# MAKAIKO L CHITHAMBO BSc., MPhil., Ph.D

Department of Physics and Electronics Rhodes University PO BOX 94 Grahamstown 6140 South Africa

Tel.: +27 (0) 46 603 8452 Fax: +27 (0) 46 603 8757 Email: m.chithambo@ru.ac.za

# **Education**

PhD	University of Edinburgh, UK; Solid State Physics,	2000
MPhil	University of Sussex, UK; Solid State Physics,	1994
BSc	University of Malawi, Physics and Mathematics,	1989

# **Employment**

2010/04-	Head, Physics Department, Rhodes University
2011/01-2013/06	Deputy Dean, Faculty of Science, Rhodes University
2011/07-09	Acting Deputy Dean, Faculty of Science, Rhodes University
2009-2014	Associate Professor, Rhodes University
2006-2008	Senior Lecturer, Rhodes University
2002-2005	Lecturer, Rhodes University,
2000-2001	Royal Society (UK) Research Fellow, University of Edinburgh, UK and Postdoctoral Research Fellow, University of Zululand,
1993-1996	Lecturer, University of Malawi
1990-1991	Staff Associate in Physics, University of Malawi

# **Teaching experience**

My main areas of teaching are:

First Year Second Year	Introductory Physics Optics
	Den view CNA view
	Properties of Matter
	discusses the macroscopic and microscopic description of matter in its various phases
Third Year	Thermodynamics and Statistical Mechanics
	concerned with the classical and quantum statistical theories of thermal physics
	Solid State Physics
	addresses the phenomenological theory of solids
Honours	Solid State Physics
	deals with electron transport and the band theory of solids

# **Student supervision**

Recent students

# (a) Graduated

2014	Joel Lontsi Sob, MSc; <i>with distinction</i> Cleophace Seneza, MSc; <i>with distinction</i> Pontien Nivonzima, MSc
2013	Angel Nyirenda, MSc; with distinction
(b) Current	Angel Nyirenda, PhD student Solomon Uriri, MSc student Elizabeth Fame, MSc student Zukozuko Mthwesi, MSc student

(c) Postdoctoral Research

2005-2006	Dr F O Ogundare,	Postdoctoral Research Fellow
		,

# **Professional services**

Reviewer:	International journals (Publishers: Elsevier; IOP Publishing UK; AIP Publishing LLC, USA)
	Journal of Luminescence, Radiation Measurements, Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms, Journal of Physics D: Applied Physic, Physics and Chemistry of Minerals, Physica Scripta, Materials Research Bulletin, Radiation Protection Dosimetry, Gondwana Research, Applied Radiation and Isotopes, Journal of Physics and Chemistry of Solids, Journal of Applied Physics
Reviewer:	Other series
	The South African Institute of Physics Conference Series, South African Telecommunication and Networks Conference, Scientific Journals International, Mediterranean Archaeology and Archaeometry, 3 <sup>rd</sup> Walter Sisulu University International Research Conference
Invited Speaker (Plenary session)	International Conference on Luminescence and ESR Dosimetry, Ankara, Turkey 27 – 29 August 2014
Convenor	Team for the (successful) bid for the 15 <sup>th</sup> International Conference on Luminescence and Electron Spin Resonance Dating, South Africa, 2017
Joint Chairperson	South African Institute of Physics Conference, Port Elizabeth, July 2015
External Assesso	r Promotions Committee, The University of Zimbabwe, Zimbawe; 2014
Member	Group of Experts, Council on Higher Education Review of Undergraduate Physics in South Africa (2012-)
Member	Advisory Panel (2013), National Equipment Programme (Physics. Chemistry & Engineering); National Nanotechnology Equipment Programme, NRF, South Africa
Member	Advisory Panel (2011), National Equipment Programme (Well-Founded Laboratories (Physics. Chemistry & Engineering), NRF

