Curriculum Vitae

Kira Mary Theresa Lynn
Forestry and Agricultural Biotechnology Institute (FABI)
RGE-FABI Tree Health Programme (RGE-FABI THP)
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ACADEMIC QUALIFICATIONS:

Degree	Year	Institution	Field of Study
MSc Genetics (*Cum laude*)	May 2018- Feb 2020	University of Pretoria	Entomology and fungal genetics focusing on forestry health.
BSc (Hons) Genetics (*Cum laude*)	Jan 2017- Dec 2019	University of Pretoria	Fungal Genetics
BSc. Human Physiology, Psychology & Genetics	2014-2016	University of Pretoria: Forestry and Agricultural Biotechnology Institute (FABI)	Human Physiology, Psychology &Genetics

MSc Genetics:

Title: *Fusarium* spp. associated with ambrosia beetles on *Acacia crassicarpa* in Indonesia
Supervisor: Prof. Irene Barnes
Co-supervisors: Prof. Mike Wingfield, Prof. Wilhelm de Beer and Dr Alvaro Durán
Research Aspects:

1) To identify what ambrosia beetle species are infesting commercial *Acacia crassicarpa* plantations in Indonesia.
2) To identify the fungal associates of the ambrosia beetle species that were found to be infesting commercial *A. crassicarpa* plantations in Indonesia.

BSc (Hons) Genetics:

Title: Identification methods to delineate species within *Ceratocystis* (pathogenic tree fungi) from Indonesia and Vietnam
Supervisor: Prof. Irene Barnes
Co-supervisor: Prof. Mike Wingfield
Research Aspects:

1) Species identification of isolates obtained from soil of infected *Acacia* species in Vietnam and Indonesia using multiple gene regions.
2) The use of microsatellite markers to determine population structures of isolates from Vietnam and Indonesia.

OTHER QUALIFICATIONS

- CPR certification from CPR4life — Nov 2016
- Higher Exercise Science and Personal Training from the University of Pretoria — Nov 2016
- Neuroscience: Visual Skills Testing and Training from the University of Pretoria — Aug 2015

RESEARCH OUTPUTS

- **Publications**

  - Lynn KMT, Wingfield MJ, Durán A, Marincowitz S, Oliveira LSS, De Beer Z, Barnes I. (2020) *Euwallacea perbrevis* (Coleoptera: Curculionidae: Scolytinae), a confirmed pest *on Acacia crassicarpa* in Riau, Indonesia, and a new fungal symbiont; *Fusarium rekanum* sp. nov.. Antonie van Leeuwenhoek 113(6):803-823. 10.1007/s10482-020-01392-8

  - Lynn KMT, Wingfield MJ, Durán A, Oliveira LSS, De Beer Z, Barnes I. (2021) Novel *Fusarium* mutualists of two *Euwallacea* species infesting *Acacia crassicarpa* in Indonesia. Mycologia. https://doi.org/10.1080/00275514.2021.1875708

  - Lynn KMT, Wingfield MJ, Durán A, Oliveira LSS, De Beer Z, Barnes I. (2021) *Fusarium klamidospora* sp. nov. - a unique fungal associate of *Euwallacea similis*. FUSE. **In Review**

  - Lynn KMT, Wingfield MJ, Barnes I. (TBD) Identification of Ceratocystis sp. nov. on *Gmelina arborea* from Indonesia. **In Review**

- **Presentations**

  - Lynn, K.M.T., Wingfield, M.J., Hammerbacher, A., Barnes, I. Real-time PCR high-resolution melting curve analysis to detect Ceratocystis species in the Latin American clade. South African Society of Plant Pathologists' (SASPP) 53rd Congress SASPP (Aug 2022). (Oral presentation)

  - Lynn, K.M.T., Wingfield, M.J., Duran, A., de Beer, W., Barnes, I. Novel *Fusarium* mutualists of two *Euwallacea* ambrosia beetle species infesting *Acacia crassicarpa* in Indonesia. 3rd IUFRO *Acacia* Organizing Committee 2021. (Oral presentation)

  - Lynn, K.M.T., Wingfield, M.J., Duran, A., de Beer, W., Barnes, I. Discovery of seven novel *Fusarium* species associated with two ambrosia beetle species in Indonesia and their global relevance as tree pests. National Symposium on Biological Invasions 2021. (Oral presentation)

  - Lynn, K.M.T., Wingfield, M.J., Duran, A., de Beer, W., Barnes, I. Novel *Fusarium* mutualists of two *Euwallacea* species infesting *Acacia crassicarpa* in Indonesia. 52nd Congress of the South Africa society of plant pathology (SASPP) 2021. (Oral presentation)

  - Virtual annual meeting of the Mycological Society of America 2020. (Graphical abstract)

  - FAMELab speed presentations at the 2020 regional symposium.

