**Fakulteit Ingenieurswese/Faculty of Engineering**

**Universiteit Stellenbosch/Stellenbosch University**

**Navorsingsuitsette 2015 Research Output**

**Departement Bedryfsingenieurswese**

**Department of Industrial Engineering**

**Tydskrifartikels/Journal Articles (subsidised)**

ASEKUN OO, FOURIE CJ. Selection of a Decision Model for Rolling Stock Maintenance Scheduling. *South African Journal of Industrial Engineering* 2015; **26**(1):135-149.

BECKER TH, VAN ROOYEN M, DIMITROV DM. Heat Treatment of TI-6AL-4V produced by LaserCUSING. *South African Journal of Industrial Engineering* 2015; **26(2)**:93-103.

BEZUIDENHOUT MB, DIMITROV DM, VAN STADEN ADP, OOSTHUIZEN GA, DICKS LMT. Titanium-Based Hip Stems with Drug Delivery Functionality through Additive Manufacturing. *Biomed Research International* 2015; **2015**(134093):1-11.

BEZUIDENHOUT MB, VAN STADEN ADP, OOSTHUIZEN GA, DIMITROV DM, DICKS LMT. Delivery of Antibiotics from Cementless Titanium-Alloy Cubes May Be a Novel Way to Control Postoperative Infections. *Biomed Research International* 2015; **2015**(856859):1-7.

BURGER AP, DE VILLIERS AP, VAN VUUREN JH. Edge criticality in secure graph domination. *Discrete Optimization* 2015; **18**:111-122.

BURGER AP, DE VILLIERS AP, VAN VUUREN JH. Edge stability in secure graph domination. *Discrete Mathematics and Theoretical Computer Science* 2015; **17**(1):103-122.

BURGER AP, JACOBS CG, VAN VUUREN JH, VISAGIE SE. Scheduling multi-colour print jobs with sequence-dependent setup times. *Journal of Scheduling* 2015; **18**(2):131-145.

COETZEE D, BRENT AC. Perceptions of professional practitioners and property developers relating to the costs of green buildings in South Africa. *Journal of the South African Institution of Civil Engineering* 2015; **57**(4):12-19.

CONRADIE PDF, FOURIE CJ, VLOK P, TREURNICHT N. Quantifying System Reliability in Rail Transportation in an Ageing Fleet Environment. *South African Journal of Industrial Engineering* 2015; **26**(2):128-142.

CONRADIE PJT, OOSTHUIZEN GA, DIMITROV DM, SAXER M. Effect of Milling Strategy and Tool Geometry on Machining Cost when Cutting Titanium Alloys. *South African Journal of Industrial Engineering* 2015; **26**(3):137-151.

DIAZ LOPEZ F, MONTALVO C. A comprehensive review of the evolving and cumulative nature of eco-innovation in the chemical industry. *Journal of Cleaner Production* 2015; **2015**(102):30-43.

GEYER RW, FOURIE CJ. Determining the Suitability of a Business Process Modelling Technique for a Particular Application. *South African Journal of Industrial Engineering* 2015; **26**(1):252-266.

GIGLMAYR S, BRENT AC, GAUCHE P, FECHNER H. Utility-scale PV power and energy supply outlook for South Africa in 2015. *Renewable Energy* 2015; **83**:779-785.

HEYNS AM, VAN VUUREN JH. An Evaluation of the Effectiveness of Observation Camera Placement within the MeerKAT Radio Telescope Project. *South African Journal of Industrial Engineering* 2015; **26**(2):10-25.

JOOSTE JL, VLOK P. A Decision Support Model to Determine the Critical Success Factors of Asset Management Services. *South African Journal of Industrial Engineering* 2015; **26**(1):27-43.

KENNON D, SCHUTTE CSL, LUTTERS D. An alternative view to assessing antifragility in an organisation: A case study in a manufacturing SME. *Cirp Annals-Manufacturing Technology* 2015; **2015**(64):177-180.

KENNON D, SCHUTTE CSL. A Strategic Framework For Improbable Circumstances. *South African Journal of Industrial Engineering* 2015; **26**(2):68-84.

KRAUSE W, SCHUTTE CSL. A Perspective on Open Innovation in Small- and Medium-Sized Enterprises in South Africa, and Design Requirements for an Open Innovation Approach. *South African Journal of Industrial Engineering* 2015; **26**(1):163-178.

LINDNER BG, VLOK P, WESSELS CB. Determining optimal primary sawing and ripping machine settings in the wood manufacturing chain. *Southern Forests* 2015; **1**:1-11.

MUSANGO JK, BRENT AC. A roadmap framework for solar aided power generation in South Africa. *Journal of Energy in Southern Africa* 2015; **26**(4):2-15.

POTGIETER L, VAN VUUREN JH, CONLONG DE. The role of heterogeneous agricultural landscapes in the suppression of pest species following random walk dispersal patterns. *Ecological Modelling* 2015; **306**:240-246.

ROMMELSPACHER KO, FOURIE CJ. The Applicability of the Centeno, Chaudhary and Lopez Repair Time Standard Methodology in a Rail Maintenance Environment. *South African Journal of Industrial Engineering* 2015; **26**(3):183-193.

ROUX A, VAN VUUREN JH. A linear algorithm for (r , s)-domination of a tree. *Utilitas Mathematica* 2015; **96**:209-216.

SCHOEMAN JS, VLOK P. Estimating residual life of equipment using subjective covariates. *R&D Journal* 2015; **2015**(31):52-59.

VAN BAALEN SM, SCHUTTE CSL, VON LEIPZIG KH. Capacity self-assessment as a catalyst for improved municipal service delivery. *Journal of the South African Institution of Civil Engineering* 2015; **57**(1):2-15.

VAN DEN HONERT AF, VLOK P. Estimating the Continuous Risk of Accidents Occurring in the Mining Industry in South Africa. *South African Journal of Industrial Engineering* 2015; **26**(3):71-85.

VAN DER MERWE C, VAN RENSBURG A, SCHUTTE CSL. An Engineering Approach to an Integrated Value Proposition Design Framework. *South African Journal of Industrial Engineering* 2015; **26**(1):59-74.

VON LEIPZIG KH, DIMITROV DM. Cluster Development in the SA Tooling Industry. *South African Journal of Industrial Engineering* 2015; **26**(3):110-124.

WALWYN DR, BRENT AC. Renewable energy gathers steam in South Africa. *Renewable & Sustainable Energy Reviews* 2015; **2015**(41):390-401.

**Tydskrifartikels/Journal Articles (NON-subsidised)**

GARIKAYI T, MATOPE S, VAN DEN HEEVER DJ. Development of an adaptive controller for lower limb rehabilitation device. *International Jnl of Mechanical Engineering & Automation* 2015; **2**(6):245-256.

TORA E, VAN NIEKERK JL, FOUCHE E, BRENT AC. State of the art on modelling techniques for renewable energy integration into the energy mix. *International Journal of Advanced Information Science and Technology (IJAIST)* 2015; **40**(40):204-215.

VAN HEERDEN MA, VLOK P. Proposing a Holistic Physical Asset Management Strategy to Implement in Food and Beverage Industries in South Africa. *Journal of Food Science and Quality Management* 2015; **35**:83-98.

**Verrigtinge Internasionaal/Proceedings International**

BRADLEY ME, MATOPE S. *Improvement of a Production Line through the Applicationo of Lean Techniques: A Case Study of Refrigerator Assembly*. In: Muzenda E, Yingthawornsuk T (eds.) 7th International Conference on Latest Trends in Engineering and Technology (ICLTET'2015), Pretoria, South Africa, International Institute of Engineers 2015: 112-115.

BRENT AC. *Solar Energy RDI Roadmap for South Africa*. In: Meyer JP (ed.) SASEC 2015 Third Southern African Solar Energy Conference, Kruger National Park, South Africa, SASEC2015/University of Pretoria 2015: 48-53.

BUTCHER CE, SCHUTTE CSL. *Technology Selection Framework for Port Development Projects*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, IAMOT 2015: 1064-1081.

CONRADIE FW, OOSTHUIZEN GA, SACKS N, SAXER M. *The Effect of Titanium Alpha Case on the Wear of Indexable Carbide Cutters*. In: De Vaal PL, Fuller G (eds.) Eleventh International Tribology Conference of the South African Institute of Tribology, Pretoria, South Africa, SAIT 2015: (035) 1-10.

CONRADIE PDF, FOURIE CJ. *Using Reliability Based Maintenance in a Railway Application*. In: Forde MC (ed.) Railway Engineering-2015, Edinburgh, United Kingdom, University of Edinburgh 2015: 1409(1-14).

CRONJE GF, MATOPE S. *Polyurethane Grippers as a Substitute for Vacuum Grippers: A Case Study in an Electronics Environment*. In: Muzenda E, Yingthawornsuk T (eds.) 7th International Conference on Latest Trends in Engineering and Technology (ICLTET'2015), Pretoria, South Africa, International Institute of Engineers 2015: 122-125.

DE VILLIERS JU, MUSANGO JK, BRENT AC. *a System dynamics model of the individual decisions of a salaried employee in saving for retirement*. Thirty-second International System Dynamics Conference, New York, USA, System Dynamics Society 2015: 1-26.

DEWA MT, VAN DER MERWE AF, MATOPE S. *Holonic Control System: Reference Design Architecture for South African Tooling Industries Clusters*. In: Dessouky MI (ed.) 45th International Conference on Computers & Industrial Engineering, Metz, France, Universite De Lorraine 2015: D4 238-245.

DEWA MT, VAN DER MERWE AF, MATOPE S. *Towards A Competitive South African Tooling Industry*. 17th International Conference on Industrial Engineering (ICIE 2015)(Waset, Volume 9 (11)), Cape Town, South Africa, WASET 2015: 13-18.

DUMINY L, BRENT AC, MUSANGO JK. *Commercial Fishing and Aquaculture Implications of a Green Economy Transition in the Western Cape*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, IAMOT 2015: 2011-2025.

ENEVER AA, OOSTHUIZEN GA, SACKS N. *Wear Effects of Custom Tungsten Carbide Grinding Wheel*. In: De Vaal PL, Fuller G (eds.) Eleventh International Tribology Conference of the South African Institute of Tribology, Pretoria, South Africa, SAIT 2015: (041) 1-10.

FLYNN JR, VLOK P. *Lean Approaches in Asset Management within the Mining Industry*. In: Amadi-Echendu J (ed.) 9th World Congress on Engineering Asset Management, Pretoria, South Africa, Springer International 2015: 101-118.

GANDURI L, VAN DER MERWE AF, MATOPE S. *Economic model for the production of spirit, inulin and syrup from the locally eco-friendly agave americana*. In: Caggiano A (ed.) 3rd CIRP Global Web Conference on Production Engineering (CIRPe2014), Amsterdan, Netherlands, Elsevier 2015: 173-178.

HAGEDORN-HANSEN D, CICHON R, BEZUIDENHOUT MB, DE WET P, HUGO PA, OOSTHUIZEN GA. *Geometric Deviation of Hybrid Parts Produced by Selective Laser Melting*. In: Theron M (ed.) 16th International Rapid Product Development (RAPDASA) Conference, Pretoria, South Africa, CSIR 2015: 1-10.

JONKER WD, BRENT AC, MUSANGO JK. *Modelling the Production of Biofuel within the Western Cape Province, South Africa*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, IAMOT 2015: 501-519.

JOOSTE C, VAN EEDEN J, VAN DYK E. *South African Wine Supply Chain Performance Measurement Framework*. In: Kersten W, Blecker T, Ringle CM (eds.) Hamburg International Conference of Logistics (HICL) 2015, Hamburg, Germany, University of Hamburg 2015: 305-332.

JOOSTE JL, VLOK P. *Identifying the Critical Success Factors for Engineering Asset Management Services - An Empirical Study*. In: Amadi-Echendu J (ed.) 9th World Congress on Engineering Asset Management, Pretoria, South Africa, Springer International 2015: 397-414.

JURA D, OOSTHUIZEN GA, PRETORIUS JHC. *The Evolution of Quality Management Systems to Assist Manufacturing Entrepreneurs in Incubation Clusters*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, University of Pretoria 2015: 1-10.

KRAUSE W, SCHUTTE CSL. *A Framework Towards an Open Innovation Approach for SMES*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, IAMOT 2015: 1026-1045.

KRIEGE L, VLOK P. *Human Resources within ISO 55000 - The Hidden Backbone to the Asset Management System*. In: Amadi-Echendu J (ed.) 9th World Congress on Engineering Asset Management, Pretoria, South Africa, Springer International 2015: 435-449.

LEKWANA MTL, MADYIRA DM, OOSTHUIZEN GA, MAKONESE TN. *CFD evaluation of premixed and non-premixed models as suitable representatives of fixed-bed biomass combustor freeboard*. In: Beute N (ed.) 2015 International Conference on the Domestic Use of Energy, Cape Town, South Africa, CPUT 2015: 203-208.

MABIZELA ST, OOSTHUIZEN GA, PRETORIUS JHC. *Continuous Process Improvement Applies to an Engineering Education System*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, University of Pretoria 2015: 1-19.

MC NAUGHT MD, FOURIE CJ. *A review of critical problems from the desks of chief executive officers in the passenger railway service industry*. In: Brebbia CA (ed.) 21st International Conference on Urban Transport and the Environment (Urban Transport XX1), Valencia, Spain, WIT Press 2015: 411-421.

MC NAUGHT MD, FOURIE CJ. *Using TQI to quantify the reliability of a section of perway*. In: Shpitalni M, Fischer A, Molcho G (eds.) CIRP 25th Design Conference Innovative Product Creation, Haifa, Israel, Elsevier 2015: 1-6.

MUSANGO JK, BRENT AC, VAN NIEKERK JBS, JONKER WD, PIENAAR AP, YORK TA, OOSTHUIZEN J, DUMINY L, DE KOCK IH. *A system dynamics approach to understand the implications of a green economy transition in the Western Cape Province of South Africa*. Thirty-second International System Dynamics Conference, New York, USA, System Dynamics Society 2015: 1-19.

MUVUNZI R, DIMITROV DM, MATOPE S, KUFAZVINEI C. *Application of Additive Manufacturing for Performance Improvement of Tooling in Moulding and Sheet Metal Forming Processes: A Review*. In: Theron M (ed.) 16th International Rapid Product Development (RAPDASA) Conference, Pretoria, South Africa, CSIR 2015: 1-11.

ODENDAAL MJ, VAN DER MERWE AF, MATOPE S, DEWA MT. *A web based manufacturability agent framework for an E-manufacturing system*. In: Caggiano A (ed.) 3rd CIRP Global Web Conference on Production Engineering (CIRPe2014), Amsterdan, Netherlands, Elsevier 2015: 167-172.

PIENAAR AP, BRENT AC, MUSANGO JK. *Water Resource Implications of a Green Economy Transition in the Western Cape Province of South Africa: A Modelling Approach Review*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, IAMOT 2015: 755-771.

PRETORIUS MA, SCHUTTE CSL. *Cooperative Venture Capital Model: Engineering an Innovation Pipeline*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, IAMOT 2015: 1325-1347.

PRINSLOO GJ, BRENT AC, DOBSON RT, MAMMOLI A. *Modelling and Control Synthesis of a Micro-Combined Cooloing Heat and Power Interface for a Concentrating Solar Power System in Off-Grid Rural Power Applications*. SWC 2015, SWC 2015: 1-6.

RAS CI, BOTES J, VERMEULEN MJ, OOSTHUIZEN GA, UYS JW. *Social manufacturing business model elements to support local suppliers*. In: Theron M (ed.) 16th International Rapid Product Development (RAPDASA) Conference, Pretoria, South Africa, CSIR 2015: 1-12.

ROMMELSPACHER KO, CONRADIE FW, FOURIE CJ. *The systematic energy management of transport facilities for a holistic reduction of greenhouse emissions*. In: Brebbia CA (ed.) Computers in Railways XIV, Rome, Italy, WIT Press 2015: 151-162.

SCHLÜNZ EB, BOKOV P, VAN VUUREN JH. *On Multiobjective Optimisation Approaches for In-Core Fuel Management Optimisation*. In: Maldonado I, Karve A, Ellis R (eds.) Advances in Nuclear Fuel Management V, Hilton Head Island, USA, University of Tenessee 2015: 1-11.

SHUMA RM, MADYIRA DM, MAKONESE TN, OOSTHUIZEN GA. *Energy Content and Combustion Behaviour of Loose Biomass Available in Limpopo*. In: Beute N (ed.) 2015 International Conference on the Domestic Use of Energy, Cape Town, South Africa, CPUT 2015: 93-100.

SWART PD, VLOK P. *Failure Statistics: Budgeting Preventative Maintenance Activities Using Forecasted Work Orders*. In: Amadi-Echendu J (ed.) 9th World Congress on Engineering Asset Management, Pretoria, South Africa, Springer International 2015: 321-338.

TENDAYI TG, FOURIE CJ. *A life cycle costing framework for effective maintenance management in a rolling stock environment*. In: Brebbia CA (ed.) 21st International Conference on Urban Transport and the Environment, Urban Transport (Sustainable Development), Valencia, Spain, WIT Press 2015: 889-900.

THERON E, VLOK P. *Research and Development: Driving Innovation in a Declining Mining Industry*. In: Amadi-Echendu J (ed.) 9th World Congress on Engineering Asset Management, Pretoria, South Africa, Springer International 2015: 363-378.

UNGERER GD, SCHUTTE CSL. *An Integrated Perspective on Sources of E-Value*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, IAMOT 2015: 1082-1101.

VAN EEDEN J, LOUW JJ, VAN DYK E, JOOSTE C, ROOS T, SMIT JB. *Development of Supply Chain Performance Measurement Framework for the South African Wine Industry*. In: Cholette S, Mac Cawley A (eds.) Third International Workshop on Food Supply Chains, San Francisco, USA, San Francisco State College of Business 2014: 1-12.

VAN NIEKERK JBS, BRENT AC, MUSANGO JK. *Agriculture Sector Implications of a Green Economy Transition in the Western Cape Province of South Africa*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, IAMOT 2015: 591-610.

