

ISSUE 2 2010

UKZN TOUCH

A UNIVERSITY OF KWAZULU-NATAL ALUMNI MAGAZINE

CLIMATE CHANGE

AFRICA OWED HUGE ECOLOGICAL AND ECONOMIC PAY OUT

RESEARCH

THE CAPRISA 004 TENOFOVIR GEL TRIAL

CONSERVING LEOPARDS

R66M BOOST FOR WETLAND RESEARCH

ALUMNI ACHIEVERS



UNIVERSITY OF
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UKZN a World-Class

Research-led University

GREG DARDAGAN

The University of KwaZulu-Natal (UKZN), born out of a merger between two universities in 2004 but with ancestral roots going back to the very beginnings of higher learning in the province a century ago, has in its short lifespan developed into a world class research-led institution at which more than half of the lecturers are black.

This bodes well for the realisation of its mission of becoming the Premier University of African Scholarship and a desire to be a role model South African university.

A total of 54 percent of UKZN's academics are black compared to about 28 percent at Wits, 19 percent at the Universities of Cape Town and Pretoria and 15 percent at Stellenbosch.

Vice-Chancellor and Principal Professor Malegapuru Makgoba is proud of UKZN's achievements having been at the helm of the University from the early days of merger negotiations which eventually brought the Durban and Pietermaritzburg campuses of the former University of Natal, the University of Durban-Westville (UDW), the Nelson R Mandela School of Medicine, and the Edgewood Teachers' Training College together under one umbrella.

In an interview to commemorate 100 years of tertiary education in the province, Professor Makgoba said UKZN had inherited two universities - Natal and UDW - which

were not research-led or research intensive. "Out of that we have built up one of just three eminent African universities rated among the top 500 in the world... that's no small achievement.

"So we are running an internationally recognised research-led institution with a staff that is predominantly black. Added to that we also have a strong body of leading women academics on our executive and in our various disciplines - when we started with the merger we had no women in positions of leadership! All this is part of progress in trying to address the imbalances of the past in terms of inequities but also taking the issue of gender and demography very seriously as part of knowledge pursuit and production," said Professor Makgoba.

One of the understated successes of the merger was the overall recognition UKZN now enjoyed which was in contrast to the situation previously where the University of Natal's degrees were recognised worldwide while UDW's were always looked at with suspicion.

UDW graduates were often discriminated against by employers, particularly in Durban. "From the day we joined forces and had one single degree I have never had a complaint from any student or any parent to say they are being discriminated against."

Turning to the centenary, Professor Makgoba said the event was historic and cause for celebration but looking back over the years the implementation of tertiary education may not have done the province proud. "The time was characterised by periods of dominance, periods of lack of opportunity and periods of discrimination interspersed, on the other hand, by occasions when people were given opportunities which they made use of.

"It's a mixed bag as far as implementation goes but there is little doubt we are here today because of the journey travelled over the past 100 years."

The merger had been a great success, remembering that it was a process and not an event. The Government had set certain objectives that needed to be achieved in the merger and those had been documented and evaluated independently by the Higher Education Study Measure Group with UKZN meeting all the predetermined requirements. "However, the relationship between the vision and the mission of UKZN is embodied in a ten-year strategy document which has seven goals, the first of which deals with African-led globalisation.



Professor Makgoba, a molecular immunologist, has his own significant research record, a highlight of which he says is being part of an extraordinary group who in the late 1980s discovered two important phenomena on how immune cells communicate with each other. “Between 1986 and 1988 I worked with Dr Steve Shaw and Dr Marty Sanders at the National Institute of Health in Maryland in the United States. The three of us were among the first (i) to appreciate the importance of antigen-nonspecific adhesion to T cell antigen-specific recognition - this was at the time against conventional wisdom within the immunology community; (ii) the demonstration that changes in adhesion molecule expression and function are cardinal features of naïve to memory T cell differentiation. The three of us discovered that these phenomena were mediated by **heterophilic** membrane proteins that operated in pairs like a ‘lock and key’ commonly called receptor and ligand pair, that were important for a variety of T cell functions. We identified two of these direct molecular pathways of cell communication and these pathways were the first to be identified in biology. The second discovery was that changes in the expression of these membrane structures differentiated what immunologists often call naïve cells and memory cells. In HIV, the virus infects the memory cells more than the naïve cells; whereas in tuberculosis only the memory cells produces the cytokine called gamma interferon. These findings have implications for major global epidemics such as HIV/AIDS and tuberculosis. This differentiation affects how immune cells traffic through out the body and how these differentiated cell types could be targeted for the treatment of a wide variety of diseases. We did this work in the late 1980s and these were landmark discoveries that have ‘stood the test of time’, continue to inform basic research and continue to be cited today. This work is my most significant scientific contribution to molecular immunology which, I love very much.”

“That means UKZN identified the tacit knowledge of Africa, the ignored knowledge of Africa and sometimes the rubbished knowledge of Africa and its indigenous systems as something it needed to embrace and identify with while beginning to articulate it in a scholarly manner into global knowledge systems. It is felt – as part of UKZN’s vision – there is something we are reaching, something we can teach the world

about, something able to enrich humanity which is really the tacit knowledge embodied in Africa and its people. That’s how we come up with this vision of being the Premier University of African scholarship,” said Professor Makgoba.

UKZN interacted with society through more than 350 researched community engagement programmes as well as contributing

to debates in the media, debates on democracy and debates on race and identity in the public domain, and many other issues.

“Also we are one of only two universities in South Africa to have introduced a portfolio of teaching and learning. It’s an important portfolio as it addresses one of the central pillars of a university in addition to research and community engagement.”

Professor Makgoba said one of his biggest disappointments had been how some University people seemed to understand and accept the merger but were not able to or were unprepared to live with it. “People had a sense of anxiety and insecurity about their power and entitlements in the new body and there was a kind of passive resistance which delayed the creation of the University’s new identity. So while it was relatively simple to put things together on the academic and administrative fronts, it was much harder to deal with de-

Professor Makgoba said there had been many recent research successes, with the Caprisa 004 trial to find a vaginal gel to prevent the transmission of HIV/AIDS in women during sexual intercourse the latest to achieve international recognition. UKZN had the biggest programme of HIV/AIDS research in Africa at Caprisa as well as at the Africa Centre in Zululand. Excellent work was also being done in the fields of Water, Food Security and Social Development.

On the way forward for UKZN, Professor Makgoba said the merger was so well bedded down that opportunities for it to move ahead to the next level in terms of research productivity were beckoning. The opportunities for both staff and students were enormous. “The way pedagogy and curriculum are transformed over the next five to ten years will be important for the University to realize the dream and vision of being the Premier University of African Scholarship. The social cohesion and the sense of common purpose within UKZN needs to be accelerated because it is through social cohesion and common purpose that the first two factors I identified will be better and more speedily realised.

“Research, the bedrock of UKZN, was one of the major aspects which distinguished a university from most other institutions in society...We teach based on research, we engage communities based on research, and we interpret knowledge based on research.”

veloping the cohesiveness necessary to create the new UKZN.

“Everything is now coming together but it has been quite a slow process.”

Subtle racism continued to be a problem. Looking at relationships between staff and students of different race groups there was still, in some quarters, an element of them and us, and an element of patronisation. This was a common problem at South African Higher Learning Institutions but exacerbated at UKZN because of the merger.

Research, the bedrock of UKZN, was one of the major aspects which distinguished a university from most other institutions in society, being all about the ability to question, theorise, form hypothesis, to test those hypothesis and the ability to use the tested hypothesis as part of teaching, learning and community engagement. “We teach based on research, we engage communities based on research, and we interpret knowledge based on research.”

Benefits from all this research were being channelled to communities in need.

Since the merger more than R2 billion had been invested in infrastructure and equipment with another R1 billion on its way from the Howard Hughes organisation in the United States to assist with the construction of the new K-RITH centre at the Nelson R Mandela School of Medicine.

On the subject of the brain drain, Professor Makgoba said UKZN placed a high value on its current academic wealth, including those academics classified in the “grey power” category, going to great lengths to retain their services. “No academically productive staff member retires from UKZN until they reach the age of 70. We have a lot of excellent, wise academics still mentoring our students.

“And as far as educational institutions go, we have the lowest turnover of staff in South Africa.”

“Personally I have got just over four years left of my 10 year contract in this position. It has been an enormous honour to have led this institution during the merger period; to have been intimately involved in entrenching the core values of a university, which are: the search for the truth, integrity about the truth, honesty about the truth and observing rules of governance in the institution.

“I have valued the freedom of academics to teach, research and disseminate information and I think these noble values are now entrenched at UKZN. The next four years for me are all about are trying to consolidate these issues to create a really great university in Africa and the world.” **■**

This interview was originally published in The Mercury, September 20, 2010.



**MESSAGE FROM THE OFFICE
OF THE EXECUTIVE DIRECTOR:
CORPORATE RELATIONS DIVISION,
*MS NOMONDE MBADI.***

I received an overwhelming response to issue one of *UKZNTOUCH* published earlier this year. It was heartening to note that alumni appreciate the introduction of a theme and the emphasis placed on research at UKZN. It was evident from readers that the redesign and editorial content was both informative and inspiring. Thank you for your support and words of encouragement.

This edition of *UKZNTOUCH* features a debate on Climate Change – a topic that has drawn international concern and condemnation. We feature the argument from leading Civil Rights expert and academic, Professor Patrick Bond, who believes that Africans have the right to ecological and economic compensation given the direct role played by countries in the Northern Hemisphere in damaging the continent's environment. Professor Roland Schulze examines the impact of climate change on agriculture. Other articles on climate change examine the rise of sea levels and the need for ordinary citizens to make a difference by the choices they make.

On the topic of choices, an international groundbreaking study undertaken by leading UKZN scientists Professors Salim and Quarraisha Abdool Karim on tenofovir gel, has brought hope to millions of women in HIV prevention. Once available, the gel will give women a choice to protect themselves against the virus. We await the outcome

of confirmatory trials. As a research-led institution UKZN academics continue to excel. This issue features research on the world-renowned iSimangaliso Wetland Park which has received R66.3 million from the Global Environment Facility for research studies and one of the most comprehensive studies on leopards, aimed at conserving these big cats. Our students and alumni must be applauded for their global achievements. You will find their achievements both in the corporate sector and in academia, inspiring.

Earlier this year UKZN welcomed Professor Bill Bishai from Johns Hopkins University School of Medicine who has been appointed Director of the multi-million rand initiative: the KwaZulu-Natal Research Institute for Tuberculosis and HIV (K-RITH) which is located on the Medical School campus - an initiative that brings hope to the poor and vulnerable affected by this disease.

In September our students expressed their dissatisfaction over the perceived privatisation of the student residences by embarking on protest action. At present the University accommodates approximately 9 000 students in residences, both on and off-campus. In his communiqué to the University, Professor Malegapuru Makgoba said: "At a meeting held in August, it was proposed that the Finance Committee recommend to Council, the approval in principle, to accommodate all off-campus and needy students on campus. It was agreed that the method or model for the provision and operation of the residences needed further investigation." We trust that there is clarity on the matter and the process to explore additional accommodation for our students continues.

I am pleased to advise we have made major strides in our communication with alumni through the social media networks – both Twitter and Facebook – which is proving to be quite popular. Please note that it is important that you notify the Alumni Relations Office of your present contact details. You may update your details at: (<http://alumni affairs.ukzn.ac.za>)

I trust that you will find this edition of *UKZNTOUCH* an interesting read. I take this opportunity to wish you and your family a joyous and peaceful new year and every success in the year ahead.

Warm regards

Nomonde

MS NOMONDE MBADI
EXECUTIVE DIRECTOR: CORPORATE RELATIONS DIVISION

CLIMATE CHANGE

Africa at the front of the pay out queue

OUR SPECIAL FEATURE EXAMINES CLIMATE CHANGE, TURNING THE SPOTLIGHT ON:

- Africa owed Huge Ecological and Economic Pay Out
- Greenhouse Gas Emissions a Challenge to South Africa's Agriculture Sector
- Carbon Footprint: A Collective Responsibility?
- Who's Responsible: Individuals, Government or Business?
- Sea Level Rise: A Real Threat to KwaZulu-Natal Coastal Properties
- The impact of Climate Change on Air Pollution
- Green Policies May Soon be the Norm in Successful Business Ventures

COMMENTARY: GREG DARDAGAN



Africa Owed Huge Ecological and Economic Pay Out

Africans have the right to be at the front of the queue for long-overdue ecological and economic compensation given the direct role played by Northern Hemisphere countries in the continent's environmental damage.

Africa is sufficiently on the “world grid” for the purpose of not only mineral/petroleum extraction, but also the abuse of the Continent’s “ecological space” and capacity to use nature for economic development. This is a curse and gives rise to the argument that Northern industrialised powers owe the non-industrial South - especially Africa - a formal debt for taking too much ecological space and for ripping out non-renewable resources in an unsustainable manner.

Professor Patrick Bond, Director of the Centre for Civil Society at the University of KwaZulu-Natal (UKZN), highlighted these aspects during a paper he presented for the Economic Justice Network titled: *Ecological Debt: Extractive Industries and Climate Change*.

“The leading scientist in the field, Autonomous University of Barcelona’s Joan Martinez-Alier, calculates ecological debt in many forms: ‘nutrients in exports including vir-

tual water, the oil and minerals no longer available, the biodiversity destroyed, sulphur dioxide emitted by copper smelters, the mine tailings, the harm to health from flower exports, the pollution of water by mining, the commercial use of information and knowledge on genetic resources, when they have been appropriated gratis (“biopiracy”), and agricultural genetic resources’,” said Professor Bond.

“The sums involved are potentially vast, to the point of incalculability, both in terms of extraction and ecological debt. As Martinez-Alier puts it: ‘tropical rainforests used for wood exports have an extraordinary past we will never know and ongoing biodiversity whose destruction we cannot begin to value. However, although it is not possible to make an exact accounting, it is necessary to establish the principal categories and certain orders of magnitude in order to stimulate discussion... If we take the present human-made emissions of carbon, [this represents] a total annual subsidy of \$75 billion which is forthcoming from South to North’.”

CLIMATE CHANGE

AFRICA OWED HUGE ECOLOGICAL AND ECONOMIC PAY OUT



Coal: At more than 60 percent of global electricity supply, the largest share of electricity generation comes from coal. China and the United States are the two largest consumers of coal. (Source: *International Energy Outlook, 2009*, Energy Information Administration, Department of Energy Washington, DC)

Professor Bond said minerals depletion and associated pollution costs were a function of expanded foreign direct investment. Even in South Africa, mineral depletion today disproportionately benefitted overseas mining houses, especially given that some of the largest Johannesburg firms relisted their primary share residences to London after 1994. In addition, CO₂ emissions plus a great deal of other pollution, especially SO₂, were largely the result of energy consumption by metals smelters owned by large multinational corporations.

“At every point in the fossil fuel production chain where value is added and profit made, ordinary people, workers and their environments are assaulted and impoverished. Where oil is drilled, pumped, processed and used, in Africa as elsewhere, ecological systems have been trashed, peoples’ livelihoods have been destroyed and their democratic aspirations and their rights and cultures trampled.

“Some governments of the South – especially Bolivia – are introducing the concept, and some African governments have made preliminary steps toward demanding ecological debt, starting with the largest component, climate debt. But the state of advocacy remains extremely uneven,” said Professor Bond.

“Those most responsible for taking advantage of Africa’s natural resources should pay reparations, according to the principle of ‘polluters pay’, now that there is near-universal awareness of the damage being done by rising greenhouse gas emissions, and by the ongoing stubborn refusal by the rich to cut back.”

Discussing the question of how debt repayments might be best distributed, Professor Bond says it has become clear to many civil society groups in recent decades that post-colonial African governments were too easily corrupted, as were the United Nations and aid bureaucracies. One solution to the payment

distribution problem appeared in 2009: the idea of simply passing along a monthly grant – universal in amount and access, with no means-testing or other qualifications – to each African citizen *via* an individual “Basic Income Programme” payment.

“According to *Der Spiegel*, the village of Otjivero in Namibia is an exceptionally successful pilot for this form of income redistribution. First priority would be to supply a Basic Income Programme to Africans who live in areas most adversely affected by droughts, floods or other extreme weather events. Logistically, the use of Post Office Savings Banks or rapidly-introduced Automated Teller Machines would be sensible, although currency distortions, security and other such challenges would differ from place to place. The Namibian case has much to recommend it, in part because it is amongst the driest sites in Africa,” said Professor Bond.



Uranium mining in Namibia: The third-largest open pit uranium mine in the world, north East of Swakopmond, Erongo Region. Namibia provides 11.8 percent of world uranium oxide mining output.



“Minerals depletion and associated pollution costs were a function of expanded foreign direct investment. Even in South Africa, mineral depletion today disproportionately benefitted overseas mining houses, especially given that some of the largest Johannesburg firms relisted their primary share residences to London after 1994.”

Director of the Centre for Civil Society at UKZN: Professor Patrick Bond.

“Such a strategy would be just an emergency salve on a burning problem: how to ensure that the greenhouse gas polluters pay in a manner that first, compensates their climate change victims; that second, permits transformation of African energy, transport, extraction, production, distribution, consumption and disposal systems; and that third, in the process assures the ‘right to development’ for Africa in a future world economy constrained by emissions

caps.” Extremely radical changes would be required in all these activities in order not only to ensure the safety of the species and planet, but also that Africans were at the front of the queue for long-overdue ecological and economic compensation, given the North’s direct role in Africa’s environmental damage.

“The contemporary argument for climate debt to be paid is simply the first step in a long process, akin to

decolonisation, in which the master – the polluting Global North – must know that not only is it time to halt the reliance on fossil fuels, but having ‘broken’ the climate, it is his responsibility to foot the clean-up bill.” ¹¹

GREEN HOUSE

GAS EMISSIONS

120
140
CRISIS
DISASTER
CATASTROPHE





A CHALLENGE TO SA'S AGRICULTURE SECTOR

There is an overwhelming body of evidence that human-induced greenhouse gas emissions are increasing and with that global temperatures are rising and rainfall patterns are changing, says renowned Emeritus Professor of Hydrology at the University of KwaZulu-Natal (UKZN), Roland Schulze.

Professor Schulze said climate change evidence had been used by the International Geosphere-Biosphere Program (IGBP) to produce a composite climate change index (similar to a stock exchange index). This index showed the clear rise since 1980. With global climatic changes, changes in the South African agriculture sector would be inevitable, because the regional climate in South Africa was dependent on the global climate, both today and in the future.

“No-one knows exactly how the future global climate will develop and what the resultant consequence to South Africa’s agriculture sector will be, but impacts could be considerable as the country lies in one of the regions of the world that is most vulnerable to climate variability and change.”

“Different regions of the country will likely be affected in many different ways and many knock-on effects are likely to occur. Given the importance of agriculture in South Africa and the importance of climate in agriculture, as well as the symbiotic relationships between impacts of water on agriculture and agriculture on water, potential first to fourth order impacts of climate change on agriculture in South Africa need to be assessed as do adaptation options,” he said.



“While South Africa covered only four percent of the African continent, it had in recent years produced more than 30 percent of the continent’s maize, nearly 30 percent of its sugarcane, around 20 percent of its mutton and its beef and three percent of its wheat, as well as up to recently having been one of the world’s seven leading net exporters of food products.”

Impacts from a changing climate could be considerable with different regions of the country being affected in many different ways. “Changes in optimum growing areas and yields are anticipated, and with that many knock-on effects ranging from application of new crop varieties to increased pest infestations to issues of food security and international trade.

“There are many misconceptions in the popular and even the official as well as scientific literature in South Africa with regard to projected changes in magnitude and direction of key climate change variables and the possible impacts of these. This has arisen either out of ignorance, and/or by citing from dated research results and/or having preconceived ideas that climate change implies only ‘gloom and doom’ on the one hand, or is a non-issue on the other.

“It has also arisen because isolated statements are sometimes taken out of context, disregarding the overwhelming body of evidence on climate change, or having been ‘conditioned’ by what turn out to be very broad generalisations contained in reports of the Intergovernmental Panel on Climate Change,” said Professor Schulze.

Additional to agriculture featuring prominently in national climate change strategies, numerous initiatives since the early 1990s had sought to evaluate impacts of global climate change on agriculture in South Africa. While some of the studies had been more all encompassing in their scope, the studies had, by and large, focused on the vulnerability of the agricultural sector and on implications of future climate change scenarios on crop yields and production – with some crops more specifically targeted

than others. Other foci had been on economic impacts derived from yields losses as well as on adaptation options.

Professor Schulze said while South Africa covered only four percent of the African continent, it had in recent years produced more than 30 percent of the continent’s maize, nearly 30 percent of its sugarcane, around 20 percent of its mutton and its beef and three percent of its wheat, as well as up to recently having been one of the world’s seven leading net exporters of food products.

“The country has a distinct dual agricultural economy comprising of a well developed commercial sector which produces about 95 percent of the marketed agricultural output, and a predominantly subsistence-oriented sector residing mainly in what were, historically, the so-called

GREEN HOUSE GAS EMISSIONS

A CHALLENGE TO SA'S AGRICULTURE SECTOR

'homelands' although an emerging sector is now evolving out of the subsistence sector.

"More than 80 percent of South Africa's land surface may be classified semi-arid to arid, with only 18 percent being dry sub-humid to sub-humid. The potential for crop production is therefore limited. In fact, of the country's total surface area, only 13 percent can be used for arable crop production, and of that, only 22 percent has high potential," he said

"Less than 10 percent of the total arable land is under irrigation. The most limiting factor in agriculture is available water. Rainfall is generally low and erratic for rainfed agriculture, while the relatively small irrigated sector utilises 60 percent of the stored water."

Any changes in the "drivers" of the agricultural sector in South Africa could therefore have wide-ranging repercussions, not only in the production of food, fibre and forests, but also in Gross Domestic Product (GDP), employment and foreign exchange earnings. One such "driver" that was already variable from year to year was climate, and that was projected to change in its magnitude, direction and variability in future.

"It should be stressed that the influence exercised by climate on living organisms is exceedingly complex, not only because many climatic variables play important roles, but also because of the constant interaction between the variables.

"All crops have optimum (and sub-optimum) climatic regimes in which they can grow, and while solar energy is not a constant over most of South Africa, the main climatic constraints are related to:

- **rainfall**, especially the onset of the rainy season, the seasonal total and its inter-annual variability, and

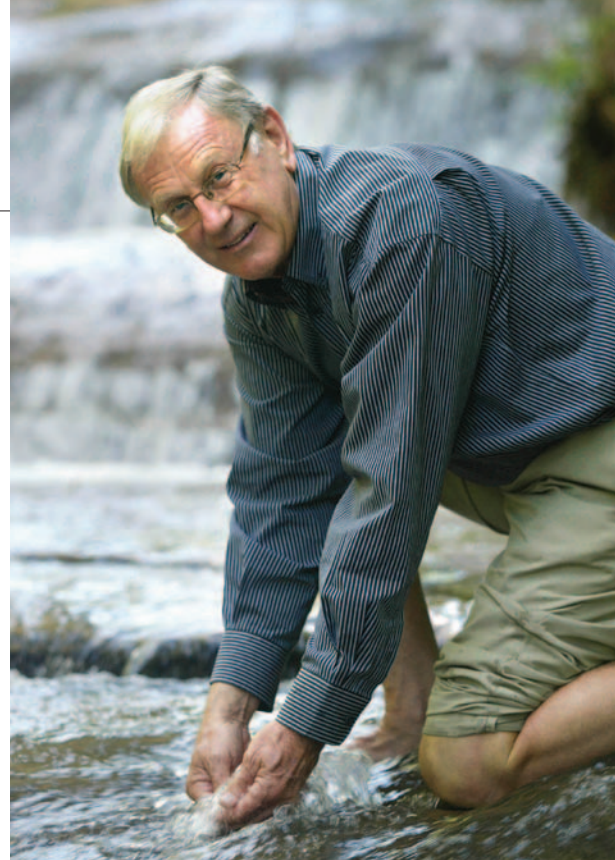
- **temperature**, with all plants having their unique upper and lower temperature limits above or below which their growth and development processes cease (the plant may be killed or sustain damage) while between these limits there is an optimum temperature, which assures the most rapid growth for a particular species."

