and mentoring, and promote the sustainability of the policies and practices introduced through this short-term training program.

APPROACH

The overall strategy of the project is to expand on the success of the CaBERA project and assist institutions in the Ghana and the West African sub region to enhance their potential for successful competitive grant applications. The rationale being that researchers in most African institutions cannot compete with western counterparts because of lack of the needed institutional support. Out of the institutions who expressed interest for support during the CaBERA project, a maximum of four (two from Ghana and two from the sub region) will be selected to benefit from this grant. The grant will also be used to sustain the two Universities who benefitted from the earlier CaBERA I project. To this end, one senior Administrator from one of the selected Universities will join the two Grant Administrators from Noguchi to receive a two-week in-house training at Yale OSP and on their return, train other staff to establish or revamp their research management offices.

Specific Aim 1: Expand on the success of the CaBERA project to include other Institutions in the sub region and assist them revamp their research management offices.

A maximum of four institutions will be selected out of those who expressed interest for support and will be assisted in establishing a fully-functional research administration office. Support will be provided in terms of assisting in the recruitment of research management staff; including the development of job descriptions, advertisements for positions, interviews; registration for SAM, DUNS, NCAGE and other registration requirements of funding agencies; compilation of portfolio of research faculty; identification of research interests and expertise of faculty for dissemination of funding opportunities; registration of fellows in eRA commons system; establishing an Institutional Review Board for each institution to facilitate compliance with ethics guidelines.

Specific Aim 2: Provide training and capacity building services to staff of the selected research management offices

The training modules developed during the CaBERA I project will be used to train staff of the research support office and research faculty members of the selected institutions. A needs assessment will be conducted to inform on the shortfalls of each institute. Training module will include training of newly recruited staff; identifying of grant opportunities, review of proposal, pre-award services, budgeting, submission of grants, post-award services, general grants management processes; training of research faculty, policies/regulation of donor agencies, navigation of eRA commons interface, steps to grant writing, reporting and publication.

Specific Aim 3: Serve as a resource hub for grant management and sustainability to Institutions in the sub region.

Experience and knowledge gained from this project and the previous CaBERA will serve as a resource hub to Institutions in the sub region. The CaBERA team will therefore be as a point of call for research management troubleshooting. The team will assist with issues relating internal policy development, reviewing of funding opportunity and developing award-winning proposal, periodic training to newly recruited staff, establishing links with international agencies.

Specific Aim 4: Sustain and support the two Universities from the CaBERA I project to submit at least one competitive grant each within the period of the grant

Support from this grant will be used to pay a working visit to the two universities supported under the CaBERA I project (UDS and UMaT) to evaluate their achievements. A refresher grants submission workshop will be organized for faculty members; the structure of which will be based on the outcome of the evaluation.

INNOVATION

Africa is still plagued with several poverty-related tropical diseases and efforts to control them have met with limited success despite advances in science, technology, and understanding of the diseases and communities. The continent however still lacks the critical mass of scientists required to conduct both basic and applied research to guide control/intervention strategies of endemic infectious diseases. A major contributory factor is the inability to attract research funding to the continent. Although the global expenditure for health research has increased tremendously as a result of the existence of many more actors engaged in funding, only a small proportion goes to address poverty-related diseases that are endemic in developing countries in sub-Saharan Africa. The main important reason for this discrepancy however, is also the lack of highly qualified personnel that could competitively attract these funds (The 10/90 Reports, www.globalforumhealth.org).

Health research plays a major role in the development of low-income and middle-income countries (LMICs), with many initiatives contributing to capacity strengthening of health research in sub-Saharan Africa. Nonetheless, there remain challenges for sub-Saharan African countries to establish frameworks for sustainable research capacity strengthening. The African-led initiative – the Initiative to Strengthen Health Research Capacity in Africa (ISHReCA) – identified nine key requirements to strengthening health-research capacity in Africa. These requirements are grouped in three over-arching components namely; improving the environment; supporting both institutions and individuals for research. The requirements to support individuals are reflected through; the promotion of secondary- and tertiary-school science education; creation of career pathways, development of critical mass, and recruiting and retaining talented scientists; and supporting senior scientists to act as research leaders and role models.

Effort to control diseases of poverty have met with limited success and one of the limitations in part has been due to lack of capacity and infrastructure for research management in disease endemic African countries. Efforts on technology transfer and introduction of new interventions require the know-how and capacity and the conventional approach to capacity building for research in these countries have focused exclusively on academic training for young researchers and students. The universities have been successful in increasing the number of PhD holders on the continent several fold in the past three decades. There are those who have also acquired requisite experiences during their training and are engaged in research. However, the roles these investigators could play in the research efforts are limited because of the lack of funding due to the absence supporting offices that are necessary for successful grants applications. There are several limitations that account for this in sub-Saharan African countries; infrastructure for good internet connectivity since most grant applications have to be submitted online, the support for compilation of supporting documents which can be a nightmare for individual researchers, without a dedicated office, research fund mismanagement, etc.

