

## CONFERENCES

### REGIONAL CONFERENCES:

1. The 9<sup>th</sup> Biennial Interscience Congress of the Faculties of Mathematics and Natural Sciences, Health Sciences and Agricultural Sciences of the University of the North, University of the North, 5 – 7 October 1998. **Synthesis of Aminoalkylphosphonic Acid Derivatives with Potential Pharmacological Activity** (Lecture), M.J. Mphahlele.\*
2. Progress in Natural Product Thrust, Department of Chemistry, University of Venda, 20 August 1999. **Synthesis and Transformation of Flavanone Analogues** (Lecture), M.J. Mphahlele.\*
3. Interscience 2001 “Science and Research: Frontiers of the 21<sup>st</sup> Century”, 7 – 9 January 2001, University of the North. **Synthetic Approaches to Nitrogen-Containing Heterocyclic Compounds with Potential Antimalarial Activity** (Lecture), M.J. Mphahlele.\*
4. 7<sup>th</sup> Annual Materials Modelling Meeting, 06 March 2003, University of the North, **Spectroscopic and Computational Structural Property Studies of the 2-Aryl-3-bromoquinolin-4(1H)-one Derivatives** (Lecture), M.J. Mphahlele.\*
5. Chemistry Symposium University of Venda 06 October 2005:
  - (i) **Halocyclization of 2-(2-Propenyl)cyclohexane-1,3-diones to Benzofuranone and Benzofuran Derivatives** (Lecture), T.B. Moekwa\* and M.J. Mphahlele.
  - (ii) **Our Contribution to Heteroatom-Organic Chemistry** (Lecture), M.J. Mphahlele.
  - (iii) **Synthesis and Further Studies of Chemical Transformation of the 2-Aryl-3-halogenoquinoplin-4(1H)-one Derivatives** (Lecture), S.M. Nwamadi\* and M.J. Mphahlele.
6. Seminar on HIV/AIDS, Opportunistic Infectious and Medical Plants, 15/ 03/ 07 UNISA (Sunnyside Campus); **Synthesis and Chemistry of Biologically-Relevant Heteroatom-containing Compounds** (Lecture), M.J. Mphahlele\*.

7. ASSAF-DST-NRF 2<sup>nd</sup> annual South African Young Scientist Conference, 26-27/09/2011, Pretoria; **Pd-catalyzed Suzuki-Miyaura cross coupling of 4-heteroatom substituted quinolines into 4-Aminoquinoline derivatives** (Poster), M.M. Mphahlele\* and M.J. Mphahlele.

#### NATIONAL CONFERENCES:

1. The 5th Frank Warren Conference on Organic Chemistry, 4 - 7 April 1995, Free State:
  - (i) **Vinylic Substitution by Phosphonate Carbanions** (Lecture), M.J. Mphahlele.\*
  - (ii) **Mechanistic Studies of the Regioselectivity of Heteroatom Insertion in Schmidt and Baeyer-Villiger Reactions of Flavanones** (Lecture), A.C. Gelebe, P.T. Kaye,\* M.J. Mphahlele and M.E. Brown.
2. 33rd Convention of the S.A. Chemical Institute, 29 Jan - 2 Feb. 1996, UCT. **Reactions of Phosphorus-Stabilised Carbanions with Cyclic Enones: Aromatization of the Products** (Lecture), M.J. Mphahlele\* and T.A. Modro.
3. The 6th Frank Warren Conference on Organic Chemistry, 29 June - 03 July 1997, KwaZulu-Natal. **Transformations of the Ring and Side Chain Substituted 3-Phosphonomethylcyclohexenones** (Lecture), M.J. Mphahlele.\*
4. The 7th Frank Warren Conference on Organic Chemistry, 17 – 19 January 2000, Warmbaths:
  - (i) **Azidotrimethylsilane-mediated Schmidt Rearrangement of 2-Aryl-1,2,3,4-tetrahydro-1-methylsulfonyl-4-quinolones: Non-regioselectivity of Carbon Migration** (Lecture), M.J. Mphahlele.\*
  - (ii) **Iodine-Methanol-promoted Aromatization of 2-Aryl-1,2,3,4-tetrahydro-4-quinolones to 2-Aryl-4-methoxyquinolines** (Poster), K.J. Mbengo\* and M.J. Mphahlele.
  - (iii) **Regio- and Stereoselective  $\alpha$ -Halogenation of 2-Aryl-1,2,3,4-tetrahydro-1-methylsulfonyl-4-quinolones** (Poster), N.F.H. Makhubela,\* S.M. Ndlovu\* and M.J. Mphahlele.

