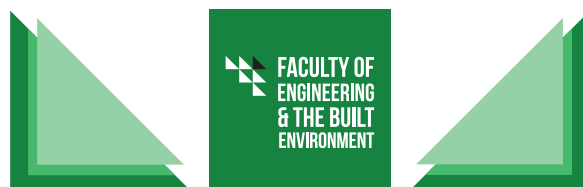




DURBAN UNIVERSITY OF TECHNOLOGY
INYUVESI YASETHEKWINI YEZOBUCHWEPHESHE

1 DECEMBER 2021 | 12:00





ORDER OF PROCEEDINGS

FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

Opening Remarks

Mr C Edeh

Alumnus: Durban University of Technology

Constitution of the Congregation and Official Welcome

Ms N Nyembezi

Chancellor

Musical Interlude

Department of Drama and Production Studies

Presentation of Graduands and Diplomandi

Professor B Twala

Executive Dean: Faculty of Engineering and the Built Environment

Conferment of Degrees and Diplomas

Ms N Nyembezi

Chancellor

Congratulatory Message and Vote of Thanks

Professor TZ Mthembu

Vice-Chancellor and Principal

National Anthem

Dissolution of the Congregation

Ms N Nyembezi

Chancellor



MESSAGE FROM THE CHANCELLOR

Ms Nonkululeko Nyembezi

Dear Graduating students, class of 2021

Congratulations to our newest alumni, the graduating class of 2021. You have accomplished an enormous amount and you have even greater potential than when you began your studies here at Durban University of Technology. You have earned your qualification and you have accomplished so much.

For some, you will be earning your undergraduate degrees, for others, this will mark the culmination of your postgraduate and professional degrees. For all of us though, I am fully aware that our actions to prevent the further spread of COVID-19 may have caused a disruption to this special occasion. I am as heartbroken as you are that your graduation from the Durban University of Technology has been impacted by this global pandemic.

It is my utmost wish that you remain connected with your lecturers, your friends and your classmates. Remain steadfast, as I am in the knowledge that your DUT education and the relationships you made, the learning you achieved and the experiences you had during your time at DUT will serve you well in the years to come.

You are DUT for Life.

Ms Nonkululeko Nyembezi

Chancellor



Sibingelela abazokwethweswa iziqu zonyaka ka-2021

Siyanibingelela

Igama lami nginguNonkululeko Nyembezi, nginguShansela weNyuvezi yaseThekwini yezobuChwepheshe. Ngamandla enginikwe wona njengoShansela, ngithi usungaqala umcimbi wokwethweswa kweziqu weNyuvezi yaseThekwini yezobuChwepheshe ozobe ubonakala kumabonakude.

Halala kubafundi bethu abozokwethweswa iziqu, labo abaqede izifundo zabo ngonyaka ka-2021. Nizuze okukhulu kakhulu futhi seniqeqesheke kakhulu okudlula ngesikhathi niqala izifundo zenu lapha eNyuvesi yaseThekwini yezobuChwepheshe. Nizisebenzele iziqu zenu futhi nizuze okukhulu.

Abanye, iziqu zabo zokuqala lezi, abanye bazogogoda. Lokhu kuzokhombisa umphumela weziqu eziphezulu neziphathelene nomsebenzi enizowenza. Kithi sonke nokho, ngiyazi ukuthi ukwenza kwethu ukuvikela ukubhebhetheka kokhuvethe kungenzeka ukuthi kudale ukuphazamiseka kulomcimbi osemqoka kangaka. Nakumina kubuhlungu lokhu njengakunina ukuthi umcimbi wenu wokwethweswa iziqu waseNyuvesi yaseThekwini yezobuChwepheshe uphazamisekile ilolu bhubhane olusemhlabeni wonke.

Kuyisifiso sami ukuthi bungapheli ubudlelwano phakathi kwenu nothisha benu, abangani benu kanye nozakwenu. Ningaguquki, njengoba ngazi ukuthi imfundo yase-DUT kanye nobudlelwano enibenzile, enikufundile kanye nezinto enihlangabezane nazo ngesikhathi niseso-DUT konke lokhu konisebenzela eminyakeni eyazo.

Niyohlezi ningabase-DUT.



MESSAGE FROM THE VICE-CHANCELLOR AND PRINCIPAL

Professor Thandwa Zizwe Mthembu

As we are all aware, Durban University of Technology (DUT) has produced thousands of graduates over the years. However, the 2021 cohort is the first since the start of implementation of *ENVISION2030* and the emergence of Covid-19 and all its ramifications on our teaching-learning arrangements we had to pivot from.

With the launch of **ENVISION2030** early last year, you would have had a taste of it including the idea of DUT's DNA and the DUT-Way that emanates from it. In future, when we reflect on the impact of the new strategy in all its facets, you will be the baseline cohort.

On behalf of DUT people, I take this opportunity to congratulate you on your important personal accomplishment. We recognize that this milestone carries with it important meanings, part of which suggests you have maintained the discipline of your thoughts and behaviour characteristic of DUT people. Without the requirement of discipline, this day may not have been possible for many of you. For this reason, I dare say that the very discipline you have demonstrated thus far will carry you through your next personal growth trajectories, ranging from further studies, starting a career, starting your own business to even starting a family.

To borrow from Jim Collins, a combination of a culture of discipline and an ethic of entrepreneurship produces "*the magical alchemy of great performance*". We, thus, have no doubt that focused and disciplined as you were during your studies, and with DUT entrepreneurial flair we have been instilling over a number of years now, you will be greatly successful in your pursuits.

More especially over the last few years of study at DUT, you would have appreciated the strategic approach, outcomes and impacts of our teaching-learning and research-innovation philosophy. We have sought to position DUT as a university of and for its broader society. We exist because our people must use their individual and collective creativity, innovation and entrepreneurial flair to solve perennial and new problems our broader society faces. Solutions to these must contribute towards improving the lives and livelihoods in our society. Through our '*Innovative Research and Curricula*', we expect you to become a model DUT '*Adaptive Graduate*' who will unleash your creativity and imagination to become the source of change and advancement. By 2030 we will be a vanguard of that change and advancement in society. We see you as an equal partner in this historic voyage we have just embarked upon.

Your graduation coincides with a myriad of challenges confronting the world, the African continent and South Africa as a nation. We do not expect you to feel sorry for yourselves or mourn the persistence of these problems. As DUT, we have accepted Pascal Finette's assertion that people are a source of everything that happens across all institutions of society. This means that it is people who are behind the problems we know. Similarly, we know that it is a different type of people who contribute ideas that will lead to lasting solutions. In the recent past, I said the following when unpacking the Stewardship Perspective of *ENVISION2030*:

It is about being true and selfless stewards of everyone and everything we are custodians of. It is about our deep conviction and purity of character in our collective quest to reach our ultimate goal. It is about something deeper, irreducible, somewhat intangible, that will sustain us on a flight to greatness. Allow me to say Stewardship is essentially our compass towards our ultimate and shared destiny of greatness.

As a DUT graduate, you should enthusiastically contribute towards the lives and livelihoods of all our people. In everything you do and will do onwards, may you demonstrate DUT's DNA and the DUT-Way. May you live all DUT's Values and Principles as part of your way of life. That way, you will stand out and be seen to be a distinctive DUT graduate that all will wish to associate with, perhaps employ and perhaps partner with on big and innovative projects.

We wish you all the best in your future endeavours. Become the change you have always yearned for.

UMLAYEZO KASEKELA SHANSELA NOPHINDE ABE NGUTHISHANHLOKO



Njengoba sonke sazi, iNyuvesi yaseThekwini yezobuChwepheshe (DUT) isikhiqize izinkulungwane zezitshudeni eminyakeni eyedlule. Noma kunjalo, labo abathweswa iziqu ngo-2021 bangabokuqala selokhu kusungulwe uhlelo olubizwa nge-ENVISION2030 kanye nokuvela kokhuvethe nezinguquko-ke obekufanele zenziwe ekufundiseni nokufunda.

Ngesikhathi kuqala i-ENVISION2030 ekuqaleni konyaka odlule, ngaleso sikhathi ubungabe usutholile ukuthi iyini yona okubandakanya nomqondo wolibofuzo lwe-DUT neNdlela ye-DUT esuka kuyo. Ngesikhathi esizayo uma sesibuka okwenziwe yileli su elisha kuzo zonke izinhlangathi zalo, niyoba yiqembu lokuqala okweqhathaniswa nalo.

