

Theory put into practice to develop understanding

The Department of Civil Engineering implemented a new module this year, Transport Science 364. This module was introduced to expand the transport science curriculum to take into account new technologies and developments in the transportation field. One of the subject areas that could be incorporated with the expansion of the transport science curriculum is Universal Accessibility, which considers design elements of infrastructure to accommodate users of various ability levels. Buildings, transport systems and pedestrian spaces are designed to allow all users to use the facilities safely and easily even with various disabilities, such as mobility, sight, aural or cognitive impairment.

An accessibility audit of the Faculty of Engineering and surrounding infrastructure was conducted by the Transport Science 364 students at the start of the second semester. Students were required to navigate through the engineering faculty campus and reach various destinations, having assumed some form of disability. Some students were in wheelchairs, some completely blind (using a blindfold and a cane) and others simulated partial sightedness using a semi-transparent screen. Another mode of disability, which is often overlooked, is moving around with a small child, simulated in the practical by using a "pram" or trolley. Measurements were taken of doorways, passage widths, card reader heights and ramp slopes and compared to Universal Accessibility standards applied in South Africa.



A group negotiating the fourth floor bridge.

The purpose of the practical was to allow students an appreciation of the challenges faced by disabled people in the road environment and while moving around buildings. Not only did the students learn how to conduct an accessibility audit, they also developed an understanding of difficulties faced by disabled people and the influence of the design of the built environment in improving the experience of facilities for all people. This experience that will positively influence their perception of design in any field of civil engineering, not only in transport. The findings of the group practical reports will be compiled into a document about the accessibility of the engineering faculty.

Primarily students were surprised at the physical effort needed to negotiate a ramp in a wheelchair, the difficulty of opening some doors using a card reader when blindfolded and the number of steps that suddenly appeared around campus!



Transport Science 364 students about to set-off on their Accessibility Audit.

Engineering logo "refreshed"

After 15 years it was time for a facelift! On the request of the new Dean, Prof Wikus van Niekerk, the Faculty of Engineering logo has been dusted off, polished and refreshed.

The logo, in the form of an I and an E (for Ingenieurswese/Engineering) was originally designed in 2002 by Ms Elke Dunaiski, who was a master's student in graphic design at the time.

There are four versions of the new logo and they are available in six formats. This is to make provision for all the different needs of application, taking into consideration the medium, available space, type of product, etc. The versions are the IE logo on its own; IE and SU logos combined; IE logo plus text in three languages; and combined SU and IE logo plus text (see example of the latter on the right).

The Faculty of Engineering is proud to be part of Stellenbosch University and portrays this strong relationship in two of the versions of the new logo.

The Faculty would like to establish the new logo in its own right and for this, its uniform and correct use at all times is of utmost importance. Personnel and students must therefore please take note of the new logo and use it correctly in publications, posters, newsletters, websites, corporate clothing, gifts, etc.

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ENGINEERING
 EZOBUNJINELI
 INGENIEURSWESE

Serious research and lots of enjoyment

"I only discovered by chance that my approach to postgraduate supervision seems to work, as I do not have any training in this regard," says Prof Jan van Vuuren, who uses a novel approach in running his research group, the Stellenbosch Unit for Operations Research in Engineering (SUnORE). This approach aims to develop academic as well as personal and interpersonal skills in order to deliver more well-rounded engineers.

The research group was founded in 2014 and is now about 28 strong comprising master's, doctoral and even skripsie students. Research is carried out on projects under the broad sphere of Operations Research within in the Department of Industrial Engineering. However, the group's activities are not confined to being academic in nature. Every Friday the entire group comes together to share generic skills such as research practice, how to use certain software, leadership development and tips on your future career in an attempt to equip students with the necessary skills to excel in their research and future career.

The Friday programme also includes a session where one student shares a hobby or interest with the group, helping them to learn a bit more about those they share their academic environment with. The group also shares a lunch provided on a rotational basis by nominated students. These lunches provide a platform to chat, discuss research and other things, and even to ask advice from other students. Friday afternoons also include a video or presentation about an interesting historical figure, artwork or construct called *The Muse*, followed by feedback from two students who speak about the progress with their research. This helps to form a value of developing a genuine interest in the research of their peers and the group is encouraged to deliver critique and encouragement to students who present.

