November 2010

TYGER land

Fakulteit Gesondheidswetenskappe
Faculty of Health Sciences
Universiteit Stellenbosch University

Volhoubaarheid

Onderrig en Opleiding - *'n Evolusionêre benadering*

Food Security - *A basic human right*

Sustainable Health - *Is Africa facing a tsunami of chronic diseases?*

'n Nuwe dekaan vir Gesondheidswetenskappe

Die Tygerberg Gesondheidskompleks

In die middel van die foto is die Tygerbergkampus se grys Fakulteitsgeboue reg voor die bruin geboue van die Tygerberg Akademiese Hospitaal en regs in die voorgrond is die Karl Bremer-hospitaal.

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TYGER land

Voorblad
'n Nuwe dekaan vir Gesondheidswetenskappe

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Tygerland word uitgegee deur die Afdeling Bemarking en Kommunikasie van die Universiteit Stellenbosch se Fakulteit Gesondheidswetenskappe. Die tydskrif word gratis aan oudstudente van die fakulteit en ander belanghebbendes gestuur. Indien u kommentaar wil lewer op die inhoud van die tydskrif, of voorstelle maak ivm toekomstige uitgawes, kontak ons gerus. Indien u *Tygerland* gratis wil ontvang, kontak Mandi Barnard, Fakulteit Gesondheidswetenskappe, Posbus 19063, Tygerberg, 7505. Tel: 021 938 9505
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Mnr HJ Lombard

’n Tyd om te kom ... en ’n tyd om te gaan

As alles sy bepaalde uur het, en daar ’n tyd vir elke saak en vir elke werk onder die hemel is, dan is daar ook ’n tyd om te kom – en ’n tyd om te gaan.

Ek het 1994, aan die vooraand van die demokratisering van Suid-Afrika, mededekaan geword van die destydse Fakulteit Geneeskunde en is vanaf 2001 aangewys as dekaan van die Fakulteit Gesondheidswetenskappe. Saam met die transformasie en demokratisering van die land, het die Universiteit Stellenbosch ook in hierdie 17 jaar ingrypende veranderings en omwentelings deurleef. Danksy die hulp en bydraes van talentvolle en toegewyde kollegas, glo ek ons het dit tog reggekry om ’n aansienlik beter plek van die Fakulteit Gesondheidswetenskappe te maak, met meer geloofwaardigheid nasionaal en internasionaal.

Die aanmoediging en ondersteuning van u as oudstudente, en van heelwat oud-kollegas, was deurgaans ’n riem onder die hart.

’n Mens kan egter net soveel verander en innoveer, en dan bereik jy ’n punt waar jy besef dit het tyd geword vir nuwe idees en ander visies. Dit is hoekom ek besluit het om nie aansoek te doen om vir nog ’n termyn as dekaan te dien nie. Dit was egter ’n besluit wat deur persoonlike, eerder as professionele redes gemotiveer is. Ten spyte van die plesier wat ek uit my werksaamhede as dekaan geput het, was die 17 jaar aan die stuur van sake nie aldag goed vir die gesondheid nie – en met ons kinders wat nou almal uit die huis is, sou ek graag nog ’n klompie goeie jare saam met my vrou, Carina, wil deurbring.

Wegwysers na die toekoms

Ek glo dat die hoogtepunte en selfs die enkele laagtepunte wat die Fakulteitsgeskiedenis gedurende my termyn as dekaan gekenmerk het, vandag dien as aanduiding van die toekoms van gesondheidswetenskappe-opleiding aan die US, in Suid-Afrika en selfs internasionaal.

Hierdie uitgawe van *Tygerland* fokus op die evolusie van onderrig en opleiding aan die FGW oor meer as ’n dekade. In die Fakulteit het hierdie proses reeds in 1996 begin toe ek as mededekaan gevra is om weer die MB,ChB-kurrikulum onder die loep te neem om te verseker dat dit tred hou met globale tendense in onderrig op die gebied van die gesondheidswetenskappe en die ontploffing van nuwe kennis. Die veranderings en aanpassings wat ons destyds begin maak het, het intussen die norm geword in gesondheidswetenskappe-onderrig – nie net in Suid-Afrika nie, maar ook internasionaal. Dit is ’n proses wat steeds voortgaan en in die FGW word dit gedryf deur ons gerekende Sentrum vir Gesondheidswetenskappe Onderrig (SGWO).

As dekaan was ek ten nouste betrokke by twee

herstrukturerings van die Fakulteit. Dit, meer as enige van die ander omwentelings, het heelwat kalk in my kroonare neergelê!

Herstrukturerings

Die samesmelting van die fakulteite Geneeskunde en Tandheelkunde aan die einde van die 1990's was 'n positiewe ervaring en die nuwe Fakulteit Gesondheidswetenskappe, met sy vier Skole, is staangemaak met goeie samewerking en kollegialiteit. Hierdie struktuur is egter deels ongedaan gemaak toe die destydse nasionale minister van Onderwys, prof Kadar Asmal, twee jaar later besluit dat Mondheelkunde aan die US moet saamsmelt met die Fakulteit Tandheelkunde aan UWK as deel van die regering se herorganisasie van tersiêre opvoeding in Suid-Afrika. Hierdie besluit en baie van die ander besluite wat destyds geneem is, is vandag nog moeilik verteerbaar en 'n mens kan selfs redeneer dat dit aan die hart lê van baie van die probleme wat tans hoër onderwys in Suid-Afrika in die wiele ry.

Die tweede proses was deel van die finansiële herstrukturering van die US en hoewel dit onafwendbaar was, was dit waarskynlik een van die moeilikste en mees traumatiese periodes in my termyn as dekaan. Dit het gelei tot die verskraling van die Fakulteit se 33 departemente tot tien, tesame met ander besparingsmaatreëls.

Gevolglik het ons in 2006 opnuut begin met 'n nuwe fakulteitstruktuur en die bestuurspan soos wat dit vandag daar uitsien. Teen die einde van 2006 het dit reeds baie beter gegaan. Die nuwe bestuurspan het hul portefeuljes besonder goed bestuur en belangrike bydraes gemaak tot die Fakulteit se prestasies oor die laaste jare.

Special achievements

These are some of the achievements that inspire pride and a lot of confidence in the future of this institution. They include:

- The phenomenal growth in external research funding, from R20 million in 2005 to some R120 million in 2009. At the same time we have seen a marked growth in research outputs with publication units rising from 127.5 in 2005 to 183.41 in 2009, a growth of 44.8% over four annual cycles.
- The huge improvement in student diversity that started in 2001 when we changed the Faculty's selection and recruitment policies to improve access for promising students from academically disadvantaged communities. Admittedly there was pressure from government, but I truly believe that it was also a moral issue and the right thing to do. For the past five years, 60% of all our MB,ChB students, as well as more than 50% of students who completed their studies during this period, were generically black. In fact, more coloured medical students are trained by the SU FHS than any other health sciences institution in South Africa.
- The growth of postgraduate programmes and students has been extremely encouraging. When I became dean of the Faculty, we had 824 postgraduate students; these numbers have increased to 1 903 today. More than 50% of these students are not white and 10% are from other African countries.
- The recognition of the SU FHS as an international research partner. I was appointed deputy dean of the Faculty during a time of turmoil when there was intense pressure from government and other institutions for the amalgamation of the health sciences faculties of the SU and the University of Cape Town (UCT) into one faculty, with Groote Schuur Hospital as the only teaching hospital for postgraduate medical students. Today, the idea of such a merger is out of the question; even the politicians have come to realise that it will be a huge mistake.
- Against this background, I am particularly proud of the bridges built across the Liesbeek river over the past decade. Whereas relationships with UCT have been strained and even hostile at the beginning of my term as dean, there is know a spirit of mutual respect and fraternity. I believe there is now a realization at both institutions that the individual interests of the two faculties are, in fact, locked in a mutual interest.
- The evolution and development of rural health training and the pioneering role played by the Faculty in establishing the first Rural Clinical School in South Africa, have been a source of tremendous pride and pleasure over the last few years – and represent a logical extension of the Faculty's new curricula and teaching and training philosophy. Furthermore, the role of the Rural Clinical School is of crucial importance in initiatives of the University regarding wider sustainable rural development. Some of these initiatives, particularly in the field of food security, are highlighted in this edition of *Tygerland* (see p. 20-24), and form part of SU's wide-ranging Project Hope.

As dean, I have been grateful and truly appreciative of the Faculty's strong and loyal corps of alumni. You have always done us proud – as was again illustrated when the Orthopaedics Division upgraded its facilities in Tygerberg Hospital recently (see p. 32). I hope the selection of articles in this edition of *Tygerland*, together with the news we have shared with you through our electronic newsletter, *Tygerberg e-Gesprek*, has given you a fairly thorough outline of new developments and achievements at the SU FHS over the past year.

A new leader for a new decade

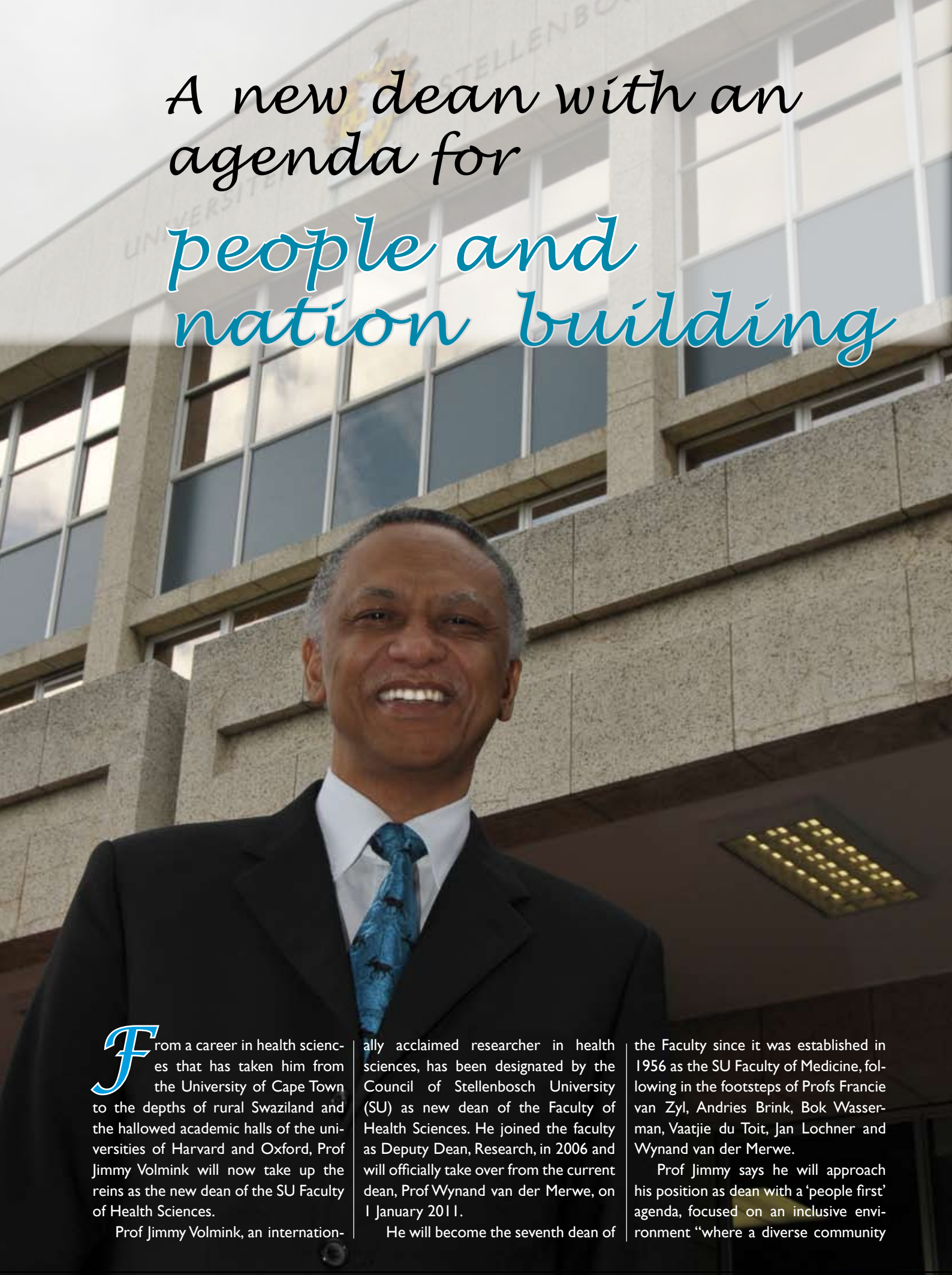
Although this will be the last letter from the desk of this particular Dean, the new designated Dean of the FHS, Prof Jimmy Volmink, will take up the pen in the next edition. As you will see from Prof Jimmy's profile on p. 4, he is ready and fully equipped to lead the Faculty into the second decade of the 21st century. While he may need to grow some extra skin to protect himself against some of the trials and tribulations of the job, I am sure that it will give him as many moments of pleasure and fulfillment as it has given me over the past 17 years.

To each of you, our much valued alumni and other partners and friends who share our quest for academic and research excellence, as well as optimal health care for our country and continent – thank you for all your support over the years. It has been a source of encouragement for myself and the Faculty.

With warmest Tygerberg regards,

Wynand van der Merwe
Dean

A new dean with an agenda for people and nation building



From a career in health sciences that has taken him from the University of Cape Town to the depths of rural Swaziland and the hallowed academic halls of the universities of Harvard and Oxford, Prof Jimmy Volmink will now take up the reins as the new dean of the SU Faculty of Health Sciences.

Prof Jimmy Volmink, an internationally acclaimed researcher in health sciences, has been designated by the Council of Stellenbosch University (SU) as new dean of the Faculty of Health Sciences. He joined the faculty as Deputy Dean, Research, in 2006 and will officially take over from the current dean, Prof Wynand van der Merwe, on 1 January 2011.

He will become the seventh dean of the Faculty since it was established in 1956 as the SU Faculty of Medicine, following in the footsteps of Profs Francie van Zyl, Andries Brink, Bok Wasserman, Vaatjie du Toit, Jan Lochner and Wynand van der Merwe.

Prof Jimmy says he will approach his position as dean with a 'people first' agenda, focused on an inclusive environment "where a diverse community

of students and staff feel supported, respected, affirmed, acknowledged and valued."

This agenda will include nation building, "and I would like us to talk honestly about how we as South Africans - regardless of skin colour, language, culture, religion, or any other factor that has divided us in the past – can unite to build a healthy and prosperous country for ourselves and our children. I believe Stellenbosch University, with its unique history, now has an historic opportunity to create a culture of reconciliation and harmony that can serve as a model to the rest of South Africa and the world."

A Capetonian to the bone, and the middle child in a family of seven siblings, Prof Jimmy grew up and completed his schooling in Athlone, in the shadow of the old 'twin towers'.

"To see them go down was a sad moment, and I hope not a bad sign," he says jokingly. While neither of his parents had much education, they instilled a respect for education in their children - encouraging and supporting them to the extent that all seven of them received a tertiary education of some sort, Prof Jimmy says. At the same time, their involvement in the community has left a lasting impression on the children - so much so that Prof Jimmy chose to spend his post-internship in the depths of rural Swaziland, at the Emkhuzweni Rural Health Centre, where at night he often had to work in lamp light to tend to his patients, and find his way back to his living quarters through long grass, infested with snakes!

Prof Jimmy worked in the community as a family doctor and district surgeon for a number of years before he developed an interest in research that took him to the MRC for five years, to Harvard for a Masters degree in Public Health and eventually to Oxford University in the UK where he completed his doctorate in Cardiovascular Epidemiology. On his return to South Africa, he set up the SA Cochrane Centre (SACC) - an intramural MRC unit which plays a leading role in advancing evidence-based medicine on the continent. The SACC - one of 13 such centres worldwide - is the only one in Africa. He also spent a year in Washington DC in the US where he was invited by the Global Health Council to set up a Division of Research and Analysis in global health.

As Deputy Dean, Research, Prof Jimmy has been greatly encouraged by huge strides made by the Faculty in this field.

"It is encouraging that our institution does not behave as if it has nothing to learn. We realise that we can still do better.

"I believe we have the building blocks in place to become a truly great university in the field of research. While we currently have world class expertise in areas such as HIV and TB, I would like to see this excellence spread to other areas as well - like chronic diseases, non-communicable diseases and health systems research, for instance."

With this strong commitment to research, Prof Jimmy will strive to promote and sustain a strong research culture, encouraging research productivity and visibility in both clinical and pre-clinical sciences. "We will seek to attract and recruit top-class researchers, retain and develop promising postgraduate students and researchers, and develop the research infrastructure.

"At the same time, we will monitor the external environment to ensure that research is aligned with the health needs of the population and that research opportunities in the form of large-scale funding and research partnerships are identified early."

The faculty experienced significant development and growth in research since he was appointed to the Research portfolio on the management team. This included a 30% growth in publications in accredited journals; as well as a substantial growth in grant applications, with a concomitant increase in success rates. The procurement of large grants has, for example burgeoned from a total of R20 million in 2005 to around R120 million in 2009.

Two significant initiatives during his term as deputy dean included new courses in research methodology which have been offered to more than 200 Masters' degree students and a new, internationally bench-marked, Masters' degree in clinical research which is flourishing.

In further strengthening clinical research, Prof Jimmy would like to see the establishment of a Centre of Excellence in Clinical Research in the Faculty, offering amongst other things, on-site epidemiological, biostatistical, data management, grant writing and publishing support, to researchers across the Faculty.

In the field of education, Prof Jimmy sees the Centre for Health Sciences Education becoming a world leader in the scholarship of teaching and learning in the health sciences. "As dean I will actively support the Centre's development by, *inter alia*, ensuring a critical mass of researchers, and facilitating research collaborations, as well as other partnerships with leading institutions in the field."

He points out that a Faculty's interaction with this environment - i.e. the public, alumni, government, business arena, professional bodies and other academic institutions - can have a powerful influence on its ability to carry out the business of teaching, research and service. "The underlying philosophy driving our engagement simply put would be: it is better to be an agent of change than an object of change."

He says he will strongly encourage a mindset that favours adaptiveness and innovation over resistance and bureaucracy. Thus he will ensure, *inter alia*, constructive dialogue with Provincial authorities to address conflicts around posts, beds and budgets.

"My vision for the Faculty of Health Sciences' future is shaped by life experience in South Africa and abroad, and by knowledge gained from various writings. It is also informed by the existing Faculty vision and SU's Vision 2012, as well as by the recently formulated faculty values – commitment, integrity, accountability and excellence."

Training trends and challenges to improve health care delivery

"The central mission of medical education is to improve the quality of health care delivered by doctors and we must never fail to remember the central role played by patients as the ultimate recipients of our skills – what doctors do, and how and when they do it, depends on the quality of medical education. We need to get it right."