Uma ngikhulumela abantu base-DUT, ngithatha lelithuba ukunihalalisela empumelelweni yenu emqoka kangaka. Siyaqonda ukuthi lempumelelo isho lukhulu kini, okunye kwakho kusho ukuthi nikwazile ukuqoqa imicabango yenu kanye nendlela yokuziphatha okuyinto efana nabantu base-DUT. Ngaphandle kokukwazi ukuziphatha ngendlela, lolusuku bekungenzeka lungabi yimpumelelo kwabaningi benu. Ngalokho ngithi, lendlela enikwaze ukuziphatha ngayo kuze kubemanje izoniqhuba kwenizokwenza kusukela manje, kungaba ukuqhubeka nezifundo, ukusebenza, ukuqala amabhizinisi enu noma ukuqala imindeni.

Ukuthatha emazwini ka-Jim Collins, isiko lokukwazi ukuziphatha kanye nendlela yokukwazi ukuphatha amabhizinisi lokhu kokubili kukhiqiza, “*the magical alchemy of great of performance*” okusho ukuthi “umlingo wenqubo yoguquko yokukhulu kokwenza umsebenzi”. Ngakho, asingabazi ukuthi indlela enikwaze ngayo ukugxila kwenikwenzayo nokuziphatha njengoba benenza ngesikhathi sezifundo zenu kanye nobuhle bokusungula amabhizinisi ebekufakwa ezingqondweni zenu e-DUT enqwabeni yeminyaka eyedlule, ngaleyo ndlela niyophumelela kukho konke enihlela ukukwenza.

Ikakhulukazi eminyakeni yokugcina yokufunda e-DUT, kufanele ngabe nithakasele izindlela zokwenza izinto, imiphumela yendlela izinto ezenzeka ngayo, kanye nemiphumela yendlela yokufunda-nokufundisa kanye nezindlela ezintsha zocwaningo zobunjalo bolwazi nezinto eziyiqiniso nezikhona. Sizame ukuthola indlela yokubeka i-DUT njengenyuvesi yomphakathi wonkana. Sikhona ukuze abantu bakwazi ukusebenzisa amakhono abo ngabanye nanoma futhi besebenzisana nabanye, ukukwazi ukufika namacebo okwenza izinto ngcono kanye nokukwazi ukwenza kahle kwezamabhizinisi bakwazi ukuxazulula izinkinga ezintsha kanye nalezo umphakathi wonkana osubhekene nazo inqwaba yeminyaka. Lezi zisombululo kufanele kube ukuthi zibe negalelo ekwenzeni ngcono izimpilo zabantu kanye nendlela yabo yokuphila emphakathini yethu. Nge, “Innovative Research and Curricular” silindele ukuthi nibe yisibonelo se-DUT, “izitshudeni esezigogodile ezikwazi ukumelana noshintsho” ezizokwazi ukucabanga ngokusabalalisa umqondo kanye nekhono lokudala ukuze nibe umsuka woshintsho nokuthuthuka. Ngonyaka ka-2030 kuyobe kuyithi esihamba phambii ngezindlela ezintsha zokuthuthukisa umphakathi. Sinibona njengabalingani bethu kulomlando wohambo esilualayo.

Ukuthweswa kwenu iziqu kwenzeke ngesikhathi izwe libhekene nenqwaba yezingqinamba, izwekazi lase-Afrika kanye neNingizimu Afrika njengesizwe. Asilindele ukunibona nidabukisa okanye nikhungathwe ukuba khona kwalezi zinkinga ezingapheli. Njenge DUT, sesiwamukele umbono ka-Pascal Finnet othi abantu bawumsuka wayo yonke into eyenzakalayo kuzo zonke izikhungo zomphakathi. Lokhu kusho ukuthi ngabantu abayimbangela yezinkinga esizaziyo. Kuyefana nokuthi, siyazi ukuthi ngabantu abathile abayobamba iqhaza ngemibono eyoholela ezisombululweni ezohlala zikhona njalo. Esikhathini esingasingakanani esedlule, ngasho lokhu okulandelayo uma ngichaza ngoMbono wokuPhatha we-ENVISION2030:

Kumayelana nokuba ngumholi weqiniso nongayena ugombela kwesakhe kubantu nakho konke lokhu okudinga ukunakekelwa yithi. Kumayelana nokujula nokukholelwa kwethu kanye nobumsulwa bobuthina ekubambisaneni ekufuneni lokho okuwumgomo wokugcina, ongehliseki, ongasho nje ukuthi into engabambeki, lokho kuyosilondoloza size sifinyelele kokukhulu. Ngivumeleni ngisho ukuthi uBuholi buyinkombandlela bendawo yethu esiphokophelele kuyo neyokugcina yethu sonke yobukhulu.

Njengomfundi wase-DUT othweswe iziqu, kufanele niphonse esivivaneni ezimpilweni zabantu bethu kanye nendlela abaziphilisa ngayo. Kukho konke enikwenzayo nenizokwenza ukuya phambili, sengathi ningakhombisa uLibofuzo lwe-DUT neNdlela ye-DUT. Sengathi ningaphila ngazo zonke izinto ezibalulekile neziyigugu nezimiso ze-DUT njengengxenywe yempilo yenu. Ngaleyo ndlela, niyogqama niphinde nibonakale ukuthi ningabafundi abathweswe iziqu e-DUT abantu bonke abayofisa ukwazana nabo, mhlampe babaqashe okanye babe ngabalingani babo emisebenzini emikhulu yokuqhamuka nezinto ezintsha.

Sinifisela okuhle kodwa kulokhu enizokwenza kusasa. Yibani ushinto enanikade nifisa ukuba yilo.



MESSAGE FROM THE PRESIDENT OF CONVOCATION

Mr Siyabonga Vezi

Class of 2021. Congratulations on your well-deserved success!

You should be extremely proud of your accomplishment. One's graduation is always a momentous occasion, but completing your studies and graduating during the midst of a world-wide pandemic is nothing short of extraordinary. You have made it through a very challenging time. Your indomitable spirit and a thirst for success has propelled you to work hard and see this through. Well done! These are the very skills that will hold you in good stead and give you the confidence to overcome hurdles and continue with the journey ahead.

ENVISION2030 speaks of producing adaptive graduates – developing graduates with the acumen to initiate and/or respond to change. The Class of 2021 epitomises that. You were faced with uncertain times but your resilience and fortitude endured and here you are, today, celebrating all the hard work that led to this victory. As you celebrate let us pay homage to those that have made sacrifices to ensure you fulfil your potential as a contributing member of society. Pay it forward as you, too, seek to *Improve Lives and Livelihoods*. To make a donation to DUT go to www.dutalumni.com and click on “Ways to Give”. Select one of the three payment options. It is that easy.

Having being ranked among the top five Universities in South Africa, according to the Times Higher Education World Rankings, as DUT we are confident that we have produced graduates with a social conscience who will make an indelible mark on the world and who will certainly become members of a global community.

We hope that you have created fond memories of your time at DUT and we look forward to welcoming you back should you choose to continue with postgraduate studies. The Executive Committee of Convocation is proud to be part of one of your greatest achievements. We look forward to great things from the graduating Class of 2021. I humbly request that you make contact by continuously updating your details so that you maintain your lifelong link with DUT, your *Alma Mater*.

UMLAYEZO KAMENGAMELI WENHLANGANO YABAFUNDI ASEBETHWESWE IZISU



Ukwethweswa kwezisu kwasebusika 2021

Bafundi bango-2021. Halala empumelelweni yenu enifanele!

Kufanele niziqhenye ngesenikuzuzile. Umcimbi wokwethweswa izisu ungumcimbi uhlale ungomqoka kakhulu, kodwa-ke ukuqeda izifundo zenu niphinde nithweswe izisu ngesikhathi izwe libhekene nobhubhane emhlabeni wonke lokho kuyisimanga esikhulu. Niphumelele kunzima. Umoya wokuphikelela kanye nokomela impumelelo kunenze nasebenza kanzima kwaze kwaba manje. Nisebenzile! Lawa ngamakhono ayonigcina aphinde aninike ukuzethemba okuyonenza nikwazi ukumelana nezingqinamba niphinde niqhubeke nohambo enibhekene nalo.