WALKER EJ, VLOK P. *Scheduled Shutdowns as an Incubator for Inefficiencies*. In: Amadi-Echendu J (ed.) 9th World Congress on Engineering Asset Management, Pretoria, South Africa, Springer International 2015: 339-350.

YORK TA, BRENT AC, MUSANGO JK. *Infrastructure Implications of a Green Economy Transition in the Western Cape Province of South Africa*. In: Pretorius L, Thopil GA (eds.) IAMOT 2015 24th International Association for Management of Technology, Cape Town, South Africa, IAMOT 2015: 611-630.

**Verrigtinge Nasionaal/Proceedings National**

JANSE VAN RENSBURG J, VAN VUUREN JH. *Decision support for the assignment of real-estate agents to suburbs*. In: Kruger HA (ed.) 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, South Africa, ORSSA 2015: 23-32.

LINDNER BG, EYGELAAR J, LÖTTER DP, VAN VUUREN JH. *Tri-objective generator maintenance scheduling for a national power utility*. In: Kruger HA (ed.) 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, South Africa, ORSSA 2015: 112-122.

LÖTTER J, VAN VUUREN JH. *A modelling framework for shelf space allocation of fresh produce at a local retailer*. In: Kruger HA (ed.) 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, ORSSA 2015: 62-71.

MEYER T, REED R, VAN VUUREN JH. *Toward decision support for firebase locations in Table Mountain National Park*. In: Kruger HA (ed.) 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, South Africa, ORSSA 2015: 102-111.

MOVIUS SJ, VAN VUUREN JH. *An evaluation of self-organisation in traffic control with respect to varying distances between adjacent intersections in a road corridor*. 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, South Africa, ORSSA 2015: 44-53.

SCHLUNZ EB, BOKOV P, VAN VUUREN JH. *Application of artificial neural networks for predicting core parameters for the SAFARI-1 nuclear research reactor*. In: Kruger HA (ed.) 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, South Africa, ORSSA 2015: 12-22.

SCHMIDT-DUMONT T, VAN VUUREN JH. *Radio transmission tower placement in cellular telephone communication networks*. In: Kruger HA (ed.) 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, South Africa, ORSSA 2015: 91-101.

SMITH A, COLMANT A, BAM L, VAN VUUREN JH. *A new vehicle routing problem with application to pathology laboratory service delivery*. In: Kruger HA (ed.) 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, South Africa, ORSSA 2015: 72-80.

TRUTER ML, VAN VUUREN JH. *Value-based methods for threat value fusion within a ground-based air defense environment*. 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, South Africa, ORSSA 2015: 123-133.

VAN DER WALT JC, VAN VUUREN JH. *Decision support for the selection of water release strategies at open-air irrigation reservoirs*. In: Kruger HA (ed.) 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, South Africa, ORSSA 2015: 33-43.

VAN VUUREN BJ, POTGIETER L, VAN VUUREN JH. *An agent-based simulation model describing the lek mating process of Eldana saccharina Walker*. In: Kruger HA (ed.) 44th Annual Conference of the Operations Research Society of South Africa, Hartbeespoort, South Africa, ORSSA PROCEEDINGS 2015: 1-11.

**Boeke/Books**

LOTZ M, BRENT AC. *Carbon Footprinting Guide*. Nedbank Limited, Sandton, South Africa 2015:92 pp.

**Hoofstukke in Boeke/Chapters in Books**

BRENT AC, GUY D, MCCALLUM W, MOSDELL S, THOMPSON-SMEDDLE L. Overcoming financial challenges associated with sustainable energy. In: Thompson-Smeddle L (ed.) *A South African Renewable Energy Guide for Local Government*, Juta and Company (Pty) Ltd, Cape Town, South Africa, 2015: 84-119.

BRENT AC, MOSDELL S, GUY D, SCHEEPERS T. Understanding renewable energy law, policy and regulations. In: Thompson-Smeddle L (ed.) *A South African Renewable Energy Guide for Local Government*, Juta and Company (Pty) Ltd, Cape Town, South Africa, 2015: 21-44.

BRENT AC, SPENCER F, THOMPSON-SMEDDLE L. Towards sustainable energy solutions. In: Thompson-Smeddle L (ed.) *A South African Renewable Energy Guide for Local Government*, Juta and Company (Pty) Ltd, Cape Town, South Africa, 2015: 1-19.

BRENT AC. Appropriate Curricula for Engineering Management Programmes: A South African Approach. In: Christensen SH, Didier C, Jamison A, ET AL (eds.) *International Perspectives on Engineering Education, Volume 1*, Springer International, Switzerland, 2015: 343-363.

**Doktoraal afgehandel/Doctoral completed**

STIMIE JE. *A physical asset management strategy execution enforcement mechanism for the early detection and management of physical asset management strategy execution failure*. PhD (Eng), 2015. 495 pp. Promotor: VLOK P, BRENT AC.

UNGERER GD. *A competitive strategy framework for E-Business start-ups*. PhD (Eng), 2015. 540 pp. Promotor: SCHUTTE CSL.

**Magister Afgehandel/Masters completed**

BAM L. *A location science model for the placement of POC CD4 testing devices as part of South Africa's public healthcare diagnostic service delivery model*. MIng Navorsing, 2015. 174 pp. Studieleier: BEKKER JF.

BEECROFT BJ. *Development of a technology transfer and an intellectual property strategy for titanium machining*. MIng Navorsing, 2015. 109 pp. Studieleier: DIMITROV DM, VON LEIPZIG KH.

BENJAMIN NJ. *A systematic approach to enterprise risk management*. MIng Navorsing, 2015. 156 pp. Studieleier: FOURIE CJ, LOUW L.

BEZUIDENHOUT MB. *Additive manufacturing enabled drug delivery features for titanium-based total hip replacement cementless femoral stems*. MIng Navorsing, 2015. 160 pp. Studieleier: DIMITROV DM, DICKS LMT, OOSTHUIZEN GA.

BOTHA LJ. *Identifying quantitative relationships between key performance indicators in support of physical asset management decision-making processes*. MIng Navorsing, 2015. 185 pp. Studieleier: JOOSTE JL.

BROWN S. *A SCM approach to project management in the South African construction industry*. MIng Navorsing, 2015. 211 pp. Studieleier: VON LEIPZIG KH.

COETZEE E. *Strengthening the public downstream SLD supply chain for MDR-TB: Lessons learnt from a Western Cape case study*. MIng Navorsing, 2015. 199 pp. Studieleier: BAM L, VON LEIPZIG KH.

CONRADIE PDF. *Quantifying system reliability in rail transportation in an aging fleet environment*. MIng Navorsing, 2015. 159 pp. Studieleier: DIMITROV DM, OOSTHUIZEN GA.

GREYLING BT. *Applying process mining to analyse business process performance in the physical asset management environment*. MIng Navorsing, 2015. 182 pp. Studieleier: JOOSTE JL.

HATTON MN. *Requirements specification for the optimisation function of an electric utility's energy flow simulator*. MIng Navorsing, 2015. 170 pp. Studieleier: BEKKER JF.

HEYNS JH. *The Township Startup: A collaboration platform that bridges the gap between developed and developing South Africa*. MIng Navorsing, 2015. 149 pp. Studieleier: SCHUTTE CSL, LOUW L.

JIDAYI YM. *Reliability improvement of railway infrastructure*. MIng Navorsing, 2015. 142 pp. Studieleier: FOURIE CJ, VLOK P.

JONKER WD. *Biofuel implications of a green economy transition in the Western Cape Province of South Africa: A system dynamics modelling approach to biofuel*. MIng Navorsing, 2015. 137 pp. Studieleier: BRENT AC, MUSANGO JK.

KAYOFA L. *Feasibility study and business plan for manufacturing a 3 kW electrical solar stirling engine and dish for a stand-alone power supply units*. MIng Navorsing, 2015. 222 pp. Studieleier: DIRKSE VAN SCHALKWYK TG, DOBSON RT.

KRIEGE L. *A framework for establishing a human asset register for the improved management of people within asset management*. MIng Navorsing, 2015. 167 pp. Studieleier: VLOK P, JOOSTE JL.

MANDAZA M. *Lean six sigma and theory of constraints for service: Model definition and validation at ABSA*. MSc (Ingwet), 2015. 236 pp. Studieleier: VON LEIPZIG KH.

MC NAUGHT MD. *A risk-reliability comparison of track sections in the passenger railway industry*. MIng Navorsing, 2015. 172 pp. Studieleier: FOURIE CJ, VON LEIPZIG KH.

MINNAAR JR. *Developing a framework for identifying and assessing data quality issues in asset management decision-making*. MIng Navorsing, 2015. 116 pp. Studieleier: VLOK P.

NEL PA. *A process and procedure documentation framework for financial services operations in MediaWiki: A critical evaluation*. MIng Navorsing, 2015. 256 pp. Studieleier: VON LEIPZIG KH.

PRINS C. *Through spindle cooling: A study of the feasibility of split tool titanium machining*. MIng Navorsing, 2015. 127 pp. Studieleier: TREURNICHT N, VAN DER MERWE AF.

SCHOEMAN JS. *Estimating residual life of equipment using subjective covariates*. MIng Navorsing, 2015. 161 pp. Studieleier: VLOK P.

STANDER JB. *The modern asset: Big data and information valuation*. MIng Navorsing, 2015. 166 pp. Studieleier: VLOK P, JOOSTE JL.

UYS N. *Identifying technical inefficiencies and quality concerns in institutional pharmacies of private hospital groups using data envelopment analysis*. MIng Navorsing, 2015. 123 pp. Studieleier: BEKKER JF.

VAN DER MERWE C. *An engineering approach to an integrated value proposition design framework*. MIng Navorsing, 2015. 205 pp. Studieleier: SCHUTTE CSL.

VAN NIEKERK JBS. *Agriculture sector implications of a green economy transition in the Western Cape Province of South Africa: A system dynamics modelling approach to food crop production*. MIng Navorsing, 2015. 149 pp. Studieleier: BRENT AC, MUSANGO JK.

VON LORNE VON SAINT ANGE CJ. *Integration of ranking and selection methods with the multi-objective optimisation cross-entropy method*. MIng Navorsing, 2015. 151 pp. Studieleier: BEKKER JF.

WALKER EJ. *Motivating Human Assets in the Field of Physical Asset Management*. MIng Navorsing, 2015. 180 pp. Studieleier: VLOK P, JOOSTE JL.

WINTERBACH HF. *Theory of perspective: A continuous and sustainable internal process improvement roadmap for small business managers*. MIng Navorsing, 2015. 190 pp. Studieleier: VON LEIPZIG KH.

YAZDANI V. *Commercial feasibility study of small-scale wind turbine manufacturing in South Africa*. MIng Navorsing, 2015. 156 pp. Studieleier: DIRKSE VAN SCHALKWYK TG, VON LEIPZIG KH.

YOON MY. *A new framework for multi-objective simulation optimisation*. MScIng, 2015. 178 pp. Studieleier: BEKKER JF.

YORK TA, MUSANGO JK. *Infrastructure implications of a green economy transition in the Western Cape Province of South Africa: A system dynamics modelling approach*. MIng Navorsing, 2015. 188 pp. Studieleier: BRENT AC.

**Departement Elektriese en Elektroniese Ingenieurswese**

**Department of Electrical and Electronic Engineering**

**Tydskrifartikels/Journal Articles (subsidised)**

AKURU UB, KAMPER MJ. Contemporary wind generators. *Journal of Energy in Southern Africa* 2015; **26**(3):116-124.

BARNARD FJW, VILLET WT, KAMPER MJ. Hybrid active-flux and arbitrary injection position sensorless control of reluctance synchronous machines. *IEEE Transactions on Industry Applications* 2015; **51**(5):3899-3906.

BEYERS RD, DE VILLIERS DIL. Corrections to compact conical line combiner design using circuit models. *IEEE Transactions on Microwave Theory and Techniques* 2015; **63**(7):2391.

BOTHA MM. Numerical integration scheme for the near-singular green function gradient on general triangles. *IEEE Transactions on Antennas and Propagation* 2015; **63**(10):4435-4445.

BRAND TG, MEYER P, GESCHKE RH. Designing multiband coupled-resonator filters using reactance transformations. *International Journal of Rf and Microwave Computer-Aided Engineering* 2015; **25**(1):81-92.

COX SM, MOUTON HDT. Ripple compensation for a class-d amplifier. *SIAM Journal on Applied Mathematics* 2015; **75**(4):1536-1552.

DE VILLIERS DIL, LEHMENSIEK R. Rapid calculation of antenna noise temperature in offset gregorian reflector systems. *IEEE Transactions on Antennas and Propagation* 2015; **63**(4):1564-1571.

ENGELBRECHT J, BOOYSEN MJ, VAN ROOYEN G, BRUWER FJ. Survey of smartphone-based sensing in vehicles for ITS applications. *IET INTELLIGENT TRANSPORT SYSTEMS* 2015; **9**(10):924-935.

FOURIE CJ, PENG X, NUMAGUCHI R, YOSHIKAWA N. Inductance and coupling of stacked vias in a multilayer superconductive IC process. *IEEE Transactions on Applied Superconductivity* 2015; **25**(3):1-4.

FOURIE CJ, TAKAHASHI A, YOSHIKAWA N. Fast and accurate inductance and coupling calculation for a multi-layer Nb process. *Superconductor Science & Technology* 2015; **28**:1-10.

FOURIE CJ. Full-gate verification of superconductive integrated circuit layouts with InductEx. *IEEE Transactions on Applied Superconductivity* 2015; **25**(1):1-9.

GERBER S, WANG R. Design and evaluation of a magnetically geared PM machine. *Ieee Transactions on Magnetics* 2015; **51**(8):1-10.

GERBER S, WANG R. Evaluation of movement facilitating techniques for finite element analysis of magnetically geared electrical machines. *Ieee Transactions on Magnetics* 2015; **51**(2):1-6.

GILMORE J, DAVIDSON DB. Suppressing Undesired Common-Mode Resonances in Connected Antenna Arrays. *IEEE Transactions on Antennas and Propagation* 2015; **63**(11):5245-5250.

HOWARD E, KAMPER MJ, GERBER S. Asymmetric flux barrier and skew design optimization of reluctance synchronous machines. *IEEE Transactions on Industry Applications* 2015; **51**(5):3751-3760.

ILGNER RG, DAVIDSON DB. The computational performance and power consumption of the parallel FDTD on a smartphone platform. *Applied Computational Electromagnetics Society Journal* 2015; **30**(12):1262-1268.

LEHMENSIEK R, DE VILLIERS DIL. Optimization of log-periodic dipole array antennas for wideband omni-directional radiation. *IEEE Transactions on Antennas and Propagation* 2015; **63**(8):3714-3718.

LEHMENSIEK R, THERON IP, DE VILLIERS DIL. Deriving an optimum mapping function for the SKA shaped offset Gregorian reflectors. *IEEE Transactions on Antennas and Propagation* 2015; **63**(11):4658-4666.

LERATO L, NIESLER TR. Clustering acoustic segments using multi-stage agglomerative hierarchical clustering. *PLoS ONE* 2015; **10**(1371):1-24.

MEYER P, PRINSLOO DSVDM. Generalized multi-mode scattering parameter and antenna far-field conversions. *IEEE Transactions on Antennas and Propagation* 2015; **63**(11):4818-4826.

PIETERSE CL, PAPKA P, PEROLD WJ. Polarization and corona discharge threshold field calculation of electrospraying point-to-plane geometries. *Journal of Electrostatics* 2015; **75**:104-115.

POTGIETER JHJ, KAMPER MJ. Design optimization of directly grid-connected PM machines for wind energy applications. *IEEE Transactions on Industry Applications* 2015; **51**(4):2949-2958.

QUINN HM, ROBINSON WH, RECH P, AGUIRRE MA, BARNARD A, DESOGUS M, ENTRENA LA, GARCIA-VALDERAS M, GUERTIN SM, KAELI D, KASTENSMIDT BT, KIDDIE BT, SANCHEZ-CLEMENTE A, SONZA REORDA M, STERPONE L, WIRTHLIN MJ. Using benchmarks for radiation testing of microprocessors and FPGAs. *Ieee Transactions on Nuclear Science* 2015; **62**(6):2547-2554.

ROBERTS RMC, FOURIE CJ. Layout-versus-schematic verification for superconductive integrated circuits. *IEEE Transactions on Applied Superconductivity* 2015; **25**(3):1-5.

STANDER JN, VENTER G, KAMPER MJ. Structural mass reduction by integrating active material in direct drive generator design. *Structural and Multidisciplinary Optimization* 2015; **52**(2):405-416.

STRYDOM WJ, BOTHA MM. Charge recovery for the RWG-based method of moments. *IEEE Antennas and Wireless Propagation Letters* 2015; **14**:305-308.

VAN ZYL RR, FRANCIS S, PEROLD WJ. An empirical determination of the upper operational frequency limits of the transferred electron mechanism in bulk GaAs and GaN through ensemble Monte Carlo particle simulations. *Indian Journal of Physics* 2015; **89**(8):825-828.

VILLET WT, KAMPER MJ. Position sensorless control of a reluctance synchronous wind generator drive with an LC inverter filter. *Electric Power Components and Systems* 2015; **43**(8-10):1051-1061.

WANG R, BRONN L, GERBER S, TLALI PM. An axial flux magnetically geared PM wind generator. *IEEJ Transactions on Electrical and Electronic Engineering* 2015; **10**(S1):123-132.

YOUNG A, WIJNHOLDS SJ, CAROZZI T, MAASKANT R, IVASHINA MV, DAVIDSON DB. Efficient correction for both direction-dependent and baseline-dependent effects in interferometric imaging: an A-Stacking framework. *Astronomy & Astrophysics* 2015; **577**:1-11.

**Verrigtinge Internasionaal/Proceedings International**

AGENBAG W, NIESLER TR. *Automatic segmentation and clustering of speech using sparse coding and metaheuristic search*. Interspeech 2015 - 16th International conference of the International Speech Communication Association, Dresden, Germany, International Speech Communication Association 2015: 3184-3188.