Sentiments such as these, by the prominent British educationalists, Bligh and Parsell, have been at the crest of a tidal wave of global curricula reform that swept across health sciences faculties over the past 10 to 15 years.

In this regard Stellenbosch University has been no exception.

Over the past decade, the curricula of the Faculty's medical students, as well as students in the allied health sciences, were comprehensively overhauled to ensure that *what* they learn and *how* they learn, will equip them with the best knowledge and skills to work as competent and caring health care professionals who can improve the quality of care delivered to their patients. At the same time, the revised curricula were designed to teach them how to practice their professions in a health care environment marked by continuous change and an explosion of new knowledge and technology.

Curricula reform at the SU Faculty of Health Sciences and at the country's other health sciences faculties have not been confined to South Africa. On the contrary, medical educators worldwide have expressed concerns about the shortcomings of traditional medical education over many decades, focusing on issues such as the previously lecture-based teaching that overwhelmed students with information that they were then expected to 'memorise, recall and regurgitate' to pass their exams; discipline-specific curricula that compartementalised learning and stripped students of the ability to integrate, evaluate and apply their knowledge across disciplines to solve common problems; and teacher-centered education that seldom allowed students any involvement in the learning process and consequently counteracted the need for continuing life-long learning which is crucial to good medical practice.

Over the past decade, medical educators of the SU Faculty of Health Sciences have addressed these shortcomings through changes to the curricula that incorporate –

- problem-based educational strategies that promote problem-based learning in small groups;
- integrated, interdisciplinary curricula, and
- more student-centered learning.

Furthermore, education and training have increasingly moved from the hospital to the community, focusing on primary health care, interdisciplinary learning and teaching and rural training. Instead of viewing the curriculum as a rigid and static entity, the SU's health sciences educators are continually monitoring, evaluating and adapting the course content in response to changes in the health care environment, specifically to ensure that Stellenbosch-trained health care professionals – be they doctors, nurses, physiotherapists, occupational therapists, dieticians or speech-language and hearing therapists – are equipped with excellent clinical, as well as people-centered skills that will enable them to provide caring and ethical health care to the people of South Africa. The most recent changes to the curricula comprised the development of a joint programme of six months for students in their first year of study, known as the Foundation Phase. These changes are aimed at enhancing personal and professional development on an interprofessional basis; the advancement and optimization of interdisciplinary learning and teaching, and the integration of the basic sciences into the clinical content of the curricula. This phase is fully shared by MB,ChB and Physiotherapy students while Occupational and Dietetic students share some of the modules. On the level of personal and professional development, specific areas of competence were incorporated into the curricula, i.e. science writing skills, stress management and language skills in Afrikaans, English and Xhosa.

Since implementation, the curricula changes have been carefully monitored and researched and the results presented to much acclaim at national and

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Prof Hoffie Conradie

The shift towards rural education and training

In the Faculty of Health Sciences, the shifting of educational paradigms is clearly illustrated by a growing emphasis on rural training for doctors and allied health care professionals.

With its decision to establish a rural clinical school to provide clinical training to students at rural hospitals and health care facilities, Stellenbosch University also hopes to contribute towards a solution for the growing shortage of doctors and other health care professionals in rural areas of the country.

Research and the experience of countries like Australia have shown that students trained in rural areas are more inclined to settle and practice in those areas, says Prof Hoffie Conradie, director of SU's Ukwanda Centre for Rural Health. As a specialist in rural education, Conradie was recently invited to spend five weeks in Australia as part of a team tasked to review the rural clinical schools of Monash and Flinders universities. He also visited training sites at the rural clinical school of Deakin University in Victoria. The twelve medical schools in Australia now have 17 rural clinical schools.

Conradie says the motivation for the Australian model of rural training was, amongst others, to encourage more students to practice in rural areas. "International evidence suggests that students who grew up in rural areas and were recruited in those areas, were more inclined to return to their roots when they started practicing."

However, the rural training model also addresses many of the other criteria set by experts in health sciences education to meet the ever-increasing demands on health care delivery systems worldwide. This includes adapting clinical teaching to provide experience of primary care and community health services and giving prominence to public health that encompasses health promotion, illness prevention, population and community needs and an awareness of environmental and social factors in disease.

Although some departments in the SU FHS provided opportunities for rural training in the past, it only became an integral feature of training when the Faculty's new curricula were introduced more than a decade ago. In 2002, the divisions of Family Medicine and Primary Care, Community Health and the Centre for Rehabilitation Studies introduced a 2-week clinical rotation that exposed all undergraduate medical students to training in rural areas at health care facilities.

Since 2008, student interns of these divisions have been doing a five-week combined rotation. They have been given the opportunity to do the rotation at rural sites in the Western Cape and at Madwaleni Hospital in the Eastern Cape. Presently, approximately a third of student interns elect to do the rotation in rural areas.

Laying the foundations

To provide the logistics for rural training, research and community interaction, the FHS established the Ukwanda Centre for Rural Health in 2001 to train health care professionals with applicable knowledge and hands-on experience of the health issues facing rural and underserved communities in South Africa.

Ukwanda co-ordinates transport, accommodation and other facilities for students at training sites in the towns of Bredasdorp, Caledon, Ceres, Citrusdal, Grabouw, Hermanus, Malmesbury, Montagu, Paarl, Robertson, Somerset West, Stellenbosch, Swellendam and Madwaleni in the Eastern Cape. Academic disciplines on the Tygerberg Campus are responsible for the selection and accreditation of mentors/supervisors who oversee the students training at these sites where they are exposed to the full spectrum of health care services – including primary health care platforms such as community health centres, primary care clinics, mobile clinics, home visits, NGO encounters and the private health sector. Thus they gain first-hand experience of the realities of working and caring for patients in resource-limited environments. At present, some 970 undergraduates rotate to rural towns for periods of two to six weeks per year.

Another important educational issue that is addressed during rural training, comprises interdisciplinary teaching and training. On the educational level, this principle is incorporated in the foundation phase of the Faculty's first year curriculum which is fully shared by MB,ChB and Physiotherapy students while Occupational and Dietetic students share some of the modules. It then extends into practical training during rural rotations when the students work in teams that may combine two or more disciplines such medicine, dietetics, physio-, occupational- and speech therapy.

Ukwanda also incorporates a research arm and employs two researchers whose work is directed by Ukwanda's director, Prof Conradie, who has devoted most of his medical career to rural health. He says that his interest in a South African rural clinical school was born during an annual rural conference of WONCA – the acronym for the World Organization of Family Doctors. "It was an inspiring idea and I realised that South Africa was the ideal country for such a venture."

To grow and develop in the community

The SU's Rural Clinical School (RCS) comes into operation in 2011 and represents and expansion of the work of the Ukwanda Centre for Rural Health.

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Recent trends in medical education reflect major shifts in educational paradigms arising from reappraisals of the relevance and the effectiveness of traditional medical education in the context of fast changing, complex and ever increasing demands on the health care system." (Prof Matthew CE Gwee)

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It will also be known as the Ukwanda Rural Clinical School. Ukwanda is a Xhosa word that can be translated as 'to grow and develop' within the community; to make a positive difference.

In terms of bricks and mortar the RCS is due to be completed towards the end of 2011 adjacent to the Worcester Hospital, says Dr Frans Krige, who was recently appointed manager of the project.

"This will comprise a modern and well-equipped academic building and a residence for up to 40 students. However, the School will also utilise Ukwanda's well-established platform for training purposes. This includes all the health facilities and services established in the eastern half of the Cape Winelands district, as well as the whole Overberg district".

Against the background of international research and experience of rural training – and the Australian experience in particular – Stellenbosch University's rural training plans were developed to include a one-year clinical rotation for final year medical students.

Although the University plans to select 30 students per annum for rural training, the first group to start their training in 2011 will comprise 10 student volunteers who have expressed an interest in rural training. Two models of training will be utilised for these students. One group will train at the Worcester regional hospital and will rotate through the various specialist departments but will be exposed to primary care throughout the year.

"The second group will be trained in terms of the so-called continuous longitudinal integrated clerkship (CLIC) model which represents an entirely new paradigm in medical training. This model was so successful in Australia that it is now regarded as just as good as and even better than the traditional medical training offered at teaching hospitals."

According to Conradie, the SU model involves continuous, year-long training of student interns at any of five participating district hospitals, namely Ceres, Robertson, Hermanus, Caledon and Swellendam, under the mentorship of a Family Physician, with regular inputs from visiting specialists.

He says there are three important principles underlying this model:

"Firstly, it offers the student much more continuity with patients over a period of one year. Secondly, it ensures year-long continuity with a single mentor and since the student and mentor work together throughout the day, the student gets much more one-on-one attention from the mentor. Finally it ensures continuity with the community and the student learns what it means to live within the community that he or she serves."

During his Australian visit, Conradie was struck by the amount of hands-on experience students get when they are trained in terms of the longitudinal model, and how much exposure they get to the full spectrum of diseases that affects rural communities.

"This aspect is of cardinal importance for health sciences training in the Western Cape where the Provincial Government's 2010 plan determines that 90% of all patients should be treated on the primary care level while 8% must receive treatment at district hospitals and only 2% on the tertiary level."

A winning concept for all

While rural training is of benefit to health sciences students, Conradie says it represents a win-win situation for all concerned. "It has a positive influence on health services in rural areas and the doctors involved in the training find it very stimulating. For many family physicians the academic element represents a new lease of life in their professional careers, which contributes to the retention effect. At the same time, communities are glad to have the students, especially since they know that the students may come back as fully fledged health professionals."

To accommodate Stellenbosch University's venture into rural health, the academics concerned have done extensive curriculum planning under the auspices of the SU Centre for Health Sciences Education. This took place during three workshops, attended by specialists from the Tygerberg and Worcester Hospitals, as well as family physicians from the five participating hospitals. This forms part of an action research project to adapt the present curriculum to the RCS.

Conradie says the new Family Medicine speciality, promulgated by the Government in 2007, will play a vital role in the new rural training models. The new speciality represents a major change in health sciences in South Africa and has put Family Medicine on par with other specialities in Medicine. SU training of registrars in this field is progressing well with five registrars currently working at the Worcester training complex. The new speciality was preceded by a Masters degree in Family Medicine This means that many of the doctors who have completed this degree, as well as those currently training as Family Medicine specialists will act as mentors for students of the RCS at district hospital level.

The RCS is not only for medical students, but will also train students in the Allied Health Sciences.

Interprofessional learning and teaching will be an important element in the various programmes. "As it is, Occupational Therapy students spend seven weeks of training in Worcester. The Rural Clinical School will be able to accommodate them and other students in the Allied Health Sciences for longer rotations.

"We would also like the school to become involved in the training of nurses, as well as paramedics. This will create ideal conditions for interprofessional learning." T

Ukwanda

The Ukwanda Rural Clinical School (RCS) is one of the 22 projects that form part of SU's Overarching Strategic Plan (OSP) – the vehicle used by the University to achieve its vision of becoming significantly better, significantly different and more relevant to the context in which it operates. The OSP is focused on the five development themes which will drive its pursuit of the Millennium Development Goals. It is envisaged that the Ukwanda RCS, through the development of its rural campus, will provide the leverage for SU to engage with strategic partners in the region to drive sustainable rural development. As such, the project is a pivotal part of the SU's wide-ranging Project Hope.

www.thehopeproject.co.za

$10 miljoen

Fakulteit ontvang befondsing van $10 miljoen vir mediese onderrig en navorsingsopleiding

Mediese onderrig en navorsingsopleiding in Suid-Afrika het 'n uitsonderlike befondsingstoekenning van $10 miljoen ontvang, toe die Universiteit Stellenbosch as deel van 'n mulitmiljoen dollar projek van die VSA aangewys is. Die VSA-projek het ten doel om kapasiteitbou in die veld van mediese onderrig in sub-Sahara Afrika te bevorder.

Die VSA se *Department of Health and Human Services*, in vennootskap met die *US President's Emergency Plan for AIDS Relief* (PEPFAR) beplan om $130 miljoen oor 'n tydperk van vyf jaar te belê en sodoende mediese onderrig in Afrika te transformeer en die aantal gesondheidsorgwerkers aansienlik te verhoog.

Die *Medical Education Partnership Initiative* (MEPI) program is ontwerp om PEPFAR te ondersteun om hul doelwit te bereik, naamlik die opleiding en behoud van 140 000 nuwe gesondheidsorgwerkers en kapasiteitsverbetering van vennootlande om primêre gesondheidsorg te lewer.

Toekennings word deur die MEPI-platform, wat in vennootskap met geneeskundige skole en universiteite in die VSA is, direk aan Afrika-instellings in twaalf lande gemaak. Die inisiatief bestaan uit 'n netwerk wat naastenby 30 plaaslike vennote, regeringsgesondheid- en onderwysdepartemente en meer as 20 VSA medewerkers insluit.

MEPI is 'n samewerkingsinisiatief waarby die *US Office of the Global AIDS Coordinator, Health Resources and Services Administration (HRSA),* en die *National Institutes of Health (NIH) se Fogarty International Centre* betrokke is. Die *All-MEPI Coordinating Centre* is aan die George Washington Universiteit, onder leiding van drr Fitzhugh Mullan en Seble Lemma, toegeken.

As ontvanger van een van die MEPI befondsingstoekennings, sal die Stellenbosch Universiteit se Landelike Geneeskunde Onderrig-vennootskap Inisiatief (SURMEPI), jaarliks $2,000,000 oor 'n tydperk van vyf jaar, dus 'n totaal van $10,000,000 oor vyf jaar, ontvang.

"Die Universiteit Stellenbosch-span is geëerd en dankbaar vir die vertroue wat daar in ons navorsing en opleiding gestel is. Heelwat van ons navorsers is werksaam by goed gevestigde navorsingsinstellings in stedelike- en landelike gemeenskappe, terwyl ander by toonaangewende laboratoriumnavorsing betrokke is. Die insluiting van innoverende geneeskundige kennis en vaardighede in 'n landelike opset, waar die grootste behoefte is, tesame met kliniese en gemeenskapsgesondheidnavorsingsprojekte, het ons aansoek kompeterend en uiteindelik suksesvol gemaak," het prof Jean Nachega, Direkteur: Infeksiesiektes Sentrum van die Fakulteit van Gesondheidswetenskappe, en hoofnavorser van die SURMEPI-toekenning gesê.

Die befondsing sal aanvanklik vir kapasiteitsbou in geneeskundige onderrig en navorsingopleiding by die Landelike Kliniese Skool in Worcester aangewend word, waarna dit na ander landelike areas uitgebrei sal word. Die spesifieke voorgestelde projekte en hul leiers is:

1. Kliniese Vaardigheid in Antiretrovirale en Tuberkulose Behandeling vir professionele gesondheidswerkers (verpleegkundiges, dokters, aptekers, ens.) (Prof Cheryl Nikodem, Dr Jantjie Taljaard);
2. Uitkomsgebaseerde Geneeskunde (Dr Taryn Young en Prof Jimmy Volmink);
3. Gesondheidsisteemwetenskapnavorsing (Proff Lilian Dudley en Merrick Zwarenstein);
4. Farmakologie (Prof Bernd Rosenkranz);
5. Epidemiologie, Biostatistiek en Gemeenskapgesondheid (Dr Neil Cameron en Prof Jean Nachega);
6. Infeksievoorkoming en -beheer (Prof Shaheen Mehtar);
7. Infeksiesiektesopleiding (Dr Jantjie Taljaard en Prof Jean Nachega);
8. Familiegebaseerde Model vir MIV-sorg (Prof Mark Cotton)
9. Landelike Kliniese Skool (Prof Marietjie de Villiers en dr Therese Fish)

Ingevolge die toekennings, sal die Universiteit Stellenbosch saam met 'n aantal eksterne gesondheidsinstellings werk, insluitend die Johns Hopkins Universiteit in die VSA; Makerere Universiteit in Uganda; die Universiteit van Kaapstad se *Lung Institute's Knowledge Translation Unit* en die Karolinska Instituut in Swede. T

Lede van die MEPI-werksgroep druk in gesprek tydens die eerste beplanningsessie wat in November gehou is.

'The student cannot *know*, unless he knows *how*'

In the training environment where South African students acquire practical skills in health sciences disciplines, learning *how* remains a challenge.

In terms of SU health sciences curricula, students are expected to acquire basic clinical skills much earlier in their training. However, with the move towards primary care, more patients are treated at community and regional hospitals and primary care clinics and fewer at tertiary teaching hospitals. Consequently learning opportunities for students in the earlier years of study are limited.

The University addressed this challenge with the establishment of a state of the art Clinical Skills Centre (CSC) on the Tygerberg Campus in 2000, when the Faculty of Health Sciences (FHS) first introduced curricula reforms that included earlier clinical training. Since then the CSC – whose work is overseen by the Centre for Health Sciences Education (CHSE) - has provided students with a safe learning environment where they can learn essential skills without compromising themselves or a patient.

"The practical exposure that students get is often limited. The CSC is where it can be done in a standardized fashion. Here they learn textbook techniques and are then send out to practice the techniques," says the manager of the facility, Sister Elize Archer.

Today, the CSC logs in some 13 000 student visits during the academic year. The Centre presents the students with modern, highly sophisticated models and computerized simulators to hone their clinical skills, long before they are exposed to real patients in a clinical setting. This may involve basic skills associated with students just entering the clinical phase of their training, such as the attachment of a drip, the stitching of a wound or doing a lumbar puncture. However, over the past few years, lecturers have also been utilizing the facility to introduce senior students and even postgraduates to areas of medicine that require special skills – i.e. anaesthetics, laparoscopy, bronchoscopy or difficult obstetric cases where problems like shoulder dystocia may be involved."

According to Archer, clinical skills training was initially presented in a relatively unstructured fashion by the different departments and divisions but this is set to change with the recent introduction of a structured curriculum for clinical skills training.

A practical skills exam

Archer, together with the CHSE and the MB,ChB curricula committee, designed the curriculum to promote uniformity and ensure that MB,ChB students have mastered all the necessary clinical skills when they complete their training. It includes logbooks of a wide range of procedures that the students must master during different years of study. To ensure compliance, the logbooks must be signed off by the lecturer responsible for the training.

"At the end of the year, the OCSE (*objective structured clinical examination*) technique will be used to assess the students," she says.

"The curriculum was introduced for third years in 2010 which means that the students will be doing a practical exam for the first time this year. Further implementation will continue next year and in the following years, with questions on skills appropriate to all the work the students have learned during the year," Archer says.

As part of the University's CHSE, the Centre is playing an increasingly important role in all teaching and learning activities in the SU FHS. The main types of skills taught by Archer and the CSC team include procedural, physical examination and communication skills.

