

NON-REFEREED PAPERS PRESENTED AT INTERNATIONAL SYMPOSIA

1. **Lorenzen, L**, "An electrochemical study of the effect of potential on the selective dissolution of base metal sulphides in sulphuric acid", International Symposium on Reagents in Minerals Engineering, Camborne School of Mines, Cornwall, England, 18-20 September 1991, 12 pages
2. **Lorenzen, L** & Tumilty, JA, " Diagnostic leaching as an analytical tool for evaluating the effect of reagents on the performance of a gold plant", International Symposium on Reagents in Minerals Engineering, Camborne School of Mines, Cornwall, England, 18-20 September 1991, 15 pages
3. **Lorenzen, L** & Van Deventer, JSJ, "The mechanism of leaching of gold from refractory ores", Minerals Engineering '92, Vancouver, Canada, 14-16 April 1992, 13 pages
4. **Lorenzen, L** & Van Deventer, JSJ, "An electrochemical study of the dissolution of gold", The Ernest Peters International Symposium on Hydrometallurgy Theory and Practice, Vancouver, British Columbia, Canada, 14-17 June 1992, 26 pages
5. **Lorenzen, L** & Van Deventer, JSJ, "The identification of refractoriness in gold ores by the selective destruction of minerals", Symposium on Processing of Complex and Refractory Ores, Camborne School of Mines, Cornwall, England, 6-8 April 1993
6. **Lorenzen, L**, Van Meersbergen, MT & Van Deventer, JSJ, "The electrochemical dissolution of gold in bromide medium", Symposium on Processing of Complex and Refractory Ores, Camborne School of Mines, Cornwall, England, 6-8 April 1993
7. Van Deventer, JSJ, **Lorenzen, L**, Van der Merwe, PF, Morrison, DW, & Van der Westhuysen, JPW "The fundamentals of unit operations in CIP plants: a progress report", Minerals Engineering '93, Cape Town, South Africa, 25-27 August 1993, page 7
8. Van Dyk, WA, **Lorenzen, L** & Van Deventer, JSJ, "The dynamic behaviour of coarse particles in flotation froths", Minerals Engineering '93, Cape Town, South Africa, 25-27 August 1993, page 25
9. De Kock, FP, Saayman, N, Van Deventer, JSJ & **Lorenzen, L**, "Simulation of non-ideal phase equilibria using statistical thermodynamics", Minerals Engineering '93, Cape Town, South Africa, 25-27 August 1993, page 23
10. **Lorenzen, L**, Van Deventer, JSJ & Landi, WM, "Factors affecting the mechanism and kinetics of the adsorption of arsenic species onto activated carbon", Minerals Engineering '94, Lake Tahoe, Nevada, United States, 26-28 August 1994
11. **Lorenzen, L**, Van Deventer, JSJ & de Villiers, PRG, "The selective extraction of species from slurries of insoluble solids with ion-exchange resins", Minerals Engineering '94, Lake Tahoe, Nevada, United States, 26-28 August 1994
12. **Lorenzen, L**, Annandale GJ, Van Deventer, JSJ & Aldrich, C, "A liberation model for gold ores using diagnostic leaching data", Minerals Engineering '95, Tregenna Caste, St. Ives, Cornwall, England, 14-16 June 1995
13. Liebenberg, SP, Van Deventer, JSJ, **Lorenzen, L** & Aldrich, C, "The dynamic modelling of multicomponent elution of activated carbon in columns using connectionist systems", Minerals Engineering '95, Tregenna Caste, St. Ives, Cornwall, England, 14-16 June 1995
14. Van Rensburg, S, Sanderson, R, **Lorenzen, L** & Linkov, VM, "Inorganic catalytic membranes", 35th IUPAC Congress, Istanbul, Turkey, 14-19 August 1995
15. De Villiers, PRG, **Lorenzen, L** & Van Deventer, JSJ, "The use of ion-exchange resins for the recovery of valuable species from slurries of sparingly soluble solids", Minerals Engineering '96, 26-28 August 1996, Brisbane, Australia
16. Van Jaarsveld, JGS, Van Deventer, JSJ & **Lorenzen, L**, "The potential use of geopolymeric materials to immobilise toxic metals", Minerals Engineering '96, 26-28 August 1996, Brisbane, Australia
17. Nesbitt, AB & **Lorenzen, L**, "Practical training for increased technological development in Chemical Engineering (the Western Cape Experience)", 5th Symposium on Science and Technology", Harare, Zimbabwe, 24-26 September 1996