External Examiner	The University of Zimbabwe, Zimbabwe; 2014-
External Examiner	The University of Johannesburg, South Africa, 2013
External Examiner	Annamalai University, India, 2013
Member	Advisory Panel (2007, 2006), Institutional Capacity Development Research Grants, NRF
Member	American Physical Society, South African Institute of Physics
Organiser	International Symposium on Luminescence, Port Elizabeth, South Africa, 1 – 6 July 2012
Co-organiser	International Symposium on Luminescence, Bern, Switzerland, 3 – 6 July 2007
Organiser	International Symposium on Luminescence, Port Elizabeth, 29 June – 4 July 2008
Invited Speaker (Plenary session)	The Virtual Conference on Nanoscale Science and Technology, Fayetteville, Arkansas, USA 24 – 29 July 2008
External Examiner	The University of Zululand, South Africa, 2008 - 2012
Member	International Standing Committee, 2 <sup>nd</sup> International Symposium on Luminescence in Archaeology, Lisbon, Portugal, September 2012
Member	International Standing Committee, 1 <sup>st</sup> International Symposium on Luminescence in Archaeology, Delphi, Greece, 9 – 12 September 2009
Member	International Affairs Committee, $1^{st}$ International Conference on New Trends in Luminescence and Phosphor Materials 2010, Hermosillo, Mexico, $4 - 9$ October 2010

# Awards and Honours

#### a) Research rating C2 - National Research Foundation, South Africa, 2007; 2012

Established researchers with a sustained recent record of productivity in the field who are recognised by their peers as having: Produced a body of quality work, the core of which has coherence and attests to on-going engagement with the field; Demonstrated the ability to conceptualise problems and apply research methods to investigating them.

### b) Vice Chancellor's Distinguished Research Award, Rhodes University, 2006

Prestigious award conferred after expert review to an under-40 academic of exceptional quality and proven achievement with sustained record of scholarship.

## c) Most valued reviewer, 2013

Listed as one of 17 the most valued reviewers of 2013 world-wide for *Radiation Measurements* published by Elsevier, Netherlands

### d) Research Grants - National Research Foundation of South Africa

#### Research Grants

- a) Competitive Programme for Rated Researchers, 2014-2016; R683000
- b) Competitive Programme for Rated Researchers, 2010-2012; R232000
- c) National Equipment Programme (NRF, Rhodes University), 2010/2011; ~R1 045 641
- d) Incentive Funding, 2013-2018;2012, 2011,2010; R40000
- e) Development Grant, 2012; R90000
- f) Unlocking The Future Focus Area, 2006, 2004, 2002

#### **Bilateral Research Programmes**

- a) South Africa Switzerland Research Cooperation Programme, 2007; R158050
- b) South Africa Switzerland Research Cooperation Programme, 2008; R123638
- c) Italy South Africa Research Cooperation Programme, 2011-2014; R221500

## Travel Grants

Knowledge interchange and collaboration

- a) Ankara University, Turkey, 2014; R20000
- b) University of St. Andrews, UK, 2013; R18000
- c) Helsinki University of Technology, Finland, 2009; R25000

#### Mobility grants

- a) University of St. Andrews, UK, 2014; R49800
- b) University of Washington, Seattle, USA, 2012; R45000
- c) University of Washington, Seattle, USA, 2011; R44624

# Postdoctoral Research Fellowship, NRF, 2000 - 2001

#### The Royal Society (UK) Research Fellowships, 2007; 2002; 2001

- a) University of Nottingham, UK, 2007; £3226
- b) Scottish Universities Environmental Research Centre, 2002; £1920
- c) University of Edinburgh, 2001

Research Award, The Third World Academy of Sciences, Italy 2004; \$9000 Invited Speaker, Minorities Science Program, University of Texas, USA, 2001 Research Visit Grant, Los Alamos National Laboratory, USA, 2001 Commonwealth Scholarship, University of Edinburgh, UK, 1996 Research Grant, Foundation for Research Development, South Africa, 1996 Training Award, University of Sussex, UK, 1991