5. 35th Convention of the S.A. Chemical Institute, 24 – 29 September 2000, Potchefstroom. **Base - Promoted Neber Rearrangement of O-Mesyloximes Derived from 2-Aryl-1,2,3,4-tetrahydro-1-methylsulfonyl-4-quinolones** (Lecture), M.J. Mphahlele.\*
6. 36<sup>th</sup> Convention of the S.A. Chemical Institute, 30 June – 05 July 2002, Port Elizabeth, **Solution Phase, Solid State and Computational Structural Studies of the 2-Aryl-3-bromoquinolin-4(1H)-one Derivatives** (Lecture), M.J. Mphahlele\* and B.S. Dladla.
7. The 8th Frank Warren Conference on Organic Chemistry, April 2003, Rhodes University:
  - (i) **Potentially Tautomeric 2-Arylquinolin-4(1H)-one Derivative: Spectroscopic, X-Ray and Quantum Chemical Structural Property Studies** (Lecture), M.J. Mphahlele.\*
  - (ii) **The Synthesis and Spectroscopic Analysis of 4-amino-2-arylquinolines and their derivatives** (Lecture), N.F.H. Makhubela\* and M.J. Mphahlele.
  - (iii) **Thionation of 2-aryl-3-bromoquinolin-4(1H)-ones and 2-aryl-3-bromo-1-methylquinolin-4(1H)-ones** (Lecture), S.M. Ndlovu\* and M.J. Mphahlele.
  - (iv) **Antibacterial Activity Studies of Compounds Isolated from *Ziziphus mucronata*** (Poster), M.P. Moloto,\* J.N. Ellof, L.J. Shai and M.J. Mphahlele
8. The Young Spectroscopist Symposium, 23 September 2004, UNISA:
  - (i) **Synthesis and Spectroscopic characterizations of 2-Aryl-3-bromo-N-substituted quinolin-4-amine derivatives** (Lecture) S.M. Nwamadi\* and M.J. Mphahlele.
  - (ii) **NMR and FT-IR Spectroscopic Characterization of Tetrahydrobenzofuran and Tetrahydroindolone Derivatives** (Lecture), T.B. Moekwa\* and M.J. Mphahlele.
9. SACI/RSC Young Chemists 2004, 05 November 2004, University of Pretoria; **Iodine – Methanol Promoted Iodocyclization of  $\alpha$ -(2-Propenyl)cyclohexen-2-one Derivatives and Transformation of the Products** (Lecture), T.B. Moekwa\* and M.J. Mphahlele.
10. The 9<sup>th</sup> Frank Warren Conference on Organic Chemistry, 22 – 25 Jan. 2006.
  - (i) **Iodo- and Bromoenolcyclization of 2-(2-Propenyl)cyclohexanediones and 2-(2-Propenyl)cyclohexenone Derivatives Using Iodine in Methanol and Pyridinium**

**Hydrobromide Perbromide in Dichloromethane** (Lecture), M.J. Mphahlele\* and T.B. Moekwa.

(ii) **Synthesis and Further Studies of Chemical Transformation of the 2-Aryl-3-halogenoquinolin-4(1H)-one Derivatives** (Poster), M.S. Nwamadi\* and M.J. Mphahlele.

(iii) **Schmidt Rearrangement of 2-Bromomethyl- and 2-Iodomethyltetrahydrobenzofuran-4-ones** (Poster), T.B. Moekwa\* and M.J. Mphahlele.

11.38<sup>th</sup> Convention of the S.A. Chemical Institute, 03 – 08 December 2006, UKZN (Durban), **Synthesis of 2-Arylquinolone and 2-Arylquinoline Derivatives Using Sure-fire Methods** (lecture), M.J. Mphahlele.\*

12. Binational Organic Chemistry Conference (BOCC'08), 14 – 19 September 2008, Kruger National Park, **2-Aryl-4-azido-3-(bromo/iodo)quinolines as Substrates for the Synthesis of 2,3-disubstituted 4-Aminoquinoline Derivatives** (Lecture), M.J. Mphahlele\* and V. Mtshemla.

