

Trotse Matie lid van wenspan in internasionale kompetisie



Pieter Malan.

Pieter Malan, 'n finalejaar in Elektriese en Elektroniese Ingenieurswese, was deel van 'n wenspan van ses lede wat stof geskop het in die oë van tien ander oorsese universiteitspanne tydens 'n internasionale studente clusterkompetisie. Die Suid-Afrikaanse span het onder die vaandel van die *Centre for High Performance Computing* deelgeneem aan die internasionale clusterkompetisie in Leipzig, Duitsland, wat van 21 tot 24 Junie vanjaar gehou is. Die kompetisie het plaasgevind tydens die *International Supercomputing Conference*, die vernaamste konferensie in die veld in Europa.

"'n Clusterrekenaar is 'n rekenaar wat uit 'n klomp kleiner rekenars bestaan wat parallel werk om groot probleme op te los. Die superrekenaarwêreld word deur clusters oorreeds," sê Pieter.

Hy is vir die span gekies na aanleiding van die Suid-Afrikaanse uitdunronndtes wat verlede jaar plaasgevind het. 'n Span wat hy op die been gebring het, het verlede jaar derde gekom in die plaaslike kompetisie, wat deur die span van vier van die Universiteit van Wes-Kaapland (UWK) in Desember gewen is. Vir deelname aan die internasionale kompetisie in Leipzig is UWK se span versterk met nog twee lede, waarvan Pieter een was. Die twee addisionele lede is gekies ná onderhoude wat beoordelaars by die plaaslike kompetisie met alle deelnemers volgens sekere keuringskriteria gevoer het.

Die Suid-Afrikaanse span het darem geleentheid gehad om mekaar eers te leer ken voor hulle saam op internasionale vlak moes deelneem. Vroeg die jaar is hulle vir twee weke deur hul hoofborg, Dell, na die Dell-hoofkantoor in Austin, Texas, geneem waar hulle kon gesels met ingenieurs wat met hoëwerkverrigtingrekenars werk.

"Die internasionale kompetisie het behels dat elf spanne, bestaande uit voorgraadse studente, 'n klein rekenaarcluster van hul eie ontwerp en bou. Daarna het die spanne meegeding om te sien wie se ontwerp die vinnigste met die grootste werkverrigting 'n reeks toetse en simulaties kon uitvoer," sê Pieter. "Die kompetisie het oor drie dae gestrek en elke dag het ons so twee of drie toepassings gehad om te doen. Die limiet vir die rekenaarcluster was 3 kW, wat gelykstaande is aan sowat 60 skootrekenars. Die waarde van ons clusterontwerp het ongeveer R2 miljoen beloop," sê hy.



Die Suid-Afrikaanse span se kragtige rekenaarcluster.

Die ander spanne wat deelgeneem het, was 1. Ulsan Nasionale Instituut vir Wetenskap en Tegnologie (Suid-Korea); 2. Massachusetts Instituut vir Tegnologie (MIT), Bentley Universiteit en Northeastern Universiteit (VSA); 3. Universiteit van Edinburgh (Verenigde Koninkryk); 4. Chemnitz Universiteit van Tegnologie (Duitsland); 5. Universiteit van Hamburg (Duitsland); 6. Universiteit van São Paulo (Brasilië); 7. Universiteit van Colorado by Boulder (VSA); 8. Universiteit vir Wetenskap en Tegnologie van China (China); 9. Shanghai Jiao Tong Universiteit (China) en 10. Tsinghua Universiteit (China).

Die grootste gedeelte van die Suid-Afrikaanse span se koste is gedra deur hul hoofborg, Dell. "Hoëwerkverrigtingberekening (high performance computing) is 'n veld wat besig is om baie vinnig te groei, en daarom wil Dell graag meer blootstelling daaraan gee om 'n groter bewustheid vir die veld te skep," meen Pieter.



Die wenspan, met Pieter Malan links voor.

BWM het die eerste rukkie van die span se besoek aan Duitsland geborg waartydens hulle BMW se innovasiesentrum, museum en produksieaanleg besoek het. "Die rede waarom BMW so geïnteresseerd was om dit te doen, is dat hulle baie simulatie in die ontwerpproses van motors gebruik en daarom vir ons betrek het."

