



CURRICULUM VITAE

Professor (Emeritus) S J van Vuuren

Updated January 2017

Curriculum Vitae

1 PERSONAL INFORMATION

Surname: van Vuuren

First name(s): Stefanus Johannes

ID Number: 5106265027086

Citizenship: SA – Born Namibian.

Title: Prof

Present employment: Retired Professor Emeritus, University of Pretoria, Pretoria

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2 ACADEMIC EDUCATION

BSc Eng, University of Pretoria, 1973

BSc Hons Eng, University of Pretoria, 1974

PhD (Eng), University of Pretoria, 1989

MBA, University of Pretoria, 1987

3 PROFESSIONAL EXPERIENCE

3.1 Professional Engineer

ECSA Registration: 770306

3.2 Positions held

2000 to 2016 Professor in Civil Engineering, University of Pretoria

1999 Professor in Civil Engineering, University of Pretoria and
Consultant to Ninham Shand Inc.

1998	Professor in Civil Engineering, University of Kentucky, Lexington. USA and Research Associate for the American Water Works Association
1994 - 1997	Professor in Civil Engineering, University of Pretoria and Consultant and Specialist to Ninham Shand Inc.
1991 - 1993	Director of BKS Inc. Division head for Water. Involved in a broad variety of water related engineering projects.
1989 - 1991	Associate BKS Inc. Mainly involved in Catchment Studies, Water Resource Analysis and Water Supply Schemes.
1984 - 1988	Senior Lecturer, University of Pretoria. Director of Sigma Beta Consulting Engineering.
1980 - 1984	Senior Engineer, Windhoek Municipality. Responsible for the planning and design of the water and sewerage infrastructure.
1975 - 1980	Senior Engineer, Department of Water Affairs, Windhoek. Construction, Planning and later Head of the Water and Exploration Drilling Section.

3.3 Consultancy for the last few years

3.3.1 Dynamic analyses of pipe systems

Surge analysis of the Clarens to Johannesburg Pipeline. Conducted on behalf of Rand Water. Flow rate of 22 m³/s and the diameter of 3,5 m. 2004.

Surge analyses of various of the pipelines in the Zwartkopjes Sub-system. Conducted on behalf of Rand Water. Evaluate the influence of the electrification of the pumps at the Zwartkopjes Pump Station. (Joint venture with AFRICON Pty Ltd). 2003 to 2005.

Surge analysis of the Petronet refined products pipeline from Durban to Sasolburg. Total distance of 780 km and 14 pump stations. In collaboration with AFRICON Pty Ltd. August 2003.

Surge analyses of the Palmiet Sub-system. Conducted on behalf of Rand. 2015 to 2016.

Surge analyses of various other pipelines for different Consulting Engineering Firms were undertaken (2003 to 2016) – not listed.

3.3.2 Review of water infrastructure projects

Asset Status Review and Hydraulic Assessment of the Caledon-Bloemfontein Gravity Pipeline. Conducted on behalf of Bloemwater. Project: **BW EC/2009-1**. 2009/10.

Status description, Hydraulic Review and Dynamic analyses of the Central Region Pipelines, Department of Water Affairs. **Contract WP10129**. 2009/11.

Reinstatement of the Teebus Hydro Power Project. Review of the hydraulic characteristics of the Orange Fisch Tunnel with a capacity of 40 m³/s and a length of 82,8 km. Conceptual implementation of a 8 MW Hydropower Generating Facility. Eastern Cape Province, South Africa, Eskom, (2013), **Contract 4650010092, Task order nr 74**.

3.3.3 Model studies

Model study and development of automatic crest gates (2002 - 2009). Leading to patent of the Active Gate System. (2000).

Resolving the failure of the **Paris Dam inlet works**: Vortex formation and pressure fluctuations in the inlet pipes – Model study. (2002).

Model study of the **Sheikh Zayed Pump Station in Egipt**, (Flow per pump = 8,5 m³/s total of 7 pumps) conducted on behalf of SULZER SA. Model scale 1:10 (2002).