18. **Lorenzen, L**, De Jager, B, Petersen, KRP & Van Deventer, JSJ, "The mechanism and kinetics of the degradation and migration of cyanide in various types of soils", International Symposium on the processing of complex and refractory ores, 19-21 March 1997, Bulawayo, Zimbabwe , pp 28-33
19. Loftus, BM, **Lorenzen, L** & Petersen, KRP, "The effect of jet reactors on the leaching of gold from refractory ores", International Symposium on the processing of complex and refractory ores, 19-21 March 1997, Bulawayo, Zimbabwe, pp 16-20
20. Els, ER, **Lorenzen, L** & Aldrich, C, "Modelling of the recovery of platinum group metals from sulphide ores with the use of ion exchange resins", International Symposium on the processing of complex and refractory ores, 19-21 March 1997, Bulawayo, Zimbabwe, pp 25-28
21. Van Jaarsveld, JGS, Van Deventer, JSJ & **Lorenzen, L**, "Geopolymerisation: the conversion of solid toxic waste to safe construction materials", ACHEMA 97, 25th Exhibition-Congress International Meeting on Chemical Engineering, Environmental Protection and Biotechnology, Frankfurt am Main, Germany, 9-14 June 1997
22. De Villiers, PGR, **Lorenzen, L** & Van Deventer, JSJ, "Ion exchange technology for the recovery of valuable species from low grade ore deposits", Extraction Metallurgy Africa '97, An extraordinary extravaganza of extraction expertise, Randburg, South Africa, 25-26 June 1997
23. Van Jaarsveld, JGS, Van Deventer, JSJ & **Lorenzen, L**, "Geopolymerisation-The potential use of alkali-activated binders for toxic metal containment", Extraction Metallurgy Africa '97, An extraordinary extravaganza of extraction expertise, Randburg, South Africa, 25-26 June 1997
24. Van Deventer, JSJ, **Lorenzen L**, Van Jaarsveld JGS, "Leaching behaviour as a determinant of grinding efficiency", Comminution '98, 16-18 February 1998, Brisbane, Australia
25. Van Deventer, JSJ, Van Zyl RL & **Lorenzen L**, Van Jaarsveld JGS, "The stabilisation of jarosite in cementitious materials", Advances in Cement and Concrete Engineering Foundation, Alberta, Canada, 5-10 July 1998
26. Walsdorff A, Petersen KRP & **Lorenzen L**, "The effect of cyanide contamination on soil quality", Mineral Engineering '98, Edinburgh, Scotland, 14-16 September 1998, page 39
27. Van Dorp SAM, **Lorenzen, L**, Petersen KRP & Reuter MA, "The development of a bioleaching step for the diagnostic leading procedure", Mineral Engineering '98, Edinburgh, Scotland, 14-16 September 1998, pp 34-36
28. Els, ER, **Lorenzen, L** & Aldrich, C, "Sorption equilibrium for precious metals on selective ion-exchange resins", Minerals and Engineering '98, Edinburgh, Scotland, 14-16 September 1998, page 38
29. Keuler, JN, **Lorenzen, L** & Sanderson, RD, "Preparing and characterising palladium-silver, palladium-nickel and palladium-copper alloy membranes", III International Conference on Catalysis in Membrane Reactors, Copenhagen, Denmark, 8-10 September 1998
30. Keuler, JN, **Lorenzen, L**, Sanderson, RD, Prozesky, V & Przybylowicz, WJ, "Characterising palladium-nickel alloy membranes using SEM, XRD and PIXE", 6th international Conference on Nuclear Microprobe Technology and Applications (ICNMTA 98), 11-16 October 1998, Spier Estate, Stellenbosch, South Africa, page 29
31. Els, ER, **Lorenzen, L**, Aldrich, C & Tan, H, "The adsorption of precious metals and base metals on quaternary ammonium group ion exchange resin", Minerals Engineering '99, Falmouth, Cornwall, United Kingdom, 1999, pp 42-44
32. **Lorenzen, L** & Kleingeld, AW, "New generation leaching reactors for effective mass transfer in mineral processing operations", Hydromet 2000, 3-5 April 2000, Adelaide, Australia, page 44
33. Pienaar, J & **Lorenzen, L**, "Characterisation of the degradation of various immobilised matrices containing fly-ash and jarosite during leaching tests", Hydromet 2000, 3-5 April 2000, Adelaide, Australia, pp 48 – 49

34. Qi, B, **Lorenzen, L** & Els ER, "The development of a diagnostic leaching procedure for the selective dissolution of platinum group metals", Minerals Engineering 2000, Cape Town, South Africa, 13 – 15 November 2000, pp 6
35. Maré, PW & **Lorenzen, L**, "Ex-situ soil washing of hydrocarbon contaminated soil using impinging stream reactors and selective self soft attrition", Minerals Engineering 2000, Cape Town, South Africa, 13 – 15 November 2000, pp 2
36. Ellis, R, **Lorenzen, L** & Hayward, DJ, "The use of ion exchange resin for pH modification in the effluent from the wine press", 2nd International Viticulture and Enology Congress, Cape Town, South Africa, 8 – 10 November 2000, pp 10
37. Trerise, M.A., **Lorenzen, L**, Hayward, D.J., Bezuidenhout, S., Barnardt, C.A. & Prozesky, V.M., "Wastewater characterisation for pollution prevention", 26th World Congress and 81st General Assembly of the Office International De La Vigne Et Du Vin (OIV), Adelaide, Australia, 11-18 October 2001, page 77
38. Koch, EW, Hayward, DJ, Bezuidenhout, S, Barnardt, N & **Lorenzen, L**, "A case study for the evaluation of effluent treatment technology in the wine industry: The R&R Dissolved Air Flotation/Ozone Pilot Plant", 2nd International Viticulture and Enology Congress, Cape Town, South Africa, 8 – 10 November 2000, pp L38
39. Hayward, DJ, Bezuidenhout, S, Snyders, H, Barnardt, N, **Lorenzen, L** & Prozesky, V, "Practical Environmental Management in the Wine Industry", 2nd International Viticulture and Enology Congress, Cape Town, South Africa, 8 – 10 November 2000, pp L40
40. Lanya, RM & **Lorenzen, L**, "Atmospheric acid leaching of nickel-copper matte from Impala Platinum Refineries", Bio & Hydromet '02, Cape Town, South Africa, 13-15 March 2002
41. Pelser, M, Eksteen, JJ, **Lorenzen, L** & Aldrich, C, "Control of calcium and magnesium in a sulphate base metal leach solution", Bio & Hydromet '02, Cape Town, South Africa, 13-15 March 2002
42. Van Dyk, L, **Lorenzen, L**, Miachon, S, Torres, M & Dalmon, J, "Catalytic Membrane reactors and an example: isobutene dehydrogenation", Catalysis Conference 2002, Cape Town, South Africa, 10-13 November 2002, P18
43. Qi, BC, Aldrich, C & **Lorenzen, L**, "Effects of Ultrasound on the removal of humic acid with the preformed aluminium hydroxide flocs", 22nd International Mineral Processing Congress (IMPC), Editors in Chief. Leon Lorenzen and Dee Bradshaw, Cape Town, South Africa, 28 September – 3 October 2003, Book of Abstracts, page 474
44. Lanya, RM & **Lorenzen, L**, "A study of factors influencing the kinetics of atmospheric leaching of converter matte", 22nd International Mineral Processing Congress (IMPC), Editors in Chief. Leon Lorenzen and Dee Bradshaw, Cape Town, South Africa, 28 September – 3 October 2003, Book of Abstracts, page 327
45. Banda, W, Lang, CI, Eksteen, JJ & **Lorenzen, L**, "Evaluation of the Fe-Rich Corner of the Fe-Co-Cu Alloy System", Microscopy Society of Southern Africa Proceedings (Cape Town Conference), Cape Town, South Africa, Volume 33, November 2003, pp12
46. Van Dyk, L, **Lorenzen, L**, Miachon, S, Landrison, E & Dalmon, J-A, "Preliminary studies of m-xylene isomerisation in an extractor catalytic membrane reactor", 6th International Conference on Catalysis in Membrane Reactors (ICCMR 6), Lahnstein, Germany, 7-9 July 2004, Book of Abstracts, pp 62
47. **Lorenzen, L**, Du Preez, G & Lanya, R, "The application of impinging jet technology to the leaching of Ni-Cu matte", Precious Metals '04, Cape Town, South Africa, 10-12 November 2004, 12 pages
48. Van Dyk, L, **Lorenzen, L**, Miachon, S, Landrison, E. & Dalmon, J-A, "Zeolite membrane for m-xylene isomerisation in an extractor catalytic membrane reactor", IZMM-3, Colorado, United States of America, 25 – 28 July 2004 (<http://www.che.utoledo.edu/izmm3>)
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51. Griffen, G, Palmer, D, **Lorenzen, L** & van der Spuy, J, "The development of a biofuels evaluation laboratory (production and engine testing) with special emphasis on biodiesel", International Conference on Biodiesel: The Science and Technologies, Vienna, Austria, 5-7 November 2007, 6 pages
52. **Lorenzen, L**, Van der Spuy, SJ, Palmer, D, & Griffin, G, "Biofuels Testing Facility: Production and Engine Testing (with special emphasis on biodiesel)", CHEMRAWN XII Conference : Incorporating SANERI Biofuels 2007 Conference, Stellenbosch, South Africa, 2-6 December 2007, page 143
53. Naude, N, **Lorenzen, L** & Kolesnikov, AV, "A multiphase model of the mineral density separator", Computational Modelling '08, Cape Town, South Africa, 13 -14 November 2008
54. Dominy, SC & **Lorenzen, L**, "Advance Geometallurgy, Advance...", Annual Mineral Deposits Studies Meeting, January 2012, United Kingdom, also published as an abstract in IOM3/AusIMM AES Journal, 2012
55. **Lorenzen, L**, Muller, H and Guresin, N, "Metallurgical Testwork requirements for engineering studies", Hydroprocess 2012, Santiago, Chile, 11 to 13 July 2012, (also published on CD Rom as Proceedings of the 4th International Seminar on Process Hydrometallurgy)

