DR HENRIETTE VAN HEERDEN

UNIVERSITY OF PRETORIA

CURRICULUM VITAE

1. BIOGRAPHICAL SKETCH

1.1 GENERAL INFORMATION

Surname	Van Heerden								
First names	Henriette			**ID Number**		7203060033084			
Citizenship	South African			**Title**	Dr	**Female**	X	**Male**	
Place of birth	Bloemfontein, South Africa			**Date of birth**		1972-03-06			
Population group	**African**		**Coloured**		**Indian**		**White**	**X**	**Other** *(Please specify)*
Department	Veterinary Tropical Diseases			**Position**		Senior Lecturer			
Direct Telephone	+ 27 12 5298265			**Direct Telefax**		+27 12 5298312			
E-mail	Henriette.vanheerden@up.ac.za								
Date of appointment	1 January 2008			**Permanent full-time**		X	**Temporary full-time**		

1.2 ACADEMIC QUALIFICATIONS OBTAINED

Degree/ Diploma	**Field of study**	**Higher education institution**	**Year**	**Distinctions**
BSc	Biological with Chemistry, Microbiology and Biochemistry and main subjects	University of the Orange Free State	1994	
BSc Hons	Microbiology	University of the Orange Free State	1995	
MSc	Microbiology	University of the Free State	1998	Yes
PhD	Plant Pathology	University of Pretoria	2001	

1.3 WORK EXPERIENCE TO DATE

Name of employer	**Capacity and/or type of work**	**Period From** (mm//yy to *mm//yy)*
Agricultural Research Council - Onderstepoort Veterinary Institute (ARC-OVI)	Research Scientist	01/2000 – 01-2002
ARC-OVI	Senior Researcher	02-2002-09/2003
University of Johannesburg	Lecturer	10/2003-12/2007
University of Pretoria	Senior Lecturer	01/2008

2. POSTGRADUATE SUPERVISION

2.1 Supervision or co-supervision of students who have completed degrees

Name of student	Degree/Title of dissertation/ thesis and date completed	Supervisor	Co-supervisor(s)
C. M. Kneidinger (Masters Research)	*Mastomys natalensis* and *Mastomys coucha* identification, habitat preferences and population genetics	Prof F. H. van der Bank	Dr van Heerden
N.M. Sanabria (Doctorate)	Molecular characterization of a lipopolysaccharide-induced S-domain receptor-like kinase from *Nicotiana tabacum*	Prod I. A. Dubery	Dr. H van Heerden
R.A. Bhamjee (Masters Research)	Comparing suppression subtractive hybridization and bioinformatics approaches for analyzing functional gene expression in *Arabidopsis thaliana* follwing a heat shcok treatment	Dr. M. J. Cronje	Dr. H. van Heerden
S.M. Phillips (Doctorate)	Molecular characterization of elicitor-responsive genes in cotton	Dr. H. van Heerden	Prof I. A. Dubery
B. Gaspar (Masters coursework with dissertation)	Determining the status of *Brucella canis* in dogs in Maputo region in Mozambique using various techniques	Dr. H. van Heerden	Prof. J. Godfroid
A. Hassim (Masters research)	Molecular characterization of *Bacillus anthracis* in southern Africa	Dr. H. van Heerden	Dr. J. Rossouw
L. L. Esterhuizen	Ph.D A study of the South African *Tomato curly stunt virus* pathosystem: epidemiology, molecular diversity and resistance	Dr H. van Heerden	Prof. M. E. C. Rey Dr. S.W. van Heerden
C. Gomo (Masters Research)	Characterisation of *Brucella* species in Zimbabwe	Dr. H. van Heerden	
S.L. Chisi	Evaluation of the performance of serological tests in the diagnosis of bovine brucellosis in Kwa Zulu natal in naturally infected cattle	Dr. H. van Heerden	
O. C. Ndumnego	Comparative studies on immunogenicity and protectivity of a live spore *Bacillus anthracis* vaccine vs. recombinant peptide and DNA vaccine in goats	Dr. H. van Heerden	Dr. W. Beyer Dr. J.E. Crafford
K.E. Lekota	Polyphasic and genome characterization of *Bacillus* species from anthrax outbreaks in animals in South Africa and Lesotho	Dr. H. van Heerden	Dr. E. Madaroba Dr. F. Muchadeyi Dr. J Mafofo
M.B. Ledwaba	Molecular characterization of *Bacillus anthracis* and *Brucella* species isolated from southern Africa	Dr. H. van Heerden	Me. A. Hassim

