

## Europass Curriculum Vitae



### Personal information

**First name(s) / Surname(s)** **JACOBUS (KOOS) FREDERICK VAN STADEN**  
**Address(es)** **PASCANI Strada Nr. 8, Bloc. 728A, Sc. B Et. 4, Ap. 52, 062085. Bucharest-6. ROMANIA.**  
**Telephone(s)** Mobile: **+4 074 169 5743** Mobile: **+4 074 943 2360**  
**E-mail** [koosvanstaden@yahoo.com](mailto:koosvanstaden@yahoo.com) Website: [www.patlab.ro](http://www.patlab.ro)  
**Nationality** South African (Prof. Dr. Jacobus Frederick van Staden has a South African passport (Passport No. 459171962) and a Romanian Residence Card for Family Members (Personal Code 7450112030014)).  
**Date of birth** 12 January 1945  
**Gender** Male

### Expert **PTA / Actually Senior Researcher and Professor**

NMP-2008-2.1-1, Nanostructured membrane materials  
 NMP-2008-2.6-4, ERA-NET PLUS on Materials Research  
 NMP-2009-2.1-1, Nano-structured materials based on graphene  
 NMP-2009-2.6-1, Novel membranes for water technologies  
 NMP.2010.2.4-1, New materials and/or membranes for catalytic reactors  
 GC.NMP.2010-1, Materials, technologies and processes for sustainable automotive electrochemical storage applications  
 GC.NMP.2012-1, Innovative automotive electrochemical storage applications based on nanotechnology  
 NMP.2012.1.2-1, Nanotechnology solutions for in-situ soil and groundwater remediation  
 NMP.2011.1.2-3, Active nanomembranes/-filters/-adsorbents for efficient water treatment with stable or regenerable low-fouling surfaces  
 NMP.2011.1.2-1, Development and up-scaling of innovative photovoltaic cell processes and architectures to pilot-line scale for industrial application  
 NMP.2010.4.0-1, Development of nanotechnology-based systems for detection, diagnosis and therapy for cancer  
 Coordination between projects related to Nanomedicine  
 NMP.2010.4.0-2, Capacity building for the development of nanotech-based multi-parameter sensors  
 NMP.2010.1.2-1, Novel tools integrating individual techniques for real time nanomaterials characterisation  
 NMP.2011.1.3-1, New methods for measuring, detection and identification of nanoparticles in products and/or in the environment  
 NMP.2011.1.3-1, New methods for measuring, detection and identification of nanoparticles in products and/or in the environment  
 NMP.2011.2.3-2, ERA-NET on research on materials science and engineering, including international cooperation  
 NMP.2012.2.1-2, Fine chemicals from CO<sub>2</sub>  
 NMP.2012.2.2-6, Photocatalytic materials for depollution  
 NMP.2012.4.0-1, Novel materials and design-based solutions for the creative industry  
 Processing technologies, synthetic chemistry, process Intensification, catalysis, Wood and Pulp & Paper Technologies (NMP.2012.3.0-1, NMP.2011.3.2-1)  
 Green Cars: Advanced Manufacturing of batteries, electrical components, lightweight structures (GC.NMP.2012-1, GC.NMP.2012-2, GC.NMP.2011-1)

## Work experience

Dates (From- To)	2007 - Current
Occupation or position held	<b>Senior Researcher 1, Full Professor status. Professor . Polytechnica University of Timisoara</b>
Main activities and responsibilities	<b>Director PATLAB</b> , Research and coordinator of Different Projects, Professor Status (Supervisor) for PhD Graduates
Name and address of employer	National Institute for Research and Development in Electrochemistry and Condensed Matter-Timisoara, PATLAB and Laboratory of Electrochemistry, Bucharest, 202, Splaiul Independentei Str., 060021-Bucharest, Romania
Type of business or sector	Research/Management
Dates (From- To)	2005 -2006
Occupation or position held	<b>Private Consultancy</b>
Main activities and responsibilities	Research, Education, Management Courses
Name and address of employer	Self Employed
Type of business or sector	Universities, National Institutes, Industries.
Dates (From- To)	1991-2004; 1987-1990; 1980 -1986; 1976-1980
Occupation or position held	<b>Full Eminent Professor, Head of Analytical Chemistry and Process Analytical Chemistry; Associate Professor; Senior Lecturer; Lecturer</b>
Main activities and responsibilities	Education, Research (Pure and Applied), Collaborations with Industries, Institutes, Universities, Various responsibilities.
Name and address of employer	University of Pretoria, Faculty of Natural and Agricultural Sciences, Department of Chemistry, 0002 Pretoria, South Africa
Type of business or sector	University
Dates (From- To)	1975-1976; 1973-1975; 1964-1973
Occupation or position held	<b>Pretoria Technicon and University of Zululand, SASOL</b>
Main activities and responsibilities	<b>Lecturer</b> , At SASOL from Laboratory <b>Assistant to Scientist and Section Head responsible for GC, MS and Corrosion.</b>
Name and address of employer	Universities (Pretoria and Zululand), SASOL, Sasolburg, RSA
Type of business or sector	Universities and production of Petrol, Diesel, Fine Chemicals from Coal.

## Education and training

Dates	1978; 1970; 1969; 1968
Title of qualification awarded	<b>DSc; MSc; BSc Honns; BSc</b>
Principal subjects/occupational skills covered	Chemistry
Name and type of organisation providing education and training	University of Pretoria (DSc), University of the Orange Free-State
Level in national or international classification	DSc

## Personal skills and competences

Mother tongue(s) **Specify mother tongue Afrikaans**

Other language(s)	<b>ENGLISH</b>				
Self-assessment	<b>Understanding</b>		<b>Speaking</b>		<b>Writing</b>
European level (*)	Listening	Reading	Spoken interaction	Spoken production	
<b>Language (English)</b>	Excellent	Excellent	Excellent	Excellent	Excellent
<b>Language</b>					

(\*) Common European Framework of Reference for Languages

Social skills and competences	At University of Pretoria. 1. President of CHEMTUKS (Student organisation for a number of years). 2. On number of Social Committees for Department of Faculty and Chemistry for number of years (Chairman, Vice-Chairman on number of occasions). See Annexes
Organisational skills and competences	<ol style="list-style-type: none"> <li>1. Currently Director of PATLAB. See <a href="http://www.patlab.ro">www.patlab.ro</a></li> <li>2. Currently Member of Advisory Panels of NRF (National Research Foundation) of South Africa. Previous Chairman of some Advisory Panels of NRF.</li> <li>3. Currently SENIOR MEMBER of Division of Analytical Chemistry of European Association for Chemical and Molecular Sciences.</li> <li>4. Currently member of South African Council of IUPAC. See also annexes.</li> <li>5. Currently Project Technical Advisor, PTA, for the European Commission.</li> </ol>
Technical skills and competences	<p>Current research interest is concentrated on Process Analytical Technology and flow-based systems (flow and sequential injection etc.) with other interests in electrochemistry and spectroscopy.</p> <p>With this scientific research and development project he involves a group of new generation fully high performance real-time intelligent interactive multi-point multi-species process analytical technological microsystems that also includes new innovations in the fields of nanotechnology/biotechnology (<b>like nanostructured materials for various purposes e. g. for catalytic micro reactors, for membranes, for nanotubes, for water treatment technologies, for chemical sensors and actuators, for real time nanomaterials characterization, development of nanotech-based multi-parameter sensors, etc.</b>).</p> <p>The systems tried to go far beyond the current fragmented technology to a point very near to mankind operation with some preset decision makings and implementations, thus PATMAN. New developments in microsystems technology (nanotechnology) become increasingly important in various operations in industrial processes and real life.</p> <p>The main objective will be to transfer real sample(s) to detection and beyond as required by control into an operating system. R&amp;D in most current systems is however fragmented and does not include entire total dynamic integrated intelligent interactive patman systems. Special R&amp;D attention is given to sampling (fouling and clogging of flow-through sampling devices still a problem), <b>manifold unit operation devices</b> for microreactor technology (still new with large potential), especially flow solution-phase organic synthesis (current experience limited running time over long periods still a main draw back), homogeneous and heterogeneous catalysts as solid-supports in production of value added fine chemicals and pharmaceuticals, challenges for new detection and sensor technology devices (especially with nanoparticles).</p> <p>These objectives (sampling, manifold unit, detection, data processing also remote sensing and control) will be integrated into a single powerful reliable, durable smart system suitable for complete fast automatic real-time, decisive information and management control over extended periods without any real human intervention, assessment in risk analysis to yield high quality cost effective industrial production, food processing, complete waste water management.</p>
Computer skills and competences	Handle the normal working conditions of computers in Laboratories, like MS OFFICE, ACROBAT etc.
Other skills and competences	I am an expert as evaluator in various international bodies. SEE ANNEXES.
Driving licence	YES HAVE ONE. CODE: EB
<b>Additional information</b>	<b>SEE ANNEXES</b>

**Annexes**

1. SUMMARY-SHORT CV FOR PROF JACOBUS (KOOS) FREDERICK VAN STADEN
2. PUBLICATIONS
3. CONTRIBUTIONS AT CONFERENCES
4. MANAGEMENT AND ADMINISTRATIVE DUTIES
5. EDITORIAL BOARDS
6. REFEREEING DUTIES
7. COMMUNITY SERVICES OR PROFESSIONAL SKILLS
8. OTHER CONTRIBUTIONS AT CONFERENCES ETC.