### **Publications**

- 1. Chithambo, M.L., 2014. A method for kinetic analysis and study of thermal quenching in thermoluminescence based on use of the area under an isothermal decay-curve. *J. Lumin.* 151, 235-243.
- S. Nsengiyumva, S., <u>Chithambo, M.L.</u>, Pichon, L., 2014. Influence of nitrogen-implantation on thermoluminescence of synthetic quartz. *Radiat. Eff. Def. Solids*. DOI: 10.1080/10420150.2014.968853
- 3. Chithambo, M.L., Niyonzima, P., 2014. On isothermal heating as a method of separating closely collocated thermoluminescence peaks for kinetic analysis. *J. Lumin.* 155, 70-78.
- 4. Chithambo, M.L., Seneza, C., Ogundare, F.O., 2014. Kinetic analysis of high temperature secondary thermoluminescence glow peaks in α-Al<sub>2</sub>O<sub>3</sub>:C. *Radiat. Meas.* 66, 21-30.
- 5. Swart, H.C., Noto, L.L., Chithambo, M.L., Ntwaeaborwa, O.M., 2014, The greenish-blue emission and thermoluminescent properties of CaTa<sub>2</sub>O<sub>6</sub> :Pr<sup>3+</sup> *J. Alloys and Comp.* 589, 88-93.
- 6. Chithambo, M.L., Seneza, C., 2014. Kinetics and dosimetric features of secondary thermoluminescence in carbon-doped aluminium oxide. *Physica. B.* 439, 165-168.
- Chithambo, M.L., Pagonis, V., Ogundare, F.O., 2014. Spectral and kinetic analysis of thermoluminescence from manganiferous carbonatite. J. Lumin. 145, 180 – 187.
- Pagonis, V., <u>Chithambo, M.L.</u>, Chen, R., Chruścińska, A., Fasoli, M., Li, S.H., Martini, M., Ramseyer, K., 2014. Thermal dependence of luminescence lifetimes and radioluminescence in quartz *J. Lumin*. 145, 38 – 48.
- 9. Noto, L.L., <u>Chithambo, M.L.</u>, Ntwaeaborwa, O.M., Swart, H.C., 2013. Photoluminescence and thermoluminescence properties of Pr<sup>3+</sup> doped ZnTa<sub>2</sub>O<sub>6</sub> phosphor. *Powder Tech.*, 247, 147 150.
- 10. Ogundare, F.O., <u>Chithambo, M.L.</u> 2013. Characteristics of luminescence lifetimes of natural quartz samples from Brazil and South Korea. *Radiat. Eff. Def. Solids*. 168, 460 467.
- Ogundare, F.O., Ogundele, S.A., Chithambo, M.L., Fasasi, M K. 2013. Thermoluminescence characteristics of the main glow peak in α-Al<sub>2</sub>O<sub>3</sub>:C exposed to low environmental-like radiation doses. *J. Lumin.* 139, 143 – 148.
- 12. Chithambo, M.L., 2012. Dosimetric features and kinetic analysis of thermoluminescence from ultra-high molecular weight polyethylene. J. Phys. D: Appl. Phys. 45, 345301
- Feathers, J., Casson, M.A., Henck, A., <u>Chithambo, M.L.</u>, 2012. Application of pulsed OSL to fine-grained samples. *Radiat. Meas.* 47, 201 – 209.
- Pagonis, V., Lawless, J., Chen, R., <u>Chithambo, M.L.</u>, 2011. Analytical expressions for time-resolved optically stimulated luminescence experiments in quartz. *J. Lumin*. 131, 1827–1835
- 15. Chithambo M L, Sane P, Tuomisto F. 2011. Positron and luminescence lifetimes in annealed synthetic quartz. *Radiat. Meas.* 46, 310 318.
- 16. Chithambo, M.L., 2011. A time-correlated photon counting system for measurement of pulsed optically stimulated luminescence. *J. Lumin.* 131, 92 98.
- 17. Preusser, F., <u>Chithambo, M.L.</u>, Götte, T., Martini, M., Ramseyer, K., Sendezera, E.J., Susino, G.J. and Wintle, A.G. 2009. Quartz as a natural luminescence dosimeter. *Earth-Science Reviews*. 97, 196 226.
- 18. Chithambo, M.L., Ogundare, F.O., 2009. Luminescence lifetime components in quartz: influence of irradiation and annealing. *Radiat. Meas.* 44, 453 457.
- Pagonis, V., Mian S.M., <u>Chithambo, M.L.</u>, Christensen, E., Barnold C. 2009. Experimental and modelling study of pulsed optically stimulated luminescence in quartz, marble and beta irradiated salt. *J. Phys. D.: Appl. Phys.* 42, 055407

