

Curriculum Vitae: Francois Daniel Fourie

Personal Information

First Names: Francois Daniel
Surname: Fourie
ID number: 710312 5247 08 5
Date of birth: 12 March 1971
Sex: Male
Marital status: Married
Nationality: South African
Languages: Afrikaans, English, French
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Tertiary Qualifications

Institution	Period	Degree
University of the Free State	2000 - 2003	PhD (Geohydrology)
University of Pretoria	1994 - 1996	MSc (Exploration Geophysics)
University of the Free State	1998	BSc (Hons) (Geohydrology)
University of Pretoria	1993	BSc (Hons) (Exploration Geophysics)
University of Pretoria	1989 - 1991	BSc (Physics and Applied Mathematics)

Other Studies

Institution	Period	Course/Module
University of the Free State	2014	Completed the module FRN602 of an honours degree in French
University of the Free State	2013	Completed the module FRN601 of an honours degree in French
University of the Free State	2001	Completed French III
University of the Free State	2000	Completed French II
University of the Free State	1999	Completed Business French

Academic Awards

Institution	Period	Course/Module
University of the Free State	2001	French Embassy prize for the best final year student in French
University of the Free State	1999	Departmental prize for the best beginner student in French
University of the Free State	1998	Honourary colours for academic achievement
University of the Free State	1998	Senate's medal for the best honours student
University of the Free State	1998	Dean's medal for the best honours student in the Natural Sciences Faculty
University of Pretoria	1991	Pierre du Plessis award for best final year student in Physics

Other Awards

Institution	Period	Award/Prize
CSIR (Mikomtek)	1991	Bursary for studies in Physics and Applied Mathematics
University of Pretoria	1991, 1993, 1995	Winner of the literature competition: English short stories

Training and Professional Development

Institution	Period	Course/Module
Ekosource	2018	FEFLOW Groundwater Modelling - Introductory Course
Ekosource	2018	FEFLOW Groundwater Modelling - Advanced Course

Employment Record

Institution	Period	Position
University of the Free State	Aug 2011 - present	Lecturer (2011-2016), Senior Lecturer (2017-2021), Associate Professor (2022-)
Orpheus Hydrogeophysics	2008 - July 2011	Sole Proprietor of Geohydrological/Geophysical Consulting Business
GHT Consulting	2004 - 2006	Senior Geohydrologist
Self-Employed	2007	Consulting Geohydrologist and Hydrogeophysicist
University of the Free State	1998 - 2003	Part-Time Lecturer in Groundwater Geophysics

Teaching at the UFS: Modules Developed and Taught

Module Code and Name	Period	Roles/Responsibilities
GLGY6883 - Geophysics	2023	Module Developer and Principal Lecturer
GEHR6805 - Groundwater Geophysics	2021 - 2023	Module Developer and Principal Lecturer
GEHR6808 - Research Module	2018 - 2021	Honours Student Supervision
GEOH6885 - Groundwater Geophysics	2015 - 2020	Module Developer and Principal Lecturer
GHR613 - Groundwater Geophysics	2012 - 2014	Module Developer and Principal Lecturer
GHR613 - Groundwater Geophysics	2005 - 2011	Guest Lecturer
GHR622/722 - Geohydrology	1998 - 2004	Developer and Principal Lecturer of Geophysics Course

Post-Graduate Supervision at the UFS

Criterion	Year												
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Honours Students	0	0	0	0	0	0	0	2	6	6	4	1	3
Master's Students	2	5	6	11	14	13	5	7	4	4	5	7	7
PhD Students	0	1	1	2	3	2	3	2	3	3	4	2	2
PhD Students (Co-Supervised)	0	0	0	0	0	1	2	2	2	2	2	5	3
Total	2	6	7	13	17	16	10	13	15	15	15	15	15

Post-Graduate Degrees Awarded

Criterion	Year													Total
	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
Master's Students	0	1	1	0	0	4	3	3	5	1	0	1	2	21
PhD Students	0	0	0	0	0	1	1	1	0	0	0	0	0	3
Total	0	1	1	0	0	5	4	4	5	1	0	1	2	24