Uhlelo i-ENVISION2030 lukhuluma ngokukhiqiza izitshudeni ezikwazi ukumelana nezimo ezahlukeneyo ukuthuthukisa izitshudeni ngobuchule ukuze zikwazi ukuqala kanye/noma zikwazi ukuthi zenzenjani uma kufika ushintsho. Abafundi baka-2021 bayisibonelo esihle ngokweqile salokho. Benibhekene nesikhathi esinzima kodwa nibekezele ngenxa yamandla nesibindi, namhlanje nizobungaza ukusebenza ngokuzikhandla okuholele kulempumelelo. Nisabungaza, ningakhohlwa ilabo abadele konke ukuqinisekisa ukuthi ningalabantu eniyibona namhlanje abaneqhaza abalibambayo njengamalungu omphakathi. Khokha ngendlela yokuthi nawe uyafuna ukuthi *Izimpilo zabantu zibe ngcono kanye neNdlela abantu abaphila ngayo*. Uma ufuna ukuphonsa esivivaneni e-DUT ungangena ekhasini le-internet: www.dutalumni.com bese ucofa lakuthi, “iziNdlela zokuNikela.

Ukubekwa kanye namanyuvesi amahlanu aphezulu ohlwini eNingizimu Afrika, ngokwe-Times Higher Education Worlds Rankings, njenge-DUT siyazethemba ukuthi sikhiqize izitshudeni ezikwaziyo ukuphila nabantu eziyoyibeka induku ebandla, futhi ezizoba amalungu omphakathi omhlaba jikele.

Sithemba ukuthi nizenzele izinkumbulo ezithandekayo zesikhathi senu e-DUT kanti singakuthokozela ukubuya kwenu uma nikhetha ukuqhubeka nezifundo zenu. Ikomidi Elikhethekile leNhlango yasebethweswe izisu liyaziqhenya ngokuba yingxenywe yenye yempumelelo yenu enkulu kangaka. Sibheke okuhle kodwa ezitshudenini zango-2021 ebezithweswa izisu. Nginyaninxusa ukuthi nixhumane nathi ngokuthi niqhubeke nokubuyekeza imininingwane yenu ukuze nigcine ubudlelwano benu ne-DUT njalo, inyuvesi yenu ebenifunda kuyo.

Khumbulani ukuhlala ngokuqhelelana, ukugeza izandla imizuzwana engama-20 bese-ke njalo nifaka isimfoyo uma niphumela phandle.

Niphephe. Nibusiseke.

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Chairperson of Council

Ms B Ntombela

Vice-Chairperson of Council

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Convocation

Mr M Shange

Convocation

Mr D Makaya

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Prof L Molamu

Council Appointee

Mr S Sibiya

Council Appointee

Mr B Singh

Council Appointee

Ms G Twala

Council Appointee

Cllr. W Mapena

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Vacant

Minister of Higher Education

Vacant

Minister of Higher Education

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Vice-Chancellor and Principal

PhD (Wits); MSc (Vanderbilt); BSc Hons (UFH)

Professor M N Sibiya

Deputy Vice-Chancellor:
Teaching and Learning

D Tech (DUT); M Tech (TN); BCur Hons (UniZulu)

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People and Operations

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Research, Innovation and Engagement

PhD (UND); M TEM (UniMelb); MSc (UND)

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PhD (CUT); MEd (VISTA); B Paed (UniZulu)

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Accounting and Informatics

PhD (UniZulu); MSc (Unilorin)

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Applied Sciences

PhD (UDW)

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Arts and Design

PhD (UP); NHD (TUT)

Professor B Twala

Executive Dean:
Engineering and the Built Environment

PhD (OU); MSc (Southampton); BA (UNESWA)

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Executive Dean:
Health Sciences

PhD (UKZN)

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Executive Dean:
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DPhil (SU); PGDip (Buckinghamshire Chilterns);
NDP (TSA); BA Hons (UWC); BA (UniVEN)

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Dr Q P T Mtshali

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PhD (NSU); BSc (SUNY)

Mr S Nyangintsimbi

Chief Risk Officer

MPhil (UP); MBL (UniSA); B Com (WSU)

Dr J M Moletse

Director: Midlands Campuses

PhD (PSU); MBA (UCT); MSc (HU); BSc Hons (Wits)

Dr D Mohale

Director: Special Projects

DLitt et Phil (UniSA); MMPP (Wits); BA (Cum Laude) (CUT)

Dr V L Mthethwa

Senior Director:
Human Resources

PhD (UKZN)

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Architecture (Interim)	Mr L S du Plessis	MArch (UKZN); SAIA; Pr Arch
Chemical Engineering (Interim)	Prof SLK Kiambi	PhD (LAPLACEU); BSc (MU)
Civil Engineering and Geomatics (acting HoD)	Dr M Seyam	PhD (UM); MSc (IUG); BSc (CE); WISA
Civil Engineering, Pietermaritzburg (acting HoD)	Dr J Ikotun	PhD (Wits); MSc (Dundee); BEng (FUTMINNA)
Construction Management & Quantity Surveying	Dr AO Aiyetan	PhD (NMMU); M.Sc (ABU)
Electrical Power Engineering	Prof IE Davidson	PhD (UCT), MEng (Unilorin), BEng Hons (UKZN), Pr Eng.; SEMAC (BCIT, Canada); FIET; FSAIEE; SMIEEE; MNSE; MCIGRE; MBCSEA; MWCGCE
Electronic and Computer Engineering	Dr S Reddy	PhD (UCT); MBA (WITS); M Eng (UP), BSc Eng (UND), SMSAIEE, MIEEE
Industrial Engineering	Dr OA Olanrewaju	DTech (TUT); MSc (Unilbadan)
Mechanical Engineering	Dr FM Mwangi	PhD (DUT); M Tech (DUT) Pr Eng; CPA (K); MSAIMechE
Town and Regional Planning (Interim)	Dr G M Lincoln	PhD (DUT); MTRP (UND)



Faculty of Engineering and the Built Environment

Degree of Doctor of ENGINEERING

ADEBIYI Abayomi Aduragba

Title of Thesis

Optimization of distribution static compensator for mitigation of power quality issues in grid-tied photovoltaic systems

Summary

Presently, the Renewable Energy Sources (RES) are being integrated into the power grid. Among these RES, photovoltaic (PV) system is penetrating rapidly because this form of power is easily generated and also considered clean and safe. The integration of PV comes with power quality issues due to various nonlinear loads. These power quality issues include; harmonic currents and unbalanced loads. This study embarked on the use of the Distributed Static Compensator (D-STATCOM) to improve these power quality issues. Enhanced Jaya (E-Jaya), a novel optimization method, was proposed and implemented to optimize the coefficients of the PV inverter proportional-integral (PI) controller. The E-Jaya optimization method mitigates the limitations of other optimization techniques. The outcomes of this work revealed that, the E-Jaya optimized D-STATCOM provided a more satisfactory performance as compared to the Artificial Bee Colony. This study also established that, the E-Jaya optimization method provides a better voltage regulation and significant compensation of source current the Total Harmonic Distortion (THD).

Supervisor Prof IJ Lazarus

Co-Supervisors Prof AK Saha
Dr EE Ojo

DEWA Mendon

Title of Thesis

Energy assessment and scheduling for Energy Optimisation of a Hot Dip galvanising process

Summary

Galvanising furnaces are categorised as dominant consumers of electricity in the overall galvanising industry. The research sought to introduce an optimal energy optimisation-scheduling algorithm for a hot dip galvanising process. A DMAIC based methodology was presented for improving energy efficiency in a galvanising process. Four energy minimisation opportunities were identified, quantifiable energy and cost savings, as well as avoided carbon dioxide emissions were derived from the analysis of one of the plants. The main drivers for electricity consumption and energy performance indicators for a galvanising plant were established through a comparison of actual and expected consumption, energy intensity index, cumulative sum, and specific energy consumption. A bi-objective Greedy Energy Consumption Optimisation Scheduling (GECOS) algorithm was further introduced to reduce the total energy consumption as well as makes pan. The simulation results revealed that the GECOS algorithm outperforms other stated algorithms on minimising makes pan on parallel processing machines.