AKOKU EBOT ENO AKPA N, BOOYSEN MJ, SINCLAIR MD. *Efficacy of interventions and incentives to achieve speed compliance in the informal public transport sector*. 2015 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2015), Cape Town, South Africa, IEEE 2015: 30-37.

AKURU UB, KAMPER MJ. *Comparative advantage of flux switching PM machines for medium-speed wind drives*. 2015 Proceedings of the 23rd Domestic Use of Energy Conference, Cape Town, South Africa, Cape Peninsula University of Technology 2015: 149-154.

AKURU UB, KAMPER MJ. *Evaluation of flux switching PM machines for medium-speed wind generator drives*. IEEE Energy Conversion Congress and Expo (ECCE 2015), Montreal, Canada, IEEE 2015: 1925-1931.

AMUHAYA LL, KAMPER MJ. *Design analysis of a hybrid-PM synchronous generator for wind energy applications*. 2015 Proceedings of the 23rd Domestic Use of Energy Conference, Cape Town, South Africa, Cape Peninsula University of Technology 2015: 163-167.

AMUHAYA LL, KAMPER MJ. *Design and optimisation of grid compliant variable-flux PM synchronous generator for wind turbine applications*. IEEE Energy Conversion Congress and Expo (ECCE 2015), Montreal, Canada, IEEE 2015: 829-836.

ANDRIAMBELOSON JA, WIID PG. *A 3D-Printed PLA Plastic Conical Antenna with Conductive-Paint Coating for RFI Measurements on MeerKAT Site*. Proceedings of the 2015 IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (APWC), Torino, Italy, IEEE 2015: 945-948.

ANDRIAMBELOSON JA, WIID PG. *Hyperband conical antenna design using 3D printing technique*. 2015 Radio and Antenna Days of the Indian Ocean, Long Beach Resort, Mauritius, IEEE 2015: 1-2.

BEUKMAN TS, MEYER P, MAASKANT R, IVASHINA MV. *Equivalent circuit of a quadraxial feed for ultra-wide bandwidth quadruple-ridged flared horn antennas*. 9th European Conference on Antennas and Propagation (EuCAP 2015, Lisbon, Portugal, IEEE 2015: 1-5.

BEYERS RD, DE VILLIERS DIL. *A general isolation network for N-way power combiners/dividers*. 2015 MTT-5 International Microwave Symposium, Phoenix, USA, IEEE 2015: 1-4.

BOOYSEN MJ, JACOBS HE, MAKWIZA CN, SKIBBE Y. *Correlating sound and flow rate at a tap*. 13th Computing and Control for the Water Industry Conference, leicester, United Kingdom, elsevier 2015: 864-873.

BOTES E, MEYER P. *Tunability of commonly used coupled-line bandpass filter topologies*. 14th Conference on Microwave Techniques (COMITE 2015), Pardubice, Czech Republic, IEEE 2015: 1-4.

BOTHA MM. *Evaluation of near-singularity cancellation quadrature schemes for the green function gradient on higher-order triangles*. 9th European Conference on Antennas and Propagation (EuCAP 2015), Lisbon, Portugal, IEEE 2015: 1-4.

BRUWER FJ, BOOYSEN MJ. *Comparison of GPS and MEMS support for smartphone-based driver behavior monitoring*. 2015 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2015), Cape Town, South Africa, IEEE 2015: 434-441.

BRUWER FJ, BOOYSEN MJ. *Vehicle acceleration estimation using smart-phone based sensors*. The 34th Annual Southern African Transport Conference, Pretoria, South Africa, IEEE 2015: 118-129.

COMBRINK SL, WIID PG. *Frequency and time domain calibration for large rogowski coils*. In: Lombardi G (ed.) Proceedings of the 2015 International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, IEEE 2015: 989-992.

COVERY T, MCNEIL M, VERMEULEN HJ. *Water heater technical study to Improve MEPS - South Africa*. 8th International Conference on Energy Efficiency in Domestic Appliances and Lighting – EEDAL’15, Lucerne, Switzerland, EEDAL 2015: 1-9.

DE BRUIN A, BOOYSEN MJ. *Drone-based traffic flow estimation and tracking using computer vision*. The 34th Annual Southern African Transport Conference, Pretoria, South Africa, IEEE 2015: 869-878.

DE VILLIERS DIL, BEYERS RD. *Design of conical transmission line power combiners using space mapping*. In: Lombardi G (ed.) Proceedings of the 2015 International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, IEEE 2015: 1437-1440.

DE VILLIERS DIL, IVASHINA MV, MAASKANT R. *Fast prediction of aperture efficiency and sidelobe levels in shaped reflector systems through model based output space mapping*. 9th European Conference on Antennas and Propagation (EuCAP 2015), Lisbon, Portugal, IEEE 2015: 1-4.

DE VILLIERS DIL, IVASHINA MV. *Diffraction and pattern perturbation effects in offset gregorian reflectors antennas with wideband feeds*. 2015 IEEE Antennas and Propagation Society International Symposium, Vancouver, Canada, IEEE 2015: 1520-1521.

DE VILLIERS DIL, KOZIEL SM. *Fast multi-objective optimization of shaped offset Gregorian reflector systems*. 2015 IEEE Antennas and Propagation Society International Symposium, Vancouver, Canada, IEEE 2015: 1342-1343.

DE VILLIERS DIL, KOZIEL SM. *Multi-Objective optimization of cassegrain reflector feeds using space mapping surrogate models*. In: Lombardi G (ed.) Proceedings of the 2015 IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (APWC), Torino, Italy, IEEE 2015: 813-816.

DU PREEZ C, VERMEULEN HJ. *Online web application with local database storage for residential energy auditing and education*. 8th International Conference on Energy Efficiency in Domestic Appliances and Lighting – EEDAL’15, Lucerne, Switzerland, EEDAL 2015: 1-16.

ENGELBRECHT J, BOOYSEN MJ, VAN ROOYEN G, BRUWER FJ. *Performance comparison of dynamic time warping (DTW) and a maximum likelihood (ML) classifier in measuring driver behavior with smartphones*. 2015 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2015), Kaapstad, South Africa, IEEE 2015: 427-433.

ERASMUS AS, KAMPER MJ. *Analysis for design optimisation of double PM-rotor radial flux eddy current couplers*. IEEE Energy Conversion Congress and Expo (ECCE 2015), Montreal, Canada, IEEE 2015: 6503-6510.

FORSHAW JL, AGLIETTI G, NAVARATHINAM N, KADHEM H, SALMON T, JOFFRE E, CHABOT T, RETAT I, AXTHELM R, BARRACLOUGH S, RATCLIFFE R, BERNAL C, CHAUMETTE F, POLLINI A, STEYN WH. *An in-orbit active debris removal mission - RemoveDebris: pre-launch update*. 66th International Astronautical Congress, Jerusalem, Israel, Israel Space Agency 2015: 1-14.

FOTOUHI R, SOROKIN A, KENNEL RM, MOUTON HDT. *An efficient method to calculate optimal pulse patterns for multi-level converters*. 9th International Conference on Power Electronics - ECCE Asia, Seoul, Korea, KIPE 2015: 533-539.

FOTOUHI R, SOROKIN A, KENNEL RM, MOUTON HDT. *Online optimization of current distortion for MV drives based on stator flux trajectory predictions*. 3rd Symposium on Predictive Control of Electrical Drives and Power Electronics, Valparaiso, Chile, IEEE 2015: 1-6.

FOURIE CJ, MIYANISHI S, YOSHIKAWA N. *Grounding methods to reduce stray coupling in multi-layer layouts*. 2015 IEEE 15th International Superconductive Electronics Conference, Nagoya, Japan, IEEE 2015: 1-3.

FOURIE CK, JONES T. *An intuitive, aggressive control architecture for an unmanned helicopter in near-hover flight*. 2015 IEEE Aerospace Conference, Big Sky, USA, IEEE 2015: 1-8.

FOURIE CK, JONES T. *Augmenting the helicopter-ship dynamic interface using an autonomous safe-landing prediction scheme*. 2015 International Conference on Unmanned Aircraft Systems (ICUAS'15), Denver, USA, IEEE 2015: 26-33.

FOURIE DR, BOOYSEN MJ. *Real time identification of heart sounds using selectional regional correlation of the time frequency domain*. 2015 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2015), Cape Town, South Africa, IEEE 2015: 1326-1330.

GERBER S, WANG R. *Design and evaluation of a PM Vernier machine*. IEEE Energy Conversion Congress and Expo (ECCE 2015), Montreal, Canada, IEEE 2015: 5188-5194.

GILMORE J, DAVIDSON DB, NOORDAM JE. *A dense dipole array for mid-frequency aperture arrays*. 2015 IEEE Antennas and Propagation Society International Symposium, Vancouver, Canada, IEEE 2015: 1524-1525.

GILMORE JS, ENGELBRECHT HA. *Predicting object lifetime in finite distributed storage systems under churn*. The 7th International Workshop on Massively Multiuser Virtual Environments (MMVE 2015), Portland, USA, Association for Computing Machinery 2015: 1-6.

GUNDA L, GULE N. *Brush-DC equivalent control based delta modulation for a PWM inverter-fed nine phase induction machine drive*. 2015 IEEE International Conference on Industrial Technology (ICIT), Seville, Spain, IEEE 2015: 646-651.

HOWARD E, KAMPER MJ. *Weighted factor multi-objective design optimisation of a reluctance synchronous machine*. 2015 IEEE International Electric Machines and Drives Conference (IEMDC), Coeur d'Alene, USA, IEEE 2015: 1781-1789.

JACKMAN K, FOURIE CJ. *Fast multicore FastHenry and a Tetrahedral modeling method for inductance extraction of complex 3D geometries*. 2015 IEEE 15th International Superconductive Electronics Conference, Nagoya, Japan, IEEE 2015: 1-3.

JACOBS JP, DE VILLIERS DIL. *Gaussian process modeling of aperture efficiency ripple in reflector antennas*. Loughborough Antennas and Propagation Conference (LAPC), Loughborough, United Kingdom, IEEE 2015: 1-4.

KUJA SO, WIID PG. *Characterization of RF signal coupling between MeerKAT telescope structures*. In: Lombardi G (ed.) Proceedings of the 2015 IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (APWC), Torino, Italy, IEEE 2015: 1004-1007.

LE ROUX J, BARNARD A, WOLHUTER R. *Making nano-satellites more sustainable: investigation into an optimal communications protocol using a novel simulation tool*. In: de la Harpe R (ed.) 4th International Conference on Design, Development & Research, Cape Town, South Africa, Cape Peninsula University of Technology 2014: 183-201.

LEHMENSIEK R, DE VILLIERS DIL. *Accuracy improvement of approximate noise temperature calculations of offset Gregorian reflector systems*. In: Lombardi G (ed.) Proceedings of the 2015 IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (APWC), Torino, Italy, IEEE 2015: 847-850.

LEHMENSIEK R, THERON IP, DE VILLIERS DIL. *An investigation of offset-fed beams on the proposed SKA dishes with various degrees of shaping*. 9th European Conference on Antennas and Propagation (EuCAP 2015), Lisbon, Portugal, IEEE 2015: 1-4.

LEHMENSIEK R, THERON IP, DE VILLIERS DIL. *Deriving an optimum shaped reflector system for the SKA single pixel feeds*. 2015 IEEE Antennas and Propagation Society International Symposium, Vancouver, Canada, IEEE 2015: 1370-1371.

LOUBSER AT, KAMPER MJ. *Design optimisation of reluctance synchronous machine for drive system efficiency*. IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD), Torino, Italy, IEEE 2015: 60-65.

LUDICK DJ, DAVIDSON DB, JAKOBUS U. *Analysis of finite antenna arrays in the presence of arbitrary electromagnetic structures*. In: Lombardi G (ed.) Proceedings of the 2015 International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, IEEE 2015: 47-50.

MCGRATH B, MOUTON HDT. *Spectral analysis of multilevel PWM strategies using a one-dimensional fourier series*. 9th International Conference on Power Electronics - ECCE Asia, Seoul, Korea, KIPE 2015: 546-553.

MEYER P. *Multi-Conductor transmission line analysis using the generalized multi-mode S-parameter transformation*. 2015 IEEE 19th Workshop on Signal and Power Integrity (SPI 2015), Berlin, Germany, IEEE 2015: 50-53.

MOUTON HDT. *Model predictive control of cascaded H-Bridge inverters based on a fast-optimization algorithm*. 41st Annual Conference of the IEEE Industrial Electronics Society, Yokohama, Japan, IEEE 2015: 1-6.

MUTONKOLE N, DE VILLIERS DIL. *Characteristic basis function patterns method for reflector antenna calibration: an extension to multiple frequencies*. 9th European Conference on Antennas and Propagation (EuCAP 2015), Lisbon, Portugal, IEEE 2015: 1-5.

NASSAR SO, MEYER P, VAN DER WALT PW. *An s-Band combline filter with reduced size and increased pass-band separation*. 14th Conference on Microwave Techniques (COMITE 2015), Pardubice, Czech Republic, IEEE 2015: 1-4.

NEL PJC, BOOYSEN MJ, VAN DER MERWE AB. *Electric water heater energy consumption determination using Outlet temperature and volumetric estimation*. In: Kellenberger P (ed.) 2015 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2015), Cape Town, South Africa, IEEE 2015: 665-672.

NEL PJC, BOOYSEN MJ, VAN DER MERWE AB. *Using thermal transients at the outlet of electrical water heaters to recognise consumption patterns for heating schedule optimisation*. 7th International Conference on New Technologies, Mobility and Security, Paris, France, IEEE eXpress Conference Publishing 2015: 1-5.

NIENABER S, BOOYSEN MJ, KROON RS. *Detecting potholes using simple image processing techniques and real-world footage*. South African Transport Conference (SATC 2015), Pretoria, South Africa, SATC 2015: 153-164.

NIENABER S, KROON RS, BOOYSEN MJ. *A Comparison of Low-Cost Monocular Vision Techniques for Pothole Distance Estimation*. In: Kellenberger P (ed.) 2015 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2015), Cape Town, South Africa, IEEE 2015: 419-426.

OOSTHUIZEN GI, RANDEWIJK PJ. *Design of an Ironless Double-rotor Radial Flux Permanent Magnet Machine*. 2015 IEEE International Electrical Machines & Drives (IEMDC) Conference, Coeur d'Alene, USA, IEEE 2015: 683-688.

PHIRI TJ, DAVIDSON DB, WIID PG. *Propagation modelling for the South African SKA site*. In: Lombardi G (ed.) Proceedings of the 2015 IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (APWC), Torino, Italy, IEEE 2015: 1329-1332.

PIENAAR H, READER HC. *Multicopter metrology platform for propagation measurements*. In: Lombardi G (ed.) Proceedings of the 2015 International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, IEEE 2015: 370-374.

PIENAAR LJ, JONES T. *The application of probability flow for conflict detection near airports*. AIAA Guidance, Navigation, and Control Conference, AIAA SciTech, Kissimmee, USA, AIAA 2015: 1-21.

PRINSLOO DSVDM, MEYER P, MAASKANT R, IVASHINA MV. *Conical quad-mode antenna with integrated tapered slot antennas for wide-field polarimetry*. In: Lombardi G (ed.) Proceedings of the 2015 IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (APWC), Torino, Italy, IEEE 2015: 1235-1238.

PRINSLOO DSVDM, MEYER P, MAASKANT R, IVASHINA MV. *Irregular quad-mode antenna array: field-of-view comparison with the Swedish LOFAR station'*. 9th European Conference on Antennas and Propagation (EuCAP 2015), Lisbon, Portugal, IEEE 2015: 1-5.

PRINSLOO DSVDM, MEYER P, MAASKANT R, IVASHINA MV. *Quad-mode antenna for wide-scan sparse arrays'*. 2015 IEEE Antennas and Propagation Society International Symposium, Vancouver, Canada, IEEE 2015: 1516-1518.

SHEIKH SM, WOLHUTER R, ENGELBRECHT HA. *An adaptive congestion control and fairness scheduling strategy for wireless mesh networks*. 2015 IEEE Symposium Series on Computational Intelligence SSCI 2015, Cape Town, South Africa, IEEE 2015: 1174-1181.

SHEIKH SM, WOLHUTER R, VAN ROOYEN G. *A comparative analysis of MANET routing protocols for low cost rural telemetry wireless mesh networks*. In: Jat DS (ed.) The Proceedings of 2015 International Conference on Emerging Trends in Networks and Computer Communications (ETNCC), Windhoek, Namibia, IEEE 2015: 32-37.

SHEIKH SM, WOLHUTER R, VAN ROOYEN G. *Performance and comparative analysis of design schemes for prioritised data in multi-hop wireless mesh backbone networks*. WINSYS 2015 Proceedings of the 12th International Conference on Wireless Information Networks and Systems, Alsace, France, SCITEPRESS 2015: 13-23.

SMITH DMP, DAVIDSON DB, BESTER A. *Improved antenna range characterisation using redundant measurements*. In: Lombardi G (ed.) Proceedings of the 2015 International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, IEEE 2015: 1448-1451.

SMITH DMP, YOUNG A, DAVIDSON DB. *Three dimensional formalism of the measurement equation for wide field polarimetric imaging*. In: Lombardi G (ed.) Proceedings of the 2015 International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, IEEE 2015: 722-725.

SORGDRAGER AJ, WANG R, GROBLER AJ. *Retrofit design of a line-start PMSM using the Taguchi method*. IEEE International Electric Machines and Drives Conference (IEMDC 2015), Coeur d'Alene, USA, IEEE 2015: 489-495.

SORGDRAGER AJ, WANG R, GROBLER AJ. *Transient performance investigation and Taguchi optimization of a line-start PMSM*. IEEE International Electric Machines and Drives Conference (IEMDC 2015), Coeur d'Alene, USA, IEEE 2015: 590-595.

STANDER JN, VENTER G, KAMPER MJ. *Multidisciplinary optimisation of a slip synchronous PM generator (SS-PMG)*. DEWEK 2015, 12th German Wind Energy Conference, Bremen, Germany, DEWI 2015: 1-4.

