

Arista Fourie



CURRICULUM VITAE

Forestry and Agricultural Biotechnology Institute
Department of Genetics
University of Pretoria
Pretoria, South Africa

Updated February 2018

1. BIOGRAPHICAL SKETCH

1.1 GENERAL INFORMATION

Title	Ms	ID Number	8904140028080
Citizenship	South African	Gender	Female
Place of birth	South Africa	Date of birth	1989-04-14
City	Pretoria	Position	PhD student (full-time)
Department	Genetics	Date of appointment	July 2014
Direct Telephone	012-420 5818	Cell phone	083 607 0901
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1.2 ACADEMIC QUALIFICATIONS OBTAINED

Degree/ Diploma	Field of study	Higher education institution	Year	Distinctions
MSc	Genetics	University of Pretoria	2014	Yes
BSc Hons	Genetics	University of Pretoria	2011	Yes
BSc	Human Genetics	University of Pretoria	2010	Yes

1.3 WORK EXPERIENCE

Name of employer	Capacity and/or type of work	Period
University of Pretoria, Department of Genetics	Demonstrator for GTS 2 nd year Genetics practical	2018 - current
Forestry and Agricultural Biotechnology Institute (FABI)	Centre of Tree Health and Biotechnology (CTHB) community outreach team	2015 - 2017
University of Pretoria, Department of Genetics	Demonstrator for GTS 2 nd year Genetics practical	2014
University of Pretoria, Department of Genetics	Demonstrator for GTS 2 nd year Genetics practical	2013
Forestry and Agricultural Biotechnology Institute (FABI)	FABI Student work experience laboratory assistant	2012 - current
University of Pretoria, Department of Genetics	Demonstrator for GTS 2 nd year Genetics practical	2012
University of Pretoria, Department of Genetics	Demonstrator for GTS 1 st year Genetics practical	2011 – 2014
Forestry and Agricultural Biotechnology Institute (FABI)	FABI mentorship student	2009-2010

2. TEACHING ACTIVITIES

2.1 Mentor of undergraduate students in the faculty of the Natural and Agricultural Sciences as part of the FABI mentorship program

Student	Year	Degree
Kayleigh Mayer	2016	3rd year Microbiology
Shannon Flemmington	2015	3rd year Genetics
Catherine Jones	2013	2nd year Genetics

2.2 Other teaching contributions

From 2015 I have been involved in the National Science Week outreach project as well as the career week. There we inform school children and the general public about the importance of science. Various concepts about science and biology were explained to the students.

3. POSTGRADUATE SUPERVISION

3.1 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)	Duration (years)
Kira Lynn SN: 14049423	BSc, Hons: Identification of <i>Ceratocystis</i> species in Indonesia and Vietnam (2017)	I. Barnes	A. Fourie (Advisor)	1
Salome Van Hoepen SN: 12040135	BSc, Hons: Identifying genes essential for pathogen host specialization by means of comparative genomics (2016)	I. Barnes	M. van der Nest A. Fourie (Advisor)	1
Monique Otto SN: 12028054	BSc, Hons: Host specificity and interspecific mating in <i>Ceratocystis</i> sp. (2015)	I. Barnes	A. Fourie (Advisor)	1

3.2 Current post-graduate students

Name of student	Degree	Project title	Supervisor	Co-supervisor(s)	Year of registration
Mohd Redzuan Bin Abdul Rauf SN: 14298636	MSc. Forestry sciences	Ceratocystis Vascular Wilt on <i>Acacia mangium</i> and Chryphonectria Canker on <i>Eucalyptus</i> Plantation in Sabah	M.J. Wingfield	I. Barnes A. Fourie (Advisor)	2014

4. RESEARCH FUNDING

4.1 Bursaries obtained

- International Congress of Plant Pathology 2018 assistance bursary (2018)
- CHPC Introductory programming school attendance funding (2018)
- UP Postgraduate study abroad bursary (2016)
- NRF Scarce Skills Doctoral Scholarship travel grant (2016) – 3 month visit to Gent University
- NRF Scarce Skills Doctoral Scholarship (2014-2016)
- NRF Innovation Master's scholarship (2013)
- NRF Achievement bursary award (2011)