Publications

Journal Articles

- [1] Fourie, F., **2006**. Aspects of the lateral and vertical resolution of surface electroseismic data with implications for groundwater exploration in fractured Karoo rocks. South African Journal of Geology, 109 (4), 571-584. DOI: <https://doi.org/10.2113/gssajg.109.4.571>.
- [2] Fourie, F. **2016**. Estimating the decant rate from a rehabilitated opencast colliery using a water balance approach. Mine Water and the Environment, 35(2), 199-213. DOI: <http://doi.org/10.1007/s10230-015-0362-4>.
- [3] Oke, S.A., and Fourie, F. **2017**. Guidelines to groundwater vulnerability mapping for Sub-Saharan Africa. Groundwater for Sustainable Development, 5, 168-177. DOI: <https://doi.org/10.1016/j.gsd.2017.06.007>.
- [4] Shakhane, T., Fourie, F.D. and Du Preez, P.J. **2017**. Mapping riparian vegetation and characterising its groundwater dependency at the Modder River Government Water Scheme. Groundwater for Sustainable Development, 5, 216-228. DOI: <https://doi.org/10.1016/j.gsd.2017.07.003>.
- [5] Sakala, E., Fourie, F., Gomo, M. and Coetzee, H. **2018**. GIS-based groundwater vulnerability modelling: a case study of the Witbank, Ermelo and Highveld Coalfields in South Africa. Journal of African Earth Sciences, 137, 46-60. DOI: <https://doi.org/10.1016/j.jafrearsci.2017.09.012>.
- [6] Kovaleva, E., Huber S., Fourie, F.D., and Pittarello, L. **2018**. Comparative study of pseudotachylite microstructures in mafic and felsic rocks from the Vredefort Impact Structure, South Africa. Implications for the experimental studies. South African Journal of Geology. DOI: <https://doi.org/10.25131/sajg.121.0025>.
- [7] Fourie, F.D., Huber, M.S. and Kovaleva E. **2019**. Geophysical characterization of the Daskop Granophyre Dyke and surrounding host rocks, Vredefort Impact Structure, South Africa. Meteoritic and Planetary Science, 54 (7), 1579-1593. DOI: <https://doi.org/10.1111/maps.13300>.
- [8] Shakhane, T., and Fourie, F.D. **2019**. An investigation into structural discretisation as a first order and pilot framework to understand groundwater-stream water connectivity at a reach scale. Sustainable Water Resources Management, 5, 883-900. DOI: <https://doi.org/10.1007/s40899-018-0267-z>.
- [9] Sakala, E., Fourie, F.D., Gomo, M. Coetzee, H and Magadaza, L. **2019**. Groundwater vulnerability mapping of the Witbank Coalfield in South Africa using deep artificial neural networks. South African Journal of Geomatics, 8 (2), 282-293. DOI: <http://dx.doi.org/10.4314/sajg.v8i2.12>.

- [10] Mukwathi, U., and Fourie, F. **2020**. The influence of angled survey lines on 2D ERT surveys using the Wenner (α) array with implications for ground water exploration in Karoo rocks. *Journal of African Earth Sciences* 168 (2020) 103875. DOI: <https://doi.org/10.1016/j.jafrearsci.2020.103875>.
- [11] Sakala, E., Fourie, F., Gomo, M., and Madzivire, G. **2020**. Natural attenuation of acid mine drainage by various rocks in the Witbank, Ermelo and Highveld Coalfields, South Africa. *Natural Resources Research*. DOI: <https://doi.org/10.1007/s11053-020-09720-5>.
- [12] Clark, M.D., Kovaleva, E., Huber, M., Fourie F., and Harris, C. **2021**. Post-impact faulting of the Holfontein Granophyre Dike of the Vredefort Impact Structure, South Africa, inferred from remote sensing, geophysics, and geochemistry. *Geosciences*, 11, 96. DOI: <https://doi.org/10.3390/geosciences11020096>.
- [13] Huber, M.S., Kovaleva, E., Clark, M., Riller, U. and Fourie, F. **2022**. Long-term crustal relaxation following basin-size impact cratering: evidence from the Vredefort Granophyre Dikes. *Icarus* 374 (2022) 114812. DOI: <https://doi.org/10.1016/j.icarus.2021.114812>.
- [14] Saveca, P.S.L., Abi, A., Stigter, T.Y., Lukas, E. and Fourie, F. **2022**. Assessing groundwater dynamics and hydrological processes from sand river deposits in the Limpopo River, Mozambique. *Frontiers in Water* 3:731642. DOI: <https://doi.org/10.3389/frwa.2021.731642>.
- [15] Adadzi, P., Allwright, A. and Fourie, F.D. **2022**. Multivariate and geostatistical analyses of groundwater quality for acid rock drainage at waste rock and tailings storage site. *Journal of Ecological Engineering*. 2022;23(12). DOI: <https://doi.org/10.12911/22998993/153091>.
- [16] Fourie, F.D., Huber, M.S., Kovaleva, E. and Clark, M.D. **2023**. Shallow depth extent of the Lesutuskraal granophyre dike in the Vredefort impact structure: Geophysical surveys and trenching data. *Meteoritic and Planetary Science*, 58 (9), 1345-1364. DOI: <https://doi: 10.1111/maps.14065>.

