

Faculty Newsletter

Message from the Dean

I would like to express my sincere gratitude to all staff for the role they played during the planning phase and the visit by the ECSA accreditation team. I am aware of the enormous burden that was put onto staff members and would like to thank each one of you for the support and dedication that you have shown in making this visit a success.

The recommendations to the Engineering Programme Accreditation Committee are as follows: Civil and Mechanical Engineering received full accreditation until the next cycle (five years) while Chemical and Electrical receive accreditation for the next two years while certain work is done on the programmes before they are accredited for the full five years.

The Faculty will conduct a post mortem on the visit and will start to incorporate the feedback into the quality assurance process.

The closing date for undergraduate applications was 30 September. The Faculty has received around 4 000 EBE first-choice applications which are in the process of being captured. The Faculty undergraduate admissions staff are working closely with the departments to

ensure we meet our targets.

Thanks to the input of a dedicated Task Team, the Admissions Policy Guidelines for 2012 have been finalised.

Work on the New Engineering Building is due to start in late November with the demolition of the Snape laboratories. The contractors will be starting to move onto campus in late October and this will affect certain parking areas around the Snape Building. We will send out an email to all staff within the next week to give you the details of which parking areas are going to be affected.

The Faculty has completed the internal process of Adhom promotions and the three-yearly rate-for-job review, and is preparing for the PASS performance cycle.

The University will conduct a further series of interviews on the budget for 2011 before it will be finalised.

This is the final lap towards the end of 2010—let us remain focussed to our task at hand!

Congratulations

Professor Alison Lewis was awarded the “Champions of Transformation Capacity Development at South African Higher Education Institutions” award at a ceremony in Maropeng on Wednesday 1 September 2010.

The award recognises an individual whose efforts in the transformation of the research community and landscape stand out. This includes discovering research talent and potential in people from designated groups as well as nurturing and moulding that talent to achieve world-class research performance.

Professor Lewis was recognized for her outstanding work in actively training, fostering and mentoring a number of black and female students in Industrial Crystallisation Research. An outstanding total of sixteen postgraduate students are currently registered under her guidance in the Crystallisation and Precipitation Research Unit.

“Professor Alison Lewis has for the past ten years been enthusiastic about identifying research talent within designated groups and nurturing this talent to fruition. Not only is she passionate about transforming the face of science in South Africa, she is highly regarded and enjoys considerable international recognition by her peers for the high quality and impact of her research outputs. The NRF is delighted to honour Professor Alison Lewis with this well-deserved award,” comments Dr van Jaarsveld, President of the NRF.



TRIBUTE TO THE LATE GEOFF HANSFORD



Randhir Rawatlal and Athansios Kotsiopolous

In a fitting tribute to the late Geoff Hansford, Randhir Rawatlal and his PhD student Athansios Kotsiopolous had a paper accepted to a top-ranked ChemEng journal—*American Institute of Chemical Engineers Journal*. Geoff introduced Athansios to Randhir and was his co-supervisor.

CONGRATULATIONS

Congratulations to Noor Hassen, who successfully completed a management course and received a National Certificate in Management via the UCT Staff Development Unit.

Noor is a Laboratory Manager in the Department of Civil Engineering. Professor Zingoni said, “It is not easy to engage in academic study while meeting the demands of a full-time job, so well done to Noor! In true spirit of life-long learning, we must continuously strive to improve ourselves. Noor has set an example to follow.”



BEST PAPER AWARD



With the increased national and international interest in Nuclear Power generation and also talk of a “new build” nuclear power station in South Africa in the near future, it was gratifying, that at the recent International Youth Nuclear Congress (IYNC), a UCT PhD student, Thorsten Becker, was awarded the prize for the best paper.

The IYNC was held at the International Convention Centre in Cape Town and attracted over three hundred delegates interested in nuclear energy and nuclear matters, from 32 countries around the world.

Thorsten Becker, a PhD student supervised by Prof Bob Tait of the Mechanical Engineering Department, was awarded the prize for the best paper of the conference, for a paper entitled “Damage, crack growth and fracture characteristics of nuclear grade graphite using the double torsion technique”. Thorsten is currently spending a year at the University of Manchester, one of

the world’s leading universities in Nuclear Materials, with his co-author, Prof James Marrow.

