

## NEWS RELEASE

### Prof Irene Barnes addresses forest threats through genetic research



*From left: Prof Loretta Feris (Vice-Principal: Academic), Prof Bernard Slippers (Director: FABI), Prof Irene Barnes, Prof Barend Erasmus (Dean: Faculty of Natural and Agricultural Sciences) and Dr Pam de Waal (Acting Head: Department of Biochemistry, Genetics and Microbiology).*

PRETORIA – The University of Pretoria (UP) proudly hosted the inaugural lecture of [Professor Irene Barnes](#), a world expert in forest pathology. The lecture marked a major professional milestone – she was promoted to full professor in the [Department of Biochemistry, Genetics and Microbiology \(BGM\)](#) in the [Faculty of Natural and Agricultural Sciences](#).

The lecture "Strengthening Forest Health through Population Genetic Insights and Global Networks" culminated an incredible 25-year career in research and academia. In her address, Prof Barnes demonstrated how her work in genetics and related science protected forest ecosystems in South Africa and globally from invasive pathogens that are destructive to forests.

"As a constant threat to forests everywhere, pathogens of trees are easily spread around the world because of the international movement of plants," Prof Barnes explained. She described how invasive tree pathogens can be

followed through a multi-staged process of introduction, colonisation, establishment, and spread, and how each stage leaves a distinct genetic fingerprint. By examining disease patterns, scientists can understand how pathogens disperse, which can assist in developing specific and effective biological invasion responses.

Prof Barnes began her career developing molecular tools to study invasive species. Her research involves sophisticated DNA sequencing and population genetic studies to determine how pathogens move and change over time because of their relevance to sustainable forest management. Her studies on tree diseases like Ceratocystis wilt and Dothistroma needle blight have advanced the development of local and international disease mitigation frameworks.

As part of the welcome address, the [Vice-Principal: Academic, Prof Loretta Feris](#), congratulated Prof Barnes on being a remarkable scholar and for her dedication and investment towards teaching future scientists. She highlighted that Prof Barnes has 125+ peer-reviewed journal articles and three book chapters under her belt, and 54 postgraduate students supervised—15 of whom she currently supervises.

“As the first [Forestry and Agricultural Biotechnology Institute \(FABI\)](#) honours student, Prof Barnes’s life is a testament to the limitless possibilities of a global scientist and a leader ever since,” Prof Feris added. In addition to her roles at UP, Prof Barnes holds key positions in several international scientific organisations, including executive council membership in both the International Mycological Association and the African Mycological Association. She also has a managerial position in the International Union of Forest Research Organizations (IUFRO). At FABI, she is a research leader in the Tree Protection Co-operative Programme and RGE-FABI Tree Health Programme, and runs the Kiwifruit Protection Programme.

Prof Barnes also focused on the role of collaboration, be it scientific or interpersonal, in achieving a well-rounded research career. “My career is built on teamwork,” she remarked. “The endeavour of dealing with global forest health challenges is highly cooperative.”

Concepts revolving around the socio-scientific commitment of the UP were also discussed in relation to supra-regional problems. In this case, Prof Barnes emphasised working on protecting and securing forest and food resources, and biodiversity through her research on the genetics of pathogenic invaders, the preservation of biodiversity and the resilience of long-term ecosystems.

At the end of her talk, it became evident that Prof Barnes's impact goes far beyond scholarly publications. She is developing the field of forest health science, training the next generation of scientists, and creating international networks vital to long-term environmental sustainability through her creative research and leadership.

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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 2025 Times Higher Education subject rankings placed UP first in South Africa in the fields of [Accounting](#) and [Finance](#); [Architecture](#); [Electrical and Electronic Engineering](#); Law; Sport Science; and Veterinary Science. UP's Faculty of Law has been ranked as the top law school in Africa for a remarkable eighth consecutive year.

Quacquarelli Symonds (QS) ranked the University among the top five in Africa, as part of their [2024 World University Rankings \(WUR\)](#). UP was the only South African university featured in the [2023 World University Rankings for Innovation \(WURI\)](#), falling within in the 101-200 range of innovative universities.

For more information, please go to [www.up.ac.za](http://www.up.ac.za)