**ANNEXES**  
**1. SUMMARY-SHORT CV FOR**  
**PROF. JACOBUS (KOOS) FREDERICK VAN STADEN**

Koos van Staden has more than 35 years of experience (the majority in project management on international level) in research with various contributions to FIA, SIA, **advanced Process systems with PAT with various sensors** – being recognized as pioneer (JAFIA Scientific honor award, 2003), **groups still ranked among top research labs with third position in world** ([www.GlobalFIA.com /Database/Leading Authors](http://www.GlobalFIA.com/Database/Leading%20Authors)).

He received a number of awards e.g. Sasol award and scholarship as student (1967-1970), Robertson award as excellent student (1967-1970), D F du Toit Malherbe-award for his research on Flow Injection Analysis, the AECI Gold medal and the Eminent Academic Achievement from the University of Pretoria since 1995 etc., was one of the finalists of the NSTF SET awards for 2000, 2002 and 2003 and the runner-up in 2001 (**Scientific Oscars at the Hilton, SABC TV Broadcast May 30, 2003 for Lifetime Achievers**), was the winner of the prestigious Havenga prize for Chemical Sciences of the South African Academy of Art and Science for 2000.

Koos together with Raluca Stefan received the first Merck Medal from SACI in 2000.

Koos has been awarded the JAFIA Scientific Honor Award (Certificate and Medal) for his glorious contribution to Advance of Modern Chemical Analyses as pioneer of Flow Injection Method by The Japanese Association for Flow Injection Analysis and the Division of the Japanese Society for Analytical Chemistry as part of their 20<sup>th</sup> anniversary celebrations in December 2003. This award is granted only every 5 years.

**Excellent track record with a H-INDEX of 28 (ISI WEB OF KNOWLEDGE, THOMSON REUTERS), WITHOUT SELF CITATIONS of all authors and a total number of citations of 2539 (without self- citations) as reflected by more than 280 peer refereed international research publications in ISI journals (Talanta (Impact Factor = 3.722), Analytica Chimica Acta (Impact Factor = 4.310, Ranking 5<sup>th</sup> in Analytical Chemistry), Analytical and Bioanalytical Chemistry (Impact Factor = 3.841, Ranking 6<sup>th</sup> in Analytical Chemistry), Sensors and Actuators B (Impact Factor = 3.368), Analyst (Impact Factor 3.913), Critical Reviews in Analytical Chemistry (Impact Factor = 3.250, Ranking 16 out of 70 in Analytical Chemistry), Electroanalysis (Impact Factor = 3.080), Biosensors and Bioelectronics (Impact Factor = 5.361), J Pharmaceutical and Biomedical Analysis (Impact Factor = 2.733), Analytical Letters (Impact factor = 1.317, Ranking 44 out of 70 in Analytical Chemistry)), 2 books, and numerous chapters in research books with well known publishers (CRC Press, Marcel Dekker, Taylor and Francis), He has more than 380 presentations at national and international level (74 as plenary, keynote and on invitation), supervised 11 PhD-students (GD Marshall, currently President of FlobaFIA, PL Kempster international expert in water management, JJ Schoeman, Prof., International Expert in Reverse Osmosis etc.), 31 MSc-students, 5 Post Docs.**

He serves on International Editorial and Advisory Board of a number of international journals (Anal Lett, Anal & Bioanal Chem, Talanta, Analyst, J Flow Injection Analysis), and in various positions in the scientific community e.g. Chairman on the Commission on General Aspects of Analytical Chemistry (V 5.1) of the Analytical Chemistry Division of the International Union of Pure and Applied Chemistry (January 1996 till the end of 2001), member of the Analytical Chemistry Division of the International Union of Pure and Applied Chemistry (January 1996 till the end of 2001), titular member of IUPAC from 1994 and FELLOW from 2001, observer for Southern Africa on the Working Party of Analytical Chemists now **Analytical Division of the Federation of European Societies** for a number of years, Vice-Chairman (1989 – 1990) and Chairman (1990 – 1993) of the Chemistry Division of the South African Academy for Science and Art, Chairman of the First National Symposium in Analytical Chemistry, ANALYTICA'90, in South Africa, etc.

He serves on the Scientific Committees of various international conferences, symposiums and bodies, is a Member of a number of Steering Committees and serves in various positions on a number of International Research Foundations.

**He was chairman of the Advisory Panel for the National Research Foundation (NRF) in the nineties for disadvantage universities in South Africa with special attention to the University of Zululand and served currently on the Advisory Panel of NRF for capacity building of research in South Africa and on the evaluations committees of NRF.**

He was co-chairman and chairman of the International Program Committee of the 12<sup>th</sup> international conference on FIA analysis (ICFIA'2003) held in Venezuela in 2003, serves on the international steering and scientific committees of ICFIA'2003, ICFIA'2005, ICFIA'2007, the international scientific committees of FA VI, 1994, (FA VII), 1997, FA VIII, 2000, FA IX, 2003, FA X, 2006 FA XII, 2012 and the international scientific committee of IMA'2003 IMA'2005. He serves on International Scientific Committees on Kinetics in Analytical Chemistry, KAC'2001 (Co-Chairman), KAC'2004, KAC'2006, International Steering Committee IMCS'2004, IMCS'2006, IMCS'2008, IMCS'2010, IMCS'2012, is on various international scientific commissions, advisory councils etc in project management.

Previous and current collaborations (SASOL, pharmaceutical companies, Be Beers, Element 6, Anglo American, Amplats, National Water Research Commission etc in RSA and international). Numerous founded projects since 1976 awarded from NRF on the base of a competitive evaluation. He is currently Project Director of 4 R&D projects in Romania.

Management experience: Coordinator and Head of Analytical Chemistry and Process Analytical Chemistry at University of Pretoria, Experience in Management at SASOL, as Chairman in International committees (e.g. at IUPAC, Scientific conferences and NRF in RSA).

Interest in automation dated back to early 1970s with involvement in 1971 -1972 at SASOL in one of the first information and management systems (Developed with collaboration of Siemens first semi-automated data assembling and data processing system with an 18 K computer system for 38 GC instruments. Group of Koos also developed and implemented some of first capillary columns for the determination of various components in oil refinery with excellent results. Personal contact with miniaturized systems dated back to 1978 with research on the flow injection turbidimetric determination of sulphate with a miniaturized manifold (channel i.d. between 100 and 500 µm) in FIA {W D Basson and J F van Staden\*, Laboratory Practice 27 (10) (1978) 863 -865}. PI invited by Prof Horacio Mottola in 1981 to present a lecture

(Some application aspects of flow-injection analysis, J F van Staden. **182nd A C S National Meeting. New York, N. Y., USA. 23 - 28 August 1981, Division Analytical Chemistry, Symposium on Flow Injection and other unsegmented continuous-flow**), presentation of first work done on monitoring by reversed flow injection analysis (RFIA) and alternating reagent injection. Further breakthroughs in the early 1980's were prevalve reduction of nitrate in FIA for automated simultaneous determination of nitrate and nitrite, automated prevalve sample filtration in FIA removing suspended solids and colour before sampling in turbidimetric determination of sulphate in water, automated prevalve dilution in FIA, using formation constants to remove drift in turbidimetric sulphate analysis.

Impact of this research awarded by invited lecture "Sampling of industrial flow injection analysers". J F van Staden. **Second International Symposium on Analytical Chemistry in the exploration, mining and processing of materials under aegis of IUPAC. Pretoria. 15 - 19 April 1985.**

Next breakthrough was on tubular solid-state ISE electrodes in FIA rewarded with international lectures "Coated tubular solid-state ion-selective electrodes in flow analysis". J F van Staden. **Flow Analysis III. Royal Society of Chemistry. Birmingham. Great Britain. 5 - 8 September 1985.** and "Advances in flow injection analysis with coated tubular ISE units."

J F van Staden. **International symposium on electrochemistry and sensors in biomedical, environmental and industrial sciences. Royal Society of Chemistry. Analytical Division. Cardiff. Great Britain. 6 - 9 April 1987 (Invitation by Prof Ron Thomas).**

Major scientific impact given in [Advances in flow injection analysis with coated tubular ion-selective electrode units. J F van Staden. **Anal. Proc. 24 (11) (1987) 331 – 333**].

