RESEARCH PROJECTS

DICE* Grant Number: 1U01ES036147-01

Leveraging Data Science Applications to Improve Children's Environmental Health in Sub-Saharan Africa



Focus Areas: Children's Health, PM2.5 Exposure Capacity Building: Health Data Science Capacity University of Cape Coast - Ghana

Contact PI: Adeladza Amegah

CHD AI* Grant Number: 1U01HL172179-01

Artificial Intelligence assisted echocardiography to facilitate optimal image extraction for congenital heart defects diagnosis in Sub-Saharan Africa

Focus Areas: Congenital Heart Defects, Echocardiography

Capacity Building: Echocardiography Scans

Health Research Foundation - Cameroon

Contact PI: Aminkeng Leke

DS-I Malaria* | Grant Number: 1001EB035483-01

Automated Mobile Microscopy for Malaria Diagnosis and surveillance in Uganda

Focus Areas: Malaria, Microscopy

Makerere University College of Health Sciences - Uganda

Contact PI: Rose Nakasi

BCX-Africa* | Grant Number: 1U01HL172180-01

BCX-Africa: Utilizing data science to evaluate the applicability of blood cell traits polygenic risk scores for disease prediction in África

Focus Areas: Blood Cell Traits, Disease Prediction

Capacity Building: Scientific Training Uganda Virus Research Institute - Uganda

Contact PI: Segun Fatumo

DS-IAFRICA-TB* | Grant Number: 1U01TW012534-01

Tuberculosis in households with infectious cases in Kampala city: Harnessing health data science for new insights on TB transmission and treatment response



Focus Areas: Tuberculosis Capacity Building: Machine Learning Algorithms **Makerere University College of** Health Sciences - Uganda

Contact PI: David Kateete



DDD-Africa* | Grant Number: 1U01HD114537-01 Advancing discovery for developmental disorders expanded analysis of the DDD-Africa resource Focus Areas: Development Disorders Capacity Building: Genomic Efforts for Global Health WITS Health Consortium (PTY), LTD - South Africa

Contact PI: Zané Lombard

INSITE* Grant Number: 1U01TW012626-01

INnovative data Science to Impact the TB Epidemic Focus Areas: Tuberculosis Capacity Building: Data Infrastructure, Data Harmonisation Platform University of Cape Town - South Africa

Contact PI: Emma Kalk

ILERA* Grant Number: 1001HL172182-01

Integrated modeLs for Early Risk-prediction in Africa (ILERA) study Focus Areas: Cardio Metablic Disease, Risk Prediction Models

Capacity Building: Public Health Intervention WITS Health Consortium (PTY), LTD - South Africa

Contact PI: Ananyo Choudhury















GCAP*

Genome-wide characterization of complex variants and their phenotypic effects in African populations

Grant Number: 1U01HG013442-01

Focus Areas: Genetic Variants

Covenant University - Nigeria

Contact PI: Jelili Oyelade

GDRS - Ghana* | Grant Number: 7U01TW012531-02

Geo-enabled detect and respond system for antimalarial resistance in Ghana: GDRS - Ghana

Focus Areas: Molecular Surveillance, Malaria Institute of Human Virology - Nigeria

Contact PI: Alash'le Abimiku

CHEAQI-MNCH* | Grant Number: 1U01ES036146-01

CHaracterizing Effects of Air Quality In Maternal, Newborn and Child Health: The CHEAQI-MNCH Research Project

Focus Areas: Air Pollution, Maternal & Neonatal Health Centre/Sexual HLTH/HIV Aid Res/Zimbabwe Zimbabwe

Contact PI: Tatenda Makanga

DSpace* Grant Number: 1U01HD114479-01

DSpace: Utilizing Data Science to Predict and Improve Health Outcomes in Pediatric HIV Focus Areas: HIV, Tuberculosis Capacity Building: Electronic Health Records, Multi-Omics Data

University of Botswana - Botswana

Contact PI: Gaone Retshabile

Leveraging artificial intelligence/machine learning-based technology to overcome specialized training and technology barriers for the diagnosis and prognostication of colorectal cancer in Africa | Grant Number: 1U01CA287852-01

> Focus Areas: Colorectal Cancer Capacity Building: Diagnostic Tools, Health Infrastructure, Open Source Software Aga Khan University - Kenya

