
CURRICULUM VITAE

J.J. VAN TOL

2018

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SUMMARY

Senior Lecturer in Soil Science; NRF Y1 rated researcher; 24 peer reviewed publications (5 more under evaluation); 3 peer reviewed book chapters; 15 international and 44 national congress presentations; lead/involved in 10 externally funded research projects; produced 30+ scientific consultancy reports; received 11 awards/accolades for research and/or academic outputs. Research focus: hydropedology, environmental soil science; soil physics; pedology

PERSONAL INFORMATION

Name: Jacobus Johannes (Johan)

Surname: van Tol

Identity Number: 8407195080089

Date of Birth: 19 July 1984

Drivers Licence: Code B

Nationality: South African

Home Language: Afrikaans

Other Languages: English

Home Address: 23 Lavender Street, Bloemfontein, South Africa, 9301

Work Address: Department of Soil, Crop and Climate Sciences, University of the Free State, Bloemfontein, South Africa.

QUALIFICATIONS

PhD. in Soil Science (UFS): Characterizing Sub-Surface Lateral flow in selected hillslope soils to facilitate hydrological predictions (2011).

M.Sc. Agric in Soil Science (UFS): Soil indicators of Hillslope Hydrology in the Bedford and Weatherley catchments (2008) – *cum laude*.

B.Sc. Agric (Hons) in Soil Science (UFS) in 2007 – *cum laude*.

B.Sc. Agric in Soil Science and Agronomy (UFS) in 2006.

Matriculate (Transvalia High School) in 2002 – average > 80%.

CAREER

Senior Lecturer (2016 -): University of the Free State

Responsibilities: Lecturing undergraduate and postgraduate modules, research, post graduate supervision and general institutional administration.

Lecturer & Senior Lecturer (2011 – 2016): University of Fort Hare

Responsibilities: Lecturing undergraduate and postgraduate modules, research, post graduate supervision and general institutional administration.

Researcher (2007 – 2011): University of the Free State

Responsibilities: Innovative research (field work, compiling research reports and training of assistant researchers), time-on-task lecturing (2009 – 2011).

TEACHING

Undergraduate modules at UFH (2011 -):

- AGS211: Introduction to soil science (pedology, soil chemistry and soil fertility sections)
- AGS221: Pedology
- AGS322: Soil Taxonomy
- ALP313: Land Use Planning (soil science section)
- AGS413: Seminar in Soil Science
- AGS422: Soil Physics
- AGS401: Project in Soil Science

Undergraduate modules at UFS (2009 – 2011: time-on-task):

- GKD314: Soil Evaluation and Land-Use Planning
- GKD444: Soil Geography

Post graduate modules:

- AGS612: Soil Physics (Hons) - UFH
- AGS621: Pedology (Hons) – UFH
- AGS601&602: Seminar and project in soil science
- MOB708: Magister in Environmental Management (UFS) – The Soil Resource and Impact on the Environment (Guest lecturer since 2011)
- MOB741: Magister in Environmental Management (UFS) – Soil and Pollution (Guest lecturer since 2011)

POST GRADUATE SUPERVISION

Bouwer, D. (M.Sc.). Hydrological response models for selected soils in the Weatherley catchment (2013 – UFS). *Co-supervisor*.

Chungag, A. (M. Phil). Impact of cattle unguided cattle husbandry on some urban peripheral and landscape elements: Case study in Alice (2015 – UFH). *Co-supervisor*.

Omar, M.Y (M.Sc.). Impacts of channel incision on soil water levels, soil morphology and vegetation in a degraded wetland in the Hogsback region, South Africa (2015 – UFH).

Tinnefeld, M. (M.Sc.). Conceptualise hydrological response models for selected arid soils in the Douglas area, South Africa (2015 – UFS). *Co-supervisor*.

Cosmas, P. (PhD). Litter quality effects on the architecture of soil particles and erosion in the soils of the Ntabelanga area, Eastern Cape, South Africa (2016 – UFH).

Magomani, I. (M.Sc.). The effect of fire on hydraulic properties of rangeland soils. (2016 – UFH).

Bouwer, D. (PhD). Integration of soil morphology, chemistry and hydrometry for optimizing hydrological response models (2017 – UFS).

In progress

Nebo, G.I. (PhD). Short term impacts of Conservation Agricultural practices on selected soil hydraulic properties.

Chichongue, O.J. (PhD). Comparison of crop management systems for smallholder farmers in Mozambique.

Tinnefeld, M. (PhD). Hydropedological characterisation of the Halfway House Granite Dome.

Ngesi, S. (M.Sc.). Characterising and predicting the soil carbon balances associated with the Mzimvubu Water Project, Eastern Cape, South Africa

- Nqandeka, H.W. (M.Sc). A socio-physical approach to identify yield gaps in the Ntabelanga area, Eastern Cape.
- Mamera. M. (M.Sc). Pollution potential of on-site dry sanitation systems associated with the Mzimvubu Water Project.
- Setsipane, T. (M.Sc). Characterisation of hydro-pedological processes on sandstone and tillite hillslopes in Kwa-Zulu Natal.