Conferences (International)

- [1] Fourie, F.D. and Botha, W.J., **1995**. Modelling the transient response of multiple conductors for the Geonics EM-37 electromagnetic system. In: Proceedings of the 4th technical meeting of the South African Geophysical Association, Victoria Falls, Zimbabwe.
- [2] Van Tonder, G., Kunstmann, H., Xu, Y., and Fourie, F, **1999**. Estimation of the sustainable yield of a borehole including boundary information, drawdown derivatives and uncertainty propagation. In: Proceedings of the ModelCARE 99 Conference: Calibration and reliability in groundwater modeling. Zurich, Switzerland.
- [3] Fourie, F., Botha, J., Grobbelaar, R., and Van Tonder, G, **2000**. Application of the electrokinetic sounding technique for geohydrological investigations in a fractured rock aquifer system. In: Proceedings of the XXXth IAH Congress on Groundwater: Past Achievements and Future Challenges, O. Solilo (eds.). Cape Town, South Africa. ISBN: 978-9058091598.
- [4] Fourie, F.D., **2004**. Vertical and lateral resolution of surface electroseismic data and the thin bed response. In: Proceedings of the 66th EAGE Conference and Exhibition. Paris, France.
- [5] Fourie, F., **2009**. The influence of curved and angled survey lines on 2D resistivity surveys employing the Wenner (α) geometry. In: Proceedings of the 11th SAGA Biennial Technical Meeting and Exhibition. Royal Swazi Sun, Swaziland, September 2009. DOI: https://doi.org/10.3997/2214-4609-pdb.241.fourie_f_paper1.
- [6] Fourie, F., **2009**. Model studies of the propagation of errors during the inversion of resistivity data recorded with the Wenner (α) geometry along curved and angled survey lines. In: Proceedings of the 11th SAGA Biennial Technical Meeting and Exhibition. Royal Swazi Sun, Swaziland, September 2009. DOI: https://doi.org/10.3997/2214-4609-pdb.241.fourie_f_paper2.
- [7] Steyl, G., Fourie, F.D. and Marais, I.L. **2012**. The impact of co-disposal of sulphate brines on a fly-ash dam, a study of the physical-chemical influence on drainage patterns. In: McCullough, C., Lund, M. & Wyse, L. (Eds.), Proceedings of the International Mine Water Association, pp. 661-675. Australia: International Mine Water Association.

