



## Prof Zander Myburg

Prof Myburg is professor van Genetika in die Fakulteit Natuur- en Landbouwetenskappe. Hy beklee die Leerstoel vir Bosbougenomika en Biotegnologie aan die Universiteit. Sy navorsingsprogram in die Instituut vir Bosbou-en Landboutegnologie (FABI) is toegespits op die genomika en molekulêre genetika van houtontwikkeling in snelgroeiende bosboubome en, in die besonder, die genetiese regulering van die biosintese van sellulose in bome. Sy navorsingsgroep het die gene in *Eucalyptus*-bome wat verbind word met sellulose-sintase (CesA) geïsoleer en beskryf en bestudeer die transkripsienetwerk wat die uitdrukking van hierdie gene reguleer. Meer onlangs het prof Myburg se navorsingspan die eerste geheelplantatlas van geenuitdrukking van 'n *Eucalyptus*-boom en 'n hoëdigtheid- genetiese kaart van die *Eucalyptus*-genoom geproduseer. Dit is aangevul deur die xileem-transkriptome van meer as 280 *Eucalyptus*-bome in te sluit wat dit moontlik maak om stelselgenetiese benaderings toe te pas om die komplekse genetiese beheer van houtvorming in hierdie bome uit te pluus.

Prof Myburg is die koördineerder van die internasionale *Eucalyptus*-Genoomnetwerk (EUCAGEN) en die hoofnavorsers van die *Eucalyptus* Genome Project van die Departement van Energie van die VSA (DOE). Hy was studieleier/promotor van 26 nagraadse studente (MSc en PhD) en is die outeur van 47 portuurbeoordeelde referate en hoofstukke in boeke op die gebied van die molekulêre genetika en genomika van plante.

Ná voltooiing van sy PhD-studie aan die North Carolina-staatsuniversiteit in die VSA as Fulbright-geleerde van 1996 tot 2001, het prof Myburg by die Departement Genetika van die Universiteit van Pretoria aangesluit. In 2007 is die British Association Silwerpenning deur die Suider-Afrikaanse Vereniging vir die Bevordering van die Wetenskap (Southern Africa Association for the Advancement of Science – S2A3) aan hom toegeken, en het hy ook die President van die Nasionale Navorsingstigting se toekening vir Jong Navorsers ontvang. In 2008 het die Universiteit erkenning aan hom verleen as een van UP se Denkleiers in die eeufeesjaar.

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Prof Myburg is a professor of Genetics in the Faculty of Natural and Agricultural Sciences. He occupies the Chair in Forest Genomics and Biotechnology at UP. His research programme in the Forestry and Agricultural Biotechnology Institute (FABI) focuses on the genomics and molecular genetics of wood development in fast-growing forest trees and, in particular, the genetic regulation of cellulose biosynthesis in trees.

His research group isolated and characterised the cellulose synthase (CesA) genes active in *Eucalyptus* trees and is studying the transcriptional network regulating the expression of these genes. More recently, Prof Myburg's research team produced the first whole-plant gene expression atlas of a *Eucalyptus* tree and a high-density genetic map of the *Eucalyptus* genome. This has been expanded to include the xylem transcriptomes of more than 280 *Eucalyptus* trees allowing the application of systems genetics approaches to unravel the complex genetic control of wood formation in these trees.

Prof Myburg is the coordinator of the international *Eucalyptus* Genome Network (EUCAGEN) and the lead investigator of the US Department of Energy (DOE) *Eucalyptus* Genome Project. He has supervised 26 postgraduate (MSc and PhD) students and is author of 47 peer-reviewed papers and book chapters in the field of plant molecular genetics and genomics. The recipient of a Fulbright scholarship for his PhD study at North Carolina State University in the USA (1996–2001), Prof Myburg subsequently joined the Department of Genetics at UP. In 2007, he was awarded the Southern Africa Association for the Advancement of Science (S2A3) British Association Silver Medal and he received the NRF President's Award for Young Researchers. In 2008, the University recognised him as one of its 100 Leading Minds in its centenary year.

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Prof Myburg ke moprofesa wa Thutalebela wa Lefapha la Thutamahlale a Temo le Tlhago. Modulasetulo wa Tšenomikse ya Dithokgwa le Payotheknolotši UP. Lenaneo la gagwe la dinyakišišo ka Instištuteng ya Payotheknolotši ya Temo le Dithokgwa (FABI) le mabapi le tšenomikse le tšenethikse ya molekhule tša kgolo ya kota ka mehlareng ya dithokgwa yeo e golago ka lebelo le, kudu, molawana wa tšenethikse wa payosintese ya selulose ka gare ga mehlare.

Sehlopha sa gagwe sa dinyakišišo se arogantše le go tlhophla diššine tše di šomago tša selulose ya sintase (CesA) ka gare ga mehlare ya *Eucalyptus* gomme se nyakišiša mararankodi a phetišetšo ye e laolago tlhagišo ya diššine tše. Malobanyana mo, sehlopha sa Prof Myburg se tšweleditše atlase ya tlhagiso ya tšine ya semela ka moka ya mathomo ya mohlare wa *Eucalyptus* le ya mmepe wa tšine wa pitlagano ya godimo ya tšenome ya *Eucalyptus*. Se se okeditšwe go akaretša ditranskriptomase tša saelemo tša mehlare ya *Eucalyptus* ya go feta 280 go dumelela ditsela tša tšenethikse ya mekgwa ya tirišo go rarolla taolo ya tšenetiki ya go rarana ya tlhopho ya kota ka mehlareng ye.

Prof Myburg ke mmeakanyi wa boditšhabatšhaba wa Mararankodi a Tšenome ya *Eucalyptus* (EUCAGEN), ebile monyakišiši wa ketapele wa US wa Kgoro ya Enetši (DOE) wa Protšeke ya Tšenome ya *Eucalyptus*. O okametše baithuti ba 26 ba dialoga tša thuto ya godimo (MSc le PhD) ebile ke mongwadi wa dipampiri tša go sekwasekwa ke ba mphato wa gagwe tše 47 le dikgaolo tša dipuku ka lekaleng la tšenomikse le tšenetikse tša molekhule wa dimela. Moamogedi wa Pasari ya Fulbright ya dithuto tša gagwe tša PhD Yunibesithi ya North Carolina State go la USA (1996 go fihla ka 2001), Prof Myburg morago o thomile go šoma go Kgoro ya Tšenetikse mo UP. Ka 2007, o abetšwe Seala sa Silibera sa Mokgatlo wa Britani (*Southern Africa Association for the Advancement of Science – S2A3*) wa Tšwetšopele ya Saense ya Mokgatlo wa Borwa bja Afrika, gape o amogetše Sefoka sa Mopresidente sa NRF sa Banyakišiši ba Bannyane. Ka 2008, Yunibesithi e mo lemogile bjalo ka yo mongwe wa Dikgopolo tša yona tša Dihlalefi mo ngwageng wa yona wa bongwagakgolo.