



Research profile: Dr R Burgdorf

01/08/2023

Research associate profile

Dr Burgdorf provides laboratory research support to the ICFR, contributing to collaborative outputs including scientific papers and the co-supervision of post-graduate laboratory student projects. He has broad laboratory research experience, ranging from analytical chemistry to modern DNA analysis techniques, near-infrared spectroscopy, and microscopy.

Research Gate: <https://www.researchgate.net/profile/Richard-Burgdorf>

ORCID: <https://orcid.org/0000-0002-6021-0136>

Publication Record

ICFR Reports

Burgdorf R. ICFR method development report. *ICFR Report TRC2022/702/01.*

Burgdorf R. The influence of wattle bark characteristics on mimosa tannin colour. *ICFR Report TR2021/703/01.*

Burgdorf R. Climatic effects on factory Mimosa extract quality. *ICFR Report TR2021/703/02.*

Burgdorf R. ICFR Method development report. *ICFR Report TRC/2021/702/01.*

Burgdorf R. TexNIR: A fast inexpensive near-infrared spectroscopy screening method for estimating soil particle size and soil texture classification. *ICFR Report TR2020/701/01.*

Burgdorf R. ICFR Method development report. *ICFR Report TRC2020/702/01.*

Burgdorf R. Feasibility Study: Screening for Seed Characteristics. *ICFR Report TRC2020/702/SGASA/01.*

Burgdorf R. Feasibility Study: Screening for Seed Characteristics. *ICFR Report TRC2020/702/SGASA/02.*

Peer-reviewed Publications

Morris C, Ramesar D, **Burgdorf R.** 2023. Associative nitrogen fixation could be common in South African mesic grassland. *South African Journal of Range & Forage Science*
[DOI: 10.1101/2022.07.07.499153](https://doi.org/10.1101/2022.07.07.499153)

Cooper G, Morris A, Botha G, Titshall L, **Burgdorf R.**, Rozanov A. 2023. The role of landscape and parent material on regolith under timber plantations at Highflats, KwaZulu-Natal, South Africa. *Journal of Geoderma Regional.* 2023:32 <https://doi.org/10.1016/j.geodrs.2023.e00608>

McGranahan DA, **Burgdorf R**, Kirkman KP. 2015. Epichloae infection in a native South African grass, *Festuca costata* Nees. *Plant Biology* 17(4): 914-921.

Ghebrehiwot H, **Burgdorf R**, Shimelis H, Laing M. 2015. The efficacy of four gametocides for induction of pollen sterility in *Eragrostis tef* (Zucc.) Trotter. *African Journal of Biotechnology*, 14(9): 774-780.

Burgdorf RJ, Laing MD, Morris CD, Jamal-Ally SF. 2014. A procedure to evaluate the efficiency of surface sterilization methods in culture-independent fungal endophyte studies. *Brazilian Journal of Microbiology*, 45(3): 977-983.

Student Supervision

Bridglall P (PhD.), Factors Affecting the Quality Characteristics of Black Wattle (*Acacia mearnsii* de Wild.) Bark. UKZN, Supervisors: **Burgdorf R**, Laing M, Moreno Chan J.

Cooper G (PhD.), The nutrient supply potential of regolith under a *Eucalyptus* plantation at Highflats, South Africa. Stellenbosch, Supervisors: Rozanov A, **Burgdorf R**, Morris A.

Mkhize N (MSc.), Near-infrared applications for nursery forestry seedling production. UKZN, Supervisors: **Burgdorf R**, Mbili N.

Mathenjwa K (MSc.), Indigenous trees for community upliftment UKZN, Supervisors: **Burgdorf R**, Sardeshpande M, Mbili N.

Mthethwa M (MSc.), Portable NIR for seedling identification and varietal purity screening. UKZN, Supervisors: **Burgdorf R**, Mbili N.

Majola Thembeke (PhD.), Biological control and physical treatment for control of postharvest avocado diseases. UKZN, Supervisors: **Burgdorf R**, Laing M.

Ziena L (PhD.), NIR for detection of bacterial contamination of milk. UKZN, Supervisors: **Burgdorf R**, Laing M.

Bridglall P (MSc. Graduated 2023 cum laude), Factors Affecting the Quality Characteristics of Black Wattle (*Acacia mearnsii* de Wild.) Bark. UKZN, Supervisors: **Burgdorf R**, Laing M.

Majola Thembeke (MSc. Graduated 2021), The potential of combined rapid hot water treatment and yeast biocontrol for suppressing postharvest avocado anthracnose and stem-end rot diseases. UKZN, Supervisors: **Burgdorf R**.

Mthethwa Melusi Halalisani (Hons. Graduated 2021), *C.henryi* NIR seed analysis project. UKZN, Supervisors: **Burgdorf R**.

Dlamini Sphu (Hons. Graduated 2021), NIRS for microbial identification. UKZN, Supervisors: **Burgdorf R**.