CURRICULUM VITAE – CRISTINA TROIS

South African Research Chair in Waste and Climate Change (SARCHI)
Former Dean/Head of the School of Engineering
Full Professor, Environmental Engineer (BScEng, MScEng), PhD (Italy), PrEng (Italy)
University of KwaZulu-Natal, Durban, South Africa

MWISA, MIWMSA, CIWM(UK), IWWG, FSAAE, ASSAf
Chair of the UN-IPLA/IWWG-SARB Joint Secretariat for Southern Africa
Member of the Global Engineering Deans' Council (GEDC)
Fellow of the South African Academy of Engineering
Fellow of the Academy of Science of South Africa
Cavaliere dell'Ordine della Stella d'Italia/Knight of the Order of the Star of Italy

Room 109
School of Engineering/Centenary Building
University of KwaZulu-Natal – Howard College Campus - Durban 4041
Phone : +27 (0) 31 260 3065 Cell./WhatsApp: +27 82 346 2644
e-mail: troisc@ukzn.ac.za or cristina.trois@gmail.com
web: http://www.ukzn.ac.za

EDUCATION/TRAINING

INSTITUTION AND LOCATION		YEAR(s)	FIELD OF STUDY
UNIVERSITY OF CAGLIARI (ITALY)	MScEng *(Summa cum Laude)*	1991 - 1996	Environmental Engineering
UNIVERSITY OF CAGLIARI (ITALY)	PhD	1996-1999	Geo and Environmental Engineering

A. PROFESSIONAL HISTORY

ACADEMIC & RESEARCH POSITIONS	
May 2018	**SARCHI Research Chair in Waste and Climate Change (UKZN)**
2019 to date	**Coordinator,** Coursework Master Programme in Waste and Resources Management
2012-2018	**Dean** of the School of Engineering, University of KwaZulu-Natal, RSA
2009 - 2011	**Head of School,** Civil Engineering, Surveying and Construction, UKZN, RSA
2008 - 2009	**Deputy Head of School,** Civil Engineering, Surveying and Construction, UKZN, RSA
2014 (eff. 2015)	**Full Professor,** School of Engineering, University of kwaZulu-Natal, RSA
2007 to 2014	**Associate Professor,** School of Civil Engineering, University of KwaZulu-Natal, RSA
2000 to date	**Responsible** for the Environmental Engineering laboratory in the Civil Engineering Programme, UKZN.
2001 to date	**Co-founder and Leader** of the Environmental Engineering research group within CRECHE – Centre for Research in Environmental, Coastal and Hydrological Engineering, UKZN
2001 to date	**Coordinator,** Coursework Master Programme in Environmental Engineering at UKZN
2002 - 2007	**Senior Lecturer,** Civil Engineering Programme, University of KwaZulu-Natal, RSA.
1999 – 2002	**Lecturer,** Civil Engineering Programme, University of Natal, RSA.

AFFILIATIONS	
1996	Registered Professional Engineer with the Engineering Council of Italy (Cagliari Province)
Since 2000	WISA: Water Institute of Southern Africa
Since 2001	IWMSA: Institute of Waste Management – Southern Africa
Since 2007	CIWM: The Chartered Institute of Waste Managers UK IWWG: International Waste Working Group Managing Board

Since 2011	United Nations – IPLA Programme (International Partnership for Expanding Waste Management Services for Local Authorities) – A Programme of the United Nations
Since 2014	Member of the Global Engineering Deans Council GEDC
Since 2015	Fellow of the South African Academy of Engineering SAAE Member of the Royal Society of South Africa
Since 2019	Fellow of the Academy of Science of South Africa