It was in cognizance of these limitations that led to the successful application to NIH to support CaBERA I and its achievements attest to the fact establishing a dedicated office for research support can address them. A case in point is the submission of a project titled “Strengthening the Liberia Health System through Improvements in Public Health Practices” for a [REDACTED] grant to CDC by National Public Health Institute of Liberia (NPHIL). Liberia is a country that has

suffered from two prolonged civil wars from 1989 until 1997 and 1999 to 2005 during which almost all institutions and systems were destroyed and it is still recovering. The NPHIL requested and the successful submission of this grant in 2019 was largely due to the support provided by CaBERA I. It is evident that the approach outlined in this proposal will ensure a high level of successful grantsmanship assured by the establishment of ORS as core units within institutions to win grants to support the research in African tertiary institutions.

SIGNIFICANCE

The world Health Organization in a 2001 report, corroborated the relationship between poverty and disease and expounded the benefit of investing in health research in developing countries. Possible strategies proposed to help reduce the 90/10 divide included prioritizing funding for health research and also building capacities of research institutions in lower to middle income countries (LMICs).

After several efforts the inequalities in global health research capacity remains and to resolve it and other internationally-connected health issues, such as the recent outbreaks Ebola in West Africa and Zika in South America, it is imperative that efforts are made to build capacities in LMICs. Such efforts should include building sustainable scientific collaborations, strengthening capacities of LMICs institutions to successfully compete for research grants, among others. It is therefore imperative to have a more coherent approach to the above problem, which will promote sustainable and profitable use of research management structures, through capacity building, to enhance African Higher Education Institutions' (HEI's) drive to attract more external funding.

It is within the above context that the CABERA-II seeks to provide the much-needed capacity building and advocacy services for existing, new and potential research management units in African Higher Education Institutions. To ensure that African HEIs attain excellent standards in managing research, this application seeks to establish or strengthen and adequately equip the existing Research Support Office in the selected Institutions, to be an effective unit in charge of research administration, having oversight of the institution's systems and processes for improved compliance and regulatory activities. For this grant, the three identified senior research administrators will be mentored in Yale to further expand the existing skill base to become trainers-of-trainees. This will ensure that key personnel are familiar with all the considerations related to grant administration. They will in turn offer training to the selected institutions to communicate funding agencies' expectations for conducting and administering research to supporting staff and research scientists. They will also assist the institutions to develop policies to address both pre- and post-award services, including identification and dissemination of grant opportunities, coordination between the research support office and investigators to identify researchers that intend to submit applications, working with them to ensure compliance to all application requirements through prior reviews and then submission of the application. Ultimately, the applicant and the selected institutions will ensure that Principal Investigators understand their ultimate responsibility for assuring that every project is run according to the institute and sponsor requirements.

STAFF TRAINING PLAN

Three senior Administrators including one each from the beneficiary Universities of CaBERA will receive training by shadowing at the Yale Office of Sponsored Projects for two weeks in the project period.

Proposed Training for CaBERA II Administrators at Yale

Mrs. Nana Oye Akuffo

Mrs. Akuffo is the Program Director (PD) for the project. She is the Research Development Officer/Coordinator for the Office of Sponsored Research and the Post-Doctoral Fellowship Program at the NMIMR. She has understudied with grants administrators at Yale University and the Office of Sponsored Research of the Morehouse School of Medicine. She also received a one-month in-house training at Yale OSP during the CaBERA project. She has also worked with Senior Members of the Institute in research development and implementation as well in the preparation and submission of final project reports to sponsors. She works with research trainees, students and staff in identifying training opportunities and involvement in research activities. She oversees the Institute's projects funded by external agencies including the NIH, Wellcome Trust, and European Union. Due to her experience with the CaBERA project, she was awarded the maiden Research Administrators Mobility Program (RAMP) scholarship from Society of Research Administrators International (SRAI) in October 2018 at the SRAI meeting in Florida, USA.

