

CURRICULUM VITAE OF DR ANDREA WILSON

PERSONAL INFORMATION

Full name Andrea Melissa Wilson
Preferred name Andi
Pronouns Her/She

Current position Postdoctoral researcher

Date of birth 16 September 1991
Relationship status Married
Citizenship Dual South African/British



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EDUCATION

2016 – 2019 **Doctor of Philosophy (PhD): Genetics**
University of Pretoria

2014 – 2015 **Master of Science (MSc): Genetics**
University of Pretoria
Cum laude (82%)

2013 **Bachelor of Science- Honours (BSc: Hons)): Genetics**
University of Pretoria
Cum laude (79%)

2010 – 2012 **Bachelor of Science (BSc): Human Genetics**
University of Pretoria
Cum laude (80%)

PEER-REVIEWED PUBLICATIONS

- 2021 AM Wilson, R Gabriel, SW Singer, T Schuerg, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Doing it alone: Unisexual reproduction in filamentous ascomycete fungi. *Fungal Biology Reviews* 35: 1-13.
- 2020 AM Wilson & BD Wingfield**
CRISPR-Cas9-mediated genome editing in the filamentous ascomycete *Huntia omanensis*. *Journal of Visualized Experiments*: e61367.
- 2020 AM Wilson, MA van der Nest, PM Wilken, MJ Wingfield & BD Wingfield**
The novel *Huntia omanensis* mating gene, *MAT1-2-7*, is essential for ascomatal maturation. *Fungal Genetics and Biology* 137: 103335.
- 2019 AM Wilson, MA van der Nest, PM Wilken, MJ Wingfield & BD Wingfield**
It's All in the Genes: The Regulatory Pathways of Sexual Reproduction in Filamentous Ascomycetes. *Genes* 10(5): 330.
- 2018 F Liu, G Li, J Roux, I Barnes, AM Wilson, MJ Wingfield & S Chen**
Nine novel species of *Huntia* from southern China with three distinct mating strategies and variable levels of pathogenicity. *Mycologia* 110(6): 1145-1171.
- 2018 Y Marin-Felix, ..., AM Wilson, et al.**
Genera of phytopathogenic fungi: GOPHY 2. *Studies in Mycology* 92: 47-133.
- 2018 AM Wilson, MA van der Nest, PM Wilken, MJ Wingfield & BD Wingfield**
Pheromone expression reveals putative mechanism of unisexuality in a saprobic ascomycete fungus. *PLOS One* 13(3):e0192517.
- 2016 BD Wingfield, ..., AM Wilson, et al.**
Draft genome sequences for *Ceratocystis fagacearum*, *C. harringtonii*, *Grosmannia penicillata*, and *Huntia bhutanensis*. *IMA Fungus* 7(2):317-323.
- 2015 AM Wilson, PM Wilken, MA van der Nest, ET Steenkamp, MJ Wingfield & BD Wingfield**
Homothallism: An Umbrella Term for describing Diverse Sexual Behaviours. *IMA Fungus* 6(1): 207-214.
- 2015 AM Wilson, T Godlonton, MA van der Nest, PM Wilken, MJ Wingfield & BD Wingfield**
Unisexual Reproduction in *Huntia moniliformis*. *Fungal Genetics and Biology* 80: 1-
- 2014 MA Van der Nest, ..., AM Wilson, et al.**
Draft Genome Sequences of *Amanita jacksonii*, *Ceratocystis albifundus*, *Fusarium circinatum*, *Huntia omanensis*, *Leptographium procerum*, *Rutstroemia sydowiana* and *Sclerotinia echinophila*. *IMA Fungus* 5: 473-485.

- 2014** **MA Van der Nest, ..., AM Wilson, et al.**
Draft Genome Sequence of *Diplodia sapinea*, *Ceratocystis manginecans*, and *Ceratocystis moniliformis*. IMA Fungus 5: 135-140.

