**Curriculum Vitae of Mofokeng Maletsema Alina**

**Contact details**

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| **Personal information** |  |  |
| Full name and surname: |  | Maletsema Alina Mofokeng |
| Personal identity number: |  | 801 217 043 0083 |
| Date of birth: |  | 1980-12-17 |
| Gender: |  | Female |
| Nationality: |  | South African |
| Languages: |  | S. Sotho (Fluent), N. Sotho (good), English  (Fluent) and Zulu (good) |
| Driver’s licence: |  | Code 08 |

**Work Experience**

* 2016 August to current: A **Researcher** working on soybeans, cowpea. lentil and pigeon pea breeding and germplasm maintenance and breeding in the Agricultural Research Council, Grain Crops, Potchefstroom, South Africa.
  + Responsibilities

Conducting research and development of cross populations for development of inbred lines. Acquiring legume (Cowpea, soybean, lentil and pigeon pea) germplasm from different centres and countries. Characterisation of sorghum, groundnuts, cowpea, soybean, lentil and pigeon pea and development of plant populations through hybridization. Drawing annual budgets, Management of projects and implementation, writing of proposals, writing quarterly reports, making crosses, data analysis and writing scientific and popular articles in scientific journals and agricultural magazines, making oral and poster presentations at local and international conferences. Collaboration with other scientists locally and at international level. Managing subordinates, training and mentoring postgraduate students and an intern. Applying and obtaining Plant Breeder’s Rights for a soybean variety: ARC-Soy 01.

* Professional Development Programme Trainee in the Agricultural Research Council, Grain Crops Institute (2005 to 2015).
  + Responsibilities

Project management, drawing of budgets, project planning and implementation, hybridization of cowpea and aphid screening, writing publications, reviewing literature, participatory rural appraisal, assessment of genetic diversity in sorghum using agro-morphological traits, SSR markers, protein and amino acids. Cassava tissue culture and hardening-off.

* Tutor (2004) volunteer in SUCA Project at University of Limpopo (Turfloop campus). Gained experience in tutorship through weekend’s oral presentations for grade 10, 11, and 12 learners attending extra classes in the subject of Agriculture offered by SUCA at the University of Limpopo.
* Facilitator and inspector (2003) as a Master student in my supervisor’s farmer project at Sipitsi Lebowakgomo in Limpopo Province. Department of Plant Production. University of Limpopo.
  + Responsible

Inspecting diseases and damage caused by insect pests on various crops such as tomato, pepper, and cowpeas on farmers’ fields.

**Education/Qualifications**

2019. Project Management. University of North West, Potchefstroom Campus.

2018-2019. African Plant Breeding Academy hosted by University of California, Davis in Kenya.

2015-2016: A Post-Doctoral Research Fellow (Industrial) in Grain Crops, Agricultural Research Council.

Project: Breeding grain sorghum for perenniality in South Africa.

2010-2015: PhD in Plant Breeding. African Centre for Crop Improvement, University of KwaZulu-Natal. Five years Programme.

Project: Diversity analysis of South African sorghum genotypes using agro-morphology, SSR markers and protein content and amino acid composition.

2008: A Certificate Programme in Project Management. University of Witwatersrand, Johannesburg.

2003-2005: MSc. Agriculture (Plant Protection). University of Limpopo. Graduated 2006 Project: Host status of *Cucumis myriocarpus* to *Meloidogyne incognita*.

1999-2002: BSc. Agriculture (Plant Production), University of the North. Graduated 2003

Project: Genetic variation of yield and yield components of Bambara groundnuts in Dalmada, Limpopo province.

