

KHUMBUZILE N. BOPHELA, PHD

Email: khumbuzile.bophela@up.ac.za

Professional website: <https://www.fabinet.up.ac.za/index.php/people-profile?profile=981>

Plant Pathology Division, Agricultural Building, Room 2-9, Level 2, University of Pretoria, Private Bag X20, Hatfield 0028, South Africa, Pretoria

Phone: +27(0)729179940

EDUCATION

- 2021 PhD in Microbiology, University of Pretoria, South Africa
- 2015 M.Sc. in Microbiology, University of Pretoria, South Africa
- 2012 B.Sc. Hons. in Microbiology, University of Pretoria, South Africa
- 2011 B.Sc in Microbiology, University of Pretoria, South Africa

PROFESSIONAL APPOINTMENTS

- Aug 2019 – Jul 2021 **Academic Intern.** Department of Biochemistry, Genetics and Microbiology, University of Pretoria, South Africa

PEER-REVIEWED MANUSCRIPTS

1. **Bophela KN**, Venter SN, Wingfield MJ, Duran A, Tarigan M, Coutinho TA. 2019. *Xanthomonas perforans*: a tomato and pepper pathogen associated with bacterial blight and dieback of *Eucalyptus pellita* seedlings in Indonesia. *Australasian Plant Pathology* 48 (6), 543-551
2. **Bophela KN**, Petersen Y, Bull CT, Coutinho TA. 2020 Identification of *Pseudomonas* isolates associated with bacterial canker of stone fruit trees in the Western Cape, South Africa. *Plant Disease* 104(3), 882-892
3. Coutinho TA, **Bophela KN**. 2021. Chapter 7: Bacterial endophytes of tropical tree species. In *Forest Microbiology*. Elsevier publishers, Middle East. <https://doi.org/10.1016/B978-0-12-822542-4.00001-2>

UNDER REVIEW

4. Tymon L, **Bophela KN**, Martins SJ, Ramos-Sepulveda L, Inglis DA, Coutinho TA, Bull CT. Fruit warts and leaf spots of cucurbits caused by diverse strains within *Pseudomonas syringae* pv. *aptata*. *Plant Disease*

IN PREPARATION

5. **Bophela KN**, Jordaan J, Petersen Y, Bull CT, Coutinho TA. Investigating the role of *Criconemalla xenoplax* (ring nematodes) in predisposing plum trees to bacterial canker. Target journal: *Crop Protection*
6. **Bophela KN**, Petersen Y, Bull CT, Coutinho TA. Influence of predisposing factors on infection of woody hosts by plant pathogenic bacteria. Target journal: *South African Journal of Science*
7. **Bophela KN**, Modiba PM, Petersen Y, Bull CT, Coutinho TA. Contributing factors responsible for the 'sudden death' of plum trees in the Western Cape. Target journal: *South African Fruit Journal*

FUTURE PUBLICATIONS

8. **Bophela KN**, Wang J, Petersen Y, Bull CT, Coutinho TA, Zeng Q. Draft genomes of *Pseudomonas syringae* and *Pseudomonas viridiflava* strains associated with bacterial canker of stone fruit trees in the Western Cape, South Africa. Target journal: *Microbiology Resource Announcement*
9. **Bophela KN**, Wang J, Petersen Y, Bull CT, Coutinho TA, Zeng Q. Elucidating the phylogeny and host adaptation of *Pseudomonas* strains associated with the bacterial canker of stone fruit trees in the Western Cape, South Africa. Target journal: *Frontiers in Plant Science*
10. **Bophela KN**, Petersen Y, Bull CT, Coutinho TA. The effect of drought stress in predisposing *Prunus domestica* (plum) to infection by *Pseudomonas* strains associated with bacterial canker of stone fruits in the Western Cape, South Africa. Target journal: *Journal of Plant Physiology*

CONFERENCES & SYMPOSIA

1. **Bophela KN**, Brady CL, Venter SN, Coutinho TA. 2016. Characterization and Pathogenicity of *Enterobacter* species associated with bacterial blight and dieback of *Eucalyptus* seedlings and cuttings. *Proceedings of the 19th Biennial Congress of the South African Society of Microbiology, Durban, January 2016*. (Poster)
2. **Bophela KN**, Venter SN, Wingfield MJ, Coutinho TA. 2017. *Xanthomonas perforans* causes leaf blight on *Eucalyptus pellita* in Indonesia. *Proceedings of the 50th Anniversary Congress of the Southern African Society for Plant Pathology, Drakensberg, 15 - 18 January 2017* (Poster)
3. **Bophela KN**, Petersen Y, Roux J, Coutinho TA. 2017. *Pseudomonas viridiflava*: a potential emerging pathogen associated with the bacterial canker of plum trees in the Western Cape, South Africa. *Proceedings of the Annual Meeting of The American Phytopathological Society, San Antonio, Texas, 5 - 9 August 2017* (Poster)

