

CSIR work against plastic pollution honoured by UNEP's Champions of the Earth

The Council for Scientific and Industrial Research (CSIR) has been named one of the 2023 United Nations Environment Programme's (UNEP) Champions of the Earth, for its contribution to the fight against plastic pollution, honoured in the Science and Innovation category.



Image supplied. The CSIR has been named one of the 2023 UNEP Champions of the Earth, for its contribution to the fight against plastic pollution

The annual Champions of the Earth award is the UN's highest environmental honour.

The Science and Innovation category recognises individuals or organisations whose groundbreaking work pushes the boundaries of human knowledge and technology, with positive impacts on the environment.

The Champions of the Earth laureates are selected by a global jury following a public nomination process.

The CSIR stood out among over 2,500 nominations for 2023.

Advancing plastic research

The CSIR is plays an important role in advancing plastic research, reflected in its multi-pronged approach to plastic research and development.

This includes developing innovative technologies to enhance industry; evidencing South Africa's response to managing plastic waste, and where plastic cannot be avoided, and developing innovative, high-value end-use markets that will drive a circular plastics economy, thereby keeping plastic out of the environment.

CSIR chief executive officer, Dr Thulani Dlamini, expressed his gratitude at receiving the highest environmental honour, stating that it validates the calibre of CSIR researchers and the organisation's drive to touch lives through innovation.

"The honour is a testament to the toil and commitment of our researchers to using science and technology to improve the quality of life.

"Tackling plastic pollution requires a collaborative and systemic approach as no one intervention will suffice, and neither will one entity have all the solutions.

He adds that they appreciate the support from the industry and government departments, especially the Department of Science and Innovation (DSI), which continues to fund the development of alternative technologies that could help to alleviate pollution.



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#SolvePlasticsAfrica Hub

The CSIR's #SolvePlasticsAfrica Hub, launched by the CSIR in November 2022, is an online hub that showcases the organisation's capabilities in providing evidence-based solutions to addressing plastic pollution in Africa.

The CSIR wants to work with public and private sector organisations from across the continent to unlock opportunities and inform decision-making.

The CSIR also hosts Africa's only laboratory equipped to test and verify imported or locally produced products that are being promoted as biodegradable.

"The UNIDO-funded testing laboratory is capable of establishing the conditions and timeframes for the biodegradation of materials. Tests can be performed under different conditions – aerobic (compost, soil, freshwater and marine) and anaerobic," says Maya Jacob John, CSIR principal researcher.

Evidence-based approach to plastics management

John says it is critical to drive an evidence-based approach to plastics management.

"Several products are currently being marketed as more environmentally friendly alternatives to conventional plastics.

"Without evidence from testing and lifecycle analyses, businesses can misguide consumers. Industries can use the CSIR facilities for this purpose," she says.

John added that as part of tackling the plastic waste pollution problem, the CSIR is developing materials for replacing single-use plastics that are not recycled.

These environmentally sustainable products are partially made from local biomass resources, like starch and cellulose.



Partnerships are critical to managing waste in South Africa

In addition to the plastic-related research undertaken by the CSIR, the organisation also hosts the Waste Research, Development and Innovation (RDI) Roadmap Implementation Unit on behalf of the DSI.

This unit supports the national system of innovation in undertaking relevant waste plastic-related research.

Prof Linda Godfrey, manager of the CSIR Waste RDI Roadmap Implementation Unit says partnerships are critical to managing waste in South Africa.

"We must support businesses in adopting sustainable practices and driving a circular plastics economy, where waste is designed out and value is recovered.

"Working closely with the government in providing evidence to support policy development and implementation that will result in improved waste management and reduced plastic pollution," she says.

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