This work focuses on an aspect of his PhD studies dealing with image correlation of cracking and damage development with fracture mechanics, and he returns later this year to complete his PhD write up. His supervisor, Prof Bob Tait, co-author of the prize-winning paper (together with Becker, Marrow and Mahmoud Mostafavi, also of University of Manchester), explains that the significance of the present research is that for the first time it provides a link between the crack growth rate, damage development and fracture mechanics behaviour in nuclear graphite, on the one hand, with the stress fields and unique structural geometry that is experienced, on the other, and thus facilitates prediction of service life and performance. Such an approach enhances structural integrity and safety as well as making long-term behaviour more predictable in such nuclear applications, and the model has potential to extend to other brittle particulate composites .

CONFERENCES

STRUCTURAL ENGINEERING MECHANICS COMPUTATION

The Fourth International Conference on Structural Engineering, Mechanics and Computation was held from 6 to 8 September on upper campus. The brainchild of Alphose Zingoni, the conference was inaugurated in 2001 and has been held every three years since.

The conference was attended by close to 400 delegates from over 50 countries around the world. The keynote addresses were delivered by leading world authorities in various areas covered by the conference, drawn from the USA, Germany, the Netherlands, China and Australia. From more than 600 proposals received a year ago, some 320 scientific and technical papers were presented over the three days.

EDUCATION FOR SUSTAINABLE DEVELOPMENT IN AFRICA

In August the Dean hosted a two-day meeting on Education for Sustainable Development in Africa. This is a project of the United Nations University's Institute for Sustainability and Peace to develop and test a graduate-level education programme for professionals to be engaged in sustainable development in Africa. The project is based on the United Nations University's network with higher education institutions in Africa and Japan and international organisations which are active in this area, such as UNESCO, UNEP and UN-HABITAT. At its completion planned for July 2011, the Institute for Sustainability and Peace hopes to come up with a concrete plan for full implementation of a Master's-level programme of education for sustainable development in Africa.

Based on the work carried out so far, the project has generated a draft Master's programme. The project is now to test a few courses to check the practicability of the programme and to start planning for its implementation.

The two-day meeting was organised to initiate dialogue between the participating African universities, donors and other organisations interested in supporting higher education for sustainable development in Africa.

INTEGRATED SUSTAINABLE HUMAN SETTLEMENT SUPPORT TRAINING

On Monday 6 September, the Minister of Human Settlements, Bonginkosi Madikizela, addressed delegates at the first Built Environment Support programme training course which was held at UCT. The course is aimed at officials responsible for housing planning and development and spatial planning, as well as councillors responsible for housing.

The course aimed to equip delegates on how to interact effectively with the various planning tools and processes in dealing with projects to achieve sustainable human settlements.

Mark Massyn from Construction Economics was a lecturer on the programme as well as Simon Nicks from CNdV, an Architecture alumnus.



Claude Leon Foundation Merit Awards for Young Lecturers

Congratulations to Hans Beushausen (Civil Engineering) and Olabisi Falowo, who have each received a Claude Leon Foundation Merit Award for Young Lecturers.

A longstanding supporter of UCT, the Claude Leon Foundation made a generous award of R200 000 to assist the work of young academics. A committee selected the candidates and four lecturers were awarded R50 000 each.

CHEMENG WOMEN MAKING A DIFFERENCE

On July 30, the winners in the 2010 Most Influential Women in Business and Government Awards were announced.



Hema Vallabh was the overall winner in the Manufacturing & Engineering sector.

Hema is the Director of GirlEng, a division of SAWomEng, a non-profit organisation that motivates, empowers and celebrates women in engineering.

Hema's position at GirlEng is on a voluntary basis outside her day job as a process engineer at Sasol. She completed her BSc in Chemical Engineering at UCT in 2005 and her Masters in 2008.

For the first time eleven *Tomorrow's Leaders* were identified and will each be awarded a bursary and mentorship programme for a year in conjunction with Wits Business School, CEO and Yvonne Finch.

Traci Reddy won in this category for "Manufacturing and Engineering".

Traci is a National Executive Member and the Conference Director for SAWomEng.

She is currently doing her PhD in Chemical Engineering under the supervision of Professor Alison Lewis. Her PhD focuses on innovative ways to treat, minimise and beneficiate industrial wastewater.



YOUNG AUTHOR AWARDS



Megan Becker, Aubrey Mainza and Angus Morrison

At the XXV International Mineral Processing Congress which was held early September in Brisbane (1200 delegates), Megan Becker (Research Officer in Centre for Minerals Research) and Angus Morrison (PhD student in Centre for Minerals Research supervised by Aubrey Mainza and Indresan Govender in Physics) were among the ten recipients of the Young Author Awards out of 57 nominations. These are awarded to authors under the age of 30 who are the major authors of their papers. The competition was extremely tough from all over the world. Aubrey Mainza won a similar award in Beijing in 2008.