Ms. Griselda Annan

Ms. Annan will work closely with Nana Oye Akuffo as her deputy. She is a Senior Research Administrative Personnel in the Office for Research Support and has worked closely with the Research Development Officer (RDO) since the inception of the ORS at NMIMR. She plays a key role in grants submission processes, tracking of submitted grants, coordination of project activities, post-award processes such as preparation and submission of progress reports, request for funds, compliance issues, etc. She has actively assisted NOA to effectively manage various projects including the Bill and Melinda Gates Foundation-funded Postdoctoral Fellowship Program for five years and the awarded five-year NIH U19 grant titled Noguchi Institute Initiative for NTDs (NIINE). She has attended some international workshops and the knowledge acquired from these workshops equipped her to facilitate and organize two major workshops at NMIMR. She also attended the Yale In-house training program as part of the CaBERA I project and was a facilitator at Research Management Training Workshop. She is a key person in the training of newly recruited staff of the ORS including interns, national service personnel and contract staff. She is one of the longest serving staff of the ORS and has gained expertise over the years in grants management and training, which she will bring on board this initiative.

Training Plan for Selected Institutes

The budget period of eighteen months will be divided into three periods (six months in each period) for the training program.

Period one- A needs assessment test will be conducted for all (four) Institutions within the first six months of the project to identify essential gaps in the research administration processes, including registrations with funding agencies among others. This will be followed by required grant submission registrations such as DUNS No, NCAGE, eRA commons etc. It is envisaged that registrations will be completed within three weeks at each institution. Working with the institutional staff, job descriptions will be drafted for approval and used to recruit research support staff. A training in basic research management practices will then be organized. Compilation of research

portfolio of faculty members will be done to assist in disseminating eligible grants to the appropriate faculty members.

Period Two- The next 2nd period of the project will involve providing Grants Management Manual for the ORS and other Institutional research related policies and SOPs. A customized training module will also be developed for research faculty members and the ORS staff. During this period, a working visit will be paid to the two Universities of CaBERA I, i.e. UDS and UMaT for forensic audits and to assist them apply for any identified competitive grants and to provide any administrative support they may require.

Period Three- The final period of the project will involve identification and dissemination of calls to the selected Institutions and submission of grant proposals. It is envisaged that each institution will submit at least one competitive grant. Based on a self-assessment evaluation of these training, the second and third quarter of Year 2 will be primarily to monitor and supervise the newly created research administration offices

EXPECTED OUTCOMES

This initiative is to assist selected institutions to establish and/or overhaul existing research management offices as a means to addressing the overarching issue of limited response to funding calls. At the end of the initiative, it is envisaged that the following outcomes will be met:

- Institutionalization of research management, development, administration structures in Institutes/Universities who have benefitted from CaBERA and CaBERA-II
- Training and Capacity Building in Research management, development, administration;
- Restructuring of research management/development/administration structures in the selected institutions
- Advocacy services to research management practitioners; and,
- Boost in grant submission and Increase in research capacity and portfolio
- Efficient and well-established research support office
- Established tangible accountability and reporting procedures
- Process to provide notification for funding opportunities to research faculty or staff
- Established links with external agencies

SUSTAINABILITY OF THE PROJECT

To ensure sustainability of the program in each of the selected Universities, a permanent Research Administrator will be recruited who will shadow the activities of the grantees from the initial stages of setting up the office. Periodic trainings will be held for staff of the research management office to ensure they are up-to-date on current research management practices.

One of the key elements of this program will be to assist the research faculty to identify eligible grants and submit them or collaborate with other eligible Institutions to submit grants. It is envisaged that training on grant writing and successful proposal will equip them and enhance their success rate. Financial sustainability is essential for the successful operation of the research management office. As such, the grantee will design programs and activities that meet the objectives of potential donors/sponsors and develop proposals to seek for funding from them.

ANNEX A- TIMELINE FOR EIGHTEEN MONTHS PROJECT PERIOD FOR THREE INSTITUTIONS

ACTIVITY	FIRST SIX MONTHS			NEXT SIX MONTHS			LAST SIX MONTHS		
Needs assessment									
Registration for DUNS, SAM, eRA commons, Grants.gov, DANIDA, EDCTP etc.									
Compilation of research portfolio of faculty members									
Outlining of administrative structures of office									
Recruitment/Interview of ORS staff									
Outlining job description of ORS staff (description of roles and responsibilities)									
Customize training module for ORS staff									
Provision of grants management manual for ORS									
Preparation of grant policy statement									
Training of ORS staff									
Training of research faculty members									
Identification and dissemination of calls									
Submission of grant proposal									

PHS Human Subjects and Clinical Trials Information

OMB Number: 0925-0001 and 0925-0002

Expiration Date: 03/31/2020

Are Human Subjects Involved

☐ Yes ☒ No

Is the Project Exempt from Federal regulations?

☐ Yes ☐ No

Exemption Number

☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8

Does the proposed research involve human specimens and/or data

☐ Yes ☒ No

Other Requested information

REFERENCE

Global Forum for Health Research & World Health Organization. (1999). The [Ten-ninety]10/90 report on health research. Geneva : Global Forum for Health research.

Available at <https://apps.who.int/iris/handle/10665/42213>