STEYN DG, STEYN WH. *Development of a dual gimbal control moment gyro for nano-satellites*. 66th International Astronautical Congress, Jerusalem, Israel, Israel Space Agency 2015: 1-9.

STEYN WH, JORDAAN HW. *An active attitude control system for a drag sail satellite*. 66th International Astronautical Congress, Jerusalem, Israel, Israel Space Agency 2015: 1-9.

STRYDOM WJ, BOTHA MM. *Ideas on recovery-based a posteriori error estimation for RWG-based currents in the method of moments*. In: Lombardi G (ed.) Proceedings of the 2015 International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, IEEE 2015: 966-969.

STRYDOM WJ, BOTHA MM. *Recovery-based a posteriori error estimation for the charge in the method of moments*. 9th European Conference on Antennas and Propagation (EuCAP 2015), Lisbon, Portugal, IEEE 2015: 1-4.

TOMLINSON DM, MOUTON HDT, KENNEL RM. *Finite-control-set model predictive control with a fixed switching frequency vs. linear control for current control of a single-leg inverter*. 3rd Symposium on Predictive Control of Electrical Drives and Power Electronics, Valparaiso, South Africa, IEEE 2015: 1-6.

VAN DEN AARDWEG W, ENGELBRECHT JAA, VAN DAALEN CE. *Sampling-based collision avoidance for commercial airliners with intruder aircraft and terrain*. 2015 IEEE Aerospace Conference, Montana, USA, IEEE 2015: 1-10.

VAN DER WALT PW, STOFBERG A, DE SWARDT JB. *Performance limitations of active cancellers for FMCW radars*. 2015 IEEE Radar Conference, Johannesburg, South Africa, IEEE 2015: 300-305.

VAN GREUNEN M, ENGELBRECHT HA. *Forecasting methods for cloud hosted resources, a comparison*. 11th International Conference on Network and Service Management, Barcelona, Spain, IEEE 2015: 1-7.

VAN VUUREN VZ, TEN BOSCH L, NIESLER TR. *Unconstrained speech segmentation using deep neural networks*. ICPRAM 2015 4th International Conference on Pattern Recognition Applications and Methods, Lisbon, Portugal, SCITEPRESS 2015: 248-254.

VAN WYK PJJ, KAMPER MJ. *Simplified analysis technique for double layer non-overlap multiphase slip permanent magnet couplings in wind energy applications*. 2015 IEEE International Electric Machines and Drives Conference (IEMDC), Coeur d'Alene, USA, IEEE 2015: 1317-1323.

VERMEULEN HJ, NIEUWOUDT T. *Optimisation of residential solar PV system rating for minimum payback time using half-hourly profiling*. Domestic Use of Energy (DUE), Cape Town, South Africa, Cape Peninsula University of Technology 2015: 215-221.

WIID PG, MATTHYSEN N, KUJA SO, COMBRINK SL. *Novel EMC methods for MeerKAT radio telescope*. 2015 Radio and Antenna Days of the Indian Ocean, Long Beach Resort, Mauritius, IEEE 2015: 1-2.

WIID PG. *The answer is in fact 41, or how to get 35:1 bandwidth from a cone antenna*. In: Lombardi G (ed.) Proceedings of the 2015 IEEE-APS Topical Conference on Antennas and Propagation in Wireless Communications (APWC), Torino, Italy, IEEE 2015: 1060-1063.

XIANG D, BOTHA MM. *Further progress with fast and reliable shadowing determination for mesh-based PO analysis*. In: Lombardi G (ed.) Proceedings of the 2015 International Conference on Electromagnetics in Advanced Applications (ICEAA), Torino, Italy, IEEE 2015: 958-961.

YOUNG A, DAVIDSON DB, WIJNHOLDS SJ, CAROZZI T, MAASKANT R, IVASHINA MV. *Efficient wideband gain modeling for interferometric imaging arrays in radio astronomy*. 2015 IEEE Antennas and Propagation Society International Symposium, Vancouver, Canada, IEEE 2015: 1374-1375.

ZIETSMAN NL, GULE N. *Optimal design methodology of a three phase rotary transformer for doubly fed induction generator application*. 2015 IEEE International Electric Machines and Drives Conference (IEMDC), Coeur d'Alene, USA, IEEE 2015: 763-768.

**Verrigtinge Nasionaal/Proceedings National**

BROWN JWK, BOOYSEN MJ. *An intelligent geyser with Wi-Fi access to support demand-side management*. Proceedings of the 23rd Southern African Universities Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, Southern African Universities Power Engineering Conference 2015: 431-436.

COETZER A, KAMPER MJ. *Modelling and evaluation of single-phase OPTIMISA power transformer*. Proceedings of the Southern African Universities Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, Southern African Universities Power Engineering Conference 2015: 508-513.

COMBRINK SL, WIID PG. *Current probe calibration for Meerkat lightning induced current measurement*. Proceedings of the Southern African Universities Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, Southern African Universities Power Engineering Conference 2015: 343-348.

DE VILLIERS A, VERMEULEN HJ. *Efficiency benchmarking and evaluation of coal fire power stations using data envelopment analysis*. Proceedings of the Southern African Universities Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, SAUPEC 2015: 419-424.

DE VILLIERS HAC, VAN ZIJL L, NIESLER TR. *High-level rapid prototyping of graphical models*. Pattern Recognition Association of South Africa (PRASA) 2015, Port Elizabeth, South Africa, IEEE 2015: 130-135.

DLAMINI MN, GULE N. *Impact of PV generators on power system voltage regulation for distribution networks with very long branch networks*. Proceedings of the 23rd Southern African Universities Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, Southern African Universities Power Engineering Conference 2015: 160-163.

ERASMUS AS, AMUHAYA LL, KAMPER MJ. *Power factor correction and reactive power control of a slip synchronous permanent magnet wind turbine using variable flux*. Proceedings of the Southern African Universities Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, Southern African Universities Power Engineering Conference 2015: 197-202.

GUNDA L, GULE N. *Experimental evaluation of delta modulation for PWM nine phase inverter with a trapezoidal reference current waveform*. Proceedings of the 23rd Southern African Universities Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, Southern African Universities Power Engineering Conference 2015: 74-79.

LOMBARD CHO, ERASMUS AS, KAMPER MJ. *Theoretical and finite element analysis of a double rotor radial flux permanent magnet eddy current coupling*. Proceedings of the 23rd Southern African Universities Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, Southern African Universities Power Engineering Conference 2015: 233-238.

MATTHEE A, GERBER S, WANG R. *A high performance concentric magnetic gear*. Proceedings of the Southern African Universities Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, SAUPEC 2015: 203-207.

SHEIKH SM, WOLHUTER R, VAN ROOYEN G. *A cross layer adaptive weighted round robin scheduling strategy for wireless mesh networks*. Southern Africa Telecommunication Networks and Applications Conference (SATNAC) 2015, Hermanus, South Africa, TELKOM 2015: 323-328.

SORGDRAGER AJ, SMITH R, WANG R. *Rotor design of a line-start permanent magnet synchronous machine using the Taguchi method*. Proceedings of the Southern African Universities Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, SAUPEC 2015: 227-231.

SORGDRAGER AJ, WANG R, PFEFFER AK. *Optimisation of a line-start permanent magnet synchronous machine for a load specific application*. Proceedings of the Southern African Universities’ Power Engineering Conference (SAUPEC 2015), Johannesburg, South Africa, SAUPEC 2015: 216-220.

**Hoofstukke in Boeke/Chapters in Books**

BRAND TG, GESCHKE RH, MEYER P. Techniques for the synthesis of multi-band transfer functions. In: Crnojevic-Bengin V, MEYER P (eds.) *Advances in multi-band microstrip filters*, Cambridge University Press, Cambridge, United Kingdom, 2015: 67-109.

JANKOVIC N, CRNOJEVIC-BENGIN V, MEYER P, HONG J. Design methods of multi-band filters. In: Crnojevic-Bengin V (ed.) *Advances in multi-band microstrip filters*, Cambridge University Press, Cambridge, United Kingdom, 2015: 5-66.

LE ROUX J, HEUNIS AE, JANSE VAN VUUREN GH, BARNARD A, JORDAAN HW, STEYN DG, ROSSOUW NC, BIN OTHMAN M, CALITZ N, JUNAID M, GROENEWALD CJ. A nano-stellite constellation for tracking and monitoring endangered wildlife in developing countries. In: Sandau R (ed.) *Inventive Ideas for Micro/Nano-Satellites the MIC3 Report*, International Academy of Astronautics, Paris, France, 2015: 37-49.

**Patente/Patents**

FOURIE DR, BOOYSEN MJ. *Heart sound segmentation method and system*. Patent No. 2015/02193, South Africa 2015.

NEL PJC, BOOYSEN MJ. *A Water Heater Controller*. Patent No. 2015/04029, South Africa 2015.

NEL PJC, BOOYSEN MJ. *Geyser Event Detection*. Patent No. 2015/03775, South Africa 2015.

NIENABER S, BOOYSEN MJ. *A Device and Method of Detecting Potholes*. Patent No. 2015/04540, South Africa 2015.

OOSTHUIZEN GI, RANDEWIJK PJ. *Ironless Double-rotor Radial Flux Permanent Magnet (IDRFPM) Machine*. Patent No. PCT/IB2015/053489, South Africa 2015.

PRINSLOO DSVDM, MAASKANT R, IVASHINA MV, MEYER P. *Tapered slot quad-mode antenna*. Patent No. PCT/IB2015/056762, South Africa 2015.

**/Creative Works**

KRAUSE O, LOVISKA M, ENGELBRECHT HA, NEL JB, GRIWODZ C, CALVET L, SCHIELE G, BURGER A, SCHMEIBER S, CICHIWSKYJ C. Performative Lecture. *Third life project*. WUK Theatre, Vienna, Austria 2015.

**Doktoraal Afgehandel/Doctoral completed**

BEUKMAN TS. *Modal-Based design techniques for circular quadruple-ridged flared horn antennas* . PhD, 2015. 94 pp. Promotor: MEYER P.

BEYERS RD. *Circuit model design of conical transmission line power combiners and isolation of reactive combiners* . PhD, 2015. 88 pp. Promotor: DE VILLIERS DIL.

GERBER S. *Evaluation and design aspects of magnetic gears and magnetically geared electrical machines* . PhD, 2015. 175 pp. Promotor: WANG R.

MOHASI LG. *Prosody modelling for a sesotho text-to-speech system using the Fujisaki Model* . PhD, 2015. 126 pp. Promotor: NIESLER TR.

MÜLLER LC. *RSFQ digital circuit design automation and optimisation* . PhD, 2015. 138 pp. Promotor: FOURIE CJ.

PIENAAR H. *Karoo array telescope site shielding: laboratory, computational and multi-copter models*. PhD, 2015. 245 pp. Promotor: DAVIDSON DB. Medepromotor: READER HC.

PRINSLOO DSVDM. *Multi-mode antennas for hemispherical field-of-view coverage* . PhD, 2015. 110 pp. Promotor: MEYER P.

**Magister Afgehandel/Masters completed**

AKOKU EBOT ENO AKPA N. *The evaluation and testing of mobile ITS interventions on speed compliance in the minibus taxi industry of South Africa*. MIng, 2015. 98 pp. Studieleier: BOOYSEN MJ. Medestudieleier: SINCLAIR MD.

BEHRENS H. *Specification, design and implementation of flight control unit for an unmanned aerial vehicle* . MIng, 2015. 97 pp. Studieleier: JONES T.

BELLSTEDT P. *The design implementation and testing of a moving platform for an unmanned autonomous helicopter* . MScIng, 2015. 212 pp. Studieleier: JONES T.

BOTES DA. *Wideband, low-noise amplifiers for the mid-range SKA* . MIng, 107. 107 pp. Studieleier: MEYER P.

BUCHNER D. *Automatic control of commericial airliners in formation flight* . MIng, 2015. 109 pp. Studieleier: ENGELBRECHT JA.

BURGER AJ. *Occupancy grid mapping using stereo vision* . MIng, 2015. 83 pp. Studieleier: VAN DAALEN CE.

CALITZ N. *The Design and implementation of a stellar gyroscope for accurate angular rate estimation on CubeSats* . MIng, 2015. 104 pp. Studieleier: STEYN WH.

DE VILLIERS A. *Development of a software application utilising classical efficiency theory, regression and data envelopment analysis in the evaluation of thermal power plant performance* . MIng, 2015. 142 pp. Studieleier: VERMEULEN HJ.

DU PLESSIS HG. *Design and fabrication of a SAW device for gas detection* . MScIng, 2015. 117 pp. Studieleier: PEROLD WJ.

DU PLOOY J. *Development of a converter-fed reluctance synchronous generator wind turbine controller* . MIng, 2015. 79 pp. Studieleier: GULE N.

ENGELBRECHT J. *Identification of driving manoeuvres using smartphone-based GPS and inertial forces measurements* . MIng, 2015. 102 pp. Studieleier: BOOYSEN MJ. Medestudieleier: VAN ROOYEN G.

FAST S. *Development of a software application for statistical analysis of photovoltaic plant performance* . MIng, 2015. 161 pp. Studieleier: VERMEULEN HJ.

FOURIE CK. *The autonomous landing of an unmanned helicopter on a moving platform* . MIng, 2015. 103 pp. Studieleier: JONES T.

FOURIE DR. *Real time segmentation of heart sounds.* . MIng, 2015. 57 pp. Studieleier: BOOYSEN MJ.

GOODRICK L. *Image reconstruction in radio astronomy with non-coplanar synthesis arrays* . MIng, 2015. 73 pp. Studieleier: DAVIDSON DB. Medestudieleier: YOUNG A.

GUNDA L. *Brush-DC equivalent control based delta modulation for a PWM inverter-fed nine-phase induction machine drive* . MIng, 2015. 130 pp. Studieleier: GULE N.

JANSE VAN VUUREN GH. *The design and simulation analysis of an attitude determination and control system for a small earth observation satellite* . MIng, 2015. 100 pp. Studieleier: STEYN WH.

JANSE VAN VUUREN LJ. *Design and test implementation of a global interconnected SQUID geomagnetometer network* . MIng, 2015. 89 pp. Studieleier: FOURIE CJ.

JOUBERT LH. *Design optimisation of a transverse flux linear oscillating generator for resonant free-piston stirling applications* . MScIng, 2015. 175 pp. Studieleier: STRAUSS JM.

JUNAID M. *The development of a hardware-in-the-loop platform for the attitude determination and control testing of a small satellite* . MIng, 2015. 144 pp. Studieleier: STEYN WH.

KUJA SO. *Characterization of RF Signal Coupling into MeerKAT Telescopes*. MIng, 2015. 85 pp. Studieleier: WIID PG.

LOCHNER ET. *Towards a global SQUID network through optimal monitoring station design* . MIng, 2015. 124 pp. Studieleier: FOURIE CJ.

MAAS M. *Low-cost, portable biosensors for Escherichia coli detection in water* . MIng, 2015. 156 pp. Studieleier: PEROLD WJ.

MEIJERS JP. *Design considerations for wildlife monitoring networks* . MIng, 2015. 116 pp. Studieleier: WOLHUTER R.

MEYER B. *Comparing baseband and intermediate frequency FMCW receivers* . MIng, 2015. 194 pp. Studieleier: DE SWARDT JB.

MÖLLER PDS. *Automated landing of a quadrotor unmanned aerial vehicle on a translating platform* . MIng, 2015. 222 pp. Studieleier: ENGELBRECHT JAA.

MYBURGH JG. *The design and development of a co-pulse IFM receiver* . MIng, 2015. 90 pp. Studieleier: DE SWARDT JB.

NDAPUKA AT. *Design and development of a monitoring station for the long-term investigation of dust pollution effect on the performance of PV panels* . MIng, 2015. 142 pp. Studieleier: STRAUSS JM.

NEL PJC. *Rethinking electrical water heaters* . MIng, 2015. 106 pp. Studieleier: BOOYSEN MJ. Medestudieleier: VAN DER MERWE AB.

OOSTHUIZEN PC. *Towards a framework for the design and development of a system for practical education in electrical engineering* . MScIng, 2015. 210 pp. Studieleier: STRAUSS JM.

PATHARE S. *Detection of black-backed jackal in still images* . MIng, 2015. 86 pp. Studieleier: DU PREEZ JA.

PIENAAR LJ. *Probabilistic conflict detection for commercial aircrafts near airports* . MIng, 2015. 104 pp. Studieleier: JONES T.

PIETERSE JJ. *Comparative evaluation of the mobile internet protocol 6 suite* . MScIng, 2015. 136 pp. Studieleier: WOLHUTER R.

ROBERTS RMC. *Automated parameter extraction for single flux quantum integrated circuits with LVS*. MIng, 2015. 127 pp. Studieleier: FOURIE CJ.

ROSSOUW NC. *A GPS-based on-board orbit propagator for low earth-orbiting cubesats* . MIng, 2015. 108 pp. Studieleier: STEYN WH.

SMITH DV. *Biologically inspired flight: The autonomous control of a quadcopter using spiking neural networks* . MIng, 2015. 108 pp. Studieleier: JONES T.

STEYN DG. *Dual gimbal control moment gyro for cubesats*. MIng, 2015. 126 pp. Studieleier: STEYN WH.

STRYDOM WJ. *Recovery based error estimation for the method of moments* . MIng, 2015. 91 pp. Studieleier: BOTHA MM.

TLALI PM. *Design and performance evaluation of an outer stator magnetically geared permanent magnet machine* . MIng, 2015. 89 pp. Studieleier: WANG R.

VAN DEN AARDWEG W. *Robust Sampling-Based Conflict Resolution for Commercial Aircraft in Airport Environments* . MIng, 2015. 126 pp. Studieleier: ENGELBRECHT JAA. Medestudieleier: VAN DAALEN CE.

VAN GREUNEN M. *Forecasting methods for cloud hosted resources, a comparison* . MIng, 2015. 115 pp. Studieleier: ENGELBRECHT HA.

VAN VUUREN LM. *Design of a receiver system for use in radio astronomy* . MIng, 2015. 186 pp. Studieleier: DE VILLIERS DIL.

