

Curriculum Vitae

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EDUCATION

- 2015** **PhD Forensic Science & Chemistry**, Anglia Ruskin University (ARU), United Kingdom. Simultaneous Detection of Drugs of Abuse in Waste Water Using Gas Chromatography-Mass Spectrometry (GC-MS).
- 2009** **MSc. Chemistry**, University of Pretoria, South Africa.
- 2007** **MSc. Forensic Science**, University of Strathclyde, United Kingdom.
- 1997** **BSc. Pure & Applied Chemistry (Hons)**, University of Kwa-Zulu Natal (UKZN), South Africa.
- 1995** **BSc. Pure & Applied Chemistry**, University of Kwa-Zulu Natal (UKZN), South Africa.

PROFESSIONAL EXPERIENCE

- Feb 2017 – June 2021** **Lecturer & Program Coordinator: Forensic Science**, Botswana International University of Science & Technology (BIUST), Botswana.
- Dec 2014 - Jan 2017** **Lecturer & Course Coordinator: Forensic Science**, University of the Free State (UFS), South Africa.
- Aug - Nov 2014** **Analyst**, South African Doping Control Laboratory, South Africa.
- Sept 2011 – Aug 2012** **Part-time Lecturer**, Anglia Ruskin University, UK.
- Jan 2008 - Nov 2009** **Quality Control Analyst**, Piramal Healthcare, Grangemouth, Scotland.
- Aug 1997 - Dec 2004** **Senior Scientist & External Relations Manager**, Procter & Gamble (P&G), South Africa, with a six-month secondment in the UK.

PUBLICATIONS

Mthembi, P. M., Mwenesongole, E. M., & Cole, M. D., 2021. A validated method for the analysis and profiling of 'nyaope' using gas chromatography – mass spectrometry. *South African Journal of Science*, 117(11/12). <https://doi.org/10.17159/sajs.2021/8738>.

Mthembi, P.M., Mwenesongole, E.M., Cole, M.D., 2019. Chemical profiling of the street cocktail drug 'nyaope' in South Africa using GC–MS II: Stability studies of the cannabinoid, opiate and antiretroviral components during sample storage. *Forensic Science International*, 300, pp. 187–192.

Mthembi, P.M., Mwenesongole, E.M., Cole, M.D., 2018. Chemical profiling of the street cocktail drug 'nyaope' in South Africa using GC-MS I: Stability studies of components of 'nyaope' in organic solvents. *Forensic Science International*, 292, pp. 115-124.

Alula, M.T., Mengesha, Z.T., Mwenesongole, E., 2018. Advances in surface-enhanced Raman spectroscopy for analysis of pharmaceuticals: A review. *Vibrational Spectroscopy*, 98, pp. 50-63.

Mwenesongole, E.M., Gautam, L., Hall, S.W., Waterhouse, J.W., Cole, M.D., 2013. Simultaneous detection of controlled substances in waste water. *Analytical Methods*, 5, pp. 3248-3254.

Mwenesongole, E., Gautam, L., Hall, S.W., Emmet, T., 2012. Estimating Community Drug Usage Patterns by the Analysis of Waste Water. Salford Postgraduate Annual Research Conference, 2011 Proceedings, pp. 153-169. http://usir.salford.ac.uk/23158/1/2011proceedingsAug2012_V2.pdf.

Letcher, T.M., Domanska, U., Mwenesongole, E., 1998. The excess molar volumes of (N-methyl-2-pyrrolidone+an alkanol or a hydrocarbon) at 298.15 K and the application of the Flory-Benson-Treszczanowicz and the Extended Real Associated Solution theories. *Fluid Phase Equilibria*, 149(1-2), pp. 323-337.

Letcher, T.M., Domanska, U., Goldon, A., Mwenesongole, E.M., 1997. Solubility of buckminsterfullerene in tetrahydrofuran, thiophene, tetrahydrothiophene, 1,2-dichlorobenzene, 1,2,4-trichlorobenzene and n-butylamine. *South African Journal of Chemistry*, 50(1), pp. 51-53.

ORAL PRESENTATIONS (*=graduate student, presenter is in bold)

Feb 2022 *Mthembi, P.M., **Mwenesongole, E.M.**, Cole, M.D.
The 58th Annual Meeting of the International Association of Forensic Toxicologists (Virtual). *Chemical Profiling of The Street Cocktail Drug 'Nyaope' in South Africa Using GC-MS*.

Feb, 2021 *Mthembi, P.M., **Mwenesongole, E.M.**, Cole, M.D. International Conference by Biotechnology Society of Nepal (ICBSN-2021); Forensic Science Theme. *A validated method for the analysis of cannabis, heroin and other components in "Nyaope"*.
● **PRIZE: 2nd Place Oral Presentation**

Feb, 2021 *Manake, M., *Scholtz, M., **Mwenesongole, E.**, Grobler, P. International Conference by Biotechnology Society of Nepal (ICBSN-2021); Forensic Science Theme.
Characterization of Animal Hair Using Microscopic Methods: Towards the Creation of a Forensic Database.