PUBLICATIONS

Peer reviewed Journal Publications

1. Van Tol, J.J. & Lorentz, S.A., 2018 Hydro-pedological interpretation of soil distribution patterns to characterise groundwater/surface-water interactions. *Vadose Zone Journal*. <https://doi.org/10.2136/vzj2017.05.0097>
2. Parwada, C & van Tol, J.J., 2018. Effects of litter quality on macroaggregates reformation and soil stability in different soil horizons. *Environment, Development and Sustainability*. <https://doi.org/10.1007/s10668-018-0089-z>
3. Chungag, A., van Tol, J.J. & Magagula, B.K. 2018. Effect of unguided cattle husbandry on selected soil physical properties in common property regimes in Alice, Eastern Cape, South Africa. *Range Management and Agroforestry*, 38, 176 – 180.
4. Parwada, C. & van Tol, J.J., 2017. Stability of Soil Organic Matter and Soil Loss Dynamics under Short-term Soil Moisture Change Regimes. *Agrotechnology* 6:159. doi: 10.4172/2168-9881.1000159.
5. Parwada, C & van Tol, J.J., 2017. Litter quality effects on soil stability and erodibility of selected South African soils. *Global Advanced Research Journal of Agricultural Science*, 6, 181 – 187.
6. Van Tol, J.J., Dzvene, A. & Le Roux, P.A.L., Schall, R., 2016. Development and evaluation of PedoTransfer Functions to predict Atterberg limits in South African soils using measured and morphological properties. *Soil Use and Management*, doi10.1111/sum.12303.
7. Omar, M.Y., Maroyi, A. & van Tol, J.J., 2016. Floral diversity, composition and distribution in a montane wetland in Hogsback, the Eastern Cape Province, South Africa. *Pakistan Journal of Botany*, 48, 1861 – 1870.
8. Parwada, C. & van Tol, J.J., 2016. Soil properties influencing erodibility of soils in the Ntabelanga area, Eastern Cape, South Africa. *Acta Agriculturae Scandinavica, Section B - Plant Soil Science*. DOI:10.1080/09064710.2016.1220614.
9. Seaman, M.T., Watson M., Avenant, M., King, J., Joubert, A., Barker, C., Esterhuyse, S., Graham, D., Kemp, M., le Roux, P., Prucha, B., Redelinghuys, N., Rossouw, L., Rowntree, K., Sokolic, F., van Rensburg, L., van der Waal, B., van Tol, J. & Vos, T., 2016. DRIFT ARID: A method for assessing environmental water requirements (EWR's) for non-perennial rivers. *WaterSA*, 42, 356 – 367.
10. Seaman, M.T., Watson M., Avenant, M., King, J., Joubert, A., Barker, C., Esterhuyse, S., Graham, D., Kemp, M., le Roux, P., Prucha, B., Redelinghuys, N., Rossouw, L., Rowntree, K., Sokolic, F., van Rensburg, L., van der Waal, B., van Tol, J. & Vos, T., 2016. DRIFT-ARID. Application of a method for Environmental Water Requirements (EWRs) in a non-perennial river (Mokolo River) in South Africa. *WaterSA*, 42, 368 – 383.
11. Prucha, B., Graham, D., Watson M., Avenant, M., Esterhuyse, S., Joubert, A., Kemp, M., King, J., le Roux, P., Redelinghuys, N., Rossouw, L., Rowntree, K., Seaman, M.T., Sokolic, F., van Rensburg, L., van der Waal, B., van Tol, J. & Vos, T., 2016. MIKE-SHE Integrated

- Groundwater and Surface Water model used to simulate scenario hydrology for input to DRIFT-ARID. The Mokolo River Case Study. *WaterSA*, 42, 384 – 398.
12. Parwada, C. & van Tol, J.J., 2016. The nature of soil erosion and possible conservation strategies in the Ntabelanga area, Eastern Cape, South Africa. *Acta Agriculturae Scandinavica, Section B - Plant Soil Science*. DOI: 10.1080/09064710.2016.1188979.
 13. Van Tol, J.J., van Zijl, G.M., Riddell, E.S. & Fundisi, D., 2015. Application of hydro-pedological insights in hydrological modelling of the Stevenson Hamilton Research Supersite, Kruger National Park, South Africa. *WaterSA* 41, 525 – 533.
 14. Patterson, D.G., Turner, D.P., Wiese L.D., van Zijl, G.M., Dowding, C.E., & van Tol, J.J., 2015. Spatial soil information in South Africa – situational analysis, limitations and challenges. *South African Journal of Science*. <http://dx.doi.org/10.17159/sajs.2015/20140178>.
 15. Bouwer, D., Le Roux, P.A.L., van Tol, J.J. & van Huyssteen C.W., 2015. Using ancient and recent soil properties to design a conceptual hydrological response model. *Geoderma*. 241, 1 – 11.
 16. Van Tol, J.J., Akpan, W., Kanuka, G., Ngesi, S. & Lange, D. 2014. Soil erosion and dam dividends: Science facts and rural ‘fiction’ around the Ntabelanga Dam, Eastern Cape, South Africa. *South African Geographical Journal*. <http://dx.doi.org/10.1080/03736245.2014.977814>
 17. Omar, M.Y., Le Roux, P.A.L. & van Tol, J.J., 2014. Interactions between stream channel incision, soil water levels and soil morphology in a wetland in the Hogsback area, South Africa. *S. Afr. J. Plant & Soil*, 31, 187 – 194.
 18. Van Zijl, G.M., Bouwer, D., van Tol, J.J. & Le Roux, P.A.L., 2014. Efficient digital soil mapping: a case study from Namarroi, Mozambique. *Geoderma*. 219, 155 – 161.
 19. Van Tol, J.J., Le Roux, P.A.L., Lorentz, S.A., Hensley, M., 2013. Hydro-pedological classification of South African hillslopes. *Vadoze Zone Journal*. doi:10.2136/vzj2013.01.0007.
 20. Van Tol, J.J., Barnard, J.H., Van Rensburg, L.D. & Le Roux, P.A.L., 2013. Soil depth inferred from electromagnetic induction measurements. *African Journal of Agricultural Research*, 8, 519 – 524.
 21. Van Tol, J.J., Hensley, M. & Le Roux, P.A.L., 2013. Pedological criteria for estimating the importance of subsurface lateral flow in E-horizons of South African soils. *Water SA*, 31, 47 – 56.
 22. Van Tol, J.J., Hensley, M. & Le Roux, P.A.L., 2012. Pedotransfer function to determine the water conducting macroporosity in South African soils. *Water Science and Technology*. 65, 550 – 557.
 23. Van Tol, J.J., Le Roux, P.A.L., Hensley, M. & Lorentz, S.A., 2010. Soil as indicator of hillslope hydrological behaviour in the Weatherley Catchment, Eastern Cape, South Africa. *Water SA*. 36, 513 – 520.
 24. Van Tol, J.J., Le Roux, P.A.L. & Hensley, M., 2010. Soil properties as indicators of hillslope hydrology in the Bedford catchments. *S. Afr. J. Plant & Soil* 27, 242 – 251.