HONOURS and FELLOWSHIPS	
2019	**Knight of the Italian Republic, Order of the Star – Cavaliere della Repubblica Italiana, Ordine della Stella D'Italia** **Fellow** of the Academy of Science of South Africa
2018	**National Research Foundation rating upgraded to C1 –** Internationally established researchers
2017	**Winner** of the International Prize "*Premio Navicella Sardegna Oltre Mare*" for the category Scientific Research. This is a prize/honour bestowed to exceptional Sardinians who have excelled abroad and brought honour and international recognition to the Region of Sardinia, Italy
2016	**First Runner up** in "Distinguished Women in Science Award", Department of Science and Technology of RSA **Fellow** of the Royal Society of South Africa
2015	**Fellow** of the South Africa Academy of Engineering
2014	**"Formidable Woman" Award -** Durban Youth Council
2013	**Nominated Chair** of the UNITED NATIONS – IPLA Secretariat for Southern Africa **Nominated Chair** of the IWWG – SARB International Waste Working Group – Southern Africa Regional Branch
2013	**Fellow** of the Executive Leadership Academy at University of California Berkeley (USA)
2012 and 2013	**Nominated** for Women in Science Award, DSt and NRF
2011	**National Research Foundation rating –** Category C2: Established and internationally recognized researcher/scientist
2010, 2011, 2012, 2013, 2014, 2015,2016, 2017, 2018	**JW Nelson Fund Research Award - UKZN** **University Research Award - UKZN**
2009	**JW Nelson Fund Research Award - UKZN** **Best Lecturer Award in Civil Engineering – UKZN** **University Research Award - UKZN**
2008	**JW Nelson Fund Research Award – UKZN** **University Research Award - UKZN**
2007	**Kricton Juri Award for Best Paper from Developing Countries for:** Trois C, Matete N and Stotko O and Douglas JAS. (2007) Zero waste strategies for urban areas in South Africa. Proceedings of Sardinia 2007, Eleventh International Waste Management and Landfill Symposium, Santa Margherita di Pula, Cagliari, Italy 1-5 October 2007.
2005-2006	**Merit award** for academic excellence - UKZN

PROFESSIONAL AND ACADEMIC ACTIVITIES	
May 2018	**South African Research Chair in Waste and Climate Change** (SARCHI Programme of the NRF)
Since 2016	**Developer and Programme Coordinator** of coursework Master Programme in Waste and Resources Management **Convener** of Summer School and International Training Seminars on Waste and Resources Management at UKZN

Oct. 2014	**Member** of the IWWG (International Waste Working Group) Managing Board
Aug 2014	**Member** of the Global Engineering Deans Council
Dec 2012	**Chair** of the IWWG-Southern Africa Regional Branch (International Waste Working Group) **Chair** of the Southern Africa Secretariat of the United Nations – IPLA Programme
2011 to date	**Resource Panel** for UN-IPLA – International Partnership for expanding Waste Management for Local Authorities– United Nations – Commission for Sustainable Development and United Nations – Centre for Regional Development (based in Nagoya, Japan)
2011	**Member of the Editorial Panel** of **SAICE** South African Institute of Civil Engineering Transaction Journal and **Waste Management** Journal (ISI).
2010 on going	**Project Leader** National Research Foundation NRF-India Scientific Collaboration Agreement with IIT Bombey, Mumbai (India) (Dr Anurag Garg)
2009 on going	**Project Leader** Scientific Collaboration Agreement with the University of Cranfield (UK), Centre for Waste and Resources Management (Dr Fred Coulon).
2006 on going	**Project Leader** NRF-France Scientific Collaboration Agreement with the University of Grenoble (France) (Prof. Jean Pier Gourc/Dr Oxarango).
2005 on going	**Project Leader** NRF-Italy Scientific Collaboration Agreement with the University of Cagliari (Italy) (Prof. Aldo Muntoni) – ISARP Programme
2007 on going	**Editorial Panel and/or Reviewer for:** Journal of Hazardous Materials, Journal of Waste Management, SAICE Journal, Journal of BioResource Technology, Journal of Environmental Management, Journal of Waste Management and Research, Journal of African Science etc.
2007	**Co-Project Leader** for South Africa for a Quadri-Nation Training Project (South Africa, Senegal, Kenya, and Tanzania) on Waste Management funded by the World Bank Institute.
2007	**Technical Secretariat** of WASTECON 2008 – Waste Management Congress and Exhibition, October 2008- Durban. **Co-editor and Reviewer** of Proceedings
2005-to date	**R&D advisor** for renewable energy-climate change projects for the eThekwini Municipality and the World Bank. **Scientific reviewer** for National Research Foundation (NRF).
2005	**Convener** of the 2nd International Training Seminar on "Control, Management and Treatment of Landfill Emissions – Waste Stabilisation and Landfill Aftercare" at University of KwaZulu-Natal – Civil Engineering Programme.
2003 to date	**Scientific reviewer** for Water-Sa, Journal of Env. Management, Journal of Hazardous Materials, Waste Management, Bioresources Technology and others
2003 to date	**Scientific reviewer** for SA Water Research Commission.
2002 to date	**Assessment and design** of small package plants for wastewater treatment
2002 to date	**Director of** Coursework Master Programme in Environmental Engineering, offered by the School of Civil Engineering, Surveying and Construction
2002	**Associate Member of** IWMSA – Institute of Waste Management Southern Africa
2002	**Technical Secretariat** of WASTECON 2002 – Waste Management Congress and Exhibition, October 2002- Durban. **Co-editor and Reviewer** of Proceedings
2001	**Associate Member** of WISA – Water Institute of South Africa
2001-2002	**Co-Founder of CRECHE** – Centre for Research in Environmental, Coastal and Hydrological Engineering, School of Civil Engineering, Surveying and Construction, University of Natal
2000	**Convener** of the 1st International Training Seminar on "Control, Management and Treatment of Landfill Emissions" at University of Natal – Civil Engineering Dept.
1997 to date	Advisor to the eThekwini (Durban) Municipality on waste management and sanitation projects, including: - Design of landfill cells - Design of the Mariannhill leachate treatment plant - Landfill stability
1997	**PrEng** awarded by the Engineering Council of Italy (Cagliari Province)