13.39<sup>th</sup> Convention of the S.A. Chemical Institute, 01 – 05 December 2008, University of Stellenbosch, **2-(2-Propenyl)cyclohexenone Derivatives as Substrates for the Synthesis of 4-Hydroxy-2-methylbenzofurans and 1-Benzyl-4-hydroxy-2-methylindoles** (lecture), M.J. Mphahlele.\*

14. The 11<sup>th</sup> Frank Warren Conference on Organic Chemistry, 17 – 21 Jan. 2010, University of KwaZulu-Natal (Pietermaritzburg). **4-Substituted 2-Aryl-3-iodoquinolines as Substrates for the Synthesis of Polysubstituted and Polynuclear Quinoline Derivatives** (lecture), M.J. Mphahlele.\*

15.40<sup>th</sup> S.A. Chemical Institute Convention, 16 – 21 January 2011, University of the Witwatersrand, **2-Aryl-4-chloro-3-iodoquinolines as Substrates for the Synthesis of Polysubstituted and Annulated Quinoline Derivatives** (lecture), M.J. Mphahlele.\*

16. The 12<sup>th</sup> Frank Warren Conference on Organic Chemistry, 15 – 18 April 2012, University of Free State (Bloemfontein). **Presynthesized Halogenoquinolin-4-ones as Substrates for the Synthesis of Novel Polysubstituted and Polynuclear Quinolones and Quinoline Derivatives** (lecture), M.J. Mphahlele.\*

17. The 12<sup>th</sup> Frank Warren Conference on Organic Chemistry, 15 – 18 April 2012, University of Free State (Bloemfontein). **4-Heteroatom Substituted 2-Aryl-3-iodoquinolines as Substrates for the Synthesis of Polysubstituted Quinoline Derivatives** (Student lecture), M.J. Mphahlele\* and M.J. Mphahlele.
18. The 12<sup>th</sup> Frank Warren Conference on Organic Chemistry, 15 – 18 April 2012, University of Free State (Bloemfontein). **Synthesis and Transformation of the 2,6,8-Triaryl-2,3-dihydroquinolin-4(1H)-ones** (Poster), F.A. Oyeyiola\* and M.J. Mphahlele

#### INTERNATIONAL CONFERENCES:

1. XIII<sup>th</sup> International Conference on Phosphorus Chemistry, 16 – 21 July 1995, Jerusalem, Israel. **Reactions of Phosphoryl-Stabilized Carbanions with  $\beta$ -Substituted  $\alpha,\beta$ -Unsaturated Ketones** (Poster), T.A. Modro and M.J. Mphahlele.\*
2. The Royal Society of Chemistry, 6th International Meeting on Reaction Mechanisms, 9 - 12 July 1996, University of Kent at Canterbury. **Reaction of Phosphorus-Stabilized Carbanions with Substituted Cyclic Enones** (Lecture), T.A. Modro\* and M.J. Mphahlele.
3. XIV<sup>th</sup> International Symposium on Medicinal Chemistry, September 1996, Maastricht, the Netherlands. **Conformational Analysis of Tetrazolo[1,5-d]-1,4-benzoheterazepine Derivatives** (Poster), R.B. English, P.T. Kaye\* and M.J. Mphahlele.
4. V<sup>th</sup> International Conference on Heteroatom Chemistry, 5 – 10 July 1998, the University of Western Ontario, London Ontario (Canada). **Synthetic Applications of the Ring and Side Chain Substituted 3-Phosphonomethylcyclohexenones** (Lecture), M.J. Mphahlele.\*
5. XIV<sup>th</sup> International Conference on Phosphorus Chemistry, 12 – 17 July 1998, Cincinnati, USA. **Synthesis and Reactivity of Nitrogen-Containing 3-Phosphonoalkylcyclohexenones** (Lecture), M.J. Mphahlele.\*
6. 7<sup>th</sup> Ibn Sina International Conference on Pure and Applied Heterocyclic Chemistry, 25 – 28 March 2000, Alexandria (Egypt):

