



Faculty Newsletter

MESSAGE FROM THE DEAN

It gives me great pleasure to congratulate the following academic staff members who have received their NRF ratings:

Professor Alison Lewis Chemical Engineering B2

Professor Candy Lang Centre of Materials Engineering C1

Professor Jon Tapson Electrical Engineering C1

Professor Anthony Chan Electrical Engineering C1

Professor Trevor Gaunt Electrical Engineering C2

Dr Hans Beuhausen Civil Engineering Y2

Well done! You make the Faculty proud.

The Faculty has the highest number of rated researchers of any engineering faculty in South Africa. It is this excellent quality of our staff which will help us realise our vision of being the Faculty of choice for students and staff nationally and internationally.

I would like to extend my sincere thanks and appreciation to the deputy-deans: Professors Alexander, Bowen & Lang as well as the Assistant Dean, Professor Duncan Fraser, for their support and guidance over the past year. They have all carried a heavy work load in their departments as well as in their role as deputy and assistant deans.

I wish you and your families a happy and restful festive season and all the best for 2010.

Kind regards
Francis.



Prof Alison Lewis



Prof Candy Lang



Prof Jon Tapson



Prof Anthony Chan



Prof Trevor Gaunt



Dr Hans Beuhausen

IMPORTANT DATES TO REMEMBER

		27–29 Jan	Orientation & registration of 1st years
11- 12 Jan	Readmission Appeal Committee meetings	1 –2 Feb	Registration of returners
23 Jan	Parents' Orientation Programme	3 Feb	Registration of internal transferring students 12h00 registration of all students completed
26 Jan	IAPO pre-registration Residences open Parents' Orientation Programme	4 Feb	Sax Appeal Day
27 Jan	Readmission Appeal Committee meeting	5 Feb	First meeting for first years
		8 Feb	First day of the semester

Wishing you all a happy and safe festive season

Investing in Renewable Energy

Associate Professor Harald Winkler from the Energy Research Centre was one of four panellists at the *Mail & Guardian's* Critical Thinking Forum, which was hosted by Shell recently. The three other panellists were Prof Alan Brent (Stellenbosch University), Kobus Meiring (co-founder of Optimal Energy) and Ompi Aphane (National Department of Energy).

It was the fourth public debate on local energy issues in this series. The debate was titled "SA's optimal energy mix: how do we diversify the energy base?" The four panellists responding to the topic, shared insider views from academic, government and technological contexts. Solar energy was discussed as a viable option but so was nuclear energy - in light of the climate crisis caused by carbon emissions - to keep South Africa's lights up and running.

Below are some of Associate Professor Winkler's views, based on the report by Yazeed Kamaldien in the *Mail & Guardian* 27/11/09.

Investing in renewable energy will outshine coal-based energy. We hear that South Africa is a coal-based energy economy but we are equally a solar-based energy economy. In a carbon-constrained future, coal is going to be sub-optimal. If we want to remain buyers of energy technology in the future then let's continue investing in coal. We need to redefine our competitive advantage in terms of climate friendly technology rather than cheap but dirty electricity.



Professor Harald Winkler

And if we are seriously going to talk about an optimal energy mix it would be optimal to have someone in charge of the energy in South Africa. In the next five years we need legislation that will reduce the energy demand before we talk about supply. We need to consider using less energy. We also need to start right now to invest aggressively in renewable energy.

The really massive resource, bigger than our coal resource, is solar power. We need to build an industry around that. From a climate point of view, nuclear energy has to be part of the country's energy mix but it is a transitional solution only, because there are serious security issues and risks associated with it. But nuclear energy options have been on hold because they are expensive. We must invest in renewable energy. It will be cheaper than coal in the long term. It's also about making investments now that put us in the right market position to compete with other countries.

The ERC is hosting a two-day conference on 'Putting a price on Carbon' - 23 and 24 March 2010. For more information on the conference you can contact Meagan Jooste

erc-climatechange@uct.ac.za or 021 650 2420

Harald Winkler and Andrew Marquard are part of the SA delegation presently in Copenhagen.