**Seminar/Workshop/Short course Attendance**

* International Science, Technology and Innovation Diplomacy Training Course, 2019. Pretoria.
* South African Biodiversity biobank workshop. 30 November 2018. SANBI. Pretoria.
* Demand-Led Plant Variety design workshop. 23-25 January 2018. African Centre for Crop Improvement, University of KwaZulu-Natal, Pietermaritzburg.
* Using markers for diversity and marker-assisted selection (MAS) workshop. 22-25 May 2018. Integrated Genotyping Support Service (IGSS) Program of the International Livestock Research Institute (ILRI), Nairobi, Kenya.
* Breeding and modelling of underutilised crops for improved resilience. 08-14 July 2018. University of KwaZulu-Natal, Pietermaritzburg.
* Marker-assisted breeding (MAB) for tracking multiple traits of interest workshop. 16-25 November 2016. International Centre for Genetic Engineering and Biotechnology (ICGEB). Pretoria.
* Science-Business-Society Conference. 5-7 December 2016. The Academy of Science of South Africa (ASSAf), the German National Academy of Sciences Leopoldina, the Network of African Science Academies, the Department of Science and Technology (DST), the European Academies’ Science Advisory Council (EASAC) and supported by the German Federal Ministry of Education and Research (BMBF). Council for Scientific and Industrial Research Council International Convention Centre (CSIR-ICC), Pretoria, Gauteng, South Africa.
* National Postdoctoral Research Forum. 13-15 March 2016. National Research Foundation (NRF). Cape Town.
* South African PhD Project Conference. 2012. Gateway Hotel Conference, Durban. 16 August 2012.
* Essential PCR short course, November 2007. DNA Biotec. Pretoria.
* Essential DNA sequencing short course, November 2007. DNA Biotec. Pretoria.
* Plant Breeding lab course, 12-16 March 2007. University of Free State. Department of Plant Sciences.
* Phylogenetics workshop, 2-6 October 2006. Forestry and Biotechnology Institute (FABI). University of Pretoria.
* Agrobase II short course August 2006. Agricultural Research Council, Small Grain Crops Institute, Bethlehem.
* Interpersonal skills offered by Reach Africa Team. 2005

**Awards**

* National Research Foundation-Knowledge Interchange Collaboration, 2019
* Best presentation award at International Conference of Plant Breeding and Molecular Breeding organised by World Academy of Science, Engineering and Technology. 12-13 January 2017, Durban.
* Whitehead Scientific Travel Award, 2016.
* National Research Foundation-Knowledge Interchange Collaboration, 2016 and 2017.

**Scientific body registration**

South African Council for Natural Scientific Professions: Professional Natural Scientist, Registration no: 114353.

South African Plant Breeders Association (Member)

South African Crop Science Society (Member)

**Varieties released**

Obtained Plant Breeder’s Rights for soybean variety: ARC-Soy 01 and ARC-Soy 02.

**Student supervised/trained**

* Gabriel Vusanimuzi Nkomo, DTech Agric. 2020. Genetic Diversity and Screening of Cowpea (*Vigna Unguiculata*) Genotypes for Drought Tolerance in South Africa. Central University of Technology. Bloemfontein. Graduated 2020.
* Kujane Keitumetse, Master’s degree in Agriculture. Use of Molecular Markers, Agronomical and Related Attributes on Diversity Analysis of Soybean (*Glycine Max*) Genotypes. Central University of Technology, Bloemfontein. Completed 2021.
* One National Research Foundation intern, Mary Sekgobela hosted by the Agricultural Research Council-Grain Crops, 2018.
* Experiential trainee from Potchefstroom College of Agriculture, Victor Muanalo, hosted by ARC-Grain Crops, 2018.

**Current Student training/supervision**

Three Masters Students (Central University of Technology and Limpopo University).

Two doctoral students (University of Limpopo and Central University of Technology).

**Software/IT Skills**

Microsoft Office: MS Word, MS PowerPoint, and MS Excel, MS Teams, Outlook, AX, ESS, Endnote, Project Libre, Mind Manager, XLSTAT, MetaR, GenStat, Agrobase, SPSS and Breeding Management System (BMS).

**Conference Contributions**

G.M.H Dikane, **A. Mofokeng**, M.M Sedibe. 2020. Heterogeneity assessment of cowpea accessions using DArTSeq. Southern African Plant Breeder Association Symposium held in future Africa on the 07-11th March, Pretoria.

**Mofokeng M.A**., Mashilo J., Rantso P. and Shimelis HA. 2020. Genetic variation, heritability and genetic advance in cowpea based on yield and yield-related traits. Southern African Plant Breeder Association Symposium held in Future Africa on the 07-11th March, Pretoria.

G.V. Nkomo, M.M. Sedibe and **M.A. Mofokeng**. 2020. Phenotyping cowpea accessions at the seedling stage for drought tolerance using the pot method in a controlled environment. Southern African Plant Breeder Association Symposium held in future Africa on the 07-11th March 2020.