Pieter het baie insig tydens die kompetisie ryker geword. Hy het diep bewus geword van die voordele wat diversiteit en spanwerk inhou. "Ons span was baie divers. Ek was die enigste ingenieurstudent en die ander was wiskunde- of fisika-studente. Ons het as span baie lekker saamgewerk en dié goeie samewerking het die beoordelaars beïndruk. Hulle het agterna gesê dat hulle raakgesien dat al ses van ons ons plek volgestaan het en ons deel gedoen het. Ander spanne het een of twee sterk lede gehad wat die meeste van hul span se werk gedoen het.

"Ons as Suid-Afkaners maak soms die fout om te dink ons is nie goed genoeg nie. Iets wat ek by die kompetisie geleer het, is dat ons tegniese kennis op wêreld-

standaard is. Om oorsee te studeer, bied wel goeie blootstelling, maar Universiteit Stellenbosch hoef nie vir enigiemand terug te staan nie. Ek is baie trots om 'n Matie ingenieurstudent te wees," sê hy.

Hierdie trotse Matie beplan om volgende jaar nagraads by sy alma mater te studeer. Intussen kan hy 'n indrukwekkende nuwe inskrywing op sy CV maak as lid van 'n span wat 'n internasionale kompetisie teen strawwe mededinging gewen het.



Die wenspan se trofee.

ECSA akkrediteer al ses BIng-programme volledig tot 2018

Die Fakulteit het einde Junie 2014 die goeie nuus gekry dat al ses van die Fakulteit se BIng-programme volledig tot einde 2018 deur ECSA geakkrediteer is, sonder enige tekortkoming ("deficiency").

Gedurende Augustus 2013 het die Ingenieursraad van Suid-Afrika (ECSA) die Fakulteit Ingenieurswese besoek vir die normale vyfjaarlikse akkreditering van die ses BIng-programme van die Fakulteit. 'n Geakkrediteerde BIng-graad is 'n voorvereiste vir registrasie as Professionele Ingenieur ná toepaslike ondervinding in die praktyk.

Die ECSA-span wat die Fakulteit besoek het, het aanvanklik 'n tekortkoming by die BIng (Siviel)-program uitgewys, maar na 'n appell-proses is bevind dat daar geen tekortkoming is nie.

Die ses programme wat nou volledig akkrediteer is, is BIng (Bedryfs), BIng (Chemies), BIng (Elektries en Elektronies), BIng (Meganiens), BIng (Megatronies), en BIng (Siviel).

Dit is voorwaar 'n prestasie (en uniek binne die huidige ECSA-akkrediteringsproses) dat al die Fakulteit se BIng-programme vir die tweede agtereenvolgende akkrediteringsbesoek volledig sonder enige tekortkoming vir die volle vyfjaartermyn geakkrediteer is.

ECSA is deel van die *Washington Accord* en gevolglik word Universiteit Stellenbosch se BIng-grade dus ook vir professionele doeleindes erken in alle lande wat ondertekenaars van die *Washington Accord* is (bv. Australië, Kanada, Nieu-Seeland, die Verenigde Koninkryk, die Verenigde State van Amerika, ens.).

Elke student kan dus verseker wees dat wanneer hy/sy die BIng verwerf, dit wêreldwyd hoë aansien geniet.

Ons bedank alle personeel en studente wat deur hul harde werk, positiewe ingesteldheid en werkywer dit moontlik gemaak het.

ECSA accredits all six BEng programmes fully until 2018

At the end of June 2014 the Faculty received the good news that all six of the Faculty's BEng programmes have been fully accredited until the end of 2018, without any deficiency.

During August 2013 the Engineering Council of South Africa visited the Faculty of Engineering for the normal five-yearly accreditation of the Faculty's six BEng programmes. An accredited BEng degree is a prerequisite for registration as a Professional Engineer after acquiring the relevant experience in practice.

The ECSA team that visited the Faculty initially identified a deficiency in the BEng (Civil) programme. However, after an appeal process it was found that there was no deficiency.

The six programmes that have been fully accredited are BEng (Chemical), BEng (Civil), BEng (Electrical and Electronic), BEng (Industrial), BEng (Mechanical), and BEng (Mechatronic).

This is indeed an achievement (and unique within the current ECSA accreditation process) that for the second consecutive accreditation visit all the Faculty's BEng programmes have been fully accredited (without any deficiency) for the full five-year term.

