◀ Marian Nkansah working in her lab. [Photo provided]

MARIAN NKANSAH WINS FIRST AL-KHARAFI PRIZE

by **Sean Treacy**

The Ghanaian scientist is involved in heavy-metal screening research, helping raise awareness of dangerous elements in food, drink and the environment.

A Ghanaian chemist whose research has shed light on the heavy metal content of tea, clay and dust in her home country is the first-ever winner of the Fayzah M. Al-Kharafi Prize, which recognizes exceptional women scientists from science- and technology-lagging countries.

The announcement that Marian Nkansah is its first winner was made in Kigali, Rwanda, at the 27th TWAS General Meeting. The award recognizes her research for shedding light on the health risks raised by the human exposure to hazardous heavy metals in routine activities of daily life.

Nkansah started her heavy metals research as a master's student from 2003 to 2005 at the Kwame Nkrumah University of Science and Technology, taking groundwater samples from pumps used for drinking water. Some of the pipes were decades old and had never undergone maintenance, contaminating their water with lead.

That research would, in turn, shape her career. She joined the University's faculty in 2007 and broadened her efforts into searching for toxic heavy metals that Ghanaians might encounter routinely.

The prize is named for 2004 TWAS Fellow Fayzah M. Al-Kharafi from Kuwait, who provides the USD4,000 prize. Al-Kharafi, the former president of Kuwait University, was the first woman to head a major university in the Middle East. She is also a former TWAS vice president for the Arab Region.

Nkansah's research analyses substances that Ghanaians consume to determine both whether they contain metal elements with nutritional value as advertised, such as calcium and iron – and harmful metals such as arsenic, cadmium and lead. The effects of heavy metal poisoning can be serious and long-lasting.

One study by Nkansah and her colleagues focused on commercially available tea products in Ghana. She found heavy metals that were possibly connected to plants cultivated for the tea, which could become contaminated through unclean water, smoggy air or polluted soil. In a study published in the journal *Environmental Monitoring and Assessment*, she and her colleagues found that the arsenic levels in some of those teas, but not all, could pose a significant health risk.

Studying tea and other products in search of heavy metals is not a new practice, but not very widespread in Ghana. She's hoping that her research will influence local policymakers to support more research of this kind. "I think generally scientists have been confined to their laboratories and there seems to be a disconnect between scientists and policymakers," she added. "That is an area we have to work on, and hopefully help bridge the gap." ◘

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