Model study of the **Ashkelon Seawater Pump station, Israel** on behalf of SULZER SA. (Flow per pump = 2,4 m³/s, five pumps modelled). Model scale 1:11,6. (2003/4).

Model study of the “**Maguga Dam regulating weir to stabilize the flow releases**” conducted on behalf of Ninham Shand Consulting Engineers. (2003).

Conceptual design and sizing of the **Khayelitsha Pressure Control System** for WRP Consulting Engineers. SAICE Prize Winning Project (2002).

Model study on behalf of SULZER SA for the **Grootfontein Pumpstation** in South Africa, (Flow per pump = 2,1 m³/s – four pumps). Model scale - 1:6,5 (2003/4).

Model study on behalf of Berg River Consultants under instruction from TCTA. **Berg River Project Outlet works and Suction Pipelines** - Water supply to Cape Town, South Africa. (Flow rate = 220 m³/s) Model scale – 1:19 (2003/4).

Model study on behalf of SULZER SA for the **Chanza Pump Station, Spain**. Four pumps were modeled (Froude uniform un-distorted model). Model scale 1:11,6. Flow rate for 4 pumps = 13,3 m³/s. (2006).

Model study of the “**Vortex Protection Measures at the Vereeniging Pump Station (ER2)**” conducted on behalf of Rand Water. Order number 0030496) Model scale = 1: 13,5. (2006)

Conceptual design and Model study of the stormwater system and **energy dissipation structures in Glentana**. Conducted on behalf of MVD Consulting Engineers (Mosselbaai). Scale 1:20. (2007/8).

Modelling of the “**Sam Nujoma Stormwater System to determine the hydraulic capacity**” conducted on behalf of the City Council of Windhoek, Namibia. Scale 1:10. (2008).

Model Study of the proposed Neckertal Dam – Namibia in conjunction with Knight Piezold Consulting Civil Engineers on behalf of **Ministry of Agriculture, Water and Forestry, Namibian Government. Order RO1047.** 2010

Model Study of the “**Umbeluzi Raw Water Pump Station for Maputo**” on behalf of HidroAfrica and Mott MacDonald. 2014

3.3.4 Other Consultancies

Development of surge software to include the features of the three-stage air valve into the Surge 5.2 software (University of Kentucky, USA) (1998).

Hydraulic assessment and surge analysis of the Blyde River Irrigation Scheme. Contract value of construction is R 120,0 Million. (1998-2000).

Team leader for the Hydrology and System Analyses of the further development of the Lesotho Highlands Water Project (1996-1997).

Hydraulic assessment of the upgrading of the Nagle Aqueduct System for Mgeni Water (1995).

Project leader for the Catchment Studies of both the Crocodile River and the Orange River. (1985-1990).

4 PUBLICATIONS

4.1 Technical reports and books

Van Vuuren, S.J., “*Air intrusion at reservoir intakes*”. (1996). Published AC-Underground, Volume 8 and 9, 1996

Van Vuuren, S.J., Van Bleek, J.C., (1997) “Evaluating the water demands of consumers in the Pretoria Municipal Supply Area”. WRC project - K5/705/1/97. (Published in Afrikaans). 1997

Van Vuuren, S.J., Van Dijk, M. and Steenkamp J.N. (2004). *Quantifying the influence of air on the capacity of large diameter water pipelines and developing provisional guidelines for effective de-aeration*. Volume 1. WRC report no. 1177/1/04. Water Research Commission. Pretoria, South Africa.

Van Vuuren, S.J., Van Dijk, M. and Steenkamp J.N. (2004). *Quantifying the influence of air on the capacity of large diameter water pipelines and developing provisional guidelines for effective de-aeration: Provisional guidelines for the effective de-aeration of large diameter water pipelines*. Volume 2. WRC report no. 1177/2/04. Water Research Commission. Pretoria, South Africa.

