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NEWS RELEASE

UP hosts international congress on natural product research, highlights value of indigenous knowledge systems



The ISE-APSS 2024 delegation at the Cape Town International Convention Centre.

The University of Pretoria's (UP) <u>Division of Medicinal Plant Sciences</u> in the <u>Department of Plant and Soil</u> <u>Sciences</u> recently organised and hosted a joint meeting of the 23rd international congress of the <u>International</u> <u>Society for Ethnopharmacology (ISE)</u> and the second international congress of the African Phytomedicine Scientific Society (APSS).

The <u>ISE-APSS 2024 congress</u>, which took place at the end of October at the Cape Town International Convention Centre, highlighted natural product research that is based on ethnobotanical practices and informed by indigenous knowledge, and being conducted at South African institutions as well as those in other African countries, including Cameroon, Nigeria, Swaziland and Uganda. The event also aimed to stimulate cross-continental collaborations. Under the theme 'The Footprint of Ethnopharmacology in Drug Discovery', the congress focused discussions on current topics and future trajectories of research on traditional systems of medicine and the role of natural products in modern drug discovery.

In her welcoming address, congress host and chairperson <u>Professor Namrita Lall</u> – President of the ISE and the Department of Science and Innovation (DSI)-National Research Foundation (NRF) SARChI Chair in Plant Health Products from Indigenous Knowledge Systems – detailed the historical significance and importance of traditional medicines, and the rich floral biodiversity in South Africa that is waiting to be discovered.

"Medicinal plants have played a significant and immeasurable role in healthcare for centuries, offering a rich source of natural phytochemicals with therapeutic properties," she said. "Their importance lies not only in their profound historical use, but also in their immense potential for modern drug discovery and development.

"The Cape Floristic Region is home to more than 9 000 plant species and is one of the world's biodiversity hotspots, which, in addition to its monumental geological structures and formations, ensures that it forms part of one of the richest collections of nature's bountiful beauty," Prof Lall added. "We encourage you to explore this wondrous landscape and dedicate some of your time here to indulge in its captivating abundance."

She went on to encourage and highlight the importance of collaboration in the multidisciplinary field of ethnopharmacology.

About 300 delegates from 22 countries were in attendance at the four-day event, which featured local and international speakers, several exhibition stands showcasing equipment related to the advancement of natural product research, as well as formulated products by small, medium and micro enterprises that were funded through initiatives of the DSI and the Technology Innovation Agency. Exhibitors included representatives from Inqaba Biotec, Labotec, the Bruno Steiner Laboratory Consultancy, Botlhale Ba Rrammutla Farms and Dr Phyto Medicinal Plants.

In his address, <u>Prof Sunil Maharaj</u>, UP's Vice-Principal for Research, Innovation and Postgraduate Education, referred to the role of natural resources in the development of potential therapies and the importance of collaboration in the field of ethnopharmacology.

"There is a pressing need for natural alternatives and, considering the fact that a multitude of conventional pharmaceuticals have been developed from natural product scaffolds, exploration of this avenue provides a much-needed opportunity to circumvent the challenges of crippling conventional therapies," he said. "I urge you to seize this extraordinary opportunity to network, learn and inspire one another. Let us harness our collective wisdom and expertise to forge new pathways towards innovation and discovery."

Underpinning the congress was the idea of integrating indigenous knowledge systems into national healthcare frameworks. Traditional Chinese and Ayurvedic medical systems are integrated into the national health systems of China and India, respectively, according to an article by Chabalala et al (2021). However, due to a lack of systematisation frameworks, this is not the case for African traditional medicines in Africa. The article refers to the DSI's transdisciplinary model, which aims to integrate indigenous African knowledge systems as the basis of all knowledge production and utilisation within the national system of innovation. It would do this by promoting integral research and development using a multisectoral and decolonial 'Africological' approach to inform inclusive innovation, whereby 'wisdom keepers' would be considered equal partners in the scientific system.

<u>Prof Vinesh Maharaj</u>, Deputy Dean of UP's Faculty of Natural and Agricultural Sciences, delivered a plenary address entitled 'South African plants as a panacea to health challenges: Insights on a collaborative endeavour exploring this resource in search of treatment regimens.' In it, he described the generation of a natural product library to house extracts, fractions and compounds that could be used in the fight against several diseases, including drug-resistant bacterial infections, HIV, neglected tropical diseases, cancer and diabetes.

<u>Prof Dave Berger</u>, Head of UP's Department of Plant and Soil Sciences, delivered a lecture about his research on indigenous Greyia species, which are being developed for the cosmetic industry to be used as an ingredient

to even out skin tone. His talk described a molecular tool to differentiate between *Greyia radlkoferi, G. flanaganii and G. sutherlandii,* which have varying degrees of biological activity against the target enzyme tyrosinase.

Other speakers included <u>Prof Vanessa Steenkamp</u>, Deputy Dean of Teaching and Learning in UP's Faculty of Health Sciences; Prof Debra Meyer, Deputy Vice-Chancellor of Research, Innovation and Postgraduate Studies at Sol Plaatje University; APSS Director Prof Learnmore Kambizi; Prof Alvaro Viljoen, DSI-NRF SARChI Chair of Phytomedicine at the Tshwane University of Technology; Dr Godwin Anywar of Makerere University, Uganda; and Prof Cassandra Quave of Emory University in the US.

The congress also featured performances by the Cape minstrels, gumboot dancers from the Happy Feet Youth Project, African fusion dancers and by one of the event's delegates, Dr Wilson Bamise Adeosun of North-West University, who played the alto saxophone to welcome guests to the gala dinner.

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ABOUT THE UNIVERSITY OF PRETORIA

The University of Pretoria (UP) is one of the largest contact and residential universities in South Africa, with its administration offices located on its Hatfield Campus in Pretoria. This 115-year-old institution is also one of the largest producers of research in South Africa.

Spread over seven campuses, it has nine faculties and a business school, the Gordon Institute of Business Science (GIBS). It is the only university in the country with a Faculty of Veterinary Science, which is ranked the best in Africa. UP has 120 academic departments and 92 centres and institutes, accommodating more than 56 000 students and offering about 1 100 study programmes. It has the most academic staff with PhDs (70%), NRF-rated researchers (613).

The <u>2024 Times Higher Education subject rankings</u> placed UP first in South Africa in the fields of Law, Veterinary Science, Accounting and Finance; Agriculture and Forestry and Electrical and Electronic Engineering. Quacquarelli Symonds (QS) ranked the University among the top five in Africa, as part of their <u>2024 World University Rankings (WUR)</u>. UP was the only South African university featured in the <u>2023 World University Rankings for Innovation (WURI)</u>, falling within in the 101-200 range of innovative universities.

For more information, please go to <u>www.up.ac.za</u>