- (i) **Azidotrimethylsilane-mediated Schmidt Rearrangement of 2-Aryl-1,2,3,4-tetrahydro-1-methylsulfonyl-4-quinolones: Regioselectivity and Non-regioselectivity of Carbon Migration** (Lecture), M.J. Mphahlele.\*
- (ii) **Reactions of 2-Aryl-1,2,3,4-tetrahydro-4-quinolones and their N-Methylsulfonyl Derivatives with Iodine in Methanol** (Poster), N.F.H. Makhubela,\* S.M. Ndlovu\* and M.J. Mphahlele.
7. 15<sup>th</sup> IUPAC International Conference on Physical Organic Chemistry, Göteborg, Sweden, 08 – 13 July 2000, **Oxidative Aromatization of Cyclohexenone Systems and 2-Aryl-quinolone Derivatives Using Iodine in Alcohol or Pyridinium Perbromide in Acetic Acid** (Lecture), M.J. Mphahlele.\*
8. 1<sup>st</sup> Binational RSC-SACI International Conference on Organic Chemistry, UCT (Cape Town), 07 – 11/ 01/ 2001, **Synthesis and Transformation of 4-Substituted 2-Arylquinolines** (Invited Lecture), M.J. Mphahlele.\*
9. 6<sup>th</sup> International Conference on Heteroatom Chemistry, Lodz (Poland), 22 – 27 June 2001, **Synthesis and Chemistry of 2-Arylquinolones** (Lecture). M.J. Mphahlele.\*
10. 12<sup>th</sup> European Symposium on Organic Chemistry, Groningen (the Netherlands), 13 – 18 July 2001, **Synthesis and Chemistry of Benzoheterazepine Analogues** (Poster), M.J. Mphahlele\* and R.M. Mampa.\*
11. 8<sup>th</sup> Ibn Sina International Conference on Pure and Applied Heterocyclic Chemistry, Luxor (Egypt), 15 – 19 February 2002, **Synthesis and Chemistry of the 4-Substituted 2-Arylquinoline Derivatives** (Invited Lecture), M.J. Mphahlele\* and S.M. Ndlovu.\*
12. 16<sup>th</sup> IUPAC International Conference on Physical Organic Chemistry, University of California, San Diego (USA), 04 – 09 August 2002, **Synthesis, Spectroscopic (NMR, IR), X-ray Crystallographic and Computational Studies of the 2-Aryl-3-bromoquinolin-4(1H)-ones** (Lecture). M.J. Mphahlele.\*
13. 16<sup>th</sup> International Conference on Phosphorus Chemistry, 04 – 09 July 2004, Birmingham (UK), **Reactions of Diethyl (lithiomethyl)phosphonate with  $\beta$ -Substituted Cross-conjugated Dicarbonyl Compounds** (Poster) M.J. Mphahlele\* and F.L. Lediga.
14. 9<sup>th</sup> Ibn Sina International Conference on Pure and Applied Heterocyclic Chemistry, Issuit (Egypt), 09 – 14 December 2004:

- (i) **Tautomeric 2-Arylquinolin-4(1*H*)-one Derivatives – Chemical Transformation, Spectroscopic, X-ray and Quantum Chemical Studies** (Lecture), M.J. Mphahlele\* and A.M. El-Nahas.
- (ii) **One-pot Iodine-Methanol–Promoted Iodocyclization and Oxidative Aromatization of  $\alpha$ -Allylcyclohexenones to 2-Iodomethyl-2,3-dihydrobenzofuran Derivatives** (poster), M.J. Mphahlele\* and T.B. Moekwa
15. 18<sup>th</sup> IUPAC International Conference on Physical Organic Chemistry, Warsaw (Poland) 20 – 25 August 2006:
- (i) **Regio- versus Non-Regioselectivity of Haloenolcyclization of 2-Allylcyclo-1,3-hexanediones Using Iodine in Methanol and Pyridinium Tribromide in Dichloromethane** (Lecture), M.J. Mphahlele\* and T.B. Moekwa.
- (ii) **Synthesis and Chemical Transformation of Fused Tetrazoles Derived from 2-Bromomethyl- and 2-Iodomethyl-2,5,6,7-tetrahydrobenzofuran-4-ones** (Poster), T.B. Moekwa\* and M.J. Mphahlele.
16. 11<sup>th</sup> European Symposium on Organic Reactions, Faro (Portugal) 01 – 07 July 2007, **2-Aryl-4-chloro-3-halogenoquinolines as Substrates for the Synthesis of 2,3-Disubstituted Primary 4-Aminoquinoline Derivatives** (Poster), M.J. Mphahlele\* and V. Mtshemla\*.
17. 5<sup>th</sup> IUPAC International Symposium on Macro- and Supramolecular Architectures and Materials; Jamaica, 14 – 20 August 2010 **Synthesis and structural property studies of 2,3,4-triarylquinolines and their analogues** (Poster), M.J. Mphahlele,\* H.R. Makelane and M.M. Mphahlele.
18. 11<sup>th</sup> International Chemistry Conference and Exhibition in Africa (11 ICCA), Luxor (Egypt) 20 – 23 November 2010, **Synthesis and structural property studies of polysubstituted quinolines and their annulated derivatives** (Poster), M.J. Mphahlele.\*
19. 23<sup>rd</sup> International Conference on Heterocyclic Chemistry (IHC 2011), Glasgow (Scotland), 31/07 – 04/08/2011, **4-Heteroatom Substituted 2-Aryl-3-iodoquinolines as Substrates for the Synthesis of Polysubstituted and Annulated Quinoline Derivatives** (Poster) M.J. Mphahlele,\* M.M. Mphahlele and L.G. Lesenyeho.
20. 9<sup>th</sup> International Conference of Young Chemists, Krakow (Poland), 12–16/10/2011, **Pd-catalyzed Suzuki-Miyaura Cross-coupling of 4-Heteroatom Substituted Quinolines into 4-Aminoquinoline Derivatives** (Poster) M.M. Mphahlele and M.J. Mphahlele.