- 20. Chithambo, M.L., Ogundare, F.O., Feathers, J., 2008. Principal and secondary luminescence lifetime components in annealed natural quartz. *Radiat. Meas.* 43,1-4.
- Ogundare, F.O., <u>Chithambo, M.L.</u>, 2008. The influence of optical bleaching on lifetimes and luminescence intensity in the slow component of optically stimulated luminescence of natural quartz from Nigeria. *J. Lumin*. 128, 1561 – 1569.
- 22. Chithambo, M.L, Ogundare, F.O., Feathers, J., Hong, D.G., 2008. The dependence of luminescence lifetimes on additive irradiation in natural sedimentary quartz: sands from Santa Elina, Brazil. *phys. stat. sol. (c)-Current Topics in Solid State Physics*, 5, 630 633.
- 23. Chithambo, M.L., 2008. Phosphorescence of orthopaedic-grade ultra high molecular weight polyethylene. *phys. stat. sol. (c)-Current topics in solid state physics.* 5, 871 874.
- 24. Chithambo, M.L., Ogundare, F.O., Feathers, J., Hong D.G., 2008. On the dose-dependence of luminescence lifetimes in natural quartz. *Radiat. Eff. Def. Solids.* 163, 945 953.
- 25. Chithambo, M.L., Preusser, F., Ramseyer, K., Ogundare, F.O., 2007. Time-resolved luminescence of low sensitivity quartz from crystalline rocks. *Radiat. Meas.* 42, 205 212.
- 26. Chithambo, M.L., 2007. The analysis of time-resolved optically stimulated luminescence. I: Theoretical considerations. J. Phys. D.: Appl. Phys. 40, 1874-1879.
- 27. Chithambo, M.L., 2007. The analysis of time-resolved optically stimulated luminescence. II: Computer Simulations and Experimental Results. J. Phys. D.: Appl. Phys. 40, 1880-1889.
- 28. Ogundare, F.O., <u>Chithambo, M.L.</u>, 2007. Thermoluminescence kinetic analysis of quartz with a glow peak that shifts in an unusual manner with irradiation dose. *J. Phys. D.: Appl. Phys.* 40, 247 253.
- 29. Chithambo, M.L., Ogundare, F.O., 2007. Relative features of the principal and secondary luminescence lifetimes in quartz. *phys. stat. sol. (c)-Current Topics in Solid State Physics*, 4, 914 917.
- Ogundare, F.O., <u>Chithambo, M.L.</u>, 2007. Time resolved luminescence of quartz from Nigeria. *Optical Materials* 29, 1844 1851.
- 31. Ogundare, F.O., Chithambo, M.L., 2007. On extending the applicability of the initial rise method for thermoluminescence glow peak analysis. *Radiat. Eff. Def. Solids.* 162, 803 807.
- 32. Chithambo, M.L., 2006. On the correlation between annealing and variabilities in pulsed-luminescence from quartz. *Radiat. Meas.* 41, 862 865.
- 33. Chithambo, M.L., 2006. Orthopaedic grade ultra-high molecular weight polyethylene: Some features of the main thermoluminescence glow curve. *Radiat. Prot. Dosim.* 119, 157 160.
- Ogundare, F.O., <u>Chithambo, M.L.</u>, 2006. Accuracy of activation energy calculated from a thermoluminescence glow peak using a method that uses three points on the peak. *phys. stat. sol. (c)-Current Topics in Solid State Physics.* 3, 355 - 361.
- 35. Ogundare, F.O., <u>Chithambo, M.L.</u>, 2006. Two point method for kinetic analysis of a thermoluminescence glow peak. *Radiat. Eff. Def. Solids.* 161, 289 296.
- Ogundare, F.O., <u>Chithambo, M.L.</u>, Oniya, E.O., 2006. Anomalous behaviour of thermoluminescence from quartz: A case of glow peaks from a Nigerian quartz. *Radiat. Meas.* 41, 549 - 553.
- 37. Chithambo, M.L., 2005. Procedures preparatory to setting up a luminescence pulsing system. *Ancient TL*. 23, 39 42.
- 38. Chithambo, M.L., 2005. Towards models for analysis of time-resolved luminescence spectra from quartz. *Appl. Radiat. Isotopes*. 62, 941-942.