Contact PI: Mansoor Saleh

RESEARCH HUBS

 DS-I Afri
 Data Science for Health Dis and Innovation in Africa

CameroonNigeriaCote d'IvoireRwandaGhanaSouth Africa		UZIM
KenyaUganda*Project has partner institution(s) in the United States of America		UtiliZing
CAMRA* Grant Number: 5U54TW012056-03 Combatting AntiMicrobial Resistance in Africa Using Data Science Data Types: Demographic, Clinical/Phenotype Climate/Genomic Platform: eLwazi, NCBI Capacity Building: Training on Bacterial Sequencing & Bioinformatics Focus Areas: Antimicrobial Resistance in Invasive Bacteria Redeemer's University		Data Ty Cap Scie Foo
Nigeria Contact PI: Christian Happi		MUD: Data Types:
INFORM Africa* Grant Number: 5U54TW012041-03 Role of Data Streams In Informing Infection Dynamics in Africa Data Types: Demographic, Surveillance, Clinical/Phenotype, Environmental, Climate, Genomic, Image Platform: Dropbox		Capacity E Rese
Capacity Building: Research Ethics, Research/Bioinformatics Methods, Science Communication Focus Areas: HIV, COVID-19, Population-Scale Data Streams Institute of Human Virology – Nigeria		
Contact PI: Alash'le Abimiku	MADIVA* Grant Number: 5U54TW012077-03 MADIVA (Multimorbidity in Africa: Digital innovation,	HE2 Deve
D-SINE* Grant Number: 5U54TW012087-03 Harnessing Data Science to Promote Equity in Injury and Surgery for Africa	visualisation and application) Data Types: Demographic, Surveillance, Clinical/Phenotype, Genomic Platform: WITS Cluster	impo Data Ty
Data Types: Demographic, Surveillance, Clinical/Phenotype, Genomic, Context of Injury Platform: HPC	Capacity Building: Scientific Writing, Grant Proposal Writing, Research Governance, Qualitative Data Analysis, Community and Stakeholder Engagement, Ethical and Regulatory Issues	Capacit Climate/
Capacity Building: Focus Areas: Injury, Trauma, Surgery, Health Equity University of Buea – Cameroon	Focus Areas: Multimorbidity, Polygenic Risk Scores WITS Health Consortium (PTY), LTD South Africa	18

Contact PI: Scott Hazelhurst

Contact PI: Mefire Chichom





National Institutes of Health

A-DS* | Grant Number: 5U54TW012089-03

health Information for Meaningful impact in East Africa through Data Science

ypes: Demographic, Surveillance, Clinical/Phenotype, Environmental, Geospatial

Platform: Azure

Bacity Building: Azure Training, Data Journalism, entific Writing, Research Management Foundations

us Areas: Maternal/Newborn/Child Mental Health

Aga Khan University - Kenya

Contact PI: Amina Abubakar

SReH* | Grant Number: 5U54TW012043-03

MUST Data Science Research Hub

Demographic, Surveillance, Clinical, Environmental, Image, Geospatial

Platform: Google Cloud Platform

Building: Implementation Science, Responsible Conduct of earch, Scientific Manuscript Writing, Grant Writing

Focus Areas: DCPA, Breast Cancer

Mbarara University of Science and Technology Uganda

Contact PI: Celestino Obua

CAT* | Grant Number: 5U54TW012083-03

eloping data science solutions to mitigate the health acts of climate change in Africa: the HE2AT Center

ypes: Demographic, Surveillance, Clinical/Phenotype, Environmental, Climate, Geospatial

Platform: UCT HPC

ty Building: Data Management, Meta-data Principles, 'Health Data Analysis, Data Visualisation, Data Sharing

