Africa Initiative pilot grants launch eight new collaborations

In its second cycle, The Africa Initiative Pilot Grant Program, in partnership with the Institute for Public Health and the McDonnell International Scholars Academy, has awarded grants of up to $10,000 each to eight research projects. These grants, provided with support from Nestlé Purina, will help initiate new collaborations between Washington University faculty and scholars at institutional partners in Africa.

The Africa Initiative Pilot Grant Program was launched in 2019 to advance research in the fields of health and human development and to forge meaningful multi-disciplinary collaborations between WashU faculty and their partners in Africa.

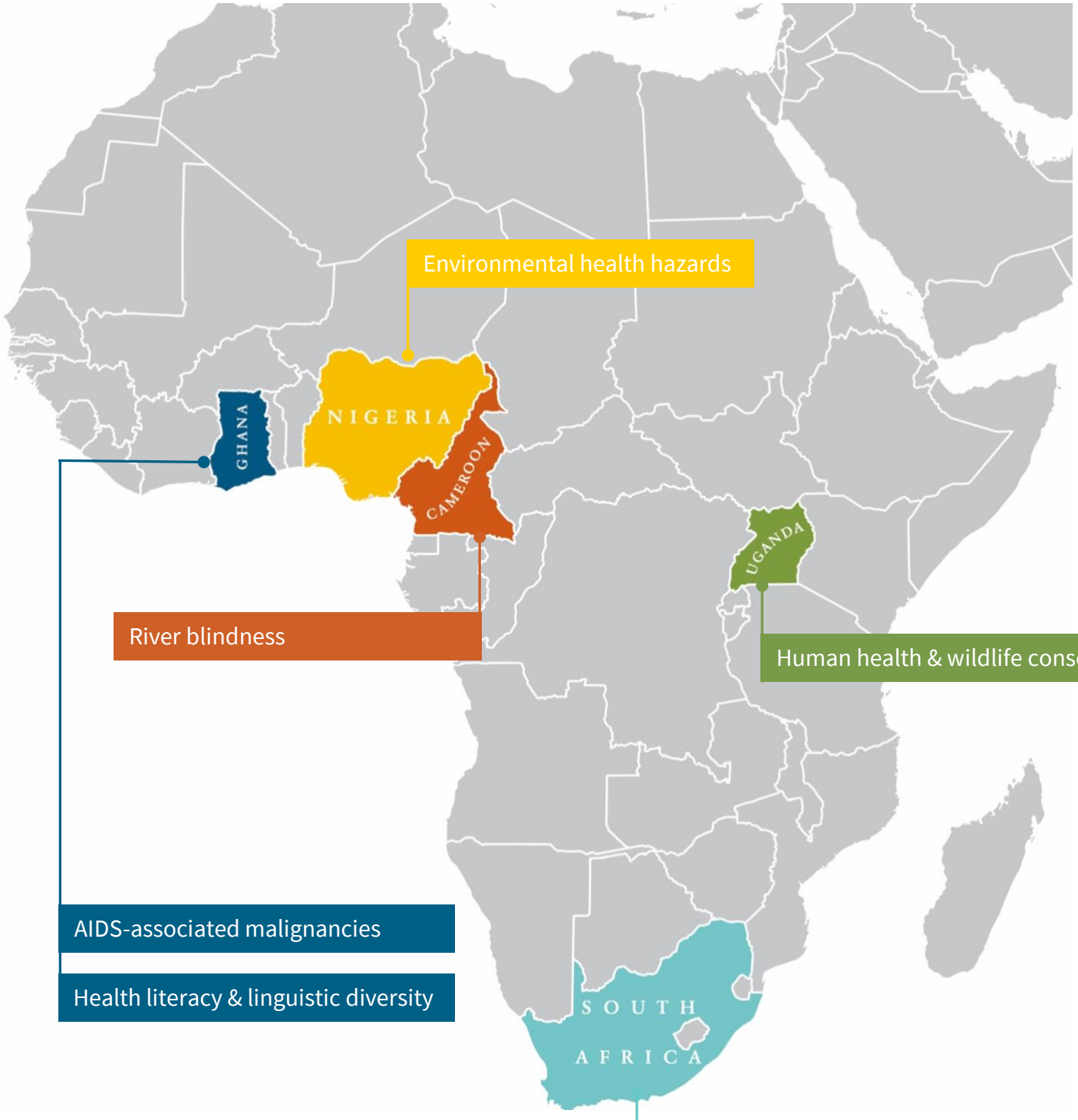
> *Despite the Covid-19 pandemic that has limited international travel, our faculty remain eager to partner with scholars around the globe to make important discoveries. The Africa Initiative Pilot Grant Program provides support needed to initiate new collaborative research and educational initiatives on the African continent."*
>
> - ***Kurt Dirks**, Vice Chancellor for International Affairs*

In its first cycle, the program awarded funding to three research teams for projects in Ethiopia, South Africa and Uganda. Since its launch, the level of interest in the program has only grown. This year, faculty from five WashU schools and 24 different departments applied for funding to conduct research in nine countries across the African continent. After a rigorous review process, eight projects were selected to receive funding. They will engage collaborators in five countries: Cameroon, Ghana, Nigeria, South Africa and Uganda.