2.2 Current post-graduate students

Name of student	Degree [1]enrolled for and date of first registration	Project title	Supervisor	Co-supervisor(s)	Year of registr-ation
J. Burumu	Web-base M. Sc	Following *Brucell*a DNA detection in seropositive animals until gestation	Dr. H van Heerden	Dr. C. Gomo	2011
B. Weyers	Web-base M. Sc	Characterization of the of *Bacillus anthracis* vaccine seed material	Dr. H. van Heerden		2011
A. Hassim	Ph.D	Distribution and characterization of Bacillus anthracis and bacteriophages in South Africa	Dr. H van Heerden	Dr. W. Beyer	2012
Dr. O. C. Ndumnego	Ph. D	Comparative studies on immunogenicity and protectivity of a live spore *Bacillus anthracis* vaccine vs. recombinant peptide and DNA vaccine in goats and mice	Dr. H. van Heerden	Dr. W. Beyer	2013
L. Basson	M. Sc	The role of flies and free living amoebae as potential vectors of *Bacillus anthracis* in South Africa.	Dr. H. van Heerden	Dr. J. Rossouw Dr. W. Beyer	2013
P. H. Phaswana	M. Sc	Model to test protection against anthrax: comparative studies on the immunological response of the live spore anthrax vaccine in goats and monitoring through passive protection test in mice.	Dr. H. van Heerden	Dr. O.C. Ndumnego	2013
A. Buys	Ph.D	Development and evaluation of a multicomponent clostridial and non-clostridial vaccine for the active immunization of sheep	Dr. H. van Heerden	Dr. J. Crafford	2013
A.M. Maputle	M. Sc	Development of multiple serological and molecular assays for *Bacillus anthracis*	Dr. H. van Heerden		2014
van Niekerk	M. Sc	Assessing and monitoring vulture populations in Kruger National Park and the role they play in the anthrax life cycle.	Dr. H. van Heerden	Dr. L. van Schalkwyk Dr. A. Botha	2014
S. Goolab	Ph.D	Evaluating cell surface display as a potential brucellosis antigen delivery system	Dr. H. van Heerden	Dr. M. Crampton Sr. R. Roth Dr. A. Botha	2014

[1] Indicate whether Honours, Masters research, Masters coursework with dissertation or Doctorate

3. RESEARCH OUTPUTS

3.1 Publications in peer-reviewed or refereed journals

Ndumnego, O.C., Crafford, J., Beyer, W., van Heerden, H. (2013). Quantitiave anti-PA IgG ELISA; assessment and comparability with the anhtrax toxin neutralization assay in goats. BMC Veterinary Research 9:265.

Esterhuizen, L.L., Mabasa, K.G., van Heerden, S.W., Czosnek, H., Brwon, J.K., van Heerden, H., Rey, M.E.C. (2013). Genetic identification of members of the Bemisai tabaci cryptic species complex from South Africa reveals native and introduced haplotypes. Journal of Applied Entomology 137: 122-135.

Phillips, S.M., Dubery, I.A., van Heerden, H. (2013). Identification and molecular chracterisation of a lectin receptor-like kinase (GHLecRK-2) from cotton. Plant Mol Biol Rep 31: 9-20.

Phillips, S.M., Dubery, I.A., van Heerden, H. (2013). Molecular characterisation of two homoeologous elicitor-responsive lipin genes in cotton. Mol Genet Genomics 288: 519-533.

Gomo, C., Musari, S., de Garine-Wichatitsky, M., Caron, A., Pfukenyi, D.M., van Heerden, H. (2012). Detection of *Brucella abortus* in Chiredzi district in Zimbabwe. Onderstepoort Journal of Veterinary Research 79. doi: 10.4102/ojvr.v79i1.417.