Van Vuuren, S.J., Van Rooyen, P.G., Van Zyl, J.E. and Van Dijk, M. (2005). *Application*

and conceptual development of genetic algorithms for optimization in the water industry. WRC Report No 1388/1/05. Water Research Commission. Pretoria, South Africa.

Van Vuuren, S.J. and Van Dijk, M. (2006). *Factors influencing the friction loss in pipelines and the relationship between water quality, operating conditions and performance of liner systems.* WRC Report No 1269/01/06. Water Research Commission. Pretoria, South Africa.

Kruger, E.J. (Editor), Rooseboom, A. Van Vuuren, S.J., Van Dijk, M., Jansen van Vuuren, A.M., Pienaar, W.J., Pienaar, P.A., James, G.M., Maastricht, J. and Stipp, D.W. (2006). *Drainage Manual.* 5th Fully revised. The South African National Roads Agency Ltd (SANRAL)). **ISBN 1-86844-328-0.**

Van Vuuren, S.J. and Van Dijk, M. (2006). *Life Cycle Costing Analyses for Pipeline Design and Supporting Software.* WRC Report No TT278/06. Water Research Commission. Pretoria, South Africa.

Van Vuuren, S.J. (2010). *A High Level Scoping Investigation into the potential of energy saving and production/generation in the supply of water through pressurized conduits.* WRC **Project K8/839/3.** Water Research Commission. Pretoria, South Africa.

Van Vuuren, S.J. and Van Dijk, M. (2011). *Waterborne Sanitation Design Guide.* WRC Report No TT481/11. Water Research Commission. Pretoria, South Africa.

Van Vuuren, S.J. and Van Dijk, M. (2011). *Waterborne Sanitation Operation and Maintenance Guide.* WRC Report No TT482/11. Water Research Commission. Pretoria, South Africa.

Van Vuuren S.J. and van Dijk, M. *Roads Authority of Namibia – Drainage Manual.* Second Edition. Conducted in cooperation with VKE Namibia Consulting Engineers under instruction from the Roads Authority. Windhoek, Namibia. 2011

Van Vuuren, S.J. and Van Dijk, M. (2012). *Determination of the change in Hydraulic Capacity in Pipelines.* WRC Report No 1820/1/12. Water Research Commission. Pretoria, South Africa.

Van Vuuren, S.J., Loots, I., Van Dijk, M. and Barta, B. (2013). *Scoping study: Energy generation using low head technologies.* WRC Report no. KV323/13. Water Research Commission. South Africa.

Van Vuuren, S.J. Van Dijk, M. and Coetzee, G.L. (2013). *Status Review and Requirements of Overhauling Flood Determination Methods in South Africa.* WRC Report no. TT563/13. Water Research Commission. South Africa.

Van Vuuren, S.J., Van Dijk, M. and Loots, I. (2014). *Conduit Hydropower Pilot Plants.* WRC Report No TT596/14. Water Research Commission. Pretoria, South Africa.

Van Vuuren, S.J., Van Dijk, M., Loots, I., Barta, B. and Scharfetter, B.G. (2014). *Conduit Hydropower Development Guide.* WRC Report No TT597/14. Water Research Commission. Pretoria, South Africa.

Two chapters in the book: The Role of Micro-Hydel for Developing Countries.

Centre for Science & Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre). 2015.

- *A Decision Support System for Energy Generation from Water Supply and Distribution Systems in South Africa* by Loots I, Van Dijk M, Van Vuuren SJ and Bhagwan JN.
- *Tapping into Hydropower Potential in Urban Water Distribution System – Developments in South Africa* by Van Dijk M, Bhagwan JN and Van Vuuren SJ.

4.2 Conference papers/posters

Van Vuuren, S.J., *"Some practical aspects of groundwater abstraction"*. Groundwater Symposium, University of Pretoria, August 1979.

Van Vuuren, S.J., *"Stormwater drainage in urban areas"*. Course on Civil Services in Township Development. South African Institution of Civil Engineers, Windhoek, March 1981.