B. PEER-REVIEWED JOURNAL PUBLICATIONS AND CHAPTERS/BOOKS

CHAPTERS IN BOOKS AND MONOSERIES

1. **Cristina Trois.** (2019) Chapter: Journey 30 – From Commitment to Impact. In Book: *Rising to the Top - Global Engineering Leaders share their journeys to professional success*. Published by: International Federation of Engineering Education Societies. Global Engineering Deans' Council. ISBN 978-0-359-91449-4, 402pp.
2. Argiolas M., Loggia C., Tramontin V., **Trois C.** (2012) "A web application to support decision making process based on a bottom-up approach in public buildings' green retrofit", chapter n. 8 in the handbook "Emerging Software for Interactive Interfaces, Database, Computer Graphics and Animation: Pixels and the New Excellence in Communicability, Cloud Computing and Augmented Reality" [ISBN: 978-88-96471-19-7], Blue Herons Editions, Bergamo (Italy), pp. 83-93. [Authors are in alphabetic order. All the authors contributed equally to this work].
3. ***Trois C*** *and Jagath R (2011) Sustained Carbon Emissions Reductions through Zero Waste Strategies for South African Municipalities. In Waste Management, INTECH Publications. ISBN 978-953-307-179-4*. [My Contribution: supervision, data analysis, 70% drafting of chapter.].
4. **Trois C** and Plug B (2011) Bio-Denitrification of High Strength Landfill Leachate Using Garden Refuse and Pine Bark as Carbon Sources. In *Denitrification: Processes, Regulation and Ecological Significance*. NOVA Science Publishers Inc. Accepted 31 May 2011, 1 November 2011, ISBN-10: 1614708797 ISBN-13: 978-1614708797. [My Contribution: supervision, data analysis, 70% drafting of chapter].
5. **Trois C**, Griffith M, Mollekopf, N, Brummack, J. (2007) A comparative study of aerobic waste treatment: a solution for developing countries. Proceedings of Sardinia 2005 Landfill and Waste Management Symposium. October 2005, Santa Margherita di Pula, Cagliari, Italy. Published in *Management of Solid Waste in Developing Countries*, IWWG Monograph Series, Editors: Diaz, Eggerth, Savage, Cisa Publications. [My Contribution: supervision, data analysis, 70% drafting of chapter.]