Changing and rearranging

Since it came into operation in 2001, the CSC as a dynamic learning area, has kept pace with new development in skills training, as well as new technology. Here students have access to a wide variety of simulated models to learn the skills that they will require as health sciences professionals. The models range from tiny babies to others as big as life with beating hearts, bowel and breathing sounds and dilating pupils. Also included are disembodied arms that allow the attachment of a drip or the drawing of blood; heads and torso's for the insertion of chest tubes and other airway devices and special apparatus which can be strapped to a simulated 'patient' to teach students how to deal with difficult situations, such as a patient pulling his arm away while blood is drawn from a vein or during the attachment of a drip.

"Needle-stick injuries represent a constant danger for students and health care workers since they may expose them to blood-borne diseases such as HIV. Such injuries require immediate prophylactic HIV treatment which not

Far left: Using a CSC device, Prof Gerhard Theron, Head of Obstetrics and Gynaecology, teaches the group of Cuban trained medical students.
Left: Lyneth Bailey, postgraduate midwifery nursing student, busy doing episiotomy suturing during an OSCE examined by Sr Sophia Basson.

only causes emotional strain for the person involved, but also has financial implications for the teaching hospital. That is why we have acquired additional special arms that allow students to practice the skills that are required for the drawing of blood or the insertion of drips." says Archer.

The students also have access to models that breathe like athletes and have airways that can be accessed with the latest airway devices. Others have cardiac rhythms and synchronized pulses that allow students to interpret and intervene, using defibrillators and other devices, and some have pupils that can demonstrate the difference between normal, constricted or dilated pupils.

A number of these devices and equipment have been upgraded over the last two years and at the same time the Centre's physical space was extended to include several new facilities for undergraduate as well as postgraduate training. Archer says the CSC is changed and rearranged on an ongoing basis, often to meet the needs of lecturers and students. She also visits the hospital on a regular basis to see how things are done. "We want our teaching to reflect the context of the hospital where our students work, and identify areas that require special attention, such as methods to promote infection prevention and control and the elimination of needle stick injuries. Thus we use simulated 'patients' to create real-life situations such as the difficulties experienced by a health care professional when he or she tries to attach a drip to a drunken patient."

"In 2009/2010 we have used funds, allocated to the CSC from the DoE funds for clinical training, to upgrade equipment. At the same time, departments and divisions such as Physio- and Occupational Therapy, Postgraduate Nursing, as well as Speech-Language and Hearing Therapy, have also bought new skills training equipment."

Some of the latest acquisitions for undergraduate training include models, simulators and other equipment for practical procedures, including cardio-pulmonary resuscitation (CPR) models of adults and babies.

"CPR is one of the classic procedures to be taught in simulation. Our students are spending a lot of time learning how to do CPR on the baby models in particular," Archer says. "We also have a new underwater drain model, as well as an apparatus for shoulder and knee aspirations. Our new *Prompt Simulator* for shoulder dystocia is used on undergraduate and postgraduate levels to teach student how to deal with difficult births."

In educational terms, medicine and the health sciences demand more of students than just watching, learning and memorizing; they also require practical application of classroom knowledge. Or as Abraham Flexner wrote as long ago as 1910: "An education in medicine nowadays involves both learning and learning how; the student cannot effectively know, unless he knows how."

Postgraduate skills training

One of the aims of the CSC is to get more involved in postgraduate training and with the recent expansion of facilities, special arrangements have been made to accommodate postgraduates. Thus a laparoscopic simulator – known as the LapSim – was acquired at a cost of R1 million to familiarize registrars and others in Urology, Surgery and Obstetrics and Gynaecology with laparoscopic surgery techniques."

Anaesthesiology plays an important role in the training activities of the CSC, A special room was therefore installed to allow Anaesthesiology registrars to learn difficult airways procedures, using a simulated model. Another valuable resource is a simulated operating theatre, equipped with models for training in anaesthesia techniques. All medical students are required to complete a training course in this theatre before they start their anaesthesia rotation at the Tygerberg Hospital.

One of the special facilities installed during the expansion comprises an intensive care unit which is regularly utilized by the Emergency Medicine division. This division, in cooperation with the University of Cape Town, has been offering specialist training in Emergency Medicine since 2004.

In 2009, Archer and her team also acquired video equipment and a computer programme, used by the CSC and the Centre for Teaching and Learning to film practical procedures and to edit and publish these procedures on Webstudies – a SU learning resource on the Internet.

"The aim of initiative is to enhance the learning experience and to encourage self-directed learning. Students can access the learning resource through the student portal and revise the learning material as often as they like."

Although health sciences education is the primary task of the CSC, Archer and her team are also involved in other educational activities, including research about health sciences education and short courses for CPD purposes – in relevant clinical skills. T

Far left: The head of the Centre, Sr Elize Archer, explains bag mask ventilation to a group of MB,ChB students. Left: Dr André van der Merwe demonstrates the laparoscopic simulator which is used to familiarize registrars and others in Urology, Surgery and Obstetrics and Gynaecology with laparoscopic surgery techniques.

Geriewe om nagraadse vaardighede te slyp

Die hoof van die Afdeling, prof Bennie Hartzenberg en dr Armin Gretschel, 'n kliniese assistent in die Afdeling, demonstreer die apparaat tydens die opening van die nuwe kadawerlaboratorium van die Afdeling Neurochirurgie.

Benewens die nagraadse opleidingsgeriewe wat die Kliniese Vaardigheidsentrum tot die beskikking van studente stel, is daar ook departemente en afdelings in die Fakulteit wat eie geriewe tot stand gebring het om aan nagraadse studente en kliniese assistente die geleentheid te bied om hul vaardighede in bepaalde spesialisgebiede te slyp.

Kadawerlaboratorium vir Neurochirurgie

'n Nuwe vaardigheidslaboratorium is in 2010 vir die Afdeling Neurochirurgie in die Fisangebou bekend gestel en word sedertdien aktief gebruik vir die opleiding van kliniese assistente en die aanbieding van spesiale werkswinkels in neurochirurgie.

"Die fasiliteit is gerig op opleiding, die oefening van toegange tot sekere dele van die brein en die opskerping van essensiële vaardighede in neurochirurgie," sê die hoof van die Afdeling, prof Bennie Hartzenberg. "Daar is waarskynlik nie nog so 'n laboratorium in Afrika nie."

Hy sê die laboratorium stel kliniese assistente in staat om seldsame operasies op kadawers in die laboratorium te oefen, vòòr dit op pasiënte gedoen word.

Die laboratoriumgeriewe maak dit moontlik vir dokters om kraniale sowel as spinale werk op kadawers te doen. Dit is spesifiek ingerig vir die opleiding van kliniese assistente en is reeds 'n integrale deel van Neurochirurgie se nagraadse program. Die laboratorium word ook vir voortgesette professionele ontwikkeling gebruik.

"Ons het in Julie 'n baie suksesvolle werkswinkel aangebied wat spesifiek gerig was op endoskopie en 'n span kenners het nuwe tegnieke met endoskopiese lumbale disseksies op kadawers gedemonstreer. Die Storz-maatskappy het die instrumentasie vir die werkswinkel verskaf en dr David Welsh van Groote Schuurhospitaal het 'n lesing oor die tegnieke gegee."

Dr Ian Vlok, 'n spinale neurochirurg in die Afdeling Neurochirurgie, en konsultante van Storz was die fasiliteerders. Prof Hartzenberg, dr Hanno Vivier – ook 'n konsultant in die Afdeling - en ander lede van die span het ook endoskopiese derde ventrikulasieskopie op kadawers gedoen, sowel as pituitêre endoskopiese chirurgie (dr Gary Croukamp); anterior skedelbasis-chirurgie (prof Hartzenberg) en pedikelskroef-fusies (dr Ian Vlok) met toerusting van die SA maatskappy, Southern Implants.

Volgens Hartzenberg maak kliniese assistente in Neurochirurgie vir die afgelope drie jaar reeds gebruik van die disseksiegeriewe in die Afdeling Anatomie. Daar is tans vier kliniese assistente in Neurochirurgie, sowel as twee botallige kliniese assistente en twee mediese beamptes.

Navrae kan gerig word aan prof Bennie Hartzenberg, hbh@sun.ac.za

Ear, Nose and Throat Surgery

Training for ENT surgeons

Due to the complex anatomy of the petrous temporal bone, where several important soft tissue structures such as the ear, the facial nerve, the sigmoid sinus and the carotid artery course through this hard bone, it is essential that Ear, Nose and Throat (ENT) surgeons are well-trained in this important area.

Recognizing the deficiencies in such training in SA, the ENT Division in SU FHS nine years ago decided to offer regular workshops on temporal bone anatomy and surgery. Since it was first held, the course has attracted increasing international recognition – so much so that the workshops are now attended by participants from all parts of South Africa and as far afield as Canada, Australia, Hong Kong, Bahrain, Germany and the UK.

Head of the Division, Prof James Loock points out that the success of the course is due to teamwork and co-operation. The Division has been greatly assisted by,

Prof James Loock, head of the Division, assisting a delegate during a recent workshop.

amongst others, Prof George Browning of Glasgow, who jointly presents the course demonstrations and lectures with Loock; Profs Don du Toit and Ben Page, of Anatomy who prepare cadaveric temporal bones which are a significant attraction of the course, as well as several sponsors.

Vaardigheidsopleiding in Mikrochirurgie

'n Laboratorium vir die verfyning van mikrochirurgie vaardighede, wat in 2008 weer onder die leiding van prof Frank Graewe, hoof van Plastiese en Rekonstruktiewe Chirurgie op die Tygerbergkampus herleef het, bied nie net geleenthede aan US-studente en klinici nie, maar ook aan studente en opgeleide klinici uit ander dele van Afrika.

Die US het 'n lang geskiedenis van mikrochirurgiese opleiding binne die Afdeling Plastiese en Rekonstruktiewe Chirurgie. Die eerste kursusse van hierdie aard is trouens op gereelde basis aangebied nadat die eerste vrye weefsel-oorplantings, oftewel mikrovaskulêre weefseloorplanting, in 1976 by Tygerberghospitaal gedoen is.

"Daar is 'n groot behoefte onder mense in gesondheidsberoepe om hul vaardighede in hierdie veld te slyp en te verbeter," sê die bestuurder van die laboratorium, mnr Gert Engelbrecht. Dit is een van die redes hoekom veral dokters uit alle dele van Afrika – en nou selfs uit Europa – ons werkswinkels bywoon. Die 15, drie- tot vierdaglange kursusse wat ons in 2010 aangebied het, was lank vooruit volbespreek en onder diegene wat dit bygewoon het, was dokters uit Ghana, Senegal, Zambië en Malawi."

Groeiende getalle studente uit Afrika woon US-werkswinkels, gerig op mikrochirurgiese vaardighede op die Tygerbergkampus by. Op die foto, vlnr is dr Patric Noah van Malawi, mnr Gert Engelbrecht, hoof van die Mikrochirurgie laboratorium; prof Frank Graewe, hoof van Plastiese en Rekonstruktiewe Chirurgie; dr Francis Qayson van Ghana; mnr Willem Reyneveldt, laboratorium assistent, en voor by die mikroskoop, dr Evelyne Diom van Senegal.

Hy verduidelik dat die werkswinkels gerig is op die tegnieke en vaardighede wat vereis word wanneer chirurgie met die hulp van 'n operasie mikroskoop of loupe onder baie sterk vergroting uitgevoer word. "Dit sluit borsrekonstrukies in, sowel as kop en nek-kankerrekonstrukies; handchirurgie, rekonstruksie van die laer ekstremiteite, re-animasie van die gesig, rekonstruksie van die manlike en vroulike genetalië en ander. Daar is byvoorbeeld 'n groeiende vraag na omgekeerde vasektomies, en dit vereis spesifieke mikrochirurgiese vaardighede."

Hoewel mikrochirurgie veral in plastiese chirurgie gebruik word, word dit ook deur die meeste ander chirurgiese dissiplines gebruik, onder meer Pediatriese Chirurgie en Oor-, Neus- en Keelkunde. "Baie van die kursusgangers uit Afrikalande is bv pediaters wat hierheen gestuur word om nuwe vaardighede aan te leer," sê Engelbrecht.

Hy wys daarop dat mikrochirurgie baie goeie hand-oog-koördinasie vereis. Tydens werkswinkels werk die kursusgangers hoofsaaklik met simuleerders en rotmodelle. "Ons gebruik byvoorbeeld 'n handskoen om hulle te leer hoe om baie klein stekies onder die mikroskoop in te sit. Wanneer hulle op lewendige materiaal moet werk, gebruik ons meestal rotte, veral vir die heg van are en slagare wat so klein is as .5mm."

Die laboratorium bied ook op aanvraag werkswinkels aan in spesialisprosedures op rotte en muise, onder meer hartoorplantings (rotte); nieroorplantings (rotte); nefrektomies (rotte en muise) hipatektomies (80% rotte, sowel as muise) en onderhuidse inplantings van konstante binne-aarse infusie pompe (rotte en muise).

Die laboratorium beplan om twee kursusse per maand in 2011 aan te bied, behalwe tydens die somervakansie in Januarie en Desember. Spesifieke datums moet nog bepaal word.

Die Afdeling Plastiese en Rekonstruktiewe Chirurgie bied ook in 2011 'n vrye flap-kursus aan, met kadawer-disseksies, sowel as 'n mikrochirurgie kursus met lewendige chirurgie. Spesifieke datums vir hierdie kursusse is nog nie vasgestel nie.

Die opleiding word gratis aangebied vir werknemers en studente van die Universiteit Stellenbosch. Vir buitemense is die koste van 'n basiese mikrochirurgie kursus R2000 vir drie dae en R2 500 vir vier dae.

Vir verdere navrae en inligting oor die kursus-skedule vir 2011, kontak mnr Gert van Zyl by (021) 938 9582, of per ePos by engelbrecht@sun.ac.za

Half a century of change and transformation

The Centre for Health Sciences Education team are fltr: Front: Dr Alwyn Louw, Sr Elize Archer, Ms Lorraine Louw Middle: Dr Aziza Bawoodien, Mss Lesinda Daniels, Tracey Pietersen Back: Mss Martie van Heusden, Myrna van Zyl, Prof Ben van Heeren, Dr Stefanus Snyman and Sr Adele de Villiers.

When Stellenbosch University's first medical students started their training some fifty years ago, the lecturer was the 'sage at the centre of the stage' – in the classroom or amongst the students accompanying him on ward rounds in Karl Bremer Hospital – and later in Tygerberg.

A student's first encounters with disease were in textbooks and lecture notes, neatly pigeon-holed in subject disciplines. Practical encounters with the same diseases would follow much later when a faceless patient, confined to a hospital bed became his reference point for the nature and treatment of a specific disease.

Today, half a century later, this approach has changed significantly – not only at SU, but at other medical schools in this country and overseas, says Prof Ben van Heerden, who is the Director of the Centre for Health Sciences Education (CHSE) and Programme Co-ordinator for the MB,ChB degree.

"Today, the lecturer is 'to a larger extent the guide on the side', a facilitator who is there to guide the student take responsibility or ownership of the learning process. This has significantly terminated the use of the traditional, formal lecture and has made way for new educational techniques like group work and guided self-study.

"In contrast to the previous MB,ChB curriculum, where training – both theoretical and clinical - was pigeon-holed in subject disciplines, the different organ systems now form the basis of theoretical training. For instance, all aspects of the heart are dealt with in an integrated fashion – from anatomy, physiology, microbiology and pharmacology to diseases of the heart. The same applies to heart disease as it presents in different disciplines, i.e. Paediatrics or Internal Medicine."

At the same time, clinical rotations, i.e. students' contact with patients, starts much earlier when the students are only in their second year, and the student intern year has been extended by an additional six months. Previously, student contact with patients started only in the 4th year, on an intermittent basis between lectures. Today's curriculum follows a more integrated approach with a period devoted solely to theoretical training, followed by a period devoted entirely to clinical work in a health care. At the same time, clinical rotations are no longer interrupted by lectures and other commitments, enabling students to spend the whole days in a health care environment. Earlier exposure to clinical training is also contributing to the development of skills during the early years of training. By their third year, students can handle basic procedures such as, applying intravenous drips, drawing blood etc.

"In terms of the old curriculum, all training took place in Tygerberg Hospital. Today, a significant period of training takes place in communities where patients live. It is, in fact, our intention to do 50% of all our clinical training outside the Tygerberg academic complex by 2017.

"Community training is facilitated by Ukwanda, the Faculty's Centre for Rural Health. The Worcester Hospital forms the centre of Ukwanda, but other facilities connected to the Worcester hospital, such as district hospitals, as well as community and primary health care centres and even mobile clinics, are utilised for training purposes. Undergraduate as well as postgraduate students receive training in rural health and add value to these communities through service delivery. A special aspect of training offered on

Today, the lecturer is 'to a larger extent the guide on the side', a facilitator who is there to guide the student to take responsibility or ownership of the learning process.

- Prof Ben van Heerden

this platform, is the opportunities it affords students to train in interdisciplinary teams that may include students in Physiotherapy, Occupational Therapy, Rehabilitation, Speech-Language and Hearing Therapy or Nutrition. A range of other facilities outside of Tygerberg Hospital are also utilised for community-based training.

Van Heerden explains that the medical curriculum is also outcomes-based, which means that students are guided through their studies to achieve clearly formulated outcomes. For each of their modules, a study guide was developed which spells out the aims of module and themes within the module and tells the student exactly what he or she must know on completion of the module. "In our *Profile of the Stellenbosch Doctor* outcomes have been formulated which represent the end point toward which all our students should be striving."

Certain core competencies run like golden threads through all of this and become recurring themes throughout the whole MB,ChB course and all its modules. These include Ethics and evidence-based medicine.

The outcomes expected from students pertain to knowledge, attitudes and skills and is summarised as follows: *The newly qualified Stellenbosch doctor must possess the necessary knowledge, skills and attitudes to optimally utilise the opportunities available during the intern year in order to be able to function autonomously in the primary health care sector after this period, and must also be equipped with the necessary ability and insight to develop further as practitioner at secondary and tertiary level.*

"In a professional environment as complex and dynamic as the health sciences, a continuous process of change and transformation is inevitable," says Van Heerden.

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PATOLOGIE

'n Spieël vir nuwe uitdagings en geleenthede in gesondheidswetenskappe onderrig

Met gewilde lektore en kenners op die gebied van leer en onderrig aan die spits van sake, weerspieël die Departement Patologie se onderrigprogramme die nuwe benadering tot gesondheidswetenskappe opleiding wat in die laaste dekade by die US en wêreldwyd inslag gevind het.

Toe die FGW in 1999 'n nuwe MB,ChB-kurrikulum geïmplementeer het, was dit duidelik vir die onderrigkundiges in die Departement Patologie dat dié departement – soos al die ander departemente in die Fakulteit - sy programme sou moes aanpas om die nuwe benadering tot gesondheidswetenskappe onderrig te akkommodeer.