**Mofokeng, MA** and P. Rantso. 2019. Protein Content and Oil Quality Assessment of Soybean

Cultivars in South Africa. African Plant Breeders Association conference, 22-26 October 2019, Accra, Ghana.

Kujane, K., Sedibe M., and **Mofokeng M.A.** 2018**.** Genetic diversity analysis of soybean genotypes using SSR markers. Africa Combined Congress, 14-18 January, Cape Town. South Africa.

**Mofokeng, MA**, and Mashingaidze, K. 2018. Genetic diversity analysis of South African soybean genotypes using agronomic and nutritional quality traits. Plant and Animal Genome XXVI, 13-17 January, San Diego, USA.

**Mofokeng, MA**, H. Shimelis, M, Laing, and K Mashingaidze. 2018. Genetic diversity of *Sorghum bicolor* based on Simple Sequence Repeats. Plant and Animal Genome XXVI, 13-17 January, San Diego, USA.

Shargie N., Nemadodzi E. and **Mofokeng M.A**. Cowpea potential, production constraints and utilization in South Africa. Global Conference on Plant Science and Molecular Biology, Valencia Spain, 11-13 September 2017.

Shargie, N.G., **Mofokeng, M.A**. and Mashingaidze, K. The potential of cowpea in marginal cropping areas of South Africa. World Universities Network Symposium cum Research Summit on Impact of Legumes and Development on Developing Countries, Hong Kong, 6-18 June 2017.

**Mofokeng, MA**., Shimelis, H., Laing, M., Tongoona, P., and Shargie N. Appraisal of farmers’ sorghum production constraints and variety preferences in the Limpopo province, South Africa. Combined Congress of SACP, SSSSA, and SASHS Proceedings held in Klein Kariba, Bela Bela, 23-26 January 2017.

**Mofokeng M.A**. and N.G. Shargie. Estimation of genetic diversity in sorghum accessions using agro-morphological and nutritional traits. International Conference on Plant Breeding and Molecular Breeding: World Academy of Science, Engineering and Technology. 12-13 January 2017. Durban. South Africa.

**Maletsema Alina Mofokeng**, Hussein Shimelis, Mark Laing, and Pangirayi Tongoona. Genetic Diversity of *Sorghum bicolor* (L.) Moench genotypes as revealed by microsatellite markers. International Plant Genomics and Biotechnology: World Academy of Science, Engineering and Technology. 3-4 November 2016, Cape Town. South Africa.

**Mofokeng, M. Alina**, Shimelis, H., and Laing, M.D. Protein content and amino acid composition among selected South African sorghum genotypes. DuPont Plant Sciences Symposium. 18 October 2016, University of North West, Potchefstroom, South Africa.

**Mofokeng, M.A**. and Shargie N.G. The potential of pulses in marginal cropping areas of South Africa. Agricultural Economics Association of South Africa. 14-16 September 2016. Misty Hills, Pretoria, South Africa.

**Mofokeng, M.A**., Shimelis, H.A., Laing, M.D., and Shargie, N.G. Morphological diversity of selected South African sorghum (*Sorghum bicolor* L. Moench) genotypes. Southern African Plant Breeders Association Proceeding held in TechnoPark, Stellenbosch. 08-10 March 2016.

**Mofokeng, M. A**., Shimelis, H.A., Laing M.D, and Shargie N. Assessment of genetic diversity among selected South African sorghum genotypes for protein and amino acid composition. Combined Congress of SACP, SSSSA, and SASHS Proceedings held in Monte Bello, Bloemfontein. 18-21 January 2016.

**Mofokeng, M. Alina**, Shimelis, H. Tongoona, and Laing M.D. Assessment of genetic relatedness among South African sorghum genotypes using agro-morphological traits. Combined Congress of SACP, SSSSA, and SASHS Proceedings held in Tramonto, George. 19-22 January 2015.

**M.A. Mofokeng**, H. Shimelis, P. Tongoona, J. Danson, and MD Laing. 2013. Genetic interrelationship among South African sorghum genotypes using SSR markers. Combined Congress of SACP, SSSSA, and SASHS Proceedings held in Westville, Durban.

**Muedi, M.A**., G. Watson, H. Shimelis, and P. Tongoona. 2012. Comparison between RAPD and SSR markers with high resolution melt analyses in genetic variation analysis among selected sorghum genotypes. 9th Southern African Plant Breeders’ Association Symposium. Protea Hotel Kruger Gate. Skukuza. 12-14 March 2012.