- [8] Shakhane, T., Fourie, F.D., Vermeulen, P.D. and Van Tonder, G.J. **2012**. Hydrogeological concerns about shale fracking in South Africa. 9th Annual Inkaba Workshop, “Inkaba yeAfrica and Beyond”, Potsdam, Germany, 25-30 November 2012.
- [9] Sakala, E., Yibas, B. and Fourie, F. **2014**. The use of artificial neural networks in classification of acid mine drainage pollution sources found in Boesmanspruit dam, Carolina, South Africa. In: Proceedings of the Annual International Mine Water Association Conference 2014. Xuzhou, China. ISBN 978-7-5646-2437-8.
- [10] Sakala, E., Fourie, F., Gomo, M., Coetzee, H. and Magadaza, L. **2016**. Specific groundwater vulnerability mapping: case study of acid mine drainage in the Witbank Coalfield, South Africa. In: Proceedings of the 6th IASTED International Conference. Gaborone, Botswana, 5-7 September 2016. DOI: <https://doi.org/10.2316/P.2016.836-010>.
- [11] Sakala, E., Fourie, F., Gomo, M., and Coetzee, H. **2016**. Analogy of the mineral systems approach with the proposed groundwater vulnerability approach: case study of Witbank-Ermelo-Highveld Coalfields, South Africa. In: Proceedings of the 35th International Geological Congress, Cape Town, South Africa, 27 August – 4 September 2016.
- [12] Sakala, E., Fourie, F, Gomo, M. and Coetzee, H. **2017**. Hydrogeological investigation of the Witbank, Ermelo and Highveld Coalfields: Implications for the subsurface transport and attenuation of acid mine drainage. In: Proceedings of the 13th International Mine Water Association Congress. Lappeenranta, Finland, 25-30 June 2017.
- [13] Sakala, E., Fourie, F, Gomo, M. and Coetzee, H. **2017**. Mapping surface sources of acid mine drainage using remote sensing: case study of the Witbank, Ermelo and Highveld coalfields. In: Proceedings of the 13th International Mine Water Association Congress. Lappeenranta, Finland, 25-30 June 2017.
- [14] Huber, M., Kovaleva, E. and Fourie F. **2018**. Lowermost termination of Vredefort granophyre dyke results in unusual features. In: Proceedings of the 81st Annual Meeting of The Meteoritical Society. Moscow, Russia, 22 -27 July 2018.
- [15] Sakala, E., Fourie, F. and Ramasenya, K. **2019**. Groundwater vulnerability as a tool for policy and decision makers: Case study of coalfields of South Africa. In: Proceedings of the China-Africa Water Forum Series 7 – Water Resources Dialogue. Windhoek, Namibia, 22-27 July 2019.
- [16] Kovaleva, E., Huber, M., Clark, M. and Fourie F. **2019**. Timing of emplacement of Vredefort Granophyre Dykes. In: Proceedings of the Large Meteorite Impacts VI Conference. Brazil, Brazil, 30 September – 3 October 2019.
- [17] Huber, M.S., Kovaleva, E., Clark, M. and Fourie, F. **2020**. Inferring the emplacement history of Vredefort impact melt dykes. In: Proceedings of the 51st Lunar and Planetary Science Conference. Texas, USA, 16–20 March 2020.
- [18] Huber, M.S., Kovaleva, E., Clark, M.D. and Fourie, F. **2020**. Evaluating the emplacement mechanisms of Vredefort impact melt dikes. In: Proceedings of the 11th Planetary Crater Consortium. Hawai`i, USA, 5-7 August 2020.
- [19] Huber, M.S., Gulick S.P.S., Tisato, N., Kovaleva, E., Clark, M. Fourie, F. **2021**. Preliminary results of geophysical properties of granites taken from a transect through the Vredefort Impact Structure. In: Proceedings of the 52nd Lunar and Planetary Science Conference. Virtual conference, 15-19 March 2021.
- [20] Saveca, P.S.L, Stigter, T.Y., Fourie, F. and Lukas, E. **2023**. Groundwater potential and lateral connectivity of the Limpopo sand river system mitigating water scarcity and salinity in semi-arid Mozambique. In: Proceedings of the 50th IAH Congress. 18 – 22 September 2023. Cape Town, South Africa.

Conferences (National)

- [1] Fourie, F.D., Botha, J.F., **2001**. The failure of the sounding assumption in electroseismic investigations. In: Proceedings of the 7th SAGA Biennial Technical Meeting and Exhibition. Drakensberg Mountains, South Africa. DOI: <https://doi.org/10.3997/2214-4609-pdb.143.11.3>.
- [2] Fourie, F.D., Botha, J.F. and Van Tonder, G, **2002**. Information on aquifer elastic parameters and aquifer deformation from the analyses of borehole electroseismic data. In: Proceedings of the GWD Regional Groundwater Conference, Somerset West, South Africa.
- [3] Fourie, F.D., **2003**. Vertical and lateral resolution of surface electroseismic data and the thin bed response. In: Proceedings of the 8th SAGA Biennial Technical Meeting and Exhibition. Pilansberg, South Africa. DOI: <https://doi.org/10.3997/2214-4609-pdb.144.9>