Rooseboom, A and van Vuuren S.J., *"Regime changes in the Caledon River associated with sediment deposition upstream of Welbedacht Barrage"*. International Conference on River Regime. May 1988, Paper I.2. Hydraulics Research, Wallingford, England.

Van Vuuren, S.J., *"The effect of air in water pipes"*. One-day course on Pipeline Engineering. SAICE, May 1990.

Van Vuuren, S.J., and Basson, M.S., *"A systems approach to water resource development in South Africa and its impact on the aquatic environment"*. Congress of SA Society of Aquatic Scientists, Bloemfontein, July 1990.

Kearsley, E., van Vuuren, S.J., and Waelbers, KCLF (1995) *"Evaluation of a composite pipe to be used in the reconstruction and development of South Africa"*. 11th International Conference on Pipeline Protection, Florence, Italy, October 1995.

Van Vuuren, S.J., *Ecological Management of Riverine Water Resources: "The case of the Orange River System"*, South Africa. International Conference: Water the Lifeblood of Africa. International Association for Hydraulic Research. Africa Region, Victoria Falls, Zimbabwe. (1997)

Van Vuuren, S.J., "Modelling of Subsurface Vortex Vibrations" *Advances in Fluid Mechanics. Fluid Structure Interaction II*, WIT press ISBN:1-85312-978-X, 2003.

Van Vuuren, S.J., *"Engineering economics"*. Course on Planning and Operation of Water Resources Development Project. University of Pretoria, July 1987.

Van Vuuren, S.J., and Chutter, M. *"Development of Water Resources - Environmental Impact, Conservation Objectives and Management Strategy: A Case Study - The Orange River"*. Eppic 91 - Environmental Conference: Water, May 1991.

Van Vuuren, S.J., *"The purpose and location of air valves in pipelines"*. SAICE - Lecture Course, University of Witwatersrand. Course F. 1991.

Van Vuuren, S.J., "*Economic assessment: The relevance in rural water supply*". Course on Rural Water Supply, 3-7 July 1995. University of Pretoria.

Van Vuuren, S.J., "*Control of air in pipeline design*". Corrosion Institute of Southern Africa. Pipeline Interest Group. Pipelines - Points to Ponder. Eskom Conference Centre, 28 June 1995.

Van Vuuren, S.J., "*Statutory guidelines for water supply*". Special course on water distribution networks. Presented by Rand Afrikaans University and University of Pretoria. November 1995.

Van Vuuren, S.J., "*Network monitoring and maintenance*". Special Course on Water Distribution Networks. Presented by Rand Afrikaans University and University of Pretoria. November 1995.

Van Vuuren, S.J., "*The Wave-Plan Method*". Course on: Surge Analysis in Water Systems. Presented by the University of Pretoria and Rand Afrikaanse University. November 1996.

Van Vuuren, S.J., "*Theoretical Overview of Surge Analysis*". "Course on Surge Analysis in Water Systems". Presented by the University of Pretoria and Rand Afrikaanse University. November 1996.

Van Vuuren, S.J., and van Dijk, M. "*Optimizing Water Distribution Systems using Genetic Algorithms*". 1st Water Research Showcase, Annual Symposium at WITS (2005).

Van Dijk, M. and Van Vuuren S.J. *Optimizing Water Distribution Systems using Genetic Algorithms*. 1st Water Research Showcase, Annual Symposium at University of the Witwatersrand (2005).

Van Dijk, M. and Van Vuuren S.J. *Reduction of evaporation from reservoirs*. WISA 2008, Sun City.

Barta, B, Van Dijk, M and Van Vuuren, S.J. *Energy generation from current water supply and distribution systems*. 4th annual Hydropower Africa conference, Sandton, South Africa. 19-23 September 2011.

Bhagwan J.N., Van Dijk, M. Kurtz, A. Van Vuuren, S.J. and Loots, I. *Conduit Hydropower Potential in the City of Tshwane Metropolitan Municipality's (South Africa) Water Distribution System*. Singapore International Water Week, 1-5 July 2012.

