

JA DU PLESSIS (Pr Eng)



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Date of Birth: 16 December 1962

Citizenship: South African

Languages: Afrikaans & English (Speak, Read & Write --- Excellent)

Education: 1980 - Senior Certificate - Secondary School: Lutzville
1987 - B.Eng (Civil) – University of Stellenbosch
1991 - M.Eng (Civil : Risk Management of Water Resource) – University of Stellenbosch
2010 - PhD (Public and Development Management: Integrated water demand management for local water governance) – University of Stellenbosch.

Professional Institutions: Member SA Institute of Civil Engineers (SAICE)
Fellow of the Institute of Municipal Engineers of Southern Africa (IMESA)

Professional Registration: Pr Eng No 920424

NRF rated researcher: Level C3

Professional Appointments:

2018 - Professor in Water and Environmental Engineering Division, University of Stellenbosch
2014 - 2017 Associate Professor in Water and Environmental Engineering Division, University of Stellenbosch
2011 – 2014 Sn Lector in Water and Environmental Engineering Division, University of Stellenbosch
2002 – 2011 Lecturer in Water and Environmental Engineering Division, University of Stellenbosch
1996 – 2002 Director Water Supply, West Coast District Municipality
1991 – 1996 Senior Engineer, Drainage and Sewage Branch, City of Cape Town municipality
1987 – 1991 Engineer, Irrigation Boards, Department of Agricultural
1983 – 1983 Technical Assistant, Gamtoos River Government Water Scheme, Department of Water Affairs

Professional Services:

- 2016 - 2017 Appointed as Head of Department: Civil Engineering, Appointed as Director for the Instituted of Civil Engineering.
- 2015 - 2016 Appointed as Director for the Institute of Water and Environmental Engineering in the Civil Engineering Department at the University of Stellenbosch.
- 2012 – current Serves as a member of EXCO in the Board of the Institute of Municipal Engineers for Southern Africa where he is responsible (Director) for Training and Skills development (2nd term). Also serves on the Education and Training committee of SAICE. Serves on Editorial Panel of the SAICE Journal and is a member of the Local Organising Committee for the 2015 IMESA Conference. Serves as Technical Advisor for the International conference on Water, Environment and Energy (WEE – 2016). The conference is organized jointly by the Texas A&M University, USA and AISECT University Bhopal, India.
- 2010 - 2012 Responsible for the first Environmental Engineering Course presented to post graduate engineering student at Stellenbosch University (SUN); Serves on the CHEC / PGWC Disaster management steering committee together with representatives from 4 higher education institutions in the Western Cape, where research is conducted to pre-empt the possible impacts of climate change on the communities in the Western Cape.
- 2008 – 2009 Represents SUN on a task team consisting of 5 academics which provides guidance to the Minister of Education on methods to improve service delivery through higher education institutions under guidance of the DBSA. The strategy developed was handed to the Minister at the end of 2009.
- 2008 Participate in the CMA establishment process workshop, at the invitation of the DWA, held at Loskop Dam. Following his input here, he spent 4 weeks working in the Netherlands, logging the institution arrangements and lessons learned from the Dutch partners in the CMA establishment process.
- 2007-2008 Project manager for Water Demand Management as part of the project team, through the international cooperation between South Africa and the Netherlands, responsible for the development of an effective water use and integrated water management toolbox for local authorities.
- 2005-2009 Serves on the Berg River Catchment Management Agencies reference group as a specialist in integrated water demand management and was nominated to serve on the Advisory Committee.
- Serve on the Western Cape System Analysis task team, responsible for the evaluation and the management of the available water resources in the Western Cape (DWA).
- 2005 Serves as project leader for the WRC project; “A Desalination Guide for SA Municipal Engineers” and also completed a guideline to deal with environmental impacts of sea water desalination for the DWA.
- 2003 – 2009 Served as chairman on the Saldanha groundwater monitoring committee, managing the abstraction of groundwater for industrial use at Langebaan Road.

General:

Prof JA du Plessis has more than 30 years of experience in the field of water engineering, working for 5 years for the Department of Water and Sanitation and the Department of Agricultural with irrigation boards and government water schemes.

He worked for 5 years with the City of Cape Town, dealing with storm water and managing their hydrology database. He then joined the West Coast District Municipality for a period of 7 years as the Director: Water Supply, where he gained experience with all the institutional arrangements and specifically the Water Act and Water Service Act. He was deeply involve in catchment management forums and was part of one of the first Catchment Management Agencies in SA, i.e. the Olifants/Doring River CMA, where he serves on the reference group. He also served for three years on the Lower Olifants River Water Users Association. He was responsible for the establishment of many project steering committees in the Berg River catchment during the implementation phase of basic water supply schemes in the rural areas. He served on various management committees including the project steering committee, managing the feasibility of the extension of the Olifants/Doorn River irrigation project.

