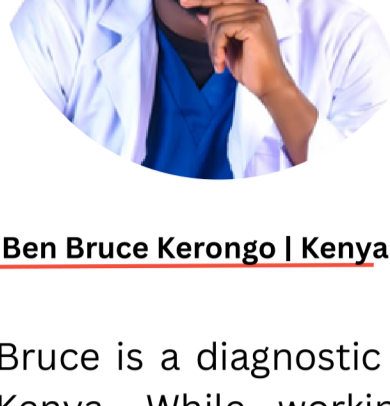


# CZI-SMART AFRICA MRI RESEARCH MENTORSHIP

Grantees 2022/23

Five African early MRI Scientists have been awarded seed grants from the **CZI-SMART Africa MRI Research Mentorship Program 2022/23**. Funding was provided by the Chan Zuckerberg Initiative (CZI) and administered by College of Medicine, University of Ibadan, Nigeria (CoMUI). The CZI-SMART Africa Mentorship Program is an extension of the overall aim of the Consortium for Advancement of MRI Education and Research in Africa (CAMERA) to empower African MRI scientists. These researchers will execute innovative MRI studies in Africa over a 12-month period, under the guidance of renowned global specialists.

Find out more about the winners and their projects below.



**Diagnosis of cervical cancer: Utility of Intravaginal Gel in Magnetic Resonance Imaging at Sonar Imaging Center Nairobi Kenya.**

**Ben Bruce Kerongo | Kenya**

Bruce is a diagnostic radiographer at Sonar Imaging Center, Nairobi, Kenya. While working at this imaging center, he developed a preference for MR/CT imaging and a keen research interest in oncology and neuroimaging. He is also a nuclear energy advocate and strongly believes that Nuclear Medicine applications will potentially change the cancer care landscape in Kenya.

*“Cervical cancer is a grave health concern in Kenya, the second most prevalent, and the leading cause of cancer mortality among women in Kenya. These damning statistics can be brought down with proper diagnosis and treatment. I believe that an empowered diagnostic team is crucial to achieving equitable service delivery across the board”*

**Ben Bruce Kerongo will be supervised and mentored by Veronica Wandia Njagi**



**Veronica W. Njagi** is the Assistant Chief Radiographer at Kenyatta National Hospital with 30 years of experience. She has expertise in MRI and has attended numerous MRI trainings, workshops, and conferences in South India, Denmark, Britain, and South Africa. She played a key role in organizing an international MRI workshop in Kenya, and her contributions have been instrumental in expanding the MRI practice in Kenya. She looks forward to providing even greater mentorship leveraging her experience.



**Quantification of post-treatment stroke lesions in Sub-Saharan African children with acute ischemic stroke: a pilot study**

**Segun Ayilara | Nigeria**

Segun is a 4th year radiology resident at the University College Hospital, Ibadan, Nigeria. His exposure to the possibilities in the field of MRI, especially in addressing the various neurological diseases in Africa, aroused his interest in MRI research.

*“Acute ischemic stroke (AIS) in children is a significant disease burden in Sub-Saharan Africa. Despite the enormous technological advancements in magnetic resonance imaging (MRI) especially with the advent of artificial intelligence, Sub-Saharan Africa is still lagging behind in the utility of MRI for clinical applications and research exploits. I intend to provide the groundwork for stroke prognostic care of African children managing AIS with this pilot study sponsored by CZI-SMART Africa”.*

**Segun Ayilara will be supervised and mentored by Dr Ludovica Griffanti**



**Dr Ludovica Griffanti** is a research fellow at the Wellcome Centre for Integrative Neuroimaging, University of Oxford. Her research focuses on using brain MRI analysis to study dementia and neurodegeneration, and she aims to make research more applicable in clinical settings. She contributes to projects that improve accessibility to brain MRI techniques, data, and code. She is also involved in teaching activities and co-leads the imaging pipelines theme of Dementias Platform UK, as well as the development team of the FSL image analysis software.



**Using MRI scans to extract ear features to generate 3D images for management of hearing impairment**

**Olaniyan Olugbemi | Nigeria**

Olaniyan is a doctorate fellow of the Nigerian Bioinformatics and Genomics Network (NBGN) with research experience in electroencephalography, imaging and research interest in neuroscience, computational physiology and molecular biology.

