

# Curriculum Vitae

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ANDRI CORNÈ VAN AARDT

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## PERSONAL INFORMATION

SURNAME	Van Aardt
FULL NAMES	Andri Cornè
WORK ADDRESS	Department of Plant Sciences University of the Free State P.O. Box 339 BLOEMFONTEIN 9300 SOUTH AFRICA

## QUALIFICATIONS

### High School

SCHOOL	Hoërskool Staatspresident Swart, BRANDFORT
HIGHEST GRADE PASSED YEAR	Grade 12 2003

### Tertiary Education

INSTITUTE	University of the Free State
DEGREES	<b>BSc Botany</b> (2006) (Botany & Zoology) <b>BSc Honours Botany</b> (2007) <b>MSc Botany</b> (2010) with distinction <b>PhD Botany</b> (2016) – Vegetation ecology of the putative Palaeo-Kimberley and Palaeo-Modder rivers and their catchments, Free State, South Africa

Completed Soil Science as an undergraduate subject to complement my Ph.D. research.

## ACADEMIC ACHIEVEMENTS

- Received the E.M. van Zinderen Bakker prize for the student with an outstanding PhD study in Botany (2017).
- Received the E.M. van Zinderen Bakker prize for the student with an outstanding M.Sc. study in Botany (2011).
- Member of the Golden Key International Honour Society (2011)

## EMPLOYMENT HISTORY

**Senior lecturer** at the Department of Plant Sciences, University of the Free State

HOD: Prof Liezel Herselman

January 2017 – 2020 as Lecturer, January 2021 – currently as Senior lecturer

**Postdoctoral Fellow** at the University of the Free State

April 2016 – December 2016

**Agronomist** at Vitas South Africa

August 2015 – March 2016.

**Research assistant** at the Department of Plant Sciences, University of the Free State.

March 2015 – July 2015.

**Research assistant** at the Department of Soil, Crop and Climate Science, University of the Free State.

January 2013 – December 2013.

**Internship** at SANBI working on the DNA Barcoding Project on Alien Invasive species.

July 2012 – March 2013.

**Internship** in the Geo Potts Herbarium of UFS (2007).

## TEACHING AND SUPERVISORY RESPONSIBILITY

### Undergraduate

BLGY1643 – The interdependence of plants and life on earth (5 lectures for 3 different groups in the second semester; 3 credits) – until 2021

BLGY2615 – Fundamentals in Biological Science (7 lectures; 7 credits) since 2023

BTNY2616 – Plant adaptations for survival on land (13 lectures; 8 credits)

BTNY3712 – Field Excursion 2 (½ thereof; 6 credits)

BTNY3734 – Vegetation science and environmental management (26 lectures; 16 credits) until 2021, thereafter only teaching half of the module (14 lectures; 8 credits)

### Postgraduate

#### MODULES

BTNY6814 – Advanced plant Ecology (26 lectures; 16 credits)

BTNY6894 – Methods in Palaeoecology (8 lectures; 5 credits)

#### HONOURS STUDENTS

**LD Adams** (2017) – Supervisor - Completed honours project

Title: Influence of soil depth on plant species distribution

**LM Ndiki** (2018) – Supervisor – Completed honours project

Title: Using drones for low altitude ecological surveys

**M Müller** (2018) – Co-supervisor – Completed honours project

Title: Towards Assessing the Effects of Veld Fire – A baseline study of Vegetation Composition and the Soil Physical Properties in the Golden Gate Highlands National Park

**A Hlomo** (2019) – Supervisor – Completed honours project

Title: Grass cuticle analysis: towards addressing palaeoenvironmental questions

**X Schmidt** (2019) – Co-supervisor – Completed honours project

Title: Morphological description of Amaranthaceae pollen from pans and their surrounding environments in the Free State

**E Ferreira** (2019) – Co-supervisor – Completed honours project

Title: Vegetation ecology and pollination biology of the Brandkop Conservancy: assessing the effect of urban development and climate change.

**K Nienaber** (2019) – Co-supervisor for a Geography student – Completed honours project

Title: Species diversity change along a rainfall gradient in the Bloemfontein Karroid Shrubland

**NNH Sikhosana** (2019) – Co-supervisor for a Geography student – Completed honours project

Title: Gully erosion: the assessment of vegetation cover in a degraded wetland system, Soetdoring Nature Reserve, Free State Province

**R Nel** (2020) – Supervisor – Completed honours project

Title: Investigating changes in rocky outcrop communities around Bloemfontein within the Bloemfontein Karroid Shrubland.