VAN WYK PJJ. *Design and evaluation of medium speed geared direct grid connected wind generator drive train with speci c focus on slip permanent magnet coupling* . MIng, 2015. 86 pp. Studieleier: KAMPER MJ.

VERSTER C. *Smart transformer communication and application in rural microgrid settings* . MIng, 2015. 190 pp. Studieleier: BEUKES HJ.

VON LEIPZIG M. *Code generation and simulation of an automatic, felxible QC-LDPC hardware decoder* . MIng, 2015. 117 pp. Studieleier: VAN ROOYEN G.

**Departement Meganiese en Megatroniese Ingenieurswese**

**Department of Mechanical and Mechatronic Engineering**

**Tydskrifartikels/Journal Articles (subsidised)**

ALLEN KG, VON BACKSTROM TW, KROGER DG. Rock bed pressure drop and heat transfer: Simple design correlations. *Solar Energy* 2015; **115**:525-536.

BECKER TH, BECK M, SCHEFFER C. Microstructure and mechanical properties of direct metal laser sintered TI-6AL-4V† . *South African Journal of Industrial Engineering* 2015; **26(1)**:1-10.

BECKER TH, VAN ROOYEN M, DIMITROV DM. Heat Treatment of TI-6AL-4V produced by LaserCUSING. *South African Journal of Industrial Engineering* 2015; **26(2)**:93-103.

BEYERS WA, ZAPKE AJ, VENTER G. Improved cover type header box design procedure. *R&D Journal* 2015; **31**:76-85.

BROOKS MJ, DU CLOU S, VAN NIEKERK JL, GAUCHE P, LEONARD C, MOUZOURIS M, MEYER A.J., VAN DER WESTHUIZEN N, VAN DYK E, VORSTER FJ. SAURAN: A new resource for solar radiometric data in Southern Africa. *Journal of Energy in Southern Africa* 2015; **26**(1):1-10.

BURGER CJ, VAN DEN HEEVER DJ. Removal of EOG artefacts by combining wavelet neural network and independent component analysis. *BIOMEDICAL SIGNAL PROCESSING AND CONTROL* 2015; **15**:67-79.

CHO KJ, MULLER JH, ERASMUS PJ. Trochlear groove alignment measurement method for surgical applications. *Journal of Mechanics in Medicine and Biology* 2015; **15**(2):Art # 1540033, 7 pages.

DAWSON R, DIACON AH, EVERITT D, VAN NIEKERK C, DONALD PR, BURGER DA, SCHALL R, SPIGELMAN M, CONRADIE A, EISENACH K, VENTER A, IVE P, PAGE-SHIPP L, VARIAVA E, REITHER K, NTINGINYA E, PYM A, VON GROOTE-BIDLINGMAIER FT, MENDEL CM. Efficiency and safety of the combination of moxifl oxacin, pretomanid (PA-824), and pyrazinamide during the first 8 weeks of antituberculosis treatment: a phase 2b, open-label, partly randomised trial in patients with drug-susceptible or drug-resistant pulmonary tuberculosis. *Lancet* 2015; **385**(9979):1738-1747.

DUNN D, VON BACKSTROM TW, SNEDDEN G. An unsteady numerical analysis of a generic non-axisymmetric turbine endwall in a 1½ stage turbine test rig. *Aeronautical Journal* 2015; **119**:1-11.

FANFONI A, DOBSON RT. Heat transfer simulation modelling for unclothed human infants. *R&D Journal* 2015; **31**:17-26.

FOURIE N, VAN DER SPUY SJ, VON BACKSTROM TW. Simulating the effect of wind on the performance of axial flow fans in air-cooled steam condenser systems. *Journal of Thermal Science and Engineering Applications* 2015; **7**(2):1-12.

GIGLMAYR S, BRENT AC, GAUCHE P, FECHNER H. Utility-scale PV power and energy supply outlook for South Africa in 2015. *Renewable Energy* 2015; **83**:779-785.

HAMEER SJ, VAN NIEKERK JL. A review of large-scale electrical energy storage. *International Journal of Energy Research* 2015; **39**(9):1179-1195.

HINDLEY MP, VAN LITSENBORGH DC, GROENWOLD A, BECKER TH. Failure prediction of full-size reactor components from tensile specimen data on NBG-18 nuclear graphite. *Nuclear Engineering and Design* 2015; **284**:1-9.

HOFFMANN JE, MADALY K. On thermal energy storage capacity for CSP plant in South Africa. *R&D Journal* 2015; **31**:27-32.

IKUZWE A, SEBITOSI AB. A novel design of a daylighting system for a classroom in rural South Africa. *Solar Energy* 2015; **114**:349-355.

JOUBERT EC, HARMS TM, VENTER G. Computational simulation of the turbulent flow around a surface mounted rectangular prism. *Journal of Wind Engineering and Industrial Aerodynamics* 2015; **142**:173-187.

LOUW FG, VON BACKSTROM TW, VAN DER SPUY SJ. Lift and drag characteristics of an air-cooled heat exchanger axial flow fan. *Journal of Fluids Engineering-Transactions of the Asme* 2015; **137**:1-9.

MOLTENO MR, BECKER TH. Mode I-III decomposition of the J-integral from DIC displacement data. *Strain* 2015; **51**:492-503.

RUGBANI A, SCHREVE K. The kinematics and error modelling of a novel micro-CMM. *International Journal of Advanced Manufacturing Technology* 2015; **78**:961-969.

SSEBABI B, DOBSON RT, SEBITOSI AB. Characterising a turbine for application in an organic Rankine cycle. *Energy* 2015; **93**:1617-1632.

STANDER JN, VENTER G, KAMPER MJ. Structural mass reduction by integrating active material in direct drive generator design. *Structural and Multidisciplinary Optimization* 2015; **52**(2):405-416.

TAULO JTL, GONDWE KJ, SEBITOSI AB. Energy supply in Malawi: Options and issues. *Journal of Energy in Southern Africa* 2015; **26**(2):19-32.

VAN DER SPUY SJ, VON BACKSTROM TW. An evaluation of simplified CFD models applied to primeter fans in air-cooled steam condensers. *Proceedings of the Institution of Mechanical Engineers Part A-Journal of Power and Energy* 2015; **IMechE 2015**:1-20.

VAN ZYL JJ, COWLEY AA, NEVELING R, BUTHELEZI EZ, FÖRTSCH SV, MABIALA J, NEMULODI F, SWARTZ JA, ET AL . Incident-energy dependence of angular distributions of cross section and analyzing power for the 58Ni( p,3He)56Co reaction between 80 and 120 MeV. *Physical Review C* 2015; **91**:024614-11.

**Tydskrifartikels/Journal Articles (NON-subsidised)**

DU PLESSIS A, LE ROUX SG, ELS J, BOOYSEN GJ, VAN LITSENBORGH DC. Application of microCT to the non-destructive testing of an additive manufactured titanium component. *Case studies in nondestructive testing and evaluation* 2015; **4**:1-7.

GARIKAYI T, MATOPE S, VAN DEN HEEVER DJ. Development of an adaptive controller for lower limb rehabilitation device. *International Jnl of Mechanical Engineering & Automation* 2015; **2**(6):245-256.

GILDENHUYS F, DOBSON RT. Force plate balance response of seafarers during still and rough sea conditions. *Jnl of Medical & Bioengineering* 2015; **4**(4):275-279.

PAYNE BA, HUTCHEON JA, DUNSMUIR D, CLOETE G, DUMONT G, HALL DR, LIM J, MAGEE LA, SIKANDAR R, QURESHI R, VAN PAPENDORP E, ANSERMINO JM, VON DADELSZEN P. Assessing the incremental value of blood oxygen saturation (SpO2) in the miniPIERS (Pre-eclampsia Integrated Estimate of RiSk) Risk Prediction Model. *Journal of Obstetrics and Gynaecology Canada* 2015; **1**:16-24.

PÉREZ G.M, SARANCHUK P, SWART W, MUNYENYEMBE J.K. Barriers to pilot mobile teleophthalmology in a rural hospital in Southern Malawi. *Pan African Medical Journal* 2015; **19:136**:1-8.

PRINSLOO GJ, DOBSON RT. Combined solar heat and power with microgrid storage and layered smartgrid control toward supplying off-grid rural villages. *Energy Science & Engineering* 2015; **3**:135-144.

TORA E, VAN NIEKERK JL, FOUCHE E, BRENT AC. State of the art on modelling techniques for renewable energy integration into the energy mix. *International Journal of Advanced Information Science and Technology (IJAIST)* 2015; **40**(40):204-215.

**Verrigtinge Internasionaal/Proceedings International**

ANDERSON NR, REUTER HCR. *Performance evaluation of a bare tube air-cooled heat exchanger bundle in dry and wet mode*. 17th IAHR International Conference on Cooling Tower and Heat Exchanger, Queensland, Australia, University of Queensland 2015: 21-40.

CRAIG OO, DOBSON RT. *Parabolic Solar Cooker: Cooking with Heat Pipe VS Direct Spiral Copper Tubes*. SWC 2015, SCW 2015: 1-6.

DHANSAY NM, BECKER TH. *A Comparative Review of the Mechanical properties of SLM Produced Ti-6Al-4V*. 16 th International Conference RAPDASA 2015, South Africa, RAPDASA 2015: 1-14.

DU PLESSIS J, REUTER HCR. *Performance evaluation of water collection systems with a hybrid dephlegmator*. 17th IAHR International Conference on Cooling Tower and Heat Exchanger, Queensland, Australia, University of Queensland 2015: 474-492.

EISENBERG M, OLADIRAN MT, UZIAK J, KIESER E, VAN DEN HEEVER DJ. *Promoting entrepreneurship for Southern African youth through localised entrepreneural academic programme (LEAP)*. Edulearn 15 7th International Conference on Education and New Learning Technologies, Barcelona, Spain, iated.org/edulearn 2015: 5982-5986.

ERASMUS PJ, CHO KJ, MULLER JH. *Additive manufacturing in the experimental development of patient specific instrumentation and prosthesis for patellofemoral knee replacement*. In: Theron M (ed.) 16th International Rapid Product Development (RAPDASA) Conference, South Africa, CSIR 2015: 1-8.

HELLER LJ, HOFFMANN JE. *A cost and performance evaluation of SUNDISC: a dual-pressure air receiver cycle*. In: Wang Z (ed.) International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2014(Energy Procedia), Beijing, China, Elsevier 2015: 1287-1295.

KRUGER K, BASSON AH. *Implementation of an Erlang-based Resource Holon for a Holonic Manufacturing Cell*. In: Borangiu T, Thomas A, Trentesaux D (eds.) SOHOMA'14 Workshop on Service Orientation in Holonic and Multi-Agent Manufacturing (Service Orientation in Holonic and Multi-agent Manufacturing), Nancy, France, Springer International 2015: 49-58.

LOUW FG, VON BACKSTROM TW, VAN DER SPUY SJ. *Experimental investigation of the blade surface pressure distribution in an axial flow fan for a range of flow rates*. ASME Turbo Expo 2015, Montreal, Canada, The American society of Mechanical Engineers 2015: 1-12.

MALAN DJ, DOBSON RT, DINTER F. *Solar thermal energy storage in power generation using phase change material with heat pipes and fins to enhance heat transfer*. In: Wang Z (ed.) International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2014 (Energy Procedia), Beijing, China, Elsevier 2014: 925-936.

MINNAAR NJ, VAN DEN HEEVER DJ. *A kicking simulator to investigate the foot-ball interaction during a rugby place kick*. 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society, Milano, Italy, Medline U.S national Library of Medicine 2015: 95.

MUIYSER J, ELS DNJ, VAN DER SPUY SJ, ZAPKE AJ. *The determination of fan blade aerodynamic loading from a measured response*. ASME Turbo Expo 2015, Montreal, Canada, The American society of Mechanical Engineers 2015: 1-12.

MULLER JH, VAN DEN HEEVER DJ. *The Evolution of the Biomedical Engineering Research Group (BERG) at Stellenbosch University*. 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC2015), Milan, Italy, IEEE 2015: 1.

OLADIRAN MT, UZIAK J, VAN DEN HEEVER DJ, EISENBERG M. *Industry and University collaboration - the case of global engineering teams*. Edulearn 15 7th International Conference on Education and New Learning Technologies, Barcelona, Spain, iated.org/edulearn 2015: 5921-5926.

OMER H, BEKKER A. *A study of wave slamming vibrations and analysis in the context of human factors on the S.A. Agulhas II during a voyage to the southern ocean*. 50th UK Conference on Human responses to Vibration, South Hampton, United Kingdom, Institute of Sound and Vibration Research 2015: 249-260.

OWEN MTF, KROGER DG, REUTER HCR. *Enhancing turbine output at dry-cooled power plants using a hybrid (dry/wet) dephlegmator*. 17th IAHR International Conference on Cooling Tower and Heat Exchanger, Queensland, Australia, University of Queensland 2015: 460-473.

PRINSLOO GJ, BRENT AC, DOBSON RT, MAMMOLI A. *Modelling and Control Synthesis of a Micro-Combined Cooloing Heat and Power Interface for a Concentrating Solar Power System in Off-Grid Rural Power Applications*. SWC 2015, SWC 2015: 1-6.

ROUX D, REUTER HCR. *Performance evaluation and design of a new cooling tower spray system for uniform water distribution*. In: Hooman K, Gurgenci H, Guan Z, Lu Y, Lucas M (eds.) 17th IAHR International Conference on Cooling Tower and Heat Exchanger, Queensland, Australia, University of Queensland 2015: 504-515.

SENDA FM, DOBSON RT. *Validation of the thermo-fluid characteristics for laminated screens woven copper wire mesh enhancing the regenerative compact heat exchanger heat transfer areas*. 13th International Energy Conversion Engineering Conference, Orlando, Florida, USA, American Institute of Aeronautics, Inc 2015: 1-12.

SILINGA CN, GAUCHE P, RUDMAN J, CEBECAUER T. *The South African REIPPP two-tier CSP tariff: Implications for a proposed hybrid CSP peaking system*. In: Wang Z (ed.) International Conference on Concentrating Solar Power and Chemical Energy Systems, SolarPACES 2014(Energy Procedia), Beijing, China, Journal of Power and Energy 2015: 1431-1440.

SOAL KI, BEKKER A, BIENERT J. *Structural vibration analysis on the polar supply and research vessel the S.A. Agulhas II in Antarctica*. 23rd International Conference on Port and Ocean under Arctic Conditions (POAC 2015), Trondheim, Norway, POAC 2015: 512-522.

SOAL KI, BEKKER A. *Operational modal analysis on the polar supply and research vessel the S.A. Agulas II*. In: Aenlle ML, Fernández PF, ET AL (eds.) 6th International Operational Modal Analysis Conference (6th IOMAC), Gijon, Spain, IOMAC 2015: 611-618.

WILKINSON MB, VAN DER SPUY SJ. *The effect of fan tip configuration on air-cooled condenser axial flow fan performance*. International Conference on Fan Noise, Technology and Numerical Methods, Lyon, France, Journal of Power and Energy 2015: 89-97.

**Verrigtinge Nasionaal/Proceedings National**

ALLEN KG, PITOT DE LA BEAUJADIERE J, VON BACKSTROM TW, REUTER HCR. *The Suitability of the Infinite NTU Model for Long-Term Rock Bed Thermal Storage Performance Simulation*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger National Park, South Africa, UPSpace Institutional Repository - Dept of Library Services 2015: 1-8.

AURET C, GAUCHE P. *Replacing intermittent renewable capacity in the 2010 IRP with CSP: Effect on coal fired power station capacity factors in 2030*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

CEBECAUER T, SURI M, MEYER AJ, VAN NIEKERK JL. *Accuracy-enhanced solar resource maps of South Africa*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger national Park, South Africa, UPSpace Institutional Repository - Dept of Library Services 2015: 450-456.

CRAIG OO, DOBSON RT, DINTER F. *Stand-Alone CSP Parabolic Solar Cookers and Rural Industrialisation in Southern Africa*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger National Park, South Africa, UPSpace Institutional Repository - Dept of Library Services 2015: 1-8.

DINTER F, BUSSE K.T.. *Overview of predictive CSP spread scenarios and its opportunities*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger national Park, South Africa, UPSpace Institutional Repository - Dept of Library Services 2015: 1-6.

DINTER F. *Operation Experience of a 50MW Solar Thermal parabolic Trough Plant in Spain*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

GROBLER A, GAUCHE P. *A Review of Aiming Strategies for Central Receivers*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

HAMEER SJ, VAN NIEKERK JL. *A thermodynamic model for comparing thermal energy storage sysem to electrochemical, chemical, and mechanical energy storage technologies*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger national Park, South Africa, UPSpace Institutional Repository - Dept of Library Services 2015: 123-128.

HAMEER SJ. *An assessment of hybrid solar photovoltaic and wind potential of Tanzania using MATLAB*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library 2015: 1-8.

HELLER LJ, HOFFMANN JE. *Comparison of different configurations of a combined cycle CSP plant*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-6.

HELLER LJ, MESNIL B, HOFFMANN JE. *Initial Investigation of Liquid Glass as a Thermal Medium in CSP Plants*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger National Park, South Africa, UPSpace Institutional Repository - Dept of Library Services 2015: 1-8.

HESS S. *Stationary booster reflectors for solar thermal process heat generation*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger National Park, South Africa, UPSpace Institutional Library- Dept of Library Services 2015: 153-158.

HOFFMANN JE. *Identifying the optimum storage capacity for a 100MW CSP plant in South Africa*. 2nd Southern African Solar Energy Conference, Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

HOFFMANN JE. *Optimization of Internally Finned Tubes for Solar Receivers*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

JADHAV A, VAN NIEKERK JL. *Prospects of inclined solar chimney concept in South Africa*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger national Park, South Africa, UPSpace Institutional Repository - Dept of Library Services 2015: 159-163.

JOUBERT EC, VAN NIEKERK JL. *Industrial Solar Process Heat Yield and Feasibility*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger national Park, South Africa, UPSpace Institutional Repository - Dept of Library Services 2015: 1-6.

