

NRF Next Generation and Emerging Researchers SYMPOSIUM

OVERVIEW OF RESEARCH AREAS

AGRICULTURE

South Africa's agriculture is crucial for rural economic growth and food security, but food insecurity and malnutrition persist due to inequality. The National Development Plan (NDP) aims to generate one million jobs by 2030 through agricultural production, processing, and related industries. Despite historically increasing the GDP, the sector has lost 30% to 40% of its jobs recently. Technological innovation in this sector is critical in the growth of the GDP and the NRF grantholders will be showing these latest technologies and advancement in the agricultural sector.

DIGITAL ECONOMY

The digital economy, which is defined as the economic activity that results from integrating people, companies, devices, data, and operations through digital technology, is typified by artificial intelligence, robots, and cybernetics. It includes the interactions and exchanges that occur online between many industries and technological platforms, including big data, mobile, internet, and information and communications technology. South Africa's Digital Economy Mission Plan aims to achieve the National Development Plan's objectives by enhancing digital infrastructure, developing digital skills, fostering innovation, fortifying e-government services, boosting digital commerce, and enhancing cybersecurity.

ENERGY INNOVATION

Energy innovation aims to create efficient, sustainable technologies to combat climate change and create a low-carbon economy. Energy security ensures consistent, affordable energy, with long-term investments aligning with socioeconomic development

and environmental needs. South Africa's economic impact from load shedding could be significant, while a slow transition to a net zero economy could limit access to capital markets and export competitiveness. This session will show the energy innovations by the NRF grantholders with a strong focus in the hydrogen economy.

HEALTH INNOVATION

Health innovation is crucial in addressing public health needs and accelerating positive effects. South Africa faces significant health challenges, including high HIV and TB burdens, increased non-communicable diseases, and a high homicide rate. To address these issues and the socioeconomic gap, new instruments, innovations and services are needed to address the quadruple burden of disease and the socioeconomic gap between urban and rural areas. This session will focus on the health innovations that are currently being explored by the NRF grantholders and how they can be applied in addressing the health issues that the society is facing.

MANUFACTURING

Developing innovation capabilities in the manufacturing sector is one way to drive productivity and ultimately the growth of the South African economic. South Africa's manufacturing sector is crucial for economic growth, accounting for 12% of GDP, 12% of employment, and 42% of export value. Its growth is facilitated by technological innovation, which boosts productivity and value creation and therefore this session will highlight some of the technological innovations by the NRF grantholders.



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