Throughout the year the same group also meets for social activities outside the office - some of these activities have included 10-pin bowling in Cape Town, a picnic at Boschendal Wine Farm and high tea at the Mount Nelson Hotel.

One of the highlights of the year is a weekend away at Kleinmond. All the members of the research group are invited to partake in the breakaway which is spent building relationships, playing sport, socialising, good food and drink and of course, lots of enjoyment.

Jancke Eygelaar (PhD student) and Johan Kellermann (master's student) both agree that this holistic approach would not have been such a success without the continuous support and the tremendous time and effort invested by the three academics, Prof Jan van Vuuren,



Jancke Eygelaar and Johan Kellermann.

Danie Lötter and Dr Brian van Vuuren. "The activities we participate in, such as the 10-pin bowling and the movies, all contribute to the fact that we become more comfortable and relaxed with each other as a group. Because we spend so much time together, we are no longer afraid to ask for help. The general

feeling amongst members is to encourage and help each other. We are glad when individual members succeed."

What have these two postgrad students learnt while being part of SUnORE? Jancke, who has been part of the group for longer, says: "I have gained trust in my ability and my own work. I feel confident that I can make a success of anything I tackle. My problem-solving skills have grown."

Johan says: "I have learnt to try, even if I feel uncertain. I am also not afraid to admit when I do not know something. I know where to go for advice as we are all keen to help each other. I have learnt to change my way of thinking."

What is their favourite activity as a SUnORE member? Jancke says: "I thoroughly enjoy the weekend away at Kleinmond where you don't



Prof Jan van Vuuren.

Danie Lötter.

Dr Brian van Vuuren.

plan anything, you just relax and braai together. Johan's favourite event is the ORSSA Conference. This is the annual conference of the Operations Research Society of South Africa, which takes place in South Africa or one of the neighbouring countries. It brings together the finest minds in the field of Operations Research, and SUnORE postgrad and skripsie students are encouraged to present at the conference and receive valuable feedback from the society members. Johan continues: "It is challenging to present at a conference, but this one provides an excellent opportunity for students to get used to speaking in front of experts."

SUnORE is also known for exceptional academic achievements. The group won 7 of the 8 awards during the ORSSA Conference held in the Drakensberg from 10 to 13 September this year.

- Ghiete van Zyl won the prestigious Gerhard Geldenhuys Medal for the best 2016 (4th-year) skripsie in operations research in South Africa (*In pursuit of God numbers for the puzzle Wrapslide*).
- Shane van Heerden won the prize for the second best 2016 (4th-year) skripsie in operations research in South Africa (*Optimisation of stock-keeping unit placement in a retail distribution centre*).
- Jancke Eygelaar won the prize for the second best 2016 master's thesis in operations research in South Africa (*Generator maintenance scheduling based on the risk of power generating unit failure*).
- Thorsten Schmidt-Dumont won the prize for the best master's student oral presentation at the conference (*Reinforcement learning for the control of traffic flow on highways*).
- Jancke Eygelaar won the prize for the best doctoral student oral presentation (*Generator maintenance scheduling in pursuit of expected energy generation maximization*).
- Dr Brian van Vuuren won a recognition award for a member of ORSSA of age 35 or below for excellence in operations research practice.
- Prof Jan van Vuuren and a former doctoral student, Andries Heyns, were awarded the prestigious 2017 Tom Rozwadowski medal for the best peer-reviewed paper published in an international journal by a member of ORSSA in 2016 for their paper titled *A multi-resolution approach towards point-based multi-objective geospatial facility location* which was published in Elsevier's *Computers, Environment and Urban Systems*. It was the sixth time Prof Van Vuuren received this medal - a record.

"The SUnORE research group really is a tightly-knit group of friends and colleagues who aim to enrich and to invest in each other's lives and research," concludes Prof Van Vuuren.