Esterhuizen, L.L., van Heerden, S. W., Rey, M.E.C., van Heerden, H. (2012). Genetic identification of two sweet potato infecting begomoviruses in South Africa. Archives of Virology 157: 2241-2245.

Phillips, S. M., Dubery, I. A., van Heerden, H. (2012). Molecular characterization of an elicitor-responsive Armadillo repeat gene (GhARM) from cotton (*Gossypium hirsutum*). Molecular Biology Reports 39: 8513-8523.

Sanabria, N. M., van Heerden, H., Dubery, I. A. (2012) Molecular characterisation and regulation of a *Nicotiana tabacum* S-Domain receptor-like kinase gene induced during an early rapid response to lipopolysaccharides. Gene 501: 39-48.

3.2 Books and/or chapters in books

Wingfield, M. J., Wingfield, B. D., Coutinho, T. A., Viljoen, A., Britz, H. & Steenkamp, E. T. (1999). Pitch canker: A South African perspective. In Devey M, Matheson C, Gordon TR (eds). *Current and potential impacts of pitch canker in radiata pine.* Proceeding of the IMPACT Monterey Workshop, 62-69.

3.3 Published full-length conference papers/keynote addresses

van Heerden, H., Collins, N. E., Allsopp, M. T. E. P. & Allsopp, B. A. (2002). Major outer membrane proteins of *Ehrlichia ruminantium* encoded by a multigene family. *Annals of New York Academy of Science* 969: 131-134.

4. OTHER SCHOLARLY RESEARCH-BASED CONTRIBUTIONS

4.1 Participation in conferences, workshops and short courses - specify type of contribution

Provide full details of participation in national and international conferences etc

4.1.1 National

Britz, H., Wingfield, M. J., Kemp G. H. J. & De Beer, Z. W. Evidence of a new *Ophiostoma* species from *Eucalyptus* wood in South Africa. Poster presented at Proceedings of the 33rd Annual Plant Pathology Congress in South Africa. Thaba Nchu Sun, 16-19 January 1995.

Britz, H., Coutinho, T. A., Wingfield, M. J., Marasas W. F. O. & Gordon, T. R. Mating studies and geographical distribution of *Fusarium subglutinans* f. sp. *pini.* Poster presented at Proceedings of the 9th biennial South African Society for Microbiology Congress in South Africa. University of Pretoria, 8-10 July 1996.

Britz, H., Wingfield, M. J., Wingfield, B. D., Coutinho T. A. & Marasas, W. F. O. Towards establishing a molecular technique of discriminating between host specific groups of *Fusarium subglutinans.* Talk presented at Proceedings of the 34th Annual Plant Pathology

Congress in South Africa. Stellenbosch, 14 - 17 January, 1996.

Coutinho, T. A., Wingfield, M. J., Marasas, W. F. O. & Britz, H. Studies on the B and E mating populations of *Fusarium subglutinans.* Poster presented at Proceedings of the 34th Annual Plant Pathology Congress in South Africa, p51. Stellenbosch, 14 - 17 January, 1996.

Britz, H., Wingfield, B. D., Wingfield, M. J., Coutinho, T. A. & Marasas W. F. O. In search of a rapid method to distinguish the biological species of *Gibberella fujikuroi.* Talk presented at Proceedings of the 2nd Grahamstown conference of Biotechnology and Development in Southern Africa, Rhodes University, 21-24 January 1997.

De Beer, Z. W., Witthuhn, R. C., Britz, H., Wingfield, M. J. & Wingfield, B. D. 18S rDNA sequences place *Ophiostoma* from hardwoods in the Southern Hemisphere in the species *Ophiostoma stenoceras.* Poster presented at Proceedings of the 37th annual Plant Pathology Congress in South Africa. Pietermaritzburg, 17-20 January 1999.

Britz, H., Coutinho, T. A., Wingfield, M. J. & Marasas, W. F. O. Influence of female sterility and mating type distribution on mating population H of *Gibberella fujikuroi* in South Africa. Talk presented at Proceedings of the 38th annual Plant Pathology Congress in South Africa. BioY2K congress, Grahamstown, 23-28 January 2000.