Under evaluation

1. Parwada, C & van Tol, J.J. Litter quality on particulate organic matter fractions dynamics and macroaggregate turnover rate in different soil horizons. **Accepted in:** *Agrociencia*.
2. Parwada, C. & van Tol, J.J. Litter quality influence on soil splash rates and organic carbon dynamics in top soil horizons. **Submitted to:** *Journal of Soil and Water Conservation*.
3. Jacobs, A.J., van Tol, J.J. & du Preez, C.C. Farmers perceptions of precision agriculture: a case study in the Schweizer-Reneke. **Submitted to:** *Development Southern Africa*.

4. Mamera, M. & van Tol, J.J. Application of hydrogeological information to conceptualise pollution migration from dry sanitation systems in the Ntabelanga area, South Africa. **Submitted to:** *Air, Soil and Water Research*.
5. Magomani, M.I. & van Tol, J.J. Impact of fire frequency on selected soil physical properties in a semi-arid savannah Thornveld. **Submitted to:** *Acta Agriculturae Scandinavica, Section B - Plant Soil Science*.

Peer reviewed Chapters in Books

- Akpan, W. van Tol, J.J., Malambile, M & Nqalo, N. 2017. Science, ethnoscience and a dam: (Mis)reading the potential impacts of the Ntabelanga Dam, South Africa. *In* Akpan, W & Moyo, P. (eds.) Revisiting Environmental and Natural resource questions in Sub-Saharan Africa. Cambridge Scholars Publishers. 1 – 24.
- Van Zijl, G.M., van Tol, J.J. & Riddell, E.S., 2016. Digital mapping for hydrological modelling. *In*: Zhang, G., Brus, D., Liu, F., Song, X. & Lagacherie, P. (eds), Digital Soil Mapping Across Paradigms, Scales and Boundaries. Springer, Singapore. 115 – 129.
- Van Tol, J.J., Le Roux, P.A.L. & Hensley, M., 2011. Soil indicators of hillslope hydrology. *In*: B.O Gungor (eds), Principles-Application and Assessments in Soil Science. Intech, Turkey.

PRESENTED PAPERS

1. Chichongue, O.J., van Tol, J.J., Du Preez, C.C. & Ceronio, G.M. Effects of tillage practices and cropping systems on Maize grain yield in Mozambique. Combined Congress, 14 – 18 January 2018, Cape Town.
2. Van Tol, J.J., Lorentz, S.A. & Le Roux, P.A.L. Examples of hydrogeological applications. 14th International Water Association Specialist Conference. 9 – 11 October 2017. Skukuza, Kruger National Park, South Africa.
3. Van Tol, J.J. & Lorentz, S.A. Understanding groundwater/surface-water interactions through hydrogeological interpretations of soil distribution patterns. IAHS Scientific Assembly, 10 – 14 July, 2017, Port Elizabeth, South Africa.
4. Lorentz, S.A., van Tol, J.J. & Le Roux, P.A.L. Using Hydrogeology Surveys to Guide Process Based Hydrological Modelling in South Africa. IAHS Scientific Assembly, 10 – 14 July, 2017, Port Elizabeth, South Africa.
5. Lorentz, S.A., van Tol, J.J. & Le Roux, P.A.L. Water and Solute Flux Simulation Using Hydrogeology Survey Data in South African Catchments. European Geosciences Union, General Assembly, 23 – 28 April 2017, Vienna, Austria.
6. Tinnefeld, M., Le Roux, P.A.L. & van Tol, J.J. Hydrogeological interpretation of arid soilscapes, South Africa. *Poster*. European Geosciences Union, General Assembly, 23 – 28 April 2017, Vienna, Austria.
7. Van Tol, J.J. Hydrogeology: Linking groundwater and surface water. Combined Congress. 23 – 26 January 2017, Klein Kariba, South Africa.
8. Van Tol, J.J. & Le Roux, P.A.L. The value of soil morphological data in PedoTransfer Functions. 5th International Soil Classification Congress. 5 – 7 December 2016 Bloemfontein, South Africa.
9. Van Tol, J.J., van Zijl, G.M & Riddell, E.S. Application of Hydrogeological insights in hydrological modelling. 3rd International Conference on Hydrogeology. 16 – 19 August 2016, Beijing, China.

