

PROFESSOR LISA BUWA-KOMORENG

COUNCIL MEMBER AND BOARD OF ACADEMICS CHAIRPERSON

BRIEF PROFILE

Prof Buwa-Komoreng describes herself as an enthusiastic individual who enjoys teaching and supervising students. Working with students, at undergraduate level, provides her with the opportunity to instill knowledge, encourage and recruit students to register for postgraduate studies.

She says this helps her to mentor and teach young scientists the research methods, skills and techniques she has learnt from postgraduate level until now.

When she was working as a Research Assistant, she found herself intrigued by research on human health and infectious and non-infectious diseases and finding ways to prevent and treat those diseases.

After more than 10 years of research in this field, first as a Research Assistant, PhD student, then as a Postdoctoral Fellow and now as an academic, she is still constantly learning and developing as an Ethnobotanist.

During her career, she has developed interpersonal communication and analytical skills.

Currently, she is conducting research on traditional medicinal plants used in South Africa for the treatment of various ailments, particularly elephantiasis and related ailment, cancer and tuberculosis.

TERTIARY EDUCATION:

University of KwaZulu-Natal

Research Topic

PhD in Botany (2006)

Biological activity of traditional medicinal plants used against venereal diseases in South Africa

Research Expertise

Collect medicinal plants through consultations with traditional healers and herbalists

Plant extraction

Screening of plant extracts against pathogens responsible for venereal diseases

Screening plant extracts for potential genotoxic effects

Isolation of active of compounds

Rhodes University

Research Topic

MSc in Botany (2003)

Confirmation of a slow symplasmic loading and unloading pathway in Barley (*Hordeum vulgare* L.) source and sink leaves

University of Fort Hare

University of Fort Hare

BSc (Honours) in Botany (2001)

BSc in Botany and Chemistry (1999)

CAREER HISTORY:

Position(s)

Associate Professor (October 2019 – present)

Acting Deputy Dean: Teaching & Learning (01 June 2022 – present)

Head of Department (01 January 2021 – May 2022)

Name of Company

University of Fort Hare

▪ Responsibilities

- > Preparation of teaching material.
- Teach Plant Anatomy at 1st and 3rd year level
- Teach Genetics at 1st and 2nd year levels
- Supervision of postgraduate students at Honours, Masters and Doctoral level
- To maintain scholarly activity
- Contribute to the management and administrative processes and committee structures of the University
- Manage the Departmental staff and activities; knowledge transfer, financial management, quality assurance.

- Assist the Dean of the Faculty with matters pertaining to teaching, learning and community engagement activities.
- Liaise with Heads of Departments to collect information related to teaching and learning.
- Chairing and attendance of Faculty meetings related to teaching, learning and community engagement;
- Contribute to the overall work of the University.

Position(s)

Name of Company

- Responsibilities

Research Areas

Position

Name of Company

Responsibilities

Senior Lecturer (September 2012 – September 2019)

Subject Head (October 2018 – November 2019)

University of the Free State

- > Preparation of study and practical materials.
- Teach Plant Biochemistry and Plant Defense at 3rd year level.
- Teach Plant Physiology at 2nd year level.
- Teach Plant Ecophysiology at Honours level.
- Supervise postgraduate students, i.e. Honours, Masters and PhD students.
- Conduct research on traditional medicinal plants used against lymphatic filariasis, tuberculosis, and ear, nose and throat (ENT) infections in South Africa.
- Contribute to the management and administrative processes and committee structures of the University.
- Contribute to the overall work of the University.

Plant Physiology and Ethnobotany

Lecturer (March 2009 – August 2012)

University of Fort Hare

- > Preparation of study and practical materials.
- Conduct laboratory experiments for 1st and 2nd year students.

- Teach Plant Evolution and Plant Physiology at 1st year level and Plant Ecology and Taxonomy 2nd year level.
- Supervise BSc Honours and MSc students.
- Course coordinator for Botany 111 and 221.
- Conduct research.

Research Areas

Plant Physiology, Plant Ecology and Ethnobotany

Position

Postdoctoral Fellow (September 2007 – February 2009)

Name of Company

University of Fort Hare

Field of Research

Ethnobotany

Research Topic

Validating the use of traditional medicinal plants used for the treatment of Tuberculosis in the Eastern Cape Province, South Africa

Responsibilities

Conduct interviews with herbalists, traditional healers and rural dwellers

Collection of plant material and screening of plant extracts against microorganisms responsible for TB and its symptoms

Teach Plant Systematics and Plant Physiology at 2nd year level and Plant Biochemistry at 3rd year level.