Anthropogenically forced climate change resulted from increases in atmospheric greenhouse gas concentrations, particularly CO₂ and, linked to that, associated spatial changes in temperature regimes which, in turn, altered regional and local precipitation regimes and induced changes in climatic variability, both in frequency and severity. These changes impacted on individual plant processes and they could either positively or negatively affect the interactive processes related to vegetation CO₂ responses, and water and energy fluxes as well as biogeochemical cycles.

Professor Schulze said temperature affected a wide range of processes in agriculture and was used as an index of the energy status of the environment. It was the one climatic variable for which there was a high degree of certainty that it would increase with global warming.

"Adaptation for the future in agriculture is all about staying ahead and being progressive by optimising climatic conditions in order to maximise output in a sustainable manner and maintaining a competitive edge.

- **Adapting to Climate Change** at the Rural Livelihood Level will be critically important, as it focuses on the most vulnerable groups, and the most vulnerable areas, so that livelihoods are not eroded by climate events, but that the affected communities rather become more resilient to the expected changes in climate. This requires an integrated approach



Professor Roland Schulze:
Emeritus Professor of Hydrology at UKZN.

that addresses multiple sectors, whilst combining the indigenous knowledge/experiences of vulnerable groups together with latest specialist insights from the scientific community.

- **From Rhetoric to Action:** Available evidence shows that while there may be much rhetoric about climate change adaptation for the long term, few seem to actually be adapting for the future. Most are adapting to climate variability and some observed climate change is being detected now. This mindset may need to be changed.
- **Adaptation to Local Conditions:** Most agricultural programmes and information are initiated at high levels in government and are not always adapted to local conditions. All agricultural programmes and planning strategies need to focus on local conditions, especially in regard to climate change which can have very local repercussions." ■

CARBON



A Collective Responsibility?

Professor Rajen Naidoo of the Nelson R Mandela School of Medicine at the University of KwaZulu-Natal gives his viewpoint on climate change and carbon emissions. Professor Naidoo is Chief Specialist/Associate Professor: Occupational Medicine and Head of Department: Department of Occupational and Environmental Health.

Q Do you think business and industry in South Africa accept they have a responsibility to reduce their carbon footprint?

To some extent, the major multinationals have begun to factor in their environmental emissions, but largely, most industries pay little attention to the critical issues of climate change. The introduction of ambient pollutant standards in South Africa very recently, has now meant that industry has to comply with emission legislation. This will see a reduction in emissions, gradually over time – probably not as rapidly as required.

While it is estimated that only about four percent of carbon emissions are due to industry, industry drives individual choices – the types of vehicles we drive, the places we go for holidays, the types of food we eat, our entertainment (for example, we're encouraged daily to play computer games – to the point where we can now exercise with computer games using electricity – rather than getting outdoors to do the exact same thing!). If industry does not assume a collective responsibility in shaping

choices and behavior then we can expect little individual change.

Q Do you believe individuals have a responsibility to reduce their carbon footprint?

Yes – as per a UK Government Report, 40 percent of carbon emissions in the UK are related to individual decision-making. However, in most instances, individuals are driven by choices that are beyond their control: large areas of South Africa lack access to electricity, forcing people to use fossil fuel as a source of energy; wherever electricity is supplied in South Africa, it is generated by coal. Thus our energy sources in South Africa contribute massively to climate change. Although, the contribution of private motor vehicle use to climate change may not be as large as some of the other causes, South Africa has no restrictions on the types of motor vehicles on its roads – old and poorly serviced vehicles are commonplace – particularly as the cost of vehicles in this country is exorbitant. Similarly the more affluent choose vehicles that consume more fuel, and are

CARBON FOOTPRINT

WHOSE RESPONSIBILITY IS IT?

likely to emit more pollutants damaging to the environment.

While change in human behaviour is necessary, household strategies such as recycling etc, are likely to have only a small impact on the carbon footprint, compared to what is required by the large industries and sources of energy. Human behaviour is dictated by social norms and marketing choices: for as long as big business does not factor in carbon emissions into its production process, and does not provide consumers with environmentally friendly options, and for as long as government does not address key policies, like higher taxes on motor vehicles with greater fuel consumption, then convincing individuals to make the “right choice” in their households will never become the norm in society generally.

We need to begin to introduce educational programmes on climate change in our primary level education and above. In all tertiary level curricula, climate change should be a required course/module – from engineering, chemistry, social science through to medicine and the other health sciences. This will ensure that when graduates make decisions in the real world as professionals, they do so understanding the environmental implications of their decisions.

Q Do you think there are likely to be affordable technological solutions that will reduce the carbon footprint to an acceptable level in SA?

“Affordable” has to be subjective! In a country such as South Africa, with such vast resources, it should be “affordable” – given the known impacts of not changing immediately, the cost-benefit rationale makes it imperative. The state, engaging with key stakeholders, needs to find the additional resources that should be dedicated toward the implementation of these solutions:

either through increased taxation of big business, or incentivising the production of goods and services that promote such technology or through the establishment of key policies that drive industry to implement such technology. But such policies have to be implemented on regional (eg. southern Africa) or international scales to prevent companies from disinvesting in countries (particularly developing nations) because of stronger (“harsher”) environmental/climate change policies.

Q Do you think business and industry understand what the likely implications of climate change are in their area of operation and what changes do you think they should be making in order to adapt to these likely climate changes?

Once again, the larger companies, with more international linkages, are being forced to factor these issues into their planning and production processes, particularly if their products are intended for export. Smaller companies, the SMEs, are unlikely to appreciate their role in climate change, and probably lack the resources to address these issues. As we have seen with the focus on occupational health and safety since the early 1990s, companies in South Africa are driven by legislation – the drive to create healthy and safe working environments emerged with the 1994 Occupational Health and Safety Act, despite much resistance from industry. Today, many argue that our legislative requirements, including workplace health and safety, restrict industrial growth. However, companies are not likely to engage with these issues voluntarily.

Similarly with issues related to climate change – impacts which are not seen immediately by the producers of greenhouse gases, are not likely to generate voluntary responses by industry. Policy-makers, concerned with the possibility of disin-

vestment, are reluctant to introduce policy that raises the climate change agenda directly. Thus there is a requirement for regional and international policy change to ensure that we produce safer and cleaner products in an environmentally friendly manner.

Q Do you believe Government efforts to achieve environmental objectives are beginning to make an impact and what is your view on those still to be introduced i.e. the controversial Carbon Emission Tax which will require business to pay R100 tax on a ton of carbon emitted?

As indicated in my responses I believe that government-driven policy may be the first step to creating a change in behaviour in industry and individuals. Legislation and taxation may force people into making the correct choices. Currently, there are little, if any, government efforts to address issues related to climate change, and this is reflected in the way big business and individuals behave.

Q Estimates are that by 2050 the global population will have increased from 6.9 billion to 9.2 billion - how comfortably do you think these people are going to be able to live on this earth?

The increased demands for food and scarce resources will dramatically increase our carbon emissions. The demand for more energy supply, the increased marginalisation of the world's poor and their reliance on biomass fuels for energy, increasing deforestation for agricultural and living space are going to rapidly increase the greenhouse gas effect and global warming, with consequences for climate change. Obviously the planet, even at this point, cannot sustain the six billion people, and will manage even less with a dramatic increase in the population. Unfortunately, those that will be

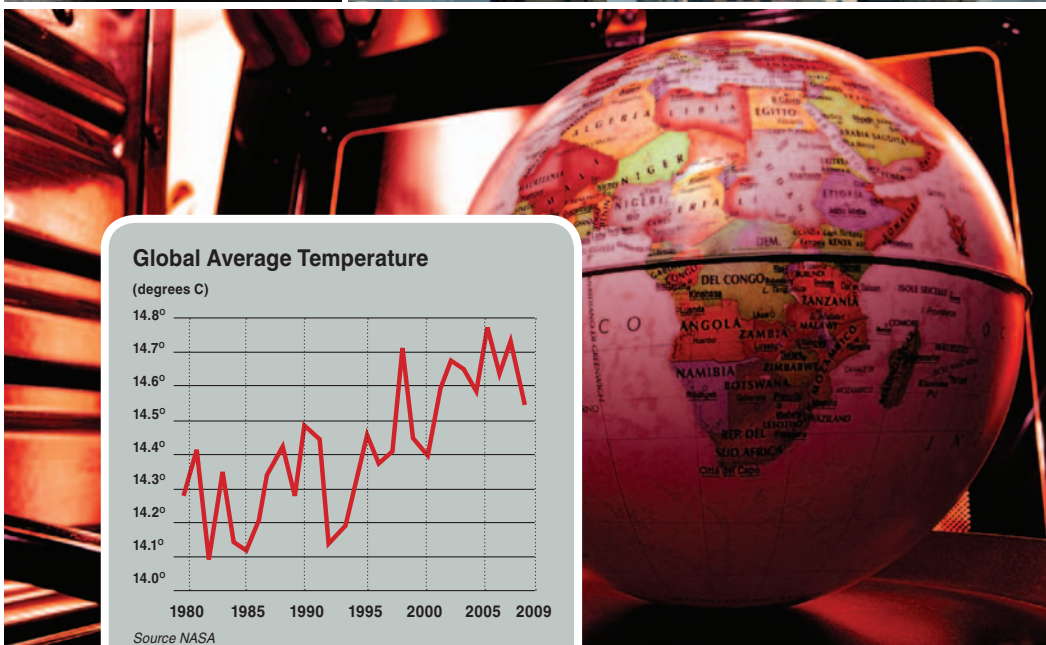


Professor Rajen Naidoo: Chief Specialist/Associate Professor: Occupational Medicine and Head of Department: Department of Occupational and Environmental Health, UKZN.

most dramatically affected will be those in the developing countries: both from climate change itself, and through diminishing resources – with dire social consequences for the rest of the developed and developing world.

Q Fifty percent of the global GDP is sourced from developing countries. How do you think this trend will affect climate change targets as South Africa, for example, is one of the highest emitters of carbon gas and produces the dirtiest electricity in the world?

This remains the social, economic and political challenge: the developing world generally cannot afford the transition to advanced environmentally friendly technology. Its continued dependence on high carbon producing technology results in a gradual increase in emissions. For such countries to move toward advanced technology results in products becoming less competitive on global markets. Thus, solutions have to be made at macro-intergovernmental agencies, rather than at national or regional levels.



Top: Steam and smoke billows from a coal burning power plant in Germany. Coal power plants are among the biggest producer of CO₂, thought to be responsible for climate change.

Middle: Smog covers midtown Manhattan in New York.

Top and middle pictures: Independent Newspapers KZN.

CARBON FOOTPRINT

WHOSE RESPONSIBILITY IS IT?



Q The South African government has expressed its intention to curb GHG emissions by 34 percent by 2010 and 42 percent by 2025 - business has not been consulted on this - do you think the government is over ambitious and how do you think business will respond to the targets?

These are ambitious targets. We need a systematic multistakeholder approach which creates opportunities for paradigm change – attempts at simply forcing through strategies will be met with resistance from industry, unions and communities. Government, as a start needs to establish a clearly defined Commission on Climate Change (similar to the National Planning Commission), which needs to develop strategies and policies. Such a commission needs to include a broad range of stakeholders, not least of all, environmental scientists, educationists, social scientists, as well as social partners.

Q How do you believe agriculture should respond to the climate change challenge?

It is currently estimated that about seven percent of our carbon emissions come from agriculture – the production of methane gases, nitrous oxides from fertilizers etc. Clearly, as the world's population increases, so too will agricultural production. However, attempts now by large agribusiness to shift the focus away from food production toward biofuels, in the guise of promoting environment-friendly energy sources, is clearly inadequate – starvation of the world's poor to pay for the energy needs of the world's affluent is not a fair trade!

Q As South Africa's top 100 companies are being made to fall in line with international carbon emission targets - what strategy do you think the government should be thinking about to deal with small businesses?

As with many countries in the developing world, small businesses

Left: An environmental activist anchors a large balloon to the ground outside the congress centre, before the opening of the United Nations Climate Change Conference in Copenhagen last year. China is the world's top greenhouse gas emitter. *Picture: Independent Newspapers KZN.*

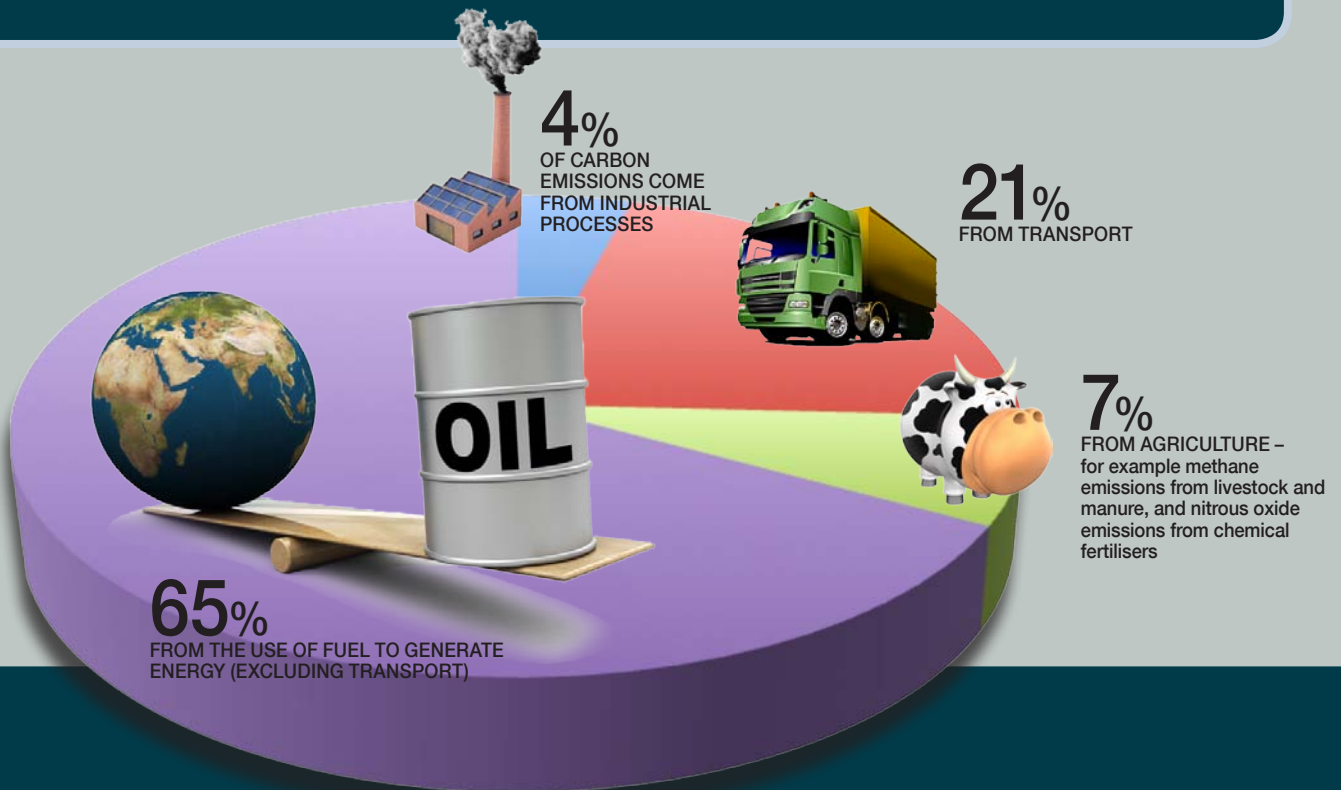
and the informal sector have been the focus of economic development. If it is government's policy to support the growth of this sector, then government has to factor in the costs of environmentally-friendly production from this sector, and make funds available for this. The small enterprises and informal sector do not have the resources to develop such strategies, and this will destroy the development of this sector. In addition, in instances where large multinationals are dependent on these small businesses for their production, they have an equal responsibility of ensuring that these suppliers have the resources available to engage in environmentally-friendly production.

Q What role do you think education should play in sensitising the population to climate change and the reduction of greenhouse gases?

Absolutely critical – just as we are now talking of sex education in schools to ensure that our future generations do not succumb to sexually transmitted infections, such as HIV, we need equally to ensure that from a very young age they are taught about the principles of environmental protection. It should become compulsory at all levels of education to include courses or modules on climate change, such that future generations of entrepreneurs, engineers, policy makers, social service providers, planners and educators are well schooled in these issues, as they make decisions. **n**

According to a UK Government Report, the Causes of Climate Change are as follows:

About 40 percent of carbon emissions in the UK are the result of decisions taken directly by individuals. The biggest sources of emissions for most people are likely to be: energy use in the home (the main use is heating), driving a car, and air travel.



The Health Effects of Climate Change

While there is a necessary concern about the impacts of climate change on the environment, there tends to be less of a focus on the impacts on the health of communities. Computer modelling allows for projections of impacts on the environment, however, the epidemiological studies required to develop models of health outcomes associated with climate change are limited.

SOME OF THE LIKELY PUBLIC HEALTH EFFECTS OF CLIMATE CHANGE ARE :

HEALTH EFFECT	CLIMATE CHANGE CAUSE
Malnutrition and associated diseases resulting in growth and development disorders among children	Drop in crop yields due to increasing temperatures
Heat related morbidity and mortality (heat stress and heat strokes)	Rising temperatures
Water borne diseases, diarrhoeal diseases	Coastal flooding and increased rainfall
Adverse cardiovascular outcomes	Increase in levels of ozone
Adverse respiratory outcomes	Increase in the levels of ozone and other ambient pollutants
Cold related deaths	Extremely cold winters in northern hemisphere
Infectious diseases: Dengue, Malaria, Lyme and tick borne diseases	Temperature rise and rainfall increase
Food poisoning	Increase in temperature

WHO'S



RESPONSIBLE?

Individuals, Government or Business?

Professor Mark Laing is the Director of the African Centre for Crop Improvement and Chair of the Plant Pathology School of Agricultural Sciences and Agribusiness at UKZN.

Q Do you think business and industry in South Africa accept they have a responsibility to reduce their carbon footprint?

Yes, but in a competitive economic environment they will not do much unless they are forced to or the playing field is changed by government to provide an economic incentive to change. For example, if the government compelled Eskom to buy back all co-generated electricity, and offered a tax break on CAPEX for the requisite equipment for co-generation, then industry would make a very concerted effort to capture waste energy and convert it into electricity. This would save us building several power stations and save us burning millions of tons of coal. However, there is currently no incentive to do so, so it will not happen.

Q Do you believe individuals have a responsibility to reduce their carbon footprint?

Sure but I am not a great believer that people can be persuaded to change by moral persuasion. I do not think that "individual responsibility" is the issue, but rather what incentives there are to reduce a carbon footprint. People live crowded, stressed lives, so they avoid extra responsibilities if they can. It is easy to calculate where carbon footprints are greatest, so tackle it there. In most cases, individuals do not make much difference directly, but for example the banning of incandescent light bulbs has a significant effect.

Q Do you think there are likely to be affordable technological solutions that will reduce the carbon footprint to an acceptable level in South Africa?

What is an "acceptable level"? We are No 2 in the world for coal generated CO₂ emissions. How is that going to change? And we have just cancelled the last gasp of nuclear power, the PBR. But as individuals, we still contribute substantially less than Americans or Australians.

Q Do you think it will be necessary for business and industry to make substantial changes to their way of doing business to reduce their carbon footprint?

If we want to save life on earth, yes. But I am not sure that people believe this yet, to the point where they are prepared to take a substantial drop in their living standards.

Q Do you think business and industry understand what the likely implications of climate change are in their area of operation and what changes do you think they should be making in order to adapt to these likely climate changes?

No. They are simply trying to survive the GFC. And few of them can envisage the scale of change that they will need to make, in order to change the carbon balance on earth. And concurrently

WHO'S RESPONSIBLE?

Individuals, Government or Business?



Professor Mark Laing is the Director of the African Centre for Crop Improvement and Chair of the Plant Pathology School of Agricultural Sciences and Agribusiness at UKZN.

China is expanding like crazy and building a new, giant coal-fired power station every week. Their expansion makes it hard to push for people to cut back and reduce their activities; it goes against the neo-liberal economic system, which is based on constant growth. This is clearly not sustainable, but we are trapped in the "tragedy of the commons", whereby all natural resources get used up rather than preserved because otherwise someone else will take them and use them. The catastrophic demise of the global fisheries is a concrete example of what I am talking about. And most nations only stopped fishing when it became uneconomic. And look at how the G9 nations are raping the world's remaining natural forests.

There are no ethics involved, its just a case of taking what countries can get, now. And if there is none tomorrow, so be it. So to cut back on energy use for an intangible end of future climate change, it is not realistic to think that governments will do it, nor will business, until they face the disaster head on, and stop living in denial.

Q What are some of the practical implications of climate change for southern Africa and its coastline?

UKZN's Professor Roland Schulze has incontrovertible evidence of the existence of global warming as it affects southern Africa, and robust models of what it will do to South Africa's climate in the future. I would not buy a house in the Cape Province. The North and West of South Africa will get drier and will become part of an expanded Namib and Kalahari Deserts. And the

East will experience frequent and extreme floods. Do not buy a beach cottage in Mozambique.

And there are WRC projects on water use efficiency to see if we can grow crops on less water. And we are breeding crops for drought tolerance at the ACCI.

Q Do you believe Government efforts to achieve environmental objects are beginning to make an impact and what is your view on those still to be introduced i.e. the controversial Carbon Emission Tax which will require business to pay R100 tax on a ton of carbon emitted?

Sure, it should make major carbon generators start to think, but it will have an economic ripple effect; e.g., the cement industry generates lots of CO₂, so pushing up their costs will impact on the entire building industry.

But what about the big electricity users such as aluminum smelters? Are they going to pay for the carbon that was generated to create the electricity that they have used? It needs to be like VAT, the ultimate user gets landed with the carbon tax.

Q Estimates are that by 2050 the global population will have increased from 6.9 billion to 9.2 billion - how comfortably do you think these people are going to be able to live on this earth?

No, it will be very uncomfortable for at least 30 percent of the world. Soylient Green will become the reality. I think genocide will become more common as critical resources start to run out, such as fresh water, phosphorus, potassium, accessible oil, cobalt and other rare minerals, and arable land.

Already one billion people are hungry every day. So my guess is that



Argentina: The Perito Moreno glacier calves blocks of ice near the city of El Calafate, in the Patagonian province of Santa Cruz. Scientists warn that glaciers in the Andes, which link Argentina with Chile are melting because of the effects of climate change. According to studies, these accumulations of ice are thawed at a pace so fast that it could disappear in 25 years.



Brazil: A field where pasture was destroyed in a flood of the Amazon River, is seen on a cattle ranch in Careiro da Varzea near Manaus. Floods and droughts may be harbingers of a troubled future for Brazilian farmers, who worry that climate change could severely disrupt production in one of the world's breadbaskets.

Pictures: Independent Newspapers KZN.

WHO'S RESPONSIBLE?

Individuals, Government or Business?

this will grow to three or four billion by then.

Q Fifty percent of the global GDP is sourced from developing countries. How do you think this trend will affect climate change targets as South Africa, for example, is one of the highest emitters of carbon gas and produces the dirtiest electricity in the world?

On the one hand the OECD says to us, "reduce your carbon emissions", yet they take our coal exports and burn them, and buy the iron that is smelted in South Africa, using more coal. The Northern Hemisphere used Southern resources to develop their current wealth. The Southern Hemisphere is now saying: "we also want the same standard of living". However, the world does not have the resources or the carbon buffer to allow for that. So the Tragedy of the Commons will play out. Which is why even the pathetic Kyoto Agreement was scrapped.

Q Do you think business and government are responding quickly and effectively enough to the threat of climate change which will see the Western areas become much drier and the Eastern areas becoming much wetter but with extreme weather events such as flash floods and debilitating droughts in between which could see the increase of fire?