ISI/Peer Reviewed JOURNAL PAPERS (53 at May 2020)

1. JK Bwapwa, A Akash, **C Trois.** (2020). Jet Fuel from Domestic Wastewater Treatment Using Microalgae: A Review. Green Materials for Wastewater Treatment, 321-360.
2. N Sawyerr, **C Trois,** T Workneh. (2019)Optimization of Biogas Yield through co-digestion of Cassava Biomass and Vegetable & Fruits waste at Mesophilic Temperatures. International Journal of Renewable Energy Research (IJRER) 9 (2), 771-782.
3. JK Bwapwa, A Akash, **C Trois.** (2019). Jet fuel blend from Algal Jet Fuel and Jet A1 in 50/50 volume ratio. International Journal of Low-Carbon Technologies 14 (2), 234-240.
4. N Sawyerr, **C Trois**, T Workneh. (2019) Identification and Characterization of Potential Feedstock for Biogas Production in South Africa. Journal of Ecological Engineering 20 (6).
5. Sawyerr, N., **Trois, C**., Workneh, T.S. & Okudoh, V. 2019. An overview of biogas production: fundamentals, applications and future research. International Journal of Energy Economics and Policy, 9(2): 1-12. [https://doi.org/10.32479/ijeep.7375]
6. Bwapwa JK, Anandraj A, **Trois C** (2018). Microalgae processing for jet fuel production. Biofuels, Bioproducts and Biorefining. Volume number: 12 (Pages: 522-535).
7. Joseph K. Bwapwa, Akash Anandraj, **Cristina Trois** (2018). Conceptual process design and simulation of microalgae oil conversion to aviation fuel. Biofuels, Bioproducts and Biorefining. Volume number: 12, Issue number: 6 (Pages: 935-948).
8. Sawyerr N, **Trois C**, Workneh T, et al. (2018). Comparison and modelling of biogas production from unpeeled and peeled cassava tubers at a mesophilic temperature. International Journal of Mechanical Engineering and Technology. Volume number: 9, Issue number: 12 (Pages: 338-352).
9. Samuel ZA, Workneh TS, **Trois C**, et al. (2018). Removal of Cr (VI) from contaminated water using soil rich in kaolinite-ferrinatrite, coffee husk ash and soil rich in kaolinite-goethite: characteristic, isotherm and kinetic study. Desalination and Water Treatment. Volume number: 105, Issue number: 2018 (Pages: 250-254).
10. RR Frank, S Cipullo, J Garcia, S Davies, ST Wagland, R Villa**, C Trois**, F Coulon. (2017) Compositional and physicochemical changes in waste materials and biogas production across 7 landfill sites in UK. Waste Management Journal. 63, 11-17.

11. R.R. Frank, S. Davies, S.T. Wagland, R. Villa, **C. Trois**, F. Coulon (2016) Evaluating leachate recirculation with cellulase addition to enhance waste biostabilisation and landfill gas production. Waste Management Journal. http://dx.doi.org/10.1016/j.wasman.2016.06.038
12. E., Friedrich and **C., Trois.** (2016). Current and future greenhouse gas (GHG) emissions from the management of municipal solid waste in the eThekwini Municipality–South Africa. Journal of Cleaner Production. 112, 4071-4083.
13. Zorgani, A., Cibati, **Trois, C.** (2016) Assessment of a natural iron-based sand for the removal of nitrate from water. Journal of Water, Air and Soil Pollution. ISSN 0049-6979 Volume 227 Number 7. Available Online at: Water Air Soil Pollution (2016) 227:1-11 DOI 10.1007/s11270-016-2942-8
14. **Trois, C.,** Plug. B and Cibati, A. (2016) Nitrate removal from landfill leachate using natural organic substrates as carbon source in column studies, simulating fixed-bed reactors. Waste Management.