Coordinate practicals at Biology and Botany III.

Position

Laboratory Assistant (September 2006 – August 2007)

Name of Company

University of Fort Hare

Responsibilities

Preparing and conducting practical's. This allowed her to interact with, assist, and impart knowledge to students who are trying to adapt to and live up to university standards that may be relatively challenging for them, especially previously disadvantaged students.

Managing laboratories

Check stock and ordering equipment

Position	Research Assistant (June 1999 – December 1999)
Name of Company	University of Fort Hare
Responsibilities	Conduct research on traditional medicinal plants Extracting plant material Screening plant extracts for antibacterial activity Isolation of antibacterial compounds from active plants
Position	Practical Demonstrator (February 2000- November 2000)
Name of Company	University of Fort Hare
Responsibilities	Assist first-year students with practicals
Position	Practical Demonstrator (February 2001 – December 2002)
Name of Company	Rhodes University
Responsibilities	Assist first-year students with practicals

PUBLICATIONS AND CONFERENCE PROCEEDINGS:

Prof Buwa-Komoreng has developed an ability for scientific writing and presentation of research work in departmental seminars, and in local conferences:

1. Abolaji Olajumoke Afuape, Anthony Jide Afolayan and **Lisa Valencia Buwa-Komoreng**, 2022. Proximate, Vitamins, Minerals and Anti-Nutritive Constituents of the Leaf and Stem of *Helichrysum odoratissimum* (L.) Sweet: A Folk Medicinal Plant in South Africa. International Journal of Plant Biology 13, 463–472. <https://doi.org/10.3390/ijpb13040037>.
2. Motsoari, T., Manduna, I., **Buwa-Komoreng, L.**, Ngobeni, B., Nwafor, I. (2022). 'Predominantly Used Medicinal Plants for Ethnoveterinary Purposes in the Highland Grasslands of South Africa and Lesotho: An Ethnobotanical Survey', *Journal of Medicinal plants and By-product*, (), pp. -. doi:10.22092/jmpb.2022.357171.1437.
3. Z. Adams, O. Thekisoe, **L. Buwa-Komoreng**, 2022. An ethnobotanical survey of traditional medicinal plants used against elephantiasis in the OR Tambo District, Eastern Cape, South Africa. *Pharmacognosy Magazine* 17, 915-922.
4. Sipho Goge, Karishma Singh, Roger M. Cooposamy, **Lisa V. Komoreng**, 2022. Comparative phytochemical profile of *Aloe ferox* Mill. across different regions within the Republic of South Africa.

Journal of Medicinal Plants for Economic Development 6(1), a178.
<https://doi.org/10.4102/jomped.v6i1.178> (Accepted).

5. Abolaji Olajumoke Afuape, Anthony Jide Afolayan, **Lisa Valencia Buwa-Komoreng**, 2022. Polyphenolic contents, antibacterial and antioxidant activities of the leaf and stem crude extracts of *Helichrysum odoratissimum* (L.) Sweet. *Applied Sciences* (Under Review).
6. Sipho Goge, Karishma Singh, **L.V. Komoreng**, Roger Cooposamy, 2022. A Systematic Review of *Aloe ferox*: Ethnomedicinal and Industrial Efficacy. *Indilinga: African Journal of Indigenous Knowledge Systems* (Accepted).
7. Xaba, V.M., Adeniran, A.L., Lamula, S.Q.N., **Buwa-Komoreng**, L.V., 2022. Ethno-pharmacological survey and bioactivity of commonly used medicinal plants in treatment of skin diseases in the eastern Free State, South Africa. *South African Journal of Science* (Under Review).
8. Mandla Victor Hlongwane, Nhlakanipho Wonderboy Mdletshe, Siphamandla Qhubekani Lamula, **Lisa Valencia Buwa-Komoreng**, 2022. Phytochemical analysis and antimicrobial activity of medicinal plants commonly used in the treatment of tuberculosis in the eastern Free State, South Africa. *Plants* (Under Review).
9. Tiwani, T., Pieters, R., Horn, S., Thekiso, O.M.M. & **Buwa-Komoreng**, L.V. 2022. Phytochemical screening, antimicrobial activity and cytotoxicity of *Platycarpha glomerata* and *Tulbaghia alliacea* used in the treatment of lymphatic filariasis in the Eastern Cape, South Africa. *Scientific African* (Under Review).
10. **Lisa Valencia Buwa-Komoreng**, Buyisile Mayekiso, Zoleka Mhinana, Lateef Ariyo Adeniran, 2019. An ethnobotanical and ethnomedicinal survey of traditionally used medicinal plants in Seymour, South Africa: an attempt towards digitization and preservation of ethnic knowledge. *Pharmacognosy Magazine* 14, 115-123.
11. **L. Komoreng**, O. Thekiso, S. Lehasa, T. Tiwani, N. Mzizi, N. Mokoena, N. Khambule, S. Ndebele, N. Mdletshe, 2017. An ethnobotanical survey of traditional medicinal plants used against lymphatic filariasis in South Africa. *South African Journal of Botany* 111, 12-16.
12. S.G. Lehasa, R. Pieters, M.M.O. Thekiso, **L.V. Komoreng**, 2017. Biological activity of traditional medicinal plants used against lymphatic filariasis in the eastern Free State. *South African Journal of Botany* 109, 344. doi: 10.1016/j.sajb.2017.01.090.