10. Nqandeka, H.M & van Tol, J.J. A Sociophysical approach to quantify yield gaps in the Ntabelanga area, Eastern Cape South Africa. *Poster*: Combined Congress. 18 – 22 January 2016, Bloemfontein South Africa.
11. Van Tol, J.J., Le Roux, P.A.L., Lorentz, S.A. & Hensley, M. Hydropedological classification of hillslopes to assist Environmental Impact Assessments. IAIA 20th Annual Conference. 11 – 14 August 2015, Champagne Castle, South Africa.
12. Akpan, W. van Tol, J.J., Kanuka, G., Ngesi, S. & Lange, D. Congress of the Sociological Association. 28 June – 1 July 2015, Johannesburg, South Africa.
13. Van Tol, J.J., Akpan, W., Kanuka, G., Ngesi, S. & Lange, D. Soil erosion and dam dividends: Science facts and rural ‘fiction’ around the Ntabelanga Dam, Eastern Cape, South Africa. Combined Congress. 19 – 22 January, 2015, George, South Africa.
14. Tinnefeld, M., Le Roux, P.A.L. & van Tol, J.J. Using ancient and recent soil properties to design a conceptual hydrological response model for an arid region. *Poster*: Combined Congress. 19 – 22 January, 2015, George, South Africa.
15. Bouwer, D. Le Roux, P.A.L., van Tol, J.J. & van Huyssteen. Using soil chemical trends as recent indicators to improve morphological and hydrometrical interpretation of hydrological response. Combined Congress. 19 – 22 January, 2015, George, South Africa.
16. Omar, M.Y., van Tol, J.J. & Le Roux, P.A.L. Effects of stream channel incision on soil water levels and soil morphology in a wetland in Hogsback, South Africa. International conference on building a new generation of agricultural scientists. 1 – 5 December, 2014, Kenyatta University, Kenya.
17. Van Zijl, G.M., van Tol, J.J & Riddell, E.S. Digital soil mapping for hydrological modelling. The 6th Global Workshop on Digital Soil Mapping. 11 – 14 November 2014, Nanjing, China.
18. Van Tol, J.J., Lorentz, S.A., Le Roux, P.A.L. & Freese, C. A virtual experiment approach to quantify lateral responses of hillslope soils. 17th SANCHIAS Symposium, 1 – 3 September 2014, University of the Western Cape, South Africa.
19. Freese C., Lorentz, S.A., van Tol, J.J. & Le Roux, P.A.L. Assessing hillslope response mechanisms using stable isotopes. 17th SANCHIAS Symposium, 1 – 3 September 2014, University of the Western Cape, South Africa.
20. Bouwer, D, Le Roux, P.A.L., van Tol, J.J. & van Huyssteen. Hydropedological interpretation of ancient and recent soil properties. 17th SANCHIAS Symposium, 1 – 3 September 2014, University of the Western Cape, South Africa.
21. Van Zijl, G.M., van Tol, J.J., Riddell, E.S. & Le Roux, P.A.L., Creating a hydropedological map for a Granite Supersite catchment, Kruger Park. 17th SANCHIAS Symposium, 1 – 3 September 2014, University of the Western Cape, South Africa.
22. Lorentz, S.A., Le Roux, P.A.L., van Tol, J.J. & Freese, C. Application of hillslope response mechanism in runoff simulation: results from selected catchments in South Africa. 17th SANCHIAS Symposium, 1 – 3 September, University of the Western Cape, South Africa.
23. Le Roux, P.A.L., Lorentz, S.A., van Tol, J.J. & Hensley, M. Applying soil classification and mapping in hydropedology and hillslope hydrology at all scales. 17th SANCHIAS Symposium, 1 – 3 September, University of the Western Cape, South Africa.
24. Van Tol J.J., Lorentz, S.A., Le Roux, P.A.L. & Freese, C. Virtual experiments to quantify sub-surface lateral flow in hillslope soils. Combined Congress, 20 – 23 January 2014, Grahamstown South Africa.
25. Omar M.Y., Le Roux, P.A.L. & van Tol, J.J. Interactions between stream channel incision, soil water levels and soil morphology in a wetland in Hogsback. Combined Congress, 20 – 23 January 2014, Grahamstown South Africa.
26. Nebo, N.I., Barnard, J.J. & van Tol, J.J. In-situ calibration of DFM capacitance probes. Poster at Combined Congress, 20 – 23 January 2014, Grahamstown South Africa.