No, not at all. We are facing a catastrophe and they are considering whether it would be a good thing to do something.

As humans we do not deal with nasty but future events very effectively. We procrastinate as long as possible. And politicians avoid nasty decisions like the plague if they can postpone them to the next election.

Q The South African government has expressed its intention to curb GHG emissions by 34 percent by 2010 and 42 percent by 2025 - business has not been consulted on this - do you think the government is trying to be ambitious and how do you think business is going to respond to the targets?

I will believe it when it happens. I think business will fight it furiously on two spurious but attractive arguments:

- It will make our industries uncompetitive with the Chinese, etc. who do not face heavy carbon taxes.
- It is not "proven" enough to punish us so harshly.

Q How do you believe agriculture should respond to the climate change challenge?

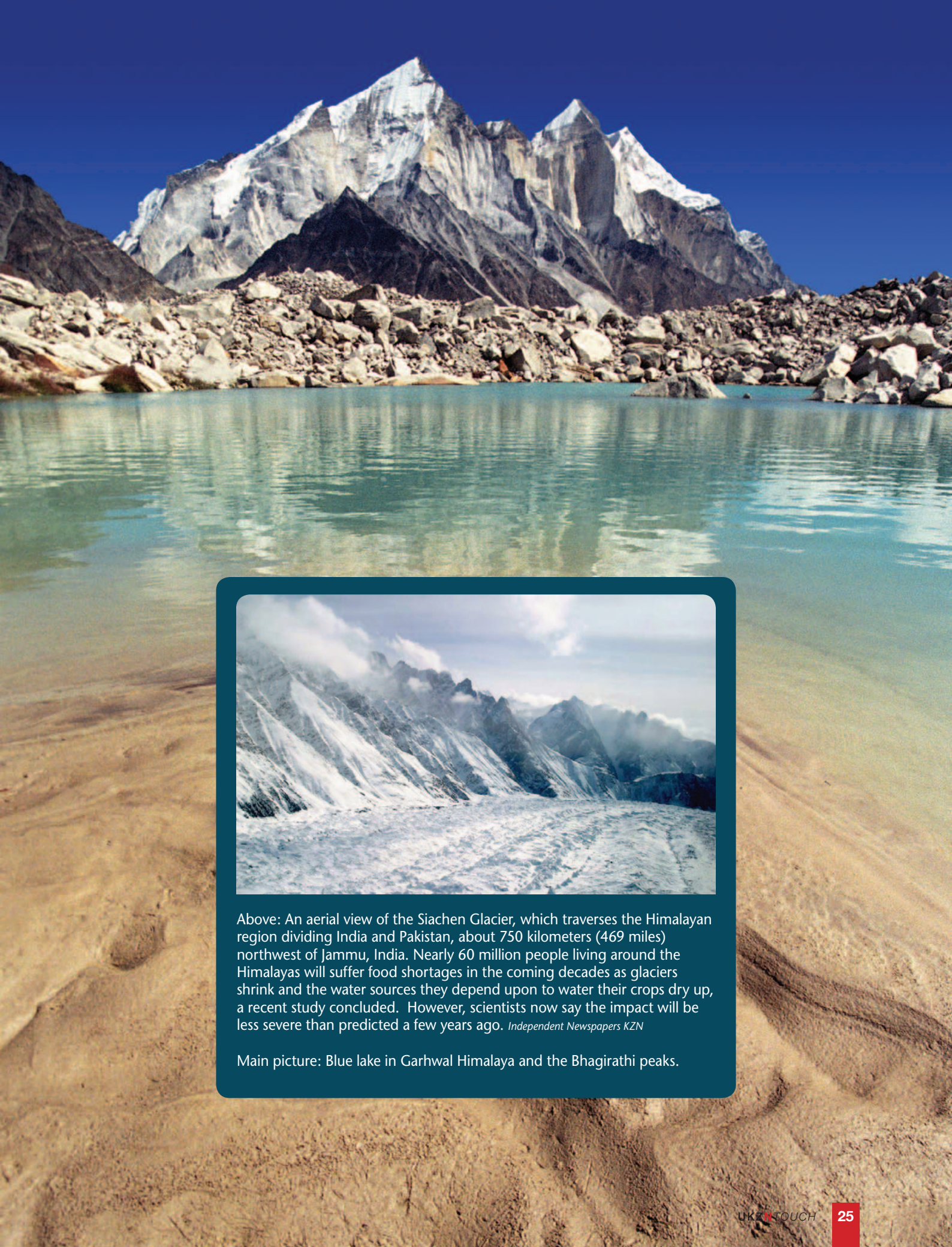
- Assume that it is a reality.
- Assume that the worst climate models of 4-5 degC increases are correct.
- Plan for an entirely new agricultural environment. More than half of RSA will become as dry as Botswana and Namibia. Then what crops and livestock can we produce? And where and how?
- Plan for totally different rainfall and water availability for the entire country.
- Plan for floods in KZN and parts of the Eastern Cape and Mpumalanga and Limpopo. And bigger rivers and more water flows in the East.
- What of the small scale farmers, say in the Northern Cape, which will become like the Kalahari Desert? And the land reclamation schemes that have already failed under favourable conditions?

Q As South Africa's top 100 companies are being made to fall in line with international carbon emission targets - what strategy do you think the government should be thinking about to deal with small businesses?

Similar incentives and penalties should be used for small businesses

Q What role do you think education should play in sensitising the population to climate change and the reduction of greenhouse gases?

- So that children educate their parents, so it is a vital way to educate the population.
- So that people prepare for the drastic changes that will happen in the next 20 years.
- So that there is a clear understanding of what is happening and why, and the need for change and why we cannot wait any longer.
- It should be part of the Geography and Biology and Physical Science curricula, but also Economics, History and Language can deal with it. Speech and Drama, and Art can tackle the topic effectively too. **■**



Above: An aerial view of the Siachen Glacier, which traverses the Himalayan region dividing India and Pakistan, about 750 kilometers (469 miles) northwest of Jammu, India. Nearly 60 million people living around the Himalayas will suffer food shortages in the coming decades as glaciers shrink and the water sources they depend upon to water their crops dry up, a recent study concluded. However, scientists now say the impact will be less severe than predicted a few years ago. *Independent Newspapers KZN*

Main picture: Blue lake in Garhwal Himalaya and the Bhagirathi peaks.



SEA LEVEL RISE – A REAL THREAT TO KZN COASTAL PROPERTIES

KwaZulu-Natal city planners should factor in a 600mm sea level rise by the year 2100 and be ultra cautious about building or authorising any further development too close to the beachfront.

Furthermore, several luxury holiday homes as well as flats on the KZN coast are in danger of being swamped by the sea in future unless strong defences are built to defend them. This is according to Mr Andrew Mather, a University of KwaZulu-Natal (UKZN) PhD student in geography and environmental science who is also Head of Coastal Policy for the eThekweni Municipality.

Mr Mather said it was difficult to accurately state by how much sea levels would rise in future but the United Nations expert group, the Intergovernmental Panel on Cli-

mate Change, estimated a very high probability of a global sea rise of between 170mm and 590mm by 2100. This estimate did not include the effects of accelerated ice melt and this would add 170mm to the above figures.

Planners thus had the choice of relocating exposed infrastructure and building further inland, or constructing costly sea wall defences which would probably not be infallible.

"However, we cannot defend the whole South African coast because of the costs involved."

Mr Mather said it was understandable that municipalities and developers would not easily spend money on preventing something which may never happen. "But we need to use the information we have instead of leaving it until the next disaster happens."

In a recent paper Mr Mather stated that awareness was increasing globally about the effects of climate change brought about by man's impact on earth. Of particular relevance was the anticipated rise in sea levels and the impact of this on coastal cities.



Top left: Coastal erosion at Willards Beach, Ballito after the March 2007 sea storm. **Above:** Coastal erosion in Ballito after the March 2007 sea storm. **Inset:** Erosion and property damage in Ballito after the March 2007 sea storm. Photographs: Simon Bundy.

"One of the impacts of global warming is sea level rise which is driven by the following factors: the melting of polar ice caps and glaciers, thermal expansion of the oceans and the increased break-up of the Antarctic and Greenland ice sheets."

Referring to the serious and widespread damage caused to KwaZulu-Natal coastal areas by rises in sea level which accompanied severe storms in March, 2007, Mr Mather said that infrastructure which had weathered previous storms had been destroyed. Senior municipal staff kept saying that they had never before experienced that scale of devastation.

"Sea level rise is happening in our region and this places great demands on all of us. Governments are at the forefront of adaptation and mitigation strategies and in the interests of the country will need to deliver the goods.

"The public is looking to government and demanding that it initiates a programme to address the impact of climate change. The coastal erosion which occurred in 2007 heightened the issue among stake holders. The magnitude of the event was significant in that it affected many hundreds of kilometres of the KZN coastline. The experts may debate the frequency of the event for some time but the scale of the storm is

most probably going to become a more regular event in the future," said Mr Mather.

"The response to the March 2007 coastal erosion event exposed weaknesses among the coastal municipalities, particularly in KZN. The challenge of addressing coastal erosion and sea level rise rests firmly with government and particularly local government." ¹¹

Sources: *Coastal Erosion and Sea Level Rise*, a paper by Mr Andrew Mather. "Coastal properties could be submerged", *The Mercury* (August 9, 2010).



Fire rescue: A helicopter struggles to dampen a run away fire near Stellenbosch, Western Cape, South Africa.



THE IMPACT OF CLIMATE CHANGE ON AIR POLLUTION

**UKZN Environmental Sciences
PhD student:** Ms Tirusha Thambiran

Air quality management plans (AQMPs) in South Africa need to include an impact assessment of future climate change on air quality as this will determine if additional or more stringent controls are required, says UKZN Environmental Sciences PhD student, Ms Tirusha Thambiran.

Ms Thambiran is involved in research into the links between air pollution and climate change and reviewed the issue, in co-operation with her supervisor, Professor Roseanne Diab, in a recent edition of the *South African Journal of Science*.

Employed at the Council for Scientific and Industrial Research in the Climate Change Research Group, Miss Thambiran suggested ways South Africa could integrate climate change concerns into AQMPs.

She said that in the face of global

warming it was important for South Africa to be proactive in reducing and preventing the impacts of climate change which would ultimately have a dire effect on future generations. Since South Africa was currently developing its responses to climate change mitigation and because current air quality legislation did not incorporate climate change concerns “it is an ideal time to contribute towards developing innovative responses to climate change issues”.

Ms Thambiran’s research focuses on air quality management inter-

ventions which will improve air quality and simultaneously reduce greenhouse gas emissions. A major flaw in the development of AQMPs had been the assumption that climate would remain constant and this was problematic as “most of the processes that play a role in the chemical composition of the atmosphere are subject to alternations due to climate change”.

South Africa’s generic AQMP framework had room for the inclusion of climate change concerns and “the Minister has the discretionary power to declare a priority pollutant”. As a result, AQMPs could incorporate plans to reduce greenhouse gas emissions such as carbon dioxide.

“One of the outcomes of my dissertation is recommendations for future air quality management and climate change mitigation research, needed in South Africa. I am keen to pursue these research ideas post PhD,” said Miss Thambiran.

GREEN POLICIES MAY SOON BE THE NORM IN SUCCESSFUL BUSINESS VENTURES

Sound environmental policies will soon become the norm for doing business, both locally and abroad, and South African companies will have to move swiftly to fall in line with international best practice.

Valerie Geen, Director of the Climate and Energy Unit at the National Business Initiative (NBI), warned recently that local businesses could see themselves losing out on trade opportunities if they did not have sound, sustainable and environmental practices and evaluations in place.

Barney Kgope, also from the NBI, said business would have to learn to cope with extreme weather conditions and a regulatory framework that is moving faster than business can keep up with. "By 2050 the global population is expected to increase from 6.9 billion to 9.2 billion. The question we have to ask is can all these people live well on the planet?"

"Also the extraction of water will increase by 20 percent. Rainfall in the Western and Eastern Cape will decrease while KwaZulu-Natal will gain rainfall with extreme events such as fire and flood. What will industries, that are so dependent on water, do to cope with these events?" asked Kgope.

"Temperatures are expected to rise from 1 to 3°C depending on the

season. Water will be scarce, insurance will become more expensive and there could be possible supply change interruptions. Also, increased regulatory pressure, How will this impact on industry?"

Kgope said the carbon tax which could see businesses having to pay R100 for every ton of carbon emitted was still under discussion.

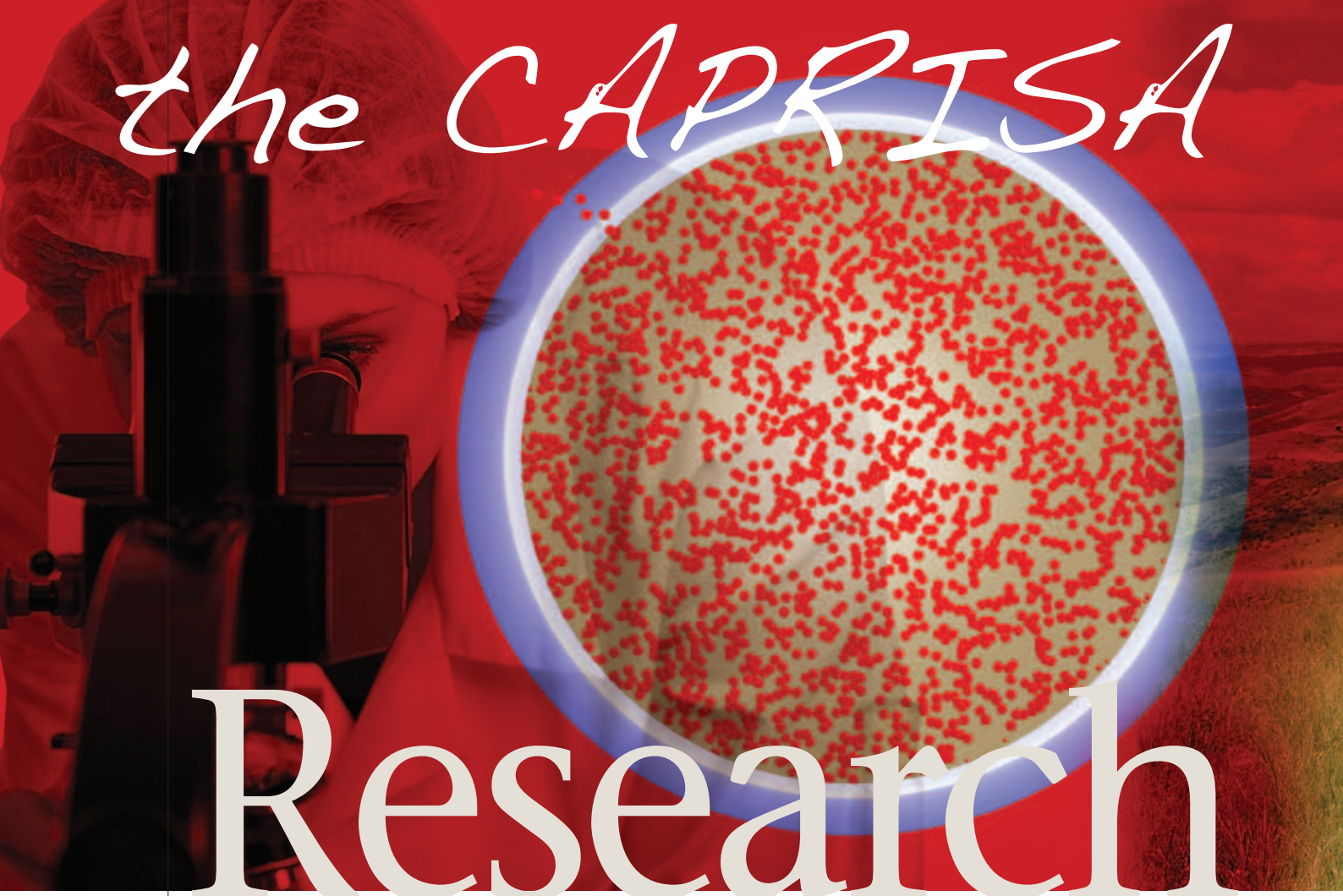
"Companies must start transforming their businesses to being more environmentally friendly."

"Companies must start transforming their businesses to being more environmentally friendly. Also, they must ask the questions 'how are we doing business?' and 'how do I stay afloat with all the changes to come?' Banks are all participating in the Carbon Disclosure Project and this will become an important element when businesses ask for a loan. Greenhouse gas reporting will become compulsory."

Geen said for businesses to remain competitive and environmentally sustainable, good leadership was critical. "Load shedding is not far away and leaders should have energy efficiency on their radar screen."

Quoting President Jacob Zuma in his State of the Nation Address last year, Geen said the President had highlighted the government's

particular interest in pursuing investments in projects and industries in the field of marine aquaculture development, wildlife management, pursuing South Africa's energy efficiency and renewable energy targets and enhancing delivery of renewable energy by creating an appropriate enabling environment. ■



the CAPRISA

Research

A rural community shows the way in fighting HIV, bringing new hope for women globally

SALIM ABDOL KARIM

"What does an AIDS prevention gel have to do with rural South Africa?" I was asked in Vienna. "Everything!" I explained, recounting how a message came to my wife (Quarraisha Abdool Karim) and I from Inkosi Zondi of Vulindlela in 2001 through local community activist, Gethwana Mahlase requesting help with the AIDS problem in this poor rural community.

Arrangements were hurriedly made for a group of us, researchers from UKZN's Centre for the AIDS Programme of Research in South Africa (CAPRISA), to attend the Vulindlela Traditional Council meeting the next Saturday morning. We got there on a hot summers morning, by following Gethwana from Pietermaritzburg to this quite isolated community about

30 minutes by car from Howick, in the KwaZulu-Natal Midlands.

Our arrival was announced by Gethwana and we were told to wait – a somewhat disconcerting instruction given the oppressive heat outside. About 40 minutes later we were shepherded in, to meet the council of several *izinduna* and three *amakosi*. Inkosi Zondi starts by apologising

004 trial



Above: Professors Salim and Quarraisha Abdool Karim investigators of the CAPRISA 004 tenofovir gel trial.

that this meeting will have to be short as they have three funerals to go to – all of young women. What seemed an affront to us, visitors who had just made a long journey to visit the Inkosi at his request, was in reality an expression of their amazing commitment to the community that we all witnessed during that short meeting. The commitment to the community came first! The important funerals taking place that day came before any meeting with academics and researchers! Our decision was made simple and it was made within 15 minutes. We committed ourselves as CAPRISA to establish an AIDS prevention programme in Vulindlela. At this time, AIDS treatment did not even feature in our thinking, after all, our expertise related to HIV prevention.

The indelible mark of that meeting remains with me to this day. The devastation in that community was obvious, the commitment of the leadership to their people was obvious, the urgent need was obvious – there was not really that much to discuss, there was a clear need for action. That historic day led to the creation of the CAPRISA Vulindlela AIDS research and treatment clinic. After negotiations with the KwaZulu-Natal Provincial Department of Health, space was secured at the Mafakatini clinic as a base for field studies to produce

the information needed to develop a locally appropriate HIV prevention strategy. The first of our studies was led by Dr May Mashego (now first lady of KZN) together with Professor Quarraisha Abdool Karim and Dr Janet Frohlich to quantify, using verbal autopsies, the extent to which the large number of deaths in Vulindlela was likely to be due to AIDS. This study, which was published in the *South African Medical Journal*, showed that most deaths were of young women and that most of these deaths were most likely due to AIDS. We asked around – did anyone know if there was any person with AIDS in Vulindlela? The answer was uniform – No, no-one knew any person in Vulindlela with AIDS. These simple facts – that young women were dying in droves, that the biggest killer in this community was AIDS and that no-one knew anyone with AIDS, laid the foundation for our quest for a new technology that women could use and control to prevent HIV infection. This quest led to the landmark study – the CAPRISA 004 trial.

We knew that South Africa's epidemic was disproportionately high. While South Africa only has 0.7 percent of the world's population, it bears 17 percent of the global burden of HIV infection. So, we were not struck by the high incidence of HIV in this community but we

Research

A RURAL COMMUNITY SHOWS THE WAY IN FIGHTING HIV, BRINGING NEW HOPE FOR WOMEN GLOBALLY

were struck by the complexity of the gender dimensions of the epidemic. Women, in particular, young women, were bearing the brunt of the HIV epidemic in this community. The young women in Vulindlela, like most other rural communities, were at high risk of HIV infection and were not able to secure condom use or mutual faithfulness from their male partners. It was clear that success against HIV here lay in finding a woman-controlled HIV prevention technology.

under the watchful eye of Reverend Sithole, the local pastor, who is Chair of the CAPRISA Vulindlela Community Research Support Group.

In May 2007, we enrolled the first of the 611 women in Vulindlela into the CAPRISA 004 trial. This study was different as it was testing a known AIDS treatment medicine, tenofovir, as a vaginal gel. Tenofovir microbicidal gel, is a unique HIV prevention tool because it is

air was expectant – you could hear a pin drop! Then elation! It slowly dawned on the women, how momentous this result is and then the party began...

Even so, it must be noted that tenofovir gel is not going to be available in the clinics or pharmacies anytime soon as further confirmatory studies are now needed. The CAPRISA study showed that women with consistently high levels of gel use can lower their risk of getting HIV by

“This study was different as it was testing a known AIDS treatment medicine, tenofovir, as a vaginal gel. Tenofovir microbicidal gel is a unique HIV prevention tool because it is controlled by the woman. No such products are currently available to the public. Over the past 15 years, 11 trials of six other potential microbicides did not find an effective product. In this context, the 39 percent effectiveness of tenofovir gel shown in the CAPRISA 004 trial is an important advance for HIV prevention.”

Good fortune arrived when a team led by Quarraisha and I secured a large five-year grant (known as the Comprehensive International Program of Research on AIDS – CIPRA) from the US National Institutes for Health (NIH) to create CAPRISA. A few months later, NIH made supplementary PEPFAR funds available to CAPRISA as seed funding to create a large new CAPRISA Vulindlela clinic.

Land was provided by the local community, to provide a comprehensive set of HIV prevention and treatment services. Antiretroviral therapy was made available in this clinic in 2003 and the CAPRISA Vulindlela clinic is the only provider of these live-saving AIDS medicines.

By then, we had well-established relationships with the local community and they were engaged in all aspects of our research and service

controlled by the woman. No such products are currently available to the public. Over the past 15 years, 11 trials of six other potential microbicides did not find an effective product. In this context, the 39 percent effectiveness of tenofovir gel shown in the CAPRISA 004 trial is an important advance for HIV prevention.

Just after the soccer World Cup final, Quarraisha and I went to Vulindlela to inform Inkosi Zondi and Reverend Sithole about the results. In his usual philosophical way, the Reverend says that if the gel did not work, he would have been as disappointed as the Netherlands. However, since the gel is effective, he said he was as happy as Spain.

Twenty four hours before we presented the results to the world, the women who had participated in the trial came to the clinic for a party and to hear the results. The

54%, but as with all medical research, the result must be confirmed by one or more independent studies before it can become publicly available. **II**

*Professor Salim Abdool Karim
Co-principal investigator of the
CAPRISA 004 tenofovir gel trial
Director: CAPRISA, UKZN*

*This article was originally published in
the Sunday Times.*



Above: Dr Guy Balme with Sophie, one of the leopards in the study.

LEOPARD STUDY YIELDS INSIGHTS INTO CONSERVING BIG CATS

VICKY CROOKES

Celebrated for its beauty and enigmatic nature, the leopard is one of Africa's most captivating big cats. Unfortunately, it is now also one of the most persecuted.

The leopard has virtually disappeared from large parts of Africa and as one of South Africa's "Big Five," it is highly sought-after by tourists and hunters alike. It is also an ecologically important predator which plays a critical role in maintaining a healthy and well-functioning ecosystem.