KRITZINGER K, VAN NIEKERK JL, BEKKER B. *Unlocking the rooftop PV market in South Africa*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library 2015: 1-8.

LANDMAN WA, GAUCHE P. *Analysis of canting strategies using the HFCAL model*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

LARMUTH JN, MALAN KJ, GAUCHE P. *Design and Cost Review of 2M2 Heliostat Prototypes*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

LUBKOLL M, VON BACKSTROM TW, KROGER DG. *Survey on Pressurized Air receiver Development*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

LUTCHMAN SL, GAUCHE P, GROENWOLD A. *On selecting a method for heliostat field layout optimization*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

MALAN KJ, GAUCHE P. *A locally developed 40m² wireless heliostat array control system*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

MEYER AJ, VAN NIEKERK JL. *Towards a verified DNI map for South Africa*. 3rd Southern African Solar Energy Conference (SASEC 2015), Skukuza, Kruger national Park, South Africa, UPSpace Institutional Repository - Dept of Library Services 2015: 445-449.

SILINGA CN. *Soltrain II - Solar water heating system test and demonstration facility*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger National Park, South Africa, UPSpace Institutional Repository - Dept of Library services 2015: 1-8.

TORA EAAM, VAN NIEKERK JL. *Different designs of nanofluids-based flat-plate solar collectors*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library 2015: 1-8.

VAN DER MERWE PC, HOFFMANN JE. *Annular solar receiving tube*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

VAN DER WALT RJ, VAN NIEKERK JL, CREWE-BROWN JJ, FAIRHURST J. *Design consideration for a solarturtle*. 3rd Southern African Solar Energy Conference, Skukuza, Kruger national Park, South Africa, UPSpace Institutional Repository - Dept of Library services 2015: 1-3.

WILMS JM, HARMS TM. *On the development of OpenFOAM solver to model two-phase horizontal flow in the receiver of a parabolic trough collector*. 2nd Southern African Solar Energy Conference (SASEC), Port Elizabeth, South Africa, EDAS, National Library of South Africa 2014: 1-8.

**Doktoraal afgehandel/Doctoral completed**

BROOKS MJ, VON BACKSTROM TW, VAN DYK E. *Application of a Perforated Shadow Band to the Decomposition of Global Solar Irradiance* . PhD (Eng), 2015. 193 pp.

COCKCROFT SJ, MULLER JH, SCHEFFER C, VAN DEN HEEVER DJ. *Novel motion capture methods for sports analysis: case studies of cycling and rugby goal kicking* . PhD (Eng), 2015. 147 pp.

HINDLEY MP. *Next generation high-temperature gas reactors: A failure methodology for the design of nuclear graphite components* . DIng, 2015. 200 pp.

JOUBERT EC, HARMS TM, VENTER G. *Numerical and experimental investigation of one-way fluid structure interaction of a vertical cantilever beam in an air stream* . PhD (Eng), 2015. 175 pp.

LOUW FG, VON BACKSTROM TW, VAN DER SPUY SJ. *Investigation of the flow field in the vicinity of an axial flow fan during low flow rates* . PhD (Eng), 2015. 212 pp.

**Magister afgehandel/Masters completed**

BASSON NR. *Investigating the effect of aerodynamic damping on an axial flow fan blade* . MIng Navorsing, 2015. 80 pp. Studieleier: VAN DER SPUY SJ, ELS DNJ.

CRAIG OO, HOFFMANN JE, DOBSON RT. *A stand-alone parabolic dish solar cooker for African conditions* . MIng Navorsing, 2015. 84 pp.

CRONJE M, GROENWOLD A. *On alternative solution methods for solving approximate subproblems in SAO (Sequential Approximate Optimization)* . MScIng, 2015. 54 pp.

FAIRHURST J, VAN NIEKERK JL. *Modelling and design of an oscillating wave energy converter* . MIng Navorsing, 2015. 82 pp.

FRASER J, DOBSON RT. *Surface tension driven water pumping: A bio-inspired passive water pump*. MSc, 2015. 84 pp.

HAMMAN RA, VENTER G, VAN DER SPUY SJ. *The analysis and optimization of an axial compressor* . MScIng, 2015. 85 pp.

HOBBS K, DOBSON RT. *Thermally driven natural circulation*. MIng Navorsing, 2015. 84 pp.

HOMANN C, VAN DER SPUY SJ, VON BACKSTROM TW. *Effects of solar hybridization on the performance of a gas turbine* . MIng Navorsing, 2015. 78 pp.

JEGGELS DH, DOBSON RT. *Transient simulation of a lithium bromide-water vapour absorption refrigeration system* . MScIng, 2015. 78 pp.

KAYOFA L, DOBSON RT. *Feasibility study and business plan for manufacturing a 3 kW-electrical solar stirling engine and dish for stand-alone power supply units*. MIng Navorsing, 2015. 84 pp.

KIESER E, SCHEFFER C, VAN DEN HEEVER DJ. *Hydration sensor development for use on infants in underserved areas* . MIng Navorsing, 2015. 76 pp.

LARMUTH JN, GAUCHE P. *Heliostat cost reduction methods applied to a small heliostat* . MIng Gestruktureerd , 2015. 60 pp.

LOMBARD HJ, DOBSON RT. *Small Solar Organic Rankine Cycle for Electricity Generation* . MIng Navorsing, 2015. 70 pp.

MCDOUGALL DJ, GROENWOLD A, KOK S. *The Suitability of a Simultaneous Analysis and Design (SAND) Formulation for Ground Structure Based Sizing Optimisation of Geometrically Non-linear Structures* . MIng Navorsing, 2015. 80 pp.

MEYER I, VAN NIEKERK JL. *Towards a practical resource assessment of the energy in the Agulhas Ocean Current* . MIng Gestruktureerd , 2015. 62 pp.

SANGWENI LS, DOBSON RT. *Experimental and numerical modelling of a two-phase natural circulation multi-parallel chanel system*. MIng Navorsing, 2015. 84 pp.

SWIEGERS JJ, DOBSON RT. *Inlet and outlet shape design of natural circulation building ventilation systems*. MIng Navorsing, 2015. 84 pp.

VAN DER MERWE C, NEL W, VAN NIEKERK JL. *The Impact of Electric Vehicles on the South African Energy Sector - a Holistic Assessment* . MIng Gestruktureerd , 2015. 58 pp.

VAN DER WESTHUIZEN JJ, HOFFMANN JE. *Liquid Extraction on Air Cooled Condensor Steam Ducts* . MIng Navorsing, 2015. 113 pp.

**Departement Prosesingenieurswese**

**Department of Process Engineering**

**Tydskrifartikels/Journal Articles (subsidised)**

ALDRICH C, UAHENGO FDL, KISTNER M. Estimation of particle size in hydrocyclone underflow streams by use of Multivariate Image Analysis. *Minerals Engineering* 2015; **70**:14-19.

ALIMANDEGARI M, FARZAD S, PAHLAVANZADEH H. Exergy Performance Analysis and Optimization of a Desiccant Wheel System. *Journal of Thermal Science and Engineering Applications* 2015; **7**(3):1-10.

ANEKE M, GORGENS JF. Evaluation of the separation energy penalty associated with low butanol concentration in the fermentation broth using entropy analysis. *Fuel* 2015; **150**:583-591.

BRIENZO M, TYHODA L, BENJAMIN YL, GORGENS JF. Relationship between physicochemical properties and enzymatic hydrolysis of sugarcane bagasse varieties for bioethanol production. *New Biotechnology* 2015; **32**(2):253-262.

BRIKA B, BRADSHAW SM, JACOBS EP. Investigation of geometric properties of media particles and operating conditions on floating media filtration. *Desalination and Water Treatment* 2015; **54**(8):2091-2099.

CHARIKINYA E, BRADSHAW SM, BECKER M. Characterising and quantifying microwave induced damage in coarse sphalerite ore particles. *Minerals Engineering* 2015; **82**:14-24.

CHIBWE DK, AKDOGAN G, TASKINEN P, EKSTEEN JJ. Modelling of fluid flow phenomena in Perice-Smith copper converters and analysis of combined blowing concept. *Journal of the Southern African Institute of Mining and Metallurgy* 2015; **115**:363-374.

CHIBWE DK, KAPUSTA JPT, AKDOGAN G, BEZUIDENHOUT GA, BRADSHAW SM, EDWARDS DW. Sonic injection into a PGM Peirce-Smith converter: CFD modelling and industrial trials. *Journal of the Southern African Institute of Mining and Metallurgy* 2015; **115**:349-354.

CHIMPHANGO AFA, GORGENS JF. Postharvest technology for advancing sustainable bioenergy production for food processing. *British Food Journal* 2015; **117**(12):2850-2862.

CHIYANZU I, BRIENZO M, GARCIA APARICIO MDP, AGUDELO AGUIRRE RA, GORGENS JF. Spent coffee ground mass solubilisation by steam explosion and enzymatic hydrolysis. *Journal of Chemical Technology and Biotechnology* 2015; **90**:449-458.

CHOLLOM MN, RATHILAL S, PILLAY VL, ALFA D. The applicability of nanofiltration for the treatment and reuse of textile reactive dye effluent. *Water SA* 2015; **41**(3):398-405.

CLOETE JH, AKDOGAN G, BRADSHAW SM, CHIBWE DK. Physical and numerical modelling of a four-strand steelmaking tundish using flow analysis of different configurations. *Journal of the Southern African Institute of Mining and Metallurgy* 2015; **115**:355-362.

CRIPWELL JT, SCHWARZ CE, BURGER AJ. Vapor-Liquid Equilibria Measurements for the Nine *n*-Alkane/Ketone Pairs Comprising 2-, 3-, and 4-Heptanone with *n*-Octane, *n*-Nonane, and *n*-Decane. *Journal of Chemical and Engineering Data* 2015; **60**:602-611.

DANON B, DE VILLIERS AJ, GORGENS JF. Elucidation of the different devolatilisation zones of tyre rubber pyrolysis using TGA-MS. *Thermochimica Acta* 2015; **614**:59-61.

DANON B, GORGENS JF. Determining rubber composition of waste tyres using devolatilisation kinetics. *Thermochimica Acta* 2015; **621**:56-60.

DANON B, MKHIZE NM, VAN DER GRYP P, GORGENS JF. Combined model-free and model-based devolatilisation kinetics of tyre rubbers. *Thermochimica Acta* 2015; **601**:45-53.

DANON B, VAN DER GRYP P, SCHWARZ CE, GORGENS JF. A review of dipentene (DL-limonene) production from waste tire pyrolysis. *Journal of Analytical and Applied Pyrolysis* 2015; **112**:1-13.

DEN HAAN R, VAN RENSBURG E, ROSE SH, GORGENS JF, VAN ZYL WH. Progress and challenges in the engineering of non-cellulolytic microorganisms for consolidated bioprocessing. *Current Opinion in Biotechnology* 2015; **33**:32-38.

DU PREEZ R, CLARKE KG, CALLANAN LH, BURTON SG. Modelling of immobilised enzyme biocatalytic membrane reactor performance. *Journal of Molecular Catalysis B-Enzymatic* 2015; **119**:48-53.

FAHIMIRAD M, FARZAD S, MOGHADDAM SN, SAREMI HS. A three-stage scenario based operational performance test approaches for production capacity enhancement: Case study on the 5th refinery of South Pars Gas Complex in Iran. *Journal of Natural Gas Science and Engineering* 2015; **27**:1758-1770.

FOURIE FCVN, SCHWARZ CE, KNOETZE JH. Analytic Setup for Multicomponent High-Pressure Phase Equilibria via Dual Online Gas Chromatography. *Chemical Engineering & Technology* 2015; **38**(7):1165-1172.

GENGA RM, AKDOGAN G, POLESE C, GARRET JC, CORNISH LA. Abrasion wear, thermal shock and impact resistance of WC-cemented carbides produced by PECS and LPS. *International Journal of Refractory Metals & Hard Materials* 2015; **49**:133-142.

GENGA RM, AKDOGAN G, WESTRAADT JE, CORNISH LA. Microstructure and material properties of PECS manufactured WC-NbC-CO and WC-TiC-Ni cemented carbides. *International Journal of Refractory Metals & Hard Materials* 2015; **49**:240-248.

GOMES KRG, CHIMPHANGO AFA, GORGENS JF. Modifying solubility of polymeric xylan extracted from *Eucalyptus grandis* and sugarcane bagasse by suitable side chain removing enzymes. *Carbohydrate Polymers* 2015; **131**:177-185.

GOOSEN NJ, DE WET LF, GORGENS JF. Comparison of hydrolysed proteins from different raw materials in diets for Mozambique tilapia *Oreochromis mossambicus*. *Aquaculture International* 2015; **23**:1165-1178.

GORGENS JF, BRESSLER DC, VAN RENSBURG E. Engineering *Saccharomyces cerevisiae*for direct conversion of raw, uncooked or granular starch to ethanol. *Critical Reviews in Biotechnology* 2015; **35**(3):369-391.

GOTTUMUKKALA LD, SUKUMARAN RK, MOHAN SV, VALAPPIL SK, SARKAR O, PANDEY A. Rice straw hydrolysate to fuel and volatile fatty acid conversion by *Clostridium sporogenes* BE01: bio-electrochemical analysis of the electron transport mediators involved. *Green Chemistry* 2015; **17**:3047-3058.

HAMUYUNI J, HELLSTÉN N, AKDOGAN G, TASKINEN P. The Liquidus in Cu-O-CaO System at Metallic Copper Saturation up to 1698 K. *Journal of the American Ceramic Society* 2015; **98**(1):320-323.

JOUBERT J, CARRIER M, DAHMEN N, STAHL R, KNOETZE JH. Inherent process variations between fast pyrolysis technologies: a case study on *Eucalyptus grandis*. *Fuel Processing Technology* 2015; **131**:389-395.

KRUGER FJ, SCHWARZ CE, DU PREEZ LJ, BURGER AJ. Monomer fraction data of dilute alcohol/acetone systems measured with transmission Fourier transform infrared spectroscopy. *Fluid Phase Equilibria* 2015; **400**:87-94.

LYND LR, SOW MARIAM, CHIMPHANGO AFA, CORTEZ LAB, CRUZ CHB, ELMISSIRY M, LASER M, MAYAKI IA, MORAES MAFD, NOGUEIRA LAH, WOLFAARDT GM, WOODS J, VAN ZYL WH. Bioenergy and African transformation. *Biotechnology for Biofuels* 2015; **8**:1-18.

MALAN WDT, AKDOGAN G, BRADSHAW SM, BEZUIDENHOUT GA. The recovery of platinum group metals from low-grade concentrates to an iron alloy using silicon carbide as reductant. *Journal of the Southern African Institute of Mining and Metallurgy* 2015; **115**:375-383.

MULWANDA J, DORFLING C. Recovery of dissolved platinum group metals from copper sulphate leach solutions by precipitation. *Minerals Engineering* 2015; **80**:50-56.

NSAFUL F, COLLARD FX, CARRIER MBN, GORGENS JF, KNOETZE JH. Lignocellulose pyrolysis with condensable volatiles quantification by thermogravimetric analysis – Thermal desorption/gas chromatography-mass spectrometry method. *Journal of Analytical and Applied Pyrolysis* 2015; **116**:86-95.

PENGILLY C, GARCIA APARICIO MDP, DIEDERICKS D, BRIENZO M, GORGENS JF. Enzymatic hydrolysis of steam-pretreated sweet sorghum bagasse by combinations of cellulase and endo-xylanase. *Fuel* 2015; **154**:352-360.

PETERSEN AM, FARZAD S, GORGENS JF. Techno-economic assessment fo integrating methanol of Fischer-Tropsch synthesis in a South African sugar mill. *Bioresource Technology* 2015; **183**:141-152.

PETERSEN AM, MELAMU R, KNOETZE JH, GORGENS JF. Comparison of second-generation processes for the conversion of sugarcane bagasse to liquid biofuels in terms of energy efficiency, pinch point analysis and Life Cycle Analysis. *Energy Conversion and Management* 2015; **91**:292-301.

PRETORIUS D, VAN ROOYEN J, CLARKE KG. Enhanced production of antifungal lipopeptides by *Bacillus amyloliquefaciens* for biocontrol of postharvest disease. *New Biotechnology* 2015; **32**(2):243-252.

RIDOUT AMCJJ, CARRIER MBN, GORGENS JF. Fast pyrolysis of low and high ash paper waste sludge: Influence of reactor temperature and pellet size. *Journal of Analytical and Applied Pyrolysis* 2015; **111**:64-75.

SCHWARZ CE, PAULSE QH, KNOETZE JH. Phase equilibria of methyl esters in supercritical propane. *Journal of Supercritical Fluids* 2015; **99**:61-67.

SMITH SAM, SCHWARZ CE. High pressure phase behaviour of the CO2 + 1-decanol + *n*-dodecane system. *Fluid Phase Equilibria* 2015; **406**:1-9.

SNYDERS CA, BRADSHAW SM, AKDOGAN G, EKSTEEN JJ. Determination of the equilibrium and film diffusion constants of the platinum cyanide anions during the elution from activated carbon. *Minerals Engineering* 2015; **80**:57-68.

SNYDERS CA, BRADSHAW SM, AKDOGAN G, EKSTEEN JJ. Factors affecting the elution of Pt, Pd and Au cyanide from activated carbon. *Minerals Engineering* 2015; **80**:14-24.

SOBIYI K, SIGALAS I, AKDOGAN G, TURAN Y. Performance of mixed ceramics and CBN tools during hard turning of martensitic stainless steel. *International Journal of Advanced Manufacturing Technology* 2015; **77**:861-871.

TROLLOPE KM, GORGENS JF, VOLSCHENK H. Semirational Directed Evolution of Loop Regions in *Aspergillus japonicus ß*-Fructofuranosidase for Improved Fructooligosaccharide Production. *Applied and Environmental Microbiology* 2015; **81**(20):7319-7329.

TROLLOPE KM, VAN WYK N, KOTJOMELA MA, VOLSCHENK H. Sequence and structure-based prediction of fructosyltransferase activity for functional subclassification of fungal GH32 enzymes. *FEBS Journal* 2015; **4782**(96):1-15.