Given the strength of the applicant pool, the Institute for Public Health and the McDonnell International Scholars Academy provided additional resources towards this year's pilot grants. Several of the projects will advance new collaborations on topics related to global health. Three research teams will also engage the McDonnell Academy's strategic partners in Africa—the University of Ghana and Makerere University in Uganda.

Washington University in St. Louis
THE AFRICA INITIATIVE

New Collaborations Across Africa



2021 Pilot Grant Recipients

This year's grant recipients are faculty from five WashU schools across different disciplines. Each research project engages collaborators based at institutional partners in Africa. The pilot funding will enable important field work, workshops and data collection to begin. These projects are expected to lead to next-stage funding, publications, and deeper ties between WashU and our partners in Africa.

A SMARTPHONE-BASED HEARING SCREEN IN SOUTH AFRICA

PI: Dennis Barbour, Associate Professor, Biomedical Engineering, McKelvey School of Engineering

Partner institution: University of Pretoria, South Africa

Many Africans live far from healthcare providers without access to timely and inexpensive diagnostic procedures. As a result, clinical disorders that are not painful or obvious often go undiagnosed. This is an acute unmet need in African health management, especially for audiological services. This project will evaluate the usability, speed and effectiveness of a sophisticated smartphone-based hearing screen in community populations in South African townships. The method uses extremely low bandwidths compatible with 2G cellular networks. The proposed technology will collect the minimal data necessary to arrive at an informed clinical referral or treatment plan. Anticipated efficiency gains over conventional procedures and successful mobile implementation will enable expanded community-based hearing healthcare for underserved populations in Africa.

HEALTH LITERACY, LINGUISTIC DIVERSITY AND COVID-19 IN GHANA

PI: Cindy Brantmeier, Professor of Applied Linguistics, Global Studies, Arts & Sciences

Partner institution: University of Ghana

Extreme social change brings great linguistic change. Global discourse is dominated by specialized terms for Covid-19 from the fields of medicine and epidemiology that are transmitted through government briefings, tele conferences and more. Long before the current pandemic, functional health literacy was an ongoing challenge for linguistically diverse patients who do not use the language of health care professionals. This study will partner with scholars and professionals across disciplines in St. Louis and Ghana to examine the design and implementation of Covid-19 information in the services used to manage language minority patients. Data will be collected from 250 health care providers, in regular hospitals and Covid-19 treatment centers in Ghana, and will explore communication and language use in the infection control procedures with the diverse cultures, languages and communication needs of Ghana. Findings will provide valuable insights and lessons for linguistically rich populations across the globe.

RIVER BLINDNESS IN CAMEROON

PI: Philip Budge, Assistant Professor of Medicine, Division of Infectious Diseases, School of Medicine

Partner institution: University of Yaoundé 1, Cameroon

Onchocerciasis (river blindness) remains endemic in Africa, including in many parts of Cameroon, despite decades of elimination efforts. This has led to conjecture that Onchocerca volvulus (Ov, the causative parasite) strains may differ in areas where elimination efforts have been unsuccessful. Genotyping of Ov isolates is impractical because this requires surgical removal of Onchocerca nodules from affected individuals. Multi-locus immunophenotyping (MI), a method to assess quantitative differences in serologic response to multiple antigenic Ov proteins, may serve as an alternate method of distinguishing differences between O. volvulus isolates. The research team will test the hypothesis that MI will reveal characteristic differences among sera collected from onchocerciasis patients from different endemic areas in Cameroon.

ENVIRONMENT AND HEALTH IN NIGERIA

PI: Christine Ekenga, Assistant Professor of Public Health, Brown School

Partner institution: Nigerian Institute of Medical Research

In Africa, population growth, urbanization and climate change are environmental health challenges of emerging concern. There are few locales in Africa where these emerging environmental health challenges are more apparent than in Lagos, Nigeria, Africa's most populous city. Lagos's coastal location makes it vulnerable to climate change-related weather extremes that may influence the health of its residents. However, there is a paucity of data on health impacts because of critical gaps in research capacity. The goal of this project is to promote collaborative research and capacity development in environmental epidemiology in Nigeria. Grant funding will be used to collect data on the physical and mental health impacts of weather extremes among residents of Lagos, Nigeria. The team will also develop and evaluate an environmental epidemiology short course for Nigerian researchers. This project will improve public health by advancing knowledge about the nature and magnitude of environmental health hazards in Nigeria.

