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### Breast Cancer:

**Tumor biology, molecular and genetic characteristics among native African patients**

I am aiming to identify the major genes which contribute to a high risk of breast cancer in African populations and to discover genes that drive breast cancer.

We will sequence a panel of genes known or suspected to contribute to breast cancer risk in breast cancer patients so as to determine which genes should be prioritized in the design of future genetic testing services. We hypothesize that a significant proportion of African breast cancer patients carry germline mutations in genes which increase their risk of breast cancer and would equally increase the risk of breast cancer in their families. Sequencing will provide knowledge of which genes are mutated and in which categories of patients such as the age of diagnosis, family history and cancer sub-type.

(2) We will analyze the exomes and RNA of tumor tissue from patients to establish which are the key genes and molecular pathways driving tumor development and how they relate to clinical profiles.

### Research Task 4

#### Supervisors:

Dr. Christopher Mathew, Dr. Marcus Bauer,  
Prof. Eva J Kantelhardt, Prof. Adamu Addissie, Dr. Maureen Joffe,  
Dr. Valerie McCormack and Prof. Blandina T. Mmbaga