  - RGE-FABI Tree health Symposium 2019

  - Lynn, K.M.T., Wingfield, M.J., Duran, A., de Beer, W., Barnes, I. A novel haplotype of the tea shot hole borer (Euwallacea fornicatus) and its novel *Fusarium* sp. symbiont infesting Acacia crassicarpa in Indonesia. 51st Congress of the South Africa society of plant pathology (SASPP) 2019. (Oral presentation)

  - RGE-FABI Tree health Symposium 2018

WORKSHOPS ATTENDED

- APS Journals – Reviewing a Manuscript 101 — Oct 2021
- FAMElab communicating the sciences. — Feb 2020
- Bark and ambrosia beetle workshop — Nov 2019
- Stanford writing the sciences course — May 2019
- Advanced phylogenetic workshop from Inqaba Biotec™ — Feb 2018
- Course in introductory phylogenetic workshop from Inqaba Biotec™ — May 2017
- Microsatellite workshop at University of Pretoria — May 2017

CONFERENCES AND SYMPOSIA ATTENDED

- IUFRO Division 7 Forest Health Webinar Series — Oct-Dec 2021
- 3rd IUFRO Acacia Organizing Committee 2021 — Oct 2021
- National Symposium on Biological Invasions 2021 — May 2021
- 52nd Congress of the South Africa society of plant pathology (SASPP) — Jan 2021
- FABI international seminar series. — Every month 2021-2022
- SAGS virtual mini symposium 2020 — Sept 2020
- Bark beetle mycobiome mini symposium virtual series — April-Nov 2020
- FABI international seminar series. — April-Nov 2020
- Protecting Plant Health for a Secure Future: A call for Global Action. Virtual symposium, — May 2020
- 31st Annual meeting of the tree protection co-operative programme (TPCP) and the DST-NRF Centre of Excellence in Tree Health Biotechnology (CTHB) — May 2020
- FAMELab: Talking Science 2020 regional symposium. — Feb 2020
- 30th Annual meeting of the tree protection co-operative programme (TPCP) and the DST-NRF Centre of Excellence in Tree Health Biotechnology (CTHB) — May 2019
- 51st Congress of the South Africa society of plant pathology (SASPP) — Jan 2019
- 29th Annual meeting of the tree protection co-operative programme (TPCP) and the DST-NRF Centre of Excellence in Tree Health Biotechnology (CTHB) — May 2018
- 28th Annual meeting of the tree protection co-operative programme (TPCP) and the DST-NRF Centre of Excellence in Tree Health Biotechnology (CTHB) — May 2017
- UK-Africa Global Challenges Research Fund (GCRF) symposium on practical synthetic biology — Feb 2017

GRANTS AND AWARDS

- Runner up for best student presentation at the 53rd Congress of the South Africa society of plant pathology (SASPP) — July 2020
- UP Postgraduate Doctoral Bursary — Jan 2020- Jan 2022
- NRF Freestanding, Innovation and Scarce Skills Development Fund Masters and Doctoral Scholarship — Jan 2019
- Runner up for best student presentation at the 51st Congress of the South Africa society of plant pathology (SASPP) — Jan 2018- Jan 2020
- NRF Freestanding, Innovation and Scarce Skills Development Fund Masters and Doctoral Scholarship — Feb 2017
- General Studentship Honours Bursary from the University of Pretoria
- Renaissance Award from Cornwall Hill College — Nov 2013

SCIENCE ENGAGEMENT

Engagement	Objective	Contribution
Polyphagous Shot Hole Borer (PSHB) workshop	To train and educate scientists from across Africa to enable them to detect the presence of the Polyphagous Shot Hole Borer (PSHB) elsewhere in Africa. As the invasive PSHB can be easily confused with other common ambrosia beetles, it can remain undetected for a period after it has been introduced into a new area or country. For this reason, the objective is to train scientists from other countries in Africa to recognize the beetle and its fungus, before an invasion reaches epidemic proportions. This would enable the implementation of management strategies to mitigate its impact.	Aided in organizing the workshop and training participants
Junior science expo	The main objectives of the Science expo are to (1) promote interest in science and technology among the youth, (2) encourage scientific and technological creativity among students and fill students with a sense of pride in their talent, (3) encourage problem solving and develop appropriate technologies, especially for rural areas and integrating and applying scientific ideas in daily life situations, (4) popularize science and technology among the youth and create an awareness regarding its impact on the socio-economic and sustainable development of the country.	Judge for competition
The Ambrosia and Bark-beetle microbiome project	The Ambrosia and Bark-beetle microbiome project aims to connect all scientists across the globe that are working on the symbiosis between ambrosia/bark beetles and their microorganisms. This project is to ensure ideas are shared, issues are discussed, and that techniques and protocols established are uniformly implemented across the field.	Member of project and have helped compile training material

CAREER PROFILE

Position	Lab manager
Organisation	University of Pretoria- Diagnostic Clinic
Sector	Higher Education Sector
Type	Temporary
Full-time	Yes
Appointed From	January 2019
Current	Yes
Appointed To	Current