UCT IEEE Student Branch

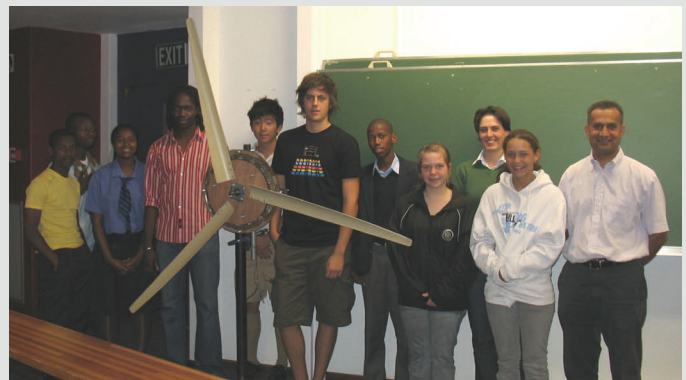
In 2009 the UCT Institute of Electrical and Electronics Engineers (IEEE) branch was extremely active.

Amongst other things, the members have been involved in an Engineering Projects in Community Service-High (EPICS) which is an initiative that organises high school learners to work with university students on real engineering problems that have a positive community impact. The aim is to foster interest among high school learners in engineering. The project team consisted of UCT students and learners from Westerford and Thandokhulu High Schools. Azeem Khan, a senior lecturer in the Department of Electrical Engineering, was the academic mentor for the project and Robyn Verrinder, a lecturer in the Department, assisted the students with the project.

The theme for the project was renewable energy. The final output of the project was a scrap-wind generator based on work done by Justin Alvey (a final-year undergraduate student) and the turbine blades put together by the project team.

The wind generator was built out of scrap materials. The learners, with help from the UCT students, came up with the specs for the turbine blades.

Each school gave a presentation on renewable energy and what they had learnt from the project. Chelsea from Westerford High School said, "We learnt a lot about engineering and I really enjoyed interacting with the learners from Thandokhulu. This was an experience of a lifetime." Thanks were given to the teachers from both schools for their commitment and involvement in the project.



From left to right: Khanyiso Gxekwa, Olwethu Dgarkiwe, Buhle James, Nano Ampofo Ampofo-Anti, Jason Lee, Justin Alvey, Afikile Qoyise, Chelsea Schuin, Robyn Verrinder, Lillina Ruiters, and Azeem Khan

SEXUAL HARASSMENT ADVISOR



Dr Kirsten Corin from the Centre for Minerals Research has recently been trained as an official UCT Sexual Harassment Advisor by Francois Botha and Rashieda Khan from the Discrimination and Harassment Office in accordance with the new UCT Sexual Harassment Policy.

Kirsten will be the first port of call for either a complainant or an alleged perpetrator in terms of the procedures and options available to them either within the UCT system or legally in the SA Justice system. Her role does not entail counselling other than what is needed during statement taking. There is a diverse group of staff members who have been trained as Sexual Harassment advisors

Mary Hilton continues to be the Ombudsman for the Faculty, which provides a safe space for staff and students to discuss any problems they may be experiencing at work when they feel they need someone to listen to them.

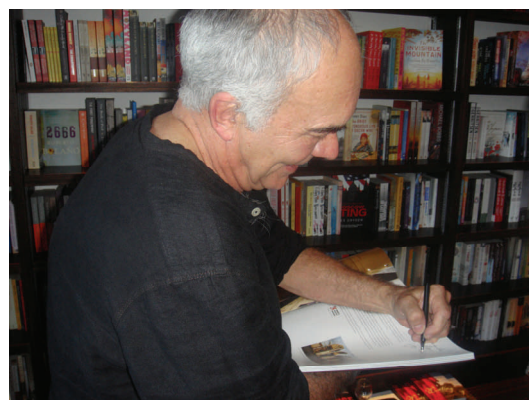
The Everyday and the Extraordinary – Three decades of architecture by Jo Noero, edited by Jennifer Sorrell

The Everyday and the Extraordinary – Three decades of architecture, a book by Professor Jo Noero, was launched at the Book Lounge on Friday 27 November 2009.

The book is drawn from Noero's exhibition which was held at the Iziko South African National Gallery in 2009, and is structured around work done by Noero Architects and Noero Wolff Architects over the last twenty-five years. The book consists of a number of selected projects and it is grouped into three decades: the 1980s, the 1990s and the 2000s.

"The work charts the extraordinary period of change that South Africa has undergone and aims to illustrate the ways in which our everyday world shapes and gives form to architecture," says Noero.

The material in the book is intended for the professional and amateur alike. "Each decade has an essay that highlights themes that consistently run through the conceptual development of the selected projects. A detailed timeline documents the extent of Jo Noero's impressive and varied body of work," said Jennifer Sorrell, editor of the book.



