

## Impact of RUFORUM-CCNY Supported Graduates

Over the past nine years RUFORUM has with funding from Carnegie Corporation of New York (CCNY) supported 334 early career scientists to find their footing within the academic and research environment and to have opportunity to advance their work and initiate new research. Cumulatively, as of 2021, RUFORUM has supported the training of 2857 (PhD 608, MSc 2010, undergraduate 239) students and the release of over 300 technologies. Of the graduate trained, 97.6 % of them are working in their home countries. Below are profiles of some of CCNY supported alumni who have been able to directly impact the agricultural research and development in Africa.

- Dr Ahadi Birindwa, a former PhD student at University of Nairobi developed molecular markers for *Peste des petits ruminant's virus* (PPRV) diagnostic targeting the nucleoprotein, fusion and hemagglutinin genes. These markers are being used to map the PPRV distribution in South Kivu (Eastern of DR Congo) and for characterizing the PPRV lineages circulating in eastern DRC (PPRV Lineage III).
- Dr Eric Agoyi, a former PhD student at Makerere University has developed 15 Kersting's Groundnut elite lines with resistance to storage bruchids that are undergoing advanced trials and will soon be released in Benin (West Africa).
- Dr Joyful T. Rugare, a former PhD student at Stellenbosch University in South Africa has developed pearl millet genotypes with resistance to witch weed (*Striga asiatica*). These genotypes are being used as sources of resistance in breeding pearl millet genotypes for marginalized farming areas of Zimbabwe and are also being used in the ongoing project under the Future Grains for Africa. In addition, **Rugare** together with other researchers developed an environmentally benign botanical fungicide for the control of late blight in Solanaceous crops (**Neemox**). The development of the

botanical fungicide is now embedded in the University of Zimbabwe innovation hub and being commercialized.

- Dr Peter Ochieng, a former PhD Student at University of Nairobi has developed **SIPROSA**, an Artificial Intelligent (AI) based chicken disease chatbot which is able to diagnose and recommend the best treatment based on the current best practices. This has been installed on 25,788 farmers' devices/phones and is actively being used by farmers in Kenya.
- Dr Symphorien Agbahoungba, a former PhD student at Makerere University has developed foundation seeds of six cowpea varieties resistant to aphid and *Striga* yielding 2600-2800 kg/ha. The foundation seed is being sold to seed companies for the production of commercial seed in Benin.

Carnegie Corporation of New York supported graduates have also developed professionally. A number have been promoted to the positions of lecturers, senior lecturers and associate professors within their working universities. In addition, the graduates published over 200 papers in high impact journals, thus contributing to increasing visibility of Africa's research outputs.

Overall, the RUFORUM-CCNY supported graduates have added to the pool of well-trained scientists that are serving research institutions and universities across Africa, contributing to building capacity for capacity development in Africa. A snapshot of the deployment of some of the graduates is shown in the Figure below.

Additionally, CCNY support has helped RUFORUM test different models of human capital development which has boosted the performance of African universities through increased numbers of staff with higher education qualifications and better pedagogical and research skills. The support towards soft skills and networking, and the imparting of multi-



dimensional skill qualities render graduates more suited to employment requirements, a key challenge confronting Africa's universities today.

Carnegie Corporation of New York-RUFORUM supported Graduates resourcing universities and research institutions in Africa