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2. Van Deventer, JSJ, Reuter, MA, **Lorenzen, L** & Hoff, PJ, "Galvanic influences during the leaching of gold in cyanide and thiourea solutions", Colloquium on Leaching, South African Institute of Mining and Metallurgy, Randburg, 8-9 November 1988, 22 pages
3. **Lorenzen, L**, "An electrochemical study on the selective dissolution of base metal sulphides", 6th National Meeting of the S.A. Institute of Chemical Engineers, Durban, 7-9 August 1991, B5 (pp 1-10)
4. **Lorenzen, L**, "Diagnostic Leaching - An Analytical Tool", Tenth UCT/US Mineral Processing Symposium, Gordon's Bay, 1-2 August 1991, 15 pages
5. Van Dyk, WA, Van Deventer, JSJ, **Lorenzen, L** & Ross, VE, "The dynamic behaviour of coarse particles in flotation froths", 11TH Annual US/UCT/SAIMM Mineral Processing Symposium, Gordon's Bay, 6-7 August 1992
6. Morrison, DW, **Lorenzen, L** & van Deventer, JSJ, "The mechanism of fouling of activated carbon by calcium and magnesium precipitates", 11th Annual US/UCT/SAIMM Mineral Processing Symposium, Gordon's Bay, 6-7 August 1992
7. Van Meersbergen, MT, **Lorenzen, L** & van Deventer, JSJ, "The electrochemical dissolution of gold in bromide medium", 11TH Annual US/UCT/SAIMM Mineral Processing Symposium, Gordon's Bay, 6-7 August 1992
8. Strydom, L, **Lorenzen, L** & Van Deventer, JSJ, "Interferences in the analysis of metal cyanides complexes using ion-exchange chromatography", 11th Annual US/UCT/SAIMM Mineral Processing Symposium, Gordon's Bay, 6-7 August 1992
9. Chemaly, BF, Sanderson, R, Aldrich, C & **Lorenzen, L**, "Modelling of transfer phenomena in an air gap membrane distillation unit", The 7th National Conference of The South African Institute of Chemical Engineers, Chemical Engineering into the Future - The South African Perspective, Kempton Park, Johannesburg, 23-24 August 1994, pp 557-565
10. Saayman, N, **Lorenzen, L**, Van Deventer, JSJ & Chimowitz, EH "Estimation of thermodynamic properties and phase equilibria from intermolecular potentials", The 7th National Conference of The

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12. Holtzhausen, DJ, **Lorenzen, L** & Van Deventer, JSJ, "Recent advances in the simulation of liberation by grinding", 13th Annual US/UCT/SAIMM Mineral Processing Symposium, Gordon's Bay, 4-5 August 1994, page 6
13. De Villiers, PGR, **Lorenzen, L** & Van Deventer, JSJ, "The selective extraction of species from slurries of insoluble solids with ion-exchange resins", 13th Annual US/UCT/SAIMM Mineral Processing Symposium, Gordon's Bay, 4-5 August 1994, page 29
14. Landi, WM, **Lorenzen, L** & Van Deventer, JSJ, "Factors affecting the mechanism of adsorption of As(V) onto activated carbon", 13th Annual US/UCT/SAIMM Mineral Processing Symposium, Gordon's Bay, 4-5 August 1994, page 61
15. Annandale, GJ, **Lorenzen, L** & Van Deventer, JSJ, "A mathematical model for predicting mineral liberation from diagnostic leaching tests", 13th Annual US/UCT/SAIMM Mineral Processing Symposium, Gordon's Bay, 4-5 August 1994, page 11
16. Rademan, JAM, **Lorenzen, L** & Van Deventer, JSJ, "An off-line computer program for controlling re-pulp sections in plants", 13th Annual US/UCT/SAIMM Mineral Processing Symposium, Gordon's Bay, 4-5 August 1994, page 37
17. Liebenberg, SP, Van Deventer, JSJ & **Lorenzen, L**, "A dynamic model for the competitive elution of gold and base metals from activated carbon", 13th Annual US/UCT/SAIMM Mineral Processing Symposium, Gordon's Bay, 4-5 August 1994, page 57
18. Strydom, L, **Lorenzen, L** & Van Deventer, JSJ, "Interference effects in the analysis of metal cyanide complexes using ion-exchange chromatography", Analitika 94, Second National Symposium on Analytical Science, Stellenbosch, 8-13 December 1994, pp 60
19. Rademan, JAM, **Lorenzen, L**, Moolman, DW, Van Deventer, JSJ & Aldrich, C, "A methodology for modelling and analysing an ill-defined leaching process from historical data", 14th Annual US/UCT/SAIMM Mineral Processing Symposium, Somerset West, 3-4 August 1995, page 23
20. Van Jaarsveld, JGS, Van Deventer, JSJ & **Lorenzen, L**, "Detoxification and immobilisation of solid waste by reactive polymerisation", 14th Annual US/UCT/SAIMM Mineral Processing Symposium, Somerset West, 3-4 August 1995, page 2
21. Alberts, CJ, **Lorenzen, L** & Van Deventer, JSJ, "The immobilisation of heavy metals by fly-ash and other waste components", 14th Annual US/UCT/SAIMM Mineral Processing Symposium, Somerset West, 3-4 August 1995, page 4
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23. Barkhuysen, M, Aldrich, C & **Lorenzen, L**, "The kinetics and mechanism of the carbothermic reduction of titaniferous material", 14th Annual US/UCT/SAIMM Mineral Processing Symposium, Somerset West, 3-4 August 1995, page 75
24. De Jager, B, **Lorenzen, L** & Van Deventer, JSJ, "The mechanism and kinetics of the degradation and migration of cyanide in various types of soils", 14th Annual US/UCT/SAIMM Mineral Processing Symposium, Somerset West, 3-4 August 1995, page 74
25. Jansen van Rensburg, AE, Buckle RL, **Lorenzen, L** & Van Deventer JSJ, "The development of a leaching procedure to determine the effectiveness of immobilising nickel as a heavy metal in solid wastes", 14th Annual US/UCT/SAIMM Mineral Processing Symposium, Somerset West, 3-4 August 1995, page 76