He is presently lecturing (for the past 12 years) hydrology and environmental engineering at the University of Stellenbosch. He specialized in water resource evaluations, the development of strategies for the implementation of water demand management and the compilation of Water Services Development Plans for local authorities. He assist's the Department of Water Affairs with the evaluation of the water resources and the legal situations with licensing at local authorities in the Berg and Olifants/Doring river catchments and with the evaluation of all water service development plans in the Western Cape. He is also responsible for the bi-annual Flood Hydrology, Environmental Engineering and Water Resource Management Courses presented to all post graduate engineering students at SUN. He served on various Water Research Council project reference groups, providing guidance and leadership in the execution of these projects.

He has a special interest in desalination as an alternative water resource (and the associated environmental problems) and has been involved as project leader/team member of the Lambertsbay Desalination plant and the planning of the Port Nolloth desalination plant. He also acts as specialist reviewer during the appointment of the Sedgefield desalination team and was the project leader for the WRC project, compiling a Desalination Guide for local authorities. He served as the Head of the Department of Civil engineering for 2 years before resuming his normal lecturing responsibilities again.

His specific field of expertise includes:

- Hydrology
- Institutional Arrangements (Water Act / Water Service Act/ WSDP's / Public Participation)
- Environmental Assessments

Conferences:

- 2005
NOLIMP Workshop: Bakkeveen, the Netherlands. (10 May 2005)
Address the workshop: Challenges on CMA establishment, Public Participation

Institute of Municipal Engineers for Southern Africa: Port Elizabeth (18-21 October 2005)
Paper: "A case study to illustrate the difficult challenges facing all participants during the process of establishing CMA's"
- 2006
Water Institute of SA: Durban (23-26 May 2006)
Co-author of paper: A Desalination Guide for SA Municipal Engineers

Municipal Infrastructure Grand Workshop: Stellenbosch (26 October 2006)
Address the workshop: Desalination as a viable option.

- 2007
Institute of Municipal Engineers in Southern Africa: DURBAN (24-26 October 2007)
Paper: Desalination and the associated environmental impacts.

Municipal Infrastructure Grand Workshop: George (6 November 2007)
Address the workshop: Desalination and the environment.
- 2008
Water Institute of South Africa: Sun City: (19 - 21 May 2008)
Paper: Monitoring the Unseen (Groundwater Monitoring)
Co-author of paper: Economic evaluation of Water Demand Management.
- 2009
Pan Africa Chemistry Network: Nairobi, Kenya. (25-28 August 2009)
Paper: Sustainability Through Integrated Decision Making in Water Demand Management.
- 2010
Lecturing as guest lecturer at the School of Public Management at the University of Stellenbosch on Water Governance.
- 2011
Institute of Municipal Engineers for Southern Africa: Boksburg (JHB) (26-28 October 2011)
Paper: Sustainability through integrated decision making in water demand management.
- 2012
International Federation of Municipal Engineers: Helsinki, Finland (4 - 10 June 2012)
Paper: Integrated Water Demand management for Municipalities: A South African Perspective.

SANCIAHS National Hydrology Symposium: University of Pretoria (1-2 Oct 2012)
Co-author of Poster Presentation: Planning for Desalination in the Context of the Western Cape Water Supply System.

Water Institute of South Africa: Cape Town: (7-9 May 2012)
Co-author of paper: The Economic impact of a change in water tariff as part of water demand management.
Co-author of paper: Impact of Climate Change on Short duration rainfall.
Co-author of paper: Biological Nitrification and Denitrification of Source Separated Urine in a Sequencing Batch Reactor.
- 2014
Invited speaker to Conference of African – Asian Development University Network in Malaysia: Kuala Lumpur: (10 -13 March 2014)
Paper: Water Management in South Africa.

SANCIAHS National Hydrology Symposium: University of Cape Town: (1-2 Oct 2014)
Co-author of Presentation: Planning for Desalination in the Context of the Western Cape Water Supply System.
- 2015
8th International Conference on River Basin Management: Wessex Institute UK, A Coruña, Spain: (17-19 June 2015).
Co-author of Paper: Development of a Process Framework for linking an extreme flood event and the cost of damage to water security infrastructure.

3rd International Conference on Water and Society: Wessex Institute UK, A Coruña, Spain: (15-17 July 2015).
Paper: Domestic water meter accuracy.

Asset Management Conference, Sydney, Australia: (24-28 May 2015).
Co-author of Paper. Methodology for linking extreme flood events and the cost of damage to water security infrastructure assets.

Institute of Municipal Engineers for Southern Africa: Cape Town (28-30 October 2015)
Co-author of Paper: Lessons learned from the 2013 floods on the Lourens River, Somerset West.

- 2016
International Conference on Water, Environment, Energy and Society (ICWEES-2016): Bhopal, India: (15-18 March 2016).
Key-Note paper: Integrated Water Management at Local Government level: A Southern Africa perspective.