21. 2<sup>nd</sup> International Conference on Pure and Applied Chemistry (ICPAC 2012), University of Mauritius (Mauritius), 2–6/07/2012, **Presynthesized Halogenoquinolin-4-ones as Substrates for the Synthesis of Polynuclear Quinolinones and Quinoline Derivatives** (Lecture), M.J. Mphahlele.\*
22. 10<sup>th</sup> International Conference of Young Chemists, Gdansk (Poland), 10–14/10/2012, **6,8-Dibromo-4-chloroquinoline-3-carbaldehyde as Substrate for the Synthesis of Novel 1,6,8-triaryl-1*H*-pyrazolo[4,3-*c*]quinolines**. M.M. Maluleka\* and M.J. Mphahlele.

### **VISITING LECTURER**

#### **NATIONAL:**

1. Department of Chemistry, University of South Africa, 21 August 1996. **Reactions of Alkyl- and Allylphosphonate Carbanions with  $\alpha,\beta$ -Unsaturated Carbonyl Compounds: Transformation of the Addition and Substitution Products** (Lecture). M.J. Mphahlele.\*
2. Department of Chemistry, University of the North, 03 December 1997. **Reactions of Phosphorus-Stabilised Carbanions with Cyclic Enones- Transformation of the Substitution Products** (Lecture). M.J. Mphahlele.\*
3. Department of Chemistry, University of Pretoria, 19 May 2000, **Synthesis and Chemistry of Flavanone and Benzoheterazepine Analogues** (Lecture). M.J. Mphahlele.\*
4. SACI Raikes Medal Lecture, University of the Witwatersrand, 28 October 2001, **Synthesis and Chemistry of Biologically Relevant Heteroatom-Containing Compounds** (Lecture), M.J. Mphahlele.\*
5. Department of Chemistry, University of Durban Westville, 07 April 2003, **2-Aryl-4-quinolone Derivatives: Synthesis, Chemical Transformation and Structural Property Studies** (Lecture). M.J. Mphahlele.\*



## INTERNATIONAL:

1. Department of Organosulfur Chemistry, Centre of Molecular and Macromolecular Studies, Polish Academy of Sciences, Lodz (Poland), November 1996. **Reactions of Alkyl- and Allylphosphonate Carbanions with  $\alpha,\beta$ -Unsaturated Carbonyl Compounds: Transformation of the Addition and Substitution Products** (Lecture). M.J. Mphahlele.\*
2. Department of Chemistry, Faculty of Science, University of Lagos (Nigeria), 27 – 31 October 2008. **Overview of Ecotoxicology, Bioorganic and Natural Products Research niche area activities** (lecture). M.J. Mphahlele.\*

## **ACADEMIC CITIZENSHIP**

### PROFFESIONAL ACTIVITIES

1. External Examiner for Organic Chemistry III, Paper 3 (standard and supplementary examinations) and Organic Chemistry IV (Chemistry Honours), University of Transkei, 1997 - 2003.
2. External Examiner for Organic Chemistry III (National Diploma) and Organic Chemistry IV (B. Tech. Chemistry), Technikon Northwest, 1998 - 2002.
3. External Examiner for Organic Chemistry 3 (Paper 3), University of South Africa, 1999 - 2002.
4. External Examiner for Organic Chemistry III and Organic Chemistry 701 (B.Sc. Honours), University of the North, 1999 - 2001.
5. External Examiner, M.Sc. Thesis "*Solubilisation of Porphyrins Used in Photodynamic Therapy of Cancer, in Hydroxylic Media*", B.G. Mbatha, University of Transkei, March 2000.
6. External Examiner, M.Sc. Thesis "*X-Ray and NMR Spectroscopic Studies of Selected Heterocyclic Compounds of Phosphorus and Nitrogen*", R.M. Mampa, University of Pretoria, December 2000.
7. External Examiner, M.Sc. Thesis "*The Synthesis and Analysis of Methaqualone and Some Potential and Structural Isomers Thereof*", E.F. van Zyl, University of Pretoria, December 2001.