---

15. Plug, BD., Cibati, A. and **Trois, C**. (2015). The use of organic wastes at different degrees of maturity as carbon sources for denitrification of landfill leachate. Waste Management. Vol. 43. 373-379.
16. RR Frank**, C Trois,** F Coulon. (2015) Sustainable landfill leachate treatment using refuse and pine bark as a carbon source for bio-denitrification. Environmental technology 36 (11), 1347-1358.
17. **C. Trois**, A. Cibati. (2015). South African sands as a low-cost alternative solution for arsenic removal from industrial effluents in permeable reactive barriers: Column tests. Chemical Engineering Journal. Vol. 259. 981-989.
18. **C. Trois** and A. Cibati. (2015). South African sands as alternative to zero valent iron for arsenic removal from industrial effluent: batch experiments. Journal of Chemical and Environmental Engineering. 3 (1), 488-498. (Cit. 1)
19. Hayman, DJ., Loggia, C. and **Trois,C**. (2015). Sustainable grid infrastructure: the co-evolution of socio- economic and socio-technical systems through microgrid adoption. Journal of Construction. Vol. 8, Issue 3. 21-27.
20. Thesan Naiker, Vittorio Tramontin, **Cristina Trois**. (2015). Green concrete: an investigation into the effects of waste materials available in South Africa on concrete performance. Journal of Construction. Vol. 8, Issue 4. 27-37.
21. Loggia, C., Tramontin, V. and **Trois, C**. (2015). Sustainable Housing in Developing Countries: Meeting Social and Environmental Targets by "Greening" Low-income Settlements in South Africa. The International Journal of Sustainability Policy and Practice. Vol. 9, Issue 4. Pages 13. *[All the authors contributed equally to this work]*
22. Okudoh, VI., **Trois, C.**, Workneh, TS and S. Schmidt (2014). The potential of cassava biomass and applicable technologies for sustainable biogas production in South Africa: A review. Renewable and Sustainable Energy Reviews. Vol 39, 1035-1052.
23. V. Tramontin, S. Tembe, C. Loggia, **C. Trois** (2014) Challenges For The Implementation Of Rainwater Harvesting Systems For Low-Cost Housing. A Case Study In Kwazulu-Natal. Journal of Construction (JoC) Official Journal of the Association of Schools of Construction of Southern Africa. 7 (1), 25-32.
24. C. Loggia, D. Hayman, V.Tramontin, **C. Trois** (2014) Evaluating Building Thermal Performance Evaluation Towards A Smart Energy Management: The Retrofit Of An Office Building In Durban. Journal of Construction (JoC) Official Journal of the Association of Schools of Construction of Southern Africa. 7 (1), 11-16.
25. V. Tramontin, T. Naicker, C. Loggia, **C. Trois** (2014) A methodological framework related to international best practices towards greening affordable housing in South Africa. Journal of Construction (JoC) Official Journal of the Association of Schools of Construction of Southern Africa. 7 (1), 17-24.
26. Valentina Zedda, **Cristina Trois,** Philip Everitt. (2014) Management of construction and demolition waste and its use for road construction in a South African Municipality. Journal of solid waste technology and management. Vol. 40. Issue 4, 375-388.
27. White, S., Anandraj, A. & **Trois, C**. 2014. NADPH fluorescence as an indicator of hydrogen production in the green algae Chlamydomonas reinhardtii. International Journal of Hydrogen Energy. 39 (4), 1640-1647.
28. Okudoh, VI., **Trois, C**., Workneh, TS. (2014). The potential of cassava biomass as a feedstock for sustainable biogas production in South Africa. Journal of Energy and Power Engineering, 8 (2014) 836-843 (ISSN1934-8975).
29. Sarah White, Akash Anandraj, **Cristina Trois** (2013). The effect of landfill leachate on hydrogen production in Chlamydomonas reinhardtii as monitored by PAM Fluorometry. *International Journal of Hydrogen Energy*. Volume 38, Issue 33, 4 November 2013, Pages 14214-14222.
30. Elena Friedrich and **Cristina Trois** (2013) GHG Emission Factors Developed for the Collection, Transport and Landfilling of Municipal Waste in Southern African Municipalities. Waste Management. Volume 33, Issue 4, April 2013, pp. 1013-1026. ISSN 0956-053X.