Vandag weerspieël onderrig en opleiding in die verskillende Patologie-dissiplines al die beginsels wat hierdie nuwe onderrigbenadering kenmerk: gemeenskapsgebaseerde onderrig- en opleiding, probleemgebaseerde onderrigstrategieë wat geïntegreerde leer bevorder; vroeë kliniese blootstelling waar die student prakties kennis maak met die basiese beginsels van siekteprosesse; selfleer; die bevordering van kritiese denke; 'n holistiese benadering tot pasiëntesorg; interdissiplinêre leer en onderrig; bewysgebaseerde geneeskunde; kommunikasievaardighede en veel meer.

Prof Juanita Bezuidenhout – een van drie uit die Fakulteit se ses FAIMER/SA-FRI-genote wat aan die Departement Patologie verbonde is – verduidelik dat US-studente trouens reeds op die eerste dag van hul opleiding aan die FGW, kennis maak met hierdie beginsels.

As voorsitter van die Fondasiefase - wat die eerste ses maande van die eerstejaarskurrikulum beslaan en waarvolgens MB,ChB- en Fisioterapiestudente saam onderrig ontvang, terwyl Dieetkunde- en Arbeidsterapiestudente aan sommige van die modules deelneem – verduidelik Bezuidenhout hoe hierdie onderrigbeginsels op unieke wyse ingeskerp word wanneer gesondheidswetenskappe-studente hul heel eerste klas aan die FGW bywoon.

"Die klas begin met 'n konsert wat deur die personeel 'opgevoer' word en deur middel van die konsert, vertel ons die storie van 'n pasiënt, vanaf die oomblik dat hy in die bed wakker word tot hy sterf. Dit gee konteks aan alles wat die studente gaan leer en hoekom hulle dit gaan leer, sowel as dinge soos etiek, tydsbestuur, streshantering, taal en kommunikasie."

Prof Juanita Bezuidenhout

"Patologie speel 'n rol in al die verskillende opleidingsomgewings in die Fakulteit en die Departement met sy verskillende dissiplines is betrokke by onderrigverwante aktiwiteite op alle vlakke en in al die verskilende onderrigfases – vanaf die ses-maande lange Fondasiefase, die pre-kliniese en die kliniese fase." sê sy.

Probleem-gebaseerde onderrig

"Anatomiese Patologie is byvoorbeeld betrokke by die opleiding van voorgraadse Fisio- en Arbeidsterapiestudente, terwyl MB,ChB-studente reeds aan die einde van hul eerste jaar in die pre-kliniese fase kennis maak met die *Basiese Beginsels van Siekteprosesse*. Dit dien trouens as 'n brug tussen die pre-kliniese en kliniese fases.

Omdat studente in terme van die geïntegreerde en stelsel-gebaseerde MB,ChB-kurrikulum minder nabye kontak het met die Patologie-dissiplines in die pre-kliniese fase van onderrig, doen die studente 'n weeklange Patologie-rotasie tydens kliniese opleiding in die vierde en vyfde jaar. Dit inkorporeer die probleem-gebaseerde benadering, wat inherent is aan die nuwe benadering tot gesondheidswetenskappe onderrig.

"Die studente moet elke dag 'n kliniese 'papierstudie' voltooi. Dit behels 'n gevallestudie wat soveel van die patologie dissiplines as moontlik integreer om die inter-afhanklikheid van die verskillende dissiplines te illustreer. Elke 'geval' is ontwikkel om met 'n werklike pasiënte scenario ooreen te stem. Dit kan X-strale en EEG's insluit wanneer nodig, asook konsultasies met patoloë.

Die studente werk saam in groepe van vier en ontvang chemiese patologie tutoriale, besoek die verskillende laboratoriums, en kry praktiese opleiding in fynnaald aspirasie en laboratoriumtoetse – nie soseer om hierdie toetse te leer doen nie, maar om insig te kry in die funksionering van 'n laboratorium. Die studente se hantering van die gevallestudies word op die laaste dag van die rotasie beoordeel en bespreek."

Bezuidenhout sê hierdie benadering onderskryf belangrike beginsels van die nuwe benadering tot gesondheidswetenskappe onderrig, onder meer aktiewe deelname (in teenstelling met die student wat passief na 'n lesing luister en notas neem), en dit skep meganismes vir onmiddellike terugvoer oor die probleem wat die student moet hanteer. "Die uitkomste fokus ook »

« op die vaardighede en kritiese denke wat nodig is om optimale resultate uit die patologielaboratorium te kry, en die rol wat hierdie resultate speel in die hantering van 'n pasiënt."

In die verlede het studente, selde, indien ooit, die patologie laboratoriums besoek en daar was geen geleenthede vir konsultasies met patoloë nie. "Die rotasie integreer patologie met kliniese praktyk en illustreer die gebruik van laboratoriumgeneeskunde in die hantering van baie van die siektes waarmee die student as dokter in hierdie land te make gaan kry."

Nagraads

Op nagraadse vlak bied die Departement MMed-programme in module formaat in die verskillende dissiplines aan. "Daar is egter vier modules wat al ons kliniese assistente moet doen – molekulêre biologie, navorsingsmetodologie, laboratoriumbestuur, goeie laboratoriumpraktyk en etiek."

Die departement speel ook 'n rol in nagraadse programme in Chirurgie.

In reaksie op die tekort aan patoloë en mediese navorsers in Suid-Afrika, het die Departement in die afgelope paar jaar ook begin om groter getalle nagraadse studente te akkommodeer en meer opleidingsposte vir patoloë te skep. As deel van hierdie inisiatief word suiwer wetenskaplike programme aangebied, soos die BScMedSc in Patologie wat spesifiek fokus op die opleiding van mediese wetenskaplikes in patologie. 'n Student wat 'n suiwer BSc Honneursgraad voltooi het, kan aangaan met 'n MSc.

Die Departement se MSc in Sitopatologie is wêreldwyd die enigste graadprogram van hierdie aard en word deur prof Colleen Wright van die afdeling Anatomiese Patologie aangebied. 'n Student wat reeds in Anatomiese Patologie gekwalifiseer is, of 'n persoon wat as mediese beampte in Patologie werk, kan aansoek doen vir toelating tot die kursus, wat deur afstandsonderrig (met behulp van CD's, papier en ePos-kontak) aangebied word. Dit is veral gewild onder studente uit Afrika-lande.

"Die Departement is op navorsingsvlak ook betrokke by 10 projekte oor onderrigverwante onderwerpe," sê Bezuidenhout. "Een daarvan is 'n internasionale, multi-institusionele samewerkingsprojek."

Terselfdertyd kry personeel gereeld erkenning vir hul bydraes op die gebied van Onderrig. So het dr Walter Liebricht van die Afdeling Geneeskundige Virologie vanjaar die Akademiese Jaardagprys vir die beste plakkaat op die gebied van onderrig verower, terwyl Bezuidenhout die prys vir die beste plakkaat gewen het by die *SA Association for Health Educationalist* (SAAHE) se kongres en dr Johan Dempers van Geregtelike Geneeskunde, die beste voordrag van alle fakulteite gelewer het by 'n kongres van die Sentrum vir Onderrig en Leer op Stellenbosch.

Die impak op gesondheid

Die belangstelling in gesondheidswetenskappe onderrig van Patologiepersoneel, lê aan die hart van die uitstekende onderrig- en opleidingsprogramme wat deur die Departement aangebied word.

Toe die FAIMER-instituut in Amerika in 2002 gestig is met die spesifieke doelwit om onderrigkundigheid en die vaardighede van opvoedkundiges wat in 'n gesondheidswetenskappe-omgewing werksaam is, te verbeter, is Prof Elizabeth Wasserman as een van die eerste FAIMER-genote wêreldwyd aangewys; Bezuidenhout het daarna gevolg. Hulle was ook onder die stigterslede wat in 2008 'n FAIMER-streeksinstituut vir Suider-Afrika (SAFRI) tot stand gebring het. Dempers, 'n derde lid van die Departement, het intussen 'n SAFRI-vennootskap voltooi.

Soos die FAIMER Instituut en haar mede-FAIMER-genote, is Bezuidenhout oortuig daarvan dat voortreflike onderrig in gesondheidswetenskappe uiteindelik 'n impak sal maak op die gesondheid van die land in sy geheel. T

Foto's:
Links bo: Prof Johann Schneider, hoof van die Departement Patologie, bespreek 'n histologie monster op 'n glasskyfie met 'n nagraadse student.

Links: Dr Johan Dempers en Prof Juanita Bezuidenhout met hul wentjek.

Department of Medicine:

Moving away from paper-based exams

In the Department of Medicine, Prof Rafique Moosa has taken full advantage of the opportunities offered by the digital age to enhance the country's educational environment with an innovative and cooperative system that utilises new technology to move away from paper-based examinations for final year medical students.

Testing the knowledge of MB,ChB students in their final year rotations in Internal Medicine have always posed a challenge to the lecturers in this large department.

Since each group, rotating through the Department for a six week period during any given year, must write a test involving multi-choice questions at the end of the rotation, the lecturers with their busy clinical and teaching schedules, have been required to compile a fresh set of questions every six weeks, year after year.

This problem is not unique to the SU Faculty of Health Sciences; it affects all medical schools in the country, says Prof Moosa, the leading light behind a new, national bank of multiple-choice questions for final-year students in Medicine.

The idea of a national bank of questions is not entirely new, he says. "There is such an international bank in Singapore and one or two universities in South Africa have subscribed to it, but we needed something more pertinent to our needs."

Dr JP Bosman, Prof Rafique Moosa and Dr Erné Richter showcasing the new MCQ bank.

Two years ago, Moosa set the wheels in motion to establish a national, multiple-choice questions (MCQ) bank for Internal Medicine departments in health sciences faculties in South Africa – and even beyond our borders. He first broached the idea with the relevant departments at the various universities and in the end, all of them – with the exception of Pretoria University and the Walter Sisulu University in Umtata, which does not use MCQs – agreed to participate and contribute questions to the bank.

With Moosa and an SU team running the project, that was the beginning of a huge task to ensure that the questions were conforming to specific standards, and establish technology to ensure easy access and the strictest security.

In 2009, Moosa and his team received the first questions from the participating universities, namely the universities of Cape Town, KwaZulu-Natal, Free State, Witwatersrand, Stellenbosch, Limpopo and the University of Zimbabwe. The next step was to convene a workshop in Johannesburg where educational experts, together with various departmental and discipline heads were asked to edit and refine the first 700 questions that were due to go into the bank.

"We categorised the questions in terms of the relevant categories such as heart, lungs, blood etc.; we looked at the content and style of each of the questions and graded them as difficult, easy and average."

Moosa then asked the Information Technology Centre of Stellenbosch University to assist with the development of an IT structure for the bank.

"JP Bosman guided us in setting up the structure which will be housed on the main campus of the University. Once that was done, we had to train one or two coordinators from each of the participating institutions, who will have the task of organising and running the system in their departments.

"We have been acutely aware of security throughout the process and several measures have been built into the system to prevent unauthorized entry – for instance, only the limited number of authorized people will have access."

At the end of 2009, Moosa and his team were ready to do a trial run which involved SU and the University of KwaZulu-Natal, and in August 2010, all systems were in place when the national MCQ bank was officially launched. »

Department of Medicine, Faculty of Health Sciences

PHYSICIANS REFRESHER COURSE

3 – 4 JUNE 2011

NH The Lord Charles Hotel, Somerset West, Cape Town

The theme of the course will be "HIV in Internal Medicine" and will aim to address the changing face of the epidemic.

Prof Francois Venter, president of the Southern African HIV Clinicians Society, will be the guest speaker for the mini conference.

Please join us at the impressive, new facilities at NH The Lord Charles Hotel, Somerset West and become part of the growing number of clinicians that are informed and "activated" to take on the challenge of managing chronic HIV disease in an environment where ART is now widely available.

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Online registration will be open shortly
keep visiting
www.sun.ac.za/medicine-refresher

« "We have technical support in place to assist all the coordinators and we have encouraged all the departments to utilise the bank and provide me with feedback on its use. We will audit the bank at the end of the semester and make the necessary changes to improve it," Moosa says.

However, the project remains a huge, ongoing task. Quality assurance and how to deal with it, is an important priority. "For instance, we will try to determine how the questions 'performed' during exams."

"Once the bank was set up, we also drew up a blue print and found that there were insufficient questions in some areas; this will have to be corrected. At the same time, we hope to supplement the bank with an additional 50 - 100 questions every year. All departments have been asked to make contributions – some in specific areas."

The launch of the project was funded from the pool of funds, allocated to SU from the Department of Education with the aim of improving clinical training.

In the light of his experience with the MCQ bank, Moosa is continuing to urge and encourage all departments to move away from paper-based examinations and to make use of the wealth of opportunities offered by the electronic technologies of our time.

HISTOLOGY LABORATORY

STELLENBOSCH UNIVERSITY, Faculty of Health Sciences
Department of Biomedical Sciences, Anatomy & Histology

The histology laboratory of the division Anatomy and Histology, offers a comprehensive service of tissue analysis including routine histological processes (paraffin, frozen), and many special staining techniques (including IHC, ICC) for histological or pathological studies. Digital image acquisition & analysis of high quality are available on modern stereo and compound microscope systems and the laser micro dissection microscope can rapidly and accurately isolate single cells or groups of cells from a broad range of sample types by using an inverted fluorescence microscope, solid-state UV laser and unique isolation technologies.

Sample Preparation:
Histology Sections
Processing & Embedding: R20.00/block (dehydration, clearing and infiltration to block)
Unstained slides: R10.00 /slide
Staining (H&E) & mounting: R15.00/slide
Staining (special) & mounting: R25.00/slide
*Immunostaining: R45.00/slide (own antibodies)
Full processing to one H&E slide is R35.00/slide.
Frozen Sections
H&E stain: R40.00 /slide
Unstained slide: R30.00 /slide
Special Services
Serial sections (ribbons): R20.00 /slide
*Membrane slide prep: R185.00/R50.00
Microscopy/Morphometry:
*Laser dissection system: R90.00/hour
Fluorescence microscopy: R50.00/hour
Image analyses: R50.00/hour
*dependant on reagents/consumables use

Contact: Reggie Williams
Tel: 021-938-9425 / 021-938-9397
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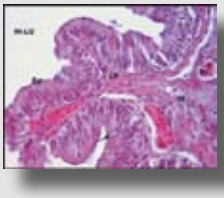

Confronting hunger and malnutrition

"Food security exists when all people, at all times, have physical, economic and social access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life."

– UN Food and Agriculture Organization, 2002

Worldwide, a child dies from hunger every six seconds, and in developing countries alone, 907 million people do not have enough to eat – more of 60% of whom are women.

"For the last 40 years we have been working towards reducing and turning around these figures to move towards a more food secure world. This has not been realized and we are thus working towards a greater understanding of the complex causes of food insecurity and the much needed ability to achieve food security," says Mrs Julia Harper, project manager of a new SU research initiative that comprises nine research projects spanning different faculties and departments including health sciences, agricultural sciences, engineering, and social sciences.

Known as the Food Security Initiative (FSI), the project forms part of the wide-ranging HOPE Project, launched by Stellenbosch University (SU) in 2010.

Headed by Prof Jimmy Volmink, designated dean of the Faculty of Health Sciences, the project is closely aligned with the South African government's priority to address the issue of food security, particularly in the light of a changing climate, and to address issues of human dignity. It is estimated that in South Africa approximately 14 million people are food insecure and that 1.5 million children suffer from malnutrition (Report to the Office of the Presidency, June 2007).

"Recent food price increases and a time of economic vulnerability have drawn the attention of the world's policy-makers as well as the news media to the issue of global food security," says Volmink.

The goals to be addressed by the various research projects include -

- Improving the understanding of social, economic and political aspects of food and nutritional insecurity in Southern Africa;
- Promoting the utilization of safe and nutritious food;
- Empowering small scale farmers through appropriate new technologies;
- Reducing food losses in the farm to fork chain;
- Improving crop production and water use efficiency;
- Understanding environmental and climatic changes and their implications for agricultural policy and practice.

"The initiative also incorporates research synthesis, appropriate communication of results, and other knowledge translation activities to ensure that research findings are actually used to motivate and justify policy change and evidence-based practice." »

NUTRITION INFORMATION CENTRE NICUS

Communicating New Advances Exposing Nutrition Misinformation

The Nutrition Information Centre of Stellenbosch University (NICUS) was established in 1997 to act as a reliable and independent source of nutrition information in South Africa. The Centre has amassed significant experience since its inception in the dissemination of scientifically independent and correct nutrition information to both the scientific community as well as the lay public at a national and international level. Supported by the University's Faculty of Health Sciences, NICUS is committed to the provision of up-to-date, credible and authoritative information in order to promote a scientifically sound nutrition culture.

Aims

- Provide and disseminate an accurate and balanced perspective in the field of food and nutrition.
- Expose nutrition misinformation.
- Communicate new advances and promote sound practices in the field of food and nutrition.
- Provide a comprehensive information service to the public and the media.
- Advise health professionals on matters relating to nutrition and nutrition support.
- Identify needs for nutrition education.
- Create a supportive environment for research.

Target populations

- The general public.
- Health Professionals.
- Publishers of nutrition related books.
- The media (to ensure that correct nutritional information is published in magazines, newspapers, on radio and TV).
- The industry (as a service on a consultative basis).

Contact details: Tel: 021 933 1408, Fax: 086 581 8641
E-mail: nicus@sun.ac.za, Web: http://www.sun.ac.za/nicus

« Projects were officially launched at the start of the 2010 academic year. According to Volmink, community-based nutritional researchers will be assessing food and nutritional security status and work to identify and implement appropriate interventions. "The complex social challenges, intertwined with issues surrounding food security, will form an integral element of all the projects."

Other projects will be focusing on agricultural losses and ways to add value to the fruit, vegetable and meat chain; effective storage and transport of produce as well as plant breeding efficiency; examining food safety issues including the entrance of melamine into the food chain and enhancing the nutritional benefits of meat, meat products and organ meat; improving crop production efficiency and empowering small scale farmers through appropriate technologies; developing additional methods of water supply; working with resource poor fishermen- and women and examining inputs that lead to carbon sequestration in the soil to increase production and to study the microbiology and environmental implications of such additions. New projects, due to be launched in 2011, will be looking at access issues as well as working on the complexity of what food security is and a better understanding of the issue.

"We hope that research at the regional level, relating to climate change, will soon receive funds to add to this important initiative and that results of the research will inform a regional strategy for ensuring adequate supply and access," says Volmink.

According to Harper, food security is not an abstract concept.

"The ideal of having enough of the right food on one's plate instead of going hungry is very concrete. Working to achieve this goal is extremely complex and requires thorough and rigorous interdisciplinary research." T

Photo: Mr HJ Lombard

Division of Human Nutrition, Stellenbosch University, RSA

Committed to Research, Training and Service

Overview

Starting out in the mid seventies as the former Metabolic Research Unit, the African Micronutrient Research Group (AMRG) was established in 1996. The laboratory runs ISO/IEC 17025 accredited methods for Vitamins A and E in plasma and serum with regular participation in the Micronutrient Measurement Quality Assurance Program of the National Institute of Standards and Technology (NIST), and the Vitamin A Laboratory External Quality Assurance Program (VITAL-EQA) of the Centers for Disease Control and Prevention (CDC).

