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Research areas and interests:

Trypanosome motility behaviour in mammalian host blood, live-cell imaging and biophysics of parasite motility.

Which challenges does your generation have to face in Africa that your parents didn't have to face and why?

I am a son of nomadic pastoralists who rear livestock such as goats, sheep, camels, and donkeys. Initially, the land where these livestock grazed was communally owned and resources were shared. However, in the last decade, the same land was sub-divided among individuals depending on ones' financial muscle- and hence ownership changed from communal to individual ownership. This has brought conflict among many people who claim rights to own the same land by virtue of living there for decades.

Secondly, pollution of water and air has become a real challenge of our generation which was not a big issue in previous generations. Due to air pollution arising from various sectors such as industries, transportation (land, air, and sea transportation), etc, the ozone layer is getting depleted and release of green house gases causes global warming. This has led to unpredictable weather conditions such as rainfall, desertification etc. In addition, pollution has resulted into many different diseases that were not common before.

How could an appropriate research strategy look like to describe the current situation and predict the future situation as well as prevent the deterioration of current problems?

Africa has great potential to develop economically. However, many factors such as neglected tropical diseases (NTDs) form stumbling block to the development and many studies have pointed out these diseases as one of the main poverty accelerating factors in many countries in sub-Saharan Africa.

Research into these diseases to come up with solutions is needed. However, most research labs lack the capacity to this endeavour.

In my home lab in Nairobi, many projects focussing on NTDs are done in collaboration with other universities and research institutions with infrastructural capacities and established technologies. This creates capacity building through training of students and researchers. In my case, the research project on African trypanosomiasis was done in collaboration with Prof. Dr. Markus Engstler of the University of Wuerzburg (where I registered for PhD). DFG grant was used to set up state-of-art research lab in Nairobi (icipe) as well as fund the project. Through trainings, at the University of Wuerzburg and at icipe (Kenya), in high end cell and developmental biology techniques, I was able to achieve milestones in the project- most of the work was done in Kenya. In summary, the race against NTDs can only be won through targetted research and this requires development of modern infrastructural facilities in poorly equipped research labs.