SAIAE Symposium, Kruger National Park, RSA.
Co-author of Paper: Development of a customised design flood estimation tool to estimate floods in gauged and ungauged catchments. Gericke, OJ and Du Plessis, JA. 2016.

Publications:

BLERSCH CL and **DU PLESSIS JA**. 2017. Planning for desalination in the context of the Western Cape water supply system. Journal of the South African Institute of Civil Engineering / Joernaal van die SA Instituut van Siviele Ingenieurswese 2017; 59(1) : 11-21.

DU PLESSIS JA, BURGER AJ, SWARTZ CD, MUSEEV N. 2006. A Desalination Guide for SA Municipal Engineers. WRC TT 266/06.

DU PLESSIS JA. 2007. Benchmarking water use and infrastructure based on water services development plans for nine municipalities in the Western Cape. Journal of the South African Institute of Civil Engineering / Joernaal van die SA Instituut van Siviele Ingenieurswese 2007; 49(4) : 19-27.

DU PLESSIS JA. 2007. Seawater desalination and the associated environmental impacts. 71st Annual Conference of the Institute of Municipal Engineers, International Conference Centre, Durban, South Africa, Media 3S (Shortens) 2007: 61-69.

DU PLESSIS JA. 2009. Managing the unseen: Langebaan Road Aquifer System. Water SA 2009 (Special WISA 2008 edition); Vol 35, No 2: 152-157

DU PLESSIS JA. 2014. Integrated water management for municipalities in South Africa. Proceedings of the Institution of Civil Engineers, Municipal Engineer, June 2014; 167: 77-88.

DU PLESSIS JA and Burger GJ. 2015. Investigation into increasing short-duration rainfall intensities in South Africa. Water SA 2015, 41(3): 416-424.

DU PLESSIS JA and Schloms B. 2017. An investigation into the evidence of seasonal rainfall pattern shifts in the Western Cape, South Africa. Journal of the South African Institute of Civil Engineering / Joernaal van die SA Instituut van Siviele Ingenieurswese. 2017; 59(4):47-55.

DU PLESSIS JA. 2017. Integrated Water Management at Local Government level: A Southern Africa perspective, in Singh, VP, Yadav, S, Yadava, RN (Eds.) *Water Resource Management. Selected proceedings of ICWEES – 2016*. Springer. ISBN 978-981-10-5710-6

GERICKE OJ and **DU PLESSIS JA**. 2011. Evaluation of critical storm duration rainfall estimates used in flood hydrology in SA. *Water SA* 2011; 37(4): 453-470.

GERICKE OJ and **DU PLESSIS JA**. 2012. Evaluation of the standard design flood method in selected basins in South Africa. *Journal of the South African Institute of Civil Engineering/ Joernaal van die SA Instituut van Siviele Ingenieurswese*. 2012; 54(2): 2-14.

GERICKE OJ and **DU PLESSIS JA**. 2012. Catchment parameter analysis in flood hydrology using GIS applications. *Journal of the South African Institute of Civil Engineering / Joernaal van die SA Instituut van Siviele Ingenieurswese*. 2012; 54(2): 15-26.

GERICKE OJ and **DU PLESSIS JA**. 2013. Development of a customised design flood estimation tool to estimate floods in gauged and ungauged catchments. *Water SA* 2013; 39(1): 67-94.

HARDS AF, **DU PLESSIS JA**. 2013. Design implications on capital and annual cost of smallholder irrigator projects. *Journal of the South African Institute of Civil Engineering/ Joernaal van die SA Instituut van Siviele Ingenieurswese* 2013; 55(1) : 36-44.

HOFFMAN JJ and **DU PLESSIS JA**. 2013. A model to assess water tariffs as part of water demand management. *Water SA* 2013; 39(3): 423-428.

JACOBS HE, GEUSTYN L, FAIR K, DANIELS J, **DU PLESSIS JA**. 2007. Analysis of water savings: a case study during the 2004/05 water restrictions in Cape Town. *Journal of the South African Institute of Civil Engineering/ Joernaal van die SA Instituut van Siviele Ingenieurswese* 2007; 49(3) : 16-26.

SWARTZ CD, **DU PLESSIS JA**, BURGER AJ, OFFRINGA G. 2006. A desalination guide for South African municipal engineers. *Water SA* 2006; 32(5): 641-647.

VAN WAGENINGEN A, **DU PLESSIS JA**. 2007. Are rainfall intensities changing, could climate change be blamed and what could be the impact for hydrologists? *Water SA* 2007; 33(4): 571-574.

VAN NIEKERK PH and **DU PLESSIS JA**. 2013. Hydrologic-economic appraisal of life-cycle costs of inter-basin water transfer projects. *Water SA* 2013; 39 (4): 539-548.

VAN NIEKERK PH and **DU PLESSIS JA**. 2013. Unit Reference Value: Application in appraising inter-basin water transfer projects. *Water SA* 2013; 39 (4): 549-554.