Despite numerous studies on the behaviour and ecology of leopards, little research has been conducted on their conservation. The little that has been done has focused on protected areas where the threat from humans is minimal. A common assumption, due to their adaptability, is that leopards are not vul-

nerable to extinction and therefore do not merit dedicated conservation efforts. This is despite the fact that the South African government recently doubled the annual leopard hunting quota.

Dr Guy Balme, a recent graduate of UKZN, has completed one of the most comprehensive studies on leopards ever conducted. His work in UKZN's School of Biological and Conservation Sciences was supervised by Professor Rob Slotow and Dr Luke Hunter, the Vice-President of Panthera, a leading wild cat conservation organisation in New York and an Honorary Research Fellow at UKZN. Their work demonstrated that big cats can be effectively protected through evidence-based conservation management.

Research

LEOPARD STUDY YIELDS INSIGHTS INTO CONSERVING BIG CATS



“Although leopards are protected inside Phinda, they are vulnerable to legal and illegal hunting in the areas surrounding the reserve. At the beginning of the study, the researchers recorded high rates of persecution by farmers and trophy hunters. In the first period of their study (2002-2005), they monitored 26 leopards and reported 23 of these killed – the majority of them at the hands of humans.”

Although a wide variety of approaches have been implemented to try and conserve carnivores, their effectiveness has seldom been evaluated.

The researchers conducted a six-year field study that looked at the impact of conservation interventions on the dynamics and persistence of a persecuted leopard population in Phinda Private Game Reserve and surrounding areas, in KwaZulu-Natal.

Although leopards are protected inside Phinda, they are vulnerable to legal and illegal hunting in the areas surrounding the reserve. At the beginning of the study, the researchers

recorded high rates of persecution by farmers and trophy hunters. In the first period of their study (2002-2005), they monitored 26 leopards and reported 23 of these killed – the majority of them at the hands of humans. Based on this, the research team assisted Ezemvelo KwaZulu-Natal Wildlife (EKZNW) in revising the authorisation strategy that governs the control of problem animals and trophy hunting. Changes included restricting Convention on International Trade and Endangered Species of Wild Fauna and Flora (CITES) permits for adult male leopards, distributing the permits across a range of properties and linking permits to property size. The researchers also initiated

a programme to alleviate conflict between humans and leopards in the region.

After the second study period (2005-2007) there was a marked increase in the leopard population and results revealed that leopards were living longer and fewer were being killed by people. Also, unexpectedly, female leopards began conceiving more often and raising more cubs. A stable leopard population obviously provided them with a safe environment in which to reproduce.

This highlights the importance of resident males because even though they do not provide parental care, they prevent immigrant males from threatening females and cubs.

Since other members of the cat family are subject to similar persecution as the leopard, the results of this study have implications for the conservation of the wider carnivore population. According to Professor Slotow, “Our findings highlight the importance of not only counting leopards, but understanding why particular components of the population may be dying. This allowed us to work with EKZNW and local stakeholders to address the key factors undermining the population’s sustainability. Such a science-based, integrated approach is critical when managing large carnivores exposed to hunting or persecution.”

The project, which continues to be run by Panthera and supported by AndBeyond, who manage the tourism operations at Phinda, is ongoing. Mr Julien Fattbert, who recently joined the team as a PhD student at UKZN, will be studying the behaviour of young leopards dispersing through this threatening landscape, allowing the researchers to potentially mitigate the threats to the leopards, people and their livestock. **11**

For more information on the project, go to www.leopardresearch.org and www.panthera.org.



Above left: Professor Thumbi Ndung'u, scientific director of the University's HIV Pathogenesis Programme and Associate Professor in HIV/AIDS Research. Above right: Ms Jaclyn Wright, PhD student UKZN.

FRESH HOPE for development of HIV/AIDS Vaccine

For three decades science has pitted its wits against the Human Immunodeficiency Virus (HIV) in its effort to develop an effective HIV/AIDS vaccine. Liz Clarke spoke to scientists who believe that research conducted in KZN could assist in achieving this goal

Scientists working at the University of KwaZulu-Natal's Doris Duke Medical Research Institute in Durban have directly demonstrated a "crippling" mechanism of the HIV-1 subtype C virus by immune cells that could eventually lead to the development of a successful HIV/AIDS vaccine.

The mechanism occurs in people with uncommon protective immune genes and is linked to a slower progression to AIDS.

Their findings help explain why some HIV-infected people progress to AIDS slower and faster than others, and are an important piece of the jigsaw.

Findings from the two-year long research study will be published in next month's international *Journal of Virology*, one of the world's leading research publications.

Key player in the research initiative is Professor Thumbi Ndung'u, scientific director of the University's HIV Pathogenesis Programme and Associate Professor in HIV/AIDS research.

"We have known for some time that while almost all individuals infected with HIV eventually progress to full blown AIDS, a small number of people living with HIV and not on therapy, have a low or undetectable viral load for an extended period of time," said Professor Ndung'u.

His words brought to mind the national story a decade ago of "Amazing Grace", the sex worker from KZN, who despite her HIV status and high number of daily sexual encounters, had an undetectable viral load and high CD4 immune cell count.

"It is an uncommon phenomenon that certainly baffled science at the time, and while we now know much more about why certain people are able to naturally control the virus, there are still unanswered questions" said Professor Ndung'u. "Knowledge about natural immune control of HIV could one day lead to a vaccine candidate, but in order to pursue this approach, we first wanted to understand what mechanisms were involved in this naturally occurring control of the virus and what immune cells are necessary to disable the virus. Understanding these mechanisms is critical in the development of an AIDS vaccine.

"When one looks at the latest HIV/AIDS disease and death statistics, he points out, "it is understandable why research of this nature is so necessary."

In its latest update UNAIDS reports that sub-Saharan Africa remained

the most heavily affected region, accounting for 67 percent of the 33,4 million HIV infections worldwide. It also stated that in 2008 (the most recent statistics available) 310 000 people died from AIDS related disease in South Africa.

According to the AIDS Foundation of South Africa KwaZulu-Natal has the highest burden of HIV – at 38.7 percent while countrywide the number of infected stands at 5 300 000.

A key finding of the UKZN HIV Pathogenesis Programme's research is that the immune gene HLA-B*81, which is known to play a protective role in HIV infection, forces HIV to mutate resulting in inefficient viral replication. Explaining the findings, Professor Ndung'u said the discovery of the Human Leukocyte Antigen - HLA-B*81's capabilities and its protective mechanism could become an "important and potentially far-reaching step" in the process of vaccine development.

The critical heartbeat of the KZN research, it seems, is that this protective HLA allele, found only in a handful of patients presenting with HIV-1 subtype C (the most common strain of the virus in sub-Saharan Africa) selects the some of the most vital elements of the virus to "flag" to the body's immune system. In an effort to escape recognition by the CD8 cells (the body's "killer" artillery), the virus mutates the vital elements but this mutation results in "crippling" of the virus. Once crippled the virus is then unable to replicate effectively, and this may explain why people with HLA-B*81 can live longer with HIV without developing AIDS.

At the cutting edge of this new-age research is UKZN PhD student Ms Jaclyn Wright, who has been working on a collaborative study with Professor Ndung'u and fellow scientists, locally and internationally, to probe the many vexing questions surrounding HIV replica-

tion – and how to curb the disease's progression. She took a short break from the world of flow cytometry, high-powered microscopes and replication assays to explain how the research model was implemented and some of the key features of the study.

"We were very fortunate in being able to collaborate with McCord Hospital, recruiting more than 406 volunteers from their Sinikithemba care and treatment facility. They are the real heroes of the project supporting our efforts throughout."

Although each of the volunteers (part of an ethically-approved programme) were HIV positive, on initiation of the study none were on antiretroviral treatment since they were at a relatively early stage of infection with high CD4 counts.

"This 'antiretroviral naïve' state was critical for the research we were doing," said Ms Wright.

The study, said Ms Wright, was the first to use a large population-based approach and clinically derived Gag-Protease sequences (gene fragments from the shell of the virus) to investigate the relationship between viral replication capacity, immune genes and disease progression.

The group's average age was 31 and 73 percent of the volunteers were women. Studied over a period of two years, the process involved ongoing collection of infected cells monitored and studied, using internationally recognised research criteria and range of sophisticated monitoring equipment.

But science, as Ms Wright puts it, often poses more questions than answers. "Now that we have a better understanding of the disabling mechanisms at play and the region where the crippling effect takes place, the next question is what is the long-term effect of the 'crippling' mutations on disease progression? To what extent can the

virus compensate for the loss of fitness? Can we design a vaccine that will cause the same effects and slow disease progression at a population level?"

In the push towards an effective vaccine, these are some of the questions that will need answers – if possible sooner than later!

The UKZN research was funded by the US National Institutes of Health, the South African AIDS Vaccine Initiative and the Ragon Institute Fund for Innovation and New International Initiatives. **■**

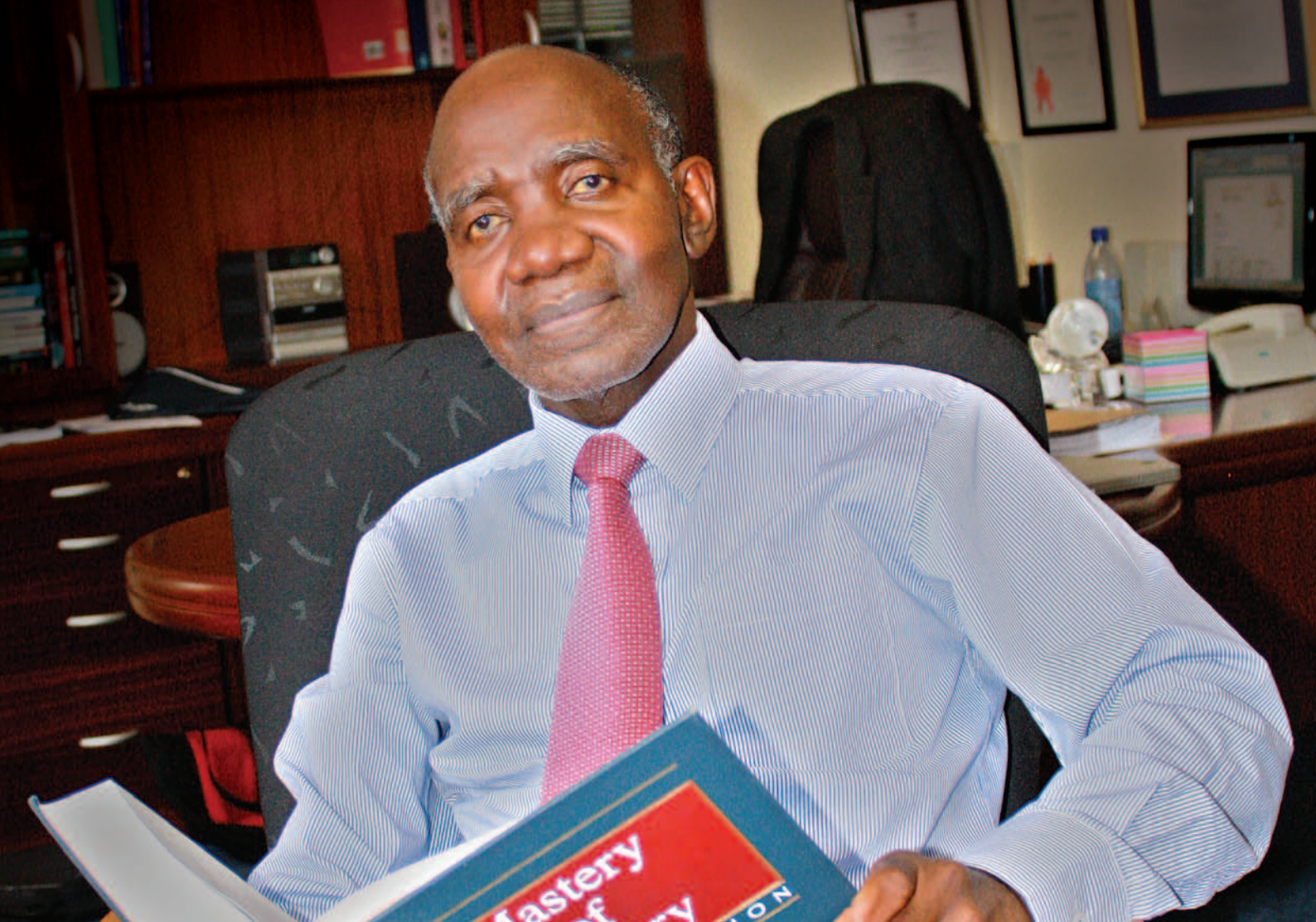
FACTFILE

Professor Ndung'u is an Associate Professor in HIV/AIDS Research at the University of KwaZulu-Natal. He holds a PhD-Biological Sciences in Public Health (Virology) from Harvard University and did his undergraduate studies in veterinary medicine in his home country of Kenya at the University of Nairobi.

He joined the Doris Duke Medical Research Institute (DDMRI), Nelson R Mandela School of Medicine in November 2005 and before that was the Laboratory Director and Senior Research Scientist at Botswana Harvard Partnership (BHP), in Gaborone, Botswana.

He was assisted by a Prince of Wales Fellowship to move to Botswana to help with the establishment of the HIV research laboratory.

Jaclyn Wright gained her BSc BuiMedical Science (*summa cum laude*) from the University of KwaZulu-Natal in 2004, her BSc Honours (*summa cum laude*) in 2005 and her MMedSci (*cum laude*) in 2007 from the Nelson R. Mandela School of Medicine. Before her current research she was investigating the role of certain proteins in the blood vessel growth of cancerous tumours.



UKZN Professor spearheads research into intestinal disease

It's certainly not dinner-table talk, but it's an issue that requires urgent dialogue. Liz Clarke spoke to Professor Thandinkosi Madiba, a KZN-based surgeon and medical academic who is at the forefront of new research into intestinal disease in South Africa.



Some parts of the body, you'd be happy to talk about. Others frankly you'd rather ignore.

But it's this reluctance to engage in sensitive medical issues that is costing lives – many lives.

Professor Thandinkosi Madiba, Head of the Department of Surgery at the University of KwaZulu-Natal (UKZN) and Head of the Colorectal Unit at Inkosi Albert Luthuli Hospital, believes it is time to face “harsh facts and make tough choices.”

Let's start with “harsh” facts. Those are that diseases of the large intestine including colorectal cancer are on the march in South Africa, markedly among young Black people.

It is an area where many questions remain unanswered.

“Historically, it was not a disease prevalent among Black South Africans. Now it is and we need to know why?” says Professor Madiba, who trained at UKZN's Medical School and studied Colorectal Surgery in Edinburgh. He has visited centres of excellence in Colorectal Surgery United States and is currently based at UKZN's Nelson Mandela School of Medicine in Durban.

Even more curious, Professor Madiba points out, is that this spike in colorectal cancer prevalence appears to be unique to southern Africa among young adult men and women.

“Ongoing research, therefore, is critical. We need to know whether the increase is:

- Diet-related (although the current research doesn't support this view).
- Caused by a genetic factor (a mutated gene is being passed on from one generation to the next).
- A result of urbanisation – a complex question as both rural and

urban black communities appear to consume the same basic maize products like samp, beans and mealie meal. Also the incident rate of colorectal cancer in rural and urban settings seems to be similar.

- Related to diseases like HIV, which is difficult to establish as disclosure of HIV status is a voluntary decision.

There is also not a “one size fits all” research parameter, Professor Madiba explains. Each population group in South Africa presents with different manifestations of bowel disease and each one requires specific research criteria.

The next “harsh” fact, says Professor Madiba, is that because many

tients presenting with intestinal pain, particularly in the rectum area, are diagnosed by their doctors as having haemorrhoids, dyspepsia or irritable bowel syndrome, when in fact there is something far more sinister and life threatening going on.”

He believes that doctors are sometimes overlooking symptoms, opting for a less invasive route.

“I would say to people, who have any form of discomfort or irregularity of the bowel to seek further advice if the symptoms continue for more than two or three weeks. Perhaps some doctors may feel affronted if their patients ask for another opinion. But when it comes to life and death, it is certainly a patient's right to insist on further investigation.”

“We certainly have the expertise and equipment in these sectors to be at the top of our game and there is a wealth of collaborative research going on internationally, including with countries like the UK, the US and Brazil. Currently our unit is intensifying research into a part of the intestinal system known as the sigmoid colon, situated in the lower bowel.”

patients are reluctant to discuss the state of their bowel with doctors or health care workers, believing it is “far too embarrassing a subject”. They prefer to put off the “evil” moment until it is too late.

“We are seeing patients, whose symptoms manifested months, even years before they seek medical help. In the case of colorectal cancer, for example, treating it early could save a life, but leaving it too long reduces the chances of survival.”

In many cases the “tough” choices are in the hands of the patient.

“I don't know how many times I have heard the same story that pa-

Awareness of the warning signs, like bleeding from the anus and irregular bowel movements, is critical, but so too, he says, is the role of the country's health sector at provincial and government levels.

“In the colorectal unit at Albert Luthuli we have state-of-the art equipment, MRIs, CT scanners, ultrasound, the best in the world. We can perform everything from colonoscopy to intricate intestinal surgery and have a number of surgeons currently being trained in laparoscopy (minimally invasive surgery often using ‘keyhole’ technology).”

There are two key issues, however, that require “urgent” addressing.



Above: Illustration of the large intestine.

“We don’t have the trained staff we need in areas like radiology and radiography. Secondly because of health budget cuts there are often long delays in getting the go-ahead from the health sector to use much of our sophisticated diagnostic equipment.”

What does that mean in human terms?

“It means that we are sometimes performing surgery on a patient, without the exact knowledge that an MRI scan, for example would have given us.”

In some cases, he points out, cancer patients should have undergone chemotherapy or radiotherapy months before any surgery takes place.

“But often these interventions cannot be offered timeously because of budgetary constraints which in turn impact on staffing and equipment maintenance. When it’s a case of life and death, we have to make tough choices.”

On the funding front, Madiba says he is keen to explore all possibilities, including private-public-partnerships

(PPPs). “I think it is the sensible route to go, but we need a sound mechanism to make it sustainable.”

Madiba counts UKZN as one of the world’s top research centres.

“We certainly have the expertise and equipment in these sectors to be at the top of our game and there is a wealth of collaborative research going on internationally, including with countries like the UK, the US and Brazil. Currently our unit is intensifying research into a part of the intestinal system known as the sigmoid colon, situated in the lower bowel. This portion of the body’s digestive system is where some of the problems occur such as Sigmoid Volvulus. We hope that before long, we will have answers to previously unanswered questions.”

As part of an ongoing health awareness programme, Madiba’s unit is sharing its knowledge with surgeons, family physicians, and psychologists as well as health care providers and interested community members. “We have to spread the word, loud and clear – and we have to get rid of the stigma associated with bowel disease.”

With that aim in mind the unit is also developing a website, part of which will include a support option for “ostomates” (patients fitted with a stoma bag) and a question and answer segment. **n**

FACTFILE

When a cancerous growth develops on the inside wall of the colon or large bowel, it is called colorectal cancer, but is often referred to as ‘bowel’ or ‘colon’ cancer. This type of cancer can develop in any part of the large bowel or colon, as well as in the rectum. One in 83 South African men are at risk at getting colorectal cancer while the rate for women is one in 131 (Additional information supplied by the Cancer Association of South Africa).

CANSA can be contacted toll-free on 0800 22 66 22 during office hours or email info@cansa.org.za



Fynbos vegetation following a destructive fire in Cape Town: Fires play an important role in maintaining the diversity of plants. (Photo: M.J. Oosthuizen). **Above right: Smoke from a natural vegetation fire can promote seed germination in many plants** (Photo: ME Light)

Research Throws Light on link between Wildfires and Seed germination

Research led by Professor Johannes van Staden at the Research Centre for Plant Growth and Development (RCPGD) at UKZN's School of Biological and Conservation Sciences proves that plant-derived smoke can play a vital role in seed germination.

The American Chemical Society *Journal of Natural Products* has recently published a research paper titled: *Butenolides form plant-derived smoke: Natural plant growth regulators with antagonistic actions on seed germination* based on this research conducted by Professor van Staden and five other researchers – Dr Marnie Light at the RCPGD at UKZN; Professor Ben Burger, Department of Chemistry at the University of Stellenbosch; Professor Dan Staerk, Department of Basic Sciences and Environment, University of Copenhagen, Denmark; and Dr Ladislav Kohout, Institute of Organic Chemistry and Biochemistry, Czech Republic.

According to Dr Light, many studies were undertaken in the 1990s by researchers worldwide which proved that smoke generated from wildfires stimulated seed germination in the soil. This prompted the researchers at the RCPGD to experiment on identifying the chemi-

cals in smoke responsible for stimulating seed germination following a fire. And so began a study that has been in progress for more than 15 years by this research group. The multi-disciplinary study resulted in the previous isolation of a germination promoter compound from plant-derived smoke, as well as a compound with inhibitory activity. Research had been undertaken at the institutes represented by all six researchers.

Dr Light, who said that more than 1 000 species of seeds are known to germinate in response to smoke treatment, added: "In some cases smoke has also been shown to promote seedling vigour and can also be used as a priming agent for certain seeds."

It has been discovered that chemical compounds in smoke have positive ecological implications. Seeds that would otherwise remain dormant in soil are stimulated by the smoke from burning vegetation.

"For some species, this is an obligatory requirement for germination, and the seeds would not germinate without the passage of a fire and the production of smoke. Fire and the associated smoke are especially important in certain ecosystems and help maintain the plant species diversity and the life-cycle of certain species," said Dr Light.

Dr Light said that research findings suggested that smoke may have a "dual regulatory role" in germination, as shown by the recent research which identified a compound that prevents the germination stimulation by the related smoke-derived compound. "This will require further research, but there is some evidence to suggest that some of the compounds in smoke act in an opposite manner, possibly to regulate the timing of germination to better suit environmental conditions for seedling emergence," said Dr Light.

Having concluded this phase of their study, the research group is seeking answers to the question: How does smoke affect seeds and seedlings at the molecular level? ■



UKZN Marine Specialist Welcomes R66 Million Boost for iSimangaliso Park

VICKY CROOKES

The world-renowned iSimangaliso Wetland Park on South Africa's east coast is due to benefit from a \$9 million (R66.3m) grant from the Global Environment Facility (GEF). Hailed as a "gem" by Professor Renzo Perissinotto of the School of Biological and Conservation Sciences who has been involved in ecological research in the park since 2004, the GEF project will address the hydrology and ecosystem function of the Lake St Lucia system.

Administered by the World Bank, the grant represents the largest injection of funds by the GEF into a southern African conservation project. A key aim of the project will be to increase the flow of fresh water into Lake St Lucia from the Umfolozi River, explained Professor Perissinotto. Stimulating and fostering economic development in the area will also be high on the agenda.

Lake St Lucia, which is the largest estuarine lake in Africa and the park's showpiece, is experiencing its 8th consecutive year of drought. The reduction of freshwater flow into the lake, caused by this drought, is exacerbated by the historical separation of the Umfolozi River from

the lake system. The resulting low water levels and extreme hypersalinity threaten the rich biodiversity of the area.

Over the past five years, Professor Perissinotto has enjoyed a unique partnership with Professor Derek Stretch from Civil Engineering. Together, they have been researching the ecosystem function of Lake St Lucia and have been working on developing an integrated biophysical model for the entire estuarine system. Professor Stretch's work has focused on hydraulic modelling and Professor Perissinotto has been concerned with biological factors. More recently, Dr Ursula Scharler, also from the School of Biological and Conservation Sciences, has

Lake St Lucia estuary: The Msunduzi River joins the Mfolozi River – as seen from Maphelane, the highest coastal dune forest of iSimangaliso Wetland Park.

joined the team, providing ecological modelling skills. Their work has received funding from Marine and Coastal Management, the World Wildlife Fund for Nature (WWF) and the National Research Foundation (NRF).