- Chithambo, M.L., 2004. Concerning secondary thermoluminescence peaks in α-Al<sub>2</sub>O<sub>3</sub>:C. S. Afric. J. Sci. 100, 524 - 527.
- 40. Chithambo, M.L., 2004. Time-resolved luminescence from annealed synthetic quartz under 525 nm pulsed green light stimulation. *Radiat. Meas.* 38, 553 555.
- 41. Chithambo, M.L., 2003. The influence of annealing and partial bleaching on luminescence lifetimes in quartz. *Radiat. Meas.* 37, 467 472.
- 42. Chithambo, M.L., 2003. Dependence of the thermal influence on luminescence lifetimes from quartz on the duration of optical stimulation. *Radiat. Meas.* 37, 167 175.
- 43. Chithambo, M.L., 2002. Time-resolved luminescence from annealed quartz. *Radiat. Prot. Dosim.* 100, 273 276.
- 44. Chithambo, M.L., Sendezera, E.J., Davidson, A.T., 2002. A preliminary thermoluminescence and positron annihilation study of α-Al<sub>2</sub>O<sub>3</sub>:C. *Radiat. Prot. Dosim.* 100, 269 272.
- Sendezera, E.J., Davidson, A.T., Jili, P.T., Chithambo, M.L., Anwand, W., Brauer, G., Nicht, E-H., 2002. Characterisation of defects in LiF implanted with Ar<sup>+</sup> using variable energy positron beam. *Nucl. Instrum. Meth. B.* 192, 202 - 205.
- 46. Chithambo, M.L., Galloway, R.B., 2001. Temperature dependence of luminescence lifetimes in quartz under blue light stimulation. *Rad. Eff. Def. Solids.* 154, 355 359.
- 47. Chithambo, M.L., Galloway, R.B., 2001. Some properties of luminescence lifetimes from quartz stimulated by blue light. *Rad. Eff. Def. Solids*. 154, 361 365.
- Chithambo, M.L., Galloway, R.B., 2001. On the slow component of luminescence stimulated from quartz by pulsed blue light emitting diodes. *Nucl. Instrum. Meth. B.* 183, 358 - 368.
- 49. Chithambo, M.L., Galloway, R.B., 2000. A pulsed light emitting diode system for stimulation of luminescence. *Meas. Sci. Technol.* 11, 418 424.
- 50. Chithambo, M.L., Galloway, R.B., 2000. Temperature dependence of luminescence time-resolved spectra from quartz. *Radiat. Meas.* 32, 627 632.
- 51. Chithambo, M.L., Galloway, R.B., 2000. On luminescence lifetimes in quartz. Radiat. Meas. 32, 621 626.
- 52. Chithambo, M.L., Raymond, S.G., Calderon, T., Townsend, P.D., 1995. Low temperature luminescence of transition metal-doped beryls. J. African Earth Sci. 20, 53 60.

#### Submitted, under review

- 1. Chithambo, M.L., 2014. Luminescence lifetimes in natural quartz annealed beyond its second-phase inversion temperature. *Radiat. Meas.* submitted, under review.
- 2. Mokoena, P.P., Chithambo, M.L., Vinay Kumar, Swart, H.C., Ntwaeaborwa, O.M. 2014. Thermoluminescence of Ca<sub>5</sub>(PO<sub>4</sub>)<sub>3</sub>OH:Gd<sup>3+</sup>,Pr<sup>3+</sup>. *Radiat. Meas.* submitted, under review.
- 3. Nyirenda, A.N., Chithambo, M.L., 2014. Kinetic analysis of the main glow peak of α-Al<sub>2</sub>O<sub>3</sub>:C exposed to high irradiation dose. *J. Nucl. Sci.*

#### **Book chapter contributions**

- Title: E G Yukihara and S W S McKeever 2011 Optically Stimulated Luminescence: Fundamentals and Applications (Chichester: Wiley)
  Details: My work is featured in various parts of the book e.g. in chapter 2
- Title: R Chen and V Pagonis 2011 Thermally and Optically Stimulated Luminescence: A simulation Approach (Chichester: Wiley)
  Details : My research is featured in chapter 2
- Title: M. Gaft, R. Reisfeld, G. Panczer 2005 Modern Luminescence Spectroscopy of Minerals and Materials, Springer-Verlag, Berlin.
  Details: My research on beryl is featured in chapter 5 (section 5.3.1.3.4)
- Title: Bøtter-Jensen, L., McKeever S.W.S., Wintle A.G., 2003. Optically Stimulated Luminescence Dosimetry. Elsevier Science Publishers: Amsterdam.
  Details: My work on time-resolved optical stimulation of luminescence is presented in sections 5.1.4, 5.1.9, 5.1.10 and 7.4.10 of chapters 5 and 7 respectively