ECSA is part of the *Washington Accord*. Consequently, for professional purposes Stellenbosch University's BEng degrees are therefore also recognised in countries signatory to the *Washington Accord* (e.g. Australia, Canada, New Zealand, United Kingdom, United States of America, etc.).

Each and every student can therefore be assured that the BEng degree he/she obtains is regarded highly world-wide.

We would like to thank all personnel and students who made this possible through their hard work, positive attitude and diligence.

Unique laboratory for innovative solutions in Intelligent Transport Systems launched

A state-of-the-art facility, the Stellenbosch Smart Mobility Laboratory (SSML), was launched in the Department of Civil Engineering at the end of June. The SSML is aimed at addressing the ever-growing opportunities in technology applications in the transport arena (commonly referred to as Intelligent Transport Systems - ITS) and will provide a platform for development of innovative and cost-effective solutions, specifically in developing countries.

The SSML, headed by Prof Johann Andersen, is equipped with the latest software and hardware, traffic signal equipment, traffic information databases and transportation engineering software. Industry played a cardinal role in the establishment of the Laboratory.

TomTom, known for their product range in navigation equipment, and more recently for the provision of real-time as well as historic traffic information to end users, has contributed extensively to the software platform through the provision of access to real-time and historical data for analysis and traffic management. Syntell, a leading service provider of traffic control equipment in South Africa, provided a large range of traffic technology equipment to the lab for research, training and education. PTV Group provided state-of-the-art transportation software as research and training tools for the SSML.

SANRAL will provide a workstation with live feeds (video and data) from the Traffic Management Centre.



Roger Lewis of Syntell demonstrates the equipment donated to the Stellenbosch Smart Mobility Laboratory.

At the launch, the Dean of the Faculty, Prof Hansie Knoetze, said that this launch is a step in the right direction in reaching the goal of becoming one of the Top 200 Engineering Faculties in the world.



A delighted Prof Johann Andersen, Head: SSML, (left) watches as Prof Hansie Knoetze, Dean: Engineering, cuts the ribbon at the launch of the Stellenbosch Smart Mobility Laboratory on 26 June.

Sparks fly during Prasa visit

Sparks were flying in the High-Voltage Laboratory recently when the manager of the Laboratory, Petrus Pieterse, showed a Prasa delegation the results of simulation tests that were done as part of a study for the Passenger Rail Agency of South Africa (Prasa).

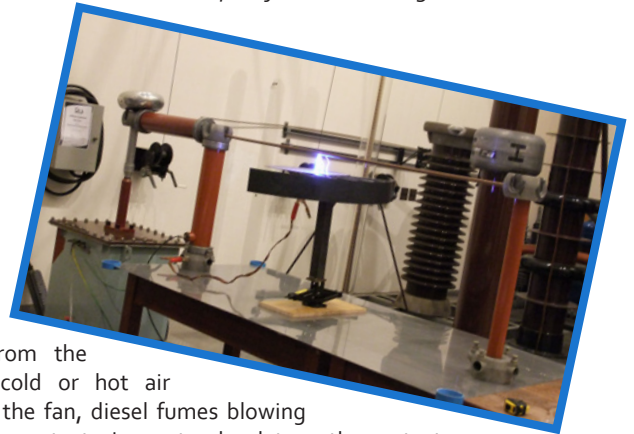
Prasa has been sponsoring the Prasa Engineering Research Chair in the Department of Industrial Engineering since 2011. Prof Neels Fourie is the incumbent of the Chair, with Pieter Conradie and Karl Rommelspacher as the Chair's research engineers.

With the new Prasa locomotives for long distance passenger trains due to arrive any day now, problems are encountered with integrating the new locomotives into the existing system. One of the unique challenges is the interface of the overhead contact wire on the new roof design. A study was required to understand the impact of the roof components on the contact wire, and the different factors contributing to breakdown voltage needed to be quantified.

The problem was that no reliable specification could be found for similar scenarios, so the only way out was the engineering way, which is to do a mock-up test in a laboratory. With great gusto Pieter Conradie constructed a precise mock-up of a fan and cowling set, identified as one of the most critical components of the new locomotive. Together with Petrus Pieterse from the High-Voltage Laboratory at the Department of Electrical and Electronic Engineering, a test-bed was devised to simulate the operational conditions.