**Muedi, M.A**., P.W. Mashela and N.M. Mokgalong. 2009. Host suitability and sensitivity of *Cucumis* *myriocarpus* to *Meloidogyne incognita* under microplot conditions. Congress of the Southern African Society of Plant Pathology 46:37.

**Mofokeng, M.A**., N.M. Mokgalong, and P.W. Mashela. 2005. Host-status of wild cucumber to the root-knot nematode. *Proceedings of Nematological Society of Southern Africa* 17:11.

**Mofokeng, M.A**., T.J. Tsilo, T. Ndove, and P.W. Mashela. 2004. Role of Bacillus species in *Ricinus* *communis* suppression of *Tylenchulus semipenetrans*. *Proceedings of Nematological Society of Southern Africa* 16:28.

**Mofokeng, A**., T. Ndove and P.W. Mashela. 2003. *Bacillus-Ricinus* interaction effect on suppression of *Tylenchulus semipenetrans*. *Science and Research Interscience* 2:37

**Publications**

**Maletsema Alina Mofokeng** and Abe Shegro Gerrano. 2021. Efforts in breeding cowpea for aphid resistance: a review. Acta Agriculturae Scandinavica, Section B - Soil & Plant Science. June. Online.

**Maletsema Alina Mofokeng** and Kingstone Mashingaidze. 2021. Influence of planting time on performance and diversity of cowpea genotypes under rain-fed conditions. Australian Journal of Crop Science. Accepted.

**Maletsema Alina Mofokeng**, Hussein Shimelis and Mark Laing. 2021. Genetic diversity of South African sorghum genotypes based on agro-morphological and microsatellites markers. Australian Journal of Crop Science. Accepted.

**Maletsema Alina Mofokeng**. 2021. Genetic variability, heritability and genetic advance of soybean (*Glycine max*) genotypes based on yield and yield-related traits. Australian Journal of Crop Science. Accepted.

**Mofokeng MA**, Amelework BA, Chipeta O, Sibiya J, Gerrano AS, Shargie N and Mashingaidze K. 2020. Assessment of genetic variability in groundnut (*Arachis hypogaea* L.) genotypes using agronomic and SSR markers. Australian Journal of Crop Science. Accepted.

**Mofokeng MA**, Amelework BA, Chipeta O, Sibiya J, Gerrano AS, Shargie N and Mashingaidze K. 2021. Assessment of genetic variability in groundnut (*Arachis hypogaea* L.) genotypes grown under South African conditions using agronomic and SSR markers. Australian Journal of Crop Science. Accepted.

Ntombokulunga W. Mbuma, Abe Shegro Gerrano, Ntjapa Lebaka, Stephen Amoo, **Alina Mofokeng** and Maryke Labuschagne. 2020. Variability in the concentration of mineral elements and phytochemical contents of cowpea genotypes for crop improvement. Acta Agriculturae Scandinavica, Section B - Soil & Plant Science. Accepted. 29 December. Online.

Ntombokulunga Mbuma, Abe Shegro Gerrano, Ntjapa Lebaka, **Maletsema Alina Mofokeng**, Maryke Labuschagne. 2020. Evaluation of cowpea genotypes for grain yield and its related traits in South African conditions. Crop Science. Accepted.

Nkomo GV, Sedibe MM and **MA Mofokeng**. 2020. Farmers’ production constraints, perceptions and preferences of cowpeas in Buhera district, Zimbabwe. Afr. J. Food Agric. Nutr. Dev. 20(6):16832-16857.

Abe Shegro Gerrano, Willem Sternberg Jansen van Rensburg, Isack Mathew, Admire I. T. Shayanowako, Michael Wolday Bairu, Sonja Louise Venter, Wijnand Swart, **Alina Mofokeng**, John Mellem and Maryke Labuschagne (2020). Genotype and genotype × environment interaction effects on the grain yield performance of cowpea genotypes in dryland farming system in South Africa. Euphytica 216, 80.

**Maletsema Alina Mofokeng**, Jacob Mashilo, Paul Rantso & Hussein Shimelis. 2020. Genetic variation and genetic advance in cowpea based on yield and yield-related traits. Acta Agriculturae Scandinavica, Section B — Soil & Plant. DOI: 10.1080/09064710.2020.1749295

Keitumetse Kujane, Moosa M Sedibe, **Alina Mofokeng.** 2019.Genetic diversity analysis of soybean (*Glycine max* (L.) Merr.) genotypes making use of SSR markers. Australian Journal of Crop Science 13(07):1113-1119.