Some of further major scientific impacts can be found in the determination of multi-species in real-time with my research groups dated back to the early eighties [simultaneous determination of sodium, potassium, magnesium and calcium in surface, ground and domestic water by FIA with flame photometry and AAS (1980)], up to recently [determination of Lead(II), Copper(II), Zinc(II), Cobalt(II), Cadmium(II), Iron(III) and Mercury(II) using SIA Extractions with multivariate calibration and multiwavelength detection with a diode array detector (2004)], {Simultaneous determination of L-thyroxine (L-T<sub>4</sub>), D-thyroxine (D-T<sub>4</sub>) and L-triiodothyronine (L-T<sub>3</sub>) using a sensors/SIA system (2004)}. His research groups exploited numerous sampling devices, manifold configurations and detection systems successfully in 1990s and early 2000s and some of these results have been reported in on-line dialysis configurations in flow injection analysis

[J F van Staden. **Laboratory Robotics and Automation (LRA) 6** (February 1994) 29 – 44], aspects of signal processing in flow injection systems

[J F van Staden. **S. Afr. J. Chem. 48** (1-2) (1995) 8 – 14], analyte enrichment using sequential-injection analysis

[G D Marshall and J F van Staden. **Instrumentation Science and Technology 25** (4) (1997) 307 – 320], application of sequential injection analysis as process analysers

[R E Taljaard and J F van Staden. **Laboratory Robotics and Automation (LRA) 10** (6) (1998) 325 – 337], analytical aspects of chemical process control. Part 1. Fundamentals

[J F van Staden. **Pure and Applied Chemistry 71** (12) (1999) 2303 – 2308], automated *in situ* preparation of azomethine H and the subsequent determination of boron in fertilizers with sequential injection analysis

[J F van Staden and T A van der Merwe. **Analyst, 125** (11) (2000) 2094 – 2099] and solving the problems of sequential injection systems as process analyzers

[J F van Staden. **Anal. Chim. Acta, 467** (1-2) (2002) 61 -73]. See the impact from citations in ANNEXES

**Koos van Staden** is currently director of a project with financial support to establish a further extension of PATLAB, the Process Analytical Technology Laboratory in Bucharest, Romania, (Website: [www.patlab.ro](http://www.patlab.ro)) and the first of its kind in Romania. PATLAB already marked some breakthroughs in the EU e.g. Koos van Staden and Raluca-Stefan van Staden from PATLAB, Bucharest won numerous gold medals and special awards at International and National ProInvents and Innovations Exhibitions since 2009. (See [www.patlab.ro](http://www.patlab.ro)).

See also technical skills and competences.

## 2. PUBLICATIONS.

### 2.1 LIST OF 30 TOP CITED PEER REVIEWED PUBLICATIONS from more than 280 original published articles in ISI journals

74. Computer-aided flow-analysis for laboratory use and process analysis.  
G D Marshall and J F van Staden.  
**Analytical Instrumentation 20(1)** (1992) 79 - 100. **(96 Citations)**
89. Spectrophotometric determination of vanadium(IV) and vanadium(V) in each other's presence. Review.  
M J C Taylor and J F van Staden.  
**Analyst 119** (6) (1994) 1263 - 1276. **(96 Citations)**
11. Automated simultaneous determination of nitrate and nitrite by prevalve reduction of nitrate in a flow-injection system.  
J F van Staden.  
**Anal. Chim. Acta 138** (1982) 403 - 408. **(83 Citations)**
18. A coated tubular solid-state chloride-selective electrode in flow-injection analysis.  
J F van Staden.  
**Anal. Chim. Acta 179** (1986) 407 - 417. **(60 Citations)**

5. Simultaneous determination of sodium, potassium, magnesium and calcium in surface, ground and domestic water by flow-injection analysis.  
W D Basson and J F van Staden\*.  
**Fresenius Zeitschrift für Anal. Chem.** **302** (5) (1980) 370 - 374. **(59 Citations)**
22. Flow-injection analysis of chloride in milk with a dialyzer and a coated tubular inorganic chloride-selective electrode.  
J F van Staden.  
**Anal. Letters** **19** (13 & 14) (1986) 1407 - 1419. **(51 Citations)**
189. Selectivity in Analytical Chemistry. Recommendations for its use.  
J Vessman, R I Stefan, J F van Staden, K Danzer, W Lindner, D T Burns, A Fajgelj and H Müller.  
**Pure and Applied Chemistry** **73** (8) (2001) 1381-1386. **(49 Citations)**
26. Flow injection determination of inorganic bromide in soils with a coated tubular solid-state bromide-selective electrode.  
J F van Staden.  
**Analyst** **112** (5) (1987) 595 - 599. **(42 Citations)**
161. Electrochemical sensor arrays.  
R I Stefan, J F van Staden and H Y Aboul-Enein.  
**Critical Reviews in Anal. Chem.**, **29** (2) (1999) 133 - 153. **(37 Citations)**
141. Application of sequential injection analysis as process analysers.  
R E Taljaard and J F van Staden.  
**Laboratory Robotics and Automation (LRA)** **10** (6) (1998) 325 - 337. **(35 Citations)**
166. Amperometric biosensors/sequential injection analysis system for the simultaneous determination of S and R captopril.  
R I Stefan, J F van Staden and H Y Aboul-Enein.  
**Biosens. Bioelectron**, **15** (1-2) (2000) 1 - 5. **(35 Citations)**
95. Membrane separation in flow injection systems. Part 1. Dialysis.  
J F van Staden.  
**Fresenius' J. Anal. Chem.** **352** (3-4) (1995) 271 - 302. **(34 Citations)**
23. Electrodes in series. Simultaneous flow injection determination of chloride and pH with ion-selective electrodes.  
J F van Staden.  
**Analyst** **111** (11) (1986) 1231 - 1234. **(33 Citations)**
58. Experimental evaluation of commercially available, semi-permeable membranes for use with parallel-plate dialyzers in flow injection systems.  
J F van Staden and A van Rensburg.  
**Analyst** **115** (8) (1990) 1049 - 1054. **(33 Citations)**
8. Simultaneous determination of chloride and sulphate in natural waters by flow-injection analysis.  
W D Basson and J F van Staden\*.  
**Water Research** **15** (3) (1981) 333 - 335. **(32 Citations)**
10. Automated turbidimetric determination of sulphate in surface, ground and domestic water by flow-injection analysis.  
J F van Staden.  
**Fresenius' Zeitschrift für Anal. Chem.** **310** (3-4) (1982) 239 - 242. **(32 Citations)**
34. Determination of sulphide using flow injection analysis with a coated tubular solid-state silver sulphide ion-selective electrode.  
J F van Staden.  
**Analyst** **113** (6) (1988) 885 - 889. **(31 Citations)**
151. Analysis of chiral drugs with enantioselective biosensors. An overview.  
R I Stefan, J F van Staden and H Y Aboul-Enein.  
**Electroanalysis** **11** (16) (1999) 1233 - 1235. **(31 Citations)**
179. Recent developments and applications of chemiluminescence sensors.  
H Y Aboul-Enein, R I Stefan, J F van Staden, X R Zhang, A M Garcia-Campana and W R G Baeyens,  
**Critical Reviews in Anal. Chem.**, **30** (4) (2000) 271 - 289. **(31 Citations)**

168. Simultaneous determination of copper, lead, cadmium and zinc using differential pulse anodic stripping voltammetry in a flow system.  
J F van Staden and M C Matoetoe.  
**Anal. Chim. Acta**, **411** (1-2) (2000) 201 - 207. **(31 Citations)**
2. Low-level determination of hydrazine in boiler feed water with an unsegmented high speed continuous-flow system.  
W D Basson and J F van Staden\*.  
**Analyst** **103** (1978) 998 - 1001. **(30 Citations)**
169. Immunosensors in clinical analysis.  
R I Stefan, J F van Staden and H Y Aboul-Enein.  
**Fresenius' J. Anal. Chem.**, **366**, (6-7) (2000) 659 - 668. **(30 Citations)**
106. Determination of sulphate in natural waters and industrial effluents by sequential injection analysis.  
J F van Staden and R E Taljaard.  
**Anal. Chim. Acta** **331** (3) (1996) 271 - 280. **(29 Citations)**
170. Simultaneous determination of S and R captopril using sequential injection analysis.  
R I Stefan, J F van Staden and H Y Aboul-Enein.  
**Talanta**, **51** (5) (2000) 969 - 975. **(29 Citations)**
196. On-line speciation of iron(II) and iron(III) using a spectrophotometric sequential injection system.  
L V Mulaudzi, J F van Staden and R I Stefan.  
**Anal. Chim. Acta**, **467** (1-2) (2002) 35 -49. **(29 Citations)**
67. Simultaneous flow-injection analysis of three components with on-line dialyzers in series. Determination of sodium, potassium and chloride in blood serum.  
J F van Staden.  
**Talanta** **38** (9) (1991) 1033 - 1039. **(28 Citations)**
100. Determination of calcium in water, urine and pharmaceutical samples by sequential injection analysis.  
J F van Staden and R E Taljaard.  
**Anal. Chim. Acta**. **323** (1-3) (1996) 75 - 85. **(28 Citations)**
27. On-line quality control in concentrated hydrochloric acid production plants. Flow injection analysis of HCl content in concentrated hydrochloric acid by automated prevalue dilution and a coated tubular solid-state chloride-selective electrode.  
J F van Staden.  
**Fresenius' Zeitschrift für Anal. Chem.** **328** (1-2) (1987) 68 - 70. **(27 Citations)**
52. Simultaneous determination of total and free calcium in milk by flow injection.  
J F van Staden and A van Rensburg.  
**Analyst** **115** (5) (1990) 605 - 608. **(27 Citations)**
243. Sequential injection spectrophotometric determination of iron (II) in multi-vitamin preparations using 1,10-phenanthroline as complexing agent.  
Zeriet O.Tesfaldet, Jacobus F. van Staden and Raluca I. Stefan.  
**Talanta** (**64**) (5) (2004) 1189 - 1195. **(27 Citations)**