Core Services include:

- Micronutrient analysis for population-based and clinical studies
- Advice on analytical techniques
- Participation in micronutrient research
- Teaching and training on analytical techniques.

Analytical Capabilities

The AMRG is well equipped in the field of liquid chromatography HPLC and UHPLC, off-line and in-line solid phase extraction (SPE), complemented by nephelometry, UV-visible spectrophotometry and attenuated total reflectance infrared spectroscopy (ATR-FTIR).

Current assays include:

Vitamins A, C, D & E, ferritin and CRP. Other micronutrients and nutritional markers can also be analyzed upon request.

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NUTRITION security in communities

Milla McLachlan, who was appointed professor in SU Division of Human Nutrition in 2010, is an expert in the field of nutrition security and heads one of the research projects that forms part of the SU's new food security initiative.

Working in cooperation with Ukwanda, the rural health training and research platform established by the University, McLachlan's research focuses specifically on nutrition security in rural and peri-urban areas of the Winelands (East) and Overberg districts of the Western Cape.

She points out that nutrition security relates to all of the United Nation's Millennium Development Goals, including relieving hunger and malnutrition, improving education and women's position in society, addressing maternal health and child survival; and establishing effective partnerships for development.

"Furthermore, nutrition, food security and the environment are intimately connected. If we cannot think of ways to produce our food without harming the planet, we will not have a sustainable food system in the long run," she says.

McLachlan's Community Nutrition Security Project aims to deepen our understanding of the conditions in South Africa and the rest of the African continent that contribute to the persistence of malnutrition, and to test policy and programme innovations to create conditions for community nutrition security.

"We approach the problem with the hypothesis that stunted growth of young children is a marker of marginalization and exclusion at multiple levels, including at the level of the individual, household, community and nation. We are interested in understanding how participatory approaches to recreating sustainable local food communities can facilitate reweaving the social fabric and contribute to optimal child growth.

"Our studies will contribute to the development of local models for action to address nutrition security challenges and will generate recommendations for national, district and municipal-level policy change as well as appropriate forms of international collaboration to facilitate system transformation."

While the research will initially be conducted in the Western Cape, McLachlan and her team plan to extend their work to include rural communities in the Transkei area of the Eastern Cape.

"Through our collaboration with the universities of Oslo and Akershus in Norway, as well as Kyambogo and Makerere (Uganda) in the field of nutrition, human rights and governance, we are also planning to extend the food security initiative to African countries as part of the NOMA grant (see following article), awarded to SU for postgraduate studies."

While the groundwork has been laid in 2010, the project will be set in full motion in 2011, McLachlan says. T

Photos: Mr Jaco Minnaar

Prof McLachlan and her team went on a fact finding mission to Avian Park in Worcester. In the centre of the photo is Mr Madoda Allam from the Cape Winelands Municipality, who accompanied them, with the principal of the Educare Centre.

"Improved nutrition contributes not only to the alleviation of hunger and malnutrition in communities; it also plays a vital role in education, women's position in society, maternal health and child survival."

– Prof Milla McLachlan.

NUTRITION scholarship

Integrating nutrition and human rights

Food is a basic human right and the South African constitution asserts that the State has an obligation to respect, protect and fulfil the right to adequate food and water to enjoy [nutritional] health for all.

With people's right to adequate food and nutritional health enshrined in UN's Universal Declaration of Human Rights, and in South Africa's constitution, there is "an urgent need to strengthen the capacity of individuals and institutions to apply a rights-based approach to promote food security as well as policies and programmes or interventions to enhance processes towards achieving the UN Millennium Development Goals," says Prof Marietjie Herselman, head of the Human Nutrition Division in the SU Faculty of Health Sciences.

It was against this background that SU, in collaboration with universities in Norway and Uganda, has introduced a special postgraduate module integrating nutrition with human rights and governance theory and practice.

Nutrition, Human Rights and Governance is a postgraduate module that forms part of the Division's Master of Nutrition programme. This innovative new academic venture, known as the NOMA track, consists of three sub-units jointly offered by the universities of Oslo and Akershus in Norway, Stellenbosch University in South Africa and the Makerere and Kyambogo universities in Uganda.

Students from the various institutions will be exposed to human rights concepts in Norway for six weeks where they will receive tuition in the theoretical part of the module. This will be followed by a six week rotation at SU in South Africa, and a further six weeks at the two universities in Uganda, focusing on the application of human rights principles in sub-Saharan Africa.

"While they are in South Africa, we want to send the students to Worcester where Prof Milla McLachlan will be conducting a food security study in communities and students will be encouraged to conduct their research in these communities."

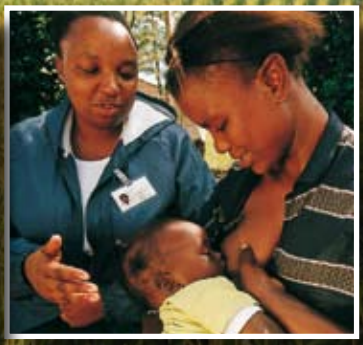
The first cohort of students will include four students from SU and five from Uganda. The programme will commence in 2011.

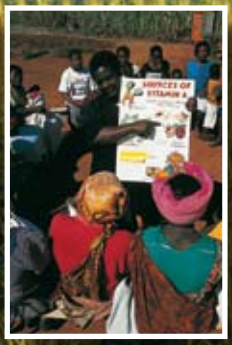
The module is being developed by Ms Maritha Marais of the Human Nutrition Division after she had received two month's training at the University of Oslo, in collaboration with international experts in human rights from Norway and Uganda. "We hope to develop the necessary capacity within the Division to offer a similar module in collaboration with South African duty bearers."

The following aspects will be covered by the module:

- An overview of the right to adequate food in the context of the promotion and protection of international human rights;
- The relevance of human rights for food security and nutritional health;
- The meaning of a rights-based approach to nutrition analysis, and practical implications this may have for national public policy and international development efforts;
- The relationships between right-holders and duty-bearers, and especially obligations of the State in respecting, protecting and fulfilling the right to adequate food and nutritional health for all;
- Opportunities, constraints and future challenges to facilitating the development of a rights-based approach to food and nutrition relevant in globalization;
- A contextualization of theoretical knowledge on human rights and governance issues in the sub-Saharan Africa situation, with special emphasis on the rights relevant to food security and nutritional health - particularly among economically and socially vulnerable groups in these populations.

Prospective applicants must have a bachelor degree in Human Nutrition or documented equivalent degree. Successful candidates qualify for a full scholarship for the 2-year Masters degree fully funded by Norway's Centre for International Cooperation in Higher Education. Herselman says the scholarship, which provides for two years of full-time study for a Masters degree in Nutrition, also provides an excellent opportunity for capacity development. The total budget for the project amounts to approximately R8 million.





For more information, contact Janicke Visser jconrad@sun.ac.za or Maritha Marais mlm@sun.ac.za

Photo's: UNICEF photographer, Giacomo Pirozzi

Africa is facing a tsunami of chronic diseases

The photo above was taken during the Harvard faculty's visit to the Minister of Health. From the left are: Prof Melvin Freeman, cluster manager non-communicable diseases; Dr Confidence Moloko, special adviser to the Minister of Health, DoH staff member, Dr Shona Dalal, epidemiologist Harvard; Dr Jessica Paulus, epidemiologist Harvard; Prof Michelle Holmes, associate professor of Epidemiology Harvard; Prof Jimmy Volmink, deputy dean, Research, Minister Aaron Motsoaledi - minister of Health, Department of Health; Professor Hans-Olav Adami, chair of Epidemiology, Harvard School of Public Health; Mr David Havelick, executive assistant, Harvard; Michelle Coleman, director of Administration, Harvard; Ms Shireen Pardesi, chief of staff.

An important research initiative, strongly supported by the South African government, was launched this year when the African Cohort Collaboration Initiative on chronic non-communicable diseases was established between the Harvard School of Public Health, Stellenbosch University and academic institutions in Nigeria, Tanzania and Uganda.

The Harvard research group met with the SU Deputy Dean, Research, Prof Jimmy Volmink, and government leaders earlier this year to discuss the huge epidemiological study which is due to start in four African countries early in 2011. The group pointed out that aid to Africa usually focuses on infections such as malaria, TB and HIV. However, "such efforts will soon be overshadowed by the swirling sea of emerging modern diseases, similar to those in the USA," the group says. "A menacing epidemic of chronic diseases such as heart disease, mental illness, cancer, diabetes and obesity is growing in Africa. By 2030, according to the World Health Organization, three of the top four causes of death in low-income countries will be heart disease, stroke and chronic lung disease."

Known as PaCT (Partnership for Cohort Research and Training), the partners will enroll thousands of participants in the various countries and ask them questions about what they eat, how much they exercise and smoke, as well as their family and reproductive histories. They will then be followed and tracked for decades to collect additional information and data.

The researchers will make innovative use of technology to collect data. For example, they plan to use cell phones – which are widely used across all of Africa – to retrieve data and conduct follow-up surveys with the participants.

Instead of focusing on expensive treatment programmes, the aim of the study is to develop a comprehensive knowledge base of multiple diseases and lifestyle risks threatening Africans as "they reap development's benefits and, paradoxically, suffer from its unintended consequences."

According to the Harvard group, the project will be an investment in Africa's scientific future, and a landmark study with immense capacity to influence health in Africa and around the world, well into the 21st century. It will also be used to educate scientists at tertiary health institutions everywhere on the effective management of chronic diseases in resource-poor settings.

According to the SA Minister of Health, Dr Aaron Motsoaledi, a study such as this is well overdue since the information currently available is inhibiting evidence-based planning. "The Department of Health will therefore provide all the necessary support to facilitate the study and, where needed, I will liaise with my colleagues in the Human Development cluster to ensure that the study proceeds with maximum efficiency," he said.

Do you know your diabetic status?

While huge research grants to academic institutions usually go to studies on infectious diseases such as TB and HIV, experts worldwide have warned that these diseases will soon be overshadowed by a new epidemic of chronic diseases which are emerging at an alarming rate in African countries. These include heart disease, diabetes and obesity, which are the focus of large epidemiological studies conducted by Stellenbosch University's (SU) Chemical Pathology division, in collaboration with other academic institutions in the Western Cape.

According to Prof Rajiv Erasmus – head of the Chemical Pathology Division in the Faculty of Health Sciences (FHS) and the National Health Laboratory Service (NHLS) – numerous sources, including the World Health Organisation (WHO) have reported that a global diabetes epidemic, with a parallel rise in obesity and insulin resistance, is currently enveloping the world.

"Diabetes Mellitus Type 2 accounts for 80% of all diabetics in most countries and its prevalence is increasing at a rapid rate in both developed and developing countries," he says. "In South Africa, the incidence of diabetes varies from one province to another and within different population groups. The highest rates have been reported among Asian Indians and mixed ancestry populations. There are also indications that the coloured population, like other mixed race populations, have more diabetes than any of the races from which they originated."

In 2006, Erasmus established a collaborative, inter-institutional and multidisciplinary research group, representing the University of Stellenbosch, the Cape Peninsula University of Technology (CPUT) and the University of the Western Cape (UWC) to study various aspects of the disease and the epidemic.

Apart from Erasmus, SU researchers in the group include Dr Annalise Zemlin and Dr Mariza Hoffmann of Chemical Pathology; Prof Tandi Matsha and Mr Shafick Hassan of CPUT and Dr Sue Bassett of UWC.

Lead by Erasmus, the researchers have been focusing the spotlight on diabetes and obesity in adults and children, including the environmental and genetic factors which contribute to childhood obesity in urban, semi-urban and rural areas of the Western Cape, as well as the metabolic consequences of childhood obesity.

Much of their work comprises community based studies, particularly in the Cape Town suburb of Bellville South and schools in the greater metropole, where they have screened 946 adults and 1 300 children for metabolic syndrome – a combination of medical disorders that increase the risk of developing cardiovascular disease and diabetes.

Children with metabolic syndrome

In the schools of the greater metropole, they found that 6,5% of the children had the metabolic syndrome. "This figure is very high and could serve as an indication that many of these children may develop cardiovascular disease."

Erasmus points out that obesity is a key feature of the syndrome. However, despite the importance of obesity, patients that are of normal weight may also be insulin-resistant and have the syndrome. And this was indeed one of the significant findings of their study.

This was confirmed in a second study when the researchers examined the same group of children, aged 15-18 years old, for the chemical markers of diabetes. They tested the children for obesity and the metabolic syndrome, as well as for C-reactive protein (CRP) – a blood marker for inflammation which is thought to play a role in many chronic diseases, including heart disease and diabetes.

"In the group, one percent of the children who were of normal weight, also had high levels of CRP – again indicating a threat of diabetes and heart disease even in children of normal weight"

Maturity onset diabetes of the young

Erasmus points out that a subtype of diabetes, known as maturity onset diabetes of the young (MODY), is inherited as a result of mutations of specific genes. This occurs in one to two percent of all cases of diabetes. MODY is the term given to a group of autosomal dominantly inherited disorders of non-insulin-dependent diabetes which usually affect people before the age of 25. It is often misdiagnosed as either type 1 or type 2 diabetes.

Dr Mariza Hoffmann, who is involved in research in this field, says a molecular genetic diagnosis of the disease is important as if confirms a diagnosis of MODY, classifies the subtype, predicts the likely clinical course and may change a patient's treatment. "In some diabetic patients, when MODY is

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diagnosed, you can stop treatment and in others you can switch to more effective medication," she says.

However, genetic testing for MODY is not available in South Africa or in Africa, and to have patients tested overseas can be prohibitively expensive. That is why Dr Hoffmann and the Chemical Pathology division are endeavouring to set up facilities and build capacity for genetic testing for MODY in South Africa. "This will enable us to provide patients with correct diagnoses which in turn will lead to appropriate treatment. At the same time, we will be able to describe the most common mutations seen in our unique population, as mutations differ in different population groups. Once specific mutations are known, we can set up a step-wise testing protocol to minimise costs in future," she says.

In this regard Prof Erasmus and his team will collaborate with scientists at the University of Ibadan in Nigeria and the Aga Khan and Nairobi universities in Kenya – two African countries where diabetes is increasing at a high rate.

"Collaborating with these countries means that they will not only have access, but we can also describe the mutations found in their unique population."

Undiagnosed diabetes

Erasmus says before a patient progresses to diabetes, the diabetic state is preceded by a glucose regulation disorder commonly referred to as impaired glucose tolerance which may last for several years. "Another form of glucose metabolism disorder, other than diabetes, is impaired fasting blood glucose level".

While some cases of diabetes are often undiagnosed, Erasmus and his team have conducted another large study to determine, amongst others, how many people have undiagnosed diabetes."

Again working in collaboration with colleagues at UWC and CPUT, the SU team conducted the study in Bellville South, which comprises a predominantly Coloured community of approximately 25 000 people. From this community they have randomly chosen 946 people between the ages of 35-65 years who were screened for diabetes.

"The last study on diabetes in the mixed-ancestory community (coloured) was done about 15 years ago and we wanted to compare the diabetes status in this population group to what it was when the last study was done," Erasmus says.

"What we looked for was people with diabetes, and we also wanted to establish the incidence of newly acquired diabetes in this community. We also tried to find out who could develop the disease."

The subjects in the study group underwent an oral glucose tolerance test, and several other measurements and criteria were used to determine »

The Erasmus team, fltr. Front Ms Yandiswa Yako (doctoral student) and Prof Rajiv Erasmus Middle: Dr Mariza Hoffmann, Mr Muiruri Macharia (doctoral student), Dr Annalise Zemlin, Prof Susan Janse Van Rensburg Back: Mrs Sonja Krige (secreaty), Mr David Soita (doctoral student) and Mr Shafick Hassan (CPUT).

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Training trends and challenges to improve health care delivery

international meetings of health sciences educators. For instance, at an international conference of the Association for Medical Educationalists in Europe – held in Spain in 2009 – a poster by Dr Alwyn Louw of the Centre for Health Sciences Education on the revised curriculum was adjudged the overall winner from a total of 650 posters.

After a decade of curricula reform, this edition of *Tygerland* brings the spotlight to bear on new education and training initiatives in the Faculty and how they were developed to support and enhance the curricula and increase the relevance and effectiveness of health sciences training that was developed to ensure that today's health sciences students will become the skilled, competent and caring health care professionals of tomorrow.

In 2008, the Department of Education and Training allocated additional funding to health sciences faculties to improve clinical training. In the SU Faculty of Health Sciences, these funds were utilised by various departments and divisions to launch a large number of innovative education and training projects. In the following articles, *Tygerland* highlights some of these initiatives. While they were developed by SU, all of these initiatives reflect the global paradigm shifts that took place in health sciences education over the past decade. T

Dr Alwyn Louw presenting a poster on the revised curriculum at the faculty which was awarded first prize at an international conference of the Association for Medical Educationalists in Europe – held in Spain in 2009.

« diabetic status. Personal demographic, family, health and lifestyle data were also extrapolated by means of a questionnaire.

The study found that:

- 12,2% of the subjects already had diabetes;
- Another 12.2% did not know that they had diabetes;
- From those with impaired glucose tolerance, the researchers concluded that 19% of the subjects could possibly develop diabetes – and constituted a very high risk group.
- Compared to the results of the study that was reported about 15 years ago, there has been an increase of 10.4% in the prevalence of diabetes in this population group.

"Of great concern was the number of people with undiagnosed diabetes," Erasmus says.

He points out that the prevalence of HIV was quite low in the study group. "In South Africa, we are always urging people to find out what their HIV status is. Looking at this study, I think every person of mixed origin in the country should find out what their diabetic status is."

Other studies

Linked to these studies, the various members of the team are involved in a number of other studies that focus on diabetes and obesity.

- A doctoral student and a member of the research team, Zelda Vergotine, from CPUT is looking at certain genes that may be associated with insulin resistance and obesity in the South African population. Her research focuses on a particular gene that has been identified in Caucasian populations, and she is trying to find out if the same gene is present in the Coloured population. The study also takes into consideration physical activity and diet.
- Another study is looking at a particular enzyme that may modify the lipid particle, HDL which serves as an anti-oxidant and plays an important role in preventing heart disease. "We are trying to establish if the activity of this enzyme is altered in the Coloured population."
- The researchers are also searching for a new and more effective diagnostic test for diabetes. A fast test, currently used, could miss a significant number of diabetics.

Mr Shafick Hassan of CPUT, a doctoral student and a member of the team, is investigating the cardiovascular risk factors and family history associated with metabolic syndrome in the offspring and parents of the present Bellville South cohort.

