

CALL FOR APPLICATIONS FOR SEED PILOT PROJECT

1. BACKGROUND

The Multimorbidity in Africa: Digital Innovation, Visualisation and Application (MADIVA) research hub—funded by the National Institutes of Health's (NIH's) new Harnessing Data Science for Health Discovery and Innovation in Africa (DS-I Africa) program—addresses the complex interplay, individual and public health challenges, and rising prevalence of multimorbidity in Africa through data science. We have rich longitudinal epidemiological data sets, partial but increasingly available clinical and laboratory records, and genomic data. The purpose is to develop data science techniques and solutions to tackle the problem of multimorbidity in Africa—the problem of multiple co-occurring diseases significantly adding to the health burden in Africa.

We work primarily on research sites in rural Bushbuckridge, South Africa and urban Nairobi, Kenya and build on the significant resources of the MRC/Wits Agincourt Rural Public Health and Health Transitions Research Unit and the African Population & Health Research Centre (APHRC), Nairobi which have long track records in working in these communities. Our main areas of focus are to develop and apply data science techniques to link the different data sets, to build dashboards for different stakeholders, and to apply new machine learning techniques to automatically stratify populations for risk profiles to different diseases, including the use of polygenic risk scores. The MADIVA seek to recruit two seed pilot projects to develop research applications on our areas of focus either for full pilot projects and/or applications to other funding mechanisms. Please visit MADIVA's website for more information.

2. ELIGIBILITY CRITERIA

The following eligibility criteria will apply:

- Alignment to hub goals
- Innovation
- Impact of seed project and likely follow on projects.
- Feasibility bearing in mind capacity of the seed project team, the time-lines, required and available funding, and the difficulty of project.
- The developmental impact of the grant.
- Commitment to follow hub and DS-I policies.
- The seed pilot project should focus on, but not limited to, one or more of the following areas (the application MUST show relevance to data science applied to the problem of multimorbidity):
 - Bioinformatics
 - High-dimensional (Computational) Statistics
 - Bayesian Statistics and Probability
 - Machine Learning/Artificial Intelligence
 - Natural Language Processing
 - Parallel Computing and Programming
 - Graph Theory and Complex Networks
- These seed projects must be clearly linked to the hub and use the opportunities that the hub provides.
- Be current or prospective teaching or research staff at an international university or research institution.
- The lead applicant must have a PhD in the related areas.
- Be preferably nationals of an African country.

3. WHAT CAN BE FUNDED?

These seed projects must be strongly thematically linked to the hub but may propose work that is independent of the existing work. The grant can be used to fund time (e.g., partial buy-out), travel, community or stakeholder engagement and acquisition of existing data, but not for collection of new data. Seed projects are expected to bring in their own in-kind support to cover any additional administrative costs. We will not cover cost of equipment including laptops or generation of new data. The budget can include an overhead of a maximum of 8%.

4. RESPONSIBILITIES

The following are the responsibilities:

- Identify a self-directed project related to the goals of the hub.
- Do preliminary research.
- Prepare a comprehensive research funding proposal.
- Identify and use additional data sets complementing the resources that the hub provides.
- Seed projects are expected to produce some substantive research output and/or appropriate artefact, and
- Prepare a research proposal for submission for a full pilot project.

5. DURATION OF THE AWARD

- The award is tenable for a period of one year.

6. FUNDING PACKAGE

- The value of the seed pilot project will be US\$40,000

7. APPLICATION PROCESS

Fill out the online application form [Click Here](#) and submit the following documents to: SBIMB@wits.ac.za Copied to: kerry.glover@wits.ac.za; aphrctraining@aphrc.org, with the subject title, "MADIVA: Call for Application for Seed Pilot Project."

- a) Cover Letter (not more than 500 words) detailing motivation for applying for the grant and how it fits with hub goals,
- b) Research proposal (maximum 5 pages) including detailed time and work plan
- c) Curriculum Vitae of the applicants including list of publications
- d) Support letter from the host institution.

8. APPLICATION DEADLINE

Please submit a Letter of Intent by August 12 2022, and your application letter and supporting documents by August 31 2022. Both to be addressed to The Selection Committee Seed Grant, MADIVA.