8. External Examiner, M.Sc. Thesis "*Synthesis and Asymmetric Reactions of Camphor-Derived Acetals*", X.K. Peter, Vista University (PE Campus), March 2002.
9. External Examiner, M.Sc. Thesis "Chemical Investigation and Identification of Chemical Components from *Helichrysum panduratum* O. Hoffn (Compositae)", K.E. Mudau, University of Venda for Science and Technology, November 2002.
10. External Examiner, M.Sc. Thesis "Isolation and Spectroscopic Elucidation of Compounds from *Thamnosma Africana* (Rutaceae) (Matsetsane)", H.F. Makofane, University of Venda for Science and Technology, July 2003.
11. External Examiner, Organic Chemistry III and honours, University of Venda for Science and Technology, 2004 -.
12. External Examiner, Organic Chemistry III (ORG30AC) and IV (ORG40AC), Tshwane University of Technology, 2004 -.
13. External Examiner Ph.D. Thesis '*Synthesis and Characterization of Porphyrazines with Chiral Recognition Motifs*'. B.G. Mbatha, University of Johannesburg, January 2006.
14. External Examiner M.Tech. Dissertation of Ms. R.B. Maseko, Tshwane University of Technology, July 2006.
15. External Examiner M.Sc. Dissertation of Mr. D. Ndiitwani, University of Western Cape, October 2009.
16. External Examiner M.Tech. Dissertation of Mr. F. Ochibango, Tshwane University of Technology, October 2011.
17. External Examiner PhD Thesis of Ms V. Jeena, Univeristy of Kwa Zulu-Natal (Pietermaritzburg), March 2012.

#### **MEMBERSHIP OF PROFFESIONAL SOCIETIES:**

1. Member of the South African Chemical Society, 2002 - 2003.
2. Member of the American Associations of the Advancement of Sciences, 2003 -.
3. Member of the American Chemical Society 2007 -.
4. Member of the Academy of Science of South Africa (ASSAF) 2012 -. **Membership of the Academy represents the highest level of national honor for South African scientists.**

## **ASSESSOR:**

1. Served as member of the Judging Panel for poster presentations and as chairman for oral presentations; MEDUNSA Academic Day 20 August 1998 and 19 August 1999, respectively.
2. Served as a reviewer for FRD Research Output Evaluations of Drs. D. Gravestock (1998), S.S. Ravindran (1998 and 2001), B. Barton (2000) and I.D.I. Ramaite (2001; 2002), and for postdoctoral fellowships of Drs. W. van Otterlo (1999 and 2000) and C. Fruit (2002).
3. Organic Chemistry Session chairperson at the 35th Convention of the S.A. Chemical Institute, 24 – 29 September 2000, Potchefstroom.
4. Session chairperson at the 8<sup>th</sup> Ibn Sina International Conference on Pure and Applied Heterocyclic Chemistry, 15 – 19 February 2002, Luxor (Egypt).
5. Session chairperson at the 8th Frank Warren Conference on Organic Chemistry, 13 – 16 April 2003, Rhodes University.
6. Session chairperson at the 38th SACI Convention, 03 – 08 December 2006, University of kwa Zulu-Natal (Durban).
7. Session chairperson for Seminar on HIV/AIDS, Opportunistic Infectious and Medical Plants, 15/ 03/ 07 UNISA (Sunnyside Campus).
8. Session chairperson at the 40th SACI Convention, 16 – 21 January 2011, Wits University.
9. Session chairperson at the 12<sup>th</sup> Frank Warren Conference on Organic Chemistry, 15 – 18 April 2012, University of Free State.

## **JOURNAL REVIEW**

Referee for the *S. Afr. J. Chem.*; *J. Phys. Org. Chem.*, *Molecules*, *Bull. Chem. Soc. Ethiopia*, *Bioorg. Med. Chem. SynLett.*, *J. Mol. Struct.*, *J. Heterocycl. Chem.*, *J. Hazard. Mat.*; *Monatshefte fur Chemie* and *Appl. Org. Chem.*

## **COMMITTEES:**

1. A member of several committees of the Faculty of Sciences, Senate and Research and Publications' Committee of Senate (MEDUNSA), 1998 - 2003.