5. RESEARCH OUTPUTS

5.1 Publications in peer-reviewed or refereed journals

1. **Fourie A**, Wingfield MJ, Wingfield BD, Thu PQ, Barnes I. 2016. A possible centre of diversity in South East Asia for the tree pathogen, *Ceratocystis manginecans*. *Infection, Genetics and Evolution* 41:73-83. 10.1016/j.meegid.2016.03.011.
2. Crous PW, Wingfield MJ, Guarro J, Hernandez-Restrepo M, Sutton DA, Acharya K, Barber PA, Boekhout T, Dimitrov RA, Duenas M, Dutta AK, Gene J, Gouliamova DE, Groenewald M, Lombard L, Morozova OV, Sarkar J, Smith MTh, Stchigel AM, Wiederhold NP, Alexandrova AV, Antelmi I, Armengol J, Barnes I, Cano-Lira JF, Castaneda Ruiz RF, Contu M, Courtecuisse PrR, Da Silveira AL, Decock CA, De Goes A, Edathodu J, Ercole E, Firmino AC, **Fourie A**, Fournier J, Furtado EL, Geering ADW, Gershenzon J, Giraldo A, Gramaje D, Hammerbacher A, He X-L, Haryadi D, Khemmuk W, Kovalenko AE, Krawczynski R, Laich F, Lechat C, Lopes UP, Madrid H, Malysheva EF, Marin-Felix Y, Martin MP, Mostert L, Nigro F, Pereira OL, Picillo B, Pinho DB, Popov ES, Rodas Pelaez CA, Rooney-Latham S, Sandoval-Denis M, Shivas RG, Silva V, Stoilova-Disheva MM, Telleria MT, Ullah C, Unsicker SB, Van der Merwe NA, Vizzini A, Wagner H-G, Wong PTW, Wood AR, Groenewald JZ. 2015. Fungal Planet description sheets: 320–370. *Persoonia* 34:167-266.
3. **Fourie A**, Wingfield MJ, Wingfield BD, Barnes I. 2015. Molecular markers delimit cryptic species in *Ceratocystis sensu stricto*. *Mycological Progress* 14(1):1-18. 10.1007/s11557-014-1020-0.

5.2 Manuscripts submitted or in final preparation

1. **Fourie A**, Wingfield MJ, Wingfield BD, Van der Nest MA, Loots MT, Barnes I. In Revision. The inheritance of phenotypic traits in the progeny of a *Ceratocystis* interspecific cross. *Fungal Biology*
2. **Fourie A**, Simpson MC, Barnes I, Coetzee MPA, Van der Nest MA, Wingfield MJ, Wingfield BD, Duong TA. Submitted. Genome annotation of the plant pathogen *Ceratocystis fimbriata*. *Standards in Genomic Sciences*
3. Barnes I, **Fourie A**, Wingfield MJ, Harrington TC, McNew DL, Sugiyama LS, Luiz BC, Heller WP, Keith LM. Accepted. *Ceratocystis lukuohia* sp. nov. and *Ceratocystis huliohia* sp. nov. associated

with the devastating rapid `ōhi`a (*Metrosideros polymorpha*) death (ROD) epidemic in Hawai`i.
Persoonia