**FG Ratombo** (2020) – Supervisor – Completed honours project

Title: The impact of urban development on parts of the Bloemfontein Karroid Shrubland

**T Moraila** (2020) – Co-supervisor – Completed honours project

Title: *Nemesia* floral rewards and phytosociology in Golden Gate Highlands National Park.

**B. Fuku** (2021) – Supervisor – Completed honours project

Title: The importance of Wetland Buffers.

**T. Khondoe** (2021) – Supervisor – Completed honours project

Title: Vegetation classification and mapping of the wetlands and watercourses at the Seven Dams Conservancy.

**S. Mosoto** (2021) – Supervisor – Completed honours project

Title: Aspects of human influences on wetlands in Bloemfontein: A look at Rooidam and Seven Dams

**JV Sithole** (2022) – Supervisor – Currently enrolled

Title: Phytosociological classification of the current extent of the Drakensberg-Amathole Afromontane Fynbos (Gd6) in the Golden Gate Highlands National Park, Free State

**J.Deyers** (2022) – Supervisor – Currently enrolled

Title: Phytosociology of two wetlands in the Mooiwater Conservancy, Bainsvlei, Bloemfontein

### **MASTERS STUDENTS**

**TF Mthombeni** (2014-2019) – Co-supervisor – Obtained MSc in June 2019

Title: Vegetation classification of the Witsand Nature Reserve, Northern Cape, South Africa.

**K Joalo** (2017 – 2020) – Co-supervisor – Obtained MSc in October 2020

Title: Response of wetland indicator grass species to degree of soil water saturation

**ML Ndiki** (2019) – Supervisor – Obtained MSc in January 2021

Title: Evaluating colour and form signature to identify invasive alien plant species

**M Müller** (2019) – Supervisor – Obtained MSc in February 2022

Title: Quantification of soil- and vegetation degradation in the Golden Gate Highlands National Park.

**L Baasi** (2019) – Co-supervisor – Obtained MSc in March 2022

Title: Impact of land use on wetland function in the highlands of Lesotho.

**K Nienaber** (2020) – Supervisor – Obtained MSc in August 2023

Title: Assessing wetland health using plant and soil indicators in the Golden Gate Highlands National Park, Free State Province

**EL Ferreira** (2020) – Co-supervisor – Currently enrolled

Proposed title: The Biogeography and evolution of three *Nemesia* species in the winter rainfall region of South Africa.

**JN Giddy** (2022) – Supervisor – Currently enrolled

Proposed title: Phytosociology of the Drakensberg-Amathole Afromontane Fynbos (Gd6) within Golden Gate Highlands National Park.

**JS Sithole** (2023) – Supervisor – Currently enrolled

Proposed title: Plant communities and habitat characterisation of the Drakensberg-Amathole Afromontane Fynbos (Gd6)

### **DOCTORAL STUDENTS**

**J Burger** (2018 – current) – Supervisor – Currently enrolled

Title: Pollen and grass phytolith distribution and deposition in South African topsoils along modern biome transects

**N Nombewu** (2018 – current) – Supervisor – Currently enrolled

Title: Vegetation ecology of the Oviston and Comando Drift nature reserves, Eastern Cape, South Africa

**JCL de Jager** (2020) – Supervisor – Currently enrolled

Proposed title: Fire risk management and charcoal assessment in the Free State Province, South Africa

**C McLean** (2021) – Co-supervisor – Currently enrolled

Title: Developing an index to assess the impact of soil degradation on soil quality within selected national parks

**M Müller** (2022) – Supervisor – Currently enrolled

Title: The effect of time on soil and vegetation changes in Golden Gate Highlands National Park.

## RESEARCH

### Research Links

Orchid: <https://orcid.org/0000-0003-0227-7567>

ResearchGate <https://www.researchgate.net/profile/Andri-Van-Aardt>

Google Scholar <https://scholar.google.co.za/citations?user=q29rf6oAAAAJ&hl=en>

### Research Collaboration

Current and past collaboration with collaborators in multidisciplinary research with overseas and national colleagues, e.g.:

- Dr Frank Neumann, North West University
- Dr Michael Toffolo, Spanish National Research Centre for Human Evolution (CENIEH), Spain
- Dr Magdalena Sobol, Toronto, Canada
- Dr Liora Horwitz, Hebrew University, Jerusalem, Israel
- Dr Britt Bousman, Texas State University, San Marcos, USA
- Dr José Carrión, Department of Botany, University of Murcia, Spain
- Dr Lloyd Rossouw, National Museum, Bloemfontein
- Dr Piet-Louis Grundling, Silvertown, South Africa
- Dr Althea Grundling, Agricultural Research Council
- Prof Johan van Tol, Department of Soil Crop and Climate Sciences, University of the Free State
- Dr Mariette Jackson, Department of Plant Sciences, University of the Free State
- Dr Lize Joubert, Department of Plant Sciences, University of the Free State
- Prof Marlize Lombard, Palaeo-Research Institute, University of Johannesburg
- Ms Anisha Dayaram, VEGMap division, South African National Biodiversity Institute

## Peer Reviewed Publications

1. Goder-Goldeberger, M., Gilead I., Boaretto E., Edeltin L., Horwitz L.K., Jacoby-Glass, Y., Lavi R., Neumann F.H., Porat, N., Toffolo, M., **Van Aardt, A.C.**, Zilberman, T., Crouvi, O. 2023. Living in an Ecotone: Late Middle Paleolithic occupations in the lower Besor Basin, north-western Negev Desert, Israel. *Antiquity* 97: 1-8. IF 1.953. Q1.
2. Esterhuizen, N., Berman, D., Neumann, F., Ajikah, L., Quick, L., Hilmer, E., **Van Aardt, A.**, Hoek, W., John, J., Garland, R., Hill, T., Finch, J., Bamford, M., Seedat, R., Manjra, A., and Peter, J. Accepted. The South African Pollen Monitoring Network: Insights from two years of national aerospora sampling (2019-2021). *Clinical and Translational Allergy* IF3.57. Q2
3. Lombard, M and **van Aardt A.C.** 2023. Method for generating foodplant fitness landscapes: With a foodplant checklist for southern Africa and its application to Klasies River. *Journal of Archaeological Sciences* 149: 1-12 IF 3.216.Q1
4. Scott, L., Neumann, F.H., **van Aardt, A.C.** and Botha, G.A. 2023. Palaeoenvironmental sequences surrounding Border Cave, South Africa, and review of conditions during Middle and Later Stone Age occupation. *Quaternary Science Reviews* 300:1-12 IF 4.112. Q1
5. Lombard, M and **Van Aardt, A.C.** 2022. Taking stock of foodplants growing in the Cradle of Humankind Fossil Hominin Site, South Africa. *African Archaeological Review* 39: 59-77 IF 1.29. Q1
6. Scott, L., Sobol, M., Neuman, F.H., Gil Romera, G., Fernández-Jalvo, Y., Bousman, C.B., Horwitz, L.K. and **Van Aardt, A.C.** 2022. Late Quaternary palaeoenvironments in the central semi-arid region of South Africa from pollen in cave, pan, spring, stream and dung deposits. *Quaternary International* 614: 84-97 IF 2.199. Q1
7. Brown, L.R., **Van Aardt, A.C.**, Janecke, B.B. 2020. A tribute to Pieter Johannes (Johann) du Preez. *Koedoe* 62(2), a1640. DOI: 10.4102/koedoe.v62i2.1640. IF 0.900. Q3 (Tribute)
8. Janecke, B.B., Van Tol, J.J., Smit, I.P.J., **Van Aardt, A.C.**, Riddell, E.S., Seaman, M.T., Swart, W.J., Du Preez, P.J. and Le Roux, P.A.L. 2020. Biotic and abiotic connections on a granite catena: Framework for multidisciplinary research. *Koedoe* 62(2), a1585 DOI: 10.4102/koedoe.v62i2.1600. IF 0.900. Q3
9. Theron E.J, **van Aardt A.C.**, du Preez P.J. 2020. Vegetation distribution along a granite catena, southern Kruger National Park, South Africa. *Koedoe* 62(2), a1588. DOI 10.4102/koedoe.v62i2.1588. IF 0.900. Q3
10. **Van Aardt A.C.**, Codron, D., Theron, E.J., du Preez P.J. 2020. Plant community structure and possible vegetation changes after drought on a granite catena in the Kruger National Park, South Africa. *Koedoe* 62(2), a1585 DOI: 10.4102/koedoe.v62i2.1585. IF 0.900. Q3
11. Scott L., **van Aardt A.C.**, Brink, J. S., Toffolo, M. B, Ochando, J. Carrión, J. S. 2020. Palynology of Middle Stone Age spring deposits in grassland at the Florisbad hominin site, South Africa. *Review of Palaeobotany and Palynology* 265: 13-26. IF 1.904. Q2
12. **Van Aardt, A.C.**, Scott, L and du Preez, PJ. 2017. Western Free State vegetation ecology: From past to present. *South African Journal of Botany* 109, 372. IF: 1.792. Q2 (Abstract)
13. **Van Aardt, A.C.**, Scott, L., Du Preez, P.J. 2016. Towards addressing the disjunction between palaeo- and modern ecology in the western Free State. *Quaternary International* 404: 190. IF: 2.481. Q1 (Abstract)
14. **Van Aardt, A.C.**, Bousman, C.B., Brink, J.S, Brook, G.A., Jacobs, Z., du Preez, P.J., Rossouw, L. and Scott, L. 2015. First chronological, palaeoenvironmental and

