

## Mesfin Wondafrash Gossa Curriculum Vitae

### Personal Information

---

Name: Mesfin Wondafrash Gossa

Gender: Male

Date of birth: November 1978

Email: [mesfin.gossa@fabi.up.ac.za](mailto:mesfin.gossa@fabi.up.ac.za) / [mesfinwondafrash@gmail.com](mailto:mesfinwondafrash@gmail.com)

Cell phone: +27 (061) 242 7403

ORCID: 0000-0002-1962-7941

Web Pages: [Google Scholar profile](#), [FABI profile](#), [Research Gate profile](#), [LinkedIn profile](#), [Publons](#)

Twitter: @Mesfinwondafras

### Profile

---

I am interested in the phylogeny, genetic diversity, ecology and management of insect and nematode pests of economic importance to agriculture and forestry. Currently, I am a postdoc at the Forestry and Agricultural Biotechnology Institute (FABI), the University of Pretoria working on a project that focuses on monitoring tree health in sentinel sites (botanic gardens and arboreta) across South Africa. I have completed another postdoc at FABI that has looked into the genetic diversity and distribution of *Eucalyptus* insect pests and their natural enemies in sub-Saharan Africa. I have also worked as entomology lecturer for two universities and as a junior and assistant researcher for a National Agricultural Research Institute in Ethiopia. I have had a chance to visit several universities and research institutes in Europe and attended and presented on a number of national and international conferences. The results of my research were published in peer reviewed international journals.

### Education

---

Year	University	Qualification	Field of study
2013 – 2016	University of Pretoria	PhD	Entomology
2010 – 2012	University of Ghent	MSc	Nematology
2005 – 2007	Addis Ababa University	MSc	Insect Sciences
1998 – 2002	Alemaya University	BSc	Plant Sciences

---

### Employment

---

*University of Pretoria (South Africa), Postdoctoral Research Fellow, January 2017 – present*

In the first two years of my postdoc, I investigated *Eucalyptus* insect pests and their natural enemies in sub-Saharan Africa. This includes many eucalypt-feeding insects that have been recently introduced in the region and pose a serious threat to the sustainability of *Eucalyptus* forestry. To understand this problem, we developed ***Eucalyptus* Insect Pest Project in Africa (EIPPA)**. This was a collaborative project which involved various stakeholders in 14 countries across sub-Saharan Africa. In this project, we confirmed the presence of five invasive insect pests of *Eucalyptus* across the region, mapped the geographic distribution of these pests and their natural enemies and unravelled the genetic diversity and

host utilization patterns of the pests. Results from this project will be useful to inform management strategies of eucalypt insect pests in the region.

My current research focuses on monitoring tree health at sentinel sites such as botanic gardens and arboreta across South Africa. The project was initiated in 2016 under the framework of the International Plant Sentinel Network IPSN ([www.plantsentinel.org](http://www.plantsentinel.org)) to improve surveillance and identification of new and emerging pest risks in South Africa. Besides using botanic gardens and arboreta as an early warning system to identify new pest and pathogen threats, the project aims at identifying pre-existing plant health issues and works towards building capacity of garden staff in monitoring, detection and management of pests and diseases. It is a collaborative project conducted in partnership with SANBI, FABI and International Plant Sentinel Network (IPSN).

***University of Pretoria (South Africa), PhD student, April 2013 – November 2016***

I was provided scholarship by University of Pretoria and National Research Foundation (NRF). I was trained as an entomologist with strong background in ecology and management of insect pests. By assisting at Biological Control Centre of the University of Pretoria, I have also gained critical skills in biological control of forest insect pests.

***Haramaya University (Ethiopia), Lecturer, January 2008 – March 2013***

I taught various courses, including Management of Crop Pests and Diseases of Economic Importance, Weeds and their Management, Agrometeorology, Applied Climatology to undergraduate students.

I lectured Agricultural Nematology course to MSc Agricultural Entomology and MSc Plant Pathology students.

***Arba Minch University (Ethiopia), Lecturer, September – December 2007***

I lectured undergraduate courses, including General Entomology and Applied Entomology to BSc Applied Biology and BEd Biology students.

