

## **WORLD-LEADING WORK ON BACTERIA, FUNGI AND INSECTS REWARDED WITH PRESTIGIOUS FLAIR FELLOWSHIPS IN FABI**

The FABI community is delighted with three of its researchers awarded Future Leaders – African Independent Research (FLAIR) fellowships. These are the only of these fellowships awarded to the University of Pretoria and only 15 in South Africa. The African Academy of Science and the Royal Society, supported by the Global Challenges Research Fund, award FLAIR fellowships to early career researchers in the natural sciences with the “potential to become leaders in their fields”. Dr Gudrun Dittrich-Schröder, Dr Esther Muema and Prof Cobus Visagie are among the 29 recipients from across Africa in 2020.



The FLAIR fellowships are now in their second round, after launching in 2019. The fellowships are awarded to researchers with less than eight years' experience in postdoctoral research in sub-Saharan Africa. They cover pioneering research in the natural sciences (including biological science, chemistry, engineering, mathematics and physics) that addresses global

challenges in developing countries. The fellowships are for two years, with each fellow granted up to £150,000 per year. This covers the fellow's salary, research and travel expenses. Fellows also benefit from mentorship, training courses and opportunities for international collaborations and networking.

Dr Dittrich-Schröder's research will focus on the development and application of CRISPR-Cas9 gene-editing tools to control major insect pests in the agricultural and forestry sectors. This project will place South Africa at the forefront in Africa of new developments in the integration of population genetics, genomics and genome editing in pest management. Her work links to the broad base of expertise on these pests in the Tree Protection Co-operative Programme and the DSI-NRF Centre of Excellence in Plant Health Biotechnology (CPHB).

Dr Muema's study will unveil the native soil rhizobia that nodulate *Cicer arietinum* (chickpea) in South Africa, select the effective strains and compare them with commercial inoculants for chickpea production. This is in response to an increasing demand in the crop for food security and the need for environmentally friendly alternatives to synthetic fertilizers. The project links to the work of the CPHB.

Professor Visagie will survey the fungi on sunflower and soy seeds (raw products in animal feed), as well as poultry, cattle and pig feed from commercial, small and subsistence farmers. The aim is to determine the mycotoxin profile in animal feed and to develop rapid identification techniques for the most important mycotoxigenic fungi to safeguard animal health and ensure food security. The program links to work in the Applied Mycology program.