27. Bouwer, D, Le Roux, P.A.L. & van Tol, J.J. Hydropedological interpretation of ancient and recent soil properties. Combined Congress, 20 – 23 January 2014, Grahamstown South Africa.
28. Tinnefeld, M., Le Roux, P.A.L. & van Tol, J.J. Diagnostic soil horizons as functional hydrological units. Combined Congress, 20 – 23 January 2014, Grahamstown South Africa.
29. Van Tol J.J., Le Roux P.A.L., & Lorentz S.A. From genetic soil horizons to hydropedological functional units. Combined Congress, 21 – 24 January 2013, Durban, South Africa.
30. Van Zijl, G.M., Bouwer, D., Le Roux, P.A.L. & van Tol, J.J. Soil suitability maps with DSM: A case study near Namarroi, Mozambique. Combined Congress, 21 – 24 January 2013, Durban, South Africa.
31. Le Roux P.A.L., Lorentz S.A., van Tol J.J. & Hensley M. Hydrological soilscape of South Africa. 16th SANCIAHS Symposium, Pretoria, South Africa: 1 – 3 October 2012, Pretoria, South Africa.
32. Freese, C., Lorentz S.A., Le Roux P.A.L., van Tol J.J. & Vermeulen, D. A Numerical Characterization of Hillslope Hydrological Processes with the Advection Dispersion Function 16th SANCIAHS Symposium, Pretoria, South Africa: 1 – 3 October 2012.
33. Bouwer, D., Le Roux, P.A.L., van Tol, J.J. & Hensley, M. Conceptual Hydrological Response Model of a Hillslope in The Weatherley Catchment 16th SANCIAHS Symposium, Pretoria, South Africa: 1 – 3 October 2012.
34. Van Tol, J.J., Le Roux, P.A.L., Hensley, M. & Lorentz, S.A. Hydropedological classification of soilscape in South Africa. 2nd International conference on Hydropedology, 22 – 27 July, Leipzig, Germany.
35. Bouwer, D., van Tol, J.J. & Le Roux, P.A.L. Hydrological response model of a complex soilscape in the Weatherley catchment, South Africa. Eurosoil, 2 – 6 July 2012, Bari, Italy.
36. Le Roux, P.A.L., Lorentz, S.A., van Tol, J.J. & Hensley, M. Characterizing and classifying hydrological soilscape in South Africa. Eurosoil, 2 – 6 July 2012, Bari, Italy.
37. Van Tol, J.J., Hensley, M. & Le Roux P.A.L. Pedological criteria for estimating the importance of subsurface lateral flow in E-horizons of South African soils. Combined Congress, 16 – 19 January 2012, Potchefstroom, South Africa.
38. Bouwer, D., Le Roux, P.A.L., van Tol, J.J. & Hensley, M. Hydrological response of a complex soilscape in the Weatherley catchment, Eastern Cape. Combined Congress, 16 – 19 January 2012, Potchefstroom, South Africa.
39. Le Roux, P.A.L., van Tol, J.J., Kuenene, B.T., Lorentz, S.A. & Hensley, M. Characterisation and classification of hydrological soilscape of South Africa. Combined Congress, 16 – 19 January 2012, Potchefstroom, South Africa.
40. C. Freese, S. Lorentz, P. le Roux, J. van Tol and D. Vermeulen. A description and quantification of hillslope hydrological processes in the NECF, Weatherley catchment. 12 – 14 October 2011, Grahamstown.
41. Kuenene, B.T., Van Tol, J.J., Bouwer, D., Van der Merwe, R.H. & Le Roux, P.A.L., 2011. Hydropedological interpretation of soils in the three highlands catchments of Lesotho. Orange River Basin symposium, Bloemfontein.
42. Van der Merwe, R.H., Le Roux, P.A.L. & Van Tol, J.J., 2011. Role of the Intermediate Vadoze Zone in the Orange River basin. Orange River basin symposium, Bloemfontein.
43. Van Tol, J.J., Hensley, M. & Le Roux, P.A.L. Pedotransfer function to estimate water conducting macroporosity. Young Water Professional (YWP), 3 – 5 July 2011, Pretoria, South Africa
44. Le Roux, P.A.L., van Tol, J.J., Hensley, M. & Lorentz, S.A., Soil indicators of hillslope hydrology. European Geosciences Union, General Assembly, 3 – 8 April 2011. Vienna, Austria.

