|  |
| --- |
| Prof. Alexander A. (Zander) MyburgDirector: Forest Molecular Genetics (FMG) ProgrammeChair in Forest Genomics and BiotechnologyDepartment of GeneticsForestry and Agricultural Biotechnology Institute (FABI)Genomics Research Institute (GRI)University of Pretoria, Pretoria, 0002, South Africa Tel: +27 (0) 12-4204945 (office)Tel: +27 (0) 833890325 (mobile)Fax: +27 (0) 12-3625327 (department)Email: zander.myburg@fabi.up.ac.za Web: <https://www.fabinet.up.ac.za/zmyburg>Twitter: @zandermyburg | @FMG\_UP**Date and Place of Birth**: 18 June 1969, Bloemfontein South Africa **EDUCATION/TRAINING****PERSONAL DETAILS** |
| **INSTITUTION AND LOCATION** | **DEGREE** | **YEAR(s)** | **FIELD OF STUDY** |
| University of the Free State | B.Sc. | 1993 | Botany and Genetics |
| University of the Free State | B.Sc. Hons. | 1994 | Botany and Genetics  |
| University of the Free State | M.Sc. | 1997 | Botany and Genetics  |
| North Carolina State University | Ph.D. | 2001 | Genetics and Forestry  |

**EMPLOYMENT and HONORARY POSITIONS**

|  |  |  |
| --- | --- | --- |
| **EMPLOYER** | **POSITION** | **PERIOD** |
| University of Pretoria | Lecturer | 2001-2003 |
| University of Pretoria | Senior Lecturer | 2004-2006 |
| University of Pretoria | Associate Professor | 2007-2012 |
| University of British Columbia  | Visiting Professor  | 2010 |
| University of Pretoria | Professor | 2012-present |

**LEADERSHIP ROLE IN NATIONAL AND INTERNATIONAL BODIES:**

* US Department of Energy - Joint Genome Institute - *Eucalyptus* Genome Project – lead PI (2007 – 2014).
* The International *Eucalyptus* Genome Network, EUCAGEN ([www.eucagen](http://www.eucagen).org): Founder member and International Coordinator (2004 - 2014).
* South African Genetics Society: Vice-President (2004 - 2008), President (2008 - 2012)
* International Union of Forest Research Organizations (IUFRO): Chair of the IUFRO Working Party on Molecular Biology of Forest Trees (2005 - 2007).

**AWARDS**

* University of Pretoria Outstanding Young Researcher Award, 2007-2012
* National Research Foundation (NRF) of South Africa – NRF President’s Award (P rating, 2007- 2011)
* Southern Africa Association for the Advancement of Science (S2A3) British Association Silver Medal for 2007
* University of Pretoria Leading Minds - Commemorative Medal - Elected as one of 100 leading minds in research at UP in last century (1908 to 2008)
* South African Genetics Society (SAGS) Silver Medal for outstanding achievement in the field of genetics by a young researcher (younger than 40 years old) - 2008
* NRF Rating: P (2007 to 2011), B3 (2012 to 2017), B1 (2018 to 2023)
* University of Pretoria Exceptional Achiever Award, 2014-2016, 2017 - 2019
* National Science and Technology Forum (NSTF)-BHP Billiton-W Kambule Award: Contribution to Research and its Outcomes in South Africa (last 5 - 10 years), 2015