31. Linda Godfrey, Dianne Scott, **Cristina Trois** (2013) Caught Between The Global Economy and Local Bureaucracy: The Barriers To Good Waste Management Practice In South Africa. *Waste Management and Research*. 2013, 3/31, pp. 295-305. Originally published online 1 February 2013 DOI: 10.1177/0734242X12470204. The online version of this article can be found at http://wmr.sagepub.com/content/31/3/295. ISSN 0734-242X.
32. Elena Friedrich and **Cristina Trois** (2013) GHG Emission Factors Developed for the Recycling and Composting of Municipal Solid Waste in South African Municipalities. Waste Management. Accepted in April 2013. Volume 33, Issue 11, November 2013, Pages 2520-2531, ISSN 0956-053X.
33. Tramontin, V, Loggia, C and **Trois, C** (2012). Strategies For Sustainable Building Design and Retrofit in Developing Countries. New Goals for Green Buildings In South Africa. *Journal of Construction*. Accepted June 2012, Vol. 5, No 1, pp. 12-17. ISSN 1994-7402
34. Linda Godfrey, Dianne Scott, Mark Difford and **Cristina Trois** (2012) Part II: The effect of data on waste behaviour: The South African waste information system. *Waste Management*. Volume 32, Issue 12, December 2012, pp. 2163–2176. ISSN 0956-053X.
35. Linda Godfrey, Dianne Scott, Mark Difford and **Cristina Trois** (2012) Part I: The role of waste data in building knowledge: The South African waste information system. *Waste Management*. Volume 32, 2154–2162. ISSN 0956-053X.
    Note: Linda Godfrey was a PhD student (2012) co-supervised by myself and Dianne Scott.
36. Couth, R and **Trois C** (2012) Sustainable waste management in Africa through CDM projects. *Waste Management*. Volume 32, Issue 12, December 2012, pp. 2115–2125. ISSN 0956-053X.
37. Couth, R and **Trois C** (2012) Cost Effective waste management through composting in Africa. *Waste Management*. Volume 32, Issue 12, December 2012, pp. 2518–2525. ISSN 0956-053X.
    Note: Bob Couth was one of my PhD students, graduated in 2012. My Contribution: Supervisor, editing of paper, data analysis. 100% in the development of the original research hypotheses, experimental rationale and design. 50% in data analysis and 50% in the drafting of this paper.
38. Couth R, **Trois C** and Vaughan-Jones (2011) Modeling of Greenhouse Gas Emissions From Municipal Solid Waste Disposal In Africa. International Journal of Greenhouse Gas Control. Volume 5, Issue 6, November 2011, pp. 1443-1453. ISSN 1750-5836.
39. Friedrich E, Trois C (2011) Quantification of greenhouse gas emissions from waste management processes for municipalities – A comparative review focusing on Africa. *Waste Management*, Volume 31, Issue 7, July 2011, Pages 1585-1596. ISSN 0956-053X.
40. Couth R, **Trois C**, Parkin J, Strachan, LJ and Wright M. (2011) Delivery and viability of landfill gas CDM projects in Africa-A South African experience. *Renewable and Sustainable Energy Reviews*. Volume: 15, Issue: 1 Pages: 392-403. ISSN 1364-0321.
41. Couth R, **Trois C** (2011) Waste management activities and carbon emissions in Africa. *Waste Management*. Volume: 31. Issue: 1. Pages: 131-137. ISSN 0956-053X.
42. Couth, R, **Trois, C** (2010) Carbon emissions reduction strategies in Africa from improved waste management: A review. *Waste Management*. Vol: 30, Issue: 11, pp: 2336-2346. ISSN 0956-053X.
43. Friedrich, E, **Trois, C** (2010) Greenhouse gases accounting and reporting for waste management - A South African perspective. *Waste Management*. Vol: 30. Issue: 11. 2347-2353. ISSN 0956-053X.
44. **Trois C**, Coulon F, Polge-De Combret C, Martins J and Oxarango L (2010) Effect of pine bark and compost on the biological denitrification process of non-hazardous landfill leachate: focus on the microbiology. *Journal of Hazardous Materials*. Vol: 181. Issue: 1-3. 1163-1169. ISSN 0304-3894.
45. **Trois C** and Simelane, O (2010). Implementing separate waste collection and mechanical biological waste treatment in South Africa: A comparison with Austria and England. *Waste Management*, 30 (8-9), 1457-1463. ISSN 0956-053X.
46. **Trois C**, Pisano G and Oxarango L (2010) Alternative solutions for the bio-denitrification of landfill leachates using pine bark and compost, *Journal of Hazardous Materials*, Volume 178, Issues 1-3, 15 June 2010, 1100-1105. ISSN 0304-3894.
47. Matete NO and **Trois C** (2008) Towards Zero Waste In Emerging Countries – A South African Experience. *Waste Management,* Vol. 28, Issue 8, 1480-1492. ISSN 0956-053X
48. **Trois C** and Griffith, M (2008) Long-term emissions from mechanically biologically treated waste: influence on leachate quality Part II. *Water SA*. July 2008, Vol 34. No. 3 ISSN 0378-4738
49. **Trois, C**., Marcello, A., Pretti, S., Trois, P. e Rossi, G. (2007): The Environmental risk posed by small dumps of complex arsenic, antimony, nickel and cobalt sulphides. *Journal of Geochemical Exploration*, Vol. 92. Issue 1, January 2007, 83-95. ISSN 0375-6742.
50. Trois, C and Polster. A. (2007) Effective Pine Bark Composting using the Dome Aeration Technology. *Waste Management*. Vol. 27, Issue 1, January 2007. 96-105. ISSN 0956-053X.