Professor Perissinotto believes that although climate change is already having a significant impact, there is still hope. He explains that at one stage the salinity level in the False Bay area was 200 parts per 1 000, but that a year later it had reverted back to 80 parts. Localised freshwater flow has maintained the southern part of the lake virtually under normal conditions throughout the drought period.

This, combined with seepage of water from the dunes on the eastern shores, has allowed the survival of many organisms. The result is a kind of refugium or reservoir from which the entire system can be recolonised once favourable conditions return. Professor Perissinotto believes that the GEF grant may be the turning point in bringing about a real and sustained solution to the complex nature of this unique and invaluable asset. **■**

South African Research Chairs Initiative



Chair in Indigenous Health Care Systems Professor Nceba Gqaleni

Leading medical scientist at the Nelson R Mandela School of Medicine, Professor Nceba Gqaleni, occupies the Chair in Indigenous Health Care Systems and conducts basic and applied research into traditional medicine and African Health Care systems.

The Chair is essential in providing the academic link between national policy and implementation. Indigenous Health Care Systems Research relates to activities aimed at improving the African traditional health system's capacity to handle the increased service requirements in such a way that it plays a meaningful role in promoting and improving the health of patients. This platform will promote bidirectional referrals between traditional health practitioners and public health centres, document ethnomedical evidence, bio-prospecting and other mechanisms to evaluate plant-based and herbal mixtures for biological activity with therapeutic efficacy in the areas of cancer, TB, and HIV/AIDS.

The Chair will – through research – contribute to developing scientifically proven African traditional medicines and also to the institutionalisation of the African traditional health care system.

Various projects currently exist and include the United States government-funded Biomedical and Traditional health care practitioners trained at the Medical School to enhance their ability to respond to the HIV/AIDS epidemic.



Chair in Evolutionary Biology Professor Steve Johnson

Prominent academic and researcher Professor Steven Johnson of the School of Biological and Conservation Sciences was been awarded the Research Chair in Evolutionary Biology – valued at R7,5 million – for a five-year period.

His research in the field of evolutionary biology is focussed on plant pollinator interactions. The interactions between flowers and their pollinators are not only important for seed production of wild plants and crops but have also been instrumental in the evolution of the spectacular diversity of the world's flowering plants.

Professor Johnson has contributed significantly to the understanding of the evolutionary diversification of plants in southern Africa and also the ecological requirements that plants have for their reproduction.



Chair in Gravitating Systems Professor Sunil Maharaj

Professor Sunil Maharaj is the holder of the prestigious South African Research Chair in Gravitating Systems. In 2009 he was made a Fellow of UKZN for his research contributions.

Professor Maharaj, who is the Director of the Astrophysics and Cosmology Research Unit in the School of Mathematical Sciences, focuses his primary research on the modelling of astrophysical processes in relativistic stars and the mathematics of large scale dynamics in cosmology.

His contribution, in collaboration with many MSc and PhD students, to science and technology is manifested in his work on gravitational forces within the context provided by Einstein's theory of general relativity.

These works include exact solutions of the Einstein Field equations, the structure of ultra compact stars and the thermodynamics of radiating matter.

Eight UKZN staff members have been appointed to the prestigious positions of South African Department of Science and Technology Research Chairs.

In the last issue of *UKZNTOUCH* (Issue 1, 2010), we focused on the most recent Research Chair, bestowed upon Professor Julian May – the Chair in Applied Poverty Reduction Assessment. In this issue, we focus on the other seven Research Chairs.



Chair in Systems Biology of HIV and AIDS

Professor Thumbi Ndung'u

Professor Thumbi Ndung'u holds the position of Associate Professor in HIV/AIDS Research at UKZN and is Director of the HIV Pathogenesis Programme (HPP), a collaborative initiative between UKZN, Harvard Medical School and the University of Oxford. HPP is dedicated to understanding the complex host-pathogens interactions in HIV and TB infections and to the training of the next generation of African scientists.

Professor Ndung'u, his team and their collaborators are currently studying how certain individuals are able to resist HIV-1 infection despite evidence of persistent exposure and how certain HIV-1 infected people are able to achieve relative control of HIV-1 replication. The knowledge gained from studies of people able to resist or control HIV-1 may eventually be used to develop novel vaccines or therapies against HIV/AIDS.

A Harvard University graduate and molecular virologist by training, Professor Ndung'u is based at the Doris Duke Medical Research Institute at UKZN's Nelson R Mandela School of Medicine. In 2007 he was awarded the prestigious Vice-Chancellor's Research Award for exceptional research and research-related scholarly activities. He was previously awarded the Edgar Haber award at Harvard University for outstanding doctoral thesis research.

Professor Ndung'u's previous significant research accomplishments include the development of the first full-length infectious clone of HIV-1C from Africa, an important reagent for detailed genetic studies of this strain. This genetic tool allows for various studies on drug sensitivity and vaccine design to be conducted. He is also credited with the generation of a subtype C simian human immunodeficiency virus (SHIV), a genetic chimera between HIV and SIV viruses that allows the use of rhesus monkey models to conduct HIV vaccine tests.

Professor Ndung'u's main research interests are in the host-virus interactions underlying HIV/AIDS pathogenesis and antiviral immune responses. He is also interested in the development of biomedical interventions that can be used in resource-limited settings to stop the spread of HIV/AIDS.

He is currently Co-Chair of the Young and Early Career Investigators Committee (YECIC) of the Global HIV Vaccine Enterprise.



Chair in Quantum Information Processing and Communication

Professor Francesco Petruccione

Professor Francesco Petruccione was born in 1961 in Genova in Italy. He studied Physics at the University of Freiburg and received his PhD in 1988. He got his "Habilitation" (Dr. rer. nat. habil.) from the same University in 1994 and worked there as Associate Professor of Theoretical Physics until 2003. In 2004 he was appointed Professor of Theoretical Physics at the University of KwaZulu-Natal.

In 2005 he was awarded an Innovation Fund grant to set up a Centre for Quantum Technology. In 2007 he was granted a South African Research Chair for Quantum Information Processing and Communication. Since March 2008 he has been a member of the Board of the UKZN Innovation Company.

At present, he is one of the Deputy Directors of the National Institute for Theoretical Physics.

Professor Petruccione has published more than 90 papers in refereed journals and is the co-author of a monograph on *The Theory of Open Quantum Systems*, that was published in 2002,

South African Research Chairs Initiative

reprinted as paperback in 2007, and is being translated in Russian at present. He is a member the Editorial Board of *Open Systems and Information Dynamics* and is the editor of several proceedings volumes and of special editions of scientific journals.

Professor Petruccione has been working on the theory of open quantum systems, which is at the basis of many recent quantum technological applications. The miniaturisation of technological devices necessitates manipulation of objects at the nanoscale level at which coherent quantum mechanical processes start to dominate the physical properties. The unavoidable interaction of these systems with their environment gives rise to dissipative mechanisms and a strong loss of quantum coherence, i.e. decoherence.

Since perfect isolation of quantum systems is not possible, it is of central importance to incorporate the methods and tools of the theory of quantum systems in the exploration of quantum technologies. Among the basic tools of the new quantum technologies are quantum metrology, quantum control, quantum, communication and quantum computation.



Chair in Economic Development Professor Dori Posel

Professor Dori Posel is an economist who specialises in the micro-economic analysis of household survey data.

Professor Posel obtained her PhD in Economics from the University of Massachusetts in the United States in 1999. Her work is recognised both nationally and internationally and she has published widely on questions of migration, marriage and labour markets.

She has been the recipient of numerous awards for her research and she regularly reviews papers and proposals for national and international journals and institutions.

Professor Posel is recognised as one of the key economic analysts of household survey data in South Africa. She was integrally involved in the National Income Dynamics Study (NIDS) and is a member of the Technical Steering Committee for the National Youth Wage Subsidy Programme.

For the past two years she has been a deputy director of Economic Research Southern Africa, a research grouping funded by the National Treasury, which seeks to build research capacity in Economics in South Africa.

The overall research objective of the Research Chair in Economic Development is to explore the interface between households and labour markets in South Africa, advancing knowledge across a range of socio-economic areas, including those relating to marriage, migration, child care, household survival strategies and resource sharing, labour force participation and employment.

The research is integral to evaluating the experiences of economic development among individual South Africans and to assessing economic and social policy that seeks to reduce poverty and increase well-being.



Chair in Fluorine Process Engineering and Separation Technology Professor Deresh Ramjugernath

Professor Deresh Ramjugernath is the South African Research Chair in Fluorine Process Engineering and Separation Technology and Director of the Thermodynamics Research Unit. Professor Ramjugernath and his team of co-workers are contributing to the South African Government's Fluorochemical Expansion Initiative (FEI) by researching and developing fluorinated products, including pharmaceuticals and agro-chemicals. Integral to the Chair is the development of human capacity to support the country's FEI strategy.

Although South Africa possesses the second largest reserves of fluorspar (the starting material for all fluorochemicals), it currently imports almost all of its fluorinated products. There is very little beneficiation of the fluorspar reserves in the country and the activities under the Chair would assist in addressing this problem.

The research activities under the Chair are directly linked with two major South African companies – The South African Nuclear Energy Corporation (NECSA) and SASOL.

The Nelson R Mandela School of Medicine

A personal reminiscence

The Nelson R Mandela School celebrated its 60th anniversary and 100 years of academia in KwaZulu-Natal by hosting a number of events during July. South Africa's National Minister of Health, Dr Aaron Motsoaledi, who studied at the Medical School from 1979 to 1983 looks back in time.

It was in 1979, when I arrived. There were many events which I regard as significant in my life that took place during my stay at the University of Natal, Medical School.

However, I wish to mention just three of them:

Firstly, the shock. Going to the University of Medicine means the excitement was uncontrollable. I had just spent a year at the University of the North. I was expecting the University of Natal to be a mini city with amazing buildings. I had told the driver of the bus I boarded just outside Durban Railway station that I am going to the Alan Taylor Residence of the University of Natal, and that I do not know the place and he should indicate when we arrive. You can imagine the shock when he pointed the "army barracks" next to an oil refinery!

Naturally I protested and reminded him that I told him I am going to a University Residence. He firmly told me that he had exactly showed me the University Residence. I alighted the bus and waited for a few minutes at the bus stop to absorb the shock of the buildings I was seeing in front of my eyes. It was a serious anti-climax. A former army barracks for university residence?

Secondly, the surprise! Everyone in this barracks was friends to everyone else. My first weekend Gumba (parties were called Gumbas) was a pleasant surprise. At the university where I had been, you attended a party by invitation only. Admission was strictly controlled and gate-crashing firmly resisted and severely punished.

Here at this 'army barracks' called the

Alan Taylor residence, it was free for all. You don't have to be known by the host of the party for you to go in. A spirit of universal brotherhood and sisterhood prevailed in an amazing way. Of course we were a small grouping where everyone knew everybody.

Thirdly, the political disorientation – though a very welcome disorientation. At the end of my very first week, there was a launch of the Release Mandela Campaign (RMC). At the university where I had been, any political event or activity was a declaration of war against the authorities, both the police and university authorities, who were at all times regarded by us students as part of the system – an extension of the enemy. They acted that part most of the time. My adrenalin shot high and I was itching for that altercation with the system as we had been doing since the 1976 Soweto uprisings. All education institutions were regarded by us as the site of the struggle for liberation. I was looking forward to the prospect of a serious clash with the university authorities which will automatically bring the police in. But the main Speaker was the ultimate authority of the Medical School, Professor Theodore Sarkin, the Dean of the Medical School, a white man! I could not understand it. I expected him to be the enemy, just like the white principal of the high school I attended when the 1976 uprisings started; and just like all the white Deans of Faculties at the University where I had been – there were no black Deans.

Professor Sarkin spoke in favour of the release of Mandela. He told us that he is doing it because the diseases that are prevalent in black hospitals are socio-economic diseases caused by the system of apartheid; and that there is no knowledge of medicine that can



South Africa's National Minister of Health, Dr Aaron Motsoaledi.

solve that. The only way to deal with such diseases is to release Nelson Mandela and start a completely new dispensation where all human beings are equal. He went on to say that the disease patterns in white hospitals are completely different. None was caused by socio-economic conditions. He said as a Professor in Medicine he cannot allow that type of situation to persist and he is calling for the release of Mandela as the only and ultimate solution.

This really disoriented me. But in a way it also helped to re-orientate me. Who is the enemy I was going to fight now? Since I understood the struggle of liberation from 1976, I understood us to be fighting white people, especially those in positions of authority: Now what was this at University of Natal? It was new to me! I was used to people like Professor Johnson at the first university I attended, who told us point blank that Blacks have a genetic incapacity to pass mathematics.

What happened on that day at the Medical School was my first contact with politics of non-racialism. It made my understanding of the approach of the ANC much easier. The enemy is the system of Apartheid and not individual white people.

The rest is history!

Foundation

Nuturing development and growth



Vice-Chancellor, Professor Malegapuru Makgoba; South African Ambassador to the US, His Excellency Welile Nhlapho and Professor Thomas Cech, HHMI President with the architect's impression of the new K-RITH building at the announcement in Washington D.C.

The University of KwaZulu-Natal Foundation secures investment in the development of the University. The work of the UKZN Foundation, however, is not about raising funds *per se* – it is about establishing projects at the University of KwaZulu-Natal that respond to South Africa's strategic development needs. Over the last year a number of strategic projects have been developed or supported, some of which are mentioned here.

In what can be considered a boost for research in the area

of traditional medicine, the Ibna Sina Institute of Tibb pledged a total of R7 million towards the construction of the first African Traditional Medicine Laboratory and other areas of mutual interest. This grant was awarded in recognition of the special commitment to promoting non-Western or traditional medicine alongside allopathic medicine as an area of academic and scholarly pursuit at the Nelson R Mandela School of Medicine and in other Faculties. In 2007, the University was awarded a Chair of Indigenous Health Care Systems Research by the Department of Science and Technology (DST) and the National Research Foundation (NRF) in 2007. The mission of the Chair is to promote African traditional medicine and ensure that UKZN becomes a centre of research excellence for traditional health practitioners, indigenous knowledge holders and others with an interest in the scientific value of indigenous African health care. The support of the Ibna Sina Institute of Tibb will strengthen the University's resolve in this regard.

Another important project is the Sinomlando Centre for Oral History and Memory Work in Africa which was funded by Belgian Technical Co-operation. This is a community-based project of the School of Religion and Theology. The work of Sinomlando (which in isiZulu means "we have a history") provides a model of psychosocial intervention called "memory work" that helps families affected by HIV/AIDS to deal with their past. This is particularly pertinent as South Africa has the largest number of people living with HIV/AIDS in the world. Currently there are an estimated 1.2 million orphans in the country and their number is expected to reach 2.3 million by the year 2020.

The UKZN Foundation is also pleased to report on a groundbreaking partnership with the Howard Hughes Medical Institute (HHMI) to establish an international research institute focused on making major scientific contributions to the worldwide effort to control the devastating co-epidemic of tuberculosis and HIV and on training a new generation of scientists in Africa. The partnership has

resulted in the creation of the KwaZulu-Natal Research Institute for Tuberculosis and HIV (K-RITH) which will see HHMI support for the initiative over the next 10 years.

UKZN has always been a centre of prestigious agricultural research and extension. The decision to establish an appropriate home for a number of the activities that work outwards into communities across Africa in seeking to improve food security and secure livelihoods in rural areas has resulted in the plans to build the African Institute for Sustainable Rural Livelihoods (AISRL) building on the Pietermaritzburg campus.

AISRL will incorporate the work of numerous affiliated centres and disciplines at UKZN, ranging from the 11 agricultural disciplines in the Faculty of Science and Agriculture to the Health Economics and HIV/AIDS Research Division (HEARD), the Agricultural Engineering Programme, the Centre for Entrepreneurship, and the Leadership Centre in the Faculty of Management Studies. Consolidating the activities of these academic centres and some of their African collaborators will ensure that UKZN is even better placed to assist in meeting the challenges facing Africa's agricultural sector. While the funding has not all been received for this building, progress is being made in accessing the required amount.

Finally, through an innovative publishing effort by the School of Education and Development, storybooks are provided to children in severely under-resourced schools in KwaZulu-Natal. The so-called Seed Books, which are funded by the Rockefeller Brothers' Fund, consist of 23 short picture books in isiZulu for use by children in the foundation phase of schooling – Grades 1, 2 and 3. The books are copyright free and are designed to be easily photocopied to enable educators to make more books as they are needed. The books are distributed with other teaching materials to teaching assistants on a teacher training course developed by the University. The assistants will be working in very poor "quintile 1" schools.

These are just a small sample of the many projects in which we had the pleasure of being involved and hopefully gives a flavour of our activities.

Bruno van Dyk
Executive Director
University of KwaZulu-Natal Foundation



THE Motif of the UKZN Foundation is the Forest Mahogany (*Trichilia dregeana*), known as uMathunzini in isiZulu. Firmly rooted in Africa, and with its rich diversity of habitat, ecology and use, the Forest Mahogany is a fitting symbol of the development and growth which the UKZN Foundation exists to nurture and promote.

nurture and promote

Reflections on UKZN's origins

NEESHA MAHARAJ

Historians and academics presented insightful perspectives of the origins on UKZN at the 2010 Peter Brown Memorial Seminar on the Pietermaritzburg campus on September 9.

The annual Seminar, organised by the Alan Paton Centre and Struggle Archives; and sponsored by UKZN's College of Humanities painted a colourful picture of individuals who pioneered initiatives aimed at developing education at the University and its role in political struggle during the apartheid era.

Presenting a paper on the *Origins of University Education in KwaZulu-Natal*, Emeritus Professor of History Bill Guest, recounted the province's endeavours to develop Higher Education in the region. Professor Guest said the Natal University Act, promulgated in 1909 resulted in the creation of the Natal University College in Pietermaritzburg, with the first batch of students admitted in 1910 in humanities, science and commerce disciplines.

Dr Julie Parle's presentation titled: *'Energy... Goodwill... and Action': Florence MacDonald, Mable Palmer, and the Paradox of Separate Education at Natal University, 1920s-1950s* was a reflection of the powerful role of two women, Dr Mabel Palmer and Mrs

Florence MacDonald in opening up Higher Education opportunities to Black students in the face of determined opposition. Dr Palmer was behind the advent of part-time classes for Black students in the disciplines of law and humanities because science education was not opened to them. Mabel Palmer introduced holiday classes at Adams College for Black students and introduced a taxi transport system which transported students and a library service. Mrs MacDonald assisted Dr Palmer in her initiatives and played a significant role in the provision of lectures in the disciplines of Education, English and History.

Dr Vanessa Noble, an academic in the Department of History on the Pietermaritzburg campus highlighted the Medical School's creation in the presentation, *A History of the University of Natal Medical School (1950s-1980s)*. She is in the process of converting 10 years of research on the Medical School into a book.

According to Dr Noble while Black students suffered indignity and inequities in the medical education they received, they viewed the new Medical College as a "rare opportunity" to enter a profession they were previously denied access to, and therefore took advantage of studying at the College.

Professor Suleman Dangor, a Professor in the School of Theology and Religious Studies was among the first Indian students to be educated on Salisbury Island. He took guests through his own personal experiences while studying on the Island.

Dr David Hemson gave a paper on the history of student opposition on the Durban campus. He spoke about the roles played by Rick Turner and Steve Biko, amongst others, and by the Wages Commission, run by the National Union of South African Students (NUSAS) from 1962 to 1981.

The final paper of the morning was given by Professors Colin Gardner and John Aitchison on *Liberal and radical opposition to apartheid on the University of Natal, Pietermaritzburg campus, 1960-1994*. Professor Aitchison said that an extremely important contribution was made by the University in providing violence unrest monitoring during the turbulent period between 1987 and 1994. The information showed that what was happening was not Black-on-Black violence, but was caused by actions by either the state or renegade factions within the state. Without that information there may have been a very different South Africa today.

Teaching and Learning Conference

highlights diversity

NEESHA MAHARAJ

The 2010 annual Teaching and Learning Conference hosted by UKZN's University and Teaching and Learning Office (UTLO) took place on the Pietermaritzburg campus from September 20 to 22. The stimulating three-day conference with the theme: *Diversity, Transformation and the Student Experience in Higher Education and Learning* convened 300 academics from among others, the USA, UK, Sweden, Israel, Iran, Swaziland, Kenya and Rwanda. The three plenary sessions by invited keynote presenters provided rich insights into the student learning experience; the importance of indigenous languages in teaching and learning; and the provision of an integrated curriculum which ensured the disabled were not excluded from a quality tertiary education.

Mr John Pampallis, Special Advisor to the Minister of Higher Education & Training, who delivered a message on behalf of Dr Blade Nzimande drew attention to the numerous competing challenges facing universities in South Africa. He commended UKZN for the progress it had made by bringing teaching and learning into the spotlight.

Victor Borden, a Professor in Higher Education at Indiana University, USA, delivered the keynote address on the theme: *Accountability for Student Learning: Views from the Inside Out and Outside In*, while in his keynote address, Dr Siva Moodley, the Director of the Department for Students with Disabilities at UNISA addressed



From Left: Professor Malegapuru Makgoba , Professor Renuka Vithal, Mr John Pampallis and Dr Rubby Dhunpath.

the theme: *Promoting an Inclusive Curriculum: A shared Responsibility*.

In his opening address, Professor Malegapuru Makgoba, UKZN's Vice-Chancellor spoke of the Transformation Charter which emerged from the findings of the Report of the Ministerial Committee on Transformation and Social Cohesion and the Elimination of Discrimination in Public Higher Education Institutions. Prof Magoba outlined how the Transformation Charter would map out a vision for institutional transformation. Professor Makgoba also highlighted the importance of ethics in teaching and learning.

Deputy Vice-Chancellor: Teaching and Learning, Professor Renuka Vithal

spoke on the broad issue of diversity and the challenges this phenomenon brings into teaching and learning. She called for the recognition and affirmation of, for example, gender, culture, religion and language in teaching and learning.

Professor Vithal thanked the university community for making the 4th Annual T & L Conference a huge success and warmly welcomed all to the 5th Annual T & L Conference entitled "Postgraduate Teaching & Learning, African Scholarship and Curriculum Innovation in Higher Education" to be hosted on 26, 27 & 28 September 2011 on the Westville campus.

UKZN women walk home with National statistics awards

VICKY CROOKES

UKZN's School of Statistics and Actuarial Science upheld its tradition of excellence when two of its Masters students won prizes in the 2010 South African Statistics Association (SASA) Postgraduate Student Paper Competition.

Ms Lise Werner and Ms Nonhlanhla Yende were placed first and third in the competition for their papers which focused on HIV/AIDS research. They join previous UKZN winners of national statistics prizes – students from UKZN's School of Statistics and Actuarial Science regularly win national Honours project prizes and last year the prize for the best PhD paper in statistics went to a UKZN student in Financial Mathematics.

The national competition, which is sponsored by Statistics South Africa, is open to all students enrolled for Masters or PhDs in Statistics at South African tertiary institutions. The adjudication process follows a strict protocol and, even though the judges are from the various universities, the names and institutions of the entrants are removed so as to eliminate any bias.



*Ms Lise Werner and
Ms Nonhlanhla Yende.*

Both supervised by Dr Henry Mwambi from Pietermaritzburg, Ms Werner and Ms Yende are currently employed as statisticians by the Centre for the AIDS Programme of Research in South Africa (CAPRISA), based at UKZN's Medical School.

Ms Werner's research involved a cohort of women in the CAPRISA 002: Acute Infection Study. She focused on what happens in acute HIV infection before antiretroviral therapy (ARV) treatment is implemented. Specifically, she looked at CD4 counts and viral loads, fitting statistical models to the data.

Ms Yende identified biomedical and socio-demographic factors or variables associated with the higher rate of increase or recovery in CD4 + count in patients on ARVs. The most challenging aspect of her research was the application of the statistical method using the SAS software as well as juggling study and full-time work.

An ecstatic Head of School, Professor Delia North, said: "It is amazing that two out of three prizes came from our School and even better, from the same supervisor...it is a good reflection on the type of supervision that is being conducted by Henry, as well as an indication of the standard of statistics training these students received in their undergraduate and honours years."