## 2.1 Peer reviewed papers in ISI journals FULL LENGTH ARTICLES IN SPECIALIST JOURNALS:

1. Use of non-segmented high-speed continuous flow analysis for the determination of calcium in animal feeds.  
W D Basson and J F van Staden\*.  
**Analyst** **103** (1978) 296 - 299.
2. Low-level determination of hydrazine in boiler feed water with an unsegmented high speed continuous-flow system.  
W D Basson and J F van Staden\*.  
**Analyst** **103** (1978) 998 - 1001.
3. Turbidimetric determination of sulphate with a miniaturized manifold on a non-segmented high-speed continuous flow system.  
W D Basson and J F van Staden\*.  
**Lab. Practice** **27** (10) (1978) 863 - 868.



- 4 . Direct determination of calcium in milk on a non-segmented continuous-flow system.  
W D Basson and J F van Staden\*.  
**Analyst 104** (1979) 419 - 424.
- 5 . Simultaneous determination of sodium, potassium, magnesium and calcium in surface, ground and domestic water by flow-injection analysis.  
W D Basson and J F van Staden\*.  
**Fresenius Zeitschrift für Anal. Chem. 302** (5) (1980) 370 - 374.
- 6 . Automated determination of total alkalinity in surface, ground and domestic waters by single-point titration and flow-injection analysis.  
W D Basson and J F van Staden\*.  
**Lab. Practice 29** (6) (1980) 632 - 637.
- 7 . Automated flow-injection analysis of urinary inorganic sulphates.  
J F van Staden\* and W D Basson.  
**Lab. Practice 29** (12) (1980) 1279 - 1280.
- 8 . Simultaneous determination of chloride and sulphate in natural waters by flow-injection analysis.  
W D Basson and J F van Staden\*.  
**Water Research 15** (3) (1981) 333 - 335.
- 9 . Determination of phosphorus( $P_2O_5$ ) as molybdovanadophosphoric acid in phosphate rock with a flow-injection procedure.  
W D Basson, J F van Staden and P M Cattin.  
**Fresenius Zeitschrift für Anal. Chem. 307** (5) (1981) 373 - 377.
10. Automated turbidimetric determination of sulphate in surface, ground and domestic water by flow-injection analysis.  
J F van Staden.  
**Fresenius Zeitschrift für Anal. Chem. 310** (3-4) (1982) 239 - 242.
11. Automated simultaneous determination of nitrate and nitrite by prevalve reduction of nitrate in a flow-injection system.  
J F van Staden.  
**Anal. Chim. Acta 138** (1982) 403 - 408.
12. Automated prevalve sample filtration in flow injection analysis. Determination of sulphate in water removing suspended solids and colour before sampling.  
J F van Staden.  
**Fresenius Zeitschrift für Anal. Chem. 312** (5) (1982) 438 - 440.
13. Simultaneous determination of protein (nitrogen), phosphorus and calcium in animal feedstuffs by multichannel flow injection analysis.  
J F van Staden.  
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253. Determination of D-2-hydroxyglutaric acid in urine samples using enantioselective, potentiometric membrane electrodes based on antibiotics  
R.I. Stefan, R. M. Nejem, J.F. van Staden and H.Y. Aboul-Enein.  
**Sensors and Actuators B, 106** (2) (2005) 791 - 795.
254. Investigation of trace element mobility in river sediments.  
P J Botes and J F van Staden.  
**Water SA, 31** (2) (2005) 183- 192.
255. Determination of isoxsuprine hydrochloride by sequential injection visible spectrophotometry.  
N W Beyene, J F van Staden, R I Stefan and H Y Aboul-Enein.  
**Il Farmaco., 60** (2005) 613 - 619.
256. Sequential Injection Spectrophotometric Determination of Ritodrine Hydrochloride Using 4-Aminoantipyrine.  
J F van Staden, N W Beyene, R I Stefan and H Y Aboul-Enein.  
**Talanta., 68** (2) (2005) 401 - 405.

257. Enantioselective, potentiometric membrane electrodes based on different cyclodextrines as chiral selectors for the assay of S-flurbiprofen. R.I. Stefan-van Staden, R.G. Bokretsiion, K.I. Ozoemena, J.F. van Staden, H.Y. Aboul-Enein  
**Electroanalysis**, **18** (17) (2006) 1718-1721
258. Simultaneous detection of creatine and creatinine using a sequential injection analysis/amperometric biosensors system. R.I. Stefan-van Staden, R. G. Bokretsiion, J.F. van Staden and H.Y. Aboul-Enein.  
**Preparative Biochemistry and Biotechnology**, **36** (4) (2006) 287 - 296.
259. Sequential injection analysis utilizing amperometric biosensors as detectors for simultaneous determination of L- and D-pipecolic acid. R.I. Stefan-van Staden, R. M. Nejem, J.F. van Staden and H.Y. Aboul-Enein.  
**Instrumentation Science and Technology**, **36** (5) (2008) 355 - 368.
260. Determination of (+)-3,3',5,5'-tetraiodo (L-T<sub>4</sub>) in serum and in pharmaceutical formulations using a sequential injection analysis/immunosensor system. R.I. Stefan-van Staden, J.F. van Staden, H.Y. Aboul-Enein, M. C. Mirica, I. Balcu and N. Mirica.  
**Journal of Immunoassay and Immunochemistry**, **29** (4) (2008) 348 - 355.
261. Enantioanalysis of S-Ketoprofen using enantioselective, potentiometric membrane electrodes. R.I. Stefan-van Staden, N. S. Nhlapo, J.F. van Staden and H.Y. Aboul-Enein.  
**Analytical Letters**, **42** (5) (2009) 764 - 774.
262. Enantioselective determination of R-Clenbuterol using an enantioselective, potentiometric membrane electrode based on a  $\beta$ -cyclodextrin derivative. R.I. Stefan-van Staden, L. Holo, B Moeketsi, J.F. van Staden and H.Y. Aboul-Enein.  
**Instrumentation Science and Technology**, **37** (2) (2009) 189 - 196.
263. Determination of (S)-(+)-Ibuprofen using enantioselective, potentiometric membrane electrodes based on a Macrocyclic Antibiotics. R.I. Stefan-van Staden, T. Mashile, K. C. Mathabathe and J.F. van Staden.  
**Instrumentation Science and Technology**, **37** (2) (2009) 197 - 203.
264. Macrocyclic antibiotics as chiral selectors in the design of enantioselective, potentiometric membrane electrodes for the determination of S-flurbiprofen. R.I. Stefan-van Staden, J.F. van Staden and H.Y. Aboul-Enein.  
**Analytical and Bioanalytical Chemistry**, **394** (3) (2009) 821-826.
265. Enantioanalysis of butaclamol using enantioselective, potentiometric electrodes. R.I. Stefan-van Staden, R.G. Bokretsiion, J.F. van Staden and H.Y. Aboul-Enein.  
**Analytical Letters**, **42** (8) (2009) 1111 - 1118.
266. Maltodextrins as chiral selectors in biomedical enantioanalysis. A minireview. R.I. Stefan-van Staden, J.F. van Staden, H.Y. Aboul-Enein, M.C. Mirica, M. Iorga and I. Balcu  
**The Open Chem Biomed Meth J**, **2**, (2009)107-110.
267. Application of porphyrins in flow-injection analysis. A Review. J.F. van Staden and R.I. Stefan-van Staden.  
**Talanta**. **80** (5) (2010) 1598 – 1605
268. Diamond paste based electrodes for the determination of sildenafil citrate (viagra). R.I. Stefan-van Staden, J.F. van Staden and H.Y. Aboul-Enein.  
**Journal of Solid State Electrochemistry**, **14** (6) (2010) 997 – 1000
269. Simultaneous determination of L- and D-T<sub>4</sub> using a sequential injection analysis/sensors system R.I. Stefan-van Staden, J.F. van Staden, H.Y. Aboul-Enein, I. Balcu  
**Combinatorial Chemistry & High Throughput Screening**, **13**(6) (2010) 497 - 501.
270. Micro- and nanosensors. Recent developments and features. A minireview. R.I. Stefan-van Staden, J.F. van Staden, S.C. Balasoiu, O.R. Vasile  
**Analytical Letters**, **43** (7-8) (2010) 1111 – 1118.