**STUDENT SUPERVISION**

Completed B.Sc. Hons: 32 students, current B.Sc. Hons: 3 students

Completed MSc: 32 students, current MSc: 4 students

Completed PhD: 17 students, ongoing PhD: 12 students

Completed Postdoc: 9 fellows, ongoing Postdoc: 2 fellows

**SELECTED PUBLICATIONS:**

**Peer-reviewed papers (22 of 91):**

1. Mir BA, Mewalal R, Mizrachi E, MYBURG AA, Cowan DA. 2014**. Recombinant hyperthermophilic enzyme expression in plants: a novel approach for lignocellulose digestion. *Trends in Biotechnology,* 32:5, 281-289. (Published online: 11 April 2014,** doi: 10.1016/j.tibtech.2014.03.003). **IF 10.65**
2. MYBURGAA, Grattapaglia D, Tuskan, GA, Hellsten U, Hayes RD, *et al.* 2014*.* The genome of *Eucalyptus grandis.* *Nature* 510, 356-362 (Published online: 19 June 2014, doi: 10.1038/nature13308). **IF 42.35**
3. Külheim C, Padovan A, Hefer CA, Krause ST, Köllner TG, Myburg AA, Degenhardt J and Foley W. 2015. The *Eucalyptus* terpene synthase gene family. *BMC Genomics* 16:450.(Published online: 22 May 2015, doi: 10.1186/s12864-015-1598-x). **IF 3.98**
4. Pinard D, Mizrachi E, Hefer C, Kersting A, Joubert F, Douglas CG, Mansfield SD and Myburg AA. 2015. Comparative analysis of Plant Carbohydrate Active enZymes and their role in xylogenesis. *BMC Genomics* 16:402. (Published online: 22 May 2015, doi: 10.1186/s12864-015-1571-8). **IF 3.98**
5. Vanneste **K, Sterck L, Myburg AA, Van de Peer Y, Mizrachi E. 2015.**Horsetails Are Ancient Polyploids: Evidence from Equisetum giganteum.The Plant Cell 27: 1567-1578. (Published online: 22 May 2015, doi: http:/​/​dx.​doi.​org/​10.​1105/​tpc.​15.​00157). **IF 9.33**
6. Hussey SG, Mizrachi E, Groover A, Berger DK and Myburg AA. 2015. Genome-wide mapping of histone H3 lysine 4 trimethylation in *Eucalyptus* developing xylem using nano-ChIP-seq. *BMC Plant Biology.* **15**:117. (Published online: 10 May 2015, doi: 10.1186/s12870-015-0499-0). **IF 3.81**
7. Strauss SH and Myburg AA. 2015. Plant scientists celebrate new woody plant genome. *New Phytologist.* 204:6, 1185-1187. (Published online: 8 May 2015, doi: 10.1111/nph.13443). **IF 7.67**
8. Carocha V, Soler M, Hefer CA, Cassan-Wang H, Myburg AA, Fevereiro P, Paiva Jap and Grima-Pettenati J. 2015. Genome-wide analysis of the lignin toolbox of Eucalyptus grandis*. New Phytologist.* 206:4, 1397-1312. (Published online: 12 February 2015, doi: 10.1111/nph.13313). **IF 7.67**
9. Hudson CJ, Freeman JS, Myburg AA, Potts BM and Vaillancourt RE. 2015. Genomic patterns of species diversity and divergence in *Eucalyptus.* *New Phytologist*. 204:6, 1378-1390. (Published online: 10 February 2015, doi: 10.1111/nph.13316*).* **IF 7.67**
10. Hefer C, Mizrachi E, Myburg AA, Douglas CJ and Mansfield SD. 2015. Comparative interrogation of the developing xylem transcriptomes of two large perennial wood-forming plants: *Populus trichocarpa* and *Eucalyptus* grandis. *New Phytologist.* 204:6, 1391-1405. (Published online: 6 February 2015, doi: 10.1111/nph.13277). **IF 7.67**
11. Kersting AR, Mizrachi E, Bornberg-Bauer E and Myburg AA. 2015. Protein domain evolution is associated with reproductive diversification and adaptive radiation in the genus *Eucalyptus. New Phytologist*. 204:6, 1328-1336. (Published online: 11 December 2014, doi: 10.1111/nph.13211). **IF 7.67**
12. Hussey SG, Saïdi MN, Hefer CA, Myburg AA and Grima-Pettenati J. 2015. Structural, evolutionary and expression analysis of the NAC domain protein family in *Eucalyptus*. *New Phytologist*. 206:4, 1337-1350. (Published online: 10 November 2014, doi: 10.1111/nph.13139). **IF 7.67**
13. Mizrachi E, Malonie V, Silberbauer J, Hefer C, Berger DK, Mansfield SD and Myburg AA. 2015. Investigating the molecular underpinnings underlying morphology and changes in carbon partitioning during tension wood formation in *Eucalyptus*. *New Phytologist*. 204:6, 1351-1363. (Published online: 12 November 2014, doi: 10.1111/nph.13152). **IF 7.67**