The key contributions to the body of knowledge from the study include a unique evaluation of electrical energy consumption by a hot-dip galvanising plant, development of an energy consumption baseline and performance indices, and the developed novel bi-objective GECOS algorithm that considers reducing total energy consumption by the process tanks as well as makes pan.

Supervisor Prof B Nleya

Co-Supervisor Dr B Dzairo

MOHAMMED Usman Aliyu

Title of Thesis

Application of synthesized zeolite membrane systems in water desalination

Summary

Despite the vast amount of seawater, its utilization is hindered by the presence of salts. Zeolite membranes, synthesized from kaolin of South African origin were evaluated in water desalination. Zeolites A and ZSM-5 with Si/Al ratio of 1.3 and 43, respectively were successfully synthesized and explored for salt removal from water. The zeolites showed an efficiency of up to 89.7% in the removal of Ca^{2+} , K^+ , Mg^{2+} and Na^+ ions, when used as adsorbents. Trials on reverse osmosis units showed the systems to be promising membrane systems with ion rejection of up to 95%. The study has shown the production of ZSM-5 to be economically viable with a payback period of less than 4 years. Alongside the novelty in the synthesis, a machine-learning tool has been used to establish the relationship between complex zeolite synthesis materials and desired properties. This is a step towards sustainable water treatment using local and abundant resources.

Supervisor Prof YM Isa

Co-Supervisor Prof S Rathilal

MTSWENI Sphehile

Title of Thesis

Performance optimization modelling of a horizontal roughing filter for the treatment of mixed greywater

Summary

With growing demand of wastewater treatment technologies, advanced research and optimization of water treatment technologies is becoming a necessity. This study aimed at modelling a horizontal roughing filter (HRF) based on empirical and artificial neural networks (ANN) for the prediction of domestic greywater variables. Experiments were conducted for biological and physico-chemical quality analysis and design variables of the HRF were investigated at 0.3 m/h for the prediction of multi-output variables of greywater. Predicted ANN variables were pH, COD, solids and turbidity, where the MSE below 10% and R coefficients above 0.9 were targeted. High pollutants and lower treatability characteristics in kitchen greywater were recorded compared to other sources and removal was generally satisfactory in the HRF with 90% turbidity, 86% conductivity and 84% solids reduction. The filtration rate, filter length and gravel size were highly significant and the MIMO ANN model recorded good accuracy in predicting multi-output variables of greywater.

Supervisor Prof S Rathilal

Co-Supervisor Prof BF Bakare

MWELASE Lorraine Thulisile

Title of Thesis

A technical framework for potable water infrastructure operation and maintenance

Summary

An Operation and Maintenance (O&M) framework for the Umzinto Water Supply System (UWSS) infrastructure, Ugu District Municipality, was developed following the objectives of the study. The study period was from 01 November 2015 to 31 December 2019. The first objective was to classify the Umzinto potable water distribution network. The result for this objective was that although the system qualified for Class IV considering the people served, there were a few challenges that resulted in the system being assigned Class III status. The second objective was to assess risks involved in the UWSS system infrastructure. The outcome of this objective was a detailed water safety plan for the system. The third objective was to perform an interruption frequency analysis of the UWSS. The results showed a need for regular O&M as well as replacement of aging infrastructure. The fourth objective was to develop the technical framework for O&M of potable water infrastructure in Water Services Authorities, for the UWSS. The system was found to be needing interventions like leakage management, replacing old infrastructure and pressure management as well as a meter audit.

Supervisor Dr B Dzware

Degree of Doctor of Philosophy in
THE BUILT ENVIRONMENT

DAYARAM Tanya

Title of Thesis

The role of business support interventions in promoting spatial justice: A case study of Informal economic development in a residential zone, eThekweni (Ward 68)

Summary

The beginnings of apartheid initiated the manipulation of policy and plans to create cities which deeply entrenched segregation into the South African landscape. This history of spatial exclusion is evident in the study area called Ward 68, located in the South Durban Basin. Formal and informal changes to space from home-based businesses have an impact on the people living and working in this area. There are distinctive challenges related to the city's spatial-economic disparities in the urban environment. South African strategy and legislation have included support to informal businesses in efforts to address the injustices of apartheid. Hence, the appropriateness of business support interventions and their effect on the quality of local spaces needed to be explored. The mixed methods approach to this research contributes to both practical methods for understanding the spatial-economic condition of local urban spaces, and towards providing nuanced data and knowledge in the eThekweni Municipality (Durban).

Supervisor Dr K Erwin
Co-supervisor Dr G Musvoto

Degree of Master of
ENGINEERING

AYAR Prenushka CUM LAUDE
(Full Research)

Title of Dissertation

Investigation and mitigation of temporary overvoltage caused by harmonic filters for variable speed drives

Supervisor Dr EE Ojo
Co-Supervisor Dr AO Akinrinde

BEHARA Ramesh Kumar
(Full Research)

Title of Dissertation

Analytical and experimental investigations of the integration of wind energy in distribution network

Supervisor Dr EE Ojo
Co-Supervisor Mr KT Akindeji

BOPAPE Lebogang Puree
(Full Research)

Title of Dissertation

Privacy of D2D communication based applications and services in IoT enabled networks

Supervisor Dr B Nleya

BUTHELEZI Sibusiso Blessing Jeffrey CUM LAUDE
(Full Research)

Title of Dissertation

Learning rate optimisation of an image processing deep convolutional neural network

Supervisor Dr S Reddy
Co-Supervisor Prof B Twala

*EZUGBE Elorm Obotey CUM LAUDE
(Full Research)

Title of Dissertation

Desalination of a local oil refinery effluent to meet discharge limits

Supervisor Prof S Rathilal

JAIRAM Santosh
(Full Research)

Title of Dissertation

Exploring industry's contribution to the labour intensive construction of low order Rural
Community access roads

Supervisor Prof D Allopi

MBATHA Banzi Patrick
(Full Research)

Title of Dissertation

Infinite dilution activity coefficient measurements for Limonene as a green Solvent for separation

Supervisor Prof S Ramsuroop

Co-Supervisor Dr PT Ngema

MOYO Ranganai Tawanda *CUM LAUDE*
(Full Research)

Title of Dissertation

Artificial Intelligence based solar/diesel hybrid water pumping system

Supervisor Prof PY Tabakov

Co-Supervisor Prof S Moyo

NAICKER Prianca *CUM LAUDE*
(Full Research)

Title of Dissertation

Improving competitiveness through the application of cost estimation models

Supervisor Dr OA Olanrewaju

OLAGUNJU Busola Dorcas *CUM LAUDE*
(Full Research)

Title of Dissertation

Life cycle assessment of the production of cement: A South African case study

Supervisor Dr OA Olanrewaju

PILLAY Caleb Jordache
(Full Research)

Title of Dissertation

Comparative analysis of HVDC and HVAC offshore collection grid systems

Supervisor Dr M Kabeya

Co-Supervisor Prof IE Davidson

SANJIMBA Norberto Fernando Soares *CUM LAUDE*
(Full Research)

Title of Dissertation

Design and simulation of an optimized small wind turbine

Supervisor Prof PY Tabakov

Co-Supervisor Dr G Musvoto

SHEZI Nokwanda
(Full Research)

Title of Dissertation

Automatic speech recognition of the isiZulu language

Supervisor Dr S Reddy

STOPS Rodney Alan
(Full Research)

Title of Dissertation

Predicting the success of TVET Learners in a Higher Education engineering Programme

Supervisor Prof D Lortan
Co-Supervisor Prof S Ramsuroop

XULU Zandile Princess
(Full Research)

Title of Dissertation

The evaluation of key operational parameters of partial nitrification in wastewater Treatment using laboratory scale sequencing batch reactors

Supervisor Prof SL Kiambi
Co-Supervisor Dr SK Pillai

ZIKHONJWA Emmanuel
(Full Research)

Title of Dissertation

Hydrogenation of coconut oil into Biofuel (bio-jet fuel and high-value low molecule hydrocarbons)

Supervisor Prof SL Kiambi
Co-Supervisor Dr SK Pillai

ZULU Musawenkosi Lethumcebo Thanduxolo
(Full Research)