Members of SUnORE on their way to the ORSSA conference in the Drakensberg where they won 7 of the 8 awards.

Round number two for Engineering's recruiter

August Engelbrecht, who served as the Faculty of Engineering's student recruiter from 2002 to 2013, returned to his Faculty on 1 September after executing several recruitment initiatives for the Faculty on a part-time basis since April of this year. Mr Engelbrecht joins the Faculty with renewed enthusiasm and the valuable institutional experience he acquired from 2014, to 2016 as Manager: Student Recruitment at the SU Centre for Student Recruitment. Over the past 14 years in this field, he has built numerous good contacts with relevant stakeholders and established solid networks in the education sector, especially education departments, that will be of great advantage to the Faculty of Engineering.

Mr Engelbrecht is keen to recruit bright, prospective students to "make sure that the best continue to study engineering". He also wants to make a concerted effort to recruit more black, coloured, Indian and Asian students in order to expand the Faculty's diversity.

This year he has been busy indeed and has a full schedule ahead for the rest of the year.

Apart from the standard, annual recruitment events, such as the *Open Day*, *Winter Week* and *Women in Engineering afternoon*, his main initiatives are:

- **Career Exhibitions:** The Faculty is now a member of two provincial career exhibition associations (Cape and Gauteng). Throughout the year, these associations have well-organised exhibition tours at schools which enable Mr Engelbrecht to reach top achievers at schools.

- **School visits:** On a regular basis, he visits schools (that traditionally deliver engineering students to SU and those schools identified by the Departments of Education as a source of good quality students) and tells learners about engineering at Stellenbosch.

- Many learners who apply for admission, send in **incomplete applications**. In collaboration with the SU Client Services Centre, Mr Engelbrecht spends a lot of time **following up** on these. This is done by means of phone calls, e-mails and SMSs to learners. As an extra safety net, he phones the teachers of these learners and requests them to encourage the learners to complete their applications.

- **Telethon:** Black students, who have been selected for engineering studies at Maties for next year, will be phoned in October/November by engineering students who will chat to them in their mother tongue about their positive experience as an engineering student.

- **Western Cape Education Department events:** Mr Engelbrecht is also a regular speaker at events for regional managers/teachers. This year, he attended four such events. This is a valuable vehicle with which to keep teachers informed. At the last event, for instance, he had the opportunity to tell 78 teachers about engineering studies at Stellenbosch.

- **Educational NGOs:** Mr Engelbrecht participates in several programmes initiated by educational NGOs where he has access to hand-picked top learners throughout the country. An excellent example of one is the *Talent Development Programme* of the Department of Science and Technology. It is presented in all nine provinces to Grade 11 &

12 learners who obtain at least 70% for Maths and Physical Sciences and who are the top performers in their school. Furthermore, the greatest percentage of these learners must come from resource-poor schools.

- **Bursary companies:** Mr Engelbrecht also has strong ties with several bursary companies that sponsor Saturday schools and internships, for instance *Go for Gold*, sponsored by a group of civil engineering companies. This enables him to reach learners who qualify for engineering, and to market the Faculty of Engineering and its degree programmes.

Over and above the above-mentioned recruitment initiatives, Mr Engelbrecht has several innovative ideas up his sleeve that he would like to launch next year. Amongst these are initiatives involving teachers, parents and learners from as early as Grade 9. He would also like to refresh some of the traditional recruitment initiatives that have been around for more than a decade, such as the *Women in Engineering afternoon*. He is keen to involve current students in the Faculty's recruitment drives through an ambassador's programme. He also wants to collaborate with student organisations, such as the Engineering Students' Council and Engineers without Borders (EWB – Maties) to strengthen student involvement in outreach initiatives.

He says: "I always try to maintain good, professional relationships wherever I go and this includes the personnel of the SU Centre for Student Recruitment, my previous office. I think it is important that the Faculty participates wholeheartedly in actions that this Centre initiates. "I also like to involve lecturers in some of my school visits to showcase their expertise, but also to familiarise them with the environment from where their 'future clients' come from.