Professor Jo Noero signing copies of his book at the book launch on 27 November

Doug Banks Renewable Energy Vision Trusts awards first scholarship



Gabrielle Coppez, who graduated from UCT with a BSc in Mechatronics in 2006, is the first recipient of the Doug Banks Renewable Energy Vision Scholarship for postgraduate study in renewable energy. The scholarship covers fees and living expenses for two years at a South African university, with additional funding for equipment, fieldwork and research-related travel. Established in memory of Dr Doug Banks, a remarkable figure in the South African renewable energy community, the annual scholarship is awarded to graduates who exhibit strong academic ability and a passion that could meet Africa's needs.

Gabrielle will be registering for a thesis-based MSc in the Department of Electrical Engineering, where she intends developing a modelling tool to assist in determining the most appropriate mix of renewable energy solutions in rural areas.

Chemical Engineering Final Years' Poster Presentations



Chemical Engineering held its annual Final year Poster Presentation on 19 November where all final year students exhibit their posters in the foyer of the Chemical Engineering Building.

Supervisors and industry partners visit the posters to integrate the students on their work and marks are allocated to their presentations. The final-year students vote for the overall winners of the poster presentations and the winners were Ashendri Naidoo and Sonya Samson, who were supervised by Professor Jack Fletcher and Walter Boehringer.

Karen Ma and Paul Mabala with their poster "Control of particle characteristics in NiS precipitation". Their supervisor was Professor Alison Lewis from the Crystallization and Precipitation Unit.

AFRICAN CENTRE FOR CITIES

On Thursday 3 December the African Centre for Cities (ACC) held a function to review their activities, achievements and challenges of 2009 and to look ahead into 2010 and at some of their long-term ambitions for 2020.

Two exciting projects have recently secured funding. They are:

STATE OF THE CITIES REPORTS

The African Centre for Cities has secured funding from the Cities Alliance and Urban LandMark to develop a series of State of the Cities reports in Africa. One of the main objectives of this project is to support efforts to collect, analyse and disseminate data on urban systems in sub-Saharan Africa using the South African Cities Network's State of the Cities Report as a point of departure.



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Marrengane*

These reports provide information on various developmental issues around urban management which include migration, population dynamics, the productivity of urban economies, spatial development and service delivery.

The Cities Alliance is a trust fund managed by the World Bank and their focus is on the upgrading of informal settlements and the development of long term strategies by policy makers and communities to ensure sustainable urban development. Urban Landmark receives funding from the UK's Department for International Development and is a South Africa based research organisation which is dedicated to making urban land markets work better for the poor. The African Centre for Cities, together with the Association of African Planning Schools, will work on a demand driven basis to support AAPS members and their local government partners to plan and organise reports on urban systems in select countries. They will be working together with local government associations, the relevant ministries and civil societies which focus on the urban poor. The approved grant is for R3.2 million over for a period of three years.

URBAN FLOODING

The ACC has received funding for a collaborative project on how to explore options for collaborative governance of urban flooding and sea level rise in the Western Cape. The other partners in the project are the City of Cape Town, Shack Dwellers International and the African Security and Justice Programme from UCT's Centre of Criminology.



Gina Ziervogel

The funding has come from the International Development Research Centre which is a Canadian Crown corporation that

CONGRATULATIONS

Congratulations to the staff members who will be graduating in December. It is a great achievement to complete a degree while working full-time and dealing with a range of other responsibilities, including for some, being mothers of young children.

Karen Le Jeune from Construction Economics will be awarded a MSc in Property Studies. Her supervisor was Associate Professor David Root



Ernesto Ismail from the Department of Mechanical Engineering will be awarded a MSc in Mechanical Engineering. His supervisors were Professor Daya Reddy and Professor Gerald Nurick. In 2006 Ernesto graduated from UCT with a BSc in Mechanical Engineering degree. He joined the Department in February 2007.

Associate Professor Jenni Case will be awarded a MSc in Chemical Engineering. Her supervisor was Professor Eric Van Steen. Jenni has a MEd from Leeds University and a PhD from Monash.



Jane English's son, Matthew Molteno will be graduating with a BSc in Mechanical Engineering

Jenny Wiese will be graduating with a MSc in Chemical Engineering and her son, Peter will be graduating with a Business Science degree.

works in close collaboration with researchers from the developing world in their search for the means to build healthier, more equitable, and more prosperous societies. The funding falls under their programme entitled Climate Change Adaptation in Africa

It is a three year project and will officially start in January 2010. Dr Gina Ziervogel, from the Department of Environmental and Geographical Sciences, is the principal investigator. The ACC staff will work closely with a range of stakeholders to explore how governance could be strengthened by exploring flooding issues related to climate change, urban development, vacant land and housing.