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The museum for Human Anatomy at the Faculty of Health Sciences on the Tygerberg Campus was founded in 1975 by Prof JF van E Kirsten and Ms Linda le Roux and was mainly used for teaching of anatomy to students of the University. In 2006 the museum was changed into the Comparative Morphology Museum as seen today. Although the museum still offers an exstensive series of exhibits for the professional development of our Faculty's Medical and Allied Health Sciences students, the museum is also open to the public to be inspired by its collections and exhibitions. At the core of the Museum's education efforts is a program for school groups visiting the museum.

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Meeting new and evolving HIV challenges

In line with global concerns, researchers at Stellenbosch University and Tygerberg Hospital are preparing for the upsurge in the incidence of long- term complications of HIV in the light of anti-virus treatment policies.

The roll-out of antiretroviral programmes in South Africa is by far the biggest program on the Continent and has made a major impact in the lives of persons living with HIV, retarding short-term morbidity and mortality, "but now we have to be prepared to cater for a growing population living with the virus and its long-term complications."

This is the view of Prof Akin Abayomi, new head of the Haematological Pathology division in the SU Department of Pathology, who says that some of the complications of HIV are already becoming evident in the growing number of blood cancers, developing as a direct consequence of the epidemic. While the relationship between HIV and these cancers is still not fully understood, Abayomi believes that the cancers develop as a direct consequence of the damage suffered by the immune system of HIV patients before antiretroviral therapy (ART) treatment was started. "It is also evident from opportunistic infections and the inflammation profile of persons living with HIV.

"It is a well established fact that persons whose immune system is damaged by HIV, are significantly more susceptible to certain cancers than those without HIV. This risk can be up to 200 times higher than the risk of a non-infected population," Abayomi says.

"South Africa's current public health policy regarding ART is to commence when patients have a CD4 count of 200 or below - the exception being those with tuberculosis and in pregnancy, when a CD4 threshold of 350 is used.

"However, in reality the average CD4 count at commencement of ART is currently less than 100, suggesting that the immune system has already suffered considerable damage. The long-term implications of this delay in treatment on those who survive on ARV therapy are not known and could possibly be creating a large population of people on ARV who are still susceptible to developing serious complications in the long-term, such as HIV-related cancers and multisystem inflammatory disorders.

"A normal CD4 count, which is the cheapest way to measure the robustness of the immune system, should not be lower than 500. In developed countries, treatment usually commences with a CD4 count of between 300 and 500, in which case immune recovery can be impressive.

"While such a policy would be desirable it is understandably not a financially viable option in most of Africa at present."

Abayomi points out that the South African Department of Health (DoH) is currently making moves to align its policies with those of the developed world and this is a very welcome development and a step in the right direction, considering the financial implications.

He says there is an emerging school of thought that believes a multitude of factors should be considered to determine when a patient should start ART treatment, and it should not depend on a single CD4 measurement. "The impetus rests with us in heavy HIV-burden regions to acquire a better understanding of the epidemic and its long-term consequences and help develop cheap and affordable means of triaging patients for closer attention and possibly earlier treatment".

According to Abayomi, early signals indicate that there is already an increase in the number of cancers associated with HIV/AIDS, such as the lymphomas and cervical cancer. He says cancers associated with HIV and AIDS are particularly difficult to treat, "and yet we owe it to these patients to treat them with the same urgency and dignity as we treat patients with any other form of cancer."

The Haematological Pathology division of the FHS and Tygerberg Hospital has therefore established close collaboration with other pathology divisions and clinical sub-specialities to better understand these phenomena. At the

"A direct consequence of the damage suffered by the immune system of HIV patients before antiretroviral treatment was started, is the growing incidence of blood cancers".

- Prof Akin Abayomi

The Haematological Pathology team are fltr: Front: Mrs Fezeka Bam, Mrs Rochelle Van Wijk, Dr Ravnit Grewal, Prof Akin Abayomi, Mr John Forbes, DrTembisa Jobo Middle: Dr Hayley Ipp, Mrs Manogari Chetty, Dr Nomusa Mashigo, Mrs Marieta du Plessis, Dr Thandiwe Adonis, Mrs Avril Somers, Mr Bongani Nkambule, Dr Mark Roos Back: Mr Samuel Mburu, Sr Ester Murray, Mrs Annette Jooste, Mr Stanley Loots, Dr Allison Wiehahn, Dr Arne von Delft and Mr Izgak Barendse.

same time, a Tygerberg Lymphoma study group was established, as well as an HIV Activation and Inflammatory group, chaired by Dr Hayley Ipp.

Abayomi says one of the targets of the division is to work on haematological cancers associated with HIV and he and his team are working with the American National Institutes of Health (NIH) to focus the spotlight on the evolving epidemic of HIV complications. As part of a nationwide collaboration with the University of Columbus in New York, SU has also secured a development grant specifically to train South Africans in the epidemiology and investigation of AIDS related cancers. This initiative was spearheaded by Drs Gerhard Sissolak and Fatima Bassa of the Clinical Haematology division.

According to Abayomi, early results from the Tygerberg Lymphoma study group confirm that there has been an alarming increase of HIV related lymphomas over the last seven years despite the introduction of ART. "About a third of all new cases of lymphomas are occurring in People Living With HIV (PLWH). This has grown significantly from 5% a decade ago, and the trend seems to be on an upward curve."

Working with designated NIH specialists, based at the University of Ohio in the United States, the SU Haematology team has been included in a sub-Saharan research network, sponsored by the NIH. The network will study HIV/AIDS-related lymphoma in particular on the continental level.

"At present, there is almost a void in our local knowledge of this evolving problem. The NIH study is a brand new project aimed at increasing our understanding and diagnostic capacity on the continent as it relates to a burden of disease that has its largest impact in Africa."

Haematology in the developing world

As the new head of the division, Abayomi says haematology is an exciting and rapidly changing discipline, characterized by important advances in the treatment of blood diseases.

"Ten, twenty years ago there was very little one could do about these depressing conditions. However, with new advances in diagnostic capacity with flow cytometry and molecular procedures coupled with treatments such as smart designer drugs and cellular therapies with stem cells, many haematological malignancies and diseases such as sickle cell anaemia are no longer considered fatal. And the dreaded chemotherapy treatments have improved to the extent that people can now go back to work directly after they have received their early morning treatments."

Even though haematologists in the developing world do not have the luxury of sub-specilization in particular disease groups as is the case in the developed world, Abayomi feels strongly that collaboration on the continent will help overcome the gross human capital shortage in the discipline. He has therefore made it one of his aims to encourage young people to this interesting and rewarding field of medicine.

The SU Haematological Pathology division has five specialists and seven training specialists, as well as some 20 laboratory technologists and a growing number of student scientists. It is working closely with its clinical haematology counterparts to create a more unified haematology platform.

SU researchers identify first new TB pathogen in two decades

When a mysterious, tuberculosis-like disease reared its head in the banded mongoose population of northern Botswana, Stellenbosch University scientists discovered that the animals were infected by a previously unknown species in the Mycobacterium tuberculosis *complex – the first new organism in this group to be identified in 20 years.*

The recent discovery of a new tuberculosis pathogen by scientists of Stellenbosch University (SU), in collaboration with American colleagues, has made news in scientific publications and websites across the world when the results of the two teams' research were published in the August issue of the journal, *Emerging Infectious Diseases*.

"This discovery has opened up new avenues of research towards understanding the evolution of mycobacterial virulence," says Prof Nico Gey van Pittius, of the DST/NRF Centre of Excellence in Biomedical Tuberculosis Research (CBTBR), based in the Division of Molecular Biology and Human Genetics on the Tygerberg Campus - and a leading member of a team of scientists who identified and named the new pathogen *Mycobacterium mungi*.

According to his American colleagues, the discovery also offers a great opportunity "to learn what drives tuberculosis evolution and ecology, providing possible insight into the control of this important group of pathogens."

Mongoose dying mysteriously

Gey van Pittius, a medical molecular biologist, says an American research group – headed by Prof Kathy Alexander of Virginia Tech's College of Natural Resources and the Environment – approached him for assistance at the end of 2008. Alexander and a team of veterinary scientists were working in northern Botswana where they discovered that banded mongoose troops, living in close proximity to humans, were dying from a mysterious, tuberculosis-like disease and they were unable to identify the organism causing the disease.

"They asked for our help since we had the molecular tools available to differentiate between members of the genus *Mycobacterium* – the normal causative agents of tuberculous and other mycobacterial diseases. This was the beginning of an interesting, long-term collaboration with Alexander and her research group investigating the disease.

"Initially, we thought that the disease in the mongoose was caused by *Mycobacterium bovis*, the organism causing tuberculosis in cattle and which is currently causing havoc in buffalo and other wildlife populations in parts of southern Africa. That turned out to be wrong, and we then looked at the possibility of human tuberculosis, spreading to the animals across the human-animal interface. The infected mongooses were living in close proximity to human waste systems in the Chobe area."

Prof Nico Gey van Pittius explains the significance of the discovery of the new TB pathogen.

When that theory also fell by the wayside, and none of the markers for the different known species could identify the organism, Gey van Pittius realized that they were dealing with an unidentified new organism that has never before been seen in southern Africa or elsewhere in the world.

"All our molecular assays pointed to an organism which has never before been seen anywhere else in the world."

Wildlife and domestic animals threatened

"We were then able to show that the organism was related to the dassie *bacillus* - another tuberculosis complex species first described in the 1960's that causes tuberculosis in cape hyrax (dassies). Thus the new *Mycobacterium mungi* - as the organism was named by our group - has become the latest »

« described species of the *Mycobacterium* tuberculosis complex, which already includes other animal adapted organisms that infect, among others, seals, dassies, oryx, voles, goats and cattle.

Like human TB, the incidence of animal TB is on the increase, says Gey van Pittius. "*Bovine* tuberculosis, probably transmitted by cattle, was first detected in the south of the Kruger National Park in August 1990, but has now swept across the Park and has already reached the northern boundary. The large number of animal species infected with TB impacts negatively on animal numbers, health and the important economic benefits of ecotourism. Losses due to tuberculosis are also of extreme importance when endangered wildlife species are involved. Failure to eliminate *M. bovis* infection in wildlife and wild animals kept in zoos and parks, is also of serious concern to public health officials because tuberculous wild animals could serve as a source of infection for domestic animals like cattle. TB in wildlife may therefore complicate control and eradication programmes of TB in cattle and increase public health concerns," he says.

Gey van Pittius says there is still much to learn from the new organism. "For example: why haven't we seen this organism before, does it infect other animals or even humans, what is the mode of transmission and where did it come from?"

These are all questions which he and his collaborators will now endeavour to answer. The group also aims to determine the whole genome sequence of the organism to gain insight into the mechanisms by which its genome has evolved and the reasons for its very interesting and unique disease etiology.

At the forefront of research

Headed by Prof Paul van Helden, the CBTBR is at the forefront of tuberculosis research in South Africa and internationally.

Scientists and researchers of the Centre and Division of Molecular Biology and Human Genetics have published more than 430 papers and book chapters and hold a number of patents in the field of tuberculosis since their work in this field started in 1991. With the Faculty's close proximity to a number of very high tuberculosis incidence communities - with and without high levels of HIV infection - and long-standing links with several wildlife health research associated institutions such as the Onderstepoort Veterinary Institute and the Kruger National Park, the Tygerberg group is in a unique position to study both human and animal tuberculosis. The Division has a large number of ongoing projects focusing on immunological, genetic, pharmacological, bacteriological and molecular epidemiological questions pertaining to M. tuberculosis infection.

Baromedicine & Occupational Medicine Facility

The Stellenbosch University Baromedicine & Occupational Medicine Facility is located at the Faculty of Health Sciences on the Tygerberg Campus.

Baromedicine:
The Facility provides provincial, private and medical aid patients with Hyperbaric Oxygen Therapy, the three main indications being:
- Problematic Non-healing Wounds,
- Crush Injuries
- Radionecrosis;

As well as Transcutaneous Oximetry and Wound Care

Education:
Degree programs presented by the facility include BScMedScHons (Hyperbaric Medicine), BScMedScHons (Underwater Medicine), MSc (Baromedical Sciences) and soon to-be-registered short courses in Hyperbaric Nursing.

Occupational Medicine Services:
- Compulsory occupational fitness examinations for individuals such as pilots and deep sea divers,
- Examinations to determine the occupation-related medical fitness of sick or injured individuals and disability issues.

Research:
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Unique partnership benefits

South Africa's first true orthopaedic training facility with a decent infrastructure was recently opened at Tygerberg Hospital, thanks to a unique partnership between Stellenbosch University, Tygerberg Hospital, the Provincial Government and the Private Sector.

Known as the Advanced Orthopaedic Training Centre, the spacious and secure state of the art facility on the sixth floor of Tygerberg Hospital provides an excellent working, training and research environment for the eight specialists, 18 registrars and seven interns who are currently attached to the Division of Orthopaedic Surgery, headed by Prof Gert Vlok since 1984.

This division is currently the largest tertiary orthopaedic unit in the Western Cape. It represents years of effort and hard work by Vlok and staff of the division; the willingness of the hospital and the Province to contribute to the project; the generosity of the SU's orthopaedic alumni, as well as donors from the private sector – ranging from Shoprite/Checkers, who designated its whole building team to work on the project, to Samsung (who donated flat screens, fridges and stoves), Frazer tiles, Storz, the orthopaedic instrumentation company who donated instruments for arthroscopic procedures and many others.

"We received donations of R60 000 to R70 000," says Dr Sean Pretorius, a specialist in the division and managing director of the committee, responsible for the management of the new Centre. Other members of the committee, who also served on the organising committee, include Prof Vlok and Drs Jacques du Toit and Ignatius Terblanche.

Prof Gert Vlok received a unique keyring as gift at the official opening of the facility.

According to the members of the committee, the need for a centralised orthopaedic training centre in the Hospital stretches back over many years during which staff and students of the Division had to navigate their way between the Orthopaedics ward, situated on one floor of the Hospital and clinical facilities and operating theatres situated on other floors.

Now the new centre is within walking distance of the ward and connected to the operating theatres with an elevator operating from within the centre.

The Centre comprises a large auditorium – named after Prof Vlok – with modern audiovisual facilities that will allow medical officers and other staff at peripheral hospitals to log in on meetings and lectures. Continuous Medical Education programmes will also be presented from this area. Each one of the comfortable chairs in the auditorium has been donated by a former student of the division and carries the name of the donor. "When we appealed for funds from alumni, we had an excellent 40% response from our old boys," says Pretorius.

The Centre is furthermore equipped with a computer room and library with continuous Internet availability; a special workshop and procedures room that will facilitate clinical skills workshops, practical training on cadavers and arthroscopic procedures; an area for research; training facilities for students; storage facilities for reusable orthopaedic instrumentation; locker rooms; male and female restrooms and overnight sleeping facilities for staff on night duty; a tearoom and entertainment area; a small kitchen and a security system to restrict unauthorised entry.

The Orthopaedics division, with its excellent academic record trains 3rd, 4th and final year students and postgraduates, as well as orthopaedic specialists from the state- and private sector; orthopaedic registrars; orthopaedic medical staff from the hospital's catchment areas and affiliated orthopaedic staff such as physiotherapists. The division produces three or four new orthopaedic surgeons every year and provides orthopaedic health care to patients at Tygerberg Hospital.

Apart from training provided by the division's own specialists, super specialists from the private sector are also brought in to provide training in areas such as knee and shoulder surgery. From time to time, overseas specialists in specific fields are also invited to the division to present special courses.

The 800 square metres on the west side of Tygerberg Hospital in which the Centre was established, was allocated to the division by the then CEO of the hospital, Dr Terence Carter. "In the past, the area was first used as a tearoom and later as a facility for hospital porters," says Vlok. "It had cost us a microwave and a fridge to convince them to relocate to other facilities. And before we could start building, a flock of doves moved in."

The new Centre was designed with the help of architect Mr Kruger Theron who offered his services at a huge discount. "Then Mr Whitey Basson of Shoprite/Checkers offered to help because he wanted to put something back into education. Eventually the Shoprite building team got involved and they completed the project."

According to the members of the committee, the Centre is run as a non-profit, public benefit organisation with financing for its upkeep sourced from external, tax deductible donations.

They point out that health care providers leave South Africa at an alarming rate, often to receive orthopaedic training elsewhere.

"We hope this initiative will empower the local surgeons to receive internationally equivalent local training here at Tygerberg Hospital. Maybe that will help to curb the exodus of health providers from our country."

orthopaedic training in SA

Photos:
The AOTC recently held a Paediatric Orthopaedics Trauma symposium. This symposium was directed at registrars from the universities of Stellenbosch and Cape Town as well as medical officers from the Western Cape Secondary Hospitals. Literature based theoretical sessions as well as practical workshops in the newest fixation techniques were presented by Orthopaedic specialists from Tygerberg Hospital, Groote Schuur Hospital, the private sector as well as a visiting surgeon from One Military Hospital in Pretoria, Dr Stefan Colyn. This course reflects the centre's vision of high quality "outreach" teaching in orthopaedic surgery.

The centre piece is without a doubt the "state of the art" auditorium, were the team can deliver high quality lectures and also interact with peripheral institutions via video interface. The chairs of this auditorium were kindly donated by the "alma maters" of the Division of Orthopeadic Surgery. Dr Vaatjie du Toit welcomes the delegates and faculty to the AOTC during a recent symposium.

Paediatric Surgery

Training programme offers special skills

The Paediatric Surgery team. In front is the head of the Division, Prof Sam Moore and from the left, at the back, are: Dr Nevaleni Tshifularo, a qualified surgeon from Venda who came to SU to train in Paediatric Surgery; Dr Marianne Arnold, a registrar in the Division; Prof Daniël Sidler and Dr Corné de Vos.

With the recognition of Paediatric Surgery as a medical speciality in its own right, the discipline has recently come of age at the SU Faculty of Health Sciences and the Tygerberg Children's Hospital.

Now operating as an independent division of the Department of Surgical Sciences, the Paediatric Surgery Division offers a new MMed programme, designed as a four-year Masters programme to allow specialization in Paediatric Surgery without students necessarily completing a full training in General Surgery first. This is in keeping with the new Health Professionals Council of SA (HPCSA) regulations.

The curriculum was developed by the head of the Division, Prof Sam Moore. In terms of the Provincial plan for a single clinical service for Paediatric Surgery, the Stellenbosch unit has regular joint academic meetings, conferences and academic tutorials with the Red Cross Children's Hospital, University of Cape Town, who also shares the SU training curriculum.

At present, the division comprises two senior paediatric surgeons; one qualified surgeon who is training in paediatric surgery; one registrar and a medical officer.

Despite its small size, the new division has at its command surgeons with special, advanced skills. One of them, Prof Daniël Sidler can perform a number of paediatric operations almost without any visible scarring.

"For instance, we do laparoscopic keyhole surgery on all our patients with high ano-rectal malformations. Also in cases of hypertrophic pyloric stenosis - where the pyloric muscle becomes hypertrophic and must be cut - we do a peri-umbilical incision when the condition is diagnosed - usually at six to eight weeks after birth. You can hardly see a scar after this procedure," he says.