- [4] Fourie, F.D., **2005**. Investigating the possibility of fracture detection by means of surface electroseismic methods: field survey results. In: Proceedings of the Biennial Groundwater Conference, Groundwater division of the GSSA. Pretoria, South Africa.
- [5] Fourie, F., **2007**. Limitations of the Helmholtz-Smoluchowski Equation in Electroseismics. In: Proceedings of the 10th SAGA Biennial Technical Meeting and Exhibition. Wild Coast, South Africa, October 2007. DOI: <https://doi.org/10.3997/2214-4609-pdb.146.12.3>.
- [6] Fourie, F., **2007**. Geotechnical Application of a 2-D Resistivity Survey: Mapping Bedrock Elevation for Bridge Construction. In: Proceedings of the 10th SAGA Biennial Technical Meeting and Exhibition. Wild Coast, South Africa, October 2007.
- [7] Fourie, F., **2011**. Using electrical resistivity tomography to image grikes in the Gemsbokfontein dolomitic groundwater compartment. In: Proceedings of the GeoSynthesis Conference. Cape Town, South Africa, August 2011.
- [8] Fourie, F.D. **2013**. Estimating the water make of a rehabilitated opencast coal mine in Mpumalanga. In: Proceedings of the 13th Biennial Groundwater Division Conference and Exhibition, Durban, South Africa, September 2013.
- [9] Shakhane, T. and Fourie, F.D. **2013**. Using electrical resistivity tomography to describe the aquifer architecture linked to groundwater and surface water interaction. In: Proceedings of the 13th Biennial Groundwater Division Conference and Exhibition, Durban, South Africa, September 2013.
- [10] Shakhane, T. and Fourie, F. **2014** Quantifying groundwater-surface water exchange fluxes based on steady state riparian area aquifer water balances. In: Proceedings of the 10th Annual Inkaba yeAfrica and !Khure Africa Conference. Matjiesfontein, South Africa, 29 September – 3 October 2014.
- [11] Makhokha, D. and Fourie, F. **2014**. A systematic approach to the interpretation of conductivity anomalies recorded with the Geonics EM34-3 electromagnetic instrument across intrusive dolerite dykes and sills in the Karoo Supergroup. In: Proceedings of the 10th Annual Inkaba yeAfrica and !Khure Africa Conference. Matjiesfontein, South Africa, 29 September – 3 October 2014.
- [12] Mokoae, C., Molaba, L. and Fourie, F. **2014**. An investigation of possible augmentation of municipal water from groundwater resources of Mangaung. In: Proceedings of the 10th Annual Inkaba yeAfrica and !Khure Africa Conference. Matjiesfontein, South Africa, 29 September – 3 October 2014.
- [13] Fourie, F. **2014**. Estimating the decant rate at a rehabilitated opencast colliery where net groundwater inflow occurs. In: Proceedings of the 10th Annual Inkaba yeAfrica and !Khure Africa Conference. Matjiesfontein, South Africa, 29 September – 3 October 2014.
- [14] Mokoae, M.C., Molaba, L.G., van der Merwe, J. and Fourie, F.D. **2015**. Investigating the potential of using groundwater associated with a ring-dyke to augment the municipal water supply to Bloemfontein. In: Proceedings of the 14th Biennial Groundwater Division Conference and Exhibition. Muldersdrift, South Africa, 21-23 September 2015.
- [15] Haumann, J.W. and Fourie, F.D. **2015**. Investigating the impact of fertilizer effluent disposed in quarries on groundwater quality. In: Proceedings of the 14th Biennial Groundwater Division Conference and Exhibition. Muldersdrift, South Africa, 21-23 September 2015.
- [16] Makhokha, D. and Fourie, F. **2015**. A systematic approach to the interpretation of conductivity anomalies across intrusive dolerite dykes and sills in the Karoo Supergroup. In: Proceedings of the 14th Biennial Groundwater Division Conference and Exhibition. Muldersdrift, South Africa, 21-23 September 2015.
- [17] Shakhane, T. and Fourie, F.D. **2015**. Quantifying groundwater-surface water exchange fluxes based on the steady state riparian aquifer water balance. In: Proceedings of the 14th Biennial Groundwater Division Conference and Exhibition. Muldersdrift, South Africa, 21-23 September 2015.
- [18] Fourie, F.D., and Vermaas, S. **2017**. Using TLERT Surveys and Infiltration Tests to Characterise the Unsaturated Zone and Assess the Groundwater Recharge Potential. In: Proceedings of the 15th SAGA Biennial Conference and Exhibition, Somerset West, South Africa, 10 – 13 September 2017.
- [19] Sakala, E., Fourie, F., Chirenje, E., Saeze, H. and Sekiba, M. **2017**. Towards automation of modelling of geophysical data using artificial intelligence. In: Proceedings of the 15th SAGA Biennial Conference and Exhibition, Somerset West, South Africa, 10 – 13 September 2017.