45. Simon Lorentz, Carl Freese, Pieter le Roux, Johan van Tol, and Danie Vermeulen. Hillslope hydrological response using catena pedology. European Geosciences Union, General Assembly, 2 – 7 May 2010, Vienna, Austria.
46. Van Tol, J. J. & Le Roux, P. A. L. Predicting streamflow from the soil map in the Weatherley catchment. Combined Congress, 19 – 21 January 2010, Bloemfontein, South Africa.
47. Smith, H. J. C., Hensley, M., Le Roux, P. A. L. & van Tol, J. J. Technology application case study: using 3dMapper™ for soil survey analysis near Breyton in Mpumalanga. Combined Congress, 19 – 21 January 2010.
48. Lorentz, S.A., Burse, K., Freese, C., Le Roux, P.A.L., van Tol, J.J., Vermeulen, D., Pretorius, J. & Ngaleka, K., 2009. Hillslope response characterisation using hydrometry, isotopes, geophysics and hydrogeology techniques in selected South African catchments. 14th SANCIAHS Symposium. Pietermaritzburg, South Africa.
49. Van Tol, J. J., Le Roux, P. A. L., Hensley, M. & Lorentz, S. A. Soil as indicator of Geohydrological processes at hillslope scale in the Weatherley catchment, Eastern Cape. Biennial Groundwater Conference, 16 – 18 November 2009, Somerset West, South Africa.
50. Van Tol, J.J., P. A. L. Le Roux, M. Hensley & Lorentz. S. A. Soil as an indicator of hillslope hydrological behaviour in the Weatherley Catchment, Eastern Cape 14th SANCIAHS Symposium, Durban, South Africa: 21 - 23 September 2009.
51. P. A. L. Le Roux, J. J. Van Tol, and M Hensley. Soil properties, Signatures of the role of soil in Hydrology 14th SANCIAHS Symposium, Durban, South Africa: 21 - 23 September 2009.
52. C. Freese S. Lorentz , P. le Roux, J. van Tol and D. Vermeulen. The Use of Hillslope Response Characterisation in Modelling Selected South African Catchments: 14th SANCIAHS Symposium, Durban, South Africa: 21 - 23 September 2009.
53. Simon Lorentz, Carl Freese, Pieter le Roux, Johan van Tol and Malcolm Hensley. Evaluating a hillslope pedohydrology model in a catchment in the Eastern Cape Province, South Africa. 8th IAHS Scientific Assembly, 6 – 12 September 2009, Hyderabad, India.
54. Van Tol, J.J., Le Roux, P.A.L. & Hensley, M., 2009. Hydrology of soil types of South Africa – Preliminary results. Combined Congress, 19 – 22 January 2009, Stellenbosch, South Africa.
55. Van Tol, J.J., Le Roux, P.A.L. & Hensley, M., 2009. Soil indicators of hydrological response in the Weatherley catchment, Eastern Cape. Combined Congress, 19 – 22 January 2009, Stellenbosch, South Africa.
56. Van Tol, J.J., Le Roux, P.A.L., Hensley, M. & Lorentz., 2008. Soil properties as indicators of hillslope hydrology. Combined Congress, 21 – 24 January 2008, Grahamstown, South Africa.
57. Van Tol, J.J., Le Roux, P.A.L., Hensley, M. & Lorentz, S.A., 2007. Pedofeatures as indicators of hillslope hydrology: Bedford catchments. 13th SANCIAHS Symposium, Cape Town South Africa: 6 - 7 September 2007.
58. Hensley, M., Le Roux, P.A.L., Van Huyssteen, C.W., Jennings, K. & Van Tol, J.J., 2007. The hydrology of South African soils: Preliminary comments. 13th SANCIAHS Symposium, Cape Town South Africa: 6 - 7 September 2007.
59. Le Roux, P.A.L., Hensley, M., Van Huyssteen, C.W., van Tol, J., Vermeulen, P.D. & Lorentz, S.A. 2007. Hydrosequences of wetland soils in selected catchments. National Wetlands Indaba: Wetlands for tomorrow, Gauteng Department of Agriculture, Conservation and Environment (GDACE), Kempton Park, South Africa, 22- 26 October.

RESEARCH PROJECTS

1. Van Tol, J.J., Akpan, W., Maroyi, A., Mutengwende, N., Huchermeyer, N., Ngesi, S., Nqandeka, H.M., Mamera, M., Bradley, G. & Rowntree, K.M., 2018. The Mzimvubu Water Project: Baseline indicators for long-term impact monitoring. *Water Research Commission*. WRC project No. K5/2433. *Water Research Commission*.
2. Van Tol, J.J., van Zijl, G.M., Manyevere, A., Kanuka, G., Du Plessis, C. Characterisation and mapping of erodibility of soils in selected land types in support of the Ntabelanga and Laleni Ecological Infrastructure Project (NLEIP). Department of Environmental Affairs, National Resource Management. (*In progress*).
3. Titshall, L., Zadorozhnaya, V., Botha, G., Crous, J., Le Roux, P.A.L., van Tol, J.J., van Zijl, G.M., et al. (*in progress*). Understanding the role of regolith in site water balance and nutrient supply resilience for use in improved water and nutrient supply risk mapping for plantations. *Forestry South Africa*.
4. Le Roux, P.A.L., Hensley, M., Lorentz, S.A., van Tol, J.J., van Zijl, G.M., Kunene, B.T., Boucher, D., Freese C.S., Tinnefeld, M & Jacobs, C.C. 2015. Hydrology of South African Soils and Hillslopes (HOSASH). WRC project No. K5/2021. *Water Research Commission*.
5. Van Tol, J.J., Akpan, W., Lange, D., Bokuva, C., Kanuka, G., Ngesi, S., Rowntree, K.M., Bradley, G. & Marroi, A. 2014. Conceptualising long term monitoring to capture environmental, agricultural and socio-economic impacts of the Mzimvubu Water Project in the Tsitsa River. WRC project No: KV 328/14. *Water Research Commission*.
6. Van Tol, J.J., 2014. Hydrology of Hogsback hillslopes and open-air laboratory. *Govan Mbeki Research and Development Centre*.
7. MT Seaman, M Watson, MF Avenant, AR Joubert, JM King, CH Barker, S Esterhuysen, D Graham, ME Kemp, PA le Roux, B Prucha, N Redelinghuys, L Rossouw, K Rowntree, F Sokolic, L van Rensburg, B van der Waal, J van Tol & AT Vos, 2013. Testing a Methodology for Environmental Water Requirements for non-perennial rivers: The Mokolo Case Study. WRC Report TT579/13. *Water Research Commission*.
8. Esterhuysen, S., Adendorff, J., Avenant, M., Bragg, C., Cillie, D., Enke, G., Hutter, N., Kemp, M., Kijko, A., Louw, H., Nell, A., Ouzman, S., Prinsloo, H., Redelinghuys, N., Reynolds, D., Smit, A., Sokolic, F., Van Soelen, B., Van Tol, J., Vos, T and Watson, M. 2012. Report on the background review of impacts related to hydraulic fracturing and available databases for vulnerability indicators. WRC Report K5/2149. *Water Research Commission*.
9. Van Tol, J.J. & Coetzee, K., 2012. Hydropedological survey of Taylors Halt and Slagspruit sites. *Investigation into pollution from on-site dry sanitation systems*. WRC project K5/2115. *Water Research Commission*.
10. Le Roux, P.A.L., Van Tol, J.J., Kunene, B.T., Hensley, M., Lorentz, S.A., Van Huyssteen, C.W., Hughes, D.A., Evison, E., Van Rensburg, L.D. & Kapangaziwiri, E., 2011. Hydropedological interpretation of the soils of selected catchments with the aim of improving efficiency of hydrological models: WRC Project K5/1748. *Water Research Commission*.