Van Vuuren, S.J. "*Pipelines – what about this?*", 7th Annual SAPPMA Conference, Midrand South Africa (2014).

Van Vuuren, S.J., "*Effective de-aeration of pipelines and the use of captured air to mitigate dynamic pressures*", 12th International Conference on Pressure Surges – BHR Group, Dublin, Ireland. 18-20 November 2015.

Van Vuuren, S.J. and Coetzee G.L. "Evaluation of The Influence of 3-Dimensional Upstream Flow and Geometric Parameters When Designing an Ogee Spillway" SANCOLD 2015 Conference Proceeding.

Van Vuuren, S.J. and Coetzee G.L. "Comparison Between CFD Analyses and Physical Modelling of an Ogee Profile". SANCOLD 2015 Conference Proceedings.

Van Vuuren, S.J. and Coetzee G.L. (2016) "The Development of the Vc-Ogee Relationship Which Incorporates Upstream 3-Dimensional Flow Conditions". ICOLD 2016 International Symposium Conference Proceedings, Sandton, Johannesburg, South Africa.

4.3 ISI Listed publications (*)/Publications in peer-reviewed or refereed journals

Van Vuuren, S.J. "The impact of catchment developments on river basin response". Civil Engineer. October 1989. ISSN 0009-7845. (*)

Van Vuuren, S.J., "Surge-induced failures in fibre-cement pipelines due to sudden air release". The Civil Engineer in South Africa. January 1992. ISSN 0009-7845. (*)

Van Vuuren, S.J., and Erasmus, J.J., "Hydro-power generation and the aquatic environment". A case study of the Orange River Downstream of PK le Roux Dam". Electricity and control - March 1992. pp 11-15.

Van Vuuren, S.J., O'Keeffe, J.O., and A duP le Grange, A du P., "A first estimate of the environmental water requirements of the Mgeni River system". First Conference on Environmental Management Technology and Development. Environmental Engineering Division. South African Institution of Civil Engineers. 7-8 March 1994.

Van Vuuren, S.J., and Schwartz, H.I. "Air in water pipes". The Civil Engineer in South Africa. (HI Schwartz, Co-author) 1995. (*)

Van Vuuren, S.J. *Air intrusion at reservoir intakes, AC-Underground, Volumes 8 and 9, 1996.*

Funk, J.E., Wood, D.J., LeChevallier M., Friedman, M., and van Vuuren, S.J., "Pathogen Intrusion into Water Distribution Systems due to Transients" (Co-authors: Published ASME and presented at the JSME Joint Fluids Engineering Conference. July 18-22, 1999 San Francisco, CA USA. (*)

Van Vuuren., S.J., Kearsley, E.P., and Waelbers, KCLF "THIN-Walled large-diameter composite pipes". Co-authors:, Proc. Instr. Civ. Engrs, 1996, 115, September pp 144 - 150.

Van Vuuren, S.J., and Austin, L.M., "Sanitation, Public Health and the Environment: Looking beyond current technologies".SAICE Journal. August 2000. (*)

Van Vuuren, S.J., "New developments of existing valves for the water industry", New Word Water (Circulation 10000) Invited contribution. January 2000

Van Vuuren, S.J., Westraad, D. and Cloete, T.E., *The dynamic response of biofilm to pipe surface and fluid velocity*. Water Science and Technology. January 2002. (*) Journal Impact factor 1.102.

Van Vuuren, S.J., Van Dijk, M., and Kovács, Z, “*Analysing the mighty Zambezi River*”, Civil Engineering (2006). (*)

Van Vuuren, S.J., Van Dijk, M., “*Physical modelling to solve 3D flow problems*”, Civil Engineering. (2007). (*)

Van Dijk, M., Van Vuuren, S.J. and Van Zyl, J.E. (2008). *Optimising Water Distribution Systems using a weighted penalty in a Genetic Algorithm*. Water SA. Vol 34, No 5 pp 537-548. (*)

Van Vuuren, S.J., Van Dijk, M., “*Application of genetic algorithms – Determination of the optimal pipe diameters*”. Water SA, Vol 28 No 2. April 2002. (*) Journal Impact factor 0.876.