The results of the simulation tests were promising and the breakdown voltage for various contact wire distances were recorded. Different working environments were simulated like ambient air, humid

Spark formation during the simulation.



air from the fan, cold or hot air from the fan, diesel fumes blowing on the contact wire, water droplets on the contact wire and compensation for high altitude. From these results the worst operating conditions could be identified and suggestions made to Prasa for safe contact wire distances.

High profile employees from Prasa were invited to witness some of the tests. The impressive corona and spark formation were greeted with "ooohs" and "aaahs" and many hands were kept well away from any suspicious-looking orbs, spikes and metals!

This series of experiments again proved the value of the agreement between Prof Willie Perold (Vice-Dean: Research) and Prof Neels Fourie to allow the Chair to make use of the full spectrum of the Faculty's laboratories on a quid pro quo basis. In this way, a "virtual" laboratory was created to assist the Chair in helping PRASA to overcome many challenges.

Towards the end of last year, the Prasa Chair was renewed for a further three years.



From the left: Robert Venter (Prasa), Nonhlanhla Kondowe (Prasa), Pieter Conradie (Research Engineer, Prasa Chair), Clive Arumugam (Prasa), Dr Daniel Mtimkulu (Engineering Services Executive Manager, Prasa Rail), Prof Neels Fourie (Chairholder, Prasa Chair), Theuns Dirkse van Schalkwyk (Industrial Engineering), Petrus Pieterse (High-Voltage Laboratory), Hentus Espach (Prasa), Juliet Tshoke (Prasa) and Karl Rommelspacher (Research Engineer, Prasa Chair).

Enthusiastic and dedicated Committee hosts successful Winter Week

Every year some 160 grade 11 and 12 learners from all over South Africa and Namibia experience the life of a Stellenbosch engineering student for a week during which they are also exposed to the life of an engineer. During the popular annual Engineering Winter Week, held in the June/July school holidays, these students experience everything from living in a University 'koshuis', having 'koshuis' breakfasts to a super, fun night out in town. This year's Winter Week intake also attended a day of class after working into the early hours of the morning on a project, exactly as current engineering students would. The group 'flooded' the Engineering Faculty and visited each Department to see what the Faculty has to offer. Company visits were also organised in the learners' respective areas of interest in order to show them what it is like to be an engineer in the real world.

The Committee who made this possible consisted of 18 enthusiastic engineering students ranging from first years to master's students.

Angelique Roux, the Director of the Winter Week Committee, said: "This was a fantastic experience for all of us and reminded us why we study engineering. We received several delightful responses from both the parents and learners. I would like to thank everyone from the Dean's Office, all the Departments in the Faculty and all the lecturers who gave up their time to enrich the learners.

"If you have a love for inspiring the youth, being creative or just need a reminder of why we study what we do, keep an eye out for Winter Week Committee applications early next year. You will have the time of your life!"



The enthusiastic Engineering Winter Week Committee, with their team leader, Angelique Roux, standing far right.

Navorsing en pret sinoniem vir span wat energiedoeltreffende elektriese voertuig ontwerp

Daar is 'n span dosente en studente wat terwyl hulle navorsing doen, pret het en boonop die omgewing koester. Dis die span wat ywerig besig is om 'n energiedoeltreffende voertuig te ontwerp en te bou vir die Shell-Ecomarathon waaraan hulle binnekort plaaslik gaan deelneem en hopelik in Mei in Rotterdam volgende jaar.

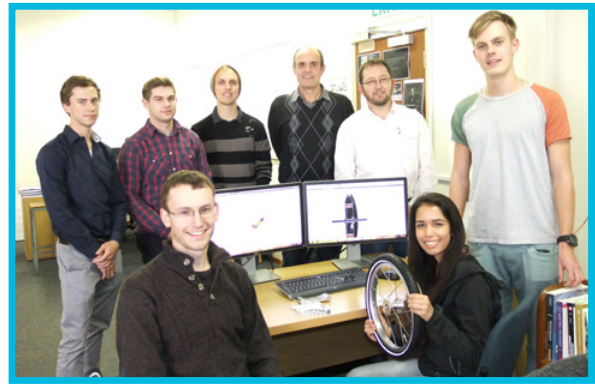
"Die Shell Eco-Marathon daag studentespanne wêreldwyd uit om voertuie te ontwerp, te bou en te toets wat verder sal reis met minder energie," sê dr Peter Jan Randewijk van die Departement Elektriese en Elektroniese Ingenieurswese. "Hier gaan dit nie oor wie die vinnigste ry of eerste oor die wenstreep jaag nie. Dit gaan oor beter oplossings om vervoer meer energiedoeltreffend te maak en terselfdertyd die impak op die omgewing te verminder."