## **CONFERENCE PRESENTATIONS**

- 1. Chithambo, M.L., The many facets of thermoluminescence. International Conference on Luminescence and ESR Dosimetery, Ankara, Turkey, 27 29 August 2014.
- 2. Nyirenda, A.N., <u>Chithambo, M.L</u>. Thermoluminescence investigations of α-Al<sub>2</sub>O<sub>3</sub>:C. International Conference on Luminescence and ESR Dosimetery, Ankara, Turkey, 27 29 August 2014.
- Chithambo, M.L. Mechanisms of luminescence in α-Al2O3:C: investigations using time-resolved optical stimulation. International Conference on Luminescence and ESR Dosimetery, Ankara, Turkey, 27 – 29 August 2014.
- Chithambo, M.L. Time-resolved luminescence of natural quartz annealed beyond its second phase inversion temperature. 14<sup>th</sup> International Conference on Luminescence and Electron Spin Resonance Dating, 7-11 July 2014, Montréal, Canada.
- Nsengiyumva, S., <u>Chithambo, M.L.</u>, Influence of argon-implantation on thermoluminescence of synthetic quartz. 59<sup>th</sup> Annual Conference of the South African Institute of Physics, 7 - 11 July 2014, Johannesburg, South Africa.
- Uriri, S.A., <u>Chithambo, M.L.</u>, The design of a light-emitting-diode pulsing system for measurement of timeresolved luminescence. 59th Annual Conference of the South African Institute of Physics, 7 - 11 July 2014, Johannesburg, South Africa.
- 7. Chithambo, M.L., The influence of annealing on luminescence lifetimes in natural quartz. 17<sup>th</sup> International Conference on Solid State Dosimetry, Recife, Brazil, 22-27 September 2013.
- Wako, A.L., Dejene, B.F., Swart, H.C., and <u>Chithambo, M.L.</u>, Thermoluminescence (TL) study of BaAl<sub>2</sub>O<sub>4</sub>:Eu<sup>2+</sup>,Dy<sup>3+</sup> phosphors. The 7th international Conference on Rare Earth Development and Applications, 10-13 August 2013, Ganzhou City, China.
- Seneza, C., <u>Chithambo, M.L.</u>, Phototransferred thermoluminescence from secondary peaks in α-Al<sub>2</sub>O<sub>3</sub>:C. 5<sup>th</sup> South African Conference on Photonic Materials, 29 April - 3 May 2013, Kariega, South Africa.
- Wako, A H., Dejene, B.F., Swart, H C, <u>Chithambo, M.L</u>. Thermoluminescence of beta-irradiated SrAl2O4:Eu2+,Dy3+ phosphors Annual Conference of the South African Institute of Physics, 8 - 12 July 2013, Richards Bay, South Africa.