Position	Diagnostic clinic lab technician
Organisation	University of Pretoria- Diagnostic Clinic
Sector	Higher Education Sector
Type	Temporary
Full-time	No
Appointed From	January 2018
Current	No
Appointed To	Feb 2021

Position	Judge
Organisation	North Gauteng Junior and Senior Science Fairs
Sector	Higher Education Sector
Type	Temporary
Full-time	No
Appointed From	August 2018
Current	No
Appointed To	August 2018

Position	Tutor for introductory genetics
Organisation	University of Pretoria
Sector	Higher Education Sector
Type	Temporary
Full-time	No
Appointed From	February 2017
Current	No
Appointed To	November 2017

Position	Market research
Organisation	Thermo Fisher Scientific
Sector	Business Sector and Commercial Research Houses
Type	Temporary
Full-time	No
Appointed From	September 2017
Current	No
Appointed To	November 2017

SKILLS

- Teamwork — I have been involved in various team projects within both academic and non-academic environments and work well with others.
- Communication — I studied drama at school which involved public performances. This helped my communication skills when speaking to an audience. I frequently work at a riding school as a show announcer and assist with teaching horse care and riding skills to children. My degree course greatly enhanced my written and verbal communication skills due to the many presentations, assignments, posters, essays and projects required.
- Problem solving — I can problem solve, tested with continuous problem-solving exercises given as assessments, which may require mathematical analysis and evaluation.
- Computer Skills — I am sufficiently computer literate. I can fluently use many Microsoft platforms (Word, Excel, and PowerPoint ect.), as well as many software programs used in bioinformatics analysis (Stated above).
- Additional — Valid Driving licence and advanced off road and safety driving certificate.

PERSONAL SUMMARY

I was born in South Africa, but when I was two years old, my family moved to Tanzania where we lived in a rural area. As one would expect I do not have many memories from my time there, but I can clearly remember wanting to constantly explore my surroundings and the wildlife that inhabited my backyard. This is where I think my love for exploration and discovery started. From Tanzania, we moved back to South Africa, but it was not too long until we were packing our bags again, this time for India. At the age of five my family relocated to Bangalore, which would be my home for the next six years. The first year was a culture shock and very challenging, but with time we adapted, and I loved my new surroundings. I became a sponge and absorbed all the new experiences and information possible, different climate, a host of different cultures, different food, and so on. Without doubt this experience had a profound influence on shaping who I am today. Apart from the culture of south India, I was also exposed to the cultures of many other places as I attended an international school with fellow students from all around the world. I believe this taught me, even at a young age, to view things from different perspectives, and to interact and work with different groups of people from very different backgrounds.

At the age of twelve I moved back to South Africa to complete my school career and attended Cornwall Hill College on a half bursary from grade 6 through to matriculation. During this time, I learned how to study, and acquired the tools to help me feed my love for exploring. I took part in everything I could in school; three school stage productions (best supporting actress in my final year, as a member of the cast that won the overall festival), several Eisteddfods, and dabbled in piano and vocal lessons. Performing helped grow my confidence. I also love sports. In the sporting realm I participated in swimming, athletics (I was school captain in my final year), first team hockey for two years and I was part of the first team equestrian for three years (and team captain in my final year). Riding is a great passion, and I rode for Gauteng in two disciplines for three years in a row. My thespian and sporting achievements earned me school honours in each arena. In my matric year I was elected a prefect (head of Social Responsibility) and based on this, honours in two arenas, and maintaining an average of above 70% in my academics which comprised of the three choice sciences (Chemistry, Physics and Biology), I was awarded the schools highest honour, the renaissance award. I finished my school career with distinctions in three subjects and a determination to continue my studies in science.

I entered the University of Pretoria in 2014 and began my studies with a BSc Biological Studies degree. I had Genetics as a second semester module and was instantly hooked. From here I switched degrees to a BSc Human Physiology, Psychology and Genetics, graduating in 2016 in the minimal time requirement. I decided to continue with my postgraduate studies. In 2018 and 2020 I completed my BSc Genetics (Hons) and MSc Genetics degrees respectively, both with distinction at the Forestry and Agricultural Biotechnology Institute (FABI), at the University of Pretoria. My MSc genetics degree was part of a new collaboration between FABI and the global forestry company, Royal Golden Eagle (RGE), focusing on the symbiosis between fungal pathogens and their potential dispersal by different insect vectors in commercial and native forests. During this

study, I was fortunate enough to travel to Indonesia and engage one on one with the forestry sector and expand my knowledge about the disease problems they face.

Continuing with the FABI-RGE Tree Health Programme (THP), I have started my PhD genetics degree, where I will be focusing on the global fungal pathogen *Ceratocystis*. I am fascinated by the new things I am learning every day, and excited by the fact that a large amount of the scientific literature I am reading has been done by home grown South African researchers - three of which I am fortunate to be supervised by. Knowing this helps guide my vision for the future. I want to be a part of the growth of science in this country and internationally. I hope to continue growing my knowledge by getting a PhD and becoming a part of the growing body of science in South Africa and globally.

REFERENCES

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