51. **Trois C.,** Griffith, M, Mollekopf N and Brummack A. (2007) Introducing Mechanical Biological Waste Treatment in South Africa: A Comparative Study. *Waste Management*, Vol. 27, Issue 11, 1706-1714. ISSN 0956-053X. Note:
52. Griffith M and **Trois C.** (2006) Long-term emissions from mechanically biologically treated waste: influence on leachate quality. *Water SA.* July 2006, Vol 32, No 3. ISSN 0378-4738
53. P Marjanovic and C Trois (2003) Environmental Engineering an area for serious academic research. Journal of the South African Institute of Civil Engineering 11 (7), 8-10.

C. CURRENT RESEARCH GRANTS

Dates	PROJECT DESCRIPTION	Funding	Role
Since 2019	MoA with SANEDI, Working for Energy Programme, R1.950m	SANEDI	PL
Since 2018	SARCHI CHAIR in Waste and Climate Change Grant (R2.68m per year)	NRF/DSI	PL
2016/20	NATIONAL LOTTERY Production of Energy for deep rural areas (Total value R7.7m)	LOTTO	PL
2018-2020	THRIP/Dube TradePort grant FoodWaste-to-Energy Project Production of energy from waste through anaerobic digestion (R1.5m/yr – total value R5m)	THRIP-DTI	PL
2018-2020	THRIP Grant Biogas-to-Energy Project Production of energy from waste through anaerobic digestion (R2.8m/yr – total value R9m)	THRIP-DTI	PL
2012/13	MoU UKZN-KZN-DEDT (Dept for Economic Dev. And Tourism) – BioEnergy Map – Biomass-to-Energy Projects as a vehicle to burst Green Economy - (R1m/y)	KZN-DEDT (R1m)	PL
2000 on going	Durban Solid Waste-UKZN Research Collaboration on Waste Management Projects (ave. R500k/y)	DSW (R500k/yr)	PL
2009 on going	Study UKZN-Cranfield Univ. (UK) Centre for Waste and Resources Management, on Carbon Emission Reduction and climate protection through appropriate waste management strategies, with particular focus on Anaerobic Digestion of waste	THRIP-Dti and UKZN (R500k/yr)	PL
2018-2021	Study UKZN-Cagliari Univ. (Italy) on Landfill emissions reduction by waste stabilisation processes: an effective way of managing renewable energy sources (NRF-Italy-SA Bilateral Scientific Cooperation Agreement)	NRF (R300k)	PL
2003 on going	Advisory role for Biogas-to-electricity projects in South Africa 1st African CDM Project for production of 10 MW of electricity from the eThekwini Municipality DSW landfills	World Bank DSW	PL

D. ON GOING STUDENT SUPERVISION

POSTGRADUATE SUPERVISION			
	Current	**Graduated**	***Cum Laude**
Post-docs	2	-	
PhDs	7	22	-
MScEng by research	14	25	6
MScEng by coursework	14	15	2
TOTAL	**37**	**62**	**8**

Prof. Trois is a C1 rated scientist with the National Research Foundation and her main fields of expertise are: Environmental and Geo-Engineering, Waste and Climate Change in Sustainable Cities, Waste and Resources Management, Control, Management and Treatment of landfill emissions, Renewable Energy from waste and Greenhouse gas control from zero waste in Africa and developing countries, Alternative Hybrid Materials from Waste.