Die kompetisie is in 1939 begin toe werknemers van Shell in die VSA 'n vriendelike weddenskap aangegaan het oor wie die verste met dieselfde hoeveelheid brandstof kan ry. Sedertdien het dit uitgebrei na nog twee kontinente, Europa en Asië, en sluit dit nou ook 'n verskeidenheid energietipes in nl. konvensionele petrol, diesel, biobrandstof, natuurlike gas, waterstof, en elektriese batterye.

Daar is twee klasse. Die *Prototipeklas* waar die fokus op maksimum energiedoeltreffendeheid is, met ritgemak wat die agterste sitplek inneem. Die *Stedelike Konsepklas* moedig weer meer praktiese ontwerpe aan.

"Ons battery-aangedrewe voertuig val in die *Prototipeklas* en sal twee wiele voor en een agter hê. Die elektriese aandryfstelsel van die voertuig bestaan uit 'n ysterlose, permanent magneet sinchroommotor wat saam met die drywingselektroniese omsetter in die naaf van die agterste koolstofvesel skyf-tipe 20" wiel geïntegreer sal word. Die direkte aandrywing van die agterste wiel, sonder enige meganiese koppeling, poog om die totale benuttingsgraad van die aandryfstelsel so hoog moontlik te kry," verduidelik dr Randewijk.

"Hierdie ysterlose, permanent magneet sinchroommotor is voortspruitend uit my PhD-werk met die eerste prototipe wat Gert Oosthuizen verlede jaar vir sy skripsie gebou en getoets het. Met behulp van Innovus se hulp, kon ons die motor hierdie jaar voorlopig patenteer. Dit het ons in staat gestel om befondsing van die Tegnologie-Innovasie-Agentskap (TIA) te kry vir die verdere ontwikkeling en optimalisering van die motor wat ook sommer deel van Gert se MIng sal



Agt van die twaalf spanlede op die foto is staande van links: Tian van Tonder, Bartho Horn, Felix Kranz, dr Danie Els, dr Peter Jan Randewijk en Christian Peters.

Voor sit Gert Oosthuizen en Tanweer Mahomed.

uitmaak. Met die navorsingsprojek gaan ons ook kyk na ander moontlike toepassings van die elektriese masjien, soos byvoorbeeld vir klein windgenerators, elektriese fietse, bromponies, golfkarretjies, ens."

Die span, bestaande uit meganiese, megatroniese en elektriese en elektroniese studente en dosente, is saamgestel uit entoesiastiese en begeesterde lede. Elke spanlid het 'n belangrike rol om te vervul: Felix Kranz is verantwoordelik vir die raamwerk en stuurstelsel en Gert Oosthuizen vir die ontwerp van die energiedoeltreffende, ligte motor wat die voertuig aandryf. Christian Peters fokus op die aërodinamika en Izandre Ras kyk na spesifikasie assessering en stelselintegrasie asook na 'n bestuurderinligtingstelsel wat inligting via 'CAN-bus' vanaf die battery en drywingselektroniese omsetter vir die bestuurder deurgee met aanbevelings oor die ideale ry-strategie. Die drywingselektronika van die motor is Anton Treunicht se baba en Tian van Tonder ontwerp die baansimulator. Bartho Horn moet toesien dat die wispelturige Litium loon battery goed funksioneer en die petite Tanweer Mahomed is die bestuurder van die voertuig. Die twee dosente in die span, dr Peter Jan Randewijk en dr Danie Els, hou onderskeidelik 'n oog oor die elektriese en elektroniese, en die meganiese aspekte van die projek. Die span word ondersteun deur Candice Murray, wat hul skakelbeampte en fondswerwer is, en Martin Visser wat die webblad in stand hou.

"Omdat daar nog nie 'n Afrika-kompetisie is nie, vind daar in Oktober 'n mini-kompetisie by Kayalami plaas wat deur die Universiteit van Johannesburg organiseer word," sê dr Randewijk. "Ons mik hoog en wil graag in Mei volgende jaar in Rotterdam gaan deelneem. Ons gaan alles self maak. Aeronteck, wat koolstofveselspesialiste is, borg die motor se koolstofvesel en Ansys borg die sagteware. Ons beplan om elke jaar die ou model te verbeter deur iets by te voeg."