6. OTHER SCHOLARLY RESEARCH-BASED CONTRIBUTIONS

6.1 Participation in conferences, workshops and short courses

6.1.1 National conferences

1. **Fourie A**, Wingfield MJ, Wingfield BD, Van der Nest MA, De Vos L, Barnes I. 2018. Identifying QTLs associated with host range and pathogenicity of *Ceratocystis* species. *South African Association of Botanists conference*, 9-12 January 2018, University of Pretoria, Pretoria, South Africa. (oral presentation)
2. **Fourie A**, Wingfield BD, Wingfield MJ, Van der Nest MA, Barnes I. Inheritance of phenotypic traits in a *Ceratocystis* interspecific cross. *South African Genetics (SAGS) and Bioinformatics and Computational Biology Society Conference*. 20-23 September 2016, Nelson Mandela School of Medicine, Durban, South Africa. (poster presentation)
3. **Fourie A**, Wingfield BD, Wingfield MJ, Barnes I. Applying genomes as the key for unlocking evidence of cryptic species. *48th Congress of the Southern African Society for Plant Pathology*, 20-23 January 2013, ATKV Klein Kariba, Pretoria, South Africa. (poster presentation)
4. **Fourie, A.**, Wingfield, B.D., Wingfield, M.J., and Barnes, I. Mining genomes of the *Ceratocystis fimbriata sensu lato* complex for evidence of cryptic species. *South African Genetics (SAGS) and Bioinformatics and Computational Biology Society Conference*. 10-12 September 2012, Stellenbosch University, Stellenbosch, South Africa. (oral presentation)

6.1.2. International conferences

1. **Fourie, A.**, Wingfield, M.J., Wingfield, B.D., Barnes, I. 2014. Exploring boundaries between cryptic species in the *Ceratocystis fimbriata sensu lato* complex. *The 10th International Mycological Congress*, Bangkok, Thailand 3-8 August. (poster presentation)
2. **Fourie, A.**, Wingfield, M.J., Wingfield, B.D., Thu, P.Q., Barnes, I. Identification of *Ceratocystis* isolates from *Acacia* tree species in Vietnam and analysis of genetic diversity of *C. manginecans*. *The 10th International Mycological Congress*, Bangkok, Thailand 3-8 August 2014. (poster presentation)
3. Thu PQ, Quynh DN, **Fourie A**, Barnes I, Wingfield MJ. *Ceratocystis* wilt – a new and serious threat to *Acacia* plantations in Vietnam: taxonomy and pathogenicity. Meeting of the IUFRO working Party 2.08.07 Genetics and Silviculture of Acacia, “Sustaining the future of Acacia Plantation Forestry”, 18-21 March 2014, Hue, Vietnam. (oral presentation by Thu, P.Q)

6.1.3. Workshops attended

1. Centre for High Performance Computing (CHPC) Introductory Programming school, 15-20 January 2018. Presented by Dr. Krishna Govender and Dr. Andrew Gill (CHPC) at North West University, Potchefstroom.
2. Genome annotation and comparison workshop, 13-16 November 2017. Presented by Dr. Lieven Sterck (Ghent University) and Dr. Ronnie de Jonge (Utrecht University) at University of Pretoria.
3. GATK and bioinformatics workshop, 13-15 September 2016. Presented by Dr. Vang Quy Le (Aalborg University hospital, Section for Molecular Diagnostics) at University of Pretoria.
4. GATK workshop, 22-26 June 2015. Presented by Geraldine van der Auwera, Laura Gauthier and Josi Farjoun (Broad Institute of Harvard and MIT) at University of Pretoria.
5. RNA-seq analysis workshop: Genome analysis in the post NGS era, 4-6 Nov 2014. Presented by Dr. Lieven Sterck and Dr. Ronnie de Jonge (Ghent University) at University of Pretoria.
6. Genomics Workshop, 29 Sep- 3 Oct 2014. Presented by Dr Helen Hipperson, Dr Luke Dunning & Prof Vincent Savolainen (Imperial College London) at University of Pretoria.
7. CLC Genomics workbench "Hands on" Workshop, 11-12 May 2013. Presented by Inqaba Biotec at University of Pretoria.
8. Advanced Phylogenetics workshop, 21-25 May 2012. Presented by Dr. Martin Coetzee at Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria.
9. Introductory Phylogenetics Workshop, 14-17 May 2012. Presented by Dr. Jane Wright at Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria.