Focus Areas: Climate Change

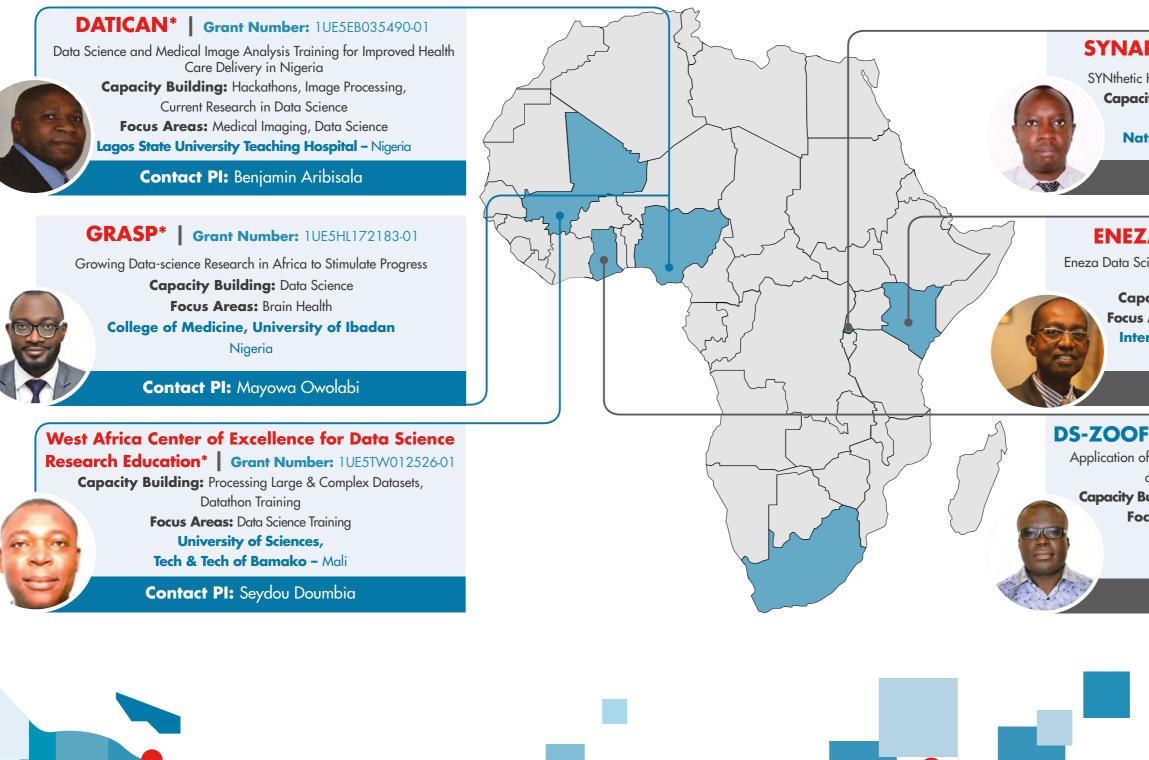
WITS Health Consortium (PTY), LTD -South Africa

Contact PI: Matthew Chersich

RESEARCH EDUCATION PROJECTS







Nigeria Rwanda

*Project has partner institution(s) in the United States of America

SYNAPSE* | Grant Number: 1UE5HL172181-01

SYNthetic Healthcare DAta Platform for Data Science Training Capacity Building: Synthetic Healthcare Data, MDClone Focus Areas: Synthetic Data

National University of Rwanda – Rwanda

Contact PI: David Tumusiime

ENEZA* Grant Number: 1UE5TW012539-01

Eneza Data Science: Enhancing Data Science Capability and Tools for Health in East Africa

Capacity Building: Open Science Skills & Tools Focus Areas: Clinical Practice, Health Research & Policy

International Centre of Insect Physiology

Kenya

Contact PI: Daniel Masiga

DS-ZOOFOOD* | Grant Number: 1UE5TW012566-01

Application of Data Science to Build Research Capacity in Zoonoses and Food-Borne Infections in West Africa Capacity Building: Bioinformatics, Phylodynamics, Disease Modelling Focus Areas: Zooness, Food-Borne Infections **College of Health Sciences**,

University of Ghana - Ghana

Contact PI: Eric Sampane-Donkor

RESEARCH TRAINING HUBS



Angola Ethiopia Ghana Kenya Malawi Mozambique Nigeria

DS-CHANGE* | Grant Number: 5U2RTW012129-03

Data Science for Child Health Now in Ghana Degree Programmes: Master's/Doctorate Biomedical Data Science and public health

Short Term Training: Informatics, Biostatistics/Mathematics, Epidemiology, Computer Science

Mode: Face-to-face **Kwame Nkrumah University** of Science and Technology

Ghana

Contact PI: Christy McKinney

APHREA-DST* | Grant Number: 5U2RTW012123-03

Advancing Public Health Research in Eastern Africa through Data Science Training

Degree Programmes: Master's in Public Health Data Science

Short Term Training: Public Health Data Science

Mode: Face-to-face/online/hybrid

Addis Ababa University/ Nairobi University - Ethiopia

Contact PI: Kiros Berhane

DST-HIRWA* Grant Number: 5U2RTW012122-03

Research Training in Data Science for Health in Rwanda

Degree Programmes: Master's & Doctorate

Short Term Training: Synthetic Data

Mode: Face-to-face/online/hybrid

University of Rwanda - Rwanda

Contact PI: Victor Davila-Roman



WASHA Takwimu* Grant Number: 5U2RTW012140-03

Research Training on Harnessing Data Science for Global Health Priorities in Africa Degree Programmes: Master's in Health Data Science Short Term Training: Health systems and food security, climate change and planetary health, grant-writing Mode: Face-to-face/online/hybrid