Director of K-RITH appointed

UKZN and the Howard Hughes Medical Institute (HHMI) announced the appointment of Professor William R Bishai, as the first permanent Director of the KwaZulu-Natal Research Institute for Tuberculosis and HIV (K-RITH) on May 26.

K-RITH is the result of a groundbreaking partnership between UKZN and the HHMI to establish an international centre of scientific research excellence that focuses on making major scientific contributions in the worldwide effort to control the devastating co-epidemic of tuberculosis and HIV. The HHMI has sponsored the major share towards the cost of construction of the R398 million K-RITH research building. The HHMI has also contributed more than \$70 (USD) million towards K-RITH research initiatives over a ten-year period. The HHMI-UKZN partnership is a major and unique investment into one of humanity's major global health challenges, that of HIV and TB.

The appointment of Professor Bishai, a Professor of Medicine at the Johns Hopkins University School of Medicine in Baltimore, Maryland and Co-director of the Center for Tuberculosis Research at Johns Hopkins, took effect in September 2010. The cross-Atlantic partners conducted a year-long international search for a scientific leader to direct the pioneering joint programme.

Professor Bishai, 50, received both his medical degree and doctorate from Harvard University in 1989. He is the author of more than 150 papers in peer-reviewed journals, and receives grant support from the National Institutes of Health. He serves on several editorial boards and review panels, and is the Co-Chair of the WHO Stop TB Partnership's Working Group for New TB Drugs.



Professor Francesco Petruccione and Professor Sir Peter Knight.

They recently made headlines in the media when, in a world first, they secured a fibre optical link to the Moses Mabhida Stadium during the 2010 World Cup. From September 20-23 UKZN's Quantum Research Group hosted the first of its Quantum Africa conferences in Durban, which attracted scientists from all over the world.

Quantum Research Conference Attracts world-renowned scientists

SITHEMBILE SHABANGU

Professor Sir Peter Knight, Deputy Rector (Research) at Imperial College, London presented his paper on Quantum State Engineering and the simulation of Nature. He said that the aim of the Conference was to try and work out ways that developments in quantum physics could be employed in new technology. Another aim was to bring the community in Africa together with people around the world.

Professor Sir Knight said that the fibre optical link is an important application of Quantum cryptography. "There are projects underway in Europe, Singapore and the United States but the group here did a world first by securing

communication for the World Cup which could not be hacked.

"This was fabulous and it demonstrated the power of applying stuff in the new technology. The vision the UKZN group has is great science, but it was a wonderful piece of public spirited activity," he added.

One of the new projects that the Quantum Group is embarking on is to look at how quantum effects might be employed in nature. This will look closely at how plants capture sunlight in photosynthesis and how they may have exploited some of these effects, and how the Quantum Group can optimise it.

Refurbished building will enhance teacher education

LUNGA MEMELA

"A professional teacher is what a doctor is to his patient," observed the MEC for Education in KwaZulu-Natal, Mr Senzo Mchunu, who officially opened the refurbished Main Tutorial Building at the Edgewood campus on September 8.

The event marked a significant milestone in the Faculty's efforts to enhance teacher education and improve teaching and learning in South Africa.

Dean of the Faculty of Education, Professor Michael Samuel said that R33 million was spent on the refurbishment, which was only the first phase of Edgewood's development under UKZN's MX 16 projects – the University's merger-related projects

designed to enhance teaching and learning.

Alterations to the building spaces have been designed to accommodate state-of-the-art equipment for teaching and learning and new spaces for in- and out-of-class-room learning and teaching. This includes:

- Additional large lecture theatre venues accommodating approximately 200 students each;
- New learning area network (LAN) laboratories
- A new Professional Practicum Office to support the development of mentorship among the teachers in approximately 450 schools.



Vice-Chancellor, Professor Malegapuru Makgoba and Mr Senzo Mchunu unveil the plaque at Edgewood.

These teachers and principals partner with UKZN in school-based teaching practice.

- An innovative Teaching and Learning Commons which emulates the best forms of systematic yet informal learning and teaching pedagogical spaces in higher education.

In his keynote address, Mr Mchunu said that he is very proud of Edgewood's new physical infrastructure and the University's mission to promote quality teaching and learning.

ALUMNUS RETURNS as Head of Health Sciences

NEESHA MAHARAJ AND MARYANN FRANCIS

Professor Tahir S Pillay who obtained his MBChB *cum laude* at the former University of Natal's Medical School in the 1980s, returned to UKZN after 26 years to take up the reins of Deputy Vice-Chancellor and Head of the College of Health Sciences on August 1. He was formerly the Head of the Division of Chemical Pathology at the University of Cape Town (UCT).

California, San Diego, United States (1993 -1996). He was also the 1986 Emanuel Bradlow Scholar at the University of Cambridge (1986-1989).

Research interests in Molecular Cell Biology, Molecular Biology, Intracellular Signalling, Biochemistry, Chemical Pathology, Obesity and Endocrinology have led to a substantial publication record, many being high- ranking scientific peer-reviewed journals.

A significant scientific finding of Professor Pillay and his research team was the identification of a new signalling pathway for growth factor receptors, including the insulin receptor.

As an established researcher and academic with substantial leadership skills, Professor Pillay's brings a wealth of knowledge to UKZN. He has served as Associate Professor and Clinical Reader in Molecular Medicine and Deputy Director at the Institute of Cell Signalling at the University of Nottingham in England (1998-2006); Senior Clinical Lecturer in Chemical Pathology and Head of the Molecular Endocrinology Group (1996-1998) (Imperial College, London) and a Fellow in Endocrinology at the University of

He has also contributed to the books, *Internet for the Molecular Biologist* and *Advances in Genetics* (Volume 25) and is principal author of a textbook on Chemical Pathology Methods at UCT, to be published this year.

A significant scientific finding of Professor Pillay and his research team was the identification of a new signalling pathway for growth factor receptors, including the insulin receptor. More recent scientific work has involved studying the cellular metabolic



Professor Tahir S Pillay

effects of Anti-Retrovirals (ARVs). Future work that will be undertaken at UKZN would be to understand the side effects profile of ARVs at the cellular and molecular level as well as identifying new biomarkers. Professor Pillay is in the process of moving his research Laboratory, funded by the Wellcome Trust and National Research Foundation, from UCT to UKZN.

Recently Professor Pillay was appointed to serve on the Board of Directors of the Howard Hughes Medical Institute (HHMI)-funded research centre, the KwaZulu-Natal Research Institute for Tuberculosis and HIV (K-RITH). He has also been appointed to serve on the Medical and Dental Board of the Health Professions Council of South Africa by the National Minister of Health.

Thembi Xulu Yale University World Fellow

GREG DARDAGAN



Xulu (36), the clinical programmes director for the Johannesburg-based HIV treatment NGO, Right to Care (RTC), is one of 15 World Fellows selected by Yale University, Connecticut, USA for 2010. The programme is the University's signature global leadership development initiative and a core element of Yale's ongoing commitment to internationalisation. Each year since 2002, the University has welcomed a group of mid-career professionals from a wide range of fields and countries for the four-month leadership programme.

Selected for the programme from a pool of about 1 500 applicants, KwaMashu-born Xulu left in August and gets back home on December 15.

RTC, a Section 21 company, is one of the largest PEPFAR (US President's Emergency Plan for Aids Relief)/USAID (US Agency for International Development) funded treatment NGOs in South Africa. It partners with the government, the private sector and other NGOs in improving access to safe, effective and affordable treatment for people living with HIV/AIDS and TB.

RTC works with more than 170 sites which provide comprehensive HIV services and support more than 105 000 patients actively on antiretroviral therapy (ART).

Xulu graduated as a medical doctor from the former University of Natal's Medical School in 1993, completed her Masters Degree at the University of the Witwatersrand in 2008, joined RTC in 2004 as the manager of the HIV Expert Treatment Programme and worked her way up to her present position in which she is also a director of the USAID grant. She directly manages all implementation support and technical assistance provided by the RTC to the South African Government's HIV programme.

"I provide overall leadership and direction to the health-system strengthening support activities to enhance adult and paediatric HIV/TB care and treatment services throughout RTC-supported sites and districts in five South African provinces. Most importantly I am responsible for RTC meeting PEPFAR/USAID programme targets as well as Department of Health targets.

"And as a director I also have fiduciary responsibilities and a responsibility for the sustainability of RTC beyond donor funding," said Xulu.

After expressing an interest in furthering her business skills, the Yale Fellowship programme was brought to Xulu's attention. "I wanted to do a short course to assist me apply my knowledge to the real world.

"I believe it is the ability to think analytically and holistically and to find novel solutions rather than simply the acquisition of knowledge and technique that lies at the core of the successful leader/manager. At Yale, I would like to learn to develop my critical thinking and decision-making abilities and the capacity to function in complex organisational and social environments.

"I will share the South African story with the Yale community focusing on the turn in the HIV tide when the country's new political dispensation came on board. Previous to the change in leadership there was no political will and a lack of stewardship which resulted in hundreds of thousands of lives being lost," said Xulu.

The 2010 Fellows will enrol in a specially designed seminar taught by a leading Yale Faculty; audit any of the 3 000 courses on offer, receive skill-building training and meet with United States and world leaders.

Xulu tells a delightful story about processes leading up to her marriage to her restaurant-owner husband, Musawenkosi, in 2000. During labola negotiations he was determined to pay only 11 cows for the right to guide her up the aisle but her family wanted 13 cows as they said he was, after all, gaining a doctor for a wife!

"Musa paid 11 cows in the end but phoned me to say I must tell my family he has his own medical aid and his own doctor... and is not looking for a doctor in me but rather a wife!" Without a doubt she will miss Musa and their two young daughters.

Xulu is a devoted Christian who is in charge of the church choir and has been a church elder for the past three years. "God has been so good to me - all the good things I receive come from Him," she said.

Alumni Profiles

Kumi Naidoo Executive Director of Greenpeace

MICHAEL SIMPSON



As head of arguably the world's best-known environmental organisation, Kumi Naidoo wields the power to embarrass errant governments, shame political leaders and shave millions off the bottom lines of corporations who fail to toe the line on green issues.

So it's no surprise that the Chatsworth-born, UKZN graduate doesn't mince his words. In fact he's outspoken, opinionated and extremely critical. But at the same time he's approachable, thoughtful, calm and welcoming. Humble even.

Perhaps it's these opposing characteristics that made him so appealing to the board of Greenpeace International as it sought a global leader to take it in a new direction, while at the same time continuing the traditional (and equally opposing) strategies of engagement and confrontation.

Appointed as Executive Director of Greenpeace in November last year, his arrival raised more than a few eyebrows. Not only is he the first African and first 'outsider' to take up the job, he's also a social justice activist rather than an environmental one.

This, say observers, signals an acceptance by the environmental organisation that critical concerns like climate change can only be tackled by a holistic strategy that also addresses poverty, disease, unemployment and other social ills.

Naidoo himself is strongly focused on this broad-based approach. "The moment we are living in can be described as a 'perfect storm'," he said on a recent visit to South Africa from his new base in Amsterdam in the Netherlands. "There's been a convergence in a very short space of time of a range of different global crises: first there was the fuel price crisis; then came the food price crisis followed by climate change. Next there was the poverty crisis and, most recently, the financial crisis. All of these have hit humanity in the solar plexus."

Apart from the obvious environmental impact, he believes climate change also constitutes the biggest challenge to future world security, with the next wars and political and social unrest likely to be caused by a scarcity of water and

other natural resources. One of the ways to reverse this process is to alleviate poverty and other social issues.

As he pursues these goals, the BA Political Science graduate (he graduated *cum laude* in 1985 from the former University of Durban-Westville - UDW) is not afraid to lash the world's rich, powerful and well-connected.

Global food and nutrition giant, Nestle, gets a brickbat for allegedly sourcing palm oil from a supplier which contributes to Amazon rainforest degradation. Western governments engaged in the 'war on terror' are criticised for a response "which has actually fuelled terrorism". G8 leaders like Gordon Brown and Angela Merkel are rebuked for viewing the lives of people in developing countries as "dispensable". The Japanese government comes under fire for what he believes is their heavy-handed treatment of on-trial environmental activists.

Closer to home, he is scathing of Robert Mugabe's policies and the starvation they have caused. In South Africa, he blames a failure of "political will" and "vested interests" for the government's lack of enthusiasm for solar energy as a means of bringing electricity to rural areas.

Naidoo was as an anti-apartheid activist and was in exile in the '80s. He returned at the start of the '90s to work on the legalisation of the ANC. But he never accepted roles in government, despite being offered them, and preferred to work in the non-governmental organization (NGO) and civil society arena.

His path to political and social awareness began while growing up in Chatsworth. Even as a youngster, Naidoo gazed through bus windows while riding through 'white' areas and noticed the immaculate condition of the schools, in comparison to the dilapidated state of the one he attended.

Alumni Profiles

He recalls that, on the odd occasion when a movie was shown in the school hall, power would need to be run from the nearest house because the school lacked electricity. "Every 15 minutes or so, somebody would have to run out and reconnect the cable because a passer-by had tripped over it."

By the time he was 15, the reality of living in South Africa in the '80s had caught up with him. As the national student boycott gained momentum, he became a school leader and joined the many marches of the time. He admits he "didn't understand everything that was happening", but remembers with a laugh how a favourite slogan of the time was: 'You pay our teachers peanuts – no wonder they give us monkey education'.

Now fired by political awareness, Naidoo went on to study political science at UDW. In 1986 the State of Emergency was introduced and he was arrested several times for violating provisions against mass mobilisation and civil disobedience. Police harassment forced him underground and he eventually left for Britain to study under a Rhodes Scholarship.

"My break was getting the scholarship," Naidoo says. "I didn't understand the significance at the time, as I was on the run. It was only later I realised how prestigious it was." He pays tribute to the "very good professors at Durban-Westville who helped me with the applications and paperwork."

It was while at Oxford that he learned that his best friend and fellow activist, Lenny Naidu, had been killed by security forces. A member of the ANC and its military wing, he had fled to Swaziland and was ambushed while attempting to re-enter the country with eight other members of Umkonto we Sizwe.

"Lenny was a very philosophical guy," Naidoo remembers. "In my last conversation with him, before we both

fled into exile in different directions, he asked me: 'what is the biggest contribution you can make to the cause of justice and humanity in SA?'. I said: 'your life'. But he said it was the wrong answer: it was 'giving the rest of your life'.

"He was saying the struggle for justice is a marathon and not a sprint, and the

It was while on day 19 of his fast that Naidoo was approached to take up the role of global head of Greenpeace. He takes up the story: "I was feeling rather weak and wondered if I was really up to the challenge of such an important role.

I also wondered whether it was too soon to leave the work I had become so involved in on behalf of the poor.

"There's been a convergence in a very short space of time of a range of different global crises: first there was the fuel price crisis; then came the food price crisis followed by climate change. Next there was the poverty crisis and, most recently, the financial crisis. All of these have hit humanity in the solar plexus."

biggest contribution anyone can make to the cause of humanity is committing to a lifetime of involvement."

Naidoo's 'involvement' has taken the path of developing South African civil society and its institutions. He's been executive director of the SA NGO Coalition, a board member of the Association for Women's Rights in Development, CEO of Civicus: World Alliance for Citizen Participation, and co-chair of the Global Call to Action Against Poverty.

His commitment to poverty and social justice issues took him to Zimbabwe in 2008 where, undercover with his stepson, he was involved in making a video documentary on the plight of ordinary citizens. He was so moved by what he found that, on his return, he embarked on a 25-day fast to protest against the Mugabe government and raise awareness of the starvation facing ordinary Zimbabweans.

"When I later told my daughter she said that she would never talk to me again if I did not seriously consider the offer. She also pointed out to me that Greenpeace has always worked for the poor, just in a different way. For her, Greenpeace and its supporters are the real activists, the real heroes who dedicate their lives to the struggle for climate justice."

Convocation

Celebrating 100 years of academic excellence in KwaZulu-Natal

In my inaugural speech I expressed my concern about the profile of Convocation within our University; more specifically, the lack of awareness of Convocation, both among academics; students and graduates. I'm sure this could be debated; especially by those who have contributed their time and services to the University. Communication should be a two-way process; meaning that the University has an obligation to engage alumni and appraise them of latest developments at UKZN. One of the objectives of the University's celebration of 100 years academic excellence in KwaZulu-Natal is to achieve precisely this.

In the seven short years of its existence, UKZN has received numerous accolades and awards. The University is ranked among the top three South African universities in terms of research output, and as one of the top 500 universities in the world. The University is involved in cutting-edge research in a number of areas, and has received the support of partners and donors all over the world. The partnership with the Howard Hughes Medical Institute (HHMI) to fight TB and HIV/AIDS is a sterling example.

It is on this broad platform of excellence and on a vision of exciting new opportunities that UKZN should plan a future that maximizes its potential. This requires all of us to participate in the University's development, which includes our contribution as Convocation and alumni.

As we celebrate our centenary; I believe that our Colleges and Faculties will continue to display the pioneering spirit and entrepreneurial character that have characterised UKZN from its beginnings. There is ample evidence across the University that our academics have the ability to put together compelling new research programmes and to secure sponsorship for this research.



The leadership of the Institution will need both wisdom and foresight as we shape a new vision for University. The hardest part of the task before us is making tough choices among competing priorities. We must choose how much to devote to maintaining existing strengths, what areas need increases in resources, what new ventures should be initiated and, perhaps most difficult of all, what areas to de-emphasise.

Much of UKZN's success in the past 100 years has been enabled by generous alumni and friends who have made critical investments in the University. In the past few years, we have ranked among top universities in the country in terms of receiving donor funding through the UKZN Foundation, despite the economic meltdown. These successes should remind us that a clearly articulated, compelling vision, which convincingly demonstrates that we have set priorities and have made choices to forgo some possibilities, is critical to getting the philanthropic support of our alumni and friends.

2010 has been a challenging year, and there will be more difficulties ahead. We need to remember that with every decision we make today, we are investing in tomorrow. Personally, I am very optimistic about the future of UKZN. Our Faculties, staff and students are incredibly talented, resourceful and deeply committed to excellence. The leadership within our Schools and Disciplines exemplifies the pioneering spirit that has served us so well. And our alumni are a tremendous resource. I am confident that we will meet the challenge and ensure the University's continued leadership in teaching and research.

Until then: Friends for Life!

SANDILE NGCOBO
PRESIDENT AND CHAIR OF CONVOCATION



UNIVERSITY OF
KWAZULU-NATAL
INYUVESI
YAKWAZULU-NATALI

2011 CONVOCAATION ANNUAL GENERAL MEETING

In terms of the Statute of the University of KwaZulu-Natal and Section 9.1.2 of the Constitution of the Convocation of the University of KwaZulu-Natal, notice is hereby given that the Annual General Meeting of Convocation of the University of KwaZulu-Natal will be held at the Graduate School of Business Auditorium, Graduate School of Business Building, University of KwaZulu-Natal, Westville campus on Thursday, 31 March 2011 at 17h30 for 18h00.

Any member who desires to bring forward any business at this meeting should forward a statement to the Registrar setting forth, in the form of a motion, the subject proposed for consideration. The motion(s) should be lodged with the Registrar, University of KwaZulu-Natal, Private Bag X54001, Durban, 4000 by no later than Thursday, 17 March 2011.

Guest Speaker:

Mr Mac Mia: Chair of Council of the University of KwaZulu-Natal

Agenda

1. Notice convening the meeting
2. Apologies for absence
3. Minutes: Confirmation of the Minutes of the Annual General Meeting held on Tuesday, 16 March 2010. These Minutes are available on the website: <http://alumniaffairs.ukzn.ac.za>
4. Matters arising from the Minutes
5. Report of the President of Convocation
6. Adoption of the 2010 Financial Statement
7. General

Professor JJ Meyerowitz
Registrar

The Annual General Meeting will be followed by a finger supper with refreshments and musical entertainment.

Date: Thursday, 31 March 2011

Time: 17h30 for 18h00

Venue: Graduate School of Business Auditorium, Graduate School of Business Building, University of KwaZulu-Natal, Westville campus

Dress: Smart Casual

RSVP for catering purposes by Tuesday, 22 March 2011 to Fikisile Mabaso on:
Telephone: 031 260 2947 • Fax: 031 260 3265 • e-mail: mabasof@ukzn.ac.za

Nominations for 2011 Convocation Awards

The annual Convocation Awards honour those alumni who personify the University of KwaZulu-Natal's mission to achieve excellence, thereby bringing distinction to themselves and their *alma mater* through their outstanding accomplishments. Past recipients of the Awards include Alec Erwin, Harriet Ngubane, Jay Pather, Stephen Saad, Mamphela Ramphele, Shaun Pollock, Virend Somers, Phyllis Naidoo, Navi Pillay and Imtiaz Ismail Sooliman.

The categories for the five Convocation Awards are:

- Award for outstanding contribution to Agriculture, Engineering and Science
- Award for outstanding contribution to Health Sciences
- Award for outstanding contribution to Humanities
- Award for outstanding contribution to Law and Management Studies
- **Special Award** for a graduate and employee of the University of KwaZulu-Natal who has contributed significantly to the field of work engaged in at the University of KwaZulu-Natal

The University of KwaZulu-Natal is proud to honour its alumni with these Awards and is asking for your help in continuing the tradition. We therefore invite you to identify and nominate worthy individuals for the 2011 Convocation Awards. If you know of any alumnus who is deserving of an Award, please complete the nomination form, noting the criteria below, and mail it to Finn Christensen at the Alumni Relations Office, University of KwaZulu-Natal, Private Bag X54001, Durban, 4000 **by Friday, 8 April 2011**. The Awards will be presented at a ceremony which will take place in mid-2011.

Criteria to be met by nominees for all Awards are as follows:

1. The nominee must be a graduate of the University of KwaZulu-Natal (this includes graduates of the former Universities of Natal and Durban-Westville).
2. The nominee should personify the University's tradition of excellence.
3. The nominee should be recognised by his/her peers.
4. The nominee should have made an outstanding contribution to his/her own particular field.
5. Honorary graduates and members of staff are not eligible; except in the case of the Special Award category.

Should you wish to clarify any of the above – please feel most welcome to contact either Fikisile Mabaso or myself. Telephone: 031-260 2823 or 2947 and Email: mabasof@ukzn.ac.za or christensenf@ukzn.ac.za. We look forward to receiving your nominations.

With thanks and best wishes,
FINN CHRISTENSEN
Alumni Relations Manager

NOMINATION FORM FOR THE 2011 CONVOCATION AWARDS

Please complete the information below and attach the following documentation:

1. A comprehensive and current curriculum vitae of the individual you are nominating.
2. A motivation by yourself, the proposer.
3. An independent motivation by a third party is optional.

I nominate:

NAME :
(please print)

For the (please select an award category):

- ☐ • Award for outstanding contribution to Agriculture, Engineering and Science
- ☐ • Award for outstanding contribution to Health Sciences
- ☐ • Award for outstanding contribution to Humanities
- ☐ • Award for outstanding contribution to Law and Management Studies
- ☐ • **Special Award** for a graduate and employee of the University of KwaZulu-Natal who has contributed significantly to the field of work engaged in at the University of KwaZulu-Natal.

Nominee: Personal Details

ADDRESS :

.....

.....CODE:

TELEPHONE :

FAX :

E-MAIL :

Nominator: Personal Details

NAME :
(please print)

ADDRESS :

.....

.....CODE:

TELEPHONE :

FAX :

E-MAIL :



John Adari Convocation Bursary Fund



The John Adari UKZN Convocation Bursary Fund was established by a group of alumni in memory of John Adari, the long-time proprietor of "The Caff" situated on the Westville campus, who passed away in February 2010.