CONFERENCE ABSTRACTS

- 2020** **AM Wilson, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Novel mating type gene, *MAT1-2-7*, is essential for ascomatal maturation in *Huntia omanensis* (graphical abstract). The Mycological Society of America, 10 July 2020, Virtual Meeting.
- 2018** **AM Wilson, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Pheromone expression in the unisexual fungus, *Huntia moniliformis* (poster presentation). International Congress of Plant Pathology, 29 July – 3 August, Hynes Convention Center, Boston, USA.
- 2018** **AM Wilson, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Characterization of *MAT1-2-7*: a novel *MAT* gene in the wood-infecting fungus *Huntia omanensis* (poster presentation). International Congress of Plant Pathology, 29 July – 3 August, Hynes Convention Center, Boston, USA.
- 2018** **AM Wilson, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Characterization of *MAT1-2-7*; a novel mating gene in *Huntia omanensis* (oral presentation). South African Society of Microbiology Conference, 4 – 7 April, Misty Hills Hotel & Conference Venue, Johannesburg, South Africa.
- 2017** **AM Wilson, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Unpacking the Molecular Mechanism behind Unisexual Reproduction in *Huntia moniliformis* (poster presentation). Life Sciences Symposium, 18 – 19 May Pennsylvania State University, State College, USA.
- 2017** **AM Wilson, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Unpacking the Molecular Mechanism behind Unisexual Reproduction in *Huntia moniliformis* (oral & poster presentations). Fungal Genetics Conference, 14 – 19 March, Asilomar Conference Grounds, Pacific Grove, USA.
- 2016** **AM Wilson, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Unpacking Unisexual Reproduction in *Huntia moniliformis* (oral presentation). South African Genetics Society/South African Society of Bioinformatics Congress, 20 – 23 September, Durban, South Africa.
- 2015** **AM Wilson, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Unpacking Unisexual Reproduction in *Huntia moniliformis* (poster presentation). Fungal Genetics Conferences, 17 – 22 March, Asilomar Conference Grounds, Pacific Grove, USA.

- 2015 AM Wilson, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Characterization of the *MAT* Locus in the Saprobe *Huntia omanensis* (poster presentation). South African Association of Botanists Congress, Venda, South Africa.
- 2015 AM Wilson, PM Wilken, MA van der Nest, MJ Wingfield & BD Wingfield**
Characterization of the *MAT* Locus in the Saprobe *Huntia omanensis* (poster presentation). South African Society for Plant Pathology, 18 – 21 January, University of the Free State, Bloemfontein, South Africa.

INVITED TALKS

- 2021 AM Wilson**
The birds, the bees... and the fungi: Elucidating the genetic differences between heterothallic and unisexual fungi. Seminar Series. The Systematic Biology Program, Uppsala University, Sweden.
- 2020 AM Wilson**
How the Fungi Do It. Seminar Series. Division of Human Genetics, University of the Witwatersrand, Johannesburg, South Africa.

OTHER SCIENCE COMMUNICATION

- 2018 AM Wilson**
Sex: birds do it, bees do it - and fungi do it too. Here's how, and why it matters. The Conversation Africa.
- 2018 AM Wilson**
The CRISPR/Cas System: Genome Editing. Teacher's education day. Woodhill College, Pretoria, South Africa.

AWARDS, BURSARIES & SCHOLARSHIPS

- 2018** For Women in Science Doctoral Fellowship, *L'Oréal-UNESCO*
Travel Award, *WhiteSci Travel Award Scheme*
Travel Award for PhD Student, *Genes Journal*
Best PhD Presentation at the SASM Conference, *South African Society of Microbiology*
- 2017 - 2018** Scarce Skills Scholarship for Doctoral Students, *National Research Foundation*
- 2017** FABlan of the Year, *Forestry & Agricultural Biotechnology Institute*
Woman in Science Award: PhD Fellowship, *Department of Science & Technology*
Study Abroad Bursary, *University of Pretoria*
PhD Student Bursary, *University of Pretoria*

- 2016** Best MSc Student of 2015/16, *Forestry & Agricultural Biotechnology Institute*
Mentorship Award, *Forestry & Agricultural Biotechnology Institute*
Merit Certificate for Academics for MSc: Genetics Degree, *University of Pretoria*
Grantholder Linked Bursary for Master's Students, *National Research Foundation*
- 2014** Academic Honorary Colours for BSc(Hons): Human Genetics, *University of Pretoria*