Phillips, S. M., van Heerden, H. & Dubery, I. A. Characterization of elicitor-induced defense-related genes in cotton. South African Society of Biochemistry and Molecular Biology XIXth conference, 16-20 January 2005, Stellenbosch, South Africa. Stellenbosch University Press. p238.

Bhamjee, R. A., Cronje, M.J. & van Heerden, H. The analysis of the hsp70 genes in wild type (col-o) and mutant (eds 16-1) *Arabidosis* cell lines using suppression subtractive hybridization. XXTH South African Society of Biochemistry and Molecular Biology, 3-6 July 2006, Pietermaritzburg, South Africa.

Bhamjee, R. A., Cronje, M.J. & van Heerden, H. The identification and analysis of hsp 70 genes in wild type (col-o) *Arabidopsis thaliana* using suppression subtractive hybridization (SSH). BIO-08 (South African Society of Biochemistry and Molecular Biology, Biotech-SA and South African Society of microbiology joint conference), 21-25 January 2008, Grahamstown, South Africa.

Hassim, A., van Heerden H., Rossouw, J., Hauck, Y., Arntzen, L. & Vergnaud, G. Molecular characterization of Southern African *Bacillus anthracis* strains using multiple locus variable number tandem repeats analysis. Faculty day, 27 August 2009, Faculty of Veterinary Science, University of Pretoria, South Africa.

Esterhuizen L.L., Van Heerden S.W., Rey M.E.C. & van Heerden H. Epidemiology and molecular characterisation of *Tomato curly stunt virus* and its insect vector *Bemisia tabaci* in South Africa. Talk presented at Proceedings of the 47th Annual Plant Pathology Congress in South Africa. Kruger National Park, 23 - 26 January 2011.

8.1.2 International

Coutinho, T. A., Wingfield, M. J., Viljoen, A., Britz, H. & Marasas, W. F. O. Pitch canker of pines: A Southern African perspective. Poster presented at Proceedings of the Tree Seed Pathology Workshop in Opucno, Czech Republic, 9-11 October 1996.

De Beer, Z. W., Witthuhn, R. C., Britz, H., Wingfield, M. J. & Wingfield, B. D. Phylogenetic placement of *Ophiostoma stenoceras*-like isolates from hardwoods in the Southern Hemisphere. Poster presented at Proceedings of the 7th International Congress of Plant Pathology in Edinburgh, Scotland, 9-16 August 1998.

Britz, H., Coutinho, T. A., Wingfield, M. J., Marasas, W. F. O., Leslie, J. F. & Gordon, T. R. Establishment of G*ibberella fujikuroi* mating population H for *Fusarium subglutinans* f. sp. *pini.* Poster presented at Proceedings of the 7th International Congress of Plant Pathology in Edinburgh, Scotland, 9-16 August 1998.

Britz, H., Coutinho, T. A., Wingfield, M. J. & Marasas, W. F. O. Population structure of *Fusarium circinatum* in South Africa. Poster presented at Proceedings of the Congress of the annual APS/ CPS congress in Toronto, Canada, August 1999.

van Heerden, H., Collins, N. E., Allsopp, M. T. E. P., Bensaid, A., Maillard, J-C. & Allsopp, B. A. Major outer membrane proteins of *Cowdria ruminantium* encoded by a multigene family. Talk presented at International Joint Conference of the Society of Tropical Veterinary Medicine and Wildlife Disease Association in South Africa, 22-27 July 2001.

Phillips, S. M., van Heerden, H. & Dubery, I. A. Characterization of Elicitor - Induced

Defense-Related Genes in Cotton. Poster to be presented at the 8th International Congress on Plant Molecular Biology in Adelaide, South Australia, 20-25 August 2006.

Sanabria, N. M., van Heerden, H., Dubery, I. A. Characterization of an LPS-induced RLK-transcript from *Nicotiana tabacum* using quantitative real-time RT-PCR. Poster presented at the 8th International congress of Plant Molecular Biology, Adelaide, Australia, 20-25 August 2006.