The Bursary Fund honours his commitment to students spanning three decades from the 1980s to 2010 and he is remembered for:

1. His humanity in contributing towards the payment of the fees of indigent students of all races who faced the possibility of exclusion. Many of these payments were made *ex gratia* with very little expectation of it being repaid. Adari viewed it as his social contribution.
2. Giving refuge to SRC leaders in the 1980s who were forced into hiding by the apartheid regime in power at the time. He did this with the full knowledge that, if exposed, he would have been harassed by the security police.
3. Unifying students from a variety of political and religious backgrounds.
4. Never turning away students who could not afford to pay for food at his establishment.
5. Being a father and a mentor to hundreds of students who sought his wise counsel and advice which he freely gave in abundance.

CONDITIONS OF AWARD

1. Be utilized for under-graduate study.
2. Be awarded to applicants from primarily historically disadvantaged backgrounds.
3. In addition to (2) above, shall be awarded to applicants who are indigent.
4. Applicants should not have any other sources of bursary funding.
5. Merit and potential will be utilized in the selection criteria.

TAX RELIEF

Donors will receive a tax certificate qualifying them for current tax benefits in South Africa. Alumni in the USA, Canada and the UK may donate to the fund and obtain tax relief *via* charitable entities established locally for these purposes. The UKZN Foundation will gladly supply the relevant details and assist with this process.

CONTACT COLLEEN HARRINGTON

✉ UKZN Foundation, University of KwaZulu-Natal,
Howard College Campus, Durban, 4041, South Africa

☎ +27 (0)31 260 2019 ☎ +27 (0)31 260 2536

✉ harringt@ukzn.ac.za <http://www.ukzn.ac.za/ukznf>

John Adari Convocation Bursary Fund

Donor Gift Form

STEP 1: PERSONAL DETAILS — Please complete all fields

Title:.....Initials:Surname:.....Email Address:.....
 Postal Address:.....
 Postal Code:.....Phone: (Home).....(Work).....(Cell).....

STEP 2: COLLEGE SELECTION — Tick one box

I would like my support for the John Adari Convocation Bursary Fund to assist students in the College of:

☐ Agriculture, Engineering and Science ☐ Law and Management Studies ☐ Humanities ☐ Health Sciences

STEP 3: SELECT A PAYMENT OPTION — Complete either A, B, C or D

OPTION A: DONATION BY CREDIT CARD

I authorise the UKZN Foundation Trust to debit my account with R..... (.....).

Card Type: Mastercard / Visa / Other:..... Cardholder's Name:.....

Card Number:

Expiry Date: CVV Number (last three digits on reverse of card):

OPTION B: DONATION BY CHEQUE

I enclose a cheque for R.....

Cheques should be made payable to 'UKZN Foundation Trust'.

OPTION C: DONATION BY ELECTRONIC TRANSFER OR DIRECT DEPOSIT

I intend to deposit/have deposited R..... into the UKZN Foundation Trust bank account.

Deposits should be made into the following account:

Bank: First National Account No: 62084617780 Branch No: 223626 Account Name: UKZN Foundation Trust

Branch: Corporate Account Services, Durban Reference: John Adari Convocation Bursary Fund

To ensure timely issue of tax certificates, please fax the deposit slip to +27 (0)31 2603209.

OPTION D: REGULAR DONATIONS

I wish to make a monthly / quarterly / half yearly / annual donation of R.....

Donors who select this option should kindly make arrangements directly with their banks using the UKZN Foundation's account details provided in Option C above.

STEP 4: ANONYMITY — Kindly tick "yes" or "no"

I wish my donation to be made anonymously: Yes ☐ No ☐ (Note that anonymous donors still receive certificates for tax relief purposes.)

STEP 5: SIGNATURE

Signature:.....Date:.....

TAX RELIEF:

SA, UK, US AND CANADIAN DONORS WILL
RECEIVE A CERTIFICATE QUALIFYING
THEM FOR CURRENT TAX BENEFITS

KINDLY POST OR FAX THIS FORM TO:

 Colleen Harrington, UKZN Foundation, Howard College Campus, Durban 4041
 031 260 2536
 Should you have any queries, kindly contact Colleen Harrington by telephone



Out&About

Message from the Alumni Relations Team



Finn Christensen: Alumni Relations Manager

The Alumni Relations Team has had another busy and exciting year – having interacted with over 100 000 alumni in one way or another in 2010. Events and activities were co-ordinated in many parts of South Africa and abroad, thousands of alumni were met at events or interacted with *via* email, post and telephone and a number of new initiatives were launched. These include a newly-designed and interactive website and the introduction of Facebook and Twitter. Please visit these new sites: <http://www.facebook.com/pages/Durban-South-Africa/UKZN-Alumni/100665579978579> and <http://twitter.com/UKZNAumni>

A number of events/activities have been planned for 2011. In addition to our usual programme of activities, we plan to have a Golden Alumni Reunion on the Pietermaritzburg campus. All graduates of 1959-1961 are strongly encouraged to attend this special day, which will include a morning tea, campus tour, lunch and a talk. Graduates of 1958 and before are as usual invited to attend this Reunion and we look forward to seeing many familiar faces.

In addition, there will be a Salisbury Island Reunion (please see update article on plans for the Reunion within this publication), a Supper Theatre evening in Pietermaritzburg, an Honorary Doctorate Dinner, the launch of a movie club and a *cum laude* and *summa cum laude* celebratory lunch.

We wish to draw special attention to the 2011 Convocation AGM which will take place on Thursday, 31 March as well as the Convocation Awards which will be held later in the year. Graduates are invited to attend both events and we urge graduates to submit nominations for the Convocation Awards (the criteria and deadlines are outlined in this publication).

In order to maintain a relationship with alumni, we are eager to secure the current contact details of alumni, especially email addresses. Please encourage friends and relatives who are graduates and have not received any correspondence from the University in the past 12 months to provide us with their updated contact details. This can also be done online via the Alumni website: <http://alumni affairs.ukzn.ac.za>

The Alumni Relations Team looks forward to interacting and meeting with alumni during 2011 and welcomes suggestions on how we can build stronger relationships with all our graduates.

*With our very best wishes,
The Alumni Relations Team*

FACEBOOK AND TWITTER



Please join us on these popular Social Networking sites. If you are not already a member, sign up now and connect with the University of KwaZulu-Natal Alumni Relations Office where you can make contact with fellow alumni and keep up to date with all the latest news, forthcoming events and information on your *alma mater*.

Our web addresses:

<http://www.facebook.com/pages/Durban-South-Africa/UKZN-Alumni/100665579978579>
<http://twitter.com/UKZNAumni>

Convocation AGM and Awards

A hundred alumni and guests attended the UKZN Convocation 2009/10 Annual General Meeting (AGM) and 2010 Convocation Awards ceremony on the Howard College campus on March 16.

Keynote speaker, UKZN Chancellor Dr Zwelini Mkhize focused on the University's vision to be the Premier University of African Scholarship. He noted that socio-economic ills such as poverty, crime, and poor health could be addressed through a two-way flow of knowledge and information between the University and society. Alumni have a crucial role to play in this vision.

In his address, the President of Convocation Mr Sandile Ngcobo said that it had been an exciting year for the Convocation Executive. Sharing his experience of meeting UKZN alumni locally and abroad, he urged alumni to give back to the University to enhance its research, and teaching and learning initiatives.

This year's awards honoured two alumni who personify the University's mission to achieve excellence: Professor Robert Pike and Professor Kovin Naidoo.

Executive Director: Corporate Relations, Ms Nomonde Mbadi introduced the awardees and presented the Awards together with



Vice-President of Convocation, Mr André Young; Convocation awardee, Professor Kovin Naidoo; UKZN Chancellor, Dr Zwelini Mkhize; President of Convocation, Mr Sandile Ngcobo; Convocation awardee Professor Robert Pike; and Executive Director: Corporate Relations Division, Ms Nomonde Mbadi.

Dr Mkhize, Mr Ngcobo and Vice-President of Convocation, Mr André Young.

Professor Pike received a Convocation Award for Outstanding Contribution to Agriculture, Engineering and Science. The Biochemist has made outstanding international contributions to his field of proteases and their involvement in disease. He is currently Head of the Department of Biochemistry and Molecular Biology at Monash University in Australia.

Professor Kovin Naidoo received a Convocation Award for a graduate and

employee of the University who has contributed significantly to the field of work engaged in at the UKZN.

Currently an associate Professor of Optometry, Professor Naidoo, serves as Head of the African Vision Research Institute (AVRI). He was named International Optometrist of the Year in 2007.

Ms Mbadi also outlined the University's plans to commemorate 100 years of academia in KwaZulu-Natal.

Cape Town Alumnus and Donor Event

The Alumni Relations Office co-ordinated an alumnus and donor get-together in Cape Town on May 7.

The annual event took the form of a three-course dinner and a talk at Societi Bistro situated in the lovely suburb of Gardens. The event provided an enjoyable opportunity for the 38 alumni, donors and friends of UKZN who attended the event to renew old acquaintances and meet fellow alumni.

A talk by the Executive Director of Corporate Relations, Ms Nomonde Mbadi provided an update on developments at their *alma mater*.

Mr Sandile Ngcobo: President and Chair of Convocation also addressed the gathering and graciously thanked everyone for supporting the University.

Attendees were given information packs containing a selection of University publications. The Executive Director of the UKZN Foundation, Mr Bruno van Dyk, was very grateful for the generosity of the attendees and returned to Durban with contributions just short of R900 000 for the University.



Workshops for Alumni

Easing the transition from graduation to the workplace, the Alumni Relations Office held its annual set of workshops aimed at equipping the most recent graduates of the Institution with effective leadership and project management skills.

A Project Management Training Workshop facilitated by Vani Moodley and Associates was held on June 9-10, followed by a Graduates' Leadership Workshop co-ordinated by Ms Marie Odendaal and Mr Mandlakayise Ndaba of the UKZN Student Leadership Development Programme on June 14-15.

"These workshops assist in building long-lasting relationships between the Alumni Relations Office (and the University) and the graduates – many of whom are starting out on careers which require such skills as project management and leadership. The workshops are held annually and have included such topics as CV writing, interview skills, entrepreneurship, project management and leadership," said the Manager of Alumni Relations, Mr Finn Christensen.

Dinner Reunites Management Studies Graduates

"Clearly this country is a much, much, much better place than it was in the dark days of apartheid... and yet so much remains to be done".

These were the words of Dr Bobby Godsell in his keynote address at the Faculty of Management Studies Alumni Dinner on the Westville campus on May 14.

The Chairperson of Business Leadership South Africa and Co-Chairperson of the Millennium Labour Council, Dr Godsell's address was titled *South Africa's Road to Becoming a Developed Country*.

Reuniting alumni from the former Universities of Durban-Westville and the University of Natal as well as Management Studies graduates from UKZN, the dinner was part of UKZN's commemoration of 100 years of academic excellence in KwaZulu-Natal.

Dr Godsell focused on 'renewing the African Dream'. He urged South Africans to revisit South Africa's Constitution and recognise the injustices of the past before collectively moving forward towards a common goal.

His said that his 'African dream' will come true when nine out of 10 job seekers find employment; when delivery of public services functions well and when poverty is no more.

Executive Director of the UKZN Foundation, Mr Bruno van Dyk stressed the importance of alumni giving back to the University. Deputy Vice-Chancellor and Head of College of Law and Management Studies, Professor John Mubangizi assured alumni that the Institution they left behind is in very good hands.



From left: Dr Betty Mubangizi; Professor John Mubangizi; Professor Leslie Stainbank; Dr Bobby Godsell and Dr Gillian Godsell at the Dinner.

Film Screening brings back Memories

Alumni, staff and friends of UKZN flocked to the Elizabeth Sneddon Theatre at the Howard College campus on July 29 for a special cocktail function and screening of the film, *RFK in the Land of Apartheid – A Ripple of Hope* directed by Tami Gold and Larry Shore. The screening was part of the 31st Durban International Film Festival.

KwaZulu-Natal-based graduates of 1964-1969 were invited by the Alumni Relations Office to attend the event as part of the film was filmed on the Howard College campus in 1966. A number of the graduates who attended the screening had actually attended the RFK speech on the Howard College campus.

Drawing comparisons between the US Civil Rights Movement and South



Deputy Vice-Chancellor: Teaching and Learning, Professor Renuka Vithal and Deputy Director of the Centre for Creative Arts, Mrs Monica Rorvik at the screening.

Africa's struggle for freedom, the film tells the story of how a visit by US Senator, Robert Kennedy (RFK) in 1996 sent a ripple of hope across the land in the midst of one of the most oppressive periods of apartheid.

The film includes rare archival footage of RFK's visit and includes the historic meeting between RFK and Chief Albert Luthuli during his banning period. It also includes extracts from a presentation at the former University of Natal which has become one of the most often-quoted speeches against apartheid and injustice.

Mrs Lesley Turner, a student at the former University of Natal said she was very excited to see the film which brought back a flood of memories of the 1966 academic freedom march.

The evening commenced with a welcome and introduction by UKZN Vice-Chancellor, Professor Malegapuru Makgoba. After the screening, Chief Albert Luthuli's daughter, Dr Albertina Luthuli who appeared in the film and Mr John Daniels (student leader, 1966) addressed the audience.



UKZN Corporate Relations Division staff with Mr Sandile Ngcobo, President and Chair of Convocation (standing, far right) and Gauteng-based alumni.

Gauteng Lunch

More than 120 alumni as well as donors/friends of the University attended the annual alumnus/donor event which took the form of a lunch at Casalinga Ristorante in Muldersdrift on July 18. The event brought together alumni of all age groups and professions and enabled those living in both the Johannesburg and Pretoria areas to attend.

The lunch provided an opportunity for alumni to meet old friends, network, share experiences of their university days and to receive information on their *alma mater*.

The guest speakers at the event were Ms Nomonde Mbadi (Executive Director: Corporate Relations Division) and Mr Sandile Ngcobo (President and Chair of Convocation).

Alumni treated to Pietermaritzburg's Best



A group of UKZN alumni (mostly members of the Durban Alumni Association) recently had the opportunity to revel in the delights of nature while on a tour of the Pietermaritzburg campus. They visited the University's Botanical Gardens which are tucked away amidst the hustle and bustle of the Life Sciences campus, and Ukulinga, the research and training farm situated just seven kilometres further afield.

Organised by the Alumni Relations Office, the tour was designed to expose alumni to some of the interesting and unique features of the University, providing them with a chance to interact with our expert staff and find out about the latest research.

UKZN horticulturalist, Mrs Alison Young, conducted the tour of the Botanical Gardens which serve as a valuable outdoor laboratory for the School of Biological and Conservation Sciences, supporting its teaching and research activities.

The visit to Ukulinga proved to be as popular, and for many of the alumni it was their first opportunity to experience what the University has to offer on the agricultural side. Mr Matthew Erasmus highlighted the horticultural research conducted on site which includes pawpaws, macadamia nuts and some citrus. Ms Marion Young led a tour through the poultry facilities and explained some of the latest innovations on the animal and poultry front, and Mr Ian Doidge described

the activities of the renowned African Centre for Crop Improvement. The group viewed a sugarbeet trial that is associated with biofuel production and also went up to the plateau to see some of the continent's oldest ecological trails.

Alumni Relations Manager, Mr Finn Christensen said: "The Durban Alumni Association in collaboration with Alumni Relations plans a series of talks and outings for members of the Association. All graduates living in KwaZulu-Natal are welcome to join the Association by contacting Alumni Relations."

UKZN UNDER SPOTLIGHT AT UK 2010 ALUMNI FUNCTION

The UKZN Alumni Association in Europe met again in South Africa House in Trafalgar Square, London, on September 15, for its annual get-together.

This year, the University was the main focus of the event and Mr Len Mzimela, Director of University Relations at UKZN was the guest speaker. His extremely informative talk covered a range of topics about the University, including some most interesting highlights:

- The groundbreaking research study of a microbicide gel showed reduced risk of HIV and herpes infections in women.
- Researchers have discovered new methods of administering insulin through a skin patch.
- The University now has a slightly reduced 38 000 students with a changing profile. Of these, over 20 percent are postgraduate, and 6.5 percent are from beyond South Africa's borders, coming from 80 countries.
- UKZN is amongst the top three South African universities in terms of research output.

The University had put together a slide show of the current campuses, for the alumni to see – of course many of them have not visited the campus of their *alma mater* for many years, and so were delighted to see the progress made but also to have a nostalgic look at what was so familiar.

Music this year was presented by a very well-known South African guitarist, Lucky Ranku, who has lived in the UK for a long time.

About 90 people attended, and as well as many familiar faces of people who come every year, there were a lot of

new ones – which delighted Caroline Harben, the Chair of the Association. "We had a greatly increased number of people who were registering with the Alumni Association for the first time. We aim to represent the full spectrum of alumni in the UK and were very pleased to have many more relatively recent graduates than we have had before".



Raylene Captain-Hashtibeer and Sandile Ngcobo. Photos: Jil Orpen



Krystyna Brown, Samuel Njenga, Penny Perkin and Ivan Brown.



Henning Wilken, Caroline Harben, Burt Browne, Len Mzimela and Finn Christensen.

Salisbury Island Reunion (University College)

50th Anniversary

Dear Fellow Islanders,

The Salisbury Island Reunion is a special opportunity to bring out the goodness, the fullness, the completeness and many untold stories which must be done in the new South Africa.

Celebrate, remember friends and renew the energies that consolidated the struggle at many levels.

Educational segregation was a vital part of the apartheid strategy to divide and rule. The Extension of Universities Act of 1959 made this a reality. It created separate ethnic and linguistic 'colleges'. The dilemma for black students – and their communities – was whether to give credibility to these tribal institutions.

Indian students had the choice of the University College for Indians in Durban Bay (Salisbury Island). In 1972, a few

months after this College moved to the University of Durban-Westville (UDW) on the mainland, the students led the most sustained strike since the banning of the liberation movements in the early sixties. The hiatus of the doldrum years was broken. This history must not be forgotten.

Let us document this in a Souvenir Brochure by telling us about your Island experiences, things that need to be said, even now. If there are precious photographs, please lend them to us and we will ensure they are delivered and returned safely.

Write a word, write at length or just write in support. Send us notes from historical and academic perspectives or purely from the heart.

We will, of course, acknowledge every contribution. And if you have time to help please let us know and join the Reunion Committee. Our e-mail

addresses are: Herselene Charles: herselene@yahoo.co.za; Shirene Seedat: ipsingh@telkomsa.net

We also advise that the Reunion will be held in Durban (probably the Exhibition Centre) on a Saturday between June 1 2011 and August 31 2011 - date to be advised.

You will be informed of the elaborate programme which will include a visit to Salisbury Island, dinner and dance (Dukes Combo in attendance), flashes and skits on the island, a souvenir brochure etc.

Please read the next edition of UKZNTOUCH and visit the website (<http://alumni.affairs.ukzn.ac.za>) for updates.

*Prepared by Ranjith Choonilall
(Vice-Chairperson) on behalf of
the Reunion Committee*



THE REUNION COMMITTEE:

FRONT ROW: L – R: Laurraine Singh, Herselene Charles, Jenny Maharaj and Sherene Seedat.

BACK ROW: L – R: Ranjith Choonilall, Danny Chetty, Robin Singh, Anand Jayraj, Ahmed Thandar and Haffy Haffajee

ClassNotes

Keeping in touch!

Class Notes is a collection of short biographies sent to us by alumni from all over the world, highlighting their personal and professional achievements. Through these notes, alumni keep in touch and find old friends.

1940s

ANTHONY TREVOR COPE –
BA'49, MA'55, PhD (Arts)'67

has a Special Diploma in Bantu Languages from the School of Oriental and African Languages, University of London. He was the first professor of Zulu Language and Literature at the University of Natal and author and editor of many papers. Shortly after his retirement in 1984, he and his wife immigrated to Australia. Trevor offered himself as a 'leader' for U3A (University of the Third Age) in Sydney where he continues to give classes on music from Bach through the classical and romantic composers to Shostakovich.
Email: cope2@optusnet.com.au

1950s

HADDON KEITH DRIVER –
BArch'53

has a DTpl (London 1962), DAdEd, (St FX Nova Scotia 1992) and a CFA. (Alberta 2007). Keith owned and ran an Urban Design and Planning Consulting firm from 1978 until 1998. In 2005 he consulted on a major new town development in China and in 2006 on a major development in Mexico City. He continues with his painting, drawing, and pottery. He has been a Canadian Sailing Judge and a Canadian Race Officer.
Email: kdriver@incentre.net

BARBARA POULTNEY [NEE STRUTHERS] – BAFA'53

is still teaching art in her home studio in Rivonia, Sandton. She maintains contact with amongst others Elsa Gale (now Ware Austin), Margaret Curry (now Morkel), Joan Body and John Warren. Barbara has two daughters and four grandchildren.
Email: barbs1@xsinet.co.za

BEVAN HAMILTON JENNINGS –
BSc (Land Surveying)'54

graduated with a BSc majoring in mathematics and astronomy at Rhodes University and in 1953 moved to what was then called Natal University College to complete his last two years of BSc Eng (Land Surveying). He has worked as a land surveyor in the former Rhodesia, on the copper mines in Zambia, and as a computer pioneer with Murray & Roberts in South Africa. He and his wife have now retired to a small Cape village.
Email: bevanjen@mweb.co.za

JEREMY M GOSNELL –
MSc(Agric)'58, PhD(Agric)'68

started work in pasture research at Cedara, KwaZulu-Natal in 1956. He worked in forestry and mixed agriculture in Kenya, with the South African Sugar Association Experimental Station, Mount Edgecombe as Research Agronomist and was the Director of the Rhodesia Sugar Association Experiment Station, Chiredzi. In 1973 he joined Lonrho Sugar Corporation. He was Chairman of the Swaziland Electricity Board for a three-year term from 1993 to 1996. In 1996, Dr Gosnell was appointed to the post of Chairman of the Lonrho Sugar Corporation.
Email: gosnell@venturenet.co.za

1960s

EDWARD WETHLI –
BSc(Agric)'61, PhD(Agric)'69

became a poultry specialist after completing his degrees on the Pietermaritzburg campus. He also has a Psychology Honours degree from Reading University, U.K. For the past 35 years Edward has been involved with small farmer development in rural and peri-urban settings in South Africa, Mozambique and Zimbabwe. He was the first training principal of the KwaZulu-Natal Poultry Institute.
Email: edwethli@absamail.co.za

EBRAHIM CHOCHAN – Salisbury
Island – '64 onwards PhD (Sc)'84

became a Technical Assistant and later a lecturer in Educational Psychology. Ebrahim retired from UDW in December 2003 and has since been practicing as a Clinical and Educational Psychologist in Durban.
Email: eachochan@absamail.co.za

ABDUL SAMAD CHOCHAN –
BAdmin'64

Like his brother (Ebrahim), Abul studied at Salisbury Island where he completed his degree.