**Maletsema Alina Mofokeng**, Hussein Shimelis, Mark Laing, and Nemera Shargie. 2019. Genetic variability, heritability and genetic gain for quantitative traits in South African sorghum genotypes. Australian Journal of Crop Science 13(01):1-10.

**Mofokeng, Maletsema Alina** and Mashingaidze Kingstone. 2019. Breeding and genetic management of drought in cowpea: Progress and technologies. Australian Journal of Crop Science. Accepted.

**Maletsema A. Mofokeng**, H. Shimelis, P. Tongoona and M.D. Laing. 2018. Protein content and amino acid composition among selected South African sorghum genotypes. Journal of Agricultural and Food Chemistry 6(1) in Press.

**Mofokeng, Maletsema Alina**, and Mashingaidze, Kingstone. 2018. Genetic Differentiation of ARC Soybean [*Glycine Max* (L.) Merrill] Accessions Based on Agronomic and Nutritional Quality Traits. Agriculture and Food Sciences Research, 5(1):6-22.

**Alina M Mofokeng**, Hussein A Shimelis, and Mark D Laing. 2017. Agro morphological diversity of South African sorghum genotypes assessed through quantitative and qualitative phenotypic traits. South African Journal of Plant and Soil 1-10.

**Maletsema Alina Mofokeng**, Hussein Shimelis, Mark Laing, and Nemera Shargie. 2017. Sorghum [*Sorghum bicolor* (L.) Moench] breeding for resistance to leaf and stalk anthracnose, *Colletotrichum sublineolum*, and improved yield: Progress and prospects. Australian Journal of Crop Science. In Press.

**Mofokeng, M. Alina**, Shimelis, Hussein, Laing Mark. 2017. Breeding strategies to improve sorghum quality. Australian Journal of Crop Science 11(02):142-148.

**Mofokeng M.A**. and N.G. Shargie. 2016. Bird damage and control strategies in grain sorghum production. International Journal of Agricultural and Environmental Research 2(4): 320-325.

**Mofokeng M.A**., Shimelis, H., Tongoona P. and Laing, M.D. 2016. Constraints and varietal preferences of sorghum producers in South Africa. Journal of Tropical Agriculture 54(1): 7-15.

**Maletsema Alina Mofokeng**. 2016. Control strategies and breeding efforts in sorghum for resistance to storage weevils. African Journal of Agricultural Research 11(33): 3065-3073.

**Alina Mofokeng**, Shimelis, H., Tongoona, P., and Laing, M. 2014. A genetic diversity analysis of South African sorghum genotypes using SSR markers. South African Journal of Plant and Soil 32(3): 145-152.

**Mofokeng, M.A**., G. Watson, H. Shimelis, and P. Tongoona. 2012. Comparison between RAPD and SSR markers with high resolution melt analyses in genetic variation analysis among selected sorghum genotypes. African Journal of Biotechnology 11(102):16697-16707.

**Mofokeng, M.A.**, T.J. Tsilo, T. Ndove and P.W. Mashela. 2004. Role of *Bacillus* species in *Ricinus* *communis* suppression of *Tylenchulus semipenetrans*. *African Plant Protection* 10:130

**Popular publications**

Mofokeng, M.A., 2017. Bacterial blight of cowpeas. Farmer’s Weekly, 07044 Pg 51. 17 November 2017.

Mofokeng MA. 2018. Research shows benefits of protein-rich pigeon pea. Farmer’s Weekly, 08 October 2018.

Alina Mofokeng. Lentils – a possible alternative food crop of the future. Pula/Imvula. December 2020.

Alina Mofokeng. Pigeon pea – a potential crop for food and health security. Pula/Imvula. December 2020.

Alina Mofokeng. The seed borne diseases: The Anthracnose of soybean. NuFarm. May/June 2021.

Zaid Bello, Maletsema Alina Mofokeng and Deon Du Toit. Indigenous crops can helps with food security. Grain SA. October 2021.

**Referees**

Dr Nemera Shargie (Post Doc Supervisor)

Agricultural Research Council

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