Title of Dissertation

Power flow and fault analysis of a hybrid DC Microgrid: PV System and wind energy system

Supervisor Dr EE Ojo
Co-Supervisor Dr AO Akinrinde

**Degree of Master of
THE BUILT ENVIRONMENT**

NDLOVU Minenhle Petronella
(Full Research)

Title of Dissertation

Examining issues influencing effective facilities management practice on public Sector buildings in South Africa

Supervisor Dr MC Mewomo

**Degree of Bachelor of the Built Environment
Honours in
URBAN AND REGIONAL PLANNING**

BAYENI Siphimpilo Zothani
CHONCO Mfanelo Nkanyiso
LANGA Nomfundo
MABASO Sphehile
NGIDI Akhona Mbalenhle Nenhlanhlehle
SHIPALANA Matimba Orville
SIBEKO Luthando Ntobeko Sinenhlanhla
TETSOANE Limpho

**Degree of Bachelor of Engineering Technology in
CHEMICAL ENGINEERING**

EBRAHIM Muhammad Suhail
PEER Muhsinah Mohamed

**Degree of Bachelor of Engineering Technology in
CIVIL ENGINEERING**

NDLAZI Sibongokuhle
THUNGO Mpumelelo Mfanafuthi
ZWENI Ziyanda Siphwokuhele

**Degree of Bachelor of Engineering Technology in
ELECTRONIC ENGINEERING**

KHAN Wasim

**Degree of Bachelor of Engineering Technology in
MECHANICAL ENGINEERING**

APPANNA Veven
BHALI Mpumelelo
GULE Sthabiso Zuzokuhle
KHANYI Mandlenkosi Zamokuhle
MAGAGULA Collen Thamsanga
MANJOO Iman
MASONDO Muzokhona Zuzumuzi
MBAMBO Mbuso
MNYANDU Siphesihle Emmanuel
MOODLEY Triven
MSOMI Sphamandla
NAIDOO Cameron Shaylin
NAIDOO Daelyn Lester
NAIDOO Eric Timothy
NAIDOO Sumeshan Lucian
NGCAYI Ayanda
NKOSI Vukani Alistair

**Degree of Bachelor of Engineering Technology in
POWER ENGINEERING**

HLABISA Fisokuhle Zelbon
LESHABA Kholofelo Simon

**Degree of Bachelor of Technology in
ARCHITECTURAL TECHNOLOGY**

BEDELL Clement Bloh
FULLER Ryan Edward
NAYIN Darius
SISOKA Mfihlo Maxwell Sisoka

**Degree of Bachelor of Technology in
ENGINEERING: CHEMICAL**

CHETTY Avril
DLAMINI Siphamandla Praisegod
KHUMALO Sandile Hebert
MATIWANE Zandile Gloria
MBUYU Mbole
MTEMBU Briget Mbalenhle
MVINJELWA Sibulele
NDAWONDE Sizokazi Skhumbulile
ZIBANI Sithembile Faith

**Degree of Bachelor of Technology in
ENGINEERING: CIVIL
Specialising in Construction Management**

ABOObAKER	Ismaeel	
BASI	Bhekikhaya	
BASUDEV	Adheer Nevann	
BUTHELEZI	Lungani Effort	
BUTHELEZI	Nomvo Melodious	
BUTHELEZI	Sipho Innocent	
CEBEKULU	Zakhele Patrick	
CHETTY	Kyle	
DEMANA	Mulalo	
DLAMINI	Masiko Wilson	
DLAMINI	Siphesihle Givenson	
GAMEDE	Martin Njabulo Brian	
GAZU	Khulekani Clinton	
HANSRAJH	Uvika	
JEZA	Mzwandile Nkosinathi	
KHOMO	Velani Erick	
KOLOANE	Thuthuka Londa	
KUNENE	Siphephelo Vukile	
LANGA	Nduduzo Nkosenye	
MABIKA	Sindi Gracious	
*MADANLAL	Chennal Arvin	CUM LAUDE
MANSOUR	Dylan Gordan	
MASANGO	Duduzile Ntombenhle	
MAZIBUKO	Knowledge Sbonelo	
MBANJWA	Ningi	
MBHENSE	Nokukhanya Shongani	
MHLANE	Zamanhlane Joyful	
MLABA	Ayanda	
MNGUNI	Lindani Xolile	
MNTUNGWA	Nkosinathi Bonginkosi	
MSOMI	Njabulo Clive	
MTHEMBU	Thokoza	
MTHETHWA	Gcinile Nokwanda	
MTSHALI	Khumbuzile Patience	
MTSHALI	Nokukhanya Xolile	
MTSHALI	Siyabonga Gracious	
NAIDOO	Neshalin	
NDHLOVU	Luxolo	
NDLAZI	Thandeka S'Lindile	
NDLOVU	Amile Mphumeleli	
NDLOVU	Nomthandazo Fairhope	
NDLOVU	Sanele Sandile	
NDLOVU	Simon	
NDULI	Philani	
NGCAMU	S'phumelele Nhlanhleni	
NGCOBO	Menzi Perserverence	
NGWENYA	Siyabonga	
NKALA	Mthobisi Ntshumayelo	
NSELE	Silindokuhle Perceverance	
NYEMBE	Nkululeko	
PHOSWA	Patric Mlungisi	
PILLAY	Selvan	
PITAMBER	Austin	
PREMRAJ	Deepika	
QWABE	Siphesihle Sibusiso	
REDDY	Sholyn	
ROBENI	Thuthukani Cedric	

SAHIB	Akram	
SANGWENI	Senzeni Goodness	
SHANDU	Thembinkosi Ndumiso	
SHANGE	Nikeziwe Samkelisiwe	
SHONGWE	Hlengiwe Akhona	
SHUNMUGAM	Aiden Aaron	
STEMELE	Siphokazi	
TSHABALALA	Nonkululeko Patience	
VAN VUUREN	Jared Michael	CUM LAUDE
ZIKALALA	Nellie Happy-Girl	
ZIKODE	Nhlanhla	
ZONDI	Nomonde Millicent	
ZONDI	Siboniso Noel	
ZULU	Patience Neliswa	
ZUMA	Mbalenhle Penytence	
ZUNGU	Bonakele	

**Degree of Bachelor of Technology in
ENGINEERING: CIVIL
Specialising in Structural Engineering**

ARENDSE	Pierre Anthony Mark	CUM LAUDE
CHILTON	David Andrew	
CULLEN	Robert Paul	
ERAMAN	Mekyle Paul	
*GOVENDER	Ivana	CUM LAUDE
JEWNARAIN	Nadika	
KHAN	Kabir	CUM LAUDE
KUPPASAMY	Shane Matthew	
MADHAN	Yash	CUM LAUDE
MAGWANYANA	Ayanda	
MAHOMEDY	Ahmed	
MOONSAMY	Crinolan	
NAIDOO	Deborah Jade	
NAIDOO	Saisha	CUM LAUDE
NDALA	Musawakhe Collin	
PEER	Shuaib Cassim	CUM LAUDE
PILLAY	Deveshan	CUM LAUDE
PILLAY	Gino	CUM LAUDE
PREMRAJ	Prasheel	
RAMLALL	Shivaskar	
SIVELL	Craig	
THUSI	Thembokwakhe Christian	
VINCENT	Bevan Randall	
ZONDI	Sphelele	

**Degree of Bachelor of Technology in
ENGINEERING: CIVIL
Specialising in Transportation Engineering**

BANDA	Sizme Leonard	
DLAMINI	Vusimuzi	
DLUNGWANE	Nhlakanipho Judgewell	
GINA	Thabani Ntuthuko	
GOVENDER	Daren	
GWALA	Martin Mbongeni	
HADEBE	Vumani	
HARIRAM	Bradley	
HLOPHE	Philile Zinhle	
JAGADAO	Kiash	
JAGMOHUN	Atish	
KUMALO	Thabani Praise-God	