- [20] Mokitlane L, and Fourie, F. **2017**. Investigating the potential impacts of bentonite mining at Matsopa Mine on the groundwater system. In: Proceedings of the 14th Biennial Groundwater Division Conference and Exhibition. Stellenbosch, South Africa, October 2017.
- [21] Mokgatle, T., and Fourie, F.D. **2017**. Groundwater exploration in the Tsineng Area, Northern Cape, using airborne and ground geophysical methods. In: Proceedings of the 15th Biennial Groundwater Division Conference and Exhibition. Stellenbosch, South Africa, 14-18 October 2017.
- [22] Ngoie, S., and Fourie, F.D. **2017**. Development of an artificial neural network for the prediction of mine dewatering. In: Proceedings of the 15th Biennial Groundwater Division Conference and Exhibition. Stellenbosch, South Africa, 14-18 October 2017.
- [23] Lourens, M., and Fourie, F.D. **2017**. Establishing a groundwater baseline for unconventional gas projects in South Africa. In: Proceedings of the 15th Biennial Groundwater Division Conference and Exhibition. Stellenbosch, South Africa, 14-18 October 2017.
- [24] Vermaas, S., and Fourie, F.D. **2017**. Evaluating the recharge potential of an aquifer through the characterisation of the unsaturated zone by means of infiltration studies. In: Proceedings of the 15th Biennial Groundwater Division Conference and Exhibition. Stellenbosch, South Africa, 14-18 October 2017.
- [25] Fourie, F.D., Allwright, A.J., Makiwane, N, and Govender, N. **2017**. Characterisation and protection of deep aquifers in South Africa: Consolidation of data sources. In: Proceedings of the 15th Biennial Groundwater Division Conference and Exhibition. Stellenbosch, South Africa, 14-18 October 2017.
- [26] Fourie, F.D., Allwright, A.J., Makiwane, N, and Govender, N. **2017**. Characterisation and protection of deep aquifers in South Africa: Characterisation. In: Proceedings of the 15th Biennial Groundwater Division Conference and Exhibition. Stellenbosch, South Africa, 14-18 October 2017.
- [27] Mazibuke, C. and Fourie F. **2019**. Estimating hydraulic conductivities through the measurement of streaming potentials. In: Proceedings of the 16th Biennial Groundwater Division Conference and Exhibition. Port Elizabeth, South Africa, 14-18 October 2017.
- [28] Muhkwathi, U. and Fourie F. **2019**. The impact of angled survey lines on ERT data recorded with the Wenner (α) array. In: Proceedings of the 16th Biennial Groundwater Division Conference and Exhibition. Port Elizabeth, South Africa, 14-18 October 2017.
- [29] Sekiba, F.M.A., Fourie, F. and Sakala, E. **2019**. Airborne and ground geophysical surveys to investigate the deep geology and geohydrology in the Beaufort West area, Western Cape, South Africa. In: Proceedings of the 16th Biennial Groundwater Division Conference and Exhibition. Port Elizabeth, South Africa, 14-18 October 2017.
- [30] Fourie F., Kovaleva, E. and Huber, M. **2019**. Geophysical surveys across the Daskop Granophyre Dyke. In: Proceedings of the 17th SAGA Biennial Conference and Exhibition, Durban, South Africa, 6-9 October 2019.
- [31] Mlambo, F.S.S. and Fourie, F.D. **2022**. The determination of in-situ hydraulic conductivity in core boreholes intersecting fractured rock at mine sites. In: Proceedings of the IAH-SA Virtual Conference, 13-15 September 2022.
- [32] Haumann, J.W. and Fourie, F.D. **2022**. Using forward and inverse modelling to investigate the capability of two-dimensional electrical resistivity tomography to detect water-bearing zones in the subsurface. In: Proceedings of the IAH-SA Virtual Conference, 13-15 September 2022.
- [33] Kolobe, L.T. and Fourie, F.D. **2022**. Appraisal of geophysical methods used for groundwater exploration in South Africa. In: Proceedings of the IAH-SA Virtual Conference, 13-15 September 2022.
- [34] Govender, N. and Fourie, F.D. **2022**. Evaluating the results of geophysical surveys conducted in the Main Karoo Basin from a geohydrological perspective. In: Proceedings of the IAH-SA Virtual Conference, 13-15 September 2022.
- [34] Govender, N. and Fourie, F.D. **2022**. Evaluating the results of geophysical surveys conducted in the Main Karoo Basin from a geohydrological perspective. In: Proceedings of the IAH-SA Virtual Conference, 13-15 September 2022.
- [35] Fourie, F.D. **2022**. Forward and inverse 2D ERT modelling to investigate the depth extents of the granophyre dykes in the core of the Vredefort Impact Structure. In: Proceedings of the 17th SAGA Biennial Conference & Exhibition, Sun City, South Africa, 28 November-01 December 2022.