archaeological data from the Baden-Baden fossil spring complex in the western Free State, South Africa. *Changing Climates, Ecosystems and Environments within Arid Southern African and Adjoining Regions: Palaeoecology of Africa*. CRC Press. PP117-152 (Chapter in a book)

## Popular Journals

K.J. Brown, M.J. Power, M. Slowinski, **A.C. van Aardt**, O. Blarquez and P. Grondin. Workshop Report: Applying Palaeofire Records in Ecological Management. *Wildfire Magazine*. 27.1 February 2018

## Conference Presentations

- **Van Aardt, A.C.**, de Jager, J.C.L., Giddy, J.N., Dayaram., A. 2023. Karroid Islands in a sea of grasses, Free State Province, South Africa. 65<sup>th</sup> Annual Symposium of the International association of vegetation science, Coffs Harbour, Australia, 3 – 8 September 2023.
- Scott, L. and **van Aardt, A. C.** 2022. Updating the African Pollen Database (APD) for the Quaternary in the South African interior. workshop of the French Institute of South Africa (IFAS), Pleistocene Archaeology and Palaeoecology of the Free State, Florisbad, Free State, 14 July 2022.
- Müller, M., van Tol, J.J. **van Aardt, A.C.** 2022. Community distribution along topographical units in the Golden Gate Highlands National Park, Free State Province, South Africa. South African Mountain Conference, Champagne Sports Resort, KwaZulu-Natal, 14 – 17 March 2022
- McLean, C.C., van Tol, J.J., **van Aardt, A.C.**, Kotze, E., Edwards, A., Swart, W., Kotze, J.J. 2022. Quantifying soil degradation through microbial activity of alpine soils in the Northern Drakensberg, South Africa. South African Mountain Conference, Champagne Sports Resort, KwaZulu-Natal, 14 – 17 March 2022
- Ferreira, E.L., **van Aardt, A.C.**, Joubert, L. 2022. Possible effect of community composition on pollination rewards in three *Nemesia* species from Namaqualand. South African Association of Botanists 28<sup>th</sup> Annual Conference, 17-20 January 2022
- Nienaber, K, **Van Aardt, A.C.** Van Tol, J.J. 2021. Phytosociological classification of wetland vegetation in the Golden Gate Highlands National Park, Free State Province, South Africa. National Wetland Indaba 2021. Online. 20-21 October 2021
- Scott, L., Gil-Romera, G., Neumann, F. H., Sobol, M., Horwitz, L. K., **van Aardt, A.**, Fernandez-Jalvo, Y. 2019. Diverse modes of pollen taphonomy and late Quaternary palaeo-environments in the Kalahari. Session: Wonderwerk Cave and Related Research Projects in the Northern Cape Province. ASAPA 2019 (Association of Southern African Professional Archaeologists), Kimberley, South Africa, 2-4 July, 2019.
- **Van Aardt, AC**, du Preez, P.J. and Scott,L. 2019. Major plant communities and physical environment in the catchments of the putative palaeo-Kimberley and palaeo-Modder Rivers, Free State South Africa. 16th Kimberley Biodiversity Research Symposium in Kimberley
- **Van Aardt, A.C.**, Scott, L., Theron, E.J., and Rossouw, L. 2019. Charred Cuticles in Tswaing Crater lake deposits: A palaeoenvironmental indicator? Oral communications.



XXII Biennial Congress of the South African Society for Quaternary Research in Mossel Bay.