271. Determination of free L-T<sub>4</sub> and free L-T<sub>3</sub> from blood using the immunsensors/sequential injection analysis system.  
R.I. Stefan, J.F. van Staden, H.Y. Aboul-Enein, I. Balcu, M.C. Mirica, G.L. Radu,  
**Analytical Letters**, **43** (7-8) (2010) 1119 – 1125.
272. Diamond paste based electrodes for the determination of Ag(I).  
R.I. Stefan-van Staden, S. G. Bairu and J.F. van Staden.  
**Analytical Methods**, **2** (6) (2010) 650 - 652.
273. Carbon and diamond paste microelectrodes based on Mn(III) porphyrins for the determination of dopamine.  
Simona Cornelia BalasoIU, Raluca-Ioana Stefan-van Staden, Jacobus Frederick van Staden, Stela Pruneanu,  
Gabriel-Lucian Radu  
**Analytica Chimica Acta** **668** (2) (2010) 201 – 207.
274. Enantioanalysis of (-)-butaclamol using vancomycin and teicoplanin as chiral selectors  
R.I. Stefan-van Staden, N.S. Nhlapo, J.F. van Staden, H.Y. Aboul-Enein  
**Combinatorial Chemistry & High Throughput Screening**, **13** (2010) 690 – 693.
275. Wireless electrochemical sensors. A tool for process control. The past, present and the future. A mini-review.  
J.F. van Staden, R.I. Stefan-van Staden, S.C. BalasoIU  
**Critical Reviews in Analytical Chemistry**, **40** (4) (2010) 226-233.
276. Enantioselective, potentiometric membrane electrodes based on  $\alpha$ -,  $\beta$ - and  $\gamma$ - cyclodextrins as chiral selectors for the assay of S-deprenyl.  
R.I. Stefan-van Staden, T.R. Mashile, J.F. van Staden, H.Y. Aboul-Enein  
**The Open Chem Biomed Meth J**, **3**, (2010) 86-89.
277. Enantioselective potentiometric membrane electrodes based on antibiotics for the determination of L- and D-Glyceric Acids.  
R.I. Stefan-van Staden, R. M. Nejem, J.F. van Staden and H.Y. Aboul-Enein  
**Current Pharmaceutical Analysis**, **7** (4) (2011) 253-257.
278. Cyclodextrins based enantioselective, potentiometric membrane electrodes (EPME) and their applications for enantioanalysis of L-Cysteine in urine.  
R.I. Stefan-van Staden, L. Holo and J.F. van Staden  
**Current Pharmaceutical Analysis**, **7** (4) (2011) 258-261.
279. Disposable stochastic dot sensors for the assay of ascorbic acid in pharmaceutical samples, beverages and biological fluids.  
R.I. Stefan-van Staden, J.F. van Staden and S.C. BalasoIU  
**Analytical Letters**, **43** (13) (2011) 2280-2286.
280. Amperometric dot-sensors based on Zinc porphyrins for the Sildenafil citrate determination.  
S.C. BalasoIU, R.I. Stefan-van Staden, J.F. van Staden, R.M. Ion, G.L. Radu and H.Y. Aboul-Enein  
**Electrochimica Acta**, **58** (1) (2011) 290-295.
281. Enantioselective, potentiometric membrane electrodes based on antibiotics for the determination of L- and D-glyceric acids.  
R.I. Stefan-van Staden, R.M. Nejem, J.F. van Staden and H.Y. Aboul-Enein  
**International Journal of Electrochemistry**, Volume 2011, Article ID427238, 4pg, doi:10.4061/2011/427238.
282. Determination of L- and D-Fucose Using Amperometric Electrodes Based on Diamond Paste.  
R.I. Stefan-van Staden, R. M. Nejem, J.F. van Staden and H.Y. Aboul-Enein  
**Analyst**, **137**(4) (2012) 903 - 909.
283. Amperometric biosensor based on diamond paste for the enantioanalysis of l-lysine.  
R.I. Stefan-van Staden, R. M. Nejem, J.F. van Staden and H.Y. Aboul-Enein  
**Biosensors and Bioelectronics**, **35**(2) (2012) 439-442.
284. A new sensor for the assay of breast cancer antigen.  
R.I. Stefan-van Staden, I. Stefanescu, J.F. van Staden and M. Enachescu.  
**Analyst**, **xx** (xx) (2012) In Press.

285. Microelectrodes based on porphyrins for the determination of ascorbic acid in pharmaceutical samples and beverages.  
R.I. Stefan-van Staden, S.C. Balasoiu, J.F. van Staden and G.L. Radu.  
**Journal of Porphyrins and Phthalocyanines**, **xx** (xx) (2012) In Press.
286. Flow-injection analysis systems with different detection devices and other related techniques for the in vivo and in vitro determination of dopamine as neurotransmitter. A review.  
J.F. van Staden and R.I. Stefan-van Staden.  
**Talanta**, **xx** (xx) (2012) In Press.
287. Electroanalysis of oseltamivir phosphate using new microelectrodes based on zinc complexes with porphyrins and phthalocyanines.  
S.F. Pop, R.I. Stefan-van Staden, J.F. van Staden, H.Y. Aboul-Enein, S.C. Balasoiu, R.M. Ion and Z. Aydogmus.  
**Analytica Chimica Acta**, **xx** (xx) (2011) Submitted.

## 2.2 Books

### 1. Research

1. Basic components and automation. Chapter 3.  
J F van Staden in J L Burguera. (ed.)  
**FLOW INJECTION ATOMIC SPECTROSCOPY.**  
Marcell Dekker, Inc., New York. USA. (1989) pp 49 - 102.
2. *"Electrochemical Sensors in Bioanalysis"*  
**R.I. Stefan**, J.F. van Staden and H.Y. Aboul-Enein  
**Marcel Dekker Inc.**, New York, USA, 2001.
3. *"Laboratory Auditing for Quality and Regulatory Compliance"*  
D.C. Springer, **R.I. Stefan** and J.F. van Staden  
**Taylor and Francis**, New York, USA, 2005.
4. *"Recent developments of chemiluminescence sensors"* (Chapter 20)  
X.R. Zhang, A.M. Garcia-Campana, W.R.G. Baeyens, **R.I. Stefan**,  
H.Y. Aboul-Enein and J.F. van Staden  
**in CHEMILUMINESCENCE IN ANALYTICAL CHEMISTRY.**  
A.M. Garcia-Campana and W.R.G. Baeyens (Editors)  
**Marcel Dekker, Inc.**, New York. USA, 2001.
5. *"Sequential Injection Analysis in HPLC"* (Chapter) in  
**ENCYCLOPEDIA OF CHROMATOGRAPHY**  
**R.I. Stefan**, H.Y. Aboul-Enein and J.F. van Staden  
Jack Cazes (Editor) Marcel Dekker, Inc., **New York. USA, 2001.**
6. *"Enantioselective Electrochemical Sensors"* (Chapter) in  
**SENSORS UPDATE, Volume 10**  
**R.I. Stefan**, H.Y. Aboul-Enein and J.F. van Staden  
H. Baltes, G.K. Fedder, G. Korvink (Editors)  
Wiley-VCH, **Weinheim, Germany, 2001.**
7. *"Biosensors Technology"* (Chapter 21) in  
**EWEING'S ANALYTICAL INSTRUMENTATION HANDBOOK**  
**R.I. Stefan**, H.Y. Aboul-Enein and J.F. van Staden  
Jack Cazes (Editor) Marcel Dekker, Inc., New York. USA, 2004.
8. *"Enantioselective Biosensors"*  
(Chapter 13) in  
**CHIRAL SEPARATION TECHNIQUES. A PRACTICAL APPROACH.**  
**R.I. Stefan**, J.F. van Staden and H.Y. Aboul-Enein  
G. Subramanian (Editor)  
Wiley-VCH, **Weinheim, Germany, 2006.**

9. *"Enantioanalysis of S-Captopril using an enantioselective, potentiometric membrane electrode" (Procedure 3) in ELECTROCHEMICAL SENSOR ANALYSIS*  
**R.I. Stefan-van Staden**, J.F. van Staden and H.Y. Aboul-Enein  
S Alegret, A Merkoci (Eds)  
Elsevier, Amsterdam, The Netherlands, (ISBN: 978-0-444-53053) 2007.