"It is my wish that the Faculty of Engineering's student recruitment strategy should be well coordinated. Over the years, I have been privileged to gain a lot of experience regarding career exhibitions, school visits and other recruitment drives. I have built a valuable network of contacts with schools, teachers and company representatives. I therefore invite Engineering Departments that want to recruit students for their own discipline to liaise with me before they embark on any such drive. I will gladly share my knowledge and expertise with them and help them to utilise the opportunity optimally."



Prof Wikus van Niekerk makes his début as Dean at an SU recruitment function in Johannesburg in August. Here he is doing his utmost to convince a father and son (from Pretoria Boys High) that Stellenbosch is the best place to study Process Engineering.



Prof Lingam Pillay accompanied August Engelbrecht on his visit to Star Schools, Cape Town, in June. Here Prof Pillay is addressing the boys.



Recruiting far and wide! August Engelbrecht during a visit to Windhoek Gymnasium earlier this year.



Early in October, August Engelbrecht, front second from the right, participated in the Talent Development Programme in KZN. Here he is with officials of the Provincial Education Department, teachers and top learners from 27 schools.

Distinguished guest shares passion for innovation

On 11 September, the Faculty of Engineering was privileged to receive a very distinguished guest, Prof Calie Pistorius, who delivered an interesting lecture to a packed audience comprising staff, students and other visitors. He explored the impact, opportunities and risks presented by emerging technologies. A core message of the lecture was that all companies are technology based – which poses many opportunities but also risks and threats especially if innovation management is not strategically managed.

By considering S-curves and understanding the underlying dynamics of technological change, the process of disruptive innovation was discussed with many examples of how that led to the demise of incumbents. Prof Pistorius proposed that disruptive technological change may be better managed by embracing technology management practices within organisations to 1) track and analyse emerging technologies 2) integrate innovation and corporate strategy and 3) track and audit technological reliance of companies.

Prof Pistorius explored some future platform technologies such as block chain, virtual reality, 3D printing, drones, biotechnology, autonomous vehicles and artificial intelligence. He concluded that these technologies have major implications for the nature of work in future and therefore the training of engineers. The future belongs to the disruptors and therefore we need to think carefully how we upskill, reskill throughout our lives and play our role as engineers to take South African industries forward.

Prof Pistorius recently established Delta-Hedron Ltd, a UK-based business consultancy firm with a global reach specialising in the management of technological innovation. He is a former Vice-Chancellor of

the University of Hull (Sep 2009-Jan 2017) and former Vice-Chancellor and Principal of the University of Pretoria. This year, he was also appointed an Extraordinary Professor in the Department of Industrial Engineering at Stellenbosch University.

Prof Pistorius says: "I am delighted and honoured to have been appointed as an Extraordinary Professor at the Stellenbosch Department of Industrial Engineering. It is a very dynamic department with an excellent reputation. I would like to contribute by bringing the experience I have gained as an engineer, academic and researcher, manager as well as in the industry. I am passionate about innovation – the conceptualisation, development and implementation of new things. I look forward to working with colleagues and students, mostly with regard to research. The engineering profession is constantly evolving and we need to ensure that the training of engineers is ahead of the curve."

He offers the following advice to students regarding their future career: "I think it is important that one should realise that you are the one responsible for your own career development. Opportunities are there, but they must be grasped and pursued. Mentors can help, but ultimately career development is your responsibility. Obtaining a degree in industrial engineering is an excellent start. However, obtaining a degree is not the end of a process – it is the start of new and continuous process of lifelong learning (and career development). The future is something that must be proactively created. It is a place where the answers are not in the back of the book, there is always something new to learn and there is no excuse for not doing your homework."



From the left: Dr Reinhard Arndt, Prof Calie Pistorius (guest lecturer) and Prof Wikus van Niekerk (Dean). (Dr Arndt is one of the founders of the Rand Afrikaans University and a former President of the Foundation for Research Development. He is also one of the architects of the NRF evaluation and rating system.)