- 11. Chithambo, M.L. The influence of annealing on luminescence lifetimes in natural quartz. International Symposium on Luminescence, Port Elizabeth, South Africa, 1 6 July 2012.
- 12. Lontsi Sob, A.J., <u>Chithambo, M.L.</u> An experimental and modelling study of thermoluminescence of natural quartz. International Symposium on Luminescence, Port Elizabeth, South Africa, 1 6 July 2012.
- 13. Niyonzima, P., <u>Chithambo, M.L.</u> Thermoluminescence of synthetic quartz. International Symposium on Luminescence, Port Elizabeth, South Africa, 1 6 July 2012.
- 14. Seneza C., <u>Chithambo, M.L.</u> Study of F-centre defects in carbon-doped aluminium oxide using luminescence techniques. International Symposium on Luminescence, Port Elizabeth, South Africa, 1 6 July 2012.
- 15. Nsengiyumva, S., Pichon, L., <u>Chithambo, M.L.</u> Thermally and optically stimulated luminescence in ionimplanted quartz. International Symposium on Luminescence, Port Elizabeth, South Africa, 1 – 6 July 2012.
- F O Ogundare, F.O., S A Ogundele, S.A., Chithambo, M.L., M K Fasasi, M.K. The thermoluminescence characteristics of the main glow peak in α-Al<sub>2</sub>O<sub>3</sub>:C exposed to low environmental-like radiation doses. International Symposium on Luminescence, Port Elizabeth, South Africa, 1 – 6 July 2012.
- Nyirenda, A.N., <u>Chithambo, M.L</u>. Time-resolved optically stimulated luminescence and thermoluminescence investigations of α-Al<sub>2</sub>O<sub>3</sub>: C. International Symposium on Luminescence, Port Elizabeth, South Africa, 1 – 6 July 2012.
- Chithambo, M.L., Time-resolved optically stimulated luminescence: measurement, analysis and interpretation of spectra. 1<sup>st</sup> International Conference on New Trends in Luminescence and Phosphor Materials, Hermosillo, Mexico, 4 – 8 October 2010.
- Chithambo, M.L., Mechanisms of luminescence in α-Al<sub>2</sub>O<sub>3</sub>:C: investigations using time-resolved optical stimulation and positron annihilation spectroscopy. 16<sup>th</sup> International Conference on Solid State Dosimetry,19 – 24 September 2010, Sydney, Australia.
- Chithambo, M.L., Towards a single-aliquot regenerative dose procedure suitable for use with pulsed optically stimulated. 1<sup>st</sup> International Symposium on Luminescence in Archaeology, Delphi, Greece, 9 – 12 September 2009.
- Chithambo, M.L., Time-resolved luminescence in annealed quartz. 1<sup>st</sup> International Symposium on Luminescence in Archaeology, Delphi, Greece, 9 – 12 September 2009.
- Chithambo, M.L., Sendezera, E.J., Mechanisms of luminescence in annealed synthetic quartz: Investigations using time-resolved optical stimulation and positron annihilation spectroscopy 7<sup>th</sup> European Conference on Luminescent Detectors and Transformers of Ionizing Radiation, 12 – 17 July 2009, Kraków, Poland.
- 23. Chithambo, M.L. Time-resolved optically stimulated luminescence: measurement and analysis. The Virtual Conference on Nanoscale Science and Technology, Fayetteville, Arkansas, USA, 24 29 July 2008.
- Chithambo, M.L. A comparative analysis of time-resolved and continuous optical stimulation of luminescence. International Symposium on Luminescence, The Courtyard Hotel, Port Elizabeth, South Africa, 29 June – 4 July 2008.
- 25. Chithambo, M.L. On luminescence lifetime components in annealed natural quartz. International Symposium on Luminescence, The Courtyard Hotel, Port Elizabeth, South Africa, 29 June 4 July 2008.
- Sendezera, E.J., <u>Chithambo, M.L.</u> Applications of positron annihilation spectroscopy in the study of defects in insulators. International Symposium on Luminescence, The Courtyard Hotel, Port Elizabeth, South Africa, 29 June – 4 July 2008.

- Nyawo, T.G., Sendezera, E.J., <u>Chithambo, M.L.</u>, Towards the study of luminescence properties of synthetic quartz using time-resolved optical stimulation and positron annihilation spectroscopy. International Symposium on Luminescence, The Courtyard Hotel, Port Elizabeth, South Africa, 29 June 4 July 2008.
- 28. Chithambo, M.L. Time-resolved optically stimulated luminescence: measurement, interpretation and selected applications. International Symposium on Luminescence, 3 6 July 2007, Bern, Switzerland.
- 29. Sendezera, E.J., <u>Chithambo, M.L</u>. Positron annihilation spectroscopy study of defects in insulators. International Symposium on Luminescence, 3 6 July 2007, Bern, Switzerland.
- 30. Chithambo, M.L., The influence of stimulation temperature and irradiation on luminescence lifetimes in natural quartz. Conference on Photonic Materials, 2 6 May 2007, Kariega, South Africa.
- Chithambo, M.L., Phosphorescence of ultra high molecular weight polyethylene. Conference on Photonic Materials, 2 – 6 May 2007, Kariega, South Africa
- 32. Ogundare F.O., <u>Chithambo M.L.</u>, Feathers J., Hong D.G. A study of luminescence centres in high temperature annealed natural quartz using time resolved luminescence measurements. 6th Edward Bouchet International Conference on Physics and Technology for Sustainable Development in Africa (EBASI), 24 26 January 2007, Cape Town, South Africa.
- 33. Chithambo, M.L. Features of luminescence lifetimes in quartz annealed close to its phase inversion temperature. 10th Europhysical Conference on Defects in Insulating Materials, 10 -14 July 2006, Milan, Italy.
- 34. Ogundare, F.O., <u>Chithambo, M.L</u>. On the initial rise method for thermoluminescence glow peak analysis. 10th Europhysical Conference on Defects in Insulating Materials, 10 -14 July 2006, Milan, Italy.
- 35. Ogundare, F.O., Chithambo, M.L. Characteristics of lifetimes and intensity of luminescence from Nigeria quartz measured in the 'slow component' region. 51st Annual Conference of the South African Institute of Physics, 3 7 July 2006, Cape Town, South Africa.
- Chithambo, M.L. Time-resolved luminescence from annealed quartz under 470 nm pulsed stimulation. 11th International Conference on Luminescence and Electron Spin Resonance Dating, 24 -29 July 2005, Cologne, Germany.
- 37. Ogundare, F.O., <u>Chithambo, M.L</u>. Kinetic parameters of the high temperature glow peaks in synthetic quartz. 50th Annual Conference of the South African Institute of Physics, 4 7 July 2005, Pretoria, South Africa.
- Chithambo, M.L. Thermoluminescence of orthopaedic grade ultra-high molecular weight polyethylene. 14th International Conference on Solid State Dosimetry, 27 June - 2 July 2004, New Haven, Connecticut, USA.
- Chithambo, M.L. Comparative features of exponential models for the analysis of time-resolved luminescence spectra from quartz. 9<sup>th</sup> International Symposium on Radiation Physics, 26-31 October 2003, Cape Town, South Africa.
- 40. Chithambo, M.L. Time-resolved luminescence from annealed synthetic quartz. Luminescence and Electron Spin Resonance Research Seminar, 8 10 September 2003, Aberystwyth, UK.
- Chithambo, M.L. Some features of time-resolved luminescence from synthetic quartz. 5<sup>th</sup> European Conference on Luminescent Detectors and Transformers of Ionizing Radiation, 1 - 5 September 2003, Prague, Czech Republic.
- 42. Chithambo, M.L. A comparative study of lifetimes in selected regions of quartz OSL. 10<sup>th</sup> International Conference on Luminescence and Electron Spin Resonance Dating, 24 -28 June 2002, Reno, Nevada, USA.
- Chithambo, M.L., Davidson, A.T. Concerning thermoluminescence of α-Al<sub>2</sub>O<sub>3</sub>:C Efficiency, linearity and pre-irradiation annealing. 13<sup>th</sup> International Conference on Solid State Dosimetry, 9 -13 July 2001, Athens, Greece.