### 1. Educational

1. **Introduction to the mole concept, chemical formulae and reaction equations. (In Afrikaans).**  
W D Basson and J F van Staden.  
J L van Schaik, Pretoria (1980).
2. **Introduction to Inorganic, Physical and Analytical Practicum for Chemistry I. (In Afrikaans).**  
W D Basson and J F van Staden.  
J L van Schaik, Pretoria (1981).
3. **Inorganic, Physical and Analytical Practicum workbook for Chemistry I. (In Afrikaans).**  
W D Basson and J F van Staden.  
J L van Schaik, Pretoria (1981).
4. **Introduction to the mole concept, chemical formulae and reaction equations. (In Afrikaans).**  
W D Basson and J F van Staden.  
2nd revised edition. J L van Schaik, Pretoria (1982).
5. **Basic principles in Physical, Analytical and Inorganic Chemistry. (In Afrikaans).**  
J F van Staden and W D Basson.  
J L van Schaik, Pretoria (1982).
6. **Studyguide in chemistry. Part 1. (In Afrikaans).**  
J F van Staden.  
J L van Schaik, Pretoria (1983).
7. **Studyguide in chemistry. Part 2. (In Afrikaans).**  
J F van Staden.  
J L van Schaik, Pretoria (1983).
8. **HAUM Examination studyguide. Science aid for std 9 and 10- pupils. Chemical equilibrium. (In Afrikaans).**  
J F van Staden.  
HAUM, Pretoria (1984).
9. **HAUM Examination studyguide. Science aid for std 9 and 10- pupils. The rate of chemical reactions. (In Afrikaans).**  
J F van Staden.  
HAUM, Pretoria (1984).
10. **HAUM Examination studyguide. Science aid for Senior Secondary Pupils and Teachers in Training. Solutions. (In Afrikaans).**  
J F van Staden.  
HAUM, Pretoria (1984).
11. **HAUM Examination studyguide. Science aid for Senior Secondary Pupils and Teachers in Training. Acids and Bases. (In Afrikaans).**  
J F van Staden.  
HAUM, Pretoria (1985).

### 3. CONTRIBUTIONS AT CONFERENCES, SYMPOSIUMS, ETC.

#### SUMMARISED AS FOLLOWS:

##### **International:-**

Plenary, Keynote and Invited lectures:	40
Submitted lectures:	67
Submitted posters:	167

##### **National:-**

Invited lectures:	21
Invited lectures (Electrochemistry School):	2
Invited lectures (Mini courses):	5
Invited lectures (Workshops):	7
Submitted lectures:	22
Submitted posters:	56

#### 4. MANAGEMENT AND ADMINISTRATIVE DUTIES (LEADERSHIP)

##### MANAGEMENT SKILLS

1. Coordinator and Head of Analytical Chemistry and Process Analytical Chemistry (University of Pretoria).
2. Experience in Management at SASOL. **Trained by SASOL as Manager.**
3. Experience in Management as Chairman of various International and National committees.
4. Experience as Chairman and member of various National and International Scientific Committees.
5. Experience as Chairman in Organizing National and International Conferences.
6. Chairman of a number of projects of IUPAC and of active commission at IUPAC.
7. Currently Director of PATLAB. See [www.patlab.ro](http://www.patlab.ro)
8. Currently Member of Advisory Panels of NRF (National Research Foundation) of South Africa. Previously Chairman of some Advisory Panels of NRF.
9. Currently SENIOR MEMBER of Division of Analytical Chemistry of European Association for Chemical and Molecular Sciences.
10. Currently member of South African Council of IUPAC.
11. Currently Project Technical Advisor, PTA, for the European Commission.

##### 2. EDITORIAL BOARDS

Editorial Boards: ADVISORY BOARD MEMBER ANALYTICAL INSTRUMENTATION - 1992 – 1993
Editorial Boards: REGIONAL ADVISORY EDITOR FOR THE ANALYST: 1991 – 1995
Editorial Boards: EDITORIAL BOARD MEMBER TALANTA 1990 - 1997
Editorial Boards: ADVISORY BOARD MEMBER FRESENIUS JOURNAL OF ANALYTICAL CHEMISTRY- 1990 – MAY 1997
Editorial Boards: EDITORIAL BOARD MEMBER FRESENIUS JOURNAL OF ANALYTICAL CHEMISTRY- JUNE 1997 – 2002
Editorial Boards: EDITORIAL BOARD MEMBER INSTRUMENTATION SCIENCE AND TECHNOLOGY – 1992 – 2006
Editorial Boards: EDITOR, ANALYTICAL CHEMISTRY SOUTH AFRICAN JOURNAL OF CHEMISTRY – 1996 - 2004.
Editorial Boards: EDITORIAL BOARD MEMBER ANALYTICAL LETTERS – 2001 - CURRENT
Editorial Boards: ADVISORY BOARD MEMBER – 2002 - 2007 ANALYTICAL AND BIOANALYTICAL CHEMISTRY
Editorial Boards: EDITORIAL BOARD MEMBER JOURNAL OF FLOW INJECTION ANALYSIS (JFIA) from 2002 - CURRENT
Journal: GUEST EDITOR OF ANALYTICAL AND BIOANALYTICAL CHEMISTRY ON IMA'2003
Journal: GUEST EDITOR OF ANALYTICAL AND BIOANALYTICAL CHEMISTRY ON KAC'2001
Journal: GUEST EDITOR OF TALANTA ON ICFA'2003

### 3. Refereeing Duties

Regular reviewer for publications submitted to the following international journals

- 1 Analytical Chemistry  
Talanta  
The Analyst  
Analytica Chimica Acta  
Analytical and Bioanalytical Chemistry  
Journal of Analytical Atomic Spectrometry  
Fresenius' Journal of Analytical Chemistry  
Analytical Letters  
Instrumental Science and Technology  
Mikrochimica Acta  
Electroanalysis  
Sensors and Actuators  
Journal of Chemical Education  
Journal of the Association of Official Analytical Chemists (USA)  
  
S A Journal of Chemistry  
  
S A Journal of Science  
ScienceAsia  
Water S A  
S A Journal of Marine Science  
Bulletin of the Chemical Society of Ethiopia
- 2 Regular book reviewer for some of the Journals mentioned above.

### 7. COMMUNITY SERVICE OR PROFESSIONAL SKILLS

1. Fellow of the Royal Society of Chemistry from May 1992 and entitled to use the designation CHARTERED CHEMIST (till 2004).
2. Member of Steering Committees for research projects on membrane technology and on sealed cell electro dialysis for the Water Research Commission. Also a member of the technical subcommittee on electro dialysis.
3. Act as external specialist scientist on several occasions for the Department of Water Affairs and Forestry, industries, manufacturers, laboratories, research institutions etc.
4. Act as external examiner for undergraduate courses for a number of Universities. Act also as external examiner for postgraduate MSc-dissertations and PhD- thesis's for a number of National and International Universities.
5. Subject Editor (Chemistry) of Spectrum, the journal for teachers of Mathematics, Physical Science and Technology, published by the Foundation for Education, Science and Technology since 1983 - 2000.
6. Member of the subject committee of Physical Science of the Transvaal Education department for the period 1991 - 1994. Is currently approach from time to time on Professional Advice.
7. Act as an adjudicator at the Northern Transvaal regional competition and the National finals of EXPO for young Scientists for a number of years.
8. Involved for a number of years with the yearly student symposium of the Chemistry Division of SACI and the South African Academy of Science and Art.



## 8. Other Activities at conferences, workshops, short courses etc.

1. 1986. Act as a Session Chairman at a symposium entitled Progress and Change. Symposium on the education of Analytical Chemists. S A Chemical Institute. Natal Section. Wild Coast Sun. Transkei. 22 - 24 January 1986.
2. 1987 Took part in various activities on behalf of Spectrum at the 12th National Convention for teachers of Mathematics, Physical Science and Biology in Pretoria, July 1987.
3. 1988 Invited to give a lecture at Flow Analysis IV at Las Vegas, Nevada in the USA, 17 - 20 April 1988. Could however not attend due to a lack of funding.
4. 1989 Took part in various activities on behalf of Spectrum at the 13th National Convention for teachers of Mathematics, Physical Science and Biology in Grahamstown, July 1989.
5. 1989 Representative of Spectrum at ChemEd'89, a Chemical Education Conference at Queen's University, Kingston, Ontario, Canada. 14 - 18 August 1989.
6. 1989 Act as Convenor and Chairman of Editors of Chemical Educational Journals at the tenth International Conference on Chemical Education, Waterloo, Ontario, Canada. 20 - 25 August 1989. Act also as a Chairman of a full session at the same conference.
7. 1990 Chairman of the First National Symposium in Analytical Chemistry, ANALYTICA'90 under the auspices of the South African Chemical Institute: Northern Transvaal Section, ChromSA, SAAMS and the SA Spectroscopic Society at the CSIR Conference Centre, Pretoria. 19 - 23 March 1990.
8. 1990 Gave the Welcoming Address at ANALYTICA'90, the first National Symposium on Analytical Science at the CSIR Conference Centre, Pretoria. 19 - 23 March 1990.
9. 1990 Gave the Opening Address at a Symposium on "Chemical Technology in a future South Africa" organised by the Chemical Section of the South African Academy of Science and Art in Pretoria on the 10th August 1990.
10. 1991 Act as Chairman of a Session at the 33rd IUPAC Congress at the University of Budapest, Budapest, Hungary. 17 - 22 August 1991.
11. 1991 Act as Chairman of a Session at Flow Analysis V organised by the Japanese Association for Flow Injection Analysis in Kumamoto, Japan. 21 - 24 August 1991.
12. 1991 Representative of Spectrum at the 11th International Conference on Chemical Education sponsored by the Royal Society of Chemistry and the International Union of Pure and Applied Chemistry, in collaboration with UNESCO and the Association for Science Education at the University of York, York. Great Britain. 25 - 30 August 1991.
13. 1991 Presenting Spectrum at the International Meeting of Editors of Chemical Educational Journals at the 11th International Conference on Chemical Education sponsored by the Royal Society of Chemistry and the International Union of Pure and Applied Chemistry, in collaboration with UNESCO and the Association for Science Education at the University of York, York. Great Britain. 29 August 1991.
14. 1991 Act as Chairman of the Program Committee and as Vice Chairman of the Central Committee on a Symposium on "The role of Science and a Technology Policy in a future South Africa" organised by the South African Academy of Science and Art in Pretoria. 22 - 23 October 1991.
15. 1993 Attend the 37th IUPAC General Assembly as National Representative of South Africa on the Commission on General Aspects of Analytical Chemistry (V.1) of the Analytical Chemistry Division, Lisbon University, Lisbon. Portugal. 5 - 12 August 1993. Elected as Titular member.
16. 1993 Act as Chairman of a Session at the 34th IUPAC Congress in Beijing, China. 15 - 20 August 1993.
17. 1993 Attend a International and Advisory Board meeting of Fresenius' Journal of Analytical Chemistry on 8 September 1993 at Euroanalysis. Edinburgh. Scotland. UK. 30 August - 3 September 1995.
18. 1994 Serve on the international committee that organised Flow Analysis VI in Toledo, Spain. 8 - 11 June 1994.
19. 1994 Attend a meeting of the Working Party of Analytical Chemists of the Federation of European Societies as observer for Southern Africa on 12 June 1994 in Toledo. Spain.