Researchers rewarded for excellence

At the end of August this year, the Rector, Prof Wim de Villiers, congratulated researchers who received new ratings from the National Research Foundation (NRF) in 2017. They were rated for research excellence in their respective fields.

Stellenbosch University now has 430 rated researchers. This places SU in the top three higher-education institutions in the country.

The NRF rates researchers in the five distinguished categories, namely

A: Researchers regarded as world leaders in their fields;

B: Researchers that enjoy considerable international recognition by their peers;

C: Researchers regarded as established in their field;

P: Young researchers with exceptional potential that are likely to become future international leaders in their fields; and

Y: Young researchers with the potential to establish themselves as researchers within a 5-year period after evaluation.

The NRF rating system is a benchmarking system by which individuals that exemplify the highest standards, as well as those demonstrating strong potential as researchers, are identified by an extensive network of South African and international peer reviewers. Ratings are based on the quality and impact of recent research outputs over an eight-year period.

Some of the advantages of being rated is that the rating is used as national indicator of excellence. A successful rating also allows researchers the option of applying for incentive funding from the NRF.

The Faculty of Engineering has 43 rated researchers. Currently, Prof David Davidson (E&E) has the highest NRF-rating in the Faculty (B1).

On the right are the photographs of Faculty of Engineering researchers who received NRF-ratings this year for the period 2017 to 2022.



Prof David Davidson
E&E
B1



Prof Cara Schwarz
Process
C1



Prof Gideon van Zijl
Civil
C1



Prof Johan van der Spuy
M&M
C1



Dr Roman Lenner
Civil
Y2



Prof Jaco Versfeld
E&E
Y2

Girls hear engineering is demanding, challenging and exciting

"People seem to have a lot of admiration and respect for girls who are 'brave' enough to accept the challenge of engineering," said Larissa Tredoux, a first-year Matie engineering student. She was one of the speakers at the Faculty of Engineering's annual Women in Engineering afternoon held on 6 September 2017.

This event was initiated in 2003 to promote engineering as a career amongst girls and to dispel the myth that engineering is for men only. Some 250 Grade 10 to 12 girls, who excel in Mathematics and Physical Sciences, were addressed by an all-female team comprising a student, a lecturer, an expert in the field of blended learning, and an alumna who is a civil engineer. Their message was clear: Engineering is demanding, challenging, exciting and rewarding – and women are more than capable to tackle the challenge and to succeed.

Larissa elaborated: "My first year as an engineering student has been one of the best of my life. It has also been one of the hardest. Stellenbosch is a whole new world to adapt to, but it is a good world. This year, I've worked harder than ever, I've learned more than ever, I've been challenged more than ever. But for me, because I love engineering, every minute has been worth it. I've embraced all the challenges and enjoyed every one of them.

"Sometimes I do feel like I am at a disadvantage, because I am a girl. I feel like I have to prove myself, to show that I can do everything as well, if not better than the guys. I work extremely hard, because one of my biggest fears is that I'll get a bad mark for something and people will say 'Oh, it's fine, it's because she is a girl'. That would probably be the biggest insult anyone could give me."

She concluded with this message: "Today I want to encourage you. Don't let anything get in the way of your dreams. Let the fact that you are a woman, be your greatest advantage. Let your determination to succeed, make you unstoppable!"

Dr Margreth Tadie, a lecturer in the Department of Process Engineering, had the girls spell-bound with her enthusiastic manner and inspiring message. She encouraged the bright, young ladies to aim for the impossible. She said: "We need women to study engineering, not because of gender equality, but because South Africa needs engineers!"

Dr Moira Bladergroen, Coordinator for Blended Learning at the Faculty of Engineering, gave the audience a glimpse of some of the modern teaching methods utilised in the Faculty, such as videos, recorded lectures and other online methods.



From the left: Dr Margreth Tadie, Tracy Wehr, Dr Moira Bladergroen and Larissa Tredoux.