***Ethiopian Agricultural Research Organization, Junior and Assist Researcher, January 2003 – August 2007***

My career as an entomologist started when I joined this institute as a junior researcher back in 2003. I gained critical skills in research methods (proposal writing, field trials and laboratory experiments, data collection, data analysis, writing and presentation) and learnt core techniques in insect sciences (entomology). Under the guidance of senior entomologists, I studied the effectiveness of entomopathogenic fungi against cotton bollworm, the prevalence and distribution of natural enemies of major cotton insect pests, the efficacy of synthetic and botanical insecticides against insect and mite pests of cotton and groundnut. I evaluated the effectiveness of extracts of neem seed and leaf extracts against cotton bollworm. I have also characterized and selected cotton and groundnut varieties for their resistance/tolerance to insect pests.

### **Student supervision/mentoring**

---

- Agil Katumanyame, PhD student, University of Pretoria, South Africa (Co-supervisor), 2018 – present  
Thesis title: Evaluation of entomopathogenic nematodes as bio-control agents in the management of white grubs in forestry and sugarcane plantations of South Africa
- Lesego Malekana, Undergraduate mentorship student, University of Pretoria, South Africa, 2019
- Thendo Budeli, Undergraduate mentorship student, University of Pretoria, South Africa, 2015
- Supervised 19 Senior Seminars and 18 Practical Attachment projects of undergraduate Plant Sciences and Crop Production and Protection students, Haramaya University, Ethiopia, 2008-2012

### **Professional Membership**

---

- Ethiopian Professionals Association in Southern Africa (EthPASA), 2018 - present
- Entomological Society of Southern Africa (ESSA), 2017 - present
- British Ecological Society (BES), 2017 - present
- Plant Protection Society of Ethiopia (PPSE), 2004 - 2012

### **Leadership and Administrative Contributions**

---

- Laboratory Manager, Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria, South Africa (January – December 2017)
- Deputy Coordinator, Summer In-service Program, Haramaya University, Ethiopia, 2009 - 2010
- Academic Coordinator, School of Plant Sciences, Haramaya University, Ethiopia, 2008 - 2009
- Head, Entomology Research Division, Werer Agricultural Research Center, Ethiopia, 2004 - 2005

### **Awards and Scholarships**

---

- South African National Biodiversity Institute (SANBI) Postdoctoral Research Fellowship Award, 2019
- University of Pretoria Postdoctoral Research Fellowship Award, 2017
- National Research Foundation (South Africa) Innovation Doctoral Scholarship Award, 2014
- University of Pretoria Postgraduate Bursary Award, 2013
- European Union Education and Culture Director General (Erasmus Mundus) Scholarship Award, 2010
- Ghent University dean's list, Highest Distinction (MSc. Nematology), 2012
- Addis Ababa University dean's list, Highest Distinction (MSc. Insect Sciences), 2007
- Alemaya University dean's list, Distinction (BSc. Plant Sciences), 2002

## Peer Reviewed Publications

[Kindly be informed that I use my first and middle name (Mesfin Wondafrash) in all my publications]

### Published

- Wondafrash M**, Slippers B, Hurley BP & Garnas J (2019). Local antagonism and resource partitioning between two invasive pine plantation pests. *Agricultural and Forest Entomology*. doi: 10.1111/afe.12330
- Van Dam NM, **Wondafrash M**, Mathur V & Tytgat TO (2018) Differences in hormonal signaling triggered by two root-feeding nematode species result in contrasting effects on aphid population growth. *Frontiers in Ecology and Evolution* 6:88, doi: 10.3389/fevo.2018.00088
- Wondafrash M**, Slippers B, Garnas J & Hurley BP (2017). Parasitoid assemblage associated with a North American pine weevil in South Africa. *Agricultural and Forest Entomology* 20: 208 – 216, doi: 10.1111/afe.12246
- Wondafrash M**, Slippers B, Garnas J, Roux G, Foit J, Langor DW & Hurley BP (2016) Identification and genetic diversity of two *Pissodes* spp. *Germar* (Coleoptera:Curculionidae) in their introduced range in the southern hemisphere. *Biological Invasions* 18: 2283-2297.
- Abebe E, Mekete T, Seid A, Meressa BH, **Wondafrash M**, Addis T, Getaneh G & Abate BA (2015) Research on plant-parasitic and entomopathogenic nematodes in Ethiopia: a review of current state and future direction. *Nematology* 17: 741-759.
- Wondafrash M**, Van Dam NM & Tytgat TO (2013) Plant systemic induced responses mediate interactions between root parasitic nematodes and aboveground herbivorous insects. *Frontiers in Plant Science* 4: 1-15.
- Wondafrash M**, Getu E & Terefe G (2012a) Life-cycle parameters of African bollworm, *Helicoverpa armigera* (Hubner)(Lepidoptera: Noctuidae) affected by neem, *Azadirachta indica* (A. Juss) extracts. *Agricultural Science Research Journal* 2: 335-345.
- Wondafrash M**, Getu E & Terefe G (2012b) Neem, *Azadirachta indica* (A. Juss) Extracts Negatively Influenced Growth and Development of African Bollworm, *Helicoverpa armigera*(Hubner)(Lepidoptera: Noctuidae). *Academic Journal of Entomology* 5: 22-27.
- Wondafrash M**, Getu E & Terefe G (2012c) Survival and Feeding of African Bollworm, *Helicoverpa armigera*(Hubner)(Lepidoptera: Noctuidae) Affected by Neem, *Azadirachta indica*(A. Juss) Extracts. *World Journal of Agricultural Sciences* 8: 280-285.