13. N.P. Mzizi, T. Tiwani, S.G. Lehasa, M.M.O. Thekiso, B. Mayekiso, **L.V. Buwa**, 2016. An ethnobotanical survey of traditional medicinal plants used against lymphatic filariasis in South Africa. *South African Journal of Botany* 103, 337 – 338. doi:10.1016/j.sajb.2016.02.128.
14. V.M. Xaba and **L.V. Buwa**, 2016. Pharmacological screening of traditional medicinal plants used to treat skin ailments in the Free State Province of South Africa. *South African Journal of Botany* 103, 355. doi:10.1016/j.sajb.2016.02.192.
15. D. Penduka, K. A. Basson, B. Mayekiso, **L. Buwa**, I. A. Okoh, 2014. Gas chromatography-mass spectrometry characterisation of the anti-*Listeria* components of *Garcinia kola* seeds. *Applied Biochemistry and Microbiology* 50, 297-305.
16. Dambudzo Penduka, **Lisa Buwa**, Buyisile Mayekiso, Andrew. K Basson and Anthony I. Okoh, 2014. Identification of the Anti-*Listeria* Constituents in Partially Purified Column Chromatography Fractions of *Garcinia kola* Seeds and Their Interactions with Standard Antibiotics. Evidence-Based Complementary and Alternative Medicine. *Evidence-Based Complementary and Alternative Medicine* vol. 2014, Article ID 850347, 8 pages, 2014. doi:10.1155/2014/850347.
17. Lwandiso Dyubeni and **Lisa Buwa**, 2012. Ethnobotanical survey of traditional medicinal plants used for the treatment of ear, nose and throat (ENT) infections in the Eastern Cape Province, South Africa. *Journal of Medicinal Plants Research* 6, 2721-2726.
18. Lwandiso Dyubeni and **Lisa V. Buwa**, 2012. Foliar micromorphology of *Salvia greggii* A. Gray (Lamiaceae). *African Journal of Plant Science* 6, 32-38.
19. R. M. Coopoosamy, K. K. Naidoo, **L. Buwa** and B. Mayekiso, 2010. Screening of *Siphonochilus aethiopicus* (Schweinf.) B. L. Burt. for antibacterial and antifungal properties. *Journal of Medicinal Plants Research* 4, 1228-1231.
20. **L.V. Buwa** and A.J. Afolayan, 2009. Antimicrobial activity of some medicinal plants used for the treatment of tuberculosis in the Eastern Cape Province, South Africa. *African Journal of Biotechnology* 8, 6683-6687.
21. **L.V. Buwa**, J. van Staden, 2007. Effects of collection time on the antimicrobial activities of *Harpephyllum caffrum* bark. *South African Journal of Botany* 73, 242-247.

22. **L.V. Buwa** and J. van Staden, 2006. Antibacterial and antifungal activity of traditional medicinal plants used against venereal diseases in South Africa. *Journal of Ethnopharmacology* 103, 139-142.

CONFERENCE PRESENTATION:

National

1. Afuape, A., Afolayan, A.J., **Buwa-Komoreng, L.V.** 2022. Chemical constituent and *in vitro* antioxidant activity of essential oils extracted from the leaf and stem of traditional medicinal plant *Helichrysum odoratissimum* (L.) Sweet. 6TH SOMPED International Conference (Virtual), Cape Town, August 2022, CPUT, South Africa.
2. N.G. Mochologi, T. Pitso, **L.V. Komoreng.** 2020. Medicinal potentials of *Scabiosa columbaria* in the development of new medicinal drugs. *46th Annual conference of the South African Association of Botanists*, 6 – 11 January 2020, University of the Free State QwaQwa Campus, South Africa.
3. Adams, Z., Thekiso, M.M.O., **Komoreng, L.V.** 2019. An ethnobotanical survey of traditional medicinal plants used against elephantiasis in the OR Tambo District, Eastern Cape. *45th Annual conference of the South African Association of Botanists*, 8 – 11 January 2019, University of Johannesburg, South Africa.
4. Hlongwane, M.V., **Komoreng, L.V.** 2019. Phytochemical analysis and antimicrobial activity of eight medicinal plants used in the treatment of tuberculosis in the eastern Free State, South Africa. *45th Annual conference of the South African Association of Botanists*, 8 – 11 January 2019, University of Johannesburg, South Africa.
5. Mdletshe, N.W., Thekiso, M.M.O., **Komoreng, L.V.** 2019. Comparison on pharmacological activity of *Rhoicissus tomentosa* and *Rhoicissus tridentata* for the treatment of elephantiasis in South Africa. *45th Annual conference of the South African Association of Botanists*, 8 – 11 January 2019, University of Johannesburg, South Africa.
6. Voua Otomo, L., Sabiu, S., Thekiso, M.M.O., **Komoreng, L.V.** 2019. Investigation of antimicrobial properties from plants used in the treatment of non-filarial elephantiasis in KwaZulu-Natal, South Africa. *45th Annual conference of the South African Association of Botanists*, 8 – 11 January 2019, University of Johannesburg, South Africa.
7. T. Tiwani, R. Pieters, J.M. Mabena, B. Mayekiso, M.M.O. Thekiso, **L.V. Komoreng**, 2017. *Indigenous Plant Use Forum*, 9-12 July 2017, University of Pretoria, Pretoria.

8. S.G. Lehasa, R. Pieters, M.M.O. Thekiso, **L.V. Komoreng**, 2017. Biological activity of traditional medicinal plants used against lymphatic filariasis in the eastern Free State. *43rd Annual conference of the South African Association of Botanists*, 8-11 January 2017, University of the Western Cape, Bellville, Cape Town.
9. N.P. Mzizi, T. Tiwani, S.G. Lehasa, M.M.O. Thekiso, B. Mayekiso, **L.V. Buwa**, 2016. An ethnobotanical survey of traditional medicinal plants used against lymphatic filariasis in South Africa. *42nd Annual conference of the South African Association of Botanists and the 12th Bi-annual conference of the South African Society for Systematic Biology*, 10 – 13 January, University of the Free State, Bloemfontein.
10. V.M. Xaba and **L.V. Buwa**, 2016. Pharmacological screening of traditional medicinal plants used to treat skin ailments in the Free State Province of South Africa. *42nd Annual conference of the South African Association of Botanists and the 12th Bi-annual conference of the South African Society for Systematic Biology*, 10 – 13 January, University of the Free State, Bloemfontein.
11. Emmanuel Do Linh San, Linchay Arnolds, Tembisa Matolengwe, Akhona Mbatyoti, Aviwe Nqinana, **Lisa Buwa**, Zimkitha Madikiza, 2011. Small mammal abundance, diversity and richness in the Andries Vosloo Kudu Nature Reserve (Eastern Cape, South Africa). *11th African Small Mammal Symposium*, Kwaluseni, Swaziland.
12. **L.V. Buwa** and A.J. Afolayan, 2008. Biological activity of three medicinal plants used for the treatment of TB in the Eastern Cape Province. *11th Annual Meeting of the Indigenous Plant Use Forum*, Graaf-Reinet.
13. **L.V. Buwa** and J. van Staden, 2005. Seasonal and geographical variation in medicinal activities of *Harpephyllum caffrum*. *7th Annual Meeting of the Research Centre for Plant Growth and Development*, School of Biological and Conservation Sciences, Pietermaritzburg.
14. **L.V. Buwa** and J. van Staden, 2004. Screening of South African medicinal plants used for the treatment of venereal diseases for antifungal activity and genotoxic effects. *6th Annual Meeting of the Research Centre for Plant Growth and Development*, School of Biological and Conservation Sciences, Pietermaritzburg.
15. **L.V. Buwa** and J. van Staden, 2003. Study of medicinal plants used for the treatment of venereal diseases in South Africa. *5th Annual Meeting of the Research Centre for Plant Growth and Development*, School of Biological and Conservation Sciences, Pietermaritzburg.

16. **L.V. Buwa** and C.E.J. Botha, 2002. Transport of 5,6-carboxyfluorescein in barley leaves is symplastic not apoplastic. *28th Congress of the South African Association of Botanists*, Rhodes University, Grahamstown.