Tracy Wehr, who obtained her Civil Engineering degree at Stellenbosch University in 2011, told the poignant story about the stumbling blocks she had to overcome to qualify as a civil engineer. She encouraged the girls to take charge of their lives and to think ahead. They went home with her last words ringing in their ears: "You will make South Africa a better place if you become engineers."

Four lucky girls won an exciting prize sponsored by Sakhikamva's *The Sky's the Limit* Programme providing them the opportunity to have a day packed with aviation-related activities and the chance to experience a flight for the first time.

Reutech Radar Systems sponsored the speakers' gifts.

Rector's awards for excellent achievements



At a function on 5 October, the Rector, Prof Wim de Villiers (left), honoured the top students of 2016 with awards for excellent achievements.

The top final-year engineering students in 2016 are from the left JC Schoeman (E&E, 90,8%), Marina Kamper (Mechanical, 84,6%),

Riccardo Swanepoel (Chemical, 93,5%) and Mattie Landman (Industrial, 85,6%).

Far right is the (proud) Dean of Engineering, Prof Wikus van Niekerk.

Absent: Gerhard Olivier (Civil, 86,5%) and Josh Mitchell (Top master's student in Engineering, 88%).

Visiting professor enjoying Stellenbosch

In September this year, Prof Harald Jacobsen from the Institute for Physics and Electrical Engineering at the University of Applied Sciences in Kiel, Germany, started his term as Visiting Professor at the Faculty of Engineering, Stellenbosch University. His host is prof Willem Perold.

Prof Jacobsen says: "I joined Kiel in 2011 and after six years I felt the need to experience something different. I therefore spoke to our international office about existing collaborations with other international universities and found that my university has had an exchange agreement with Stellenbosch University (SU) since 2005, whereby German postgraduate students spend a semester at Stellenbosch. I therefore decided to apply to spend a few months here."

During his period at Engineering prof Jacobsen will be involved in undergraduate and postgraduate teaching as well as research. He teaches Engineering Maths 145 for first-years and a postgraduate course, Micro Electromechanical Systems (MEMS). He also joined a research

group at the Department of Electrical and Electronic Engineering. This group comprises 15 postgraduate students and 1 postdoctoral fellow. Two of the students' work overlaps with his fields of expertise, namely printed electronics and piezoelectric biosensors. "Five months is a bit short to do serious research, but hopefully my involvement will go beyond my stay in Stellenbosch," he adds.

At his university in Kiel, Prof Jacobsen also teaches Maths. "I have observed many similarities between the engineering students at Kiel and here at Stellenbosch. One is that many first-year students struggle with Maths, no matter where in the world they are. However, I was surprised to see how many Matie engineering students attend Maths lectures. All the seats in the lecture room are occupied! At my university about 50% of the students do not attend class and several do not perform well. The admission requirements for Engineering at Stellenbosch University are much higher than at Kiel."

Prof Jacobsen is fortunate that his family could accompany him on his trip to South Africa, making it an interesting and exciting family experience. His wife, Vera, who is an occupational therapist, is enjoying a break in sunny South Africa away from home and work. Their son and daughter, Jasper (12) and Jule (9), are attending the Waldorf School in Stellenbosch. Jasper can speak a bit of English, but not the young Jule. Luckily the language barrier does not seem to be a stumbling block at all, according to prof Jacobsen. "When they come home from school, they are always smiling!"

The family Jacobsen plan on spending January, their last month in South Africa, travelling along the Garden Route and in the Eastern Cape. In the meantime, they want to do trips to, for instance, Pateroster and Sutherland.

"My teaching trip is working out well; much better than I expected. Stellenbosch is a good place and I am really enjoying it. I would like to be instrumental in establishing an exchange agreement where Stellenbosch students can visit my University on a sponsored semester trip doing a master's programme in Information Technology or a research period in biosensors," Prof Jacobsen concludes.



Prof Harald Jacobsen, with his children, Jule and Jasper, and his wife, Vera, during a recent trip up Table Mountain.