- **Van Aardt, A.C.**, Scott, L., Brink, J., Toffolo, B., Tomas, J.O. and Carrion, J. 2018. Palynological reconstruction of middle Pleistocene environments at Florisbad, Free State Province, South Africa. Oral communication  
Proceedings of the 20<sup>th</sup> Biennial Conference of the Palaeontological Society of Southern Africa in Bloemfontein.
- **Van Aardt, A.C.**, Scott, L and du Preez, P.J. 2017. Western Free State vegetation ecology: From past to present. Oral communication  
43<sup>rd</sup> Annual Conference of the South African Association of Botanists, University of Cape Town, Cape Town, South Africa.
- **Van Aardt, A.C.**, Scott, L. and Du Preez, P.J. 2015. *Towards addressing the disjunction between palaeo- and modern ecology in the western Free State*. Poster.  
AFQUA conference and workshops: The African Quaternary: environments, ecology and humans.
- **Van Aardt, A.C.**, Du Preez, P.J. and Scott, L. 2015. *Vegetation analysis of the catchments of two putative palaeo-rivers in the western Free State, South Africa*. Oral communication.  
41<sup>st</sup> Annual Conference of the South African Association of Botanists (SAAB).
- **Van Aardt, A.C.**, Scott, L., Bousman, C.B., Brink, J.S., Jacobs, Z. and Du Preez, P.J. 2014. *Palynological analysis of the spring mound Baden-Baden in the western Free State, South Africa*. Poster.  
From Past to Present: Changing Climates, Ecosystems and Environments of Arid Southern Africa; A Tribute to Louis Scott Conference.
- **Van Aardt, A.C.**, Du Preez, P.J., Scott, L. and Collins, N.B. 2013. *A vegetation and environmental analysis of the Palaeo-Kimberley, Palaeo-Modder Rivers and the surrounding area, Free State Province, South Africa*. Oral communication.  
1<sup>st</sup> African Water Symposium on Water Conflict. Centre for Environmental Management, University of the Free State.
- **Van Aardt, A.C.**, Du Preez, P.J., Scott, L. and Collins, N.B. 2012. *A vegetation and environmental analysis of the Palaeo-Kimberley, Palaeo-Modder Rivers and the surrounding area, Free State Province, South Africa*. Oral communication and a poster.  
9<sup>th</sup> Annual Inkaba yeAfrica GEO-FUTURE Workshop in Germany.
- **Van Aardt, A.C.** and Du Preez, P.J. 2011. *A vegetation and environmental analysis of the Palaeo-Kimberley, Palaeo-Modder Rivers and the surrounding area, Free State Province, South Africa*. Oral communication and a poster.  
INKABA yeAfrica – 8<sup>th</sup> Annual Workshop at GeoSynthesis 2011 Conference in Cape Town.
- **Van Aardt, A.C.** and Du Preez, P.J. 2011. *Classification of the riparian Communities along the Vet River, Free State Province, South Africa*. Poster.  
2<sup>nd</sup> Regional Conference of the Southern African Young Water Professionals at the CSIR international Convention Centre, Pretoria, South Africa.

## External Examining

2023

Examination of an MSc with the title: Impala (*Aepyceros melampus*) habitat utilisation and activity patterns in sourish mixed bushveld from the University of South Africa

## 2022

Examination of a **PhD** with the title: Determining the Trajectory of Graminoid invasions in southern Africa's Mountains: The case of *Nasella* from the University of the Free State

## 2021

Examination of a **PhD** with the title: Expansion and densification of *Prosopis* species along the riverine system of the Molopo River with special reference to its effects on soil nutrients and perception of its uses from the North-West University

## 2019

Examination of an **MSc** with the title: The effect of *Seriphium plumosum* encroachment on the biodiversity of grassland plant species, small mammals and birds at Telperion Nature Reserve, Mpumalanga, South Africa from the University of South Africa.

## 2018

International recommendation for a **PhD** with the title: Palaeoecology of two biodiversity hotspots: the Doñana and Sierra Nevada National Parks from the Universidad De Murcia, Spain.

## 2017

Examination of an **MSc** with the title: Alien and Invasive Species Regulations (2014): Implication of Managing Alien Invasive Plants in Bloemfontein from the University of the Free State.

Examination of an **MSc** with the title: The effectiveness of conservation principles, legislations and policies on *Encephalartos transvenosus* in the Modjadji area in Limpopo Province from the University of the Free State

## Manuscripts reviewed

- Royal Society Open Science
- Plant Ecology
- Vegetation Classification and Survey
- South African Journal of Science
- Scientific Reports
- Bothalia
- Folia Geobotanica

## Scientific Committees

Southern African Mountain Conference 2022 – reviewer of abstracts

The 5<sup>th</sup> National Global Change Conference 2023 – reviewer of abstracts

## Memberships

- South African Association of Botanists since 2018
- South African Society for Quaternary Scientists since 2018

- SA Akademie vir Wetenskap en Kuns since 2020
- South African Council for Natural Scientific Professions – Ecological and Botanical Sciences (131584) since 2021
- International Association for Vegetation Science since 2022