DUTKIEWICZ FAMILY SCHOLARSHIP

In 1973 Professor Dick Dutkiewicz joined the Department of Mechanical Engineering. He was Head of the Department until 1985.

In 1975 he formed the Energy Research Institute as a separate entity within the Faculty. Research at the Institute included alternative liquid fuels for use in vehicle engines, fluidised bed combustion, energy conservation, energy economics, energy and the environment and sustainable energy in South Africa.

In memory of Professor Dutkiewicz, his family have set up the Dutkiewicz Family Scholarship.

Energy was his passion and the scholarship has been designed to foster the next generation of forward-thinking engineers, policy makers and academics in the field of energy research and development of a sustainable energy policy in South Africa.

In 1997, in acknowledgement of his contribution to the South African energy industry, he was one of the first recipients of the South African National Energy Association's Leadership and Innovation Awards.

(Information from Energy Management News June 2010)



Andrew Marquard (ERC), Derek Leisegang (scholarship recipient), Colin Dutkiewicz and Jesse Burton (scholarship recipient)

OUTREACH

THAMINI ROCKS

A team of chemical engineering postgraduate students are working on a plan to foster waste treatment and nutrient reuse in the rural Eastern Cape. The strategy was based broadly on retaining skills in the rural areas and included an integrated waste/wastewater treatment unit, biogas generation, science tourism and small scale farming. The idea had the team winning the UCT phase of the Sanlam Creativity for Progress Inter-University challenge.



Team members are left to right: seated Naadia van der Bergh, Mluleki Mnguni, and Allison Kasozi, standing: Doreen Nabaho and Bernelle Verster

A year later, the team, now called Thamini Rocks, is looking to make an impact through integrated wastewater management for the City of Cape Town. The strategy has since evolved into being applicable in the urban environment. Thamini Rocks aims at improving effluent quality and eliminating odours for the wastewater treatment plants around the city. More than that, they aim to be self-sustainable through the generation of energy from biogas and reuse of semi-treated effluent for non-food crops.

Currently the team is finalising site selection for a pilot plant application and further concept development. "We have the idea, the technology allows us, and now we are only seeking sponsorship and input from interested parties."

ARCHITECTURE SCHOOLS' WORKSHOP

Every year the School of Architecture, Planning & Geomatics organises a three-day workshop for 30 grade 11 and 12 learners from all over Cape Town. The workshop is aimed at giving learners a better understanding of architecture, and explains the application process and is organised by Simone Le Grange.

This year there was a good pool of applicants. Most of the learners had attended the University Open Day and had shown an interest in architecture and were keen to find out more.

The workshop included visits to practices, talks by prominent architects, lectures and time spent in design studios. The learners stayed in one of the residences to experience student life on campus.

At the end of the three days, the learners were impressed and enthusiastic about a career in architecture.

CHEMENG WORKSHADOW PROGRAMME

The Department of Chemical Engineering's annual work shadow programme took place on 7 and 8 July 2010. A total of 54 grade 11 and 12 learners from a range of schools participated.

With the assistance of the postgraduate students the learners started the day with a tour of the department and its research facilities. They had the opportunity to ask the postgraduates about their own research as well as about chemical engineering as a career option.

The learners' first task was to prepare aspirin in the laboratory. They worked in groups and for many learners this was their first opportunity to do hands-on laboratory work.

They then had to design a chemical plant to produce aspirin on a large scale. This task included a presentation of their designs to a panel consisting of Jenni Case, Kirsten Corin and René Toerien.

During the lunch break academic staff members were available to answer questions on studying chemical engineering at UCT.

Judging from the learners' responses at the end of the day they found the day very informative and enjoyed the interactions in the laboratory as well as in the design studio.

The programme is arranged by René Toerien from the Chemical Engineering Department.



ESKOM ENERGY EFFICIENT LIGHTING DESIGN COMPETITION



Stevan Tseng, Jamil Randerera and Chris Mulder

Congratulations to the School of Architecture, Planning & Geomatics! Two of their students, **Chris Mulder** and **Stevan Tseng**, were chosen as finalists in the Eskom Energy Efficient Lighting Design

Competition. The final judging takes place on 21 September in Johannesburg and, should either of them win, the School will receive a cash prize of R10 000! **Jamil Randerera** received a special award of R1 000 in the same competition – congratulations to him as well!

STAFF NEWS

WELCOME



Congratulations to Beryl and Adolf Stoffberg on the birth of their baby daughter, Mischa, who was born on 10 August 2010.

CONGRATULATIONS



Cyril O'Connor recently received a lifetime membership of the Western Province Cricket Association (WPCA). Cyril spent a full 24 years on the WPCA executive. As a member of the former white cricket union, he took part in the unification talks between his organisation and the Coloured/Black Cricket

Board in 1990 and 1991.