CONSULTANCY PROJECTS

1. Van Tol, J.J. & Le Roux, P.A.L., 2018. Hydropedological survey of Emhakhazeni mining sites near Belfast, Mpumalanga. *The Biodiversity Company*.
2. Van Tol, J.J. & Le Roux, P.A.L., 2018. Hydropedological survey of the potential Aviemore mining sites near Dundee, KwaZulu-Natal.

3. Van Tol, J.J., & Le Roux, P.A.L., 2017. Hydropedological survey to assess the impact of extending open-cast coal mining on wetland functioning, Palesa Mine, Bronkhorstspruit. *Digby Wells*.
4. Van Tol, J.J., 2017. Chemical composition of soil samples from the Kathu Solar Plant. *Raubex*.
5. Coetzer, G. & van Tol, J.J., 2017. Report on the Soil and Horticultural Management Practices for Cultivation of *Alstroemeria*, *Zantedeschias* and *Clivias*, Bloemfontein. *René de Bruin*.
6. Van Tol, J.J., 2017. Report on chemical position and potential of a soil for a potting mixture, Upington. *Carlo Dippenaar*.
7. Van Tol, J.J., 2017. Report on the soil potential and management for cultivation of Oats (*Avena sativa*), Bainsvlei, Bloemfontein. *Gideon Mostert*.
8. Van Tol, J.J., 2017. Report on the chemical composition and potential plant diseases of a potting mixture for Lavender. *Desiree van der Schyff*.
9. Van Tol, J.J., 2017. Report on the soil potential and management of Plot 125 Roodewal, Bloemfontein. *Nolu Moepi*.
10. Van Tol, J.J., 2017. Report on the soil assessment for the cultivation of irrigated pastures on the farm Wietsfield, Brandfort. *Inus Wessels*
11. Van Tol, J.J., Job, N., Rossouw, P.S., Haworth, S. & Cowden, C., 2016. Transient Wetland Research Approach. *Tongaat Hulett Developments: Amanzimnyama Farm*.
12. Van Tol, J.J., du Plessis, C.J. & Le Roux, P.A.L., 2016. Hydropedological survey report, ABB, Nigel. *SRK Consultants*.
13. Van Tol, J.J., 2015. Report on soil management requirements for citrus production for the Riverside Farm, Fort Beaufort. *Riverside Farms*
14. Van Tol, J.J., 2015. Report on the soil management requirements for cultivation of irrigated pastures on portions of the farms Doornkloof and Fontein in the Adelaide district. *Wilbani Boerderye*
15. Van Tol, J.J., 2015. Report on the soil and agricultural potential of the proposed BWC Uitsig 5 MW solar facility near Hennenman, Free State Province. *Savannah Environmental*.
16. Van Tol, J.J., 2015. Report on the soil management requirements for cultivation of irrigated pastures on the farm Annandale in the Adelaide district. *Annandale Farms*
17. Van Tol, J.J., 2015. Pre-feasibility report on the identification of suitable crops for the Ngwabeni irrigation scheme, Eastern Cape. *Element Consulting Engineers*.
18. Van Tol, J.J., 2014. Report on the soil and agricultural potential of the proposed Kutulu Tsatsi Concentrated Solar Plants, near Kenhardt, Northern Cape Province. *Savannah Environmental*.
19. Van Tol, J.J., 2014. Soil management recommendations for an Olive orchard, Adelaide. *Chris Lombard*
20. Van Tol, J.J., 2014. Report on the agricultural potential of the proposed Castle Wind Farm and associated infrastructure near De Aar, Northern Cape. *Savannah Environmental*.
21. Van Tol, J.J., 2014. Agricultural land potential assessment, amelioration and management of the Harmony JMS-East site, Welkom. *Selectra Sustainable Solutions*.
22. Van Tol, J.J., 2013. Fertilizer requirement for lucerne (*Medicago sativa*) for the Haddon Farm, Adelaide. *Colin Muir*.
23. Van Tol, J.J., 2013. Soil management recommendations for cultivation of irrigated pastures on the Fontein Farm. *Wilbani Boerderye*.
24. Van Tol, J.J., 2012. Disaggregation of land types for determination of erosion sensitivity of selected sites in the Eastern Cape for afforestation. *Sigwale and Associates*
25. Le Roux, P.A.L., Van Zijl, G.M., Bouwer, D. & van Tol, J.J., 2012. Layout of the ATCF II forestry development, Nampula, Mozambique. *ATCF II*.