26. Botes, FG, **Lorenzen, L** & Van Deventer, JSJ, "The development and modelling of jet reactors", South African Institute of Chemical Engineers, Western Cape Branch, Chemical Engineering R & D '95, Cape Town, 24 November 1995, page 19
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28. Keuler, JN, **Lorenzen, L** & Sanderson, RD, "Preparation and characterisation of electroless palladium plated alumina membranes", South African Institution of Chemical Engineers 8th Annual Meeting (SAICHE '97), Cape Town, 16-18 April 1997, pp 175 (paper published on www, <http://saiche97.che.uct.ac.za>)
29. Saayman, N, Nieuwoudt, I & **Lorenzen, L**, "The use of molecular simulation in an engineering environment", South African Institution of Chemical Engineers 8th Annual Meeting (SAICHE '97), Cape Town, 16-18 April 1997, pp 117 (paper published on www, <http://saiche97.che.uct.ac.za>)
30. Walsdorff, A, Petersen, KRP & **Lorenzen, L**, "Mechanism and kinetics of the migration and degradation of cyanide", Minerals Processing '97, Cape Town, 7-8 August 1997
31. Loftus, BM, **Lorenzen, L** & Petersen, KRP, "The development of a jet reactor for the leaching of valuable minerals", Minerals Processing '97, Cape Town, 7-8 August 1997
32. Du Preez, HS, Petersen, KRP & **Lorenzen, L**, "Modelling of a resin-in-pulp (RIP) reactor", Minerals Processing '97, Cape Town, 7-8 August 1997
33. Els, ER, **Lorenzen, L** & Aldrich, C, "The recovery of platinum group metals from sulphide ores with the use of ion exchange resins", Minerals Processing '97, Cape Town, 7-8 August 1997
34. Petersen, KRP, Schmidt P & **Lorenzen L** "Improved recovery in dust cyclones", Minerals Processing '97, Cape Town, 1997
35. Loftus BM, **Lorenzen L** & Petersen KRP. "The development of a jet reactor for the leaching of valuable metals", International Workshop of Multiphase systems in mineral and chemical processing (SAIMM, National Science Foundation, USA), Randburg, 1997
36. Petersen, KRP, Schmidt, P, & **Lorenzen, L**, "Improved dust recovery in dust cyclones", International Workshop of Multiphase Systems in Mineral and Chemical Processing (SAIMM, National Science Foundation, USA), Cape Town, 1997
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39. Van Dorp, B, **Lorenzen, L**, Petersen, KRP & Reuter, MA "The development of a diagnostic leaching procedure for arsenopyrite ores", Minerals Processing '98, Cape Town, 6-7 August 1998, page OR 14
40. Van Olt, M, Moolman, DW, **Lorenzen, L**, Van Dyk, WA, Stange, WW "An on-line intelligent flotation performance monitoring platform using froth characterisation techniques", Minerals Processing '98, Cape Town, 6-7 August 1998, page OR 43
41. Mouton, DW, Keuler, JN & **Lorenzen, L**, "Characterising palladium-copper alloy membranes using SEM, XRD and PIXE", Chemical Engineering R&D Conference '98, Stellenbosch, 2 November 1998
42. Kleingeld, AW, **Lorenzen, L**, Petersen, KRP & Botes, FG, "The development and modelling of high intensity impinging stream reactors for effective mass transfer", Chemical Engineering R&D Conference '98, Stellenbosch, 2 November 1998
43. Van Coller, C, Aldrich, C & **Lorenzen, L**, "Clustering of multivariate process data with principle curves", Chemical Engineering R&D Conference '98, Stellenbosch, 2 November 1998

44. Naude, N & **Lorenzen, L**, "The optimisation of milling techniques for ilmenite ores", Minerals Processing '99, Cape Town, 5-6 August 1999, page OR 30
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47. Pienaar, J & **Lorenzen, L**, "Characterisation of the degradation of various immobilised matrices containing fly-ash and jarosite during leaching tests", Minerals Processing '99, Cape Town, 5-6 August 1999, page PS 10
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49. Qi, B, Zhang, RZ, **Lorenzen, L** & Aldrich, C., "The influence of soluble electrolytes on the apparent viscosity of coal-water mixtures", Minerals Processing '99, Cape Town, 5-6 August 1999, page PP 08
50. Kleingeld, AW, **Lorenzen, L** & Botes, FG, "The development and modelling of high intensity impinging stream reactors for effective mass transfer in heterogeneous systems", Chemical Engineering R&D Conference, SAChE Western Cape Branch, 1999, PS 07
51. Bezuidenhout, S, **Lorenzen, L**, Hayward, DJ, Prozesky, V & Barnardt, N, "The development of a management system for the treatment and purification of effluent water from the fruit industries (Wineries, Wine Distillation and Juice Plants)", WISA 2000, 28 May – 1 June 2000, Sun City, South Africa, WISA 177, pp 57 – 58 (full paper on CD-Rom, 10 pages)
52. Groenewald, JW de V, **Lorenzen, L**, & Kleingeld, AW, "The development of new generation jet-and impinging stream reactors for the mineral processing industries", Mineral Processing 2000, Cape Town, 24 – 25 August 2000, page OR 13
53. Gokhale, C, **Lorenzen, L** & Van Deventer, JSJ, "The immobilisation of organic waste by Geopolymerisation", Mineral Processing 2000, Cape Town, 24 – 25 August 2000, page OR 21
54. Qi, B & **Lorenzen, L**, "The development of a diagnostic leaching procedure for the selective dissolution of platinum group metals", Mineral Processing 2000, Cape Town, 24 – 25 August 2000, pages PP 09 – PP 10
55. Kleingeld, AW & **Lorenzen, L**, "The development of high intensity impinging stream reactors for effective mass transfer", SAChE 2000, 9th National Chemical Engineering Meeting, Secunda, Mpumalanga, 9-12 October 2000, pp 227-234 (published on CD-Rom)
56. Keuler, JN & **Lorenzen, L**, "The use of palladium films for hydrogen separation and the application thereof in a membrane reactor", SAChE 2000, 9th National Chemical Engineering Meeting, Secunda, Mpumalanga, 9-12 October 2000, pp 123-133 (published on CD-Rom)
57. Gokhale, C, **Lorenzen, L** & Van Deventer, JSJ, "The immobilisation of organic solid and liquid waste by reactive polymerisation", SAChE 2000, 9th National Chemical Engineering Meeting, Secunda, Mpumalanga, 9-12 October 2000, pp 873 (published on CD-Rom)
58. Qi, B, Aldrich, C, & **Lorenzen, L**, "Biodegradation of lignocellulose in simulated acid rain", SAChE 2000, 9th National Chemical Engineering Meeting, Secunda, Mpumalanga, 9-12 October 2000, pp 926-927 (published on CD-Rom)
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60. Hayward, DJ, Bezuidenhout, S, Barnardt, N & **Lorenzen, L**, "The evaluation of dissolved air flotation as a possible effluent treatment technology: The R&R dissolved air flotation/ozone plant", Mineral Processing 2001, Cape Town, 2-3 August 2001