4. Tymon L, **Bophela KN**, Martins SJ, Ramos-Sépulveda L, Inglis DA, Bull CT. 2018. Leaf lesions and fruit warts on pumpkin caused by *Pseudomonas syringae sensu stricto*. *Proceedings of the International Congress of Plant Pathology, Boston, Massachusetts, 29 July – 3 August 2018* (Poster)
5. **Bophela KN**, Petersen Y., Bull CT, Coutinho TA. 2018. The role of stress factors in predisposing plum trees to invasion by the bacterial pathogen *Pseudomonas syringae* pv. *syringae*. *Hortgro Science Research Showcase, Stellenbosch, Western Cape, 18 September 2018* (Oral)
6. **Bophela KN**, Petersen Y, Bull CT, Coutinho TA. 2018. Identification of *Pseudomonas* isolates associated with the bacterial canker of stone fruit trees in the Western Cape. *Department of Biochemistry, Genetics and Microbiology Research Day, Future Africa Campus, University of Pretoria, Pretoria, 6 December 2018* (Oral)
7. **Bophela KN**, Petersen Y, Bull CT, Coutinho TA. 2019. Investigating the potential role of ring nematodes (*Mesocriconema xenoplax*) in predisposing plum trees to bacterial canker. *Proceedings of the 51st Biennial Congress of the Southern African Society for Plant Pathology, Langebaan, Western Cape, 20 – 24 January 2019* (Oral)
8. **Bophela KN**, Petersen Y, Bull CT, Coutinho TA. 2019. Investigating the potential role of ring nematodes (*Mesocriconema xenoplax*) in predisposing plum trees to bacterial canker infection. *Proceedings of the 22nd Biennial Congress of the Australasian Plant Pathology Society, Melbourne Convention and Exhibition Centre, Australia, 25 – 28 November 2019* (Poster)

TEACHING EXPERIENCE

- 2020 **Lecturer**
- MBY 251: Second-year microbiology course on Bacteriology, University of Pretoria, SA.
 - I was responsible for 20% of the teaching component of the course, divided between three faculty members.
 - I presented five lectures on a theme based on *Nutrient Cycles and Microbiology of built Environment*.
 - I was also involved in the assessment of undergraduate students as well as the practical component of course but on an ad-hoc basis.
- 2019 **Guest lecturer**
- PLG 351: Third-year plant pathology course, University of Pretoria, SA.
 - I was also responsible for 5% of the teaching component, divided between four faculty members.
 - I presented two lectures on phytobacteriology, and the practical

component relating to the topic of discussion.

MENTORING & SUPERVISION EXPERIENCE

UNDERGRADUATE STUDENTS

- **Elizabeth (Azille) Schulze**, Forestry and Agricultural Biotechnology Institute mentorship programme, University of Pretoria, SA (2013-2014)
- **Rochelle de Bruyn** (Neé Clase), Natural and Agricultural Sciences Faculty mentorship programme, University of Pretoria, SA (2015)
- **Amber Tulloch**, Forestry and Agricultural Biotechnology Institute mentorship programme, University of Pretoria, SA (2016-2017)
- **Onkemetse Moroeng**, co-supervised a B.Sc (Agric.) mini-research project, Department of Plant and Soil Sciences, University of Pretoria, SA (2019)

POSTGRADUATE STUDENT

- **Michelle Durow**, co-supervising honours' research project, Department of Biochemistry, Genetics, and Microbiology, University of Pretoria, SA (2020)

ADDITIONAL TRAINING

2013	Advanced phylogenetics workshop, Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria
2017	PSU Bootcamp on reproducible research. Computation, Bioinformatics and Statistics Predoctoral Training Program. Pennsylvania State University
2018 & 2019	African Soil Microbiology, 2nd Consortium Meeting, training workshop. Soil Microbial Ecology, Bioinformatics, Statistics in R. Centre for Microbial Ecology and Genomics. University of Pretoria, Pretoria

PERSONAL DEVELOPMENT

2017	How to be own best mentor™ workshop, presented by Prof. Carolee Bull, Head of Department of Plant Pathology and Environmental Microbiology. Pennsylvania State University,
2017	Crucial Conversations™ workshop, presented by Prof. Carolee Bull, Head of Department of Plant Pathology and Environmental Microbiology. Pennsylvania State University
2019	Scientific writing workshop, Black Women In Science fellowship programme, South Africa

2019	Business and Entrepreneurial Skills workshop, Black Women In Science fellowship programme, South Africa
2020	Science communication and Branding workshop, Black Women In Science fellowship programme, South Africa

GRANT & SCHOLARSHIPS

2016-2019	<p>Doctoral Scholarship, R480 000</p> <p>National Research Foundation, South Africa</p>
2017-2018	<p>Doctoral Scholarship, R36 000</p> <p>The University of Pretoria, Bursaries and Scholarships office, South Africa</p>
2016-2019	<p>HORTGRO Deciduous, South Africa, Research Grant, R600 000</p> <p>Project Title: The role of stress factors predisposing plum trees to invasion by the bacterial pathogen <i>Pseudomonas syringae</i> pv. <i>syringae</i></p>
2013-2015	<p>Masters Scholarship, R178 000</p> <p>National Research Foundation, South Africa</p>

AWARDS

2010	Merit Certificate for Leadership, Student Representative Council, University of Pretoria
2010	Merit Certificate for the “Leading the Future Today” leadership programme, Faculty of Economic and Management Sciences, University of Pretoria
2011	Honorary colours for leadership, Student Representative Council, University of Pretoria
2018	WhiteSci research travel grant, Whitehead Scientific (Pty)Ltd, South Africa

PROFESSIONAL AFFILIATIONS

- Southern African Society of Plant Pathology, student membership, 2013-
- The Association of South African Women in Science and Engineering, full membership, 2013-
- South African Society for Microbiology, student membership, 2015-

- American Society for Microbiology, student membership, 2016-
- The American Phytopathological Society, student membership, 2017-
- Black Women In Science, fellow and full membership, 2019-