Dr Danie Ludick sluit aan by E&E

"Want Drama sou nie genoeg betaal het nie!" antwoord dr Danie Ludick op die vraag waarom hy Ingenieurswese studeer het. Dr Ludick is 1 Julie in die Departement Elektriese en Elektroniese Ingenieurswese aangestel as lektor.

"Ek het altyd van die wetenskappe, wiskunde en rekenaarstelsels gehou. Ek het daarom die meer verantwoordelike besluit geneem en Ingenieurswese as studierigting gekies, met die wete dat die kunste 'n 'sideline' kan wees.

Hy het die grade BIng (E&E met Rekenaarwetenskap) en MScIng onderskeidelik in 2007 en 2010 (beide cum laude) geslaag. Daarna het hy in die industrie gewerk en deelyds 'n PhD aangepak wat hy in 2014 verwerf het.

"Ná vier jaar in die industrie was ek lus vir 'n verandering. Die PhD het my 'n smakie van die akademie gegee en toe daar in 2015 'n postdoc-geleentheid by my tuisdepartement oor my pad kom, het ek dit aangegryp. Dit was wonderlik en ek is bly ek het dit gedoen."

Dr Ludick is betrokke by die aanbied van Elektrotegniek 143 en Rekenaarprogrammering 143. "Die klasse is baie groot, maar dit is baie lekker om op daardie vlak te probeer om studente positief te stem deur my motivering." Hy gaan ook betrokke wees by sy Departement se bemarking en webblad.

Selfs van sy skripsiedae was hy in die SKA-lyn en is nou ook deel van die numeriese elektromagnetika navorsings-

goep. "Ek loop al tien jaar 'n pad saam met prof David Davidson en beskou hom as my mentor."

Behalwe vir klasgee en navorsing geniet hy om aan gekombineerde projekte te werk met kollegas van ander ingenieursdisiplines. Dr Ludick is ook 'n ywerige ondersteuner van die Fakulteit Ingenieurswese se gemengde leer inisiatief. "Ná my postdoc het ek besef ek hou van die akademiese omgewing en die veranderende opleidingsmetodes." Hierdie belangstelling kan hy ook uitleef deur sy vrou (Sunel) te ondersteun in haar maatskappy wat juis gemengde leer gebruik om werknemers van maatskappye in staat te stel om 'n dieper grip van hul daaglikse pligte te verkry.

In die Ludick-gesin is daar twee spruite, Benjamin (5) en Amelie (3). "My seun geniet gholfe en my dogter (wat meer uitgesproke is) doen judo en ballet. Ons gesin is aktief – ons ry graag bergfiets en ek en my vrou draf saam. Ons probeer so af en toe as gesin vir 'n naweek wegbreek. Onlangs het ek ook by 'n Astronomieklub aangesluit."

Ná drie maande as dosent, sê dr Ludick: "Ek is baie lief vir wat ek doen. Die twee uur se klasgee per dag gee my daardie 'drama outing!' Ek is baie dankbaar vir my aanstelling. Ek het vir die voorsitter van my departement gesê dat ek ná my driejaarkontrak net hier gaan plak sodat ek kan aanbly!"

Dr Danie Ludick.



Postgrad fun

Stainless steel-man replacing iron-man (or tyre valorisation will never been the same again)



Does the photograph look like something from Star Wars?

Malusi Mkhize, PhD student, having a bit of fun in the Process Engineering Workshop before embarking on the serious task of writing up his thesis (Pyrolysis process optimisation to maximise limonene production from waste tyres).

This thesis is about the modification of existing waste tyre pyrolysis processes and development of the novel methods critical to maximum chemicals production.

The novel stainless steel condensation unit (in the photo) was manufactured in the Process Engineering Workshop.

Postgrad boost

Prof Willem Perold, Vice-Dean Research, with the three students who won a R5 000 postgrad bursary at the postgrad social in April and the two postgrad information sessions for final-years in July and September. Left is Warren Farmer (postgrad E&E), centre is Thomas Jonker (final-year E&E) and right is Ngcebo Mthembu (final-year Mechatronic Engineering).