61. Fourie, PJ & **Lorenzen, L**, "Comparison of carousel and continuous modes of resin transfer on the metallurgical performance of a RIP Plant", Mineral Processing 2001, Cape Town, 2-3 August 2001, PS 10
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64. **Lorenzen, L**, Marais, D, Hayward, DJ, & Bezuidenhout, S, "A combined coagulation-sedimentation and ozone study as a treatment technology for winery wastewater", 25th S.A.S.E.V. Congress, Somerset West, 15-16 November 2001, L 11
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77. Jordaan, L, **Lorenzen, L**, Walsdorff, A, Els, ER & Barnardt, CA, "Evaluation and commissioning of a sedimentation unit for winery effluent treatment, Report to Fredericksburg, Rupert and Rothschild, 2001, 86 pages
78. Hayward, DJ, Bezuidenhout, S, Barnardt, CA, **Lorenzen, L**, van Schoor, L & Trerise, M, "Preliminary sampling and monitoring guide for wastewater and soil", Winetech Publication, 2002, 39 pages
79. Hayward, DJ, Bezuidenhout, S, Barnardt, CA, **Lorenzen, L**, Walsdorff, A & Snyders, H, "Preliminary EMS Implementation Guide – Practical Considerations", Winetech Publication, 2002, 49 pages
80. Hayward, DJ, Bezuidenhout, S, Barnardt, CA, **Lorenzen, L**, "Sampling and monitoring guide for wastewater and soil", Winetech Publication, 2003, 41 pages
81. Hayward, DJ, Bezuidenhout, S, **Lorenzen, L** & Walsdorff, A, "EMS Implementation Guide – Practical Considerations", Winetech Publication, 2003, 55 pages
82. Hayward, DJ, Bezuidenhout, S, Watson, M & **Lorenzen, L**, "Winetech Environmental Management Guide: Volume 1: Overview of Guidelines and Summaries", Report to Winetech, 2003, 58 pages

F. BHP Billiton

83. **Lorenzen, L**, Eight major reports, 2008 - 2009

G. Snowden

84. **Lorenzen, L**, More than forty studies/reports, December 2009 – August 2013

H. Mintrex

85. **Lorenzen, L**, More than twelve studies/reports, September 2013 – June 2015

I. Lorenzen Consultants

86. Lorenzen, L, AngloGold Ashanti Tropicana HCN Gas Desktop Review Report, July 2015, 1488-AGG, 30 pages (report via Mintrex)

87. **Lorenzen, L**, AngloGold Ashanti Tropicana Process Optimisation Review Report, August 2015, 1494-AGG, 14 pages (report via Mintrex)
88. **Lorenzen, L**, Paulsens Mine Process Review Report, September 2015, 1501-NSR, 26 pages
89. **Lorenzen, L**, Paulsens Mine Cyanide Audit Report, September 2015, 1501-NSR, 32 pages
90. **Lorenzen, L**, Project Royal Confidential Report, October 2015, 1504-NSR, 11 pages
91. **Lorenzen L & Ngo H**, Galaxy Mt Cattlin High Level Process Plant review and Estimate Report, November 2015, 1522-GXY, 16 pages (report via Mintrex)
92. **Lorenzen, L**, Future Iron Ore Production Systems Review Report, December 2015, 1505 BHP, 23 pages
93. **Lorenzen, L**, Sampling Course, Curtin University, December 2015, 1506-CNU, 102 slides
94. **Lorenzen, L**, AngloGold Ashanti Tropicana Sampling Review Report, May 2016, 1482-AGG, 9 pages (report via Mintrex)
95. **Lorenzen, L & White D**, BHP Billiton TGP&E Innovative Extraction and Processing Development Plan, 1507-BHP, November 2015 to February 2016, Excel Worksheet Report for Projects
96. **Lorenzen L**, BHP Billiton TGP&E Innovative Extraction and Processing Development, 1509-BHP, March 2016 to August 2016, Technology Scans and Value added products for Iron Ore, Coal and Oil and Gas (three reports and three presentations)
97. **Lorenzen, L**, Snowden Mining Consultants (Part of Downer), 1511-Snowden to 1515 Snowden, Various Due Diligence projects on mergers and acquisitions, October 2016 to January 2017

J Editor of Proceedings

98. **Lorenzen, L**, Bradshaw, DJ, Aldrich, C, Eksteen, JJ, Wright, M & Thom, E, Proceedings of the XXII International Mineral Processing Congress, Volumes 1, 2 and 3 (In Total 1860 pages) as well as the Book of Abstracts of the XXII International Mineral Processing Congress (pages), Cape Town, South Africa, 29 September 2003- 3 October 2003, ISBN 0-958-46092-2, Published by SAIMM
99. Deschenes, G, Hodouin, D & **Lorenzen, L**, " Treatment of Gold Ores", 44th Annual Conference of Metallurgists, COM 2005, Calgary, 21-24 August 2005, ISBN 1-894475-60-7, Published by Met Soc, Canada