Van Heerden, H., Esterhuizen, L. L. van Heerden, S. W. & Rey, M. E. C. Genotyping of Tomato curly stunt virus isolates in South Africa." Poster presented at the 5th International Geminivirus symposium in Ouro Preto, Brazil, 20-26 May 2007.

Phillips, S. M., van Heerden, H. & Dubery, I. A. Characterization of defense-related genes in cotton up- or down regulated by a *Verticillium dahliae* elicitor. Poster and talk presented at the International Gordon Research conference on Plant Molecular Biology at Holderness School, USA13-18 July 2008.

Esterhuizen, L. L., van Heerden, S. W., Rey, M. E. C. & van Heerden, H. Epidemiology and molecular characterization of *Tomato curly stunt virus* and it's insect vector *Bemisia tabaci* in South Africa. Poster and talk presented at the 6th International Symposium on Geminivirus and the 4th Comparative ssDNA Virology Workshop at Guanajuato, Mexico 7-12 November 2010.

Beyer, W., Arntzen, L., Eberle, G. & van Heerden, H. Opening conference in the programme German-African Cooperation Projects in Infectology. 20-22 June 2010, Berlin, Germany.

van Heerden, H., Rossouw, J., Ndumnego, O.C., Turnbull, P. & Beyer, W. Report back of immunoprophylaxis and molecular epidemiology if anthrax and the fate of *Bacillus anthracis* in living vectors and the environment of Namibia and South Africa. Talk presented at 2nd Workshop, 29-30 April 2010, Windhoek, Namibia.

Beyer, W., Eberle, G. & van Heerden, H. (2011). Second meeting for all participants in the German-African Cooperation Projects in Infectology. 23-25 March 2011, Accra, Ghana.

van Heerden, H., Ndumnego, O.C., Turnbull, P. & Beyer, W. (2012). Report back of immunoprophylaxis and molecular epidemiology if anthrax and the fate of *Bacillus anthracis*

in living vectors and the environment of Namibia and South Africa. Talk presented at 3rd Workshop, 7-8 May 2012, Kruger National Park, South Africa.

K.E. Lekota, E. Madoroba, J. Rees, H. van Heerden, J. Mafofo, F.C. Muchadey. (2013). Whole genome sequencing and genetic variant analysis of two South African *Bacillus anthracis* strains. The international Conference on *Bacillus anthracis, B. cereus, and B. thuringiensis*, Victoria, Canada 1-5 September 2013.

K.E. Lekota, J. Mafofo, J. Rees, F.C. Muchadey, H. van Heerden, E. Madoroba. (2013) Polyphasic characterization of *Bacillus* species from anthrax outbreaks in animals from southern Africa. The international Conference on *Bacillus anthracis, B. cereus, and B. thuringiensis*, Victoria, Canada 1-5 September 2013.

Hassim, Y. Hauck, J. Rossouw, G. Vergnaud, H. van Heerden. (2013). Chracterization of *Bacillus anthracis* using multiple locus variable number of tandem repeat analysis (MLVA) for the typical african laboratory. The international Conference on *Bacillus anthracis, B. cereus, and B. thuringiensis*, Victoria, Canada 1-5 September 2013.

S.M. Koehler, M. Sahin, S. Otlu, M. Doganay, O. Ndumnego, H. van Heerden, W. Beyer. (2013). Recombinant acellular vaccines tested in goats for immunogenicity and ptotectivity. The international Conference on *Bacillus anthracis, B. cereus, and B. thuringiensis*, Victoria, Canada 1-5 September 2013.

O.C. Ndumnego, S. Koehler, J. Crafford, W. Beyer, H. van Heerden (2013). Immunigenicity and protectivity efficacy of the Sterne 34F2 live spore anthrax vaccine in goats. The international Conference on *Bacillus anthracis, B. cereus, and B. thuringiensis*, Victoria, Canada 1-5 September 2013.

O. C. Ndumnego, J. Crafford, W. Beyer, H. van Heerden. (2013) Quantitiave anti-anthrax IgG ELISA correlates with the anhtrax toxin neutralization assay in goats. The international Conference on *Bacillus anthracis, B. cereus, and B. thuringiensis*, Victoria, Canada 1-5 September 2013.