The Division also performs single keyhole surgery without laparoscopic equipment through the bellybutton for conditions like intestinal atresias, where the bowel is almost completely interrupted. Previously, a much more invasive upper transverse laparotomy was required to treat the condition.

At the same time, scarless surgery is of enormous advantage in cases of Hirschprungs Disease, a field in which Prof Moore is a leading expert.

"This is a disease of the bowel that previously required three operations, as well as stomas such as colostomies. Now a single one hour operation through the anus without any stoma can be done mainly in the neonatal period. The patient can often be fed on the same day. We have had over ten cases like this at Tygerberg Children's Hospital since we started doing endorectal surgery about three or four years ago," says Sidler.

He points out that this type of surgery is of enormous advantage to the child and the parent or caregiver. It is not highly technological or expensive, but it makes bowel surgery much easier especially in our population where there is a 20% risk of adhesive bowel obstruction after laparatomy and a 20% complication rate with stomas.

"There is also cultural and psychological resistance to stomas in some of our cultural groups and parents or caregivers may find it very distressful to deal with a baby with a stoma."

Although Tygerberg Children's Hospital is not the only institution where this kind of surgery is performed, Sidler believes that it is of special benefit to the people whom we serve, not only in terms of cost benefits, but also because it involves fairly simple, low tech procedures.

For further information, contact:
Prof Sam Moore - 021 938 9280;
swm@sun.ac.za or
Dr Daniël Sidler - 021 938 928;
ds2@sun.ac.za

Pharmaceutical Medicine now a medical speciality

Profs Stephen Hough (left) and Bernd Rosenkranz

SU offers a two-year diploma course in pharmaceutical medicine

While it has been eight years since pharmaceutical medicine became a recognised, medical speciality in Britain, no efforts have been made to recognize this discipline as a medical speciality in South Africa.

Instead, in 2009 the Colleges of Medicine of South Africa (CMSA) recognized Clinical Pharmacology as a speciality in the field of medicine and the SU Pharmacology Division is set to launch the first full 2-year course in this field in 2011.

The postgraduate diploma course, known as Pharmaceutical Medicine, has been approved by the University, the South African Department of Education and the SA Qualifications Authority and since April 2010, the SU Pharmacology Division has been offering individual modules of the programme as four separate short courses. Successful participants will be awarded CPD points and a certificate of competence.

Prof Bernd Rosenkranz, head of the SU Pharmacology Division, says pharmaceutical medicine, as a medical speciality in Britain, is aimed at doctors working in the pharmaceutical industry. In South Africa, doctors working in this industry, are organized in the SA Association of Pharmaceutical Physicians, which had 83 members in 2005.

Even though pharmaceutical medicine is not a recognized medical speciality in South Africa, the postgraduate training gap in this field is now set to be filled by the new, two-year course now offered by SU.

The full two year diploma course consists of four modules: An introduction to pharmaceutical medicine; non-clinical development of medicines; clinical development and pharmacovigilance and marketing. The course includes a research project and regular assessments, including the final examination. The syllabus of the programme is based on that proposed by the Faculty and by the International Federation of Associations of Pharmaceutical Physicians (IFAPP) to ensure harmony with other existing programmes.

Rosenkranz says applicants with a medical, dental or pharmacist degree can be admitted to the programme on the basis of the degree, whilst those with a nursing, biomedical or other relevant science degree need to have had two years of experience in pharmaceutical medicine.

"To assess the situation regarding courses on pharmaceutical medicine currently planned internationally, the International Committee of the Faculty has asked a working group to look at standardized materials used for teaching and/or exams, e-learning, budgets, sponsoring opportunities, and recommendations for potential synergies. Members of the working group are Bernd Rosenkranz (South Africa, chair), Ibrahim Farr (Spain), Raymond Chua (Singapore), Domenico Criscuolo (Italy), Pankaj Goyal (India), and Pipasha Biswas (UK/India). The group is actively supported by Barry Muzzeroll (Faculty administration).

For more information, please contact Prof Bernd Rosenkranz, tel: 021 938 9331, e-mail: rosenkranz@sun.ac.za, or the programme coordinator, Prof Stephen Hough, tel: 021 938 9044, e-mail: fsh@sun.ac.za

Stellenbosch University - Faculty of Health Sciences

BSc Honours Medical Sciences (Epidemiology)

Essential skills for those who want to get involved in health research!

This programme is aimed at health professionals and designed to increase their skills in epidemiology, research methodology and statistical methods. This degree provides an understanding of epidemiology and its role in health to a level that enables critical appraisal of the medical research literature and it will enhance skills in conducting of projects. The aim of this course is to add skills to each student, regardless of speciality field, so that they can carry out aspects of their speciality with a better scientific knowledge base and judgement. The programme is offered by the Division of Community Health of the Faculty of Health Sciences at Tygerberg.

Admission Requirements: Applicants must have MB,ChB, B or ChD or at least a bachelor's degree in a biologically-related discipline or suitable post-matric qualifications coupled with relevant experience in a health-related research field as assessed by the University. In the case of an applicant not in possession of a formal bachelor's degree, the University will assess the student's qualifications and may require a tentamen (oral examination) to assess the candidate's ability to meet the course requirements. The course is offered part-time over two years to enable students to carry on with their employment while studying. There is one class of two hours per week at the Tygerberg campus.

For more details and application forms, please contact
Dr Jo Barnes (021 9389480) or Mrs Marie Kotze (021 938 9120, mornings only).

Excellence rewarded

The outstanding work that Prof Colleen Wright, head of the Anatomical Pathology division in the SU FHS has been doing in the field of fine needle aspiration and placental pathology received special recognition when the SA Medical Association honoured her with a special Medical Service Award.

The award specifically acknowledges contributions that, at the time of their execution, have made a positive difference to the practice of medicine and healthcare delivery.

Wright is an anatomical pathologist with a particular interest in both paediatric pathology and the use for fine needle aspiration (FNA) biopsy as a diagnostic modality in resource limited countries.

This natural synergy led to her research into the diagnosis of paediatric tuberculosis using FNA, the topic of her doctoral dissertation. She promotes the use of FNA in both neo-plastic and infectious diseases in countries with limited financial and medical personnel resources.

Wright has been training medical and nursing staff at under- and postgraduate levels in the FNA technique. In 2005, she also initiated the first distance-mediated Masters degree in Cytopathology through Stellenbosch University, thus making specialist training in cytopathology accessible to students throughout Africa.

She has a research and diagnostic interest in perinatal and placental pathology, and is a co-investigator in the PASS Research network, a five year international collaborative study, funded by NIHCD and NIAAA to investigate the hypothesis that perinatal alcohol exposure increases the risk for SIDS and stillbirth. As part of this study she was appointed affiliate professor of Pathology at the Children's Hospital Boston.

Wright promotes the recognition of the contribution of placental pathology to the understanding and management of adverse pregnancy outcome, convening courses on placental pathology for pathologists from South and Southern Africa, as well as lectures to obstetricians and neonatologists.

◆ Further to the above achievement, Prof Colleen Wright was invited in October 2010 by the International Academy of Cytology to be a member of the International Board of Cytopathology. This recognition is a rare and sought-after honour that reflects the international respect and status that she enjoys as a leading cytopathologist. T

MRC SOUTH AFRICA

Volunteers wanted for OCD study

The MRC Unit on Anxiety & Stress Disorders, University of Stellenbosch,
is searching for volunteers to participate in a study on

Obsessive Compulsive Disorder (OCD)

Three "types" of volunteers are needed for participation:
1) People diagnosed with Obsessive-Compulsive disorder;
2) people diagnosed with Trichotillomania (compulsive-hair pulling); and
3) first-degree relatives (aged between 18 and 65 years) of persons diagnosed with OCD.

Participant information will be kept confidential.
If you think you are up to the challenge, and want to contribute to this study, please contact:
Prof Christine Lochner (Tel: 021 - 938 9179, e-mail: cl2@sun.ac.za) or
Ms Bryony Fell (Tel: 021 - 938 9762, e-mail: bfell@sun.ac.za) for more information.

SPORT AND HIV

A new, research-based partnership

Using sport as an important measure to prevent HIV is at the heart of an extensive new tripartite partnership that was recently established between Stellenbosch University, the Technical University of Munich (TUM) in Germany and the HOPE Cape Town organisation, which conducts various HIV programmes at the SU Faculty of Health Sciences and Tygerberg Hospital.

The groundwork for the initiative was laid last year when Prof Jürgen Beckmann, dean of the Faculty of Sport and Health Science at TUM visited Prof Bernd Rosenkranz, head of the Pharmacology Division to explore possibilities of cooperation between the two universities.

During the Soccer World Cup in June this year, the two professors presented a workshop at the Artscape theatre in Cape Town, focusing on aspects of sport that can play a role in the prevention of HIV and Aids, such as teamwork and the building of self-confidence. Prof Mark Cotton, Mr George Fourie, both from the Children's Infectious Diseases Clinical Research Unit (KIDCRU) at Tygerberg Hospital, as well as Rev Stefan Hippler, HOPE Cape Town, presented their experiences.

To transform this cooperation into a long-term, sustainable and research-based partnership, a letter of intent was signed shortly afterwards to create a partnership between all 3 partners to support HIV prevention through sports programmes.

Rosenkranz says the partnership intends to establish a long-term scientific cooperation between South Africa and the Federal Republic of Germany in various aspects of HIV, i.e. clinical science, sports and health sciences, immunology, epidemiology, training and public health.

"This will be underpinned by the exchange of students, teachers, doctors and scientists with the aim of training highly qualified scientific experts and teaching personnel.

"One of the main objectives of the working group is to recruit leading researchers and experts from South Africa and Germany into HIV research, with special focus on prevention through sport programmes, including practical public health care and the attraction of big industrial investors to problems of HIV prevention."

The mission of the South African-German cooperation will be to improve access to effective measures of HIV prevention through sport programmes, appropriate patient management, to stop transmission of HIV, to reduce its social and economic toll, and to assist in development and implementation of new preventive and therapeutic tools and strategies to stop HIV.

It will particularly, but not exclusively, aim at an interdisciplinary approach to address the following fields in HIV prevention, both in research and clinical practice:

- Educating peer-group mentors in sports activities;
- Empowerment of young females;
- Teaching young males about the importance of responsibility and teamwork, and
- Increasing life quality through adequate sports in HIV positives.

The South African-German partnership will endeavour to contribute towards reducing the burden of HIV in both countries. It will enhance the quality of education, training and scientific research by capacity building and exchange of skills and resources.

At the colourful function, held to sign the letter of intent, were, from the left: Members of the Bavarian Choir who accompanied the German delegation to South Africa, Rev Stefan Hippler of HOPE, Prof Jürgen Beckmann of TUM, SU FHS dean, Prof Wynand van der Merwe, Dr Rupert Pritzl of the Bavarian State Chancellery and other interested parties.

In Memoriam

Prof Barney de Villiers, hoof mediese spesialis van die Afdeling Gemeenskapsgesondheid, is op 9 Junie oorlede. Hy was sedert 1994 aan die Fakulteit Gesondheidswetenskappe verbonde en het vanaf 2001 tot 2004 ook as mededekaan op die bestuur van die Fakulteit gedien. Ons dink met deernis aan Anntesia, sy kinders en kleinkinders, asook al sy vriende hier by die fakulteit.

Dr Mickey Gerber is op Woensdag 28 Julie oorlede. Dr Gerber was 'n gewaardeerde kollega wie 'n lang en produktiewe loopbaan oor bykans vier dekades by die Fakulteit en Stikland-hospitaal gehad het. Dr Gerber se dood is vir baie van sy kollegas en vriende in die Fakulteit en elders 'n groot verlies. Ons sal sy professionaliteit, kollegialiteit, vriendskap en unieke humorsin baie mis, maar vir nog lank onthou.

Prof Glynn Wessels is op 27 September oorlede. Prof Wessels was sedert 1984 reeds verbonde aan die Departement Pediatrie en Kindergesondheid. Hy sal altyd onthou word vir sy wonderlike bydrae tot kinderkanker-behandeling in Suid-Afrika. Ons dink met deernis aan sy vrou Elana, kinders en kleinkinders.

Dr Con Meyer is op 13 Junie 2010 oorlede. Hy was voorheen werksaam by die Departement Chemie en Polimeerwetenskap en het Chemie vir ons studente aangebied. Ons dink met deernis aan sy familie en vriende.

Ons het ook met leedwese verneem van die skielike afsterwe van een van ons oud-studente, Dr Werner Wagner op 2 Augustus. Hy was Tygerberg se sportman van die jaar in 2005. Dr Wagner het in Swakopmund gepraktiseer en was 'n baie gewilde student op Tygerbergkampus.

The Cape Universities Brain Imaging Centre

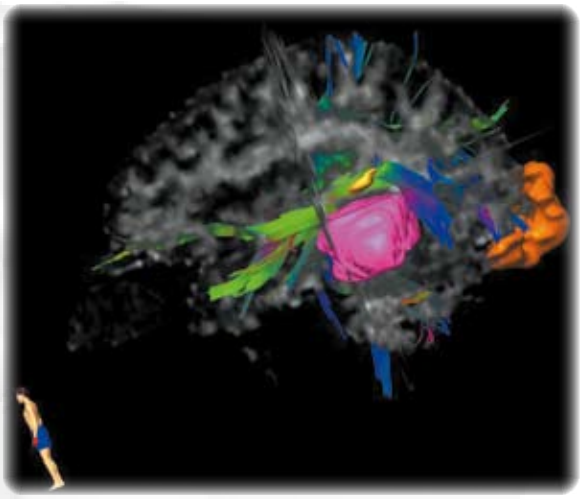
Catalyzing neuroimaging research in South Africa

Our vision is to establish ourselves as a cutting edge neuroimaging research facility with a focus on problems that are specific to South Africa

The Cape Universities Brain Imaging Centre (CUBIC) is a joint initiative between Siemens, the Universities of Stellenbosch and Cape Town, and the Medical Research Council. The core focus of the centre is collaborative neuroimaging research. Since CUBIC was commissioned in March 2007, over two dozen research projects have been initiated in key areas including neurocognitive effects of HIV, TB, medical drugs, alcohol, crystal methamphetamine (TIK) and cannabis abuse, fetal alcohol syndrome, trauma and schizophrenia. We have also seen an impressive growth in basic science research on improved imaging and analyses techniques.

The centre boasts a 3 Tesla Siemens Allegra MRI scanner, the first MRI scanner of its kind in Africa and currently one of the most advanced brain imaging instruments on the market. In addition, the centre is also home to electroencephalography (EEG) and near infrared spectroscopy (NIRS) imaging equipment. Advanced neuroimaging of this kind provides detailed structural and functional brain mapping, and promotes research in a variety of disciplines, including radiology, psychiatry, psychology, neuroscience, physics and biomedical engineering.

The imaging centre is not simply a service to researchers, but more a collaborative partner and a facility to promote cross-disciplinary relations. An MRI physicist, two radiographers, an administrator and several data analysts are employed to help transform your research ideas from principle to practice. In addition, we also provide unique neurosurgical planning capabilities involving mapping brain function and nerve fiber connections.



The image demonstrates our imaging capabilities for neurosurgical planning. The path of important nerve fibers (green and blue) are shown relative to a tumour (pink). Functional brain areas for speech and sight are also shown (yellow and orange, respectively).

CUBIC is situated on the Tygerberg Campus of the Stellenbosch University.
For more information, visit www.sun.ac.za/cubic

Quinette Louw:

Our first professor in Physiotherapy

With an inaugural address on musculoskeletal health as an under-recognised health priority in Africa, Prof Quinette Louw became the first full professor in Physiotherapy since this division in the SU Faculty of Health Sciences was established in 1966. She is also one of the strongest proponents of research in the division and this field of expertise.

Since she joined the Physiotherapy division in 2005, Prof Quinette Louw has made important contributions towards postgraduate training and research in the FHS with Physiotherapy studies focusing not only on musculoskeletal health, but also on an virtual reality pain relief for children with burn wounds (see *Tygerland* 2009).

However, her strongest interest lies in the field of sports physiotherapy and in 2005 she completed a doctoral degree at the University of Southern Australia with a unique study on the prevention of knee injuries in adolescent netball players. She joined the SU Physiotherapy Division on completion of her degree.

Louw completed her undergraduate studies in Physiotherapy at the University of the Western Cape (UWC). Because of the lack of postgraduate Physiotherapy programmes in South Africa at the time, she enrolled for a Masters degree in Sports Physiotherapy at the University of Southern Australia. An MRC bursary enabled her to move to Adelaide in Australia where she completed her degree in 15 months – with a number of distinctions and a Dean's award for academic achievement.

With this degree in her arsenal, Louw returned to UWC where she joined the Department of Physiotherapy and contributed to a postgraduate programme presented at both UWC and SU. She was, however, keen to continue her PhD studies and research at the University of Southern Australia, where she had built a strong working relationship with colleagues in the Department of Physiotherapy, and with Prof Karen Grimmer in particular. Another bursary from the MRC, as well as a scholarship from the University of Southern Australia, helped her to realise this dream.

Her doctoral research focused on the knee injuries often sustained by young netball players. "The aim of my study was the primary prevention of injuries and the secondary prevention of conditions such as osteoarthritis."

Her work was widely reported in the media in a sports mad Australia, especially when she received her degree and delivered her first public lecture as Doctor in Physiotherapy in Adelaide.

Since she took up the post as associate professor at SU in 2005, Louw has played a key role in promoting research in the Physiotherapy Division. Under her direction, students have completed several studies focused on physiotherapy problems relevant to the South African population.

Louw is married and the mother of two young children.

Prof Louw delivered her inaugural address on 3 November 2010. In the photo are Profs Wynand van der Merwe: Dean, Quinette Louw, Dr Therese Fish: Deputy Dean Community Service and Interaction; Profs Jimmy Volmink: Deputy Dean Research and Julian Smit: Vice-Rector Community Interaction and Personnel.

ECI
Emergency Care Institute
South Africa

For all your Emergency medicine workshop needs the ECI is hosting the following workshops in 2011:
MIMMS, HMIMMS, Wound Managment course, BLS, Aviation Medicine, EMSB, ACLS, ANLS, Advanced Airway Course, Ventilation workshop, FEC,PHPLS,ECG workshop, EM Radiology, Emergency Point of Care ultrasound, EM CME, Advanced Management course.
Further enquiries and online bookings:
Website: www.eci-sa.org

New milestones on the road to

Infection prevention and control can save money and countless lives, says Prof Shaheen Mehtar, head of the SU and Tygerberg Hospital Unit for Infection Prevention and Control. With new initiatives and partnerships, as well as new sterilization equipment and facilities, the Unit is well set on the road towards a safer hospital environment.