2. A member of several committees of the School of Science; College of Science, Engineering and Technology and the Senate at UNISA.
3. "Bioorganic and Natural Products Research Unit" Leader, 1999 - 2003.
4. Member of the Organizing Committee of the 7<sup>th</sup> Frank Warren Conference, 17 – 19 January 2000, Warmbaths.
5. NRF THRIP Panel member for project proposal appraisals and technical audit, 2001.
6. NRF Panel member for postgraduate bursaries and scholarships appraisals, 2002.
7. NRF Panel member for the Focus Area- Unlocking the Future, 15 September 2003 and 12 October 2004.
8. NRF Panel member for post-doctoral scholarship appraisals, 2003 -.
9. Scientific Programme Committee Member and co-opted member of the Organizing Committee of the Young Spectroscopist Symposium 2004, 23<sup>rd</sup> September 2004, UNISA.
10. NRF IRDP Panel member to appraise University of the Western Cape proposal, 14 October 2004.
11. Officiated at a Graduation Ceremony in Bloemfontein (20 April 2007) and Polokwane on behalf of the Executive Dean CSET.

## **PARTICIPATION IN COMMUNITY SERVICES**

While employed at MEDUNSA, I coordinated High School Teacher program for the Department of Chemistry and biochemistry to upgrade high school teachers' skills in the teaching of chemistry and also exposed high school learners to laboratory environment. I continuously participate in several community structures to promote science

### **POSTGRADUATE STUDENT TRAINING**

I was involved (although not officially) as a co-supervisor with Prof. T.A. Modro on a PhD thesis of Dr A. Pienaar at the University of Pretoria. In 1996 while working with Prof. Modro at the University of Pretoria, I designed and co-supervised a post-doctoral research project for Dr W. Perlikowska from Poland. Together with her we published three papers from the work carried out at

the Centre for Heteroatom Chemistry.

### **M.Sc. Student Training**

1. Supervisor of Mr. K.J. Mbengo's M.Sc. degree, MEDUNSA, 1999 – 2002.
2. Supervisor of Mr S.M. Ndlovu's M.Sc. project at MEDUNSA, 2000 – 2002.
3. Supervisor of Mr. N.F.H. Makhubela's M.Sc. project at MEDUNSA, 2001 – 2003.
4. Co-supervisor of Ms. M.P. Moloto's M.Sc. project at MEDUNSA, 2002 – 2003.
5. Supervisor of Mr. T.B. Moekwa's M.Sc. project at UNISA, 2004 – 2005.
6. Supervisor of Mr. S.M. Nwamadi's M.Sc. project at UNISA, 2004 – 2005.
7. Supervisor of Ms. V. Mtshemla's M.Sc. project at UNISA, 2006 – 2008.
8. Supervisor of Mr. G.L. Lesenyeho's M.Sc. project at UNISA, 2009 – 2010.
9. Supervisor of Ms. H.R. Makelane's M.Sc. project at UNISA, 2009 – 2010.
10. Supervisor of Mr. F.A. Oyeyiola's MSc. project at UNISA, 2010 – 2012.

### ***Ph.D. Student Training***

1. Supervisor of Ms. M.M. Mphahlele's Ph.D. project at UNISA, 2010 – 2012.
2. Supervisor of Mr. F.A. Oyeyiola's Ph.D. project at UNISA, 2012 –.

### **SCIENTIFIC COOPERATIONS**

Since no advanced research work can be carried out in isolation, scientific collaboration, both nationally and internationally has been established.

### **NATIONAL PARTNERSHIP**

National co-operation has been established on the basis of bilateral agreements with Profs: D. De Waal (University of Pretoria) and P.T. Kaye (Rhodes University), Mr R.M. Mampa (University of the North and now at Wits) and Dr M.A. Fernandes (Wits University). Our collaboration involves exchange of scientific information, joint research projects and publications and the use of analytical instruments essential for my research projects.

### **INTERNATIONAL PARTNERSHIP**

1. In 1996 I was invited by Prof. M. Mikolajczyk to spend a three months study leave (Sept.-Nov. 1996) in the Department of Organosulfur Compounds, Centre for Molecular and Macromolecular Studies, Polish Academy of Sciences, Lodz (Poland) working on a joint project within the field of organophosphorus chemistry. My visit to Poland was part of an international collaboration between the Centre of Heteroatom Chemistry of the University of Pretoria and the Polish Academy of Sciences. During my stay in Poland I had the opportunity to visit the Institute of Organic Chemistry of the Polish Academy of Sciences in Warsaw and the Faculty of Chemistry of the Technical University of Wroclaw at the invitations of Profs M. Makosza and J. Mlochowski, respectively. The study leave was most successful from the scientific point of view and a paper has been co-authored with the Polish side.
2. Collaboration with Dr Ahmed M. El-Nahas of the Department of Chemistry, El-Menoufia University in Egypt on computational chemistry (*ab initio* and DFT) has thus far co-published four papers in refereed journals of chemistry.
3. Collaboration with Dr Tarek M. El-Gogary of Department of Chemistry, Faculty of Science, Mansoura University, Demiatta, Egypt., on computational chemistry (*ab initio* and DFT) has recently been established and we have thus far co-published a paper in a refereed journal of chemistry.
4. Leader of UNISA Ecotoxicology Research Niche Area team to visit University of Lagos, UNILAG to establish collaborative action following memorandum of agreement (MOE) between UNISA and UNILAG 27 – 31 October 2008.