“*Optimising Water Distribution Systems using a weighted penalty in a Genetic Algorithm*”. Van Dijk, M., Van Vuuren, S.J. and Van Zyl, J.E. (2008). Water SA. Vol 34, No 5 pp 537-548. (*)

Van Dijk, M. & van Vuuren, S.J. (2009). *De-stratification induced by bubble plumes as a means to reduce evaporation from open impoundments*. Water SA Vol 35, No 2 (Special WISA 2008 edition). pp 158 – 167. (*)

Van Vuuren, S.J., Blersch, C.L. and Van Dijk, M. (2011). *Modelling the feasibility of retrofitting hydropower to existing South African dams*. Water SA Vol 37 No. 5, WRC 40-Year Celebration Special Edition 2011. pp 679 – 692. (*)

Van Vuuren, S.J. and Van Dijk, M. (2012). *The discontinuity required at an air valve or vent or for effective pipeline de-aeration*. South African Journal of Civil Engineers. pp 94-100, Vol 54 no 2. (*) Journal Impact factor 0.357.

Van Vuuren, S.J., Coetzee G.L. and Van Dijk, M. (2012). *SANRAL Drainage Manual 6th Edition Chapter 13: WEB-BASED LINKS AND SUPPORTING SOFTWARE*. 2012

Loots, I., Van Dijk, M., Van Vuuren, S.J., Bhagwan, J.N. and Kurtz, A. (2014). *Conduit-hydropower potential in the City of Tshwane water distribution system*. South African Journal of Civil Engineers. Vol 58. October 2014.

Mahaffey R., and van Vuuren S.J, “*Review of pump suction reducer selection: Eccentric or concentric reducers*”, Journal of the South African Institute of Civil Engineering. Volume 56 Number 3, October 2014.

Maheffey R., and van Vuuren S.J., “*Reducer fittings decrease pipe size to avoid failure Part I*”, Pumps & Systems, August 2014.

Maheffey R., and van Vuuren S.J., “*Reducer fittings decrease pipe size to avoid failure Part 2*”, Pumps & Systems, September 2014.

Loots, I., Van Dijk, M., Barta, B., Van Vuuren, S.J. and Bhagwan, J.N. (2015). *A Review of low head hydropower technologies and applications in a South African context*. Renewable and Sustainable Energy Reviews. Elsevier. pp 1254-1268.

Van Vuuren, S.J., Coetzee, G.L. and Roberts C.P.R. “*Investigating the Bottom Free Surface Nappe (Ogee Profile) Across a Sharp Crested Weir Caused by the Flow in an Asymmetrical Approach Channel*”. Journal of the South African Institution of Civil Engineering. Vol 57 No 3, September 2015, Pages 57–63.

Note:

* **The ISI listing is based on the status of the Journal in 2012.**

4.4 Consulting reports

(Numerous) Not listed

5 PATENTS

“*Prevention of cavitation under high-pressure conditions in Control Valves*”. A Patent has been registered by the University of Pretoria. (2003).

Rotoscope: Real time monitoring of Biofilm growth in pipe systems. (2005).

Low pressure temperature control. (2007).

6 SOFTWARE DEVELOPMENTS

Developed a program for the **external loads on buried pipes according to ISO-2978 for AC-Pipes** (Pty) Ltd (1995).

Development of software for the **design of GRP pipes according to AWWA C950-95** (1996) for VECTUS PIPES.

Development of software for the **determination of surge pressures in simple pipeline system** for AC-Pipes (Pty) Ltd (1996-1997).

Development of software for the **determination of the sizing and location of air valves** for ARI Flow Control Accessories, Israel. (1998).

Development of software for the application of Genetic Algorithms in the determination of the **optimum pipe diameters and pump scheduling**. WRC project K5/1144 (2002).

Development of software for the **optimisation of water distribution networks utilizing Genetic Algorithms routines. An inter-phase with EPANET was developed**. WRC project K5/1388 (2005).