MEMBERSHIP TO ASSOCIATIONS & SOCIETIES

- 2020** Mycological Society of America
- 2018 - Current** CTHB Mentorship Program Committee
South African Genetics Society (SAGS)
South African Society of Microbiology (SASM)
- 2017 - Current** Genetics Society of America (GSA)
- 2011 - Current** Golden Key Society
- 2016 - 2018** Postgraduate Student Association of Natural and Agricultural Sciences
FABI Representative & Secretary
- 2014 & 2018** FABI Social Club

RELEVANT EXPERIENCE

LABORATORY VISITS

- 2018** Pennsylvania State University (6 August – 30 September)
- 2017** Pennsylvania State University (27 April – 30 June)

RESEARCH TECHNIQUES

Molecular Techniques

Conventional and reverse transcription PCR, agarose gel electrophoresis, Sanger sequencing, DNA and RNA extractions, PCR-based plasmid assembly, knockout construct design and assembly, CRISPR-Cas9 genome editing

Bioinformatic Techniques

Draft genome assembly, genome mining and gene identification, primer design, RNA-Seq analysis

Mycological Techniques

Fungal isolation, culturing and maintenance, single ascospore isolations and matings, protoplast extractions, transformations, random DNA integration

TEACHING, MENTORING & TUTORING

Lecturing Position

Dates: August - September 2020
Department & Institution: Department of Zoology & Entomology, University of Pretoria
Course: Introduction to Population Genetics (ZEN 362)

Mentor Positions

Dates: January 2014 - December 2018
Department & Institution: Centre of Excellence in Tree Health Biotechnology (CTHB), Forestry & Agricultural Biotechnology Institute (FABI), University of Pretoria
Students: Ms Storme de Scally, Ms Dore Joubert, Ms Elke Roos, Ms Carla Buitendag

Tutor/Demonstrator Positions

Dates: June - December of 2014 to 2019
Department & Institution: Department of Genetics, University of Pretoria
Course: Advanced Population & Evolutionary Genetics (GTS 367)

Dates: June - December 2018
Department & Institution: Department of Genetics, University of Pretoria
Course: Advanced Molecular Genetics (GTS 354)

Dates: January - June of 2015 – 2016
Department & Institution: Department of Genetics, University of Pretoria
Course: Molecular Genetics (GTS 251)

Dates: June - December 2014
Department & Institution: Department of Genetics, University of Pretoria
Course: Introductory Molecular Biology (MLB 111)

Dates: June - December 2013
Department & Institution: Department of Genetics, University of Pretoria
Course: Introductory Genetics (GTS 161)

OTHER RELEVANT EXPERIENCES

2019 & 2020 *Fusarium* pathogenicity trials

2019 Peer reviewer for Genes Journal
Genetics Peer Review Training Program (GSA)

2018 – Current Chair and Founder of “The Writing Club at FABI”

2014 – Current	Work experience student at FABI
2014 – 2018	Mentor in the Centre of Excellence in Tree Health Biotechnology (CTHB) mentorship program at FABI
2017	Genome Annotation Workshop
2014	<i>Ceratocystis</i> Genome Annotation Jamboree
2011 – 2012	Mentorship student in the Centre of Excellence in Tree Health Biotechnology (CTHB) mentorship program at FABI

ACADEMIC REFERENCES

Professor Michael Wingfield

- 📁 Advisor to the Executive, *University of Pretoria*
- ✉ mike.wingfield@fabi.up.ac.za
- ☎ +27 12 420 3939
- 👥 Advisor of Postdoctoral research, co-supervisor of PhD
- 📍 FABI, University of Pretoria, Private bag X20, Hatfield, 0028, South Africa

Professor Brenda Wingfield

- 📁 DST/NRF SARCHI Chair in Fungal Genomics, *University of Pretoria*
- ✉ brenda.wingfield@up.ac.za
- ☎ +27 12 420 3939
- 👥 Co-advisor of Postdoctoral research, supervisor of BSc (Hons), MSc and PhD
- 📍 FABI, University of Pretoria, Private bag X20, Hatfield, 0028, South Africa

Professor Paulette Bloomer

- 📁 Deputy Dean: Teaching and Learning, *University of Pretoria*
- ✉ paulette.bloomer@up.ac.za
- ☎ +27 12 420 6472/6771
- 👥 Head of Department during BSc, BSc: Hons, MSc & PhD degrees
- 📍 Department of Biochemistry, Genetics & Microbiology, University of Pretoria, Private bag X20, Hatfield, 0028, South Africa