University of KwaZulu-Natal - South Africa

Contact PI: Wafaie Fawzi





National Institutes of Health

Rwanda South Africa Tanzania Tunisia Uganda Zimbabwe

*Project has partner institution(s) in the United States of America

DSSD* | Grant Number: 5U2RTW012121-03

NYU-Moi Data Science for Social Determinants Training Program **Degree Programmes:** Master's and Doctorate Data Science tracks **Short Term Trainina:**

Mode: Face-to-face/online/hybrid Moi University - Kenya

Contact PI: Rumi Chunara

MakDARTA* Grant Number: 5U2RTW012116-03

Makerere University Data Science Research Training to Strengthen Evidence-Based Health Innovation, Intervention and Policy

Degree Programmes: Master's and Doctorate

Short Term Training: Ethics in Big Data

Mode: Face-to-face/online/hybrid

Makerere University - Uganda

Contact PI: David Kateete

COBIP*

Grant Number: 5U2RTW012131-03 Computational Omics and Biomedical Informatics Program

Degree Programmes: Master's and Doctorate in **Computational Health Informatics**

Short Term Training: Online graduate courses in **Biomedical Informatics at OHSU**

Mode: Face-to-face/online University of Cape Town - South Africa

Contact PI: Tinashe Mutsvangwa

ETHICAL, LEGAL & SOCIAL **IMPLICATIONS PROJECTS**



Cameroon Ghana Nigeria



Center for Bioethics and Research Nigeria

Contact PI: Temidayo Ogundiran

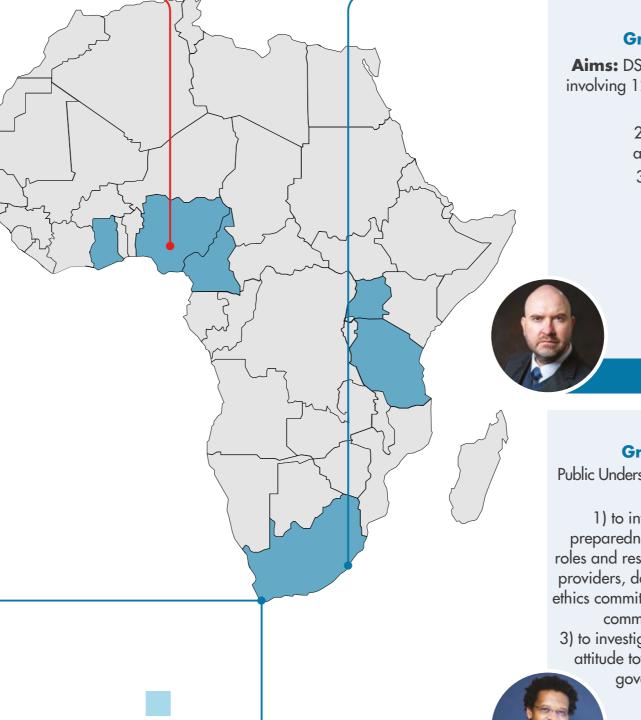
REDSSA* Grant Number: 5U01MH127704-03

Research for Ethical Data Science in Southern Africa Aims: REDSSA has the overall aims of producing new knowledge in regard to the ethical, legal and social implications (ELSI) of conducting data science research, to develop evidencebased, context specific guidance for the conduct and governance of data science initiatives such as DS-I Africa, and to strengthen the culture of responsible data science in Southern Africa



Stellenbosch University South Africa

Contact PI: Keymanthri Moodley





NIH

National Institutes of Health

South Africa Tanzania Uganda

*Project has partner institution(s) in the United States of America

DS-I Africa - Law*

Grant Number: 5U01MH127690-03 Aims: DS-I Africa Law has a broad jurisdictional scope, involving 12 African nations. Five themes are investigated: 1. modes of informed consent 2. the nature and content of individual and community rights in genomic data 3. the use of persons' geospatial data for public health surveillance 4. cross-border sharing of data 5. the use of data as basis for AI.

University of KwaZulu-Natal South Africa

Contact PI: Donrich Thaldar

PUBGEM-Africa*

Grant Number: 5U01MH127692-03 Public Understanding of Big data in Genomics Medicine in Africa

Aims:

1) to investigate models of public engagement and preparedness for big data use in health; 2) to explore the roles and responsibilities of different stakeholder groups (data providers, data producers, data users, funders, and research ethics committees) regarding intellectual property, patents, and commercial use of genomics big data in health; 3) to investigate public perceptions of big data in health and attitude towards governance of data; 4) to develop data governance frameworks for big data-driven innovation and health in Africa.

> **University of Cape Town** South Africa

Contact PI: Ambroise Wonkam

ELWAZI - ODSP - CC