"My portfolio over many years was development, and this involved the whole issue of taking cricket into the townships," he explains.

Cyril was also recently re-elected for a second term as Chair of the International Mineral Processing Council until 2014.



And a belated congratulations to Julian and Anouk Smit on the birth of their baby daughter, Natasha, who was born on 23 April 2010.

SHAVATHON



On Friday 20 August, a group of Geomatics students and staff held a shavathon in support of Jenny Whittal, who has been diagnosed with breast cancer. Jenny and her husband, Hamish, joined the students in shaving their hair. Their children were not impressed! It was an amazing experience to see the support from a wide range of students and staff.

October is Breast Cancer Awareness month to increase awareness of the disease and to raise funds for research into its cause, prevention and cure. The EBE Faculty has put together a team, which consists of Faculty staff, partners and children, who will be participating in the "Walk against breast cancer" event on Sunday 31 October in support of our colleagues who have been diagnosed with breast cancer.



Women's Day celebration

On Friday 6 August, the Dean hosted a Women's Day tea for the Faculty women. Thanks to Erica Schulschenk a delicious tea was enjoyed by all. Alison Lewis was the guest speaker and read out a delightful poem which she had written for the occasion.



When I was sixteen, there were **rules** for girls
In fact, it was perfectly clear
If you were a girl, it was **not** the done thing
To be an engineer.

Chemist was fine, biology, dancing,
Teaching or ICU nurse
The **most** adventurous few could be doctors
But engineer – nothing was worse.

I was a rebel, wayward and headstrong
I was radical, challenging and bold
I dyed my hair purple, I stayed up all night
I did **not** do the things I was told.

So today's celebration, thirty years later
A Women's Day, EBE tea
I wonder, these women, so mature and refined
Were you once as defiant as me?

We must **thank** the teachers and doctors and
nurses.

For, in ways that they could not foresee,
They've freed us to choose something **different**
and **daring**
Careers in EBE.



DATES TO REMEMBER

		1 Feb 2011	Parents' Orientation
4—8 Oct 2010	Zamani project exhibition	2 - 4 Feb 2011	EBE orientation & registration for first years
17 Dec 2010	Built Environment graduation	7 - 8 Feb 2011	Registration for returning students
18 Dec 2010	Engineering graduation	10 Feb 2011	Sax Appeal Day
29 Jan 2011	Parents' Orientation	11 Feb 2011	First meeting for first years
1 Feb 2011	Residences open	14 Feb 2011	First day of lectures

SAFETY CAMPAIGN

The Faculty's annual safety campaign kicked off with a talk by Mr Clint Smit, the Senior Safety Manager at Anglo Platinum. Clint emphasised through real case studies why safety is important and so relevant in the world of work. He described the journey that Anglo Platinum had embarked on to achieve Zero Harm. The Management had been shocked to hear from the staff that they felt that Anglo Platinum as a company had no values. This meant they had to go back to the drawing board and develop a set of values which all the staff would buy into. They developed an open communication system, they spoke to the staff and included them in developing an integrated strategy, they delivered on their promises by using sustainable systems and the staff gained trust in the company. They made a fundamental decision that Zero Harm was possible. In today's climate, SHE is a core competence of any engineer manager. The industry view it as non-negotiable for progress or promotion. It is important to create a caring environment where people learn to respect one another and understand that safety is about real people who can die—not just numbers or statistics.



The Dean and Clint Smit



Left to right: Kehinde Awodele, Azeem Khan, John Davidson, Robin Hoogwerf, SP Chowdhury and David Bradley

On 19 August we were extremely lucky to have Mr John Davidson from the City of Cape Town and Mr Robin Hoogwerf from Kayad Knight Piesold Consulting Engineers come and talk to staff and students on the safety aspects for the safe implosion of the Athlone Cooling Towers. It was fascinating to hear what had to be taken into consideration and put in place before the towers could be imploded. The talk was organised by Professor SP Chowdhury and his colleagues.

KNOW YOUR STATUS



From left to right: Tracy Van Heerden (postgraduate student council), Luba Luyaba and Thembie Chehore (undergraduate student council), Francis Petersen, Jack Fletcher and Paul Bowen

The Dean invited the Executive of the Faculty and members of the EBE student councils to accompany him on Wednesday 25 August for HIV/AIDS testing. The testing forms part of the Faculty's campaign to get the message out to our students that it is important to know your status.



It is also important to have an impact on attitudes and perceptions and address the stigma that prevents people from "living positively."