* Dean's Merit Award for Academic Excellence

LUTHULI	Simelukholwa Ivin	
MADIYA	Mduduzi Khumbulani	
MADUNA	Vuyile	
MAHLATSI	Mohlouwane Emily	
MAHLOBO	Thembinkosi	
MAKHATHINI	Vanessa Noxolo	
MATHABA	Sibonokuhle Sakhiwo	
MAZIBUKO	Ntuthuko Perseverance	
MBANJWA	Philani Pelican	
MBOKAZI	Nkosinomusa Domminical	
MCHUNU	Philani	
MCHUNU	Sizwe Fezeka	
MKHIZE	Kwanele	
MKHIZE	Njabulo Meluleki	
MKHWANAZI	Sibonelo Nkosiyapha	
MLABA	Nonhlanhla	
MLAMBO	Presidance Nomzamo	
MNCUBE	Bafana Goodman	
MNCUBE	Faith Xolile Sibongile	
MNYANDU	Owami Lifa	
MPONTSHANE	Siyabonga Sakhile	
MSABALA	Fezeka Sandi	
MSOMI	Khulekani Basil	
MTHETHWA	Nonhlanhla Thembelihle	
MVULA	Thanduxolo Mlamuli	
NDHLOVU	Luyolo	
NDLOVU	Samukelisiwe Nonduduzo	
NGCOBO	Khulekani Malusi	
NGEMA	Vusi Innocent	
NGOBESE	Ibanathi Sizile	
NQOJANE	Thokozile Juliet	
NTOMBELA	Nontobeko Portia	
NTUMBA	Mthokozisi Gregory	
RATSHILUMELA	Mutshutshudzi	
SAMBO	Thulani Desmond	
*SHABALALA	Dumani Siyabonga	CUM LAUDE
SHABALALA	Mthokozisi Sibongumusa	
SICATSHA	Nqabakazi	
SITHOLE	Thandeka	
THUSI	Njabulo Khazimuliswa	
TSHUZE	Bavuyise	
ZUMA	Sanele Lindokuhle	

Degree of Bachelor of Technology in ENGINEERING: CIVIL

Specialising in Urban Engineering

ARMUGAM	Daylin	CUM LAUDE
ARMUGAM	Prabhu	CUM LAUDE
BHIKRAJ	Kamil	
CHIYA	Mpumelelo	
COLLINGS	Dale Gerard	
DE MARILLAC	Justin Marie	
DLAMINI	Thabisile	
FRANK	John Stephen	
GOVENDER	Laven	CUM LAUDE
HOOSEN	Noorain	CUM LAUDE
JALI	Ayanda	
KHUMALO	Blessed Sanele	
KUNENE	Lindelwa Nontuthuko Nokubonga	

KWEYAMA	Siqiniseko Morris	
MAHLABA	Nomkhosi Yvonne	
MBAMBO	Thandeka Precious	
MHLONGO	Dumisani Dominic	
MHLONGO	Sindi	
MKHIZE	Charity Nonkululeko	
MOGAKI	Thomas	
MOODLEY	Humesan	
MPANZA	Thabile Jacqueline	
NAIDOO	Jason	
NARAIN	Preshan	
NDLOVU	Bulelwa Progressive	
NDLOVU	Faith Nokulunga	
NDLOVU	Londiwe Nompumelelo	
NELSON	Shaylin Joshua	
NGCINGWANA	Lindiwe Nancy	
NGWANE	Nomonde Snothando Lungile	
NGWANE	Tiny Simangele	
NJOKO	Lungisani	
NTULI	Nzuke Lisa	
NULLIAH	Neolen	CUM LAUDE
NYIDE	Peter Allen-Paul	
*PATHER	Sashen	CUM LAUDE
PHEWA	Thobile	
PILLAY	Marc Gerard	CUM LAUDE
RADEBE	Zongile Yvonne	
RAMLAL	Yarveer	
RAMPARSHAD	Akshay	
SEWNARAIN	Sashin	
SHABALALA	Senzekile Nokwanda	
SHELEMBE	Samukelo Sinaye	
THUSI	Mbali	
VENKATASU	Melissa Romona	
ZONDO	Osiphayo Siqiniseko Wandile	
ZULU	Sibonelo	
ZUMA	Lindokuhle Ignatia	
ZUNGU	Siwandiselwe Thobeka	

Degree of Bachelor of Technology in ENGINEERING: CIVIL

Specialising in Water Engineering

DA SILVA	Lungelo Jeffry	
*DHARAMLALL	Evaan Jose	CUM LAUDE
DLAMINI	Nombuso Makhosazana	CUM LAUDE
DLAMINI	Sizuzile Lindelwa	
DUMAKUDE	Ndumiso Bongokuhle Fortune	
GCABASHE	Msizi Nigel	
GUBEKA	Vuyani	
GUMEDE	Zimbili Protea	
HLONGWANE	Mandla Betwell	
JALI	Siyanda Brian	
KHUZWAYO	Samukelisiwe	
KHWELA	Musongaka	
KISHORE	Tremyne	
KOBO	Cikizwa Zikho	
KUNENE	Nonhlelo Precious	
LINDA	Wonder Dan	
MANILAL	Saiyhil	
MANYONI	Sinethemba Yvonne	

MASHABANE	Xolani Themba	
MASUKU	Zenzele	
MAZIBUKO	S'Phelele	
MBONGWA	Nkanyiso	CUM LAUDE
MDLADLA	Makhosazana Pretty	
MDUNGE	Bhekekhaya Thelumusa	
MKHIZE	Nkululeko Sibusiso	
MNCWANGO	Thobeka	
MNGOMEZULU	Mxolisi Innocent	
MNYAMENI	Nomvuyo Mbali Miranda	
MSWELI	Sbonelo	
MTHEMBU	Mzamo Xolani	
MTHEMBU	Zabathembu Makhosazane Molly	
MTHIMKHULU	Nonkululeko Eunice	
NDLELA	Nomcebo Cynthia	
NDLOVU	Sabelo Themba	
NDLOVU	Thembelihle	CUM LAUDE
NDOVELA	Thembeka Patricia	
NGOBESE	Langelihle Londeka	
NGUBO	Mfanelo Ngcebo Fortune	
NKOSI	Nomfundo Robin	
NZIMANDE	Nontokozo Hazel	
NZIMANDE	Xolani Trevor	
NZUZA	Zinhle Nomfundo	CUM LAUDE
PHAHLA	Sinethemba	
PHUNGULA	Msizi Mansuet	
POISSON	Jarren Leon	
SIBIYA	Zinhle	
SINGH	Sherwyn Rees	
SITHOLE	Bokang	
SITHOLE	Thulisile Nonkululeko	
TAMBWALI	Faith Anasiwathu	CUM LAUDE
TYANI	Sesethu	

Degree of Bachelor of Technology in ENGINEERING: ELECTRICAL (Heavy Current)

ALLY	Muhammad Yaseen	
*BALIRAM	Shaeel	CUM LAUDE
CELE	Muziwakhe Siphesihle Khumbulani	
CELE	Nomusa	
DAHILE	Queeneth Itumeleng Refiwe	
DEVPARSAD	Delon	
DLAMINI	Sihle Ernest	
GASA	Mcebisi	
GOVENDER	Kershlyn	
GOVENDER	Parshan	CUM LAUDE
HLABISA	Sakhile Sambulo	
HLANTI	Glorious Balungile Zamahlubi	
HLONGWA	Sithembiso Fredric	
JULIE	Lynton Caleb	
MAZIBUKO	Bhekamangwe	
MBATHA	Thembela Selborn	
MBHELE	Skhumbuzo Cyril	
MBILI	Nkosikhona Isaac	
MBILI	Thembekile Princess	
MDLALOSE	Linah Accurate	
MDLALOSE	Mxolisi Sanele	
MKHUMANE	Thobile Queen	
MKHWANAZI	Busisiwe Fortune	

