



LABORATORY research under way at the DST-NRF Centre of Excellence in Food Security (CoE) aims to provide an in-depth analysis of food contaminants in child-feeding practices that contribute to child malnutrition in South Africa.

Using Next Generation Sequencing (NGS) techniques, CoE researchers are examining the authenticity, safety and nutritional content of popular ready-to-consume highly processed products.

The research is a collaborative

Processed proteins put under the microscope

initiative by research teams at the University of Pretoria, University of the Western Cape, and the Sustainable Livelihoods Foundation.

Between 2016 and 2017, the researchers collected samples from townships and mainstream wholesalers, small businesses and supermarkets in Gauteng, the Western

Cape and the Free State.

The sample size comprised 200 products of each type of polony, baby food and canned fish.

Using NGS and bioinformatics (collecting and analysing complex biological data such as genetic codes), researchers can identify all components of animal, plant

fungi and bacterial species found in processed foods.

"NGS techniques make it possible to identify the origin and species content of highly processed foods such as Viennas, sausages, pâté, polony and any type of shredded product," says Professor Lise Korsten of UP. "The technique can

also provide more information on the presence of food-borne pathogens such as *Listeria monocytogenes*," adds Korsten, who is also co-director and principal investigator of the Food Safety Programme at the CoE.

It is hoped this research will help authenticate the content and

safety of highly processed foods used for babies and toddlers and products chosen by lowest income groups as sources of protein.

Two other studies running concurrently are secondary data analysis to determine the levels, trends and determinants of malnutrition; and child malnutrition case studies which seek to understand persistent malnourishment.

All three studies are in progress and are due to be completed by the end of the year. – Staff Reporter