GENDER-BASED VIOLENCE IN SOUTH AFRICA

PI: James Gibson, Sidney W. Souers Professor of Government, Department of Political Science, Arts & Sciences

Partner institution: Stellenbosch University, South Africa

As recognized by the United Nations and other agencies, gender-based violence is an affliction that threatens women throughout the world. While many explanations exist of why gender-based violence takes place, such violence is often abetted when it becomes normalized: when the norms of a community, embedded in widely shared patriarchal values, either explicitly or implicitly justify violence. While few openly endorse violence against women as a general norm, many may recognize contextual "exceptions" that justify violence. The research team will address several contextual hypotheses using an experimental vignette, administered to a representative sample of the residents of the North West Province in South Africa, a rural and fairly traditional province. This pilot project will provide the basis for a larger grant proposal in which the hypotheses will be tested in both rural and urban communities, possibly enticing a multi-national survey project (such as the Afrobarometer) to administer the vignette more widely.

HUMAN HEALTH AND WILDLIFE CONSERVATION IN UGANDA

PIs: Krista Milich, Assistant Professor of Biological Anthropology, Arts & Sciences & **Penina Acayo Laker**, Assistant Professor, Sam Fox School

Partner institution: Makerere University, Uganda

Human-wildlife conflict results in negative consequences for both human communities and wildlife conservation and is a common source of zoonotic disease transmission. An interdisciplinary, collaborative approach to addressing these conflicts is critical for developing an equitable and sustainable solution. This team will initiate a community-based participatory design research project to improve perceptions of wildlife, reduce human-wildlife interactions, and decrease the potential for zoonotic disease transmission around a protected area in Uganda. The WashU faculty and their collaborators from Makerere University will work with six communities that border Kibale National Park, Uganda, to engage in hands-on group design activities to craft messages and symbols to reinforce positive human-wildlife interactions. To assess the effectiveness of their work, they will conduct surveys before, during and after the community activities. Their approach will not only build a collaboration between WashU and Ugandan scholars, but also between researchers and community members, and it aims to develop a lasting partnership for future research.

SOCIAL DETERMINANTS OF PARKINSONISM IN RURAL SOUTH AFRICA

PI: Brad Racette, Robert Allan Finke Professor and Executive Vice Chairman of Neurology, School of Medicine

Partner institution: University of the Witwatersrand, South Africa

This project will build on an existing collaboration to investigate a new area of research on Parkinson Disease (PD), a progressive neurodegenerative disease that affects more than 10 million people worldwide. The team will leverage an NIH-funded, population-based study, "Health and Aging in Africa: Longitudinal Studies of an INDEPTH Community (HAALSI)," to investigate parkinsonism, the motor abnormalities found in PD and with aging. This cohort derives from 'Agincourt,' a well-established health and socio-demographic surveillance system established in 1992 in 31 villages in rural South Africa. Agincourt is one of the largest population-based cohorts of those of African ancestry in the world. The cohort of 5,059 participants aged 40 and over is ideally suited to investigate neurodegenerative diseases. One aim of HAALSI is to investigate Alzheimer disease/dementia, but parkinsonism and PD are beyond the scope of the funded study aims. With the ultimate goal of conducting studies focused on parkinsonism and PD, the research team will obtain pilot data and demonstrate feasibility, including for associations with social determinants of health in 100 randomly-selected members of HAALSI.

AIDS-ASSOCIATED MALIGNANCIES AMONG HIV-INFECTED PATIENTS IN GHANA

PI: Lee Ratner, Alan A. and Edith L. Wolff Professor of Oncology, School of Medicine

Partner institution: University of Ghana Medical Center

Due to their depressed immune system, people living with HIV are more prone to develop cancers such as Kaposi Sarcoma, lymphomas, cervical and lung cancer. Care for HIV cancer patients is challenging and even more daunting in Africa where there is often lack of research and treatment protocols. The NIH-sponsored AIDS Malignancy Consortium (AMC) seeks to bridge this gap by conducting clinical trials at sites in the USA and Africa. WashU is an AMC site, which seeks to partner with Ghana to obtain a site at the University of Ghana Medical School. The aim of this study is to determine the baseline prevalence, treatment protocols and risk factors for AIDS associated malignancies in Ghana. Data obtained will help improve care in Ghana and provide much needed preliminary data for an AMC and other large grant collaborative applications.

ABOUT THE AFRICA INITIATIVE

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Established in 2018, the Africa Initiative at Washington University is an interdisciplinary endeavor committed to expanding knowledge and creating teaching, learning and cultural opportunities for faculty, staff and students. Washington University has programs and initiatives in more than 30 countries in Africa, focusing on research, education, and innovation. The Africa Initiative creates a framework to support and strengthen current engagements, build capacity and create opportunities for future collaborations.