### Under Review

- Wondafrash M**, Slippers B, Nambazimana A, Kayumba I, Nibouche S, van der Lingen S, Asfaw BA, Jenya H, Mutitu EK, Makowe IA, Chungu D, Kiwuso P, Kulimushi E, Razafindrakotomamonjy A, Bosu PP, Sookar P & Hurley BP (under review). Distribution and diversity of invasive pests of *Eucalyptus* in sub-Saharan Africa. *Biological Invasions*.

## **Insect Pest Surveys**

---

- Tree health surveys in botanic gardens across South Africa, 2019
- Eucalyptus insect pest survey in Ethiopia, 2018
- Eucalyptus insect pest survey in Ghana, 2018
- Eucalyptus insect pest survey in Sierra Leone, 2018
- Eucalyptus insect pest survey in Zimbabwe, 2017

## **Visits to Universities and Research Institutes**

---

- Department of Conservation Ecology and Entomology, Stellenbosch University, Stellenbosch, South Africa, 2017
- Department of Ecogenomics, Radboud University Nijmegen, Nijmegen, The Netherlands, 2011
- E-nema Biocontrol Company, Kiel, Germany, 2011
- Department of Biotechnology and Biological Control, Christian-Albrechts-Universität zu Kiel, Kiel, Germany, 2011
- Julius Kuhn Institute, Institute for Epidemiology and Pathogen Diagnostics, Munster, Germany, 2011
- Institute of Crop Science and Resource Protection, Bonn University, Bonn, Germany, 2011
- Nematology Laboratory, Wageningen University, Wageningen, The Netherlands, 2011
- Applied Plant Research, Wageningen UR, Lelystad, The Netherlands, 2011
- Plant Research International, Wageningen UR, Wageningen, The Netherlands, 2011
- Koppert Biological System, Berkel en Rodenrijs, The Netherlands, 2011

## **Referees**

---

- Professor Brett Hurley, Department of Zoology and Entomology, Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria, South Africa  
Email: [Brett.Hurley@fabi.up.ac.za](mailto:Brett.Hurley@fabi.up.ac.za), Tel: +27 (12) 420-3939/3939, Fax: +27 (12) 420-3960
- Professor Bernard Slippers, Dept. of Genetics, Forestry and Agricultural Biotechnology Institute (FABI), University of Pretoria, South Africa  
Email: [Bernard.Slippers@fabi.up.ac.za](mailto:Bernard.Slippers@fabi.up.ac.za), Tel: +27(12)420-3939/3939, Fax: +27(12)420-3960
- Professor Mike John Wingfield, Advisor to the Executive of the University of Pretoria, Forestry and Agricultural Biotechnology Institute (FABI), President of International Union of Forestry Research Organizations (IUFRO), University of Pretoria, South Africa  
Email: [mike.wingfield@fabi.up.ac.za](mailto:mike.wingfield@fabi.up.ac.za), Tel: +27(12)420-3939/3939, Fax: +27(12)420-3960

*Updated on 24 July 2019*