



## Dr Christine Maritz-Olivier

Dr Maritz-Olivier (née Maritz) is 'n senior lektor in die Departement Genetika in die Fakulteit Natuur- en Landbouwetenskappe. Ná die PhD in 2005 het sy 'n nadoktorale genootskap voltooi wat deur die Wellcome-trust befonds is (2005–2010). Haar navorsing oor bosluise en bosluis-oordraagbare siektes is op vier hoofemas gegrond. Die eerste is die ontwikkeling van bosluis-entstowwe deur funksionele genomika met terugwaartse vaksinologie te kombineer. Die tweede, in samewerking met Pfizer-dieregesondheid (Pty)-laboratoriums, fokus daarop om 'n beter begrip van die genetiese diversiteit van bosluise regoor Suid-Afrika te verkry, asook van die huidige stand van hul weerstand teen akaraside en die profiel van bosluis-oordraagbare patogene. Die derde tema is die patogene wat deur bosluise oorgedra kan word, *Babesia divergens* (wat rooiwater veroorsaak, samewerking met Frankryk) en *Anaplasma marginale* (wat galsiekte veroorsaak, samewerking met Spanje). Die vierde tema is ander ontwikkeling van vektorbeheerstrategieë vir hematofagiese vektore soos muskiete en bytende muggies (samewerking met NHLS-vektorbeheereenheid, met die gebruik van *in vivo*-geen-dempingstrategieë).

In samewerking met vennote van die Verenigde State se Departement Landbou, die VK en Australië is dr Maritz-Olivier betrokke by die stigting van 'n platform - deur die Wellcome-trust befonds – om die eerste interaktom vir bosluise te ontwikkel om insig te verkry in die interfases: gasheer-patogeen-vektor. Sy is aangewys as voorsitter van die 2014 gesamentlike internasionale konferensie van die Vereniging vir Bosluis- en Bosluisoordraagbare Patogene (TTP) en die Vereniging vir Tropiese Veterinêre Geneeskunde (STVM). Dr Maritz-Olivier het navorsingsbevindinge op 17 internasionale en 45 nasionale konferensies bekend gestel, waarvan agt genooide status gehad het. Sy is die outeur van 21 internasionale, portuurbeoordeelde publikasies. Sy het verskeie toekennings ontvang, waaronder 'n nagraadse genootskap van die Mellon-stigting (New York), die Bruce & Betty Alberts-Begiftigde Beurs in Fisiologie, die Caswell Grave-beurs en die Frank R Lillie-genootskap van die Mariene Biologiese Laboratorium (VSA), 'n toekening vir jong wetenskaplikes van die Internasionale Unie van Biochemie en Molekulêre Biologie, asook die beste biotegnologiese navorsingsprogramtoekening van die Gautengse Departement van Landbou en Landelike Ontwikkeling (GDARD). Sy is mede-outeur van 'n boek oor moderne vaksienontwikkeling getitel *Molecular vaccines – from prophylaxis to therapy*. 18 BScHons- en vier MSc-studente het hul grade onder haar medetoesig voltooi, van wie nege met lof geslaag het. Twee PhD-studente gradueer in 2013 en sy is studieleier van drie PhD, ses MSc- en twee BScHons-studente.

Dr Maritz-Olivier (née Maritz) is a senior lecturer in the Department of Genetics in the Faculty of Natural and Agricultural Sciences. After the PhD in 2005, she completed a Wellcome Trust-funded postdoctoral fellowship (2005–2010). Her research on ticks and tick-borne diseases comprises four pillars. The first is the development of anti-tick vaccines using a combined functional genomics and reverse vaccinology approach. The second, in collaboration with Pfizer Animal Health (Pty) laboratories, focuses on understanding the genetic diversity of ticks throughout South Africa, their current acaricide resistance status and tick-borne pathogen profiles. This is vital for the development of future anti-tick control strategies. The third research pillar is the tick-borne pathogens *Babesia divergens* (causative agent of redwater, collaboration with France) and *Anaplasma marginale* (causative agent of gall sickness, collaboration with Spain). The fourth research pillar is other development of vector-control strategies for haematophagous vectors such as mosquitoes and biting midges (collaboration with NHLS Vector Control Unit, using *in vivo* gene silencing strategies).