14. Vining K, Elisson R, Jones R, Klocko A, Alves-Ferreira M, Hefer CA, Amarasinghe V, Dharmawardhana P, Naithani S, Ranik M, Wesley-Smith J, Jaiswal P, Myburg AA and Solomon L, Strauss S. 2015. Floral transcriptome of *Eucalyptus grandis. New Phytologist.* 206:4, 1406-1422.(Published online: 13 August 2014, doi: 10.1111/nph.13077). **IF 7.67**
15. Soler M, Camargo ELO, Carocha V, Cassan-Wang H, Clemente SH, Savelli B, Hefer CA, Myburg AA, Paiva JP and Grima-Pettenati J. 2015. The *Eucalyptus grandis* R2R3-MYB transcription factor family: evidence for woody growth related evolution and function. *New Phytologist*. 206:4, 1364-1377.(Published online: 5 August 2014, doi: 10.1111/nph.13039). **IF 7.67**
16. Visser EA, Wegrzyn JL, Steenkamp ET, MYBURG AA, Naidoo S. 2015. Combined *de novo* and genome guided assembly and annotation of the *Pinus patula* juvenile shoot transcriptome. *BMC Genomics* 16:1057 (Published online: 6 December 2015, doi: 10.1186/s12864-015-2277-7) **IF 4.04**
17. Mizrachi E, Myburg AA. 2016. Systems genetics of wood formation. *Current Opinion in Plant Biology* 30: 94-100. (Published online: 1 March 2016 doi.org/10.1016/j.pbi.2016.02.007). **IF 7.67**
18. Mewalal R, Mizrachi E, Coetzee B, Mansfield SD, Myburg AA. 2016. The *Arabidopsis* domain of unknown function (1218, DUF1218) containing proteins Modifying Wall Lignin 1 and 2 At1g31720/ MWL-1 and At4g19370/MWL-2 function redundantly to alter secondary cell wall lignin content. *PLOS ONE* (Published online: 1 March 2016, doi: org/10.1371/journal. pone.0150254). **IF 3.06**
19. Davin N, Edger PP, Hefer CA, Mizrachi E, Schuetz M, Smets E, Myburg AA, Douglas CJ, Schranz ME, Lens F. 2016. Functional network analysis of genes differentially expressed during xylogenesis in soc1ful woody Arabidopsis plants. *The Plant Journal* 86:5, 376-390. (Published online: 24 June 2016, doi: 10.1111/ tpj.13157). **IF 5.47**
20. Christie N, Myburg AA, Joubert F, Murray SL, Carstens M, Lin Y-C, Meyer J, Crampton BG, Christensen SA, Ntuli JF, Wighard SS, Van de Peer Y, Berger DK. (2016) Systems genetics reveals a transcriptional network associated with susceptibility in the maize-gray leaf spot pathosystem. *The Plant Journal* (Published online 12 November 2016, doi.org/10.1111/tpj.13419). **IF 5.47**
21. Mizrachi E, Verbeke L, Christie N, Fierroca C, Mansfield SD, Davis MF, Gjersing E, Tuskan GA, Van Montagu M, Van de Peer Y, Marchal K, Myburg AA. 2017. Network-based integration of systems genetics data reveals pathways associated with lignocellulosic biomass accumulation and processing. *Proceedings of the National Academy of Sciences of the United States of America* (Published online 17 January 2016, doi.org/10.1073/pnas.1620119114). **IF 9.42**
22. Hussey SG, Loots MT, Van der Merwe K, Mizrachi E, Myburg AA. 2017. Integrated analysis and transcript abundance modelling of H3K4me3 and H3K27me3 profiles during xylem development *Scientific Reports* 7: 3370 (Published online 13 June 2017, doi.org/10.1038/s41598-017-03665-1). **IF 4.25**
23. Mir BA, Mizrachi E, Myburg AA, Cowan DA. 2017.*In planta* expression of hyperthermophilic enzymes as a strategy for accelerated lignocellulosic digestion. *Scientific Reports* **7**: 11462 (Published online: 13 September 2017, doi.org/10.1038/s41598-017-11026-1). **IF 4.25**
24. Botha J, Mizrachi E. Myburg, AA, Cowan DA. 2017.Carbohydrate active enzyme domains from extreme thermophiles: components of a modular toolbox for lignocellulose degradation. *Extremophiles* (Published online: 6 November 2017, doi.org/10.1007/s00792-017-0974-7). **IF 2.24**