TROLLOPE KM, VOLSCHENK H, GORGENS JF, BRO R, NIEUWOUDT HH. Direct, simultaneous quantification of fructooligosaccharides by FT-MIR ATR spectroscopy and chemometrics for rapid identification of superior, engineered ß-fructofuranosidases. *Analytical and Bioanalytical Chemistry* 2015; **407**:1661-1671.

UYS EC, BURGER AJ, DU PREEZ LJ, KNOETZE JH. The influence of gas physical properties on entrainment inside a sieve tray column. *Chemical Engineering Research & Design* 2015; **104**:429-439.

VENA PF, BRIENZO M, GARCIA APARICIO MDP, GORGENS JF, RYPSTRA T. Dilute sulphuric acid extraction of Hemicelluloses from *Eucalyptus grandis* and its effect on Kraft and Soda-AQ pulp and handsheet properties. *Cellulose Chemistry and Technology* 2015; **49**(9-10):819-832.

ZAMUDIO M, SCHWARZ CE, KNOETZE JH. Methodology for process modelling of supercritical fluid fractionation processes illustrated for the separation of alkane/alcohol isomer mixtures using CO2. *Journal of Supercritical Fluids* 2015; **104**:272-280.

**Verrigtinge Internasionaal/Proceedings International**

AMANKWAH A, ALDRICH C. *A Spatial information measure method for Hyperspectral image visualization*. Remote Sensing: Understanding the Earth for a Safer World IGARSS 2015 IEEE, Milan, Italy, The Institute of Electrical and Electronics Engineers.Inc. 2015: 4542-4545.

AMANKWAH A, ALDRICH C. *Motion estimation in flotation froth using the Kalman filter*. Remote Sensing: Understanding the Earth for a Safer World IGARSS 2015 IEEE, Milan, Italy, The Institute of Electrical and Electronics Engineers.Inc. 2015: 1897-1900.

BARNARD JP, LINDNER BS, AURET L. *Building Operational Performance Monitoring Tools*. IEEE International Conference on Industrial Informatics (INDIN), Cambridge, United Kingdom, IEEE 2015: 1630-1635.

LINDNER BS, AURET L. *Application of Data-based Process Topology and Feature Extraction for Fault Diagnosis of an Industrial Platinum Group Metals Concentrator Plant*. 4th Workshop on Mining, Mineral & Metal Processing, New Delhi, India, Elsevier 2015: 102-107.

OLADELE TP, SNYDERS CA, BRADSHAW SM. *Effect of temperature, contact time, and agitation speed during pre-treatment on gold elution*. The Southern African Institute of Mining and Metallurgy World Gold Conference, Johannesburg, South Africa, SAIMM 2015: 363-376.

STAUNTON WP, MCGRATH T, EKSTEEN JJ. *Optimizing carbon management in a CIP/CIL circuit - a better way to measure and manage activated carbon in the circuit*. The Southern African Institute of Mining and Metallurgy World Gold Conference, Johannesburg, South Africa, SAIMM 2015: 313-319.

**Doktoraal afgehandel/Doctoral completed**

ALDRICH C. *Application of Data Analytics and Knowledge-based Systems in Mineral Processing*. DIng, 2015. 59 pp. Promotor: BURGER AJ.

BILEY CA. *Thermodynamic and Kinetic Modelling of Iron (III) Reduction with Sulfur Dioxide Gas*. PhD(MinProc), 2015. 338 pp. Promotor: BRADSHAW SM. Medepromotor: STEYL JDT.

CHARIKINYA E. *Characterising the effect of microwave treatment on bio-leaching of coarse, massive sulphide ore particles*. PhD(MinProc), 2015. 230 pp. Promotor: BRADSHAW SM.

COLE BM. *The Planning and Optimisation of a Supply Chain Network under Uncertainty*. PhD(Chem Eng), 2015. 260 pp. Promotor: BRADSHAW SM.

PETERSEN AM. *Integration of Second Generation Biofuel Production into Existing Industrial Processes for Short Term Commercial Implementation*. PhD(Chem Eng), 2015. 311 pp. Promotor: GORGENS JF.

SNYDERS CA. *The adsorption and elution of Pt-, Pd- and Au cyanide using activated carbon*. PhD(MinProc), 2015. 360 pp. Promotor: AKDOGAN G. Medepromotor: BRADSHAW SM.

**Magister afgehandel/Masters completed**

BARKHUIZEN J. *Non-Saccharomyces wine yeast production in aerobic fed-batch culture* . MIng Navorsing, 2015. 102 pp. Studieleier: GORGENS JF.

BOSHOFF S. *Characterization and fermentation of waste paper sludge for bioethanol production*. MIng Navorsing, 2015. 66 pp. Studieleier: GORGENS JF.

BRINK S. *Development of an Acoustic Classification System for Predicting Rock Structural Stability*. MScIng, 2015. 159 pp. Studieleier: ALDRICH C. Medestudieleier: DORFLING C.

BRITS L. *Vapour-liquid-liquid equilibria measurements for the dehydration of low molecular weight alcohols via heterogeneous azeotropic distillation*. MIng Navorsing, 2015. 214 pp. Studieleier: SCHWARZ CE. Medestudieleier: BURGER AJ.

CLOETE JC. *Oxygen Transfer in a Model Hydrocarbon Bioprocess in a Bubble Column Reactor*. MIng Navorsing, 2015. 175 pp. Studieleier: CLARKE KG.

DIEDERICHS GW. *Techno-Economic Assessment of Processes that Produce Jet Fuel from Plant-Derived Sources*. MIng Navorsing, 2015. 219 pp. Studieleier: GORGENS JF.

HAGENDIJK AJ. *Design of an optimal photobioreactor*. MIng Navorsing, 2015. 192 pp. Studieleier: ELS ER.

HENRY KL. *Upgrading Pyrolytic Tyre Char through Acid-alkali Demineralisation*. MIng Navorsing, 2015. 209 pp. Studieleier: SCHWARZ CE. Medestudieleier: GORGENS JF.

HOLLIS PG. *The overall oxygen transfer coefficient and interfacial area in hydrocarbon-based bioprocesses*. MIng Navorsing, 2015. 209 pp. Studieleier: CLARKE KG.

JOUBERT AJ. *Integration of xylan extraction from E. Grandis, prior to pulping, into Kraft mills*. MIng Navorsing, 2015. 178 pp. Studieleier: CHIMPHANGO AFA. Medestudieleier: GORGENS JF.

KNOBLAUCH PD. *Improving the Control Structure of a High Pressure Leaching Process*. MIng Navorsing, 2015. 355 pp. Studieleier: BRADSHAW SM. Medestudieleier: DORFLING C, AURET L.

LOMBARD JE. *Thermodynamic modelling of hydrocarbon-chains and light-weight supercritical solvents*. MIng Navorsing, 2015. 360 pp. Studieleier: KNOETZE JH. Medestudieleier: SCHWARZ CE.

MABENTSELA A. *Numerical and Physical Modelling of Tundish Slag Entrainment in the Steelmaking Process*. MIng Navorsing, 2015. 97 pp. Studieleier: AKDOGAN G. Medestudieleier: BRADSHAW SM.

MASAMBI S. *Evaluation of precipitation processes for the removal of iron from chloride-based copper and nickel leach solutions*. MIng Navorsing, 2015. 199 pp. Studieleier: DORFLING C. Medestudieleier: BRADSHAW SM.

MCLAREN SC. *Evaluating a Fast Pyrolysis and Hydrodeoxygenation process for the Production of Jet Fuel and Jet-Fuel Range Aromatics*. MIng Navorsing, 2015. 358 pp. Studieleier: KNOETZE JH. Medestudieleier: GORGENS JF.

MOTANG N. *In situ FTIR Measurements of the Kinetics of the Aqueous CO2-Monoethanolamine Reaction*. MIng Navorsing, 2015. 188 pp. Studieleier: CALLANAN LH. Medestudieleier: BURGER AJ.

MWEWA B. *Upgrading of PGM-Rich Leach Residue by High Pressure Caustic Leaching*. MIng Navorsing, 2015. 213 pp. Studieleier: STEYL JDT. Medestudieleier: BRADSHAW SM.

NKOMBA EY. *The effect of sorghum grain decortication on bioethanol production technologies*. MIng Navorsing, 2015. 120 pp. Studieleier: GORGENS JF. Medestudieleier: CHIMPHANGO AFA.

OLADELE TP. *Effect of temperature, contact time and agitation speed during pre-treatment on elution of gold*. MIng Navorsing, 2015. 175 pp. Studieleier: BRADSHAW SM. Medestudieleier: SNYDERS CA.

OLIVIER WJL. *Investigating the Hi-G Dryer System on coarse Daberas slurry material*. MScIng, 2015. 109 pp. Studieleier: ELS ER.

ROSSOUW WA. *Effect of mechanical pre-treatment on leaching of base metals from waste printed circuit boards*. MIng Navorsing, 2015. 161 pp. Studieleier: DORFLING C.

STEYN LB. *Design, Development and Optimization of edible Wax Coatings for Fresh Fruit*. MIng Navorsing, 2015. 339 pp. Studieleier: KNOETZE JH.

**Departement Siviele Ingenieurswese**

**Department of Civil Engineering**

**Tydskrifartikels/Journal Articles (subsidised)**

BABAFEMI AJ, BOSHOFF WP. Tensile creep of macro-synthetic fibre reinforced concrete (MSFRC) under uni-axial tensile loading. *Cement & Concrete Composites* 2015; **55**:62-69.

BESTER AJ, JACOBS HE, TULLEKEN J. Conceptual framework for sewer pump problems allowing for fuzzy logic application. *Water SA* 2015; **41**(3):335-342.

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

DE CLERCQ H. Modelling and analysis of steel structures. *Civil Engineering* 2015; **23**(6):35-41.

KEUSER M, GOJ K, LENNER R. Verstärkung historischer Brücken über den Main unter besonderer Berücksichtigung des Schiffanpralls. *Bautechnik* 2015; **92**(7):469-478.

LANGMAAK KR, BASSON GR. Incipient Motion of Riprap on Steep Slopes. *Journal of Hydraulic Engineering* 2015; **141**(9):1-7.

PAUL SC, PIRSKAWETZ S, VAN ZIJL GPAG, SCHMIDT W. Acoustic Emission in Determining the Crack Propagation in Strain Hardening Cement-Based Composites (SHCC). *Cement and Concrete Research* 2015; **69**:19-24.

PERDUH M, STRASHEIM JAVB. Finite element analysis of the structural behaviour of pylons supporting an inclined coal conveyor. *Journal of the South African Institution of Civil Engineering* 2015; **57**(3):44-56.

TURNER DZ, NAKSHATRALA KB, MARTINEZ MJ. Framework for Coupling Flow and Deformation of a Porous Solid. *International Journal of Geomechanics* 2015; **15**(5):1 - 13.

TURNER DZ. Peridynamics-Based Digital Image Correlation Algorithm Suitable for Cracks and other Discontinuities. *Journal of Engineering Mechanics* 2015; **141**(2):1 - 10.

VAN ZYL WS, VAN ZIJL GPAG. Dynamic behaviour of normally reinforced concrete wind turbine support structures. *Journal of the South African Institution of Civil Engineering* 2015; **57**(4):38-44.

VENTER LF, BESTER CJ. Delay and queue lenghts at stop/go control during half-width construction. *Journal of the South African Institution of Civil Engineering* 2015; **57**(4):2-11.

VOREL J, BOSHOFF WP. Computational modelling of real structures made of strain-hardening cement-based composites. *Applied Mathematics and Computation* 2015; **267**(C):562-570.

WAY AC, VAN ZIJL GPAG. A study on the design and material costs of tall wind wind turbine towers in South Africa. *Journal of the South African Institution of Civil Engineering* 2015; **57**(4):45-54.

WU J, YE F, HUGO F, WU Y. Strain response of a semi-rigid base aspalt pavement based on heavy-load full-scale accelerated pavement testing with fibre Bragg grating sensors. *Road Materials and Pavement Design* 2015; **16**(2):316-333.

ZANG J, VAN ZIJL GPAG. Developing non-heat treated UHPC with local materials. *Concrete Beton* 2015; **1**(142):12-22.

**Tydskrifartikels/Journal Articles (NON-subsidised)**

LENNER R, KEUSER M, BRAML T. Challenges in the assessment of existing concrete bridges. *Beton TKS* 2015; **5**:25-29.

PHOON KK, RETIEF JV. ISO2394:2015 Annex D (Reliability of Geotchnical Structures). *Georisk: Assessment and Management of Risk for Engineered Systems and Geohazards* 2015; **9**(3):125-127.

**Verrigtinge Internasionaal/Proceedings International**

AKOKU EBOT ENO AKPA N, BOOYSEN MJ, SINCLAIR MD. *Efficacy of interventions and incentives to achieve speed compliance in the informal public transport sector*. 2015 IEEE Symposium Series on Computational Intelligence (IEEE SSCI 2015), Cape Town, South Africa, IEEE 2015: 30-37.

BABAFEMI AJ, BOSHOFF WP. *Crack Widening Response of Cracked Macro Synthetic FRC under Sustained Tensile Loading*. In: Banthia N, Miyagawa T, Miao C, Kobayashi K (eds.) Advances in Construction Materials: Proceedings of the ConMat'15 Conference, Whistler, Canada, The University of British Columbia 2015: 231-242.

BASSON GR, BOSMAN DE, CALITZ JA. *Improvement of negative pressure conditions of a stepped spillway of a roller compacted concrete (RCC) dam*. SANCOLD CONFERENCE 2015, CAPE TOWN, South Africa, SANCOLD 2015: 374-381.

BASSON GR, DENYS FJM. *Design of an economic spillway alternative: Piano Keys Weirs*. sancold conference 2015, CAPE TOWN, South Africa, SANCOLD 2015: 231-241.

BASSON GR, KIRINGU JK. *Impacts of Dams on the hydrology and flooding of the Tana River delta, Kenya*. SANCOLD CONFERENCE 2015, CAPE TOWN, South Africa, SANCOLD 2015: 390-400.

BASSON GR, SAWADOGO O. *Coupled Fully 3d Numerical Modelling of Local Sediment Flushing Scour at Dam Bottom Outlet*. SANCOLD CONFERENCE 2015, CAPE TOWN, South Africa, SANCOLD 2015: 242-252.

BOOYSEN MJ, JACOBS HE, MAKWIZA CN, SKIBBE Y. *Correlating sound and flow rate at a tap*. 13th Computing and Control for the Water Industry Conference, leicester, United Kingdom, elsevier 2015: 864-873.

BOTHA J, RETIEF JV, VILJOEN C. *Variability of Time Independent Wind Load Components*. In: Haukaas T (ed.) 12th International Conference on Applications of Statistics and Probability in Civil Engineering, Vancouver, Canada, Get info 2015: 1 - 8.

BOWKER IM, JENKINS KJ, DAL BEN M, BEARDMORE R. *Brush Testing of Bitumen Stabilised Materials*. CAPSA, SUN CITY, South Africa, CAPSA 2015: 1-9.

BREDENHANN SJ, JENKINS KJ. *Bitumen Stabilised Materials: Comparative Performance of G2 and BSM-foam bases*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-11.

BRIEDENHANN R, JENKINS KJ. *Testing the Grey Water Resistance of Popular Bitumen Modifiers*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-7.

COLLINGS D, JENKINS KJ, SOUZA E. *Utilising Recycled Material Stabilised with Bitumen to Rehabilitate a Major Highway within Stringent Time Constraints*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-12.

DAL BEN M, JENKINS KJ. *Durability properties of cold recycling material using bitumen stabilisation incorporating reclaimed asphalt pavement*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-21.

DE LA HARPE CWH, WIUM JA. *A Procedure for prioritizing seismic risk reduction of load bearing masonry structures*. IABSE Conference - Structural Engineering: Providing Solutions to Global Challenges, Geneva, Switzerland, IABSE 2015: 1-8.

DITHINDE M, RETIEF JV. *Comparison of Methods for Reliability Calibration of Partial Resistance Factors for Pile Foundations*. In: Schweckendiek T, van Tol AF, Pereboom D, van Staveren MTh, Cools PMCBM (eds.) The Fifth International Symposium on Geotechnical Safety and Risk (ISGSR2015), Rotterdam, Netherlands, IOS Press BV 2015: 467-472.

DU PLESSIS JA, HOFFMAN JJ. *Domestic water meter accuracy*. 3RD INTERNATIONAL CONFERENCE ON WATER AND SOCIETY, A CORUNA, Spain, WIT PRESS 2015: 197-208.

DU PLESSIS JA, MATJI MP. *Methodology for linking extreme flood events and the cost of damage to water security infrastructure assets*. ASSET MANAGEMENT CONFERENCE 2015 (AMPEAK 2015), SYDNEY, Australia, TBA 2015: 1-7.

DU PLESSIS JLJ, JACOBS HE. *Procedure to derive parameters for stochastic modelling of outdoor water use in residential estates*. 13th Computing and Control for the Water Industry Conference, Leicester, United Kingdom, elsevier 2015: 803-812.

GERBER JAK, JENKINS KJ. *Damage quantifications of Bituminous Surfacing Seals with a Finite Element Modelling Approach*. 3rd International Symposium Asphalt Pavements & Environment (ISAP15), SUN CITY, South Africa, ISAP 2015: 1-5.

GREYLING AH, VAN ZYL GD, JENKINS KJ, BOWKER IM. *The Development of Grey Water Resistant Asphalt*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-13.

HOLICKY M, RETIEF JV, DIAMANTIDIS D, VILJOEN C. *On Standardization of the Reliability Basis of Structural Design*. In: Haukaas T (ed.) 12th International Conference on Applications of Statistics and Probability in Civil Engineering, Vancouver, Canada, Get info 2015: 1 - 8.