The research will concentrate on Philippi in the Western Cape as it is a high flood risk area. The project will provide exciting opportunities for postgraduate and PhD students.

COMMUNICATIONS RESEARCH GROUP

On Friday 27 November, Professor Mqhele Dlodlo and his students from the Communications Research Group got together to celebrate the work they have achieved this year and to say farewell to those who will be graduating in December as well those submitting at the end of the year and will be leaving campus.

The research group was started in 2007 and is certainly a diverse group with members coming from Zambia, Malawi, Uganda, Swaziland, Zimbabwe, India and South Africa. Their research covers a cluster of applications in the areas of broadband networks, wireless communications, real-time video streaming, and human language technology.

The academics involved in the group are: Mr Neco Ventura, Dr Olabisi Falowo, Associate Professor Mqhele Dlodlo, Dr Alexandru Murgu and

part-time Professor Anthony Chan.

Professor Dlodlo was extremely proud of the work done by the all students and made special mention of Mthulisi Velempini, a PhD student, who has published six international conference papers and has two journal papers still in the works, all based on his PhD work "Improving the scalability and reliability of integrated communication systems". Mthulisi will be submitting his thesis early next year.

Three MEng students: Rogers Mbao, Damiano Bindili Kamanga and Sikule Sankama will be graduating in December together with Mzabalazo Lupupa, an MSc student. Mzabalazo's thesis topic was 'Transmit Antenna Selection in Fading Wireless Communication Systems'. He managed to have three papers published during his master's degree.



Back Row, left to right: Damiano Kamanga, Mthulisi Velempini,
2nd row, left to right: Guy-Alain Lusilao-Zodi, Rodgers Mbao, Nakato Kakande, Sabelo Dlamini, Gerhard De Jager,
Front row, Left to right: Mzabalazo Lupupa, Sikute Sankama, Mqhele Dlodlo, Alexandru Murgu and Smart Lubobya
(missing from the photograph are Lehlohonolo Mohasi, Rohini Koduri and Veronica Sentongo)

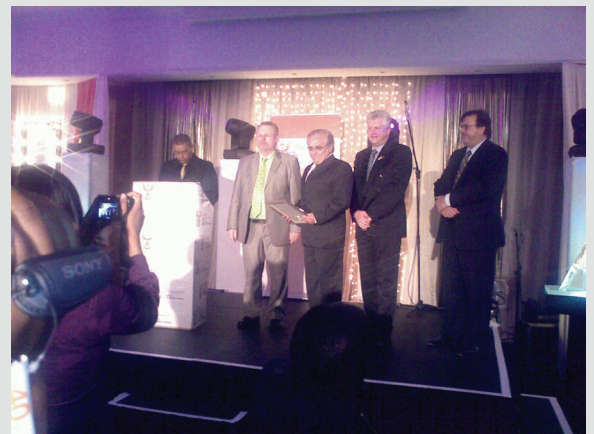
DTI TECHNOLOGY AWARD

Neco Ventura, head of the Centre of Excellence (CoE) in Broadband Networks received the Department of Trade and Industry's (DTI) Certificate of Achievement from the Minister of Trade and Industry, Dr Rob Davies, at a gala dinner held on 22 October 2009. Neco was awarded in the category Quality and Quantity of Students for his research project *Fixed Mobile Convergence in the IP Multimedia Subsystem*. The CoE was established in the Department of Electrical Engineering and the Department of Computer Science in March 1997.

The award falls under THRIP, which is the flagship research and development programme of the DTI and the NRF. THRIP brings together the best of South Africa's researchers, academics and industry players in funding partnerships that enable participants to improve the quality of their products, services and people.

Neco's research project looks at the convergence of Fixed and Mobile Networks and the availability of new features in user entities/terminals and network elements to support the interoperation of access and core networks in Internet Protocol Multimedia Subsystems (IMS) to guarantee multimedia quality of service (QoS) and Security in the IMS.

The focus of the project in the 2007-2009 period was on the extensions of interworking models to achieve seamless heterogeneous access in next generation networks, to provide QoS management within the generic access independent network, and to develop a third generation project partnership compliant IMS core to deploy multimedia services, to provide a secure environment with a comprehensive billing architecture and QoS provisioning.



Neco Ventura, (3rd from left) receiving the award from the Minister of Trade and Industry, Dr Rob Davies (2nd from left) at the gala dinner.