## **CONTRIBUTIONS TO CORRECTIVE ACTION**

I have previously employed several MEDUNSA, UNISA, Technikon Northwest and Northern Gauteng students as temporary research assistants to expose them to laboratory techniques. Several B.Sc., B.Sc. honours and M.Sc. students and staff members received financial support from my NRF research grants to upgrade their qualifications. Mrss. Ndlovu and Makhubela who were previously employed as technical officers at MEDUNSA were able to upgrade their qualifications from B.Sc. degree to M.Sc. level and were later promoted to lecturer and natural scientist, respectively. Several postgraduate students under my supervision have been afforded the opportunity to present posters and lectures at national and international conferences of chemistry as part of skill development.

## **ACHIEVEMENTS AND AWARDS**

### **NATIONAL RECOGNITION**

1. Obtained a Y rating from the FRD for the period 1997 – 2002.
2. Obtained a C-3 rating from the NRF for the period 2002 – 2007.
3. Obtained a C-3 rating from the NRF for the period 2008 – 2012.
4. Obtained a C-2 rating from the NRF for the period 2012 – 2017.

### **INTERNATIONAL RECOGNITION**

Prof. Mphahlele's biography was published in the following:

1. 2006-2007 Edition of Marquis Who's Who in Science, Engineering and Technology, 9<sup>th</sup> edn September 2006.
2. 2006-2007 Edition of Who's Who in the World, 25<sup>th</sup> Silver Anniversary Edition 2007 – 2008.

3. 2007-2008 Edition of Who's Who in Science, Engineering and Technology, 10<sup>th</sup> edn, September 2007.
4. 3<sup>rd</sup> Price for Poster Presentation, **2-Aryl-4-chloro-3-halogenoquinolines as Substrates for the Synthesis of 2,3-Disubstituted Primary 4-Aminoquinoline Derivatives**, M.J. Mphahlele\* and V. Mtshemla\* at the 11<sup>th</sup> European Symposium on Organic Reactions, Faro (Portugal) 01 – 07 July 2007.

### **AWARDS FOR EXCELLENCE**

1. Recipient of the University of Fort Hare Council Academic Merit Award (1990).
2. Recipient of Eskom Achievement Award (1990).
3. Recipient of the prestigious Raikes Medal from the South African Chemical Institute (2001).
4. Recipient of the MEDUNSA's Faculty of Sciences Most Senior Research Excellent Award (2002).
5. Recipient of UNISA Chancellor Award for Research (2006).
6. Recipient of UNISA Chairperson of Council Award for Excellence (2009).
7. Recipient of UNISA Chancellor Award for Research (2012).

### **NATIONAL AWARDS**

1. Awarded the FRD post-doctoral scholarship (1994) to carry out research under the supervision of Prof. T.A. Modro at the University of Pretoria.
2. Received a stimulation fund (R10 000) from the University of Pretoria (1996) to develop an independent research profile.



## **RESEARCH GRANTS**

Recipient of several National Research Foundation (NRF) Research Grants under

1. Open Research Programme 1997 – 1999.
2. MEDUNSA Institutional Research Development Programme 1999 – 2003.
3. Focus Area - Unlocking the Future 2004 –.
4. UNISA Institutional Research Programme 2008 –.

## **NATIONAL EQUIPMENT GRANTS**

1. Awarded an equipment grant (R50 000) by the Anglo-American Oppenheimer's Educational Chairman Fund (2001) to purchase a fume cupboard.
2. Awarded equipment grants (2002) by the NRF IRDP to purchase a Microplate Washer (R65 000) and a UV/Vis spectrometer (R90 000).

## ***INTERNATIONAL EQUIPMENT GRANTS***

1. Awarded an equipment grant [060968/Z/00/Z/JC/SRD] by the Wellcome Trust (UK) in the form of a multinuclear Varian Mercury 300MHz NMR spectrometer (R2 000 000) for the Department of Chemistry and Biochemistry at MEDUNSA, 01 August 2000.
2. Awarded an equipment grant 01-273 RG/CHE/AF/AC by the Third World Academy of Sciences (Italy), 15 July 2002 to purchase an Elisa spectrometer (Rs 72 200 @ 10.75 = US\$6 716.28).

## **REFERENCES**

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