JILLIAN SCULLY (NEE ORPEN) –
BA'67

lived in Sudan for five years teaching and taking photographs for international aid organisations. She worked for the United Nations Environment Programme in Kenya, and spent 15 years in the UK in publishing and a short spell fund-raising for the South African Phelophepa Health Train for the Canon Collins Educational Trust for Southern Africa. Jillian has established her own

photographic business.
Email: jillsully@btinternet.com

JILL FARDON (NEE MCNEILL) –
BA'69, UED'70, BEd'80

went on to do her MEd, and then later her DEd (UNISA). She lectured at Bechet College, Edgewood College and the University of Natal. She was a subject adviser in the KZN Education Department for five years. Jill now teaches English as a second/foreign language.
Email: jillfardon@yahoo.co.uk

MIKE MILLER – BSocSc'69

has been Managing Director of SAJE International Ltd, owners of THE SOUTH AFRICAN SHOP in the UK for the last ten years. He is President of the Maidenhead and District Chamber of Commerce and Deputy President of the newly-formed South African Chamber of Commerce in the UK. Mike heads up the Business School at Claires Court Sixth Form College in Maidenhead on a part time basis and is Deputy Chair of the UKZN Alumni Association in the UK.
Email: Mike@southafricanchamber.co.uk

ELIZABETH MARY RUNCIMAN –
BA'69, UED'73, HDipLib'76

married Jim Runciman, emigrated to South Australia in 1977 and had two children. Elizabeth worked in libraries until her recent retirement, has an active interest in fine arts and would love to hear from any contemporaries.
Email: lizr@bigpond.net.au

HARALD SOLBERG –
BScEng(Chem)'69

joined the Messina group of companies and worked on their copper mines then eventually in the Head Office of the ZMDC. He completed a Masters degree in Mineral Engineering at UBC, Vancouver Canada. Harald joined RioZim Ltd in 2004 and lives in Harare.
Email: Harold.Solberg@riozim.co.zw

1970s

PETER DAVID EVERETT BERTRAM – BSc (Agric)'70

worked for the Dept of Research and Specialist Services in the Ministry of Agriculture in what was then Rhodesia. He was the District Commissioner at Gokwe at the time of independence in Zimbabwe. He attended theological college in Grahamstown, and was ordained in 1985 in the Anglican Church in Harare. In 1991 he qualified

for the BA Hons (Biblical Studies) degree at the University of Zimbabwe and is now the pastor of Hoedspruit Community Church.
Email: polo.dave@yahoo.com

BARRIE ROBERTS LEWIS –
BSc'70, BEd'75

After a seven year hiatus in the Netherlands, Barrie and his wife Jean plan to return to Hilton in late 2010. Jean has been teaching Mathematics at the International School of The Hague for the last three years. Barrie is a Chiropractor in a busy practice in a small town just south of Rotterdam.
Email: brlewis@xs4all.nl

SUZANNE BRENNER (NEE GOLDBERG) – BA'71

is the sole proprietor of proWRITE, a professional outsourced writing service utilised by corporate companies. Suzanne continued her studies in London where she lived for some years. Back in South Africa, she was appointed editor of *Darling* magazine, and then joined the SABC.
Email: brenners@mweb.co.za

JENNIFER LYNN VINCENT-O'LEARY – BSc'71

is a practising psychotherapist in Santa Monica, California. She is married to actor William O'Leary and has two children. She is interested in connecting with any of her contemporaries.
Email: zimbis@ix.netcom.com

JONATHAN R. JACK – BA'72

taught in various schools in KwaZulu-Natal and completed a BEd (Unisa), a Certificate in School Library Science, an MEd degree at the University of the Western Cape and a Diploma in Adult Education. Jonathan has been Chairman of the Stanger and Sydenham Branches of the Teachers Association of South Africa (TASA) and had various teaching posts. In 1995 he was promoted to the post of Superintendent of Education and retired in 1997. He is presently a part-time teacher of English in Essex, UK.
Email: jonathanjack@hotmail.co.uk

DAPHNE SOUNDY – BA'72

worked as a primary school teacher in Durban and spent 11 years teaching for the Inner London Education Authority in England. A year was spent at Goldsmith's College, University of London being retrained as a Design and Technology teacher. This was followed by a year teaching Design and Technology at an Inner London mixed comprehensive school and

10 years as a course manager in the Faculty of Education at the Open University in Milton Keynes, England.
Email: daphnesoundy@gmail.com

PETER ERIC THOMAS ADDISON
– BScEng(Civil)'73

Is working with management consultants Evans & Peck in Perth Australia, after 29 years in the water industry in Australia.
Email: peter.add08@gmail.com

BARBARA BANKS – BSc'73

is teaching Mathematics at Herschel Girls School in Cape Town.
Email: bbanks@herschel.org.za

ADRIAN FURNHAM – BA'73,
BA(Hon)'74, MA'75, DLit'97

has an MSc (Econ) from the London School of Economics and a doctorate (DPhil) from Oxford University. He has subsequently earned a DSc and DLitt degree. Previously a lecturer in Psychology at Pembroke College, Oxford, he has been Professor of Psychology at University College London since 1992. He has written over 700 scientific papers and 60 books and is on the editorial board of a number of international journals. He is also a newspaper columnist.
Email: a.furnham@ucl.ac.uk

M.YUGAN MUDALIAR –
MBChB'73

was the Director of the Intensive Care Unit at Westmead Hospital for 19 years. He is currently Clinical Senior Lecturer, Faculty of Medicine, University of Sydney, and Clinical Director, Simulation Education Centre, Intensive Care Unit Westmead Hospital. He is a Senior Specialist in Intensive Care, at Westmead Public and Private Hospitals.
Email (1): yugan_mudaliar@wsahs.nsw.gov.au
(2): yuganm@gmail.com

ROBIN MARTIN CHALLENGER
– BSocSc'75, BSocSc (Hon)'85,
MBA'97, PhD'10

completed his Bachelor of Social Science degree at the University of Natal, then worked in the media. In 1984 he returned to the University of Natal to take an Honours degree. From 1995 to 1997 Martin studied for, and completed, his Master of Business Administration (MBA) degree at the University of Durban-Westville. Martin graduated with a PhD in Management from UKZN in April 2010. He is presently an academic at the Graduate School of Business, Faculty of Management Studies, at UKZN.
Email: challenorr@ukzn.ac.za

RICKY BEHARI – MBChB'76

is Head of ICU and Senior Specialist: Department of Medicine at Livingstone Hospital in Port Elizabeth as well as a physician in private practice in Port Elizabeth. He was awarded a FRCP (London) and a Council Prestige award from Nelson Mandela Metropole University, for Excellence in Medical Education and pioneering Intensive Care work in the Eastern Cape.
Email: beharipraxis@telkomsa.net

MICHAEL MURRAY GREEN –
BA'77, BA(Hon)'78

has recently taken up the position of Reader in Creative Writing at Northumbria University. He also holds degrees from the Universities of Stanford (MA), and York (DPhil). Prior to joining Northumbria University, he was Senior Professor and Head of English at the University of KwaZulu-Natal, and then Head of the University's School of Literary Studies, Media, and Creative Arts.
Email: michael.m.green@northumbria.ac.uk

PRAKASH NAIDOO –
BCom(Acc)'78, UED'79

obtained his PhD (VISTA) in 2002. He is a Member of the South African Institute of Professional Accountants and Certified Fraud Examiner. He was a teacher at Tongaat Secondary School, a Lecturer/Associate Director at ML Sultan Technikon (now DUT), and Executive Dean: Management Sciences-Vaal University of Technology (1999-2001). He has been the Deputy Vice-Chancellor: Resources and Planning at Vaal University of Technology since 2001.
Email: traceyn@vut.ac.za

JOY DE BEYER – BSocSc'79,
BSocSc(Hon)'80

works at the World Bank, but recently moved from the Global AIDS unit to the World Bank Institute (WBI). Health Systems practice. WBI offers global knowledge and learning for government officials and their development partners.
Email: jdebeyer@worldbank.org

MAHOMED FARUK MAHOMED –
MBChB'79, PG-DipHlthServMgt'96

lived at Allan Taylor Residence during his student years and did his internship at Mc Cord's Hospital. He started a private family practice in 1984, and commenced an MPH at UKZN a few years ago on a part time basis that he is determined to complete in 2010. Mahomed served as Director at Isipingo Hospital, Medical Towers for two years, is involved in community affairs and served as a party political candidate for the ANC in the mid-1990s for his area.
Email: adminmfm@medis.co.za/mfm@medis.co.za

1980s

MOHAMED SAYED IQBAL
– BA'80, BA(Hon)'81,
Rel&SocTrans'01, PhD(Arts)'08

is a human rights activist. He was part of the Mass Democratic Movement and served as an advisor to the national Ministry of Housing on overhauling tenancy law; an ANC Metropolitan councillor (1998-2000) and as mediator and commissioner at the KZN Rental Housing Tribunal (2002-2008). As a columnist, freelance journalist and prolific writer, he has contributed to various national and international publications. He is presently studying for an LLB degree through Unisa.
Email: paulsena@avusa.co.za

PHILIP MACHANICK – BSc'80

did Honours and Masters in Computer Science at Wits University and a PhD in Computer Science at UCT. He also has a graduate certificate in education from the University of Queensland. He currently works on bioinformatics in a research lab at the Institute for Molecular Bioscience, University of Queensland.
Email: philip.machanick@gmail.com

TERRY ZIETSMAN (NEE GUTHRIE) – BA'80

was in Charlie J while completing her degree. After completing a Higher Education Diploma at Stellenbosch University, Terry taught briefly and then moved into the corporate world. In 1993 Terry opened her own Training and Development Company. Terry was President of the Convocation Executive of the University of Natal – the first woman in the history of the University – in 2000 and 2001. She would love to hear from lost friends.
Email: terryz@imweb.co.za

VIREND SOMERS – MBChB'81

received his PhD from Oxford University and subsequently completed his residency in Internal Medicine and Fellowship in Cardiology at the University of Iowa. He is presently Professor of Medicine and Consultant in Cardiovascular Diseases at the Mayo Clinic and Mayo Foundation in Rochester Minnesota.
Email: somers.virend@mayo.edu

STEVEN A. OOSTHUYSE –
BScAgric(Horticulture)'82

was an avid rower during his student days and was part of the famous crew that was disqualified during the Henly on Thames Regatta held in 1981. He obtained an MSc Agric. and a PhD Agric. at Stellenbosch University. In 1996 he started HortResearch SA, a private agricultural research and development company based in Tzaneen. He obtained the MBL degree (UNISA) in 2001.
E-mail: hortres@pixie.co.za.

SAGAREN NAIDU – MBChB'87
FCOG'92

did his internship at McCord's hospital in 1987 and then joined the registrar program at King Edward V111 in Obstetrics and Gynaecology. He obtained a Fellowship in O&G from the College of Medicine in 1992 and a Senior Research fellow Scholarship with the MRC Pregnancy Hypertension Unit in 1993. He commenced private practice in Obstetrics and Reproductive Medicine in Durban in 1994 and has been Clinical Director of the Durban Fertility Clinic since 2003.
Email: sags@intekom.co.za

BRETT HERRON – BA'88, LLB'90

qualified as an attorney in 1994 and is currently Director and Shareholder of the South African Law School, a private accredited legal skills training business. He also serves as a Councillor for the Independent Democrats in the city of Cape Town.
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MATHIAS PETER SCHLICHTING
– LLM'89

lives in Hamburg and has been a partner in Brehm and V. Moers (Attorneys at Law, Tax Advisors and Accounts) since October 1998. In addition, he is co-founder of Mologen Forschungs, Entwicklungs und Vertriebs GmbH, Berlin; co-founder of Mologen Holding AG, Berlin (where he is Chairman of the Advisory Board) and Co-founder of ClanSailing AG, Hamburg.
Email: mathias.schlichting@bvm-law.de

1990s

VIKASH SALIG – MBChB'90

is the CEO (and Board member) of Dr Reddy's South Africa (DRSA) a global R&D based, NYSE listed generic pharmaceutical company. Prior to this Vikash consulted to Hetero Drugs Limited and served as Director of New Business Development for Aspen Pharmacare. He practiced as a medical doctor for nine years prior to entering the pharmaceutical environment. Vikash also has an MBA from the University of Cape Town.
Email: vikash@drreddys.co.za

ROBIN BRISTOW – BArch'91

moved to Cape Town where he worked for Truworths, lectured at the Cape Technikon, became an associate in an architectural practice and later established his own practice. In 2001 Robin moved his practice to Plettenberg Bay and in 2007 he took up a position as a senior architect in a Sydney eastern suburbs practice. He is now based in Noosa on the Sunshine Coast, Queensland, where he lives with his partner.
Email: robin@bristowarchitecture.com

JENNIFER ANNE NEWMAN –
BA'91, BA (Hon)'92, AUD(IS)'93,
BLibSc'95

has been working for the UK branch of Yankee Book Peddler (YBP) - the academic bookseller - as a catalogue of books for university libraries around the world that buy books from YBP. Jennifer works and lives in Oxford, Cowley and invites any UKZN graduate who lives in Oxford to make contact.
Email: peasantjenny@yahoo.co.uk

LAVINDRAN YENGOPAL –
BProc'92

is presently Magistrate (Head of Office) in Izngolweni on the KwaZulu-Natal South Coast.
Email: LYengopal@justice.gov.za

BHEKA NHLALAYENZA RICHMAN ZONDI – BA'92,
HDEPG'93, PGDipETD
(CommDev)'01

studied for an MBA through MANCOSA. He is currently Sector Advocacy, Education and Communications Specialist in the Department of Water Affairs and Forestry. Prior to this he was Director: Water Services Authority at the UMkhanyakude District Municipality. He is National Chairman of the District Water Services Manager's Forum (DWSMF) and Chairman of Northern Zululand Water Manager's Forum.
Email: ZondiB@dwaf.gov.za

BRIAN JONATHAN DAY –
BScEng(Chem)'93

married Elke Wiegner BSoc Sci '91 and they have four children. Brian recently completed his MEng (Eng. Man.) and is working at Exxaro as part of the prospective new energy division. Elke is a social worker at a church-based NGO called Botshabelo. They live in Centurion.
Email: brian@srhomes.co.za

ROD DOUGLAS – MSc'93

is Head of the Herpetology Department at the National Museum, Bloemfontein where he has worked for the past 25 years. In 2009 he was awarded an interdisciplinary PhD by the University of the Free State in Geology and Geography for research carried out on the Florisbad archaеozoological site north-west of Bloemfontein. He also serves as a Trustee on the National Museum Pension Fund Board of Trustees.
Email: rod.douglas@nasmus.co.za

JONATHAN DUVEL –
BScEng(Civil)'94

worked for Spoornet in KwaZulu-Natal, and was then contracted to BHPBilliton Iron Ore Railway in Australia. He is currently with Transnet Freight Rail in Cape Town, appointed as Depot Engineer (Western Cape) managing the maintenance of railway infrastructure.
Email: jonathan.duvel@transnet.net

ABDULLAH SUJEE – BEd'94

won the MITA (Microsoft Innovative Teacher Awards - National winner) which involved a trip to the International MITA in USA Philadelphia. In 2007 he won the MITA national peer review prize and in 2008 the NATIONAL ENGEN MY BEST LESSON AWARD. The thrust of the lessons and best practice was the use of technology in the classroom and establishing collaborating partners in learning.
Email: abdullahsujee@telkomsa.net

PENELOPE SUSAN WEST –
BSc'94, BSc(Hon)'95

lives in London and works as Project Director, London for BMI Healthcare (owned by Netcare SA).
Email: penny.west@ghg.co.uk

THOMAS ESHUN-WILSON –
MBChB'94

served his internship at the Grey's -Northdale Hospital Complex in Pietermaritzburg. He started his Ophthalmology training as a medical officer at Edendale Hospital and completed his residency training in Ophthalmology at the University of Cape Town (UCT) to become a consultant surgeon. In 2003 he started working as a fulltime refractive surgeon for the Boots Lasik clinic in Bristol in the United Kingdom. In 2004 he started working for NetcareUK Ltd, as an ultrahigh-volume cataract surgeon in Southern England on their mobile units. He worked as a senior registrar at Fremantle Hospital in Perth, Western Australia and in March 2007 started private practice in Hervey Bay, Queensland, Australia as a Comprehensive Ophthalmologist.
Email: tewilson98@hotmail.com

VM (MARLON) MOODLEY –
BCom'95

completed a BCom (Hons) and MCom through Unisa and has published work with the University of Pretoria – the focus has largely been in Corporate Strategy and Operations Management in technology organisations in the parastatal sector. Marlon has worked for Coopers and Lybrand National Office, Eskom Group IT and Arivia. Since 2006 he has been Group Chief Information Officer (CIO) at Harmony Gold Mining Co.Ltd.
Email: Marlon.Moodley@Harmony.co.za

SIMONE ERASMUS (NEE CAIRNS) – BCom'96,
BCom(Hon)'97 CA(SA)

completed her articles at Ernst and Young and worked at the Royal Bank of Scotland, in their Asset Securitisation area. Simone and her husband have been back in SA since 2003. Since the end of 2004 Simone has lectured Taxation at the University of Johannesburg.
Email: jserasmus@mwweb.co.za

PHUMLANI NGCONGO –
BCom'96, LLB'98

commenced articles of clerkship with Webber Wentzel Bowens (as it was then called) and has been employed at Webber Wentzel (as it is now known) since the completion of his articles of clerkship. He has been a partner there since 2005. He read for the degree of Master of Laws at the University of Cambridge and for the degree of Master of Laws at Harvard University. At the end of February 2010 he left Webber Wentzel as he will be doing pupillage at the Johannesburg Bar. He plans to practice as an advocate.
Email: pngcongo@gmail.com

FEMADA SHAMAM –
BSocSc(SW)'96

worked as a social worker with the St. Giles Association for The Handicapped and at Tongaat Child and Family Welfare Society. She joined the team at The Association for The Aged (TAFTA) in 1999 and has been working there since. She currently holds the position of Divisional Manager of Social Services.
Email: femada@tafta.org.za

RUDOLPH YOUNG – DBA'96

is the HR Director for the Higher Colleges of Technology in the United Arab Emirates. Rudolph published a book "Surviving Expatriate Adjustment" and presented at the British Council's International Education Conference (Going Global) in London in March 2010.
Email: Rudolph.young@hct.ac.ae

RONALD MBONGENI BHENGU (WAS USING NDLELA AS A SURNAME) – BCom'99

lives in Pretoria (Centurion) and since 2003 has worked as a Systems Analyst for Eskom in Midrand. He is an Affiliate Member CSSA, is married and has a son.
Email: Mbongeni.Bhengu@eskom.co.za

2000s

SHERRAN CLARENCE – BA'00,
BA(Hon)'01

Is the co-ordinator of the Writing Centre at the University of the Western Cape, and is involved in implementing strategies to improve staff and student development in the areas of teaching and learning.
E-mail: sclarence@uwc.ac.za.

ISRAEL KIBIRIGE – PhD(Sc)'01

completed his PhD in Zoology from the Marine Science Unit at the then University of Durban-Westville in 2001. In 2002 he joined the then University of Natal as a Post Doctoral Research Fellow at the school of Biological Science. In two years of his doctoral fellowship, he published six papers in international and SAPSE accredited journals. He also presented several papers both at Local and International Conferences. In February 2004 he joined the University of Limpopo as a lecturer in Science Education and in 2005 was promoted to Senior Lecturer. In 2009 he was promoted to Associate Professorship.
Email: israelk@ul.ac.za

MICHAEL BARRY – PhD (Land Surveying)'02

was promoted to the rank of full professor as of April 2010 and holds the John Holmlund Chair in Land Tenure and Cadastral Systems in the Geomatics Engineering Department at the University of Calgary, where he has been working since 2002. Prior to that he was at the University of Cape Town.
Email: mbarry@ucalgary.ca

EVERETTE INGRAM – DTheol'04

has recently relocated to Roatan, Honduras, where he assumed the position of Course Director. He is working at a PADI 5 Star Instructor Development and National Geographic Center called Subway Watersports.
Email: JfIntl@cs.com

HAMILTON NXUMALO – MBA'06

partnered with a Danish Company to establish South African Dredging Services. The company does the deepening of harbours and any man-made canals and ports. He serves on the boards of various companies and has recently taken up the position of Chief Engineer at Transnet Freight Rail.
Email: nxumaloni@webmail.co.za

NUDHAR BUNDHOO –
BSocSc'07, BSocSc(Hon)'08

is a Masters intern at the Human Sciences Research Council (HSRC) and is also finishing a Masters thesis. Nudhar is involved in three projects at the Sweetwaters site where she is currently working. Nudhar looks forward to hearing from other students in her year of study, especially other Mauritian students studying at UKZN.
Email: aishanud@hotmail.com

STEPHEN DAVID DE VILLIERS – BA'07

discovered cinema in his final year of school, making a no budget teen horror on the then new format of DVD. He developed his filmmaking

by attending film school in Cape Town, and majored in Performance and Media Theory at UKZN. He has made several independent short films, and has won numerous awards. He moved to Australia in 2008, and was accepted into the directing course at the Australian Film Television and Radio School. He is now based in Sydney where he is freelancing as a writer/director.
Email: stephen.devilliers@gmail.com

GEORGE O. ODHIAMBO –
PHD(SC)'07

worked as a lecturer of atmospheric science in the Department of Geography and Environmental Studies, University of Zululand after which he left for Monash University in Johannesburg in 2008, where he had a short stint as Lecturer of GIS and Atmospheric sciences. In August 2008, he took up an assistant professorship position in atmospheric science and geoinformatics at the UAE University. George is married to a fellow UKZN graduate, Angela Zueni.
Email: godhiambo@gmail.com

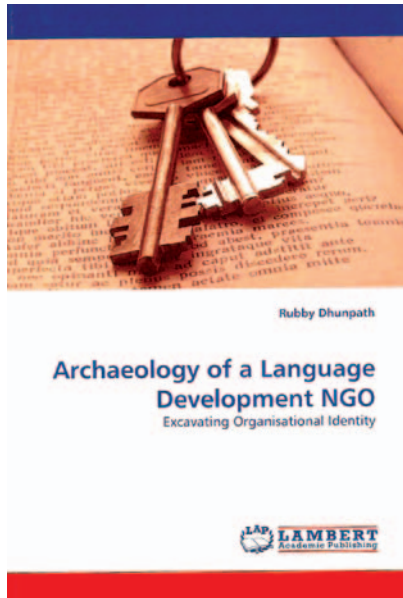
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On the Bookshelf



ARCHAEOLOGY OF A LANGUAGE DEVELOPMENT NGO

Excavating Organisational Identity

by **Rubby Dhunpath**

Non-governmental organizations (NGOs) that provide alternative education and literacy development in response to discriminatory education systems are known for their contextually responsive interventions to counter the effects of structural inequalities. This book documents the institutional memory of a South African NGO, the Environment and Language Education Trust (ELET), portraying two decades of history through the eyes of key individuals. It traces the multiple internal and extraneous influences that shaped the NGO's mutating identity as it negotiated the challenges of an unpredictable NGO climate and a volatile political regime.

The book finds that ELET demonstrates agency to innovate rather than replicate, benefitting from astute management and a vigilant quest for home-grown intervention programmes which help it redefine what constitutes emancipator literacies in a developing country.

Rubby Dhunpath is a Director (Teaching and Learning) at the University of KwaZulu-Natal.
Available from Lambert Academic Publishing

SMALL MOVING PARTS

by **Sally-Ann Murray**

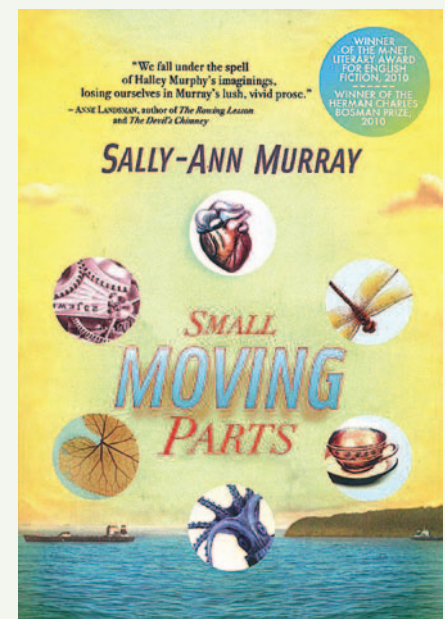
This debut novel tells the story of Halley Murphy, an extraordinary girl living an ordinary life – and making it count. She finds that a little love and imagination can take you pretty far, and that they can certainly help to hold the bits and pieces together. It's an unusual package, she knows, but what more could anyone want from life?

Set in the 1960s, this powerful and imaginative narrative swirls and eddies around a Durban family and their neighbours living in a block of flats close to the busy docks. A tale of bad choices, hard work, happiness and happenstance.

Small Moving Parts won the Herman Charles Bosman Prize and the M-Net Literary Award for English in 2010.

Sally-Ann Murray is the Head of the School of English at the University of KwaZulu-Natal.

Available from Kwela Books



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AGESON , Patricia Ann <i>BA</i> '83	(Miss)	KESIAMANG , Godisang John <i>PG Dip(IR)</i> '94	(Mr)	RABELE , Mojalefa Daniel <i>BProc</i> '94	(Mr)
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