HUGO F, HUANG Z, XIONG H, WANG L, STEYN WJVDM. *Lessoned Learned During the First Application of MSP for Extracting Asphalt Slabs in Comparative Testing of Fatigue Performance of Warm Mix RAP Asphalt MMLS3 Trafficking*. 3rd International Symposium Asphalt Pavements & Environment (ISAP15), SUN CITY, South Africa, ISAP 2015: 1-15.

HUGO F, STEYN WJVDM. *A Synthesis of Applications of the MLS as an Innovative System for Evaluating Performance of Asphalt Materials in Pavement Engineering*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-8.

JENKINS KJ, COLLINGS D. *Mix Design of Bitumen Stabilised Materials BSMs – A South African Perspective*. 3rd International Symposium Asphalt Pavements & Environment (ISAP15), SUN CITY, South Africa, ISAP 2015: 1-10.

JURGENS CJ, WIUM JA. *The Future Engineer: a Structural Architect?*. IABSE Conference - Structural Engineering: Providing Solutions to Global Challenges, Geneva, Switzerland, IABSE 2015: 1-8.

JURGENS CJ. *Renewable Energy Storage: Mega Structures*. IABSE Conference - Structural Engineering: Providing Solutions to Global Challenges, Geneva, Switzerland, IABSE 2015: 1 - 8.

LE ROUX BD, COMBRINCK R, BOSHOFF WP. *Influence of Admixtures on Plastic Shrinkage Cracking of Concrete*. In: Banthia N, Miyagawa T, Miao C, Kobayashi K (eds.) Advances in Construction Materials: Proceedings of the ConMat'15 Conference, Whistler, Canada, The University of British Columbia 2015: 1111-1121.

NIEFTAGODIEN R, JENKINS KJ. *The Feasibility of Microwave Heating in the Production of Bitumen Stabilised Half Warm Mixtures*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-7.

PAUL SC, VAN ZIJL GPAG, LEHMAN JM. *Influence of cracks in chloride penetration and corrosion of fibre reinforced strain hardening materials under sustained loading condition*. In: Banthia N, Miyagawa T, Miao C, Kobayashi K (eds.) Advances in Construction Materials: Proceedings of the ConMat'15 Conference, Whistler, Canada, The University of British Columbia 2015: 978-989.

RUDMAN CE, JENKINS KJ. *Self-cementing Mechanisms of Recycled Concrete and Masonry Aggregate*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-7.

SINCLAIR MD, IMANIRANZI E. *Aggressive driving behaviour: The Case of Minibus Taxi Drivers in Cape Town, South Africa*. South African Transport Conference, Pretoria, South Africa, Jukwaa 2015: 1 - 5.

SMALLWOOD JJ, WIUM JA. *Mass and Density of Materials: Civil Engineering Students Knowledge and Perceptions*. 6th International Conference on Applied Human Factors and Ergonomics (AHFE 2015) and the Affiliated Conferences, Las Vegas, USA, Elsevier 2015: 1 - 6.

STRASHEIM JAVB, WIUM JA. *Analysis and Evaluation of Curriculum Development for the Construction Management Programme (CMP)*. In: Othman A, Agumba J, Harinarain N (eds.) The Ninth Built Environment Conference, Durban, South Africa, Association of Schools of Construction of Southern Africa 2015: 1 - 13.

SWART E, SINCLAIR MD. *Fatigue Management - Lessons from International Legislation and Practice*. South African Transport Conference, Pretoria, South Africa, Jukwaa 2015: 1 - 5.

TER HUURNE DA, ANDERSEN SJ. *A Quantitative Measure of Congestion in Stellenbosch using Probe Data*. 1st International Conference on the Use of Mobile ICT in Africa 2014, Stellenbosch, South Africa, Stellenbosch University 2014: 62-67.

VAN DEN BERG JA, RUDMAN CE, JENKINS KJ. *The Influence of Filler Content on the Performance of Unbound Granular Materials in Pavement Layers*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-7.

VAN NOORDWYK A, DE VILLIERS WI, BOSHOFF WP. *Environmental Impact of Residential Building Envelope: A Comparison between Thermal Performance and Occupant Energy Usage*. In: Banthia N, Miyagawa T, Miao C, Kobayashi K (eds.) Advances in Construction Materials: Proceedings of the ConMat'15 Conference, Whistler, Canada, The University of British Columbia 2015: 1102-1110.

VAN ZYL EB, JENKINS KJ, RUDMAN CE. *Investigation of the influence of specimen geometry and grading curve on the performance of an unbound granular material*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-10.

VAN ZYL GD, JENKINS KJ. *Overview of Long Term Seal Performance*. CAPSA 2015, SUN CITY, South Africa, CAPSA 2015: 1-13.

VENTER KA, SINCLAIR MD. *Review of Research to inform the development of a hazard perception test for novice drivers in SA*. South African Transport Conference, Pretoria, South Africa, Jukwaa 2015: 1 - 5.

VILJOEN C, REYNOLDS S. *Economic Optimization Considerations in South African Dam Rehabilitations*. In: Haukaas T (ed.) 12th International Conference on Applications of Statistics and Probability in Civil Engineering, Vancouver, Canada, Get info 2015: 1-7.

VILJOEN C, REYNOLDS S. *Evaluation of Decisions to Rehabilitate South African Dams in terms of the ANCOLD ALARP Criterion and SWTP for Human Safety*. In: Haukaas T (ed.) 12th International Conference on Applications of Statistics and Probability in Civil Engineering, Vancouver, Canada, Get info 2015: 1 - 8.

ZERANKA S, VAN ZIJL GPAG. *Multi-Scale Charaterisation of the Shear-Dominant Fracture in a Steel Fibre-Reinforced Cement-Based Composite*. In: Banthia N, Miyagawa T, Miao C, Kobayashi K (eds.) Advances in Construction Materials: Proceedings of the ConMat'15 Conference, Whistler, Canada, The University of British Columbia 2015: 1801-1813.

**Verrigtinge Nasionaal/Proceedings National**

DU PLESSIS JA, VON MOLTKE F, BASSON GR. *Lessons Learned from the 2013 Floods on the Lourens River, Somerset West*. 79th Annual Conference of the Institute of Municipal Engineering of South Africa (IMESA), CAPE TOWN, South Africa, 3S MEDIA 2015: 75-80.

ROODT LDV. *The Municipal Engineering as Caring Parent: Duty to Manage Risk of Damage and Injury*. 79th Annual Conference of the Institute of Municipal Engineering of South Africa (IMESA), Cape Town, South Africa, S Media 2015: 133-135.

**Verslae/Research Reports**

JENKINS KJ, RUDMAN CE, BOTES BH, BIERMAN CR. *Fatigue and Rheological Testing of EME Asphalt*. 2015: 67 pp.

JENKINS KJ, RUDMAN CE, NWANDO TA. *Tri-axial Testing of Cores from N/1 BSM-emulsion*. 2015: 10 pp.

VILJOEN C, RETIEF JV, MC LEOD CH, WIUM JA, MENSAH KK. *Compilation of a South African National Standard for the design of Liquid Retaining Structures*. In: Nomquphu W (ed.)2015: 43 pp.

VILJOEN C. *Compilation of a South African National Standard for the design of Liquid Retaining Structures* . In: Nomquphu W (ed.)2015: 139 pp.

**Doktoraal afgehandel/Doctoral completed**

BABAFEMI AJ. *Tensile creep of cracked macro-synthetic-fibre-reinforced concrete*. PhD (Eng), 2015. 170 pp. Promotor: BOSHOFF WP.

CLOETE GC. *Risk-based dam safety in Namibia: a quantitative approach*. PhD (Eng), 2015. 267 pp. Promotor: BASSON GR. Medepromotor: RETIEF JV, VILJOEN C.

MACHUTCHON KR. *An introduction to the multifractal geometry of wave sea states*. PhD (Eng), 2015. 212 pp. Promotor: BASSON GR. Medepromotor: TOMS G.

MBARAGA AN. *Shrinkage characterisation, behavioural properties and durability of cement-stabilised pavement materials*. PhD (Eng), 2015. 286 pp. Promotor: JENKINS KJ.

MENSAH KK. *Reliability assessment of structural concrete with special reference to stirrup design*. PhD (Eng), 2015. 261 pp. Promotor: RETIEF JV. Medepromotor: VILJOEN C.

PAUL SC. *The role of cracks and chlorides in corrosion of reinforced strain-hardening cement-based composite*. PhD (Eng), 2015. 237 pp. Promotor: VAN ZIJL GPAG.

POTGIETER IJ. *Resource-constrained scheduling in the engineering-planning phase of civil engineering projects*. PhD (Eng), 2015. 138 pp. Promotor: VAN ROOYEN GC.

RETIEF JV. *Contributions to the implementation of the principles of reliability to the standardised basis of structural design*. DIng, 2015. 118 pp. Promotor: VAN ZIJL GPAG. Medepromotor: VILJOEN C.

SAWADOGO O. *Coupled fully three-dimensional mathematical modelling of sediment deposition and erosion in reservoirs*. PhD (Eng), 2015. 170 pp. Promotor: BASSON GR.

ZANG J. *Developing non-heat treated ultra-high performance concrete (UHPC) in South Africa*. PhD (Eng), 2015. 174 pp. Promotor: VAN ZIJL GPAG.

Magister Afgehandel/Masters completed

ABRAHAMS MS. *Towards the development of a standard test protocol: Application of the MMLS3 for evaluating the performance of surfacing seals*. MIng Navorsing, 2015. 169 pp. Studieleier: JENKINS KJ. Medestudieleier: RUDMAN CE.

ASANTE SY. *Alternate method to determine the microstructure of potentially collapsible soils*. MIng Navorsing, 2015. 118 pp. Studieleier: FOUCHé N.

BOTHMA S. *Geotechnical properties and foundation requirements for the satellite and lunar laser ranger at the Matjiesfontein Space Geodesy Observatory*. MIng Navorsing, 2015. 115 pp. Studieleier: CROUKAMP L.

CALITZ JA. *Investigation of air concentration and pressures of a stepped spillway equipped with a crest pier*. MIng Navorsing, 2015. 140 pp. Studieleier: BASSON GR.

CAMPHER L. *Shrinkage and Flexibility behaviour of Bitumen Stabilised Materials*. MIng Navorsing, 2015. 200 pp. Studieleier: JENKINS KJ.

CLOETE RC. *Fatigue performance of seals*. MScIng, 2015. 310 pp. Studieleier: JENKINS KJ.

CONRADIE JH. *Characterising Failure of Structural Materials using Digital Images*. MIng Navorsing, 2015. 127 pp. Studieleier: TURNER DZ.

DE KLERK MD. *The Durability of Natural Sisal Fibre Reinforced Cement-based Composites*. MIng Navorsing, 2015. 145 pp. Studieleier: BOSHOFF WP.

DE KOCK CJ. *Loading, modelling and costing of concrete and steel support structure design:large wind turbines in South Africa*. MIng Navorsing, 2015. 160 pp. Studieleier: VAN DER KLASHORST E.

DE LA HARPE CWH. *The Development of a Seismic Risk reduction procedure for the prioritization of low cost, load bearing masonry Buildings*. MIng Navorsing, 2015. 149 pp. Studieleier: WIUM JA.

DE VILLIERS JP. *Bond behaviour of deformed steel reinforcement in lightweight foamed concrete*. MIng Navorsing, 2015. 127 pp. Studieleier: VAN ZIJL GPAG. Medestudieleier: VAN ROOYEN AS.

DIPPENAAR JD. *The Tensile properties of early age concrete and the experimental Apparatus required for its determination*. MIng Navorsing, 2015. 213 pp. Studieleier: COMBRINCK R. Medestudieleier: BOSHOFF WP.

DU PISANIE J. *The influence of sea level rise on flood lines in Estuaries of South Africa*. MScIng, 2015. 136 pp. Studieleier: TOMS G.

DU PLESSIS L. *The effect of macro-synthetic fibers on the drying shrinkage cracking behaviour of concrete slabs on grade*. MIng Navorsing, 2015. 168 pp. Studieleier: BOSHOFF WP.

DU PLESSIS LJ. *Detail Study on Sediment Control Features of Low-Weir Diversion Works*. MIng Navorsing, 2015. 130 pp. Studieleier: BASSON GR.

DUVENHAGE P. *Developing a Method for Prioritising Maintenance for Reinforced Concrete Reservoirs*. MIng Navorsing, 2015. 157 pp. Studieleier: WIUM JA.

EIGELAAR LS. *Scale Model Validation of QUAYSIM and WAVESCAT Numerical Models of Ship Motions*. MIng Navorsing, 2015. 131 pp. Studieleier: TOMS G.

FLORES G. *A Stochastic model for Sewer Base flows using Monte Carlo Simulation*. MScIng, 2015. 93 pp. Studieleier: JACOBS HE.

HOFMEYR MK. *Simplification of HDM4 Methodology for Vehicle Operating Cost Application*. MScIng, 2015. 215 pp. Studieleier: JENKINS KJ.

HOTCHKISS TS. *Evaluation of the use of Flood Attenuation Controls for the Management of Urban Storm Water impacts in South Africa*. MScIng, 2015. 151 pp. Studieleier: BASSON GR.

IMANIRANZI E. *The response of other drivers to minibus taxi drivers' on-road aggressive behaviour*. MIng Navorsing, 2015. 205 pp. Studieleier: SINCLAIR MD.

JULYAN EE. *Interrelationship of the Fluvial Morphology and the Salinity of the Great Fish River Estuary*. MScIng, 2015. 157 pp. Studieleier: BASSON GR.

KANYABUJINJA NP. *Ogess spillway hydraulics: Validation of CFD modelling*. MIng Navorsing, 2015. 198 pp. Studieleier: BASSON GR.

KIEVIET J. *A non-intrusive Video tracking method to measure movement of a moored vessel*. MScIng, 2015. 145 pp. Studieleier: TOMS G.

KIRINGU JK. *Consideration of Factors Affect Flood Levels in the Tana River Delta in Kenya*. MIng Navorsing, 2015. 84 pp. Studieleier: BASSON GR.

KOEN JA. *An investigation into the axial capacity of eccentrically loaded concrete filled double skin tube columns*. MScIng, 2015. 105 pp. Studieleier: HAAS TN.

MALHERBE JS. *Self-compacting concrete versus normal compacting concrete: a techno-economic analysis*. MIng Navorsing, 2015. 140 pp. Studieleier: WIUM JA.

MULLER JJ. *Options to reduce Sediment build-up and a Surf Zone trench protected by an open-ended Cofferdam*. MIng Navorsing, 2015. 118 pp. Studieleier: TOMS G.

NSABIMANA P. *Prioritization of Concrete Bridge inspections of integration of Community Imagery inspection*. MIng Navorsing, 2015. 88 pp. Studieleier: WIUM JA.

NTIRENGANYA N. *An Investigation of the Interlayer Adhesion Strength between the Granular Base and Lightly Cemented Sub-base and its Influcens on the Pavement Performance*. MIng Navorsing, 2015. 150 pp. Studieleier: DE WET M.

ODENDAAL CM. *Establishment of Performance-Based Specifications for the Structural use of locally available Macro-Synthetic Fribres*. MIng Navorsing, 2015. 138 pp. Studieleier: BOSHOFF WP.

RENS JP. *An interactive construction deployment planning model for the SKA project*. MIng Navorsing, 2015. 140 pp. Studieleier: WIUM JA.

ROUX AP. *A re-assessment of wave run up formulae.'*. MIng Navorsing, 2015. 86 pp. Studieleier: TOMS G.

RUTHERFORD K. *Shoreline changes and longshore transport at the Port of Ngqura*. MIng Navorsing, 2015. 234 pp. Studieleier: SCHOONEES JS.

SCHREUDER JM. *The aspect of labour in hybrid and in-situ concrete construction in South Africa*. MIng Navorsing, 2015. 140 pp. Studieleier: WIUM JA.

SOLMS MN. *Seismic evaluation of North Bound N1-R300 bridge interchange*. MIng Navorsing, 2015. 115 pp. Studieleier: HAAS TN.

STOLK W. *The reliability of weight optimized steel portal frames*. MIng Navorsing, 2015. 95 pp. Studieleier: VILJOEN C. Medestudieleier: VAN DER KLASHORST E.

TABESH M. *An investigation to introduce BIM in undergraduate Civil Engineering teaching to improve Construction processes*. MIng Navorsing, 2015. 197 pp. Studieleier: WIUM JA.

TAGWI D. *Inflatable Weir Hydraulics*. MScIng, 2015. 102 pp. Studieleier: BASSON GR.

TANG H. *Pre-signal study at an AT-Grade intersection with separate right-turn phase*. MIng Navorsing, 2015. 121 pp. Studieleier: ANDERSEN SJ. Medestudieleier: BESTER CJ.

TERBLANCHE JLF. *Modelling of slotted bolted friction connections as seismic energy dissipaters in braced steel frames*. MIng Navorsing, 2015. 112 pp. Studieleier: HAAS TN. Medestudieleier: VAN DER KLASHORST E.

THESNAAR E. *Efficiency of Tandem Breakwater in reducing wave heights and damage leve*. MIng Navorsing, 2015. 79 pp. Studieleier: TOMS G.

UWIMANA A. *Investigation of factors affecting the load carrying capacity of driven solar panel support posts*. MIng Navorsing, 2015. 125 pp. Studieleier: DAY PW. Medestudieleier: DE WET M.

VAN DEN BERG M. *Barriers and the success factors for the implementation of the NEC within the Civil Engineering Industry of South Africa*. MIng Navorsing, 2015. 189 pp. Studieleier: WIUM JA.

VAN NOORDWYK A. *Quantifying the Sustainability of the Built Environment: The Development of a complete environmental Life Cycle Assessment Tool*. MIng Navorsing, 2015. 105 pp. Studieleier: DE VILLIERS WI.

VAN ZYL EB. *Influence of grading (in particular maximum aggregate size) and sample Geometry on the performance of unbound granular material*. MIng Navorsing, 2015. 223 pp. Studieleier: JENKINS KJ. Medestudieleier: RUDMAN CE.

WEGELIN WA. *Guideline for a robust assessment of the potential savings from Water Conservation and Water Demand Management*. MScIng, 2015. 92 pp. Studieleier: JACOBS HE.