Die geïntegreerde elektriese naaf-motor.



Die voertuig oop van voor.

Simonsbrug bridge building champs

On Friday 1 August the Stellenbosch Student Chapter of the South African Institution of Civil Engineering (SAICE) held its annual bridge building competition which saw 15 diverse teams from various Engineering disciplines compete to build a model wooden bridge with a limited set of materials. The bridges were built on the Friday, and broken under load testing by the team members after being aesthetically judged the following Monday.

"We would like to congratulate the winning team, Simonsbrug, with members Jacques Kruger, JP Jooste, Gerius Moelich and Gerhard Olivier, whose model bridge managed to carry a monstrous 40 kg," says Trevor Dunn, Head of Marketing and Media of the SAICE Stellenbosch Student Chapter.

PERI® "We would like to thank our Sponsors, PERI South Africa, for their continued support of this exciting event."

For more information on the upcoming SAICE Year End Social (23rd September) and SAICE student membership, please e-mail saicestudentchaptersun@gmail.com.



Bridge building champs: Jacques Kruger, JP Jooste, Gerius Moelich and Gerhard Olivier with their winning bridge.

Chair with crisp white shirt hands over reins



Prof André Burger, right, with his characteristic crisp white shirt, standing with his wife, Sonja, and the new Chair of Process Engineering, Prof Steven Bradshaw.

"After a few uninspiring interviews the bored panel waited unenthusiastically for the next candidate to appear. When a man wearing a crisp white shirt and tie walked into the room, the atmosphere was suddenly electrified. Before long the panel was being interviewed by this man who had bursts of gamma rays coming out of his eyes!"

This is how Prof Steven Bradshaw, new Chair of the Department of Process Engineering, described his first encounter with the outgoing Chair, Prof André Burger, eleven years ago. "When André Burger left the room after the interview, we all looked at each other and said: We HAVE to have him."

After serving as Chair for nine years with only a few breaks over the past eleven years, Prof Burger deserves to hand over the reins as Chair. At a convivial function held for Prof Burger at the end of June, Prof Bradshaw thanked his predecessor for the exemplary fashion in which he had managed the Department as well as for the great sacrifices he and his wife, Sonja, had made.

"This Department is working well thanks to Prof Burger's guidance and the hours of unseen work he put in to get it that way. Over the years the Department has grown to the size of a medium-sized business. For example, between 2003 and 2014 student numbers have doubled," Prof Bradshaw said.

Prof Burger replied: "As Dr Günther Rencken, Advisory Board member, said: You cannot soar with eagles if you fly with chickens. I know there are people here with incredible abilities. Take this Department the next step up so that our Department becomes the department of choice in Africa for Chemical Engineering studies. Please support the new Chair; he has been with this Department the longest and knows the Department best. Let us all be available to assist him."

Uitgelese Professore



Prof David Davidson.

Prof David Davidson en Prof Willie Perold, van die Departement Elektriese en Elektroniese Ingenieurswese, is twee van 33 professore by Universiteit Stellenbosch wat voortaan sal bekendstaan as *Uitgelese Professore*.

Die kriteria om in aanmerking hiervoor te kom sluit in: Die kandidate moet ten minste vyf jaar by die US as professor aangestel wees; deurlopende uitnemende prestasie oor die laaste drie jaar behaal het; internasionale statuut hê; en na gelang van die spesifieke fakulteitskonteks, bewese uitsonderlike prestasie en leierskap in hoërsonderwys in navorsing en publikasies, nagraadse studieleiding, leer en onderrig, en gemeenskapsinteraksie gelever het.

Die aanstelling geld vir vyf jaar en heraanstellings kan oorweeg word.



Prof Willie Perold.

Process says goodbye to "selfless and fantastic" colleague

"We were lucky to have a colleague like that. He was completely selfless in the work he has done, and a fantastic colleague. It was a privilege to work with him. His technical expertise is remarkable as well as the work he did behind the scenes. He treated students with problems with compassion. I have a sprained wrist from trying to twist his arm to stay," said Prof Steven Bradshaw, Chair of the Department of Process Engineering, at the farewell function held for Prof Guven Akdogan. Prof Akdogan left the Department at the end of June after joining Process Engineering in September 2008. In June last year he was one of five of the Faculty of Engineering's researchers who were among the group of leading researchers who received incentive prizes when Stellenbosch University rewarded its most productive researchers.