She developed and coordinates the first Master Programme in Waste and Resources Management in South Africa. **She has graduated over 60 postgraduate students**, and an average of 8-10 undergraduate students successfully complete their final-year dissertations under her supervision every year. **Prof Trois is author of over 100 peer-reviewed publications in ISI-rated journals, conference proceedings, including 5 chapters in books and mono-series**; she is in the editorial/review panel of several leading ISI Scientific Journals and actively collaborates with leading national and international Institutions.
Chair of the joint secretariat for the Southern Africa Region of the UN-IPLA Programme (International Partnership for advancing waste management services of local authorities) and the IWWG (International Waste Working Group), Fellow of the South African Academy of Engineers and the Academy of Science.

Prof. Trois **has over 20 years** of working experience in waste management and has been the principal investigator as well as the project coordinator of many multi-million feasibility and R&D waste management/waste minimisation/treatment/design projects with municipalities in South Africa and Africa. She is the developer of the WROSE Model/Decision Making Tool, and advisor for waste management strategies, waste to energy projects, CDM projects and waste treatment projects for national government, DSI, DEFF, SANEDI, SALGA, local government and the private sector.

E. ACADEMIC QUANTITATIVE INDICATORS

Item	Number Completed
Books	**0**
Journal Publications	**53**
Book Chapters	**5**
Supervised and Concluded Master's Dissertations	**40**
Supervised and Concluded Doctoral Dissertations	**22**
Citations Received	**1162 (Google Scholar)** **h-index: 19**
Patents Applied for	**2**
Granted Patents	**1 + 1 pending**
Products Developed and Launched	**1 (WROSE Model and Decision-Making Tool)**
Optimised Processes Launched	**20 years of process design experience**

F. ONLINE PROFILE

ORCID	https://orcid.org/0000-0003-2094-2241
Google Scholar	**https://scholar.google.com/citations?user=Ny2OS24AAAAJ&hl=en&oi=ao**

G. REFEREES

Prof. Linda Godfrey (PhD Eng)
Manager | Waste RDI Roadmap Implementation Unit | DSI
Principal Scientist | Waste and Circular Economy | CSIR
Extraordinary Professor | North-West University
CSIR IU | PO Box 395 | Pretoria | 0001

CSIR IU | Meiring Naude Road | Brummeria | Pretoria
* LGodfrey@csir.co.za | (012 841 4801 | 7 012 842 7687 |È082 339 0871
8 www.researchgate.net/profile/Linda_Godfrey
8 www.csir.co.za and www.wasteroadmap.co.za

Dr. Henry J. Roman (PhD)
Director: Environmental Services and Technologies
Department of Science and Technology
Cell: +2776 424 0311
Tel : +2712 843 6434
Fax : +2786 648 8378
Website: www.dst.gov.za
E-mail : Henry.Roman@dst.gov.za

Prof. Bill Clarke (PhD)
BEng (Civil) UniSA, MSc (Env Eng) Notre Dame USA, PhD (Chem Eng) UQ.
Professor
Schools of Civil and Chemical Engineering
The University of Queensland
Brisbane Qld 4072 Australia
T +61 7 3365 6464 **M** +61 413 183 411
E william.clarke@uq.edu.au **W** researchers.uq.edu.au/researcher/324
CRICOS 00025B

Mr David Mahuma
General Manager Working for Energy
SANEDI (South African National Energy Development Institute)
A state owned Entity established under Section 7 of the National Energy Act 2008 (Act No.34 of 2008)
Block C, Upper Grayston Office Park 152 Ann Crescent
Strathavon Sandton 2146 *Co-ordinates: 26°06'02.1"S 28°04'10.9"E*
T: +27 [11] 038 4307
C: +27 [82] 455 7255
E: davidm@sanedi.org.za
W: www.sanedi.org.za

Prof. Catherina Schenck (PhD)
DST/NRF/CSIR SARChI Chair Waste and Society
University of the Western Cape
Robert Sobukwe Road, Private Bag X17
Belville 7535
T: +27 21 959 2011
C: + 27 828640600
E: cschenck@uwc.ac.za
W: www.uwc.ac.za

Prof. Glen Bright (PhD)
Dean of Engineering
University of KwaZulu-Natal, South Africa
T: +27 031 260 3055
Email: Brightg@ukzn.ac.za