MNCUBE	Bongane Sboniso	
MNGUNI	Sthandiwe	
MOKOENA	Fifana Godfrey	
MOLOI	Njabulo Tebogo	
MONDI	Samkelo	
MOODLEY	Komlen	
MOOLA	Yusuf Ahmed	
MOONSAMY	Russel	
MSANI	Portia Zamakhwila Nomagugu	
MSIMANGO	Sihle Nkosiyapha	
MTOLO	Sboniso Freedome	
MUFHADI	Dakalo	
MUTAMBALA	Kika	
MZOBE	Nosipho Precious	
NAIDOO	Kaylen	
NAIDOO	Trevern	
NDABA	Hlengiwe Precious	
NDAWO	Nhlakanipho Patson	
NDLOVU	Lungile Sheilla	
NGCOBO	Nothando S'Thembile	
NGCOBO	Princess	
NGEMA	Mhlengi Senzo	
NGOBESE	Simphiwe Silingene	
NGOMA	Nomathamsanqa	
NGUBANE	Isaac Fana	
NGUBANE	Sandile Clifford	
NKONZWENI	Onke	
NTOMBELA	Sisiziwe Siphelele Charlotte	
NXUMALO	Oscar Sikhumbuzo	
PILLAY	Caleb Clive	
RAMAUTAR	Asheel	
SAMBO	Lindokuhle Cyril James Sibusiso	
SHICEKA	Mhlonipheni Goodmen	
SIBIYA	Cebolenkosi Zwelihle	
SIBIYA	Xolile Confidence	
SIBIYA	Zanele Zamokuhle	
SING	Shaunay	CUM LAUDE
SUBRAMONEY	Dhiren	

Degree of Bachelor of Technology in ENGINEERING: ELECTRICAL (Light Current)

BECHOO	Neresh	
BUTHELEZI	Sifiso David	
CELE	Lungile Prisca Sheilla	
CEMANE	Zingisa	
DLAMINI	Bongekile Goodness	
DLUDLA	Nomcebo Nomthandazo	
EBRAHIM	Siddique	
GOPAUL	Shilendren	
GOVENDEN	Sereshan	
GOVENDER	Kelly Govender	
GOVENDER	Magendren	
GOVINDASAMY	Shonelle	
GUMEDE	Bonginkosi Mandla	
JOSEPH	Lemuel Ainsley	
KHUMALO	Vusithemba Alex	
LETUKA	Zanele Octavia	
LUTCHMAN	Nikhil	
LUTHULI	Phumlani Fikanenhlanhla	

MABIZELA	Sibusiso Siyanda
MAHAYE	Moyomuhle Purity
MAHLANYANA	Nomasabatha
MAHUNGELA	Mike Nkosinathi
MAKHOB	Sithandwa Pearl
MANOGARA	Edward
MAPUMULO	Monwabisi Elliot
MASONDO	Zamanyambose Precious
MATHURA	Jithen
MBUY SANGANY	Chris
MCHUNU	Nqobile Lungisile
MEMELA	Sithembiso Raphael
MGENGE	Sphamandla
MGOBHOZI	Sphelele Goodman
MHLONGO	Cebile Confidence
MKHIZE	Sthembile Holliness
MKHWANAZI	Patrick Mxolisi
MOFOKENG	Nelisiwe Faith
MOONSAMY	Eugene Meshach
MOTILAL	Dinesh
MSANE	Thembeka
MSOMI	Mbongeni Crawford
MSOMI	Sibongiseni Edward
MSOMI	Zinhle Gloria
MTHEMBU	Thandanani Vumani
MTHETHWA	Sabelo Goodenough
NAICKER	Ralph
NAICKER	Theeson Desigamoney
NAIDOO	Preston Jerys
NAIDOO	Tyrone
NAIDU	Chevain
NCAPAI	Bongiswa
NDLANGAMANDLA	Mlinden Patrick
NDLELA	S'Thembiso Innocent
NDLOVU	Mxolisi
NDUKUDA	Lumka
NGCOBO	Mhleli Richard
NGENO	Sinoyolo
NGIDI	Thokozani Nozipho
NGWANE	Zimbini
NHLUMAYO	Musa Eric
NKOSI	Minenhle Lindokuhle Sihle
NTHITE	Thabisile Sybil
NTOMBELA	Samukelisiwe Ignesia
NZIMANDE	Siphelele Senzo Elton
O'NEILL	Tyrone
PHUNGULA	Sinegugu Sithembile
PILLAY	Olgan
RAMDHUNEE	Yukesh
RAMDIN	Nitesh Sudesh
REDDY	Natalie
SALIGRAM	Rivaan
SAMUEL	Keith Mark
SCHMID	Dominique
SHOZI	Halalisani Praiseworth
SIBISI	Lindokuhle Nkanyiso
SIKHOSANA	Nana Noxolo
SIMELANE	Snenhlanhla Pertunia
SINGH	Yasheen
SITHOLE	Nhlakanipho Wiseman

SITHOLE	Pardin
SONI	Nontethelelo Elizabeth
SUNDER	Akshar
VAN DER MERWE	Latachia Kirhell
XOKO	Yanga
XULU	Andile
YENI	Feza
ZONDI	Judith Sibonisile
ZULU	Phathuxolo

Degree of Bachelor of Technology in ENGINEERING: INDUSTRIAL

ZUNGU	Sello
-------	-------

Degree of Bachelor of Technology in ENGINEERING: MECHANICAL

CROSS	Christopher Jason
KHAN	Mohammed Aadil
MAJOZI	Manqoba Bongumusa
MENDOZA	Jordan Rodriguez
NDLOVU	Nkosinathi Innocent
RAMNARAIN	Menisha
VAN DER RYST	Ricus

Degree of Bachelor of Technology in PULP AND PAPER TECHNOLOGY

*KISUNLAL	Raksha	CUM LAUDE
MBATYAZWA	Lerato	
MOODLEY	Sachin	CUM LAUDE
SEKGOTA	Ngoako Jostinus	

Degree of Bachelor of Technology in SURVEYING

MANQELE	Simangalis Trevor
PIKWA	Lubabalo
ZWANE	Sibusiso Richard

Degree of Bachelor of the Built Environment in ARCHITECTURE

BOULLE	Justin Bernard
CAMP	Kayci Darnal
DURAS	Timothy Tyrell
MOTSIELOA	Kekeletso Maneo Daphney
MUHAMMED	Ahmed
NGCOBO	Lindokuhle Minenhle
PILLAY	Schueric Keane

Degree of Bachelor of the Built Environment in CONSTRUCTION STUDIES

KISTEN	Keagan Kenton
MSINDO	Sikhumbuzo Sithembiso
SHOZI	Handsome Nduduzo
SIBIYA	Sibongithemba Nkosinami

Degree of Bachelor of the Built Environment in URBAN AND REGIONAL PLANNING

GENGAYAH	Tamisha
SOOKDAW	Davishkar

Diploma in Engineering Technology in CIVIL ENGINEERING

BANDA	Thanduxolo Thabani
BHENGU	Smangalislo Sabelo
BUTHELEZI	Sandile Eugene
CELE	Luyanda Vincent
CELE	Thandolwethu Siphosakhe Khulekani
CINDI	Khumbulani
DANCA	Sthabile
DIMANE	Nomboniso
DLAMINI	Linda
DLAMINI	Minenhle
DLAMINI	Ntokozo Blessing
DLAMINI	Thabiso
DLAMINI	Zanele Penny
DUMA	Amanda
GAZU	Siyabonga
GUMEDE	Phiwayinkosi Sifiso
GWALA	Mcebo
GWALA	Sihle Colin
HADEBE	Wandile Minenhle Mfundo
HLELA	Mxolisi Justice
JOJO	Ntombizandile
KHANYILE	Sanele Mfanafuthi
KHUMALO	Sandile
LUSHABA	Bheka Jayson
MADAWAENDA	Arnold
MADLALA	Ayabongeka Luthando Gwen
MAGAZI	Zubenathi
MAHLABA	Melusi Bongumusa
MAKHANYA	Luyanda Nok'Khanya
MAKHOBABA	Thabokuhle Minenhle Bright
MAKHUBU	Lindokuhle Buhlebezwe
MAMBA	Given Solly
MAMBA	Sphehile Senzo
MANQELE	Xolani Silomo
MANZINI	Siphithemba Sduduzo
MAPHUMULO	Lungelo Perfect
MASINDWA	Sotsho Olwetu Tando
MATHEBULA	Ndzalama Amber
MAVHANDU	Mavhandu Junior
MBATHA	Cebo Thobelani
MBELE	Melisizwe Siyabonga
MBESE	Siphesihle Mncedisi
MBUTHO	Lindokuhle Mondli
MBUTHO	Vuyolwethu
MCHUNU	Siphesihle Mjabuliseni
MDAKE	Lindokuhle Cyril
MDLETSHE	Simphiwe Mfiswa Able
MDLULI	Nomcebo Precious
MHLABA	Bongumunzi Terrence Sipiwe
MHLONGO	Zanele
MKHIZE	Mlungisi Perfect
MKHIZE	Sandisosenkosi Nkosinathi
MKHIZE	Sibongeleni Phillip
MKHONZA	Nonkululeko Victoria
MNCUBE	Nqobile Nokukhanya
MNCWABE	Thubelihle Goodchance
MNIKATHI	Siyabonga