Development of software for the determination of the “**Remaining Operational Life**” of different components of water supply infrastructure (2014).

Development of software for the routing of floods through existing culverts to establish if they need to be extended “Routing Utility for the Investigation of Existing Hydraulic Structures”, (2012).

7 SCHOLARSHIPS AND AWARDS

Leader of the **best innovative final year research project** in Civil and Biosystems Engineering (2003) – SSI Inc prize (2003).

The **SAICE Water Engineering Award** for the development of software and the contribution to technology transfer in the water field (2002).

The **SAICE Water Engineering Award** to the Project Leader of the best final year Water Engineering Research Project (2003, 2005 2006, 2007, 2009 and 2010).

SAICE Water Engineering Price for the best Journal Paper titled: “Review of pump suction reducer selection: Eccentric or concentric reducers”, Journal of the South African Institute of Civil Engineering. Volume 56 Number 3, October 2014.

SAICE Best Journal Paper Award 2012 titled “The discontinuity required at an air valve or vent for effective pipeline de-aeration”, Volume 54, Nr 2.

Mail & Guardian Greening the Future, Community Renewable Energy Award for the Conduit Hydropower Project (2014).

Various Research Grants were received from WRC and NRF (1998-2015).

8 PROFESSIONAL AFFILIATIONS AND ACTIVITIES

Member of SANCOLD Management Committee (2014-2015).

Executive member of the WISA section for Management and Institutional Affairs (M&I) (2003-2007).

Executive member of the Governing Body of New Hope School (2002).

Member of the Water Engineering Division (SAICE) (2002-2015).

EXCO member of SAICE (1995-1997).

Chairman of SAICE Water Division (1993-1995).

Chairman of Namibian Branch of SAICE (1980 – 1982).

ECSA Registration (Number 770306)

9 TEACHING AND GRADUATE STUDENTS

9.1 Formal education

All the courses on BSc (Hons) or MSc (Engineering level)

- Pipe Flow

- Rural Water Supply
- Hydraulic Design
- Special Features of Pumping Station Design
- Free Surface Flow
- Flood Hydrology

(About 420 students over the last 4 years).

9.2 Continuing education

Free Surface Hydraulics and Free Surface Modelling (2009)

Pipeline Engineering (2004)

Pump station design (2009)

Surge Analyses (July 2009)

Water Resources Analyses (2009)

Flood Hydrology and Flood lines (July 2009)

Optimization of Water Systems

Air in Pipelines (Presented courses in America, Australia, New Zealand and a number of African Countries - 2001)

(About 450 participants over the last 4 years)

Acted as supervisor or co-supervisor for the following graduate students

Refer to the graduation register in Water Engineering

9.3 External Examiner for 5 PhD Students:

Dr G R Basson (1996) – University of Stellenbosch

Dr P Wessels (1999) – University of Pretoria

Dr N Benade (1997) – University of Stellenbosch

Dr T van der Waldt (2002) - RAU

Dr H E Jacobs (2004) - RAU

9.4 External Examiner for MSc Students:

Wits = 2

RAU = 2

Botswana = 1

9.5 Visits to foreign universities and research institutions

Visits to foreign research institutes and governmental agencies:

2014 – Universidade Estadual de Campinas (UNICAMP), Sao Paulo, Brazil - Invited Lecturer.

2011 – University of Kentucky, USA – Invited guest lecturer.

2001 – University of Exeter, UK.

1998 - University of Kentucky, USA – Sabatical: Extending the computation of three stage air valves into dynamic software.

1997 – University of Botswana (External reviewer and examiner of the graduate program).
1996 – University of Munchen – Cavitation Research.

Declaration

I confirm that the above information contained in the CV is an accurate description of my experience and qualifications.

Name: Stefanus Johannes van Vuuren

A handwritten signature in black ink, appearing to read 'Stefanus Johannes van Vuuren', written over a horizontal line.

Signature:

Date: 20 January 2017