Prof Akdogan thanked everybody in the Department personally: the administrative staff, the workshop and laboratory personnel, academic colleagues, his research group, the management team and the Dean. "I wish you all the best," he said.



Prof Guven Akdogan giving his farewell speech.

Drie senior akademiese bevorder

Drie senior akademiese personeelle is onlangs bevorder. Dr Kobus du Plessis (Waterboukunde en Omgewingsingenieurswese, Departemente Siviele Ingenieurswese) is op 1 Junie tot medeprofessor bevorder.

Prof Corne Schutte (voorsitter, Bedryfsingenieurswese) en prof Kristiaan Schreve (Ontwerp en Megatronika, Departement Meganiese en Megatroniese Ingenieurswese) is volle professore vanaf Julie.



Prof Kobus du Plessis.



Prof Corne Schutte.



Prof Kristiaan Schreve.

Spotlight falls on renewable and sustainable energy at CRSES Symposium

The Centre for Renewable and Sustainable Energy Studies (CRSES) hosted its bi-annual national symposium to provide master's and doctoral students across South African institutions with the opportunity to present their research. The symposium took place from 17 to 18 July 2014 in the Knowledge Centre of the Faculty of Engineering, Stellenbosch University. This symposium incorporated the Solar Thermal Energy Research Group (STERG) symposium on 17 July, which focused

on solar thermal energy topics. The wind, ocean, bio-energy and solar photovoltaic (PV) technology platforms were the focus of the second day of the symposium.

Abstracts of the papers, as well as the full programme, are published in the symposium proceedings and on the CRSES website:

<http://crses.sun.ac.za/service-conferences.php>.



Day 1: From the left Dr Michael Geyer (Abengoa Solar South Africa), Paul Gauché (STERG), Dr Anton Volsoo (SASOL), Prof Frank Dinter (STERG) and Vikesh Rajpaul (Eskom).



Day 2: Prof Wikus van Niekerk (CRSES), Dr Sampson Mamphweli (University of Fort Hare) and Prof Alan Brent (CRSES).

Begaafde oudstudent sterf in fratsongeluk †

Die Fakulteit betreur die skielike dood van een van sy oudstudente, Christiaan Scholtz, wat 30 Junie 2014 in 'n fratsongeluk oorlede is. Hy was 23.

In 'n huldeblyk sê sy tuisdepartement, Prosesingenieurswese: "Ons is geskok en diep hartseer oor die tragiese dood van Christiaan Scholtz. Christiaan was 'n student aan ons Departement tot hy verlede jaar gradueer het. Hy was hoogs gerespekteer as 'n goeie, bedagsame en opregte persoon; 'n uitstaande student. Sy heengaan word met leed ervaar deur die personeel en die studente.

Christiaan het deurlopend geskitter in sy akademiese loopbaan, waarin hy elke jaar *cum laude* behaal het. Hy het verskeie toekennings ontvang ter erkenning van sy akademiese uitnemendheid, insluitend die top toekening as die student met die hoogste gemiddelde punt oor die vier studiejaare van Chemiese Ingenieurswese. Christiaan het ook uitblink in sport, met deelname aan atletiek vir die Universiteit op internasionale vlak, en in studenteleierskap, as lid van die Universiteit se Studenteraad. Tog het hy nederig gebly.

Christiaan het heelwat terug geploeg in die breër gemeenskap. Sy bereidwilligheid om deel te neem aan bedrywighede en forums, soos 'n sendingkamp in Botswana, asook die Natuurreservaat Vrywillige Vuurweringdiens, spreek boekdele van sy barmhartigheid vir, en

toewyding aan, sy gemeenskap. In die Departement sal ons hierdie uitsonderlike jong man met toegeneentheid en bewondering onthou. Dit was 'n voorreg om hom in ons klasse en laboratoria te hê. Ons spreek ons diepe medelye teenoor sy pa, suster, familie en vriende uit."



Christiaan Scholtz ontvang 'n toekening van die dekaan, prof Hansie Knoetze, tydens die Departement Prosesingenieurswese se prysuitdeling vir finalejaars verlede jaar.