SUPERVISOR FOR POST-DOCTORAL FELLOWS AND OTHER RESEARCHERS

1. **Mr DJ HAYWARD**, Development of new mineral processing systems, geopolymers and 1995-2003, (Winetech, Research Group Funds, University Funds and Techpros Funds)
2. **Mr S BEZUIDENHOUT**, The development of an integrated management plan for the handling, treatment and purification of effluent in the wine, spirits and grape juice industries, 1998- 2004 (Winetech and Techpros Funds)
3. **Dr CJ BARNARD**, The development of an integrated management plan for the handling, treatment and purification of effluent in the wine, spirits and grape juice industries, 1999- 2003 (Winetech, WRC and Techpros Funds)
4. **Dr BC QI (Ms)**, Bio-disposal of lignocellulose waste and Diagnostic Leaching, 1999-2003 (Research Group and University Funds)
5. **Ms M TRERISE**, The development of an integrated management plan for the handling, treatment and purification of effluent in the wine, spirits and grape juice industries, 1999 – 2002 (Winetech and University Funds)

6. **Ms A WALSDORFF**, The development of an integrated management plan for the handling, treatment and purification of effluent in the wine, spirits and grape juice industries, 2000 – 2004 (Winetech and Techpros Funds)
7. **Mr B SCHUTTE**, Waste Management in Wine Industry and Fly ash systems at Sasol 2 and 3, 2001 – 2004 (Winetech, Sasol and Research Group Funds)
8. **Ms M VON PRESINTIN (nee van Kraayenburg)**, The development of an integrated management plan for the handling, treatment and purification of effluent in the wine, spirits and grape juice industries, 2002 – 2004 (Winetech and Techpros Funds)
9. **Dr VM PROZESKY**, The development of an integrated management plan for the handling, treatment and purification of effluent in the wine, spirits and grape juice industries, Corporate Governance Training, 2003-2005 (Winetech, Research Group, Techpros and University Funds)
10. **Dr N MUSEE**, Environmental Systems and Engineering, 2005 to present (University Funds)
11. **Dr M ONYANGO**, Reactive Systems and Membranes, 2006 to present (University Funds)

SUPERVISOR FOR COMPLETED DOCTORAL THESES

1. **JAM RADEMAN**, "The simulation of a transient leaching circuit", *PhD (Eng) (Metallurgical Engineering)*, December 1995 (Co-supervised by Prof JSJ van Deventer)
2. **N SAAYMAN**, "Molecular simulation of thermodynamics in liquid mixtures - A mean field approach", *PhD(Eng) (Chemical Engineering)*, December 1996 (Co-supervised by Prof I Nieuwoudt)
3. **W.A. VAN DYK**, "The effect of physical parameters on the rupture of bubble films in two-phase foams", *PhD(Eng) (Metallurgical Engineering)*, December 1999 (Co-supervised by Prof JSJ van Deventer)
4. **JSJ VAN DEVENTER**, "Contributions to the mechanisms and simulation of Mineral Processing Operations", *DEng (Metallurgical Engineering)*, December 1999
5. **JGS VAN JAARSVELD**, "The detoxification and immobilisation of solid and liquid wastes by reactive polymerisation", *PhD (Chemical Engineering)*, September 2000 (Co-supervised with Prof JSJ van Deventer from The University of Melbourne, Australia)
6. **ER ELS**, "The adsorption characteristics of precious and base metals on four different ion exchange resins", *PhD(Eng) (Chemical Engineering)*, December 2000 (Co-supervised by Prof C Aldrich)
7. **JN KEULER**, "Optimising catalyst and membrane performance and performing a fundamental analysis on the dehydrogenation of ethanol and 2-butanol in a catalytic membrane reactor", *PhD(Eng) (Chemical Engineering)*, December 2000 (Co-supervised by Prof RD Sanderson)
8. **DJ HOLTZHAUSEN**, "The development of a reactor for the manufacture of zinc electrodes for a silver oxide-zinc battery", *PhD(EngSci) (Metallurgical Engineering)*, December 2000
9. **BC QI (Ms)**, "The bio-disposal of lignocellulose substances with activated sludge", *PhD (Eng) (Metallurgical Engineering)*, March 2001 (Co-supervised by Prof C Aldrich)
10. **PGR DE VILLIERS**, "The use of ion-exchange resins for the recovery of valuable species from slurries of sparingly soluble solids", *PhD (Metallurgical Engineering)*, December 2002 (Co-supervised by Prof JSJ van Deventer from The University of Melbourne, Australia)
11. **AW KLEINGELD**, "Project radicalness and maturity: A contingency model for the importance of enablers to technological innovation", *PhD (Chemical Engineering)*, April 2003 (Co-supervised with Dr VE Ross from De Beers)
12. **K McINTOSCH**, "The systems engineering of automated fire assay laboratories for the analysis of precious metals", *PhD (Chemical Engineering Science)*, December 2004 (Co-supervised with Dr JJ Eksteen and Prof K Koch)

13. **N MUSEE**, "An Integrated Approach to Waste and Energy Minimization in the Wine Industry: A Knowledge-Based Decision Methodology", *PhD (Chemical Engineering Science)*, December 2004 (Co-supervised by Prof C Aldrich)
14. **L VAN DYK (Ms)**, "Evaluation and improvement of dehydrogenation conversion and isomerisation selectivity in an extractor Catalytic Membrane Reactor", *PhD (Chemical Engineering)*, April 2005 (Co-supervised by Dr Sylvain Miachon from CNRS, Lyon, France)
15. **CT O'CONNOR**, "Contributions to an improved understanding of the flotation of ores", *DEng (Metallurgical Engineering)*, December 2005
16. **W BANDA**, "Determination of the liquidus temperatures in the iron-rich portion of the Co-Cu-Ni-Fe-Se Alloy system" *PhD (Metallurgical Engineering)*, December 2006 (co-supervised with Prof JJ Eksteen and Prof C Lang)
17. **R LAMYA**, "A fundamental evaluation of the atmospheric pre-leaching section of the nickel-copper matte treatment process", *PhD (Metallurgical Engineering)*, March 2007
18. **N NAUDE (Ms)**, "Evaluation and modelling of a mineral density separator", *PhD (Metallurgical Engineering)*, March 2010 (co-supervised by Dr VE Kolesnikov and Prof C Aldrich)
19. **M DARAMOLA**, "Characterisation and optimization of an extractor-type catalytic membrane reactor for meta-xylene isomerisation over Pt-HZSM-5 catalyst", *PhD (Chemical Engineering)*, December 2010 (co –supervised with Prof AJ Burger and Dr A Girior-Fendler)
20. **W SWART**, "The economic feasibility of commercial biodiesel production in South Africa including sensitivity analysis for important plant and related parameter", *PhD (Chemical Engineering)*, March 2012 (co –supervised by Prof JH Knoetze)