With partners from the United States Department of Agriculture, UK and Australia, Dr Maritz-Olivier is involved in establishing a Wellcome Trust-funded platform towards the first tick interactome to gain insight into the host-pathogen-vector interphases. She is chairperson for the 2014 Joint International Conference of the Ticks and Tick-borne Pathogens (TTP) Society and the Society for Tropical Veterinary Medicine (STVM). Dr Maritz-Olivier has presented research findings at 17 international and 45 national conferences, of which eight were invited status. She is author of 21 international, peer-reviewed publications. She has received various national and international awards, including a Mellon Foundation Postgraduate Fellowship (New York), the Bruce and Betty Alberts Endowed Scholarship in Physiology, the Caswell Grave Scholarship and the Frank R Lillie Fellowship from the Marine Biology Laboratory (MA, USA), a Young Scientist Award from the International Union of Biochemistry and Molecular Biology and Best Biotechnology Research Programme from the Gauteng Department of Agriculture and Rural Development (GDARD). She has co-authored a book on aspects of modern vaccinology, entitled *Molecular vaccines – from prophylaxis to therapy*. Eighteen BScHons and four MSc students have completed their degrees under her co-supervision, nine of whom passed cum laude. Two PhD students graduate in 2013. She currently supervises three PhD, six MSc and two BScHons students.

Dr Maritz-Olivier ke mofahlošimogolo wa Kgoro ya Tšenetikse ka Lefapheng la Thutamahlale a Temo le Tlhago. Ka morago ga PhD ya gagwe ka 2005, o phethile mošomo wa dinyakišišo wa ka morago ga dithuto tša bongaka wa go thekgwa ka mašelang ke Wellcome Trust (2005-2010). Dinyakišišo tša gagwe ka ga malwetši a dipatsane le a go rwalwa ke dipatsane di na le diphilara tše nne. Ya mathomo ke ya tlhabollo ya mekento ya thibela kgahlanong le dipatsane ka go šomiša mokgwa wa ditšenomiki tša go šoma tšeo di kopantšwego le basikhlotši ya tirolo. Ya bobedi, ka tšhomišano le dilaporatori tša Pfizer, se seditše kwešišong ya phapano ya tšenetiki ya dipatsane ka gohle mo Afrika-Borwa, maemo a tšona a bjale a thetelo ya akharisaetele diprofaele tša patotšene tša go rwalwa ke dipatsane. Se se bohlokwa tlhabolong ya maano a taolo ya go ba kgahlanong le dipatsane ya ka mošo. Ya boraro ya Dr Maritz-Olivier e šeditše dipatotšene tša go rwalwa ke dipatsane, *Babesia divergens* (dilo tša go hlola morotokhwibidu, ka tšhomišano le naga ya France) le *Anaplasma marginale* (dilo tša go hlola bolwetši bja nyooko, ka tšhomišano le naga ya Spain). Philara ya bone ke ya bekthara tše dingwe tša go phela ka madi, tšeo di šomišwago go sekaseka maano a taolo ao a tšhepisago (ka tšhomišano le NHLS Vector Control Unit, go šomišwa maano la go homotša tšine(gene) ya *vivo*).

Ka tšhomišano le badirišane go tšwa ka ntle o kgatha tema go hlomela inthaekthome ya patšane ya mathomo sebaka sa go thekgwa ka mašelang ke Wellcome Trust go hwetša tshedimošo ka go dikarolo tša 'host-pathogen-vector'. Ke modulasetulo wa '2014 Joint International Conference of the Ticks and Tick-borne Pathogens (TTP) Society and the Society for Tropical Veterinary Medicine (STVM)'. Dr Maritz-Olivier o tšweleditše dikhonferentsheng tše 17 tša boditšabatšhaba le tše 45 tša bošetšhaba, tšeo tše seswai tša tšona a bego a le maamong a taletšo. Ke mongwadi wa dikgatišo tše 21 tša boditšabatšhaba tšeo di sekasekilwego ke ba mphato wa gagwe. O amogetše difoka tša go fapafapana, go akaretšwa Mellon Foundation Postdoctoral Fellowship (New York), Pasari ya Khumišo ya Bruce le Betty Alberts ka Fisiolotši, Pasari ya Caswell Grave le Setswalle sa Frank R. Lillie go tšwa go Laporatori ya Marine Biology (USA), Sefoka sa Ramahlale o Monyane go tšwa go Mokgatlo wa Boditšabatšhaba wa Payokhemistri le Payolotši ya Dimolekhule le Lenaneo la Dinyakišišo la Payotheknolotši le le Kaone mo Gauteng (GDARD). O ngwadile puku le ba bangwe ya go bitša *Molecular vaccines – from prophylaxis to therapy*. Go fihla sebakeng se baithuti ba lesomeseswai ba BScHons le ba bane ba MSc ba phethile ditikrii tša bona ka fase ga gagwe le ba bangwe, ba senyane ba bona ba amogetše ditikrii tša bona ka dihloro. Ba babedi ba ba lengwalo la PhD ba aloga ka 2013. Ga bjale o lekola ba bararo ba PhD, ba tšhelela ba MSc le baithuti ba babedi ba BScHons.