- May, 2019 *Mthembi, P.M., Mwenesongole, E.M., **Cole, M.D.** 2019 Annual Meeting, European Network of Forensic Science Institutes (ENFSI) Drug Working Group, Cyprus *Chemical Profiling of Nyaope*.
- July, 2018 ***Mthembi, P.M.**, Mwenesongole, E.M., Cole, M.D. Analitika 2018 Conference, South Africa. *Chemical Profiling of The Street Cocktail Drug 'Nyaope' in South Africa Using GC- MS: Stability Studies of Components of 'Nyaope' in Organic Solvents.*
- **PRIZE: 2nd Place Oral Presentation**
- February, 2017 4th South African Police Service Forensic Services Conference, South Africa
- ***Mthembi, P.M.**, Mwenesongole, E.M., Cole, M.D. *Factors Affecting Methodologies for the Analysis and Profiling of Drugs of Abuse – “Nyaope”.*
 - ***Scholtz, M.**, Mwenesongole, E., Grobler, P. *Characterization of Animal Hair Using Microscopic Methods: Towards the Creation of a Forensic Database.*
- May, 2015 **Mwenesongole, E.M.**, Gautam, L., Hall, S. 3rd International Symposium on Electrochemistry, South Africa. *Invited Lecture: Detection of Illicit Drugs in Waste Water Using GC-MS: Analytical Method Development*, University of the Western Cape.
- Feb, 2015 **Mwenesongole, E.M.**, Gautam, L., Hall, S. 3rd South African Police Service Forensic Services Conference, South Africa. *Estimating Community Drug Usage Patterns by the Analysis of Waste-Water*
- June, 2013 ***Mwenesongole, E.M.**, Gautam, L., Hall, S. Forensic Research & Teaching Conference, Cambridge, UK. *Method Development for the Detection of Drugs of Abuse in Waste- Water.*
- July, 2011 ***Mwenesongole, E.M.**, Gautam, L., Hall, S. Royal Society of Chemistry: Analytical Research Forum. *Detection of Drugs of Abuse in Waste-Water*, Manchester, UK
- June, 2011 ***Mwenesongole, E.M.**, Gautam, L., Hall, S. Salford Postgraduate Annual Research Conference (SPARC) 2011, Manchester, UK. *Estimating Community Drug Usage Patterns by the Analysis of Waste-Water*,
- **PRIZE: Pro-Vice Chancellor Research & Innovation Award in Recognition of Outstanding Innovative Research**

POSTER PRESENTATIONS (*=graduate student, presenter is in bold)

- Feb 2022 ***Thutwa, M.**, Mwenesongole, E., Gautam, L., Mazimba, O. The 58th Annual Meeting of the International Association of Forensic Toxicologists (Virtual). *Drug Facilitated Sexual Assault in Botswana: Review, Survey and Stability Studies.*
- Feb 2022 ***Makanye, L.**, Mwenesongole, E., Gautam, L., Masamba, W. The 58th Annual Meeting of the International Association of Forensic Toxicologists (Virtual). *Interdisciplinary approach to analysis of drugs of abuse in wastewater using a survey and gas chromatography-mass spectrometry.*
- **Upgraded to Flash Poster Presentation**
- Feb, 2021 ***Thutwa, M.**, Mwenesongole, E., Gautam, L. International Conference by Biotechnology Society of Nepal (ICBSN-2021); Forensic Science Theme. *Drug Facilitated Sexual Assault: Review, Survey and Stability Studies.*

- Feb, 2021 ***Makanye, L.**, Mwenesongole, E., Gautam, L. International Conference by Biotechnology Society of Nepal (ICBSN-2021); Forensic Science Theme. *Interdisciplinary approach to analysis of drugs of abuse in wastewater using a survey and gas chromatography-mass spectrometry.*
- **PRIZE: Consolation**
- Sept, 2013 ***Mwenesongole, E.M.**, Gautam, L., Hall, S. British Mass Spectrometry Society Conference, Eastbourne, UK. *The Use of Derivatization to Increase Method Sensitivity and Selectivity for the Detection of Drugs of Abuse in Waste Water.*
- August, 2013 ***Mwenesongole, E.M.**, Gautam, L., Hall, S. Euroanalysis XVII Conference, Warsaw, Poland. *The Detection of Emerging Drugs of Abuse in Waste Water Using Gas Chromatography-Mass Spectrometry (GC-MS).*
- June, 2011 ***Mwenesongole, E.M.**, Gautam, L., Hall, S. Anglia Ruskin University Research Student Conference, Chelmsford, UK. *Simultaneous Detection of Drugs of Abuse in WasteWater Using Gas Chromatography - Mass Spectrometry.*
- May, 2011 ***Mwenesongole, E.M.**, Gautam, L., Hall, S. Anglia Ruskin University Faculty of Science& Technology Conference, Duxford, UK. *Simultaneous Detection of Drugs of Abuse in Waste Water Using Gas Chromatography - Mass Spectrometry.*

RESEARCH STUDENTS MENTORED

PhD (Thesis) Awarded 2020, Meshack Mthembu. *Chemical Profiling of the Street Cocktail Drug 'Nyaope' in South Africa Using Gas Chromatography-Mass Spectrometry (GC-MS).* University of the Free State, South Africa.

MSc (Thesis) Awarded 2022, Edward Ngokha. *Identification of Impurities in Illicit Methamphetamine Drugs Seized in Gauteng, South Africa Using GC-MS.* University of the Free State, South Africa.

MSc (Thesis) Awarded 2022, Moreetsi Manake. *Microscopic Characterisation of Animal Hair in Botswana; Towards Creating a Forensic Database.* Under Examination. Botswana International University of Science & Technology, Botswana.

UNDERGRADUATE STUDENTS MENTORED

Mentored over 25 BSc Forensic Science and BSc Forensic Science (Hons) students on their final year research projects.

PROFESSIONAL MEMBERSHIPS

- Member of the Royal Society of Chemistry (2011 – present)
- Member of The International Association of Forensic Toxicologists (TIAFT) (June 2020 – present)
- Member of the Society for Wildlife Forensic Science (Feb 2021 – present)

WEBSITES

<https://www.rsc.org/membership-and-community/member-stories/ellen-mwenesongole/>

<http://www.tiaft.org/dr-ellen-mwenesongole.html>