SUPERVISOR FOR COMPLETED MASTERS THESES (RESEARCH)

1. **JPW VAN DER WESTHUYSEN**, "Mathematical model for the thermal regeneration of spent activated carbon", *MEng (Mineral Processing)*, March 1993 (Co-supervised by Prof JSJ van Deventer)
2. **M PRETORIUS (nee VAN MEERSBERGEN) (Mrs)**, "The electrochemical dissolution of gold in bromide medium", *MEngSci (Mineral Processing)*, December 1993 (Co-supervised by Prof JSJ van Deventer)
3. **WM LANDI (nee KEMP) (Mrs)**, "The adsorption of arsenic by activated carbon", *MEng (Mineral Processing)*, December 1994
4. **GJ ANNANDALE**, "An evaluation of liberation models for the prediction of diagnostic leaching results", *MEng (Mineral Processing) cum laude*, December 1995 (Co-supervised by Prof JSJ van Deventer)
5. **SP LIEBENBERG**, "The dynamics of multi-component elution of metal cyanides from activated carbon", *MEng (Mineral Processing)*, December 1995 (Co-supervised by Prof JSJ van Deventer)
6. **S CROUS (nee VAN RENSBURG) (Mrs)**, "The use of hollow-fibre carbon membranes in the catalytic conversion of cyclohexane", *MEng (Mineral Processing)*, December 1995 (Co-supervised by Proff C. Aldrich and R. Sanderson)
7. **FG BOTES**, "The development and modelling of jet reactors", *MEng (Mineral Processing) cum laude*, March 1996 (Co-supervised by Prof JSJ van Deventer)
8. **BF CHEMALY**, "Modelling of the transport phenomena in an air gap membrane distillation unit", *MEng (Chemical Engineering)*, March 1996 (Co-supervised with Proff R. Sanderson & C. Aldrich)
9. **CJ ALBERTS**, "The immobilisation of inorganic pollutants in fly-ash and other waste components", *MEng (Mineral Processing)*, December 1996 (Co-supervised by Prof JSJ van Deventer)

10. **AE HEINE (nee JANSEN VAN RENSBURG) (Mrs)**, "The leaching of solid wastes to determine the effectiveness of immobilising heavy metals and organic materials", *MEng Mineral Processing*, December 1997 (Co-supervised by Prof JSJ van Deventer)
11. **R VAN ZYL (nee BUCKLE) (Mrs)**, "The immobilisation of heavy metal ions in metallurgical wastes", *MEng (Mineral Processing) cum laude*, December 1997 (Co-supervised by Prof. JSJ van Deventer)
12. **JN KEULER**, "Preparation and characterisation of palladium composite membranes", *MEng (Chemical Engineering) cum laude*, December 1997 (Co-supervised by Prof R Sanderson)
13. **AF DU PREEZ**, "The modelling of mass transfer and equilibrium controlled competitive elution from activated carbon", *MEng Mineral Processing*, March 1998 (Co-supervised by Prof JSJ van Deventer)
14. **M VAN OLST**, "A real-time model for flotation by on-line characterisation of the froth phase", *MEng (Mineral Processing) cum laude*, December 1998 (Co-supervised by Dr DW Moolman)
15. **H VAN ZYL (nee VAN HEERDEN) (Mrs)**, "Ex-situ bioremediation of hydrocarbon contaminated soil using the biopile technique", *MSc(Eng) (Chemical Engineering) cum laude*, December 1998
16. **A WALSDORFF (Ms)**, "The effect of copper on the degradation of cyanide in soils", *MSc(Eng) (Chemical Engineering) cum laude*, March 1999 (Co-supervised by Dr KRP Petersen)
17. **HS DU PREEZ (Deceased)**, "The modelling of the response of a resin in pulp reactor", *MEng (Mineral Processing)*, March 1999 (Co-supervised with Dr KRP Petersen)
18. **BM LOFTUS**, "The design of a jet reactor for the treatment of gold ores", *MEng (Mineral Processing)*, December 1999
19. **N NAUDÉ, (Mrs)**, "The optimisation of milling techniques for ilmenite ore", *MSc(Eng) (Mineral Processing)*, December 1999
20. **CS VAN COLLER, (Ms)**, "Cluster analysis and classification of process data by use of principle curves", *MSc(EngSci) Mineral Processing*, December 1999 (Co-supervised with Prof C Aldrich)
21. **AW KLEINGELD**, "The development and modelling of impinging stream reactors for effective mass transfer", *MSc(Eng) (Chemical Engineering) cum laude*, March 2000
22. **PW MARÉ**, "Ex-situ soil washing of Diesel contaminated soil using impinging stream reactors and selective soft self attrition", *MSc(Eng) (Chemical Engineering)*, March 2000
23. **J HANEKOM (nee PIENAAR), (Mrs)**, "Degradation characterisation of various geo-chemical matrices during leaching", *MSc(Eng) (Mineral Processing)*, March 2000
24. **LJ KOEN**, "Ultrasonic-time-domain-reflectometry as a real time non-destructive visualisation technique of concentration polarisation and fouling of reverse osmosis membranes", *MSc(Eng) (Chemical Engineering)*, December 2000 (Co-supervised by Prof RD Sanderson)
25. **S DUMBU**, "Some aspects of ferrohydrostatic separation of minerals and the recycling of ferrofluid", *MSc(Eng) (Mineral Processing)*, March 2001 (Co-supervised by Dr J Svoboda and Dr KRP Petersen)
26. **D BURTON (nee MARAIS) (Mrs)**, "The development of an audit procedure and treatment technologies for Rupert and Rothschild Vignerons' Winery wastewater", *MSc(EngSci) (Chemical Engineering) cum laude*, March 2001
27. **N VAN DE VEN - LORENZ (Mrs)**, "The manufacture and evaluation of ceramic membranes", *MSc(Eng) (Chemical Engineering)*, December 2001 (Co-supervised by Prof I Nieuwoudt)
28. **B HUTTON, (Ms)**, "Evaluation of vibrating plate extraction column performance by application of a steady state and unsteady state backflow models", *MSc(Eng) (Chemical Engineering) cum laude*, December 2001