The proliferation of nosocomial infections places a substantial burden on patients and health care systems worldwide – so much so that infection prevention and control have become a priority for hospitals and health authorities in all parts of the world and is now considered an independent subspeciality of health care sciences.

In this regard, South Africa and the sub-continent are no exceptions – and the Academic Unit for Infection Prevention and Control (UIPC), established at Tygerberg Hospital and Stellenbosch University in 2004, has been playing a leading role in African efforts to tackle this problem head-on.

Since its establishment, the Unit has achieved several infection prevention and control (IPC) milestones with measures specifically designed for low resource settings where IPC can save lives and millions of rands every year.

New African Network

A major milestone that was reached in 2008, was the establishment of the African Network for Infection Prevention and Control (IPCAN), followed by the Network's first conference, held in Uganda in September this year, with the support of the World Health Organisation (WHO) and collaborating partners from other international organisations, says Prof Shaheen Mehtar, who pioneered the SU/Tygerberg UIPC and became the first elected chairperson of IPCAN – the first organisation of its kind in Africa to receive WHO support."

The organisation's second conference was organised by the SU Unit and comprised a joint conference with the International Federation of Infection Control, which was held in 2010 at Spier near Stellenbosch.

Neighbouring countries

Locally, the UIPC has developed an IPC model that seems to work well in African settings, Mehtar says. "With Dr Frederick Marais as project manager, we have used the model at Tygerberg Hospital, but also for audits in Namibia and Swaziland and it will also be used for an upcoming IPC audit of health facilities in Botswana. Recently, Mehtar and Marais provided support services for the improvement of IPC services in Swaziland, specifically in the context of HIV/Aids for health care facilities, with a focus on reducing the transmission and control of tuberculosis.

"For many years, hospitals and health institutions have thought of IPC as a nursing procedure. Today it is globally recognised as a very important discipline," says Mehtar, who has just completed a comprehensive textbook on infection prevention and control (see p 42).

Sterilization service

Another major IPC highlight at Tygerberg Hospital has been the official opening of a new, multimillion-rand central sterile supply department (CSSD) in November last year.

This R20 million upgrade of the sterilization unit is set to contribute to a dramatic improvement of infection control in the hospital. The new, state of the art infrastructure includes three imported washer disinfectors, 10 new sterilizers, new shelving, lockers and an air conditioning system that puts the unit on par with world class SSD's. Previously, the hospital's outdated cleaning equipment was the subject of newspaper reports which highlighted the dangers of hospital infections and cross contamination.

According to Mehtar, infection rates will be closely monitored to ensure that the unit is making a perceptible impact on infection control in the hospital.

Since the establishment of the

Prof Shaheen Mehtar and Mr Wayne Moses with new sterilization equipment in the CSSD.

infection prevention and control

UIPC at Tygerberg Hospital, crude infection rates have dropped dramatically from 17% in 2006 to a sustained level of approximately five percent in 2008, Mehtar says. "Bringing hospital infections under control is an extremely costly exercise and the 12% drop represents a savings equivalent of R15 to R30 million per annum".

Apart from continuously emphasising simple infection prevention measures such as the washing of hands and the appropriate wearing of protective clothing, Mehtar and her UIPC team have provided in-service training to about 800 hospital staff. Over the past few years, needle-stick injuries – which are of particular importance in the light of the HIV pandemic – have dropped from 35/40 per month to about 12 per month – the majority of which now occur in labour wards where sharps containers are not within easy reach as they are in other wards in the hospital.

Prof Shaheen Mehtar (right) with Mr Wayne Moses, principal operator, at the autoclaves in the new CSSD in Tygerberg Hospital.

On the academic front

On the academic front, the Unit's two-year postgraduate diploma course – the first of its kind in Africa – has been drawing a full complement of students since it was instituted in 2004. The Unit will also introduce a postgraduate diploma in decontamination and sterilization, which will be presented by experts from the United Kingdom. The postgraduate diploma (PIDC) is restricted to 16 students, some of them from African countries, to ensure individual attention. Since 2010 the number of medical doctors on the course has been greater than the number of nurses registered for the diploma.

"It is indeed a reflection of the quality of training as well as the increasing interest in IPC among doctors."

The Unit also provides extensive training courses in IPC for health care workers and IPC specialist across the country and some neighbouring countries. All the short courses are accredited by Stellenbosch University, carry CPD points and focus on subjects such as hospital management, sterilization and decontamination and others. At the same time, the Unit is implementing research projects in collaboration with PATH, the HSRC and the Copper Development Association Africa. Notable research projects in this regard have focused on hospital-acquired HIV/Aids and tuberculosis and included successful investigations of copper touch surfaces as an adjunct to IPC in order to reduce the transmission of bacteria in health care settings.

Prevention in a pouch

In their endeavours to combat infection, staff at the Academic Unit for Infection Prevention and Control (UIPC) designed a Survival Kit pouch, which was launched at the Unit's annual Infection Prevention Control day held on 2 November 2010. The pouch consists of a series of flash cards, containing valuable information about the core elements of Infection Prevention and Control, e.g. important telephone numbers for the management of infection, droplet precautions, airborne precautions, communicable disease containment and outbreak management, risk reduction, sharps injury protocol, hand hygiene, waste segregation, transmission based precautions, and contact precautions. The pouch also has a handy bottle of alcohol rub and a pocket for personal belongings, e.g. a cell phone, staff cards and keys.

Understanding
Infection Prevention and Control

"A good IPC programme is problably the single most cost effective investment any government can make in health delivery", says Prof Shaheen Mehtar in the preface of her new book, Understanding Infection Prevention and Control.

IPC plays a significant role in containing the spread of disease. Increased resistance to antimicrobials and the rapid spread of communicable diseases such as tuberculosis, swine flu, SARS and avian flu have highlighted the need for good IPC measures in both the healthcare setting and at home.

The text book is a comprehensive compendium of IPC processes that can be applied in all countries. The text embraces the recent developments and recommendations in IPC from international authorities, such as the World Health Organization. It is an ideal study and teaching tool, and will serve as a reference book for healthcare systems planners who wish to understand IPC and strengthen systems. The various sections of the book guide the reader through the origins of infection, transmission and the IPC risk assessment to ensure that the principles are understood. Finally, IPC practices which will reduce, if not prevent, transmission are included.

Key features of the book are:

- Explains how effective risk management can reduce hospital stay and thereby reduce costs.
- Provides easy to follow information, simplifying the subject of IPC.
- Reflects recent evidence published on IPC especially in hospital design and natural ventilation, giving the reader the most up-to-date, evidence-based information.
- Is comprehensive and covers everything necessary for a postgraduate qualification in IPC, so that no other book is necessary.

Prof Mehtar is an internationally recognized expert in the field of infection control. She currently heads the Unit for Infection Prevention and Control at Tygerberg Hospital and Stellenbosch University. The royalties from the book will be donated to the Infection Prevention and Control Africa Network (IPCAN) of which she is a founder member and current chair.

Kliniese Assistente laat US-vlag wapper in Kollege Eksamens

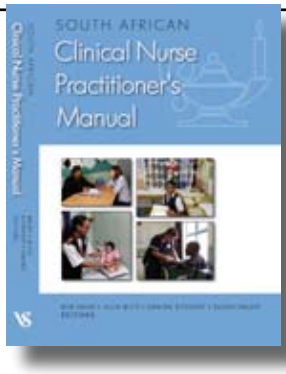
Dr Judith Kluge received the Daubenton Medal for outstanding result in the College of Obstetrics & Gynaecology examination 2009 (CMSA).

Die Douglas medalje vir die hoogste punt in die 2010 finale eksamens vir die *Fellowship of the College of Surgeons of South Africa* is aan dr Stefan Hofmeyr toegeken.

Die Frank Doyle medalje is toegeken aan Dr Pieter Janse van Rensburg, wat die hoogste punte behaal het in die Finale Eksamen Deel A, van die *Royal College of Radiologists (FRCR), London, VK.*

Dr Trevor W. Parker ontvang die J.M. Edelstein medalje vir die beste finale jaar student vir 2009 tydens die Kollege eksamen *FC Orth(SA) Final.*

Dr Alfonso Pecoraro achieved the highest marks in the May Fellowship of College Physicians (FCP) final examinations and will receive a College Medal early next year.



Clinical Nurse Practitioner's Manual

A collaborative milestone

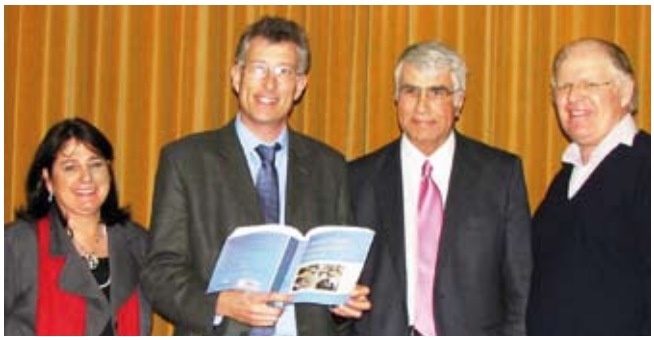
A new milestone in transdisciplinary collaboration at the SU FHS was reached when the new South African clinical nurse practitioner's manual was launched at the Annual Academic Day in August.

The manual, edited by Prof Bob Mash, Julia Blitz, Danine Kitshoff and Susan Naudé, is a collaborative project involving both clinical nurse practitioners and family physicians. All royalties of the book will go the SA Academy of Family Physicians to further the education and training of family medicine/primary care practitioners.

In the preface to the manual, the editors point out that South Africans, when they get sick and go to their local clinic, most often are seen by a clinical nurse practitioner. "Nurses and not doctors therefore form the vital interface between the general public and the health services. Clinical nurse practitioners are expected to take a history, examine and assess patients. They will treat many patients themselves and others will be referred to family physicians or district hospitals.

The South African *Clinical Nurse Practitioner's Manual* deals with aspects of clinical examination and common procedures, as well as key proficiencies in areas of communication, occupational health, research, teaching and health care administration. It provides the theory and the practical steps of routine skills as well as emergency care over a full spectrum of primary care – from the newborn to the elderly. It also looks at topical issues in the South African context, including community-orientated primary care.

Owing to the fact that clinical nurse practitioner training is becoming more formalised in all provinces, this manual forms an integral part of these training programmes, and should prove invaluable to this field of nursing.



Two of the editors of the new manual, Ms Danine Kitshoff and Prof Bob Mash, at the launch of the new manual, with Prof Craig Household, (2nd from the right) superintendent general of the Western Cape Health Department, and Prof Pierre de Villiers (right), board member of the Academy of Family Physicians.

New Lung Cancer treatment procedure

Researchers at the Division of Pulmonology are playing a leading role in the first-ever clinical study to evaluate the use of real-time localization technology for tracking lung cancer tumors during radiation delivery. This international study is done in collaboration with Calypso Medical Technologies, Inc., based in the USA. The high standard and international recognition of the research and clinical work being done within the Division of Pulmonology, and specifically by Prof Chris Bolliger, led to Stellenbosch University (SU) being selected the preferred clinical site from 20 international sites.

The first implantation of the proprietary anchored Beacon transponders in a patient (first in man) was performed by Prof Bolliger, Research Director of the Division of Pulmonology at the SU during the first week of October. The transponder will provide radio oncologists with precise information about the location of a lung tumor. Lung tumors move faster than any other tumors and are thus particularly difficult to treat using radiotherapy. The new technology will improve outcomes of radiation treatment and lower the incidence of side effects.

A lifetime achievement in Pulmonology

Prof Bolliger's achievements in the field of pulmonology received international recognition when he was awarded the Life-time Achievement Certificate for his work in bronchology, bronchoesophagology and international pulmonology at the World Congress for Bronchology, held in Budapest in June this year. Bolliger, of the SU Pulmonology division, was invited to deliver the honorary lecture at the congress, titled "Diagnosis and Staging of Lung Cancer: State of the Art." At the same time, the latest volume, no. 38, in his book series *Progress in Respiratory Research*, was launched. The title of the volume is *Paediatric bronchoscopy*, published by Karger. Prof Robert Gie and Dr Pierre Gousaard of the SU Department of Paediatrics and Child Health contributed an important chapter to the book. The book series has received several international awards and is arguably one of the best of its kind globally. In the photo above is Bolliger with his award.

Uitblinkers van die Fakulteit

Verskeie akademici van die Fakulteit het in die loop van die jaar erkenning gekry vir die bydraes wat hulle in hul onderskeie vakgebiede gelewer het.

Nasionale toekenning vir Uitnemendheid in Onderrig en Leer

Prof Ben van Heerden het spesiale erkenning vir sy besondere bydrae tot onderrig en leer ontvang, toe hy onlangs gekies is vir 'n *Higher Education Learning and Teaching Association (HELTASA)* nasionale toekenning vir Uitnemendheid in Onderrig en Leer. Hy is die direkteur van die Sentrum vir Gesondheidswetenskappe Onderrig by die Fakulteit.

HELTASA, in samewerking met die Hoër Onderwys Gehalte-komitee, gee jaarliks toekennings aan akademici van Hoër Onderwysinstellings vir uitnemendheid in onderrig en leer. Van Heerden is een van vier uit 'n totaal van 24 kandidate wat van regoor Suid-Afrika gekies is.

Die doelwitte van hierdie toekenning is om ondersteuning te bied op nasionale vlak vir uitnemendheid in onderrig en leer in hoër onderwys; om 'n raamwerk te ontwikkel van identifiseerbare akademici wat bevoeg is om in onderrig in hulle dissiplines, instellings en areas leiding te neem; en om bespreking en publieke bewusmaking te genereer oor dit wat onderrig uitnemendheid konstitueer.

Van Heerden het 'n intense belangstelling in onderrig en leer ontwikkel toe hy in 2001 as hoof van die destydse Skool vir Geneeskunde aangestel is. Sy betrokkenheid by onderrig en leer sluit in aktiwiteite op voorgraadse en nagraadse vlak, en aktiwiteite wat verband hou met die *Foundation for the advancement of Medical Education and Research (FAIMER).*

Hy is tans die voorsitter van die MB,ChB-programkomitee en programkoördineerder vir die MB,ChB en MPhil in Gesondheidswetenskappe Onderwys programme. Hy is ook deur die Minister van Gesondheid genomineer om op die Geneeskundige en Tandheelkundige Beroepsraad van Suid-Afrika te dien.

Top internasionale toekenning

Dr Bonginkosi Chiliza is vereer toe hy ingesluit is in die top 10 Rafaelsen

Jong Navorsers in 2010, wat jaarliks deur die *Collegium Internationale Neuro-Psychopharmacologicum* aangewys word. Chiliza is 'n senior psigiater en senior dosent in die Departement Psigiatrie. Sy belangstellingsvelde op die gebied van navorsing sluit in eerste episode skisofrenie, veral faktore wat uitkoms beïnvloed, psigofarmakologie, en taaltoegang in geestesgesondheidsdienste. Hy het voorheen gewerk as navorsingsgenoot in die Skisofrenie Navorsingseenheid op die projek genaamd, "*A prospective study of clinical, biological and functional aspects of outcome in first-episode psychosis*".

Chiliza het 'n aantal toekennings ontvang wat insluit die *Hamilton Naki Clinical Research Fellowship* (2007), die *World Congress of Biological Psychiatry Travel Grant* (2009), en die *Schizophrenia International Research Society Travel Award* (2010). Hy was mede-outeur van 'n aantal eweknie artikels en is tans besig om die doktorsgraad te voltooi onder toesig van prof Robin Emsley.

SA Akademie vir Wetenskap en Kuns

Proff Amanda Lochner (links) van die Biomediese Wetenskappe en Paul Brink (regs) van Geneeskunde is vereer met twee besondere toekennings deur die Suid-Afrikaanse Akademie vir Wetenskap en Kuns. Lochner het die Goue Akademie-medalje vir Natuurwetenskaplike Prestasie ontvang en Brink die Havengaprys.

Die Goue Akademiemedalje vir Natuurwetenskaplike Prestasie word toegeken vir hoogstaande werk van praktiese uitvinding (of toepassing) en vernuf, gebaseer op wetenskaplike en/of proefondervindelike grondslag. Lochner word nasionaal en internasionaal erken as 'n veteraan op die gebied van mediese navorsing. Haar volgehoue navorsingsbydraes oor meer as 45 jaar, toon steeds 'n stygende kurwe. Die toenemende sofistikasie en verfyning van haar en haar medewerkers se metodiek, bemagtig haar om voort te gaan om steeds op die internasionale toneel 'n betekenisvolle bydrae te lewer.

Die Havengaprys word jaarliks toegeken vir oorspronklike navorsing op natuurwetenskaplike en/of tegniese gebied en Brink het vanjaar met die louere weggestap. Die nodige vereistes by die beoordeling van kandidate is eerstens navorsingspublikasies en tweedens bewys van die bevordering van Afrikaans. Ander prestasies in belang van die wetenskap word ook in aanmerking geneem. Die prys word slegs een maal aan 'n bepaalde persoon toegeken. Brink het oor die afgelope paar dekades aansienlike en unieke bydraes in sy navorsingsveld gelewer wat betekenisvol bygedra het tot die bevordering van die diagnose en behandeling van oorerflike hartsiektes.

Discovery Foundation Fellowship

Dr Amir Zarrabi of Urology was recently awarded an academic fellowship from the Discovery Foundation.

This is one of only ten fellowships awarded countrywide to exceptional registrars or recently qualified specialists who want to follow a career in academic medicine in South Africa.

Recipients get the opportunity to take on a 12 to 18-month period of full-time study and research towards a Masters or doctoral degree to improve training in a chosen field of specialisation. T

PHYSIOTHERAPY & MOTION ANALYSIS CLINIC

A fully equipped rehabilitation area, virtual reality technology and consultation rooms are also on site.

The team:

The team consists of a highly skilled multidisciplinary group of:

- Sports/orthopaedic/ neurological/pediatric physiotherapists
- Biomechanists
- Biomedical Engineers

do you suffer from?

Sport Injuries
Muscle/joint/ neurological problems
Postural mal-alignment
Pain

The new PHYSIOTHERAPY AND MOTION ANALYSIS CLINIC at Stellenbosch University, Tygerberg campus, focuses on human performance and movement rehabilitation in adults and children. Our state of the art Vicon motion analysis system is the most sophisticated, cutting edge biomechanical technology in Africa.

we can conduct an analysis of any functional / sport activity to:

- Diagnose biomechanical risk factors (i.e. muscle imbalances)
- Prevent injury
- Rehabilitate using real time biomechanical feedback
- Enhance performance

Services for adults and children of ALL ages:

PHYSIOTHERAPY
Sports Injuries
Post-operative rehabilitation
Performance enhancement
Musculoskeletal disorders
Neurological disorders
Respiratory disorders

MOTION ANALYSIS AND REHABILITATION
Movement disorders
Injury prevention
Ergonomics
Postural problems

VIRTUAL REALITY
Pain management
Movement disorders

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