International:

1. Tiwani, T., Pieters, R., Horn, S., Thekiso, O.M.M. & **Komoreng, L.V.** 2019. Phytochemical screening, antimicrobial activity and cytotoxicity of *Platycarpha glomerata* and *Tulbaghia alliacea* used in the treatment of lymphatic filariasis in the Eastern Cape, South Africa. Paper presented at the 6th World Congress on Medicinal and Aromatic Plants, Kaya Artemis Hotel, Famagusta, Northern Cyprus. 13 – 17 November 2019.
2. Voua Otomo, L., Sabiu, S., Thekiso, M.M.O. & **Komoreng, L.V.** 2019. Phytochemical analysis and anti-oxidant properties from plants used in the treatment of non-filarial elephantiasis in KwaZulu-Natal, South Africa. Paper presented at the 6th World Congress on Medicinal and Aromatic Plants, Kaya Artemis Hotel, Famagusta, Northern Cyprus. 13 – 17 November 2019.
3. T.A. Akinyele, D.A. Akinpelu, **L. Buwa**, B. Mayekiso, A.I. Okoh, 2011. *In vitro* antilisterial activities of the husk of *Cocos nucifera*, *Federation of European Microbiological Societies (4th Congress)*, Geneve, Switzerland. www.kenes.com/fems-microbiology.
4. D. Penduka, B. Mayekiso, **L. Buwa**, A.I. Okoh, 2011. *In vitro* antagonistic properties of crude extracts of *Garcinia kola* (Heckel) seeds against some vibrio bacteria. *Federation of European Microbiological Societies (4th Congress)*, Geneve, Switzerland
5. L.J. Arnolds, A. Mbatyoti, T. Matolengwe, A. Nqinana, **L. Buwa**, E. Do Linh San, 2010. Vegetation sampling in correlation with small mammal abundance and richness in the Andries Vosloo Kudu Nature Reserve (Eastern Cape, South Africa). *4th International Conference on Rodent Biology and Management*, April 2010, Bloemfontein, South Africa.
6. **Buwa L.V.** and Afolayan A.J., 2008. Ethnobotanical survey of traditional medicinal plants used against TB in the Eastern Cape, South Africa. Poster presented at the *World Congress on Medicinal and Aromatic Plants IV* (9-14 November), Cape Town, South Africa.

GRANT-HOLDER:

- NRF Thuthuka Rating Track (2015 and 2016 – R868 000) and (2018 to 2020 – R1 140 000)

EXTERNAL EXAMINER FOR THE FOLLOWING INSTITUTIONS:

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- Mohlakoana Mpho Refiloe, 2020. Qualitative and quantitative analysis of saponins from selected southern African soap plants and their antimicrobial activity against skin pathogens. Masters in Botany, University of Johannesburg, South Africa.
- Shange Sithandiwe Buhlebemvelo Desiree, 2020. Application of tissue culture and molecular techniques in disease resistance breeding of grapevine. M Agriculture, Cape Peninsula University of Technology, Western Cape, South Africa.
- Tanga Mbappe, 2022. Morphological characteristics and chemical composition of Skullcap (*Scutellaria lateriflora* L.) and Burdock (*Arctium lappa* L.) cultivated under different conditions. PhD Environmental Health, Cape Peninsula University of Technology, Western Cape, South Africa.
- Makhoahle Pakiso Moses, 2020. An investigation of the phytochemistry and biological activity of *Pappea capensis*. Doctor of Health Sciences in Biomedical Technology, Central University of Technology, Free State, South Africa.
- Rampana Dijeng Euginah, 2020. An investigation of the phytochemistry and biological activity of *Tulbaghia violacea*. Master of Health Sciences in Biomedical Technology, Central University of Technology, Free State, South Africa.
- Yako Z, 2019. Nutritional and pharmacological profile of *Moringa oleifera* Lam. leaves cultivated in the South African ecotype. Masters of Science in Botany, University of Fort Hare, South Africa.
- Mbanjwa ST, 2018. Integrating indigenous knowledge systems into indigenous agricultural, industrial on water management that impacts changes in riverine biodiversity: A conservation perspective. PhD in Environmental Science, UNISA, South Africa.

REVIEWER FOR THE FOLLOWING JOURNAL/S:

- Journal of Medicinal Plants Research
- South African Journal of Botany
- PLOS ONE

SOCIETY MEMBERSHIP:

- South African Association of Botanists (SAAB)
- Society for Medicinal Plants and Economic Development (SOMPED)

BOARD/COMMITTEE MEMBERSHIP:

- Fort Cox College Council
- Fort Cox College Academic Board

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- UFH Senate Teaching and Learning Committee
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