29. **C GOKHALE, (Ms)**, “The immobilisation of organic waste by geopolymerisation“, *MSc(EngSci) (Chemical Engineering) cum laude*, December 2001 (Co-supervised by Prof JSJ van Deventer from the University of Melbourne, Australia)
30. **M DREW (Ms)**, “Optimization of Ion Exchange Juice Treatment plant at Ashton Cellars“, *MSc(Eng) (Chemical Engineering)*, December 2001(Co-supervised by Dr ER Els)
31. **T NIEUWOUDT (Mrs)**, “The separation of alcohols“, *MSc(Eng) (Chemical Engineering)*, March 2002 (Co-supervised by Prof I Nieuwoudt)
32. **JW DE VILLIERS GROENEWALD**, “Modelling and control of an autogenous mill using state space methodology and neural networks“, *MSc(Eng) (Mineral processing) cum laude*, December 2002 (Co-supervised with Prof C. Aldrich and Mr JJ Eksteen)
33. **EW THERON (nee KOCH) (Mrs)**, “An investigation of the chemistry involved in the mixing of an industrial effluent with fine ash“, *MSc(Eng) (Chemical Engineering) cum laude*, December 2002 (Co-supervised by Mr B Schutte)
34. **CM SHERIDAN**, ““A critical process analysis of wine production to improve cost, efficiency wine quality and environmental performance“, *MSc (Wine Biotechnology)*, April 2003 (Co-supervised by Dr F Bauer from The Institute of Wine Technology)
35. **D W MOUTON**, “The development of a membrane reactor for the dehydrogenation of isopropanol“, *MSc(Eng) (Chemical Engineering)*, April 2003 (co-supervised by Dr JN Keuler from Sasol)
36. **MA PELSER**, “The control of calcium and magnesium in a Base metal Sulphate leach solution“, *MSc(Eng) (Mineral Processing) cum laude*, April 2003 (Co-supervised by Prof C Aldrich and Mr JJ Eksteen)
37. **S BEZUIDENHOUT**, “Advantages associated with the implementation and integration of environmental management systems in small manufacturing businesses“, *MEng (Chemical Engineering)*, December 2003
38. **MJ LOEDOLF**, “Discolouring of Grape Juice Concentrate – Causes and Possible ways of inhibitions“, *MSc(Eng) (Chemical Engineering)*, December 2004
39. **JA VAN DEN BERG Jnr**, “The utilisation of the ash disposal system as a salt sink: Enhancement and optimisation of chemical interactions“, *MSc(Eng) (Chemical Engineering)*, December 2004 (co-supervised by Mr B Schutte)
40. **PJ VAN ZYL**, “Process development and commissioning of a bioreactor for mass culturing of USAB granules by process induction and microbial stimulation” *MSc(Eng) (Chemical Engineering)*, April 2005 (co-supervised by Dr ER Els)
41. **KA WILKIE**, “The development of an integrated management system in the personal care products industry“, *MSc(Eng) (Chemical Engineering)*, April 2005
42. **M. LADOUÇÈ (TRERISE) (Ms)**, “Evaluation of primary and secondary treatment of distillery wastewaters“, *MSc(EngSci) (Chemical Engineering)*, April 2005
43. **B TIAN (Ms)**, “Modified electroless plating technique for preparation of palladium composite membranes“, *MSc(Eng) (Chemical Engineering)*, December 2005 (co-supervised by Prof AJ Burger)
44. **M. KWATARA**, “Chromium deportment in copper matte equilibrated with CrxO-containing slag“, *MSc(Eng) (Mineral Processing)*, April 2006 (co-supervised by Prof J.J. Eksteen)
45. **V MEMA**, “Identification of extraction methods for the production of humic acids from black liquor“, *MSc(Eng) (Chemical Engineering)*, December 2006 (Co-supervised by Dr JF Görgens)
46. **Y MAREE (nee MUNTINGH (Mrs)**, “Durability and diffusive behaviour evaluation of geopolymeric materials’, *MSc(Eng) (Chemical Engineering) cum laude*, December 2006 (co-supervised by Prof JSJ van Deventer)
47. **M NOLTE**, “An economic feasibility study of biodiesel plants in Southern Africa“, *MSc(Eng) (Chemical Engineering)*, March 2007

48. **MJ BARNARD (nee LOTTERING (Mrs))**, "Characterisation of the uranium leaching behaviour of low grade Vaal River ores", *MScEng (Mineral Processing) cum laude*, December 2007
49. **D PALMER**, "The development of a biofuels engine testing facility", *MScEng (Chemical Engineering)*, December 2008 (co-supervised by Mr SJ van der Spuy)
50. **T SHUMBA**, "Removal of heavy metals from CRUD and slime dam material using soil washing and bioremediation", *MScEng (Mineral Processing)*, December 2008
51. **J LOUW (nee DU PREEZ) (Mrs)**, "Treatment of typical South African milking parlour by means of anaerobic sequencing batch reactor technology", *MScEng (Chemical Engineering) cum laude*, March 2010 (co-supervised by Prof AJ Burger)
52. **J KOTZE**, "A comparative study on the performance of biodiesel in a modern 1.9 turbo diesel; engine", *MScEng (Chemical Engineering)*, March 2010 (co-supervised with Mr SJ van der Spuy)
53. **E PRAH**, "Biodiesel analytical development and characterisation", *MScEng (Chemical Engineering)*, March 2010 (co-supervised by Dr L Callanan)

SUPERVISOR FOR COMPLETED POST- GRADUATE DIPLOMA IN ENGINEERING

1. **M BARKHUYSEN**, "The kinetics and mechanism of the carbothermic reduction of titanium containing material", *NDI (Mineral Processing)*, December 1996 (Co-supervised by Prof C. Aldrich)
2. **B MULCAHY (nee DE JAGER) (Mrs)**, "The mechanism and kinetics of the degradation and migration of reactive and non-reactive species in various types of soils", *NDI (Mineral Processing)*, December 1996 (Co-supervised by Prof J.S.J. van Deventer)
3. **PJ FOURIE**, "Comparison of carousel and continuous modes of resin transfer on the Metallurgical Performance of a RIP Plant", *NDI (Mineral Processing)*, December 2001
4. **A HANEKOM (nee SINDLE) (Mrs)**, "Survey of possible applications of geopolymers for the disposal of radioactive mine waste", *NDI (Chemical Engineering) cum laude*, December 2002
5. **DJ HAYWARD**, "Development of an urban industrial metabolism model of the BRV Winelands to assess for sustainable development", *NDI (Environmental Engineering)*, April 2003
6. **HA VAN ZYL**, "Facilitated transport of alkenes (alpha olefins C6-C8) through metal ion impregnated membranes", *NDI (Chemical Engineering)*, April 2005