- 44. Chithambo, M.L. Time-resolved luminescence from annealed quartz stimulated at 470 nm. 13<sup>th</sup> International Conference on Solid State Dosimetry, 9 -13 July 2001, Athens, Greece.
- 45. Chithambo, M.L., Sendezera, E.J., Davidson, A.T., Anwand, W. A combined positron lifetime and luminescence study of α-Al<sub>2</sub>O<sub>3</sub>:C. 11<sup>th</sup> Workshop on Positron and Positronium Physics, 25 -27 July 2001, Santa Fe, New Mexico, USA.
- Chithambo, M.L., Sendezera, E.J., Davidson, A.T. Towards a positron lifetime and thermoluminescence study of dosimetry quality sapphire. 46<sup>th</sup> Annual Conference of the South African Institute of Physics, 3 - 6 July 2001, Durban, South Africa.
- Chithambo, M.L., Davidson, A.T. On the thermoluminescence growth curve in α-Al<sub>2</sub>O<sub>3</sub>:C. 5<sup>th</sup> International Materials Modelling Meeting, 8 - 9 March 2001, Sovenga, South Africa.
- 48. Chithambo, M.L. Properties of pulsed luminescence from annealed quartz. 5<sup>th</sup> International Materials Modelling Meeting, 8-9 March 2001, Sovenga, South Africa.
- Chithambo, M.L. On luminescence lifetimes in quartz and feldspars. 9<sup>th</sup> International Conference on Luminescence and Electron Spin Resonance Dating, 6 – 10 September 1999, Rome, Italy.
- 50. Chithambo, M.L. Temperature dependence of luminescence timespectra from quartz. 9<sup>th</sup> International Conference on Luminescence and Electron Spin Resonance Dating, 6 10 September 1999, Rome, Italy.
- 51. Chithambo, M.L. Choice of luminescence stimulating source and preheat method for feldspar. Luminescence and Electron Spin Resonance Research Seminar, 7 9 July 1997, Durham, UK.
- 52. Chithambo, M.L. Low temperature thermoluminescence of some silicate minerals: the case of beryl and quartz. 40th Annual Conference of the South African Institute of Physics, 3 7 July 1995, Bellville, South Africa.
- 53. Chithambo, M.L. Low temperature luminescence of beryls. University of Malawi conference on university research and development, 5 8 April, 1994, Mangochi, Malawi.