S.E.T. for socio-economic growth

National Science and Technology Forum (NSTF)

media release

Preserving harvests, protecting resources

Celebrating Prof Olaniyi Fawole on World Sustainable Gastronomy Day, 18 June 2026

Food sustainability begins long before a meal reaches the table. It depends on how food is produced, preserved, processed and distributed, as well as on the scientific innovations that help reduce waste and improve food security. As the world commemorates World Sustainable Gastronomy Day on 18 June, the National Science and Technology Forum (NSTF) recognises the contributions of researchers whose work is helping to build more resilient and sustainable food systems.

To mark the occasion, the NSTF proudly profiles Prof Olaniyi Fawole, recipient of the NSTF-Agricultural Research Council (ARC) Award at the prestigious 2025 NSTF-South32 Awards. Through his pioneering research in postharvest technology and agroprocessing, Prof Fawole is developing innovative solutions that reduce food losses, create value from agricultural by-products and contribute to food and nutrition security in South Africa (SA) and beyond. His work demonstrates how scientific innovation can strengthen food security, reduce waste and create more sustainable food systems for future generations. Through his research, leadership and commitment to developing young scientists, he continues to make a meaningful contribution to both SA and the global scientific community.

"We're replacing synthetic preservatives and plastics with nature-based alternatives. Our work strengthens food systems environmentally, economically, and socially."

Left to right: The Minister of Science, Technology and Innovation, Prof Blade Nzimande, Prof Olaniyi Amos Fawole and the General Manager of the ARC, Prof Nomsa Maiwashe

About Prof Fawole: He is the DSTI-NRF SARChI Chair in Sustainable Preservation and Agroprocessing Research, and Founding Director of the Postharvest and Agroprocessing Research Centre (PARC) at the University of Johannesburg (UJ). His work focuses on improving the quality, shelf life and marketability of fresh produce while minimising losses that occur between harvest and consumption.

A significant challenge facing food systems globally is that large quantities of fruits and vegetables never reach consumers because they spoil during storage, transportation and distribution. Prof Fawole's research addresses this challenge through innovative preservation technologies, smart packaging systems and sustainable processing methods that help maintain food quality and extend shelf life.

"Professionally, this (agriculture) award will serve as a powerful enabler. Personally, it has renewed my motivation to continue building bridges between research and practice and to advocate for science-driven development across Africa"

His research combines food science, biotechnology, engineering and digital technologies to improve efficiency throughout the agricultural value chain. By integrating advanced analytical techniques and Fourth Industrial Revolution (4IR) technologies, he is helping to develop practical solutions that can be adopted by both commercial producers and smallholder farmers.

One of the distinguishing features of Prof Fawole's work is his commitment to the circular economy. His research has demonstrated how agricultural waste streams can be converted into high-value products, including natural food ingredients, biodegradable packaging materials and bioactive compounds with commercial applications. These innovations reduce environmental impacts while creating new economic opportunities within the agricultural sector.

Reflecting on the importance of preserving food after harvest, Prof Fawole states: "We don't just need to grow more, we need to protect the harvest."

Beyond his research achievements, Prof Fawole has played an important role in developing future scientists. He has supervised and mentored numerous postgraduate students and emerging researchers, helping to strengthen scientific capacity in food science, biotechnology and agroprocessing.

World Sustainable Gastronomy Day: This significant day was established by the United Nations General Assembly (UNGA) and is promoted under the auspices of the Food and Agriculture Organization (FAO) of the UN. The Day promotes the idea that food production and consumption should contribute to sustainable development while respecting cultural diversity, biodiversity and local food traditions – this includes indigenous knowledge (IK).

Sustainable gastronomy considers the entire journey of food, from production and processing to consumption and disposal. It encourages practices that minimise waste, use natural resources responsibly and support environmentally sustainable livelihoods.

Food loss and waste remain significant global challenges, with millions of tonnes of edible food lost each year – estimated to be as much as one-third of all food. At the same time, growing populations, climate change and resource constraints place increasing pressure on food systems. Scientific research and innovation therefore play a crucial role in developing solutions that improve efficiency, strengthen food security and reduce environmental impacts.

The work of researchers such as Prof Fawole demonstrates how science can help address these challenges by improving food preservation, promoting resource efficiency and creating opportunities for sustainable economic growth.

Call to action: The NSTF encourages researchers, industry leaders, farmers, policymakers and consumers to support sustainable food systems through responsible production, innovation and consumption practices. Reducing food loss and waste requires collaboration across the entire food value chain.

The NSTF also encourages young people to pursue careers in agricultural sciences, food technology, biotechnology and related fields, where they can contribute to solving some of the most pressing food security and sustainability challenges facing society today. See the NSTF careers booklet, particularly those careers labelled as 'green career fields'. You'll find 'food scientist/technologist' on p22. Also see our online learning platform, STEMulator.org, in particular the agriculture tile.

About the NSTF and the NSTF-South32 Awards: NSTF is an independent non-profit stakeholder body and network – a civil-society forum of over 150 member organisations across six membership sectors, involved in science, engineering, technology (SET) and innovation in SA.

The NSTF-South32 Awards is famously known as the 'Science Oscars' of SA that recognised excellence in SET and innovation in SA across 16 categories. The gala dinners to announce the winners are taking place in two cities simultaneously (Cape Town and Johannesburg) on 16 July 2026 – contact Ms Mankwe Mojapelo to book your seats/tables.

Join the NSTF's conversations on social media:

- LinkedIn: National Science and Technology Forum (NSTF)
- Facebook: @NSTFSA
- X: @NSTF_SA
- Instagram: @nstf_sa
- YouTube: National Science and Technology Forum (NSTF)
- TikTok: nstf_sa (listen to science career talks on this platform

References

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- https://www.uj.ac.za/faculties/science/departments-2/botany-plant-biotechnology/sarchi-chair-in-sustainable-preservation-and-agroprocessing-research-spar/
- https://www.africanfarming.com/2025/06/26/researcher-uses-science-to-create-sustainable-food-future/
- https://www.fao.org/sustainable-gastronomy-day/en

About the NSTF

The National Science and Technology Forum (NSTF), established in 1995:

- is a broadly-representative stakeholder body for all science, engineering and technology (SET) and innovation organisations in South Africa
- gathers stakeholders around burning issues of national and global interest, across the public and private sectors, including matters of public policy
- includes a network of professional societies in SET and STEM education (STEM = science, technology, engineering and mathematics) - the NSTF pro*SET* membership sector.
- recognises, awards and profiles the outstanding contributions of individuals and groups to SET and innovation through the prestigious NSTF Awards
- runs and supports collaborative projects and youth outreach, including recognition of top performance in mathematics and science, role modelling, bursary and STEM career information
- runs and supports the STEMulator.org which attracts youth and educators to Explore>Discover>Learn the world of STEM including careers. (Established by NSTF pro*SET*)

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