26. Van Tol, J.J., van der Merwe, R.H. & Le Roux, P.A.L., 2011. Land suitability of the farm Brandkop (and some ecohydrology). *Urbanseed*.
27. Van Tol, J.J. & Le Roux, P.A.L. 2011. Report on the soil survey at Schmitdrift.
28. Kunene, B.T., Le Roux, P.A.L., van Tol, J.J., Hensley, M., Bouwer, D. & van der Merwe, R.H., 2010. Soil hydrology dynamics and catchment morphology of selected catchments in Lesotho.
29. Van Tol, J.J., 2010. Wetland delineation of the Bethlehem casino area.
30. Le Roux, P.A.L., Bouwer, D., Van Zijl, G.M., Matshawu, B & van Tol, J.J., 2010. Hydrological flowpaths controlling the distribution of Zn at the Zincor mine, Springs.
31. Le Roux, P.A.L. & Van Tol, J.J., 2008. Actions required for Hotazel pit water dewatering and gardening project: Action 1 Prefeasibility study.
32. Le Roux, P.A.L & Van Tol, J.J., 2008. Report on a soil survey on two farm portions in the Twee Spruit district.

MEMBERSHIP

- NRF rated researcher: Y1
- Board member of the South African Soil Surveyors Organisation (SASSO).
- Soil Science Society of South Africa (SSSSA).
- South African Council of Natural Scientific Professions (SACNASP) – *Pr.Sci.Nat.*

ORGANISATIONAL AND COMMUNITY SERVICE

- Associated editor: South African Journal of Plant and Soil
- Chairperson of the Local Organising Committee (Convenor) for the Combined Congress 2014, Grahamstown (360 delegates).
- Member of the Soil Classification Working Group.
- Sessions Chaired at the Combined Congress 2013 & 2015.
- External examiner of 6 M.Sc. dissertations.
- Reviewer of >20 (national and international) manuscripts.
- Organise and co-present a short course in advanced soil survey techniques (UFS – 2009).
- Departmental representative in the Faculty Higher Degree and Research Committee (UFH).
- Reference group member for WRC project.
- Reviewer of 6 WRC project proposals.
- Reviewer of NRF research project
- External examiner for honours module at UKZN.
- External examiner for final year pedology module at SU

AWARDS

- Vice-Chancellor's Developing Researcher Award, University of Fort Hare, 2014.
- SANCHIAS gold medal: Best paper by author < 35 years. 17th SANCHIAS Symposium, 1 – 3 September, Bellville.
- SANCHIAS silver medal: Best paper by young researcher (*co-author*): 17th SANCHIAS Symposium, 1 – 3 September, Bellville.

- SSSSA silver medal: Best paper on innovative research. Combined Congress, 20 – 23 January 2014, Grahamstown.
- SSSSA silver medal: Best paper by authors under 30: Combined Congress, 16 – 19 January 2012, Potchefstroom.
- Prestige PhD bursary: Academic Cluster (Water Management in Water Scarce Areas), UFS (2010).
- SSSSA silver medal: Best paper by authors under 30: Combined Congress, 19 – 21 January 2010, Bloemfontein.
- Best paper on new technologies (*co-author*): Combined Congress, 19 – 21 January 2010, Bloemfontein.
- Best presentation by young researcher (*runner-up*): 14th SANCHIAS Symposium, 21 – 23 September 2009, Pietermaritzburg.
- Best presentation by young researcher (*runner-up*): 13th SANCHIAS Symposium, 6 – 7 September 2007, Cape Town.
- SSSSA silver medal: Best final year Soil Science student in South Africa – 2006.

ADDITIONAL CAPACITY BUILDING

- Certificate in Environmental Law – University of Pretoria, 2017.
- Enrolled in Post Graduate Diploma in Higher Educational Teaching (PGDHET) – UFH.
- Workshop on Post Graduate Supervision, Govan Mbeki Research and Development Centre (GMRDC), UFH, 2014.
- SPSS software short course, UFH, 2014.
- Catchment Science Summer School, 21 – 26 August 2011, University of Aberdeen, Scotland.
- HYDRUS short course, December 2010, Kruger National Park.
- Numerous (> 8) SASSO workshops.

VISION

‘Food for Africa’