- [36] Fourie, F.D. **2022**. Forward and inverse 2D ERT modelling to investigate the effect of dyke thickness on the resolvable depth extent of resistive dykes of limited depth extent. In: Proceedings of the 17th SAGA Biennial Conference & Exhibition, Sun City, South Africa, 28 November-01 December 2022.
- [37] Clark, M., Kovaleva, E., Huber M. and Fourie, F. **2023**. Emplacement dynamics of impact melt dikes: evidence from the Lesutuskraal Pavement, Vredefort, South Africa, derived from high-resolution unmanned aerial vehicle orthophotography. In: Proceedings of the Geocongress 2023, Stellenbosch, South Africa, 11-13 January 2023.

Symposiums (National)

- [1] Fourie, F.D. & Venter, A. **2013**. Domestic Rainwater Harvesting, Use and Re-Use: Examples from South Africa and Guatemala. In: Proceedings of the 1st African Water Symposium, Bloemfontein, South Africa, June 2013.
- [2] Fourie, F.D. and Venter, A. **2013**. Water use strategies to mitigate the impacts of climate change on small towns in South Africa. In: Proceedings of the 1st Small Town Symposium, Bloemfontein, South Africa, November 2013.

Research Reports

- [1] Fourie, F.D., Allwright, A.J., Esterhuyse, S., Govender, N. and Makiwane, N. **2020**. Characterisation and protection of potential deep aquifers in South Africa. Report to the Water Research Commission, Pretoria, South Africa. Report No. 2434/1/19. ISBN 978-0-6392-0141-2.

Community Engagement

Invited Talks

- [1] South African Geophysical Association. **2005**. Electro seismic methods: promises, limitations and pitfalls.
- [2] Groundwater Association of KwaZulu-Natal. **2019**. Groundwater geophysics: possibilities and pitfalls.
- [3] Geology Department at the UFS. **2019**. Geotalk: Geophysical investigation of the granophyre dykes within the core of the Vredefort Impact Structure.

Radio Interviews

- [1] Pretoria FM, Ek wil weet. **7 July 2020**. Wat is geofisika?
- [2] Pretoria FM, Ek wil weet. **8 September 2020**. Verskillende geofisiese metodes.

Conferences and Workshops

- [1] Member of the Organising Committee for the 13th Biennial Groundwater Division Conference and Exhibition, 17-19 September 2013.
- [2] Main Organiser of the 1st Iphakade Student Conference and Workshop (Water Works) held on the UFS Campus, 2-6 November 2015.

Non-academic articles

- [1] Fourie, F.D. **2021**. Seeing below the ground. Quest 17(3), published by the Academy of Science of South Africa (ASSAf).

Grants and Funding

- [1] Was the Project Leader of a team who successfully applied for research funding (R1 000 000.00) from the Water Research Commission for a two-year research project (April 2015 – March 2017).

- [2] Was part of a research team (GRAVITAS) who successfully applied for a UFS Interdisciplinary Grant (R110 000.00) to conduct research on the Vredefort Impact Structure (June 2019 – April 2020).
- [3] Obtained funding (R25 000.00) from a mining company for a student's master's project (2016).
- [4] Obtained funding from Inkaba yeAfrica (R317 000.00) for the research projects of two master's and one PhD student (2012-2015).
- [5] Generated third-stream income (R2 158 913.42) through consulting projects (2012-2020). Funds thus generated have been used to finance research projects.

Professional Bodies

South African Geophysical Association: Student Member 1996 – 2003, Full Member 2003 – Present

Society of Exploration Geophysicists: Associate Member 2004 – Present

European Association of Geoscientists and Engineers: 2009 – Present

Groundwater Division of the Geological Society of South Africa: 2012 – Present

International Mine Water Association: 2015 – Present

International Association of Hydrogeologists: 2019 – Present

South African Council for Natural Scientific Professions: 2007 – Present

References

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