6.1.4. Article review for peer-review journals

- European Journal of Plant Pathology (1 article, 2017)

6.2 Teamwork and collaboration with others:

- Coordinator of the Genome annotation and comparison workshop at the University of Pretoria, Nov 2017.
- Coordinator of the *Ceratocystis fimbriata* Fungal Genome Annotation Workshop and Genome Jamboree, 2016.
- Social Club Committee member (2012 and 2015). Coordinator for monthly teas in 2015.
- Ad hoc oral presentations given to the Departments of Genetics and FABI.

Collaborated on projects, and co-authored papers with:

- Dr Pham Q. Thu (Forest Protection Research Centre, Vietnamese Academy of Forest Sciences, Vietnam)

Internal support staff and colleagues on current projects:

- Prof M.J. Wingfield, Mondi Professor of Forest Protection, Director, Forestry and Agricultural Biotechnology Institute (FABI); Tree Protection Co-operative Programme (TPCP) & DST/NRF Centre of Excellence in Tree Health Biotechnology (CTHB), University of Pretoria
- Prof B.D. Wingfield, Deputy Dean – Faculty of Natural and Agricultural Sciences,

- Professor of Genetics, University of Pretoria
- Dr I. Barnes, Senior Lecturer, Department of genetics, University of Pretoria
- Dr M. van der Nest, Postdoctoral research fellow, University of Pretoria
- Ms M.C. Simpson, PhD student, University of Pretoria
- Dr. T.A. Duong, Postdoctoral research fellow, University of Pretoria
- Mr. T. Loots, PhD student, Statistics department, University of Pretoria

External networks and collaborators for current projects:

- Prof Yves van de Peer, Professor in Bioinformatics and Genome Biology, Ghent University, Belgium
- Dr. Ronnie de Jonge, part-time assistant professor, Plant-Microbe Interactions department, Utrecht University and part-time postdoctoral researcher, VIB, Ghent University

6.3 Membership in national and international bodies

- Member of the Southern African Society for Plant Pathology (2012 - present)
- Member of the Southern African Genetics Society (2013 - present)
- Member of the American Phytopathological Society (2014 – present)

7. MANAGEMENT AND ADMINISTRATIVE DUTIES

- Laboratory manager (2014, 2018)
- Managing the -70C freezer facilities at FABI

8. COMMUNITY SERVICE OR PROFESSIONAL SKILLS

8.1 Outreach projects

- FABI Social club community outreach project (2014)
- Facilitated job-shadowing for Gr. 12 students (2015, 2016)
- Annual judge at the Eskom Regional Science Expo (2013 - current)
- Member of Centre of Tree Health Biotechnology (CTHB) community outreach team. Includes UP with Science project and National Science Week outreach. (2015 – 2017)

9. AWARDS AND SCIENTIFIC/SCHOLARLY RECOGNITION

9.1 Research awards and prizes

2017	FABI award for 'Getting the message to the public'
2016	FABI award for 'FABlan of the year', includes a sponsorship to an international conference
2016	FABI award for 'Getting the message to the public' and FABI award for 'Mentorship'
2011	Department of Genetics award for best Genetics Honours student.
2010	University of Pretoria Award for the best student in 3 rd year Genetics.
2010	Member of Golden Key, invited on selection of academic achievement (top 15% in faculty), Membership nr. 5938215.
2009	University of Pretoria Award for the best student in 2 nd year Genetics.

10. GENERAL INFORMATION

I am a very organized and task orientated person. I'm self-driven and have a lot of perseverance. I work well under pressure and complete tasks once I've committed myself to them. However, relationships are also important to me and I care about people and their well-being. I enjoy dedicating my time to help others and having an impact in the community where I live. I have also been involved in various community upliftment and outreach projects, since high school, in Mozambique, Zambia, Zimbabwe and Botswana as well as in the Pretoria city centre and Shoshanguve. In my spare time I also enjoy hiking, scuba diving and any outdoor activities.

Referees

1. Dr. Irene Barnes
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2. Prof. Michael J. Wingfield
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