20. 1994 Attend a meeting of the Commission on General Aspects of Analytical Chemistry (V 5.1) of the Analytical Chemistry Division of IUPAC. Jena. Germany. 19 - 21 August 1994. Appointed to lead a project on Process Analytical Chemistry.
21. 1994 Discussions with the Fresenius Academy of the Fresenius Institute in Wiesbaden, Germany and the Fresenius Institute in Taunusstein on collaboration. Visit to Springer-Verlag, publishers of Fresenius Journal of Analytical Chemistry, in Heidelberg, Germany. 22 - 26 August 1994.
22. 1994 Attend the 7th International Symposium on Synthetic Membranes in Science and Industry in Tübingen. Germany. 29 August - 1 September 1994.
23. 1995 Attend the 38th IUPAC General Assembly as member of the Commission on General Aspects of Analytical Chemistry (V.1) of the Analytical Chemistry Division. University of Surrey. Guildford. UK. 4 - 11 August 1995. Elected as Chairman of the Commission. Attend a number of committee meetings.
24. 1995 Attend a International and Advisory Board meeting of Fresenius' Journal of Analytical Chemistry on 5 October 1995 at the Technical University, Vienna. Vienna. Austria.
25. 1995 Attend the 3rd International Conference on Philosophy, History and Education of Analytical Chemistry. Part of WPAC of FECS. Vienna University of Technology. Vienna. Austria. 6 - 7 October 1995.
26. 1995 Attend a meeting of the Working Party of Analytical Chemists of the Federation of European Societies as observer for Southern Africa on 8 October 1995 in Vienna. Austria.
27. 1995 Attend the 3rd International Austro- Tunisian Meeting on Analytical Chemistry. Part of WPAC of FECS. Vienna University of Technology. Vienna. Austria. 8 - 10 October 1995.
28. 1995 Visit to the Institute of Analytical Chemistry. Vienna University of Technology. 11 October 1995.
29. 1996 Receive the AECl Gold medal of the S A Chemical Institute for 1995 on 4 June 1996. Give a lecture.
30. 1996 Visit the Department of Chemistry, Addis Ababa University at Addis Ababa, Ethiopia during 12 - 18 June 1996 on official invitation for discussions on research and as external examiner.
31. 1996 Give 2 lectures on Monday 17 June 1996 at the Addis Ababa University, Addis Ababa. Ethiopia on invitation from The Chemical Society of Ethiopia.
32. 1996 Attend a meeting of the Working Party of Analytical Chemists of the Federation of European Societies as observer for Southern Africa on 1 September 1996 in Bologna. Italy.
33. 1996 Attend a International and Advisory Board meeting of Fresenius' Journal of Analytical Chemistry on 3 September 1996 in Bologna, Italy.
34. 1996 Is Chairman of a meeting of the Commission on General Aspects of Analytical Chemistry (V.1) of the Analytical Chemistry Division of IUPAC in Bologna, Italy. 27 - 31 August 1996.
35. 1997 Act as Chairman of a session at ICFIA 97. Eighth International Conference on Flow Injection Analysis in Orlando. Florida. USA. 12 - 16 January 1997.
36. 1997 Act as Chairman of a session at ICAC 97. International Congress on Analytical Chemistry in Moscow. Rusland. 15 - 21 June 1997.
37. 1997 Attend a meeting as part of the International Scientific Committee of ICAC 97 on 16 June 1997 in Moscow, Russia.
38. 1997 Visit the Vernadsky Institute of Geochemistry and Analytical Chemistry in Moscow, Russia on 17 June 1997.
39. 1997 Guest of Honour of the Vernadsky Institute of Geochemistry and Analytical Chemistry in Moscow, Russia on 18 June 1997.
40. 1997 Visit the Faculty of Chemistry of the Lomonosov Moscow State University in Moscow, Russia on 19 June 1997.
41. 1997 Visit the Kurnakov Institute for General and Inorganic Chemistry in Moscow, Russia on 20 June 1997.
42. 1997 Guest of the Fresenius Academy of the Fresenius Institute in Idstein, Germany on 23 June 1997. Follow-up Discussions on further cooperation.

43. 1997 Act as Chairman of a session at the 36<sup>th</sup> IUPAC Congress in Geneva, Switzerland. 17 - 22 August 1997.
44. 1997 Is Chairman of a meeting of the "Commission on General Aspects of Analytical Chemistry (V.1)" of the Analytical Division IUPAC, 23 - 30 August 1997 in Geneva, Switzerland.
45. 1997 Invited by The Brazilian Chemical Society and The International Association of Flow Analysis to serve on the International Science Committee organising the VII INTERNATIONAL CONFERENCE ON FLOW ANALYSIS (FA VII) held in Piracicaba, Brazil. 25 - 28 August 1997.
46. 1998 Attend a meeting of the Analytical Chemistry Division (President, Secretary and Commission Chairs) in Idstein, Germany, 17-18 January 1998.
47. 1998 Act as Session Chairman at ICFIA 98. Ninth International Conference on Flow Injection Analysis in Seattle, Washington. USA. 23 - 27 August 1998.
48. 1998 Act as Session Chairman at Euroanalysis X. Working Party on Analytical Chemistry of the Federation of European Chemical Societies and the New Swiss Chemical Society. Basel. Switzerland. 6 - 11 September 1998.
49. 1998 Attend a meeting of the Working Party of Analytical Chemists (WPAC) of the Federation of European Societies (FECS) as observer for Southern Africa on 6 September 1998 at Basel in Switzerland.
50. 1998 Attend a International and Advisory Board meeting of Fresenius' Journal of Analytical Chemistry on 8 September 1998 in Basel, Switzerland.
51. 1998 Is Chairman of a meeting of the Commission on General Aspects of Analytical Chemistry (V.1) of the Analytical Chemistry Division of IUPAC in Basel, Switzerland. 3-5 September 1998.
52. 1998 Act as Session Chairman at KAC'98. 6<sup>th</sup> International Symposium on Kinetics in Analytical Chemistry. Working Party on Analytical Chemistry of the Federation of European Chemical Societies and the Association of Greek Chemists. Kassandra, Chalkidiki, Greece. 16-19 September 1998.
53. 1998 Act as Session Chairman at SCAR'98 XIVth National Conference on Analytical Chemistry. Division of Analytical Chemistry of the Federation of European Chemical Societies and the Romanian Society of Analytical Chemistry. Piatra Neamt. Romania. 24-26 September 1998.
54. 1999 Attend an International and Advisory Board meeting of Fresenius' Journal of Analytical Chemistry on 8 March 1999 at Pittcon'99 in Orlando, Florida, USA.
55. 1999 Attend an International and Advisory Board meeting of Instrumentation Science and Technology on 9 March 1999 at Pittcon'99 in Orlando, Florida, USA.
56. 1999 Act as Session Chairman at ICFIA 99. Tenth International Conference on Flow Injection Analysis in Prague, Czech Republic. 20 - 25 June 1999.
57. 1999 Is Chairman of a meeting of the Commission on General Aspects of Analytical Chemistry (V.1) of the Analytical Chemistry Division of IUPAC in Berlin, Germany. 5 - 12 August 1999.
58. 1999 Is member of a meeting of the Analytical Chemistry Division of IUPAC from 5 - 12 August 1999 in Berlin, Germany.
59. 2000 Attend an International and Advisory Board meeting of Fresenius' Journal of Analytical Chemistry on 14 March 2000 at Pittcon'2000 in New Orleans, LA, USA.
60. 2000 Attend an International and Advisory Board meeting of Instrumentation Science and Technology on 14 March 2000 at Pittcon'2000 in New Orleans, LA, USA.
61. 2000 Attend a meeting of the Analytical Chemistry Division (President, Secretary and Commission Chairs) in Alderley Edge, United Kingdom 5 - 7 May 2000.
62. 2000 Invited by the Polish Academy of Sciences and The International Association of Flow Analysis to serve on the International Science Committee organising the VIII INTERNATIONAL CONFERENCE ON FLOW ANALYSIS (FA VIII) held in Warsaw, Poland. 25 - 29 June 2000.