MNYAWE	Sibusiso
MOLOI	Phakamile Nzuzo
MPAHLANA	Noxolo
MQADI	Simiso Duke
MTHEMBU	Nobuhle Wandy
MTHEMBU	Sikhulile Bheki
MTHETHWA	Mpumelelo
MTHETHWA	Thando Mlando
MTSHALI	Noluthando Lindokuhle
MTSHALI	Siyabonga Siphamandla
MYEZA	Mbali Laurane
MZIMELA	Nonhle Kendy
NAIDOO	Liam Aidan
NDLOVU	Mmabatho Nontando
NDLOVU	Nandipha Precious Lerato
NDLOVU	Xoliswa Rose
NENE	Thando Mandy
NGCAMU	Mbalenhle
NGCOBO	Amanda
NGUBANE	Thabile Princess
NGUBO	Nomonde Mandisa
NKOSANA	Sibongile Songezwa
NKWANYANA	Sinenhlanhla Peacefull
NOMABHUNGA	Banele
NSIBANDE	Siza Mandisa
NTIMBANE	Muzikayise
NTULI	Noxolo Immaculate
NTULI	Sandile Nkanyiso
NXUMALO	Mbongiseni
NXUMALO	Thandeka Minenhle Elizabeth
NYATHI	Nozipho
NYELE	Moyisi
NYEMBEZI	Mzolisi
PAUCHCOWRIE	Jared
PELEMA	Mpho
PHEWA	Olwethu Dianna Nonjabulo
RADEBE	Thabiso
REGINALD	Lyssandra Kiara
ROLOTI	Kholosa
SETSHEDI	Kabelo
SHANGASE	Sihle Mnotho
SHANGASE	Snethemba Nosipho
SHEZI	Luthando
SIBIYA	Thandeka
SIKHAKHANE	Noluthando
SISHWILI	Thobani
SITHOLE	Mboniswa
SIWELA	Siyanda Mandisa
THUSINI	Phumlani
TWALA	Vukile Gerald
WOODROFFE	Hayden Hadley
XABA	Nikeziwe Nkosingisize
YOKWANA	Ayakha
ZIKHALI	Sthembiso Nkosinathi
ZONDI	Bongiwe
ZONDI	Lungelo
ZONDI	Sthabiso Cyril
ZULU	Lindokuhle Eugene
ZULU	Minenhle Samkelo

ZUMA	Asande
ZUMA	Innocent Sanele
ZUMA	Nombulelo
ZWEZWE	Avela

National Diploma in ARCHITECTURAL TECHNOLOGY

GEORGE	Shivaan
NCAME	Qhayiya
NEWMAN	Paul
REDDY	Hashlyn

National Diploma in BUILDING

BEEMATH	Ismael
BIYELA	Simphiwe Musakawupheli
BUTHELEZI	Mmakgatleso Sana
DLAMINI	Sethabile
ERASMUS	Thomas George
KHUZWAYO	Nomfundo
KHUZWAYO	Sifiso Boy Sabelo
LUBISI	Lucas Timothy
MADONDO	Lindo
MOKOENA	Ntankiseng Precious
THABETHE	Lifa Cassius
VAN ECK	Stefan Johan

National Diploma in ENGINEERING: CHEMICAL

GOVENDER	Shaylen
MADLALA	Siyanda
NGEMA	Thobelani Sicelo

National Diploma in ENGINEERING: CIVIL

CELE	Lethukuthula
GAZE	Zane
GWALA	Ndumiso
GWALA	Zekhethelo Zime Whitney
KHANYILE	Khulani Handsome
KUBHEKA	Sazi Sean
LUTHULI	Zazi Sibusiso Siyanda
MADURAI	Talia Symone
MAJOLA	Mandla Cyprian
MBUYISA	Sinothile
MCHUNU	Nkosinathi
MDUNGE	Mfundo Minenhle
MNGOMEZULU	Sinethemba Asiphe
MNIKATHI	Londeka Nonjabulo
NDEBELE	S'thembiso Bhokokwakhe
NDLOVU	Nkululeko Mthokozisi
NENGOVHELA	Mukhathutsheli
NGCOBO	Thabiso Siphesihle
NGUBANE	Njabulo
NZIMANDE	Sakhile Nqubeko
SHONGWE	Simanga Nicholus
VILAKAZI	Clinton Sithembiso

National Diploma in ENGINEERING: COMPUTER SYSTEMS

BACHAN	Pranesh
GANPAT	Prasanth
NTSHANGASE	Mzomuhle Een

National Diploma in ENGINEERING: ELECTRICAL (Heavy Current)

ARUMUGAM	Logan
BUTHELEZI	Thobani Cyril
DUBE	Siphelele Siyabonga Edwell
GAZU	Nonkululeko Thabisile
GOVENDER	Myeshan
MABUNDA	Simon
MANZINI	Nosipho Samkelisiwe Nomfundo
MBONDA	Lizo
MHLONGO	Sandile Somandla
MMOLA	Abigail
MNCUBE	Njabulo Sandiso
MOHLOUA	Christopher Hlafo
MOODLEY	Kumeshen
MSOMI	Zibani Lindokuhle
MTHEMBU	Mpendulo
NGOVENI	Shitshebiso Brian
NKOSI	Sibusiso Makabongwe
SHANGASE	Thabani Marvin
ZIBANI	Nondumiso Nokwanda
ZUBANE	Nomali Princess

National Diploma in ENGINEERING: ELECTRICAL (Light Current)

BIYELA	Sithembiso Zenzele
CHETTY	Dylan
JEZA	Sanele Nkosingiphile
KHANYILE	Sibusiso Themba
KHUSI	Thobani Cleverboy
KOZA	Sibongakonke
MABASO	Nonhlanhla Mariah
MBELE	Nomfundo Laura
MBUYAZI	Simphiwe
MLANGENI	Solly
MOTLHABI	Keikantsemang Lovedearliah
MTHEMBU	Sinokubonga
NDABA	Siphamandla
NGCOBO	Nkanyiso Michael
NGIDI	Cmfort Ntobeko
SINGH	Vivek
ZONDO	Zama

National Diploma in ENGINEERING: INDUSTRIAL

JULA	Matsoelipana
MBOTO	Ziphatheni Ronaldo
MKHIZE	Sanele Leon
MLOTO	Gift Mbongiseni
MSWELI	Nothando Zinhle
NDWANDWE	Phakamani Cyril
NGUBANE	Simphiwe Zwelinzima
NJEJE	Kungawo

NYATHI	Khaya lethu Erick
NZIMANDE	Bongeka Zizile
SIBIYA	Nqubeko Mthobisi Excellent
SOLOMBELA	Precious Sihle

**National Diploma in
ENGINEERING: MECHANICAL**

BRAMDEO	Shail
CAQUARTA	Oswaldo Alberto Juca
GWALA	S'fundo Ntandoyenkosi
KHOZA	Andile
LUTCHMAN	Darshan
MYENI	Msizi Hopewell
NAIDOO	Akeshan
NAIDOO	Sairushan
NARISAMULU	Deno
NDLELA	Mandlenkosi Raymond
NDLOVU	Njabulo Makabongwe Mncedisi
PADAYACHEE	Janade
SHANGE	Sanele Dickson

**National Diploma in
PULP AND PAPER TECHNOLOGY**

MLONDO	Nomzamo Wendy
MTHIMKHULU	Philisiwe Sinenhlanhla
VANDIAR	Evashan

**National Diploma in
SURVEYING**

HLATSHWAYO	S'phephelo Msizi
LEPHEANA	Ramatseatsana Pius
MTHEMBU	Minenhle Thenjiwe
NENE	Gugu Annastasia
SIBISI	Mabutho Welcome
SPOTSI	Lonwabo
ZULU	Precious Nosipho Pretty Patience



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