*“I am super delighted to be an awardee of the Chan Zuckerberg Initiative-SMART AFRICA MRI RESEARCH MENTORSHIP GRANT 2022/2023. I am grateful for this honor and believe that this collaboration will spur deep translational research in improving hearing impairment. I am optimistic and looking forward towards the outcome of this research and how it will impact our society”.*

**Olaniyan Olugbemi will be supervised and mentored by Prof Pratap Chand Mali**



**Pratap Chand Mali** is a distinguished Professor with years of research experience in reproductive physiology and infertility. He is a faculty member at the Department of Zoology, Center for Advanced Studies, University of Rajasthan, Jaipur, India. He is a Life member to many reputable scientific societies like Indian Society for the Study of Reproduction & Fertility (ISSRF) and Society for Reproductive Biology and Comparative Endocrinology (SRBCE). He is an Editor to several international journals and has participated in several international keynote addresses, workshops and conferences. He has won several awards and has mentored/trained several Postgraduate scholars in India and Africa



**Open source pulse sequence and graphical user interface development for the low-field MRI**

**Oyiye Ivan Etoku | Uganda**

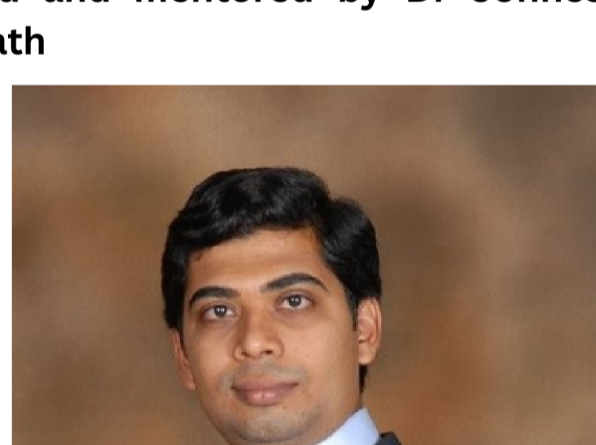
Ivan is a Biomedical Engineer with research experience in developing healthcare technology. He has designed, developed physical prototypes, matched and tuned Low-Field MRI hardware coils. He was also involved in the assemblage of the Hallbach Array Magnetic System using solid work.

*“Developing a virtual graphical user interface and pulse sequence would make it easier for users to interact with the low-field Halbach MRI rather than typing complex commands or navigating complex text-based interfaces. I believe this grant will expedite the development of the Graphical User Interface and improve Magnetic Resonance Imaging research. I am grateful for this award from the CZI-SMART AFRICA and looking forward to having this project implemented.*

**Oyiye Ivan Etoku will be supervised and mentored by Dr Johnes Obungoloch and Dr Sairam Geethanath**



**Dr. Obungoloch** is a senior lecturer and Dean, Faculty of Applied Sciences and Technology at Mbarara University of Science and Technology. He has broad research experience from his background in Electrical Engineering and his current field of Biomedical Engineering.



**Dr. Sairam** is an assistant professor (Diagnostic, molecular and interventional Radiology) at Icahn school of medicine at Mount Sinai. His research currently focuses on building tools and methods to make MRI more accessible.



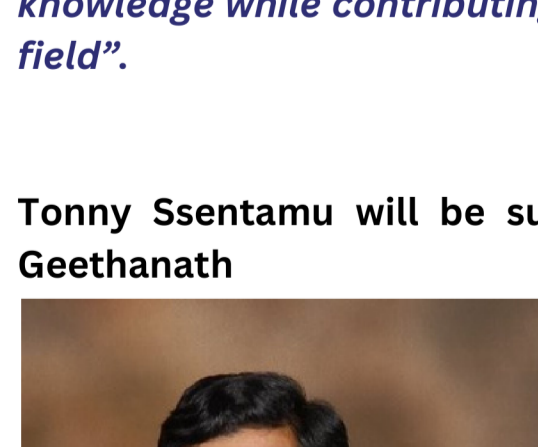
**Enabling community-based neuroimaging of alcohol use disorder in low-resource settings by improving the image quality of very low-field MRI**

**Tony Ssentamu | Uganda**

Ssentamu Tony is a graduate of biomedical engineering. He is passionate about promoting healthcare equity by increasing access to high-quality care. Hospital outreaches and working in hospitals helped me in identifying the gap in access to quality medical imaging in Low and Middle income countries. His interest became more specific after attending the SMART AFRICA NETWORK workshop. He intends to attend health research through improving the image quality of low-field MRI machines.

*“Our multidisciplinary team, mentored by Prof. Sairam Geethanath, aims to improve access to neuroimaging in low-resource settings by developing a deep learning algorithm to improve the quality of very low-field MRI images. I believe that accurate diagnoses are essential in ensuring effective treatments, and I am fully committed to using my skills and experience to contribute to the field. I am confident that working with you on these MRI projects will provide me with an excellent opportunity to further develop my skills and knowledge while contributing to the advancement of the healthcare field”.*

**Tony Ssentamu will be supervised and mentored by Dr Sairam Geethanath**



**Dr. Sairam Geethanath** is a biomedical engineer with a focus on developing novel system software, image acquisition, and reconstruction methods for MRI. His research aims to deliver accessible MRI solutions to underserved populations. He is currently developing methods related to autonomous MRI, new spatial encoding methods, and accelerated quantitative imaging. In the past, he has focused on accelerated MRI acquisition and reconstruction methods, contributing to the development of acquisition software for the national mission on Indian indigenous MRI. He obtained his doctoral degree from the joint program in bioengineering at the University of Texas at Arlington and the University of Texas at Southwestern Medical Center.