63. 2000 Give the welcome address at the VIII INTERNATIONAL CONFERENCE ON FLOW ANALYSIS (FA VIII) held in Warsaw, Poland. 25 - 29 June 2000.
64. 2000 Act as Chairman of a Session at the VIII INTERNATIONAL CONFERENCE ON FLOW ANALYSIS (FA VIII) held in Warsaw, Poland. 25 - 29 June 2000.
65. 2000 Is Chairman of a meeting of the Commission on General Aspects of Analytical Chemistry (V.1) of the Analytical Chemistry Division of IUPAC in Lisboa, Portugal. 31 August - 2 September 2000.
66. 2000 Attend a meeting of the Division of Analytical Chemistry (DAC) of the Federation of European Societies (FECS) as observer for Southern Africa on 3 September 2000 at Lisboa in Portugal.
67. 2000 Attend a International and Advisory Board meeting of Fresenius' Journal of Analytical Chemistry on 5 September 2000 in Lisboa, Portugal.
68. 2001 Attend an International and Advisory Board meeting of Instrumentation Science and Technology on 6 March 2001 at Pittcon'2001 in New Orleans, LA, USA.
69. 2001 Attend an International and Advisory Board meeting of Fresenius' Journal of Analytical Chemistry on 6 March 2001 at Pittcon'2001 in New Orleans, LA, USA.
70. 2001 Act as Chairman of a Session at the 38th IUPAC Congress (World Chemistry Congress) held in Brisbane, Australia. 1 - 6 July 2001.
71. 2001 Is Chairman of a meeting of the Commission on General Aspects of Analytical Chemistry (V.1) of the Analytical Chemistry Division of IUPAC in Brisbane, Australia. 29 June - 8 July 2001.
72. 2001 Is member of a meeting of the Analytical Chemistry Division of IUPAC from 29 June - 8 July 2001 in Brisbane, Australia.
73. 2001 Act as Chairman of a Session at IMA'2001. Instrumental Methods of Analysis. Modern trends and Applications held in Ioannina. Greece. 5 - 8 September 2001.
74. 2001 Act as Chairman of the committee responsible for poster awards at IMA'2001 and form part of the Closing Ceremony Presidium. Instrumental Methods of Analysis. Modern trends and Applications held in Ioannina. Greece. 5 - 8 September 2001.
75. 2001 Is Co-Chairman of KAC'2001; Gave the Welcoming and Opening Address as part of the Opening Ceremony and gave the Closing Address. 7<sup>th</sup> International Symposium on Kinetics in Analytical Chemistry. Working Party on Analytical Chemistry of the Federation of European Chemical Societies. Bucharest, Romania. 26 -29 September 2001.
76. 2001 Act as Guest Editor for a special edition of Analytical and Bioanalytical Chemistry on the Proceedings of KAC'2001.
77. 2001 Act as Chairman of a Session at KAC'2001. 7<sup>th</sup> International Symposium on Kinetics in Analytical Chemistry. Working Party on Analytical Chemistry of the Federation of European Chemical Societies. Bucharest, Romania. 26 -29 September 2001.
78. 2001 Invited to join the Steering Committee of 11<sup>th</sup> ICFIA, 11<sup>th</sup> International Conference on Flow Injection Analysis to be held in Chiang Mai, Thailand, 16 - 20 December 2001.
79. 2001 Act as Chairman of a Session at 11<sup>th</sup> ICFIA, 11<sup>th</sup> International Conference on Flow Injection Analysis to be held in Chiang Mai, Thailand, 16 - 20 December 2001.
80. 2002 Invited to join the Steering and Scientific Committee of IMCS, 9<sup>th</sup> International Meeting on Chemical Sensors to be held in Boston, USA, 7 - 10 July 2002.
81. 2002 Act as Chairman of a Session at IMCS, 9<sup>th</sup> International Meeting on Chemical Sensors in Boston, USA, 7 - 10 July 2002.
82. 2002 Attend a Steering and Scientific Committee of IMCS, 9<sup>th</sup> International Meeting on Chemical Sensors in Boston, USA, 8 July 2002.
83. 2002 Attend a meeting of the Division of Analytical Chemistry (DAC) of the Federation of European Societies (FECS) as observer for Southern Africa on 8 September 2002 at Dortmund in Germany.
84. 2002 Attend International Board meetings of Analytical and Bioanalytical Chemistry on 8 and 11 September 2002 at Euroanalysis-12 in Dortmund, Germany.

85. 2003 Invited by the Australian Chemical Society and The International Association of Flow Analysis to serve on the International Science Committee organising the IX INTERNATIONAL CONFERENCE ON FLOW ANALYSIS (FA IX) to be held in Australia. February 2003.
86. 2003 Attend a meeting of the Division of Analytical Chemistry (DAC) of the Federation of European Societies (FECS) as observer for Southern Africa on 21 September 2003 at Thessaloniki in Greece.
87. 2003 Invited to join the International Scientific Committee of IMA'2003, The 3<sup>rd</sup> International Conference of Instrumental Methods of Analysis. Modern trends and Applications. Thessaloniki. Greece. 23 - 27 September 2003.
88. 2003 Act as Guest Editor for a special edition of Analytical and Bioanalytical Chemistry on the Proceedings of IMA'2003.
89. 2003 Selected as Co-chairman and on the Steering Committee of 12<sup>th</sup> ICFIA, 12<sup>th</sup> International Conference on Flow Injection Analysis to be held in Merida, Venezuela, 7 - 13 December 2003. Chairman of the International Scientific Committee.
90. 2003 Act as Guest Editor for a special edition of TALANTA on the Proceedings of ICFIA'2003.
91. 2004 Invited to join the International Scientific Committee of the 8<sup>th</sup> International Conference on Kinetics in Analytical Chemistry, KAC'2004 in Rome, Italy in July 2004.
92. 2004 Invited to join the Steering and Scientific Committee of IMCS, 10<sup>th</sup> International Meeting on Chemical Sensors to be held in Tsukuba, Japan, 11 - 14 July 2004.
93. 2005 Invited to join the Steering Committee of 13<sup>th</sup> ICFIA, 13<sup>th</sup> International Conference on Flow Injection Analysis to be held in Las Vegas, Nevada, USA, 24 – 29 April 2005.
94. 2005 Invited to join the International Scientific Committee of IMA'2005, The 4<sup>th</sup> International Conference of Instrumental Methods of Analysis. Modern trends and Applications. Iraklion, Crete. Greece. 2 - 6 October 2005.
95. 2006 Invited to join the Steering and Scientific Committee of IMCS, 11<sup>th</sup> International Meeting on Chemical Sensors to be held in Brescia, Italy, July 2006.
96. 2006 Invited by the Portugese Chemical Society and The International Association of Flow Analysis to serve on the International Scientific Committee organising the X INTERNATIONAL CONFERENCE ON FLOW ANALYSIS (FA X) to be held in Porto, Portugal. 3-8 September 2006.
97. 2006 Invited to join the International Scientific Committee of the 9<sup>th</sup> International Conference on Kinetics in Analytical Chemistry, KAC'2006 in MARRAKECH, MOROCCO. 4-6 November 2006.
98. 2007 Invited to join the Steering Committee of 14<sup>th</sup> ICFIA, 14<sup>th</sup> International Conference on Flow Injection Analysis to be held in Berlin, Germany, 3 – 7 September 2007.
99. 2008 Invited to join the Steering and Scientific Committee of IMCS 2008, 12<sup>th</sup> International Meeting on Chemical Sensors to be held in Columbus, Ohio, USA, 13 – 16 July 2008.
100. 2009 Attend a meeting of the Division of Analytical Chemistry (DAC) of European Association for Chemical and Molecular Sciences) on 6 September 2009 at Innsbruck, Austria
101. 2010 Invited to join the Steering and Scientific Committee of IMCS 2010, 13<sup>th</sup> International Meeting on Chemical Sensors to be held in Perth, Australia. 11-14 July 2010.
102. 2012 Invited to join the Steering and Scientific Committee of IMCS 2012, 14<sup>th</sup> International Meeting on Chemical Sensors to be held in Nuremberg, Germany. 20-23 June 2012.
103. 2012 Invited to serve on the International Science Committee of the XII INTERNATIONAL CONFERENCE ON FLOW ANALYSIS (FA XII) to be held in Thessaloniki, Greece, 23-28 September 2012.