

Harnessing Nanotechnology for Sustainable Development in Health: Young Nano-scientists' Perspective

2021-07-17

Nabio Consulting (Pty) Ltd in collaboration with Lipoid AG, NanoWerk LLC and StatNano hosted an international Nano4Youth webinar virtually using the Zoom platform on June 28th from 12:00-15:00 SAST. The international nano4youth webinar was the first of its kind. The webinar provided a unique opportunity for young nanoscientists around the world to showcase their cutting edge academic and industry research in nanomedicine and pharmaceutical nanotechnology.

Nanotechnology is an emerging field of science that promises to revolutionize medicine in the 21st century. The application of nanotechnology in medicine and health offers great potential to radically advance the diagnosis, prevention, and treatment of diseases. The theme of the webinar was "Harnessing Nanotechnology for Sustainable Development in Health: Young Nanoscientist's perspective".

The webinar brought together local and international young experts in the field of nanomedicine. The esteemed speakers in the webinar were: Nhlanhla Maluleke (Nabio consulting, [South Africa](#)), Carolina Tyavambiza (the University of the Western Cape and the Cape Peninsula University of Technology, [South Africa](#)), Tapiwa E. Manyarara (University of [Zimbabwe](#), [Zimbabwe](#)), Obisesan Oluwafemi (North West University, [South Africa](#)), Shingirayi Zengeni (University of [Zimbabwe](#) and ADRIC, [Zimbabwe](#)), Lucia Maschio (University of Padua, [Italy](#)), Daniel M. Shadrack (St. John's University of Tanzania, Tanzania), Akash Patel (high school based in Los Angeles, [United States](#) of America), Marco Orechioni (La Jolla Institute for immunology in California, [United States](#) of America).

Programme and highlights of the webinar:

During the three-hour webinar, our esteemed speakers gave high-quality excellent oral presentations. The talks encompassed the following topics:

- The evolution of nanomedicine.
- The antimicrobial and anti-inflammatory effects of metallic nanoparticles synthesized from indigenous South African plants
- Transforming paediatric HIV treatment through nanoformulation
- In-vitro evaluation of drug loaded polymeric nanoparticles for the management of HIV-1/HSV-2 co-infection
- The green synthesis of silver nanoparticles using medicinal plants traditionally used in [Zimbabwe](#)
- Immunocompatibility and biomedical applications of Mxenes
- The potential role of nanomedicine in delivering small molecules with clinical limitations: Insights from experimental and computational studies
- Nanotechnology for wound healing
- Graphene and other 2D nanomaterials impact on the immune system: toward nanoimmunity-by-design

The full program is available [here](#).

Outcome

The international Nano4Youth 2021 webinar contributed efficiently on the following; creating a platform for young nanoscientists to talk about the application of nanotechnology in health, medicine, and pharmaceuticals, ii) creating a networking platform for young professionals, iii) raising awareness and increase knowledge about the field of nanoscience and nanomedicine, and iv) forging collaborations and partnerships between the young nanoscientists in the area of nanomedicine and pharmaceutical nanotechnology.

Impact

The most significant impact of the nano4youth webinar had on young professionals was to give them a chance to listen to different topics about the application of nanotechnology in health, medicine, and pharmaceuticals, from different experts coming from different

nanomedicine institutions and organizations around the world. They got feedback on their research work from experts in the field of nanomedicine in the international nanomedicine community. They learned new ideas, new techniques and new types of equipment that they can use for their own research. They also learned about new trends in the field of nanoscience and nanomedicine, such as the application of graphene and other two-dimensional nanomaterials in the immune system.

Following the success of the first nano4youth 2021 webinar, we are planning to make this event be an annual youth event – to be celebrated during the youth month, every year in June.