As Autumn sets in and the leaves turn brown, our thoughts turn to the cold months ahead. What a good time to snuggle up indoors and write! The FRO has been awarded substantial funding from SPARC through the URC to increase outputs.....that’s right, here is a wonderful opportunity for you to write up all those publications that have been pending. The funding is specifically for publications and MUST be used before the end of the year. Please contact the FRO and watch your email for more information on this important venture.

Congratulations to Professor Viness Pillay on the renewal of his DST/NRF Research Chair (see below). This is an incredible achievement and we wish Viness continued productivity!

Our next Prestigious Research Lecture will take place on May 17th, 2012 at 5.30 for 6pm. The lecture entitled “Towards malaria eradication - myth or reality” by Professors Theresa Coetzer and Maureen Coetzee will highlight the current state of vector control as well as the latest molecular research on the biology of the parasite. Please accept this invitation to attend.

Enjoy your research, Bev Kramer

LEADING RESEARCH NEWS

SOUTH AFRICAN RESEARCH CHAIR IN DRUG TECHNOLOGIES RENEWED

Professor Viness Pillay (Director: Wits Advanced Drug Delivery Platform) was first awarded a DST/NRF South African Research Chair in Pharmaceutical Biomaterials and Polymer-engineered Drug Delivery Technologies in 2007. We are delighted to report that his appointment has been renewed for a second cycle of another 5 years (until August 2017). Congratulations!

A note regarding the Research Chair awarded to the SBIMB

In the February issue of this newsletter, we reported on the awarding of three DST/NRF South African Research Chairs to research entities, two within our Faculty and one which is part of a cross-faculty initiative spanning the Faculties of Science and Health Sciences. The latter has been awarded under the umbrella of the Sydney Brenner Institute for Molecular Bioscience (SBIMB).

Many people were involved in the applications, and the SBIMB wishes specifically to acknowledge the pivotal role played by Professor Scott Hazelhurst in securing the Chair for “Bioinformatics of African Populations” awarded to the Institute. Scott is the Acting Director of Wits Bioinformatics, which is also a cross-faculty initiative.
Who are you and what is your academic/scientific background?

Since 2010 I have been the head of the Radiobiology lab, which falls under the Department of Radiation Sciences and is situated in Charlotte Maxeke Johannesburg Academic Hospital. In 2005, I completed my PhD degree in Radiobiology at Ghent University, Belgium and moved to South Africa to start my career at the Wits Faculty of Health Sciences. Recently, I received a Y rating from the National Research Foundation (NRF), which recognises my potential as a young researcher.

What is the nature of the research that you are currently undertaking?

My particular areas of interest are chromosomal radiosensitivity and biological dosimetry. At the moment I am overseeing three studies investigating the chromosomal radiosensitivity of South African patients who have breast cancer, cervical cancer or who are HIV positive.

What do you think is the most significant contribution you have made to research/science?

I think my publication on chromosomal radiosensitivity of South African HIV positive individuals was of great significance. This was the first study in the world to investigate the DNA-damaging effects of radiation in HIV infected people. The findings of this study are extremely relevant due to South Africa’s high HIV prevalence and the large number of HIV positive individuals who are exposed to radiation every day through work or for medical reasons.

As South Africa has only a few researchers with radiobiology expertise, there is an important need for scientists to be trained in this field. Since 2007 I have supervised several PhD, MSc and Honours students and hope to expand the group of radiobiologists in this country.

Did you have a particular mentor or supervisor who inspired you in research?

My PhD supervisor Professor Anne Vral introduced me to radiobiology. She inspired me and gave me the skills to become an independent scientist and a good supervisor. Professor Kobus Slabbert from iThemba LABS gave me the opportunity to start my career as a radiobiologist in South Africa and to set up my own lab at Wits.

What do you do when you’re not busy at work and carrying out cutting-edge research?

Most of my private time goes to my husband, my six year-old son and four year-old daughter. Spending time with friends and enjoying good food is one of the treats in my life. Travelling around the world and getting to know other cultures is high on my wish list.

Read one of Ans’s papers:

A common symptom of many diseases, one which serves to protect the body from further harm when tissues have been compromised, is not often acknowledged or adequately addressed in HIV positive patients. This is the conclusion recently reached by Associate Professor Peter Kamerman (Brain Function Research Group), who is investigating the complexities surrounding the treatment of pain in HIV positive South Africans.

Various factors cause HIV positive patients to experience pain: the virus as well as the body’s immune response to it can lead to inflammation and pain; secondary complications – such as cancers and opportunistic infections; and many of the older drugs used to treat HIV are themselves neuro-toxic. As a result, pain is very common in people with HIV, across all stages of the disease.

A paper* published recently by Peter and colleagues Noko Mphahlele and Professor Duncan Mitchell in the European Journal of Pain highlights the extent of pain experienced by HIV positive patients. Using a rating scale, the investigators assessed the pain experienced by more than 500 South African out-patients attending public sector clinics in rural Limpopo and in metropolitan Johannesburg. Sixty percent of the rural cohort and 59% of the metropolitan cohort reported moderate to severe pain at the time of their interview. Perhaps even more significant is the finding that many of the patients interviewed were not receiving appropriate treatment for their pain. This is likely to be a combination of the patients not reporting their pain, and the poor equipping of the health care workers responsible for their treatment. Patients may feel uncomfortable describing their pain, or even unable to, due to culture or language barriers. Many doctors do not specifically ask HIV positive patients whether they are experiencing pain.

An important issue to consider is whether the doctors have been adequately trained to assess and treat HIV-associated pain. The fine management of pain can be complicated, especially in complex diseases such as HIV where patients may experience several different types of pain. Pin-pointing the exact types of pain, understanding their causes, and knowing how to treat them in combination, requires skill which many general practitioners currently lack.

Of the patients in the study who were receiving treatment for their pain, 92% were receiving simple anti-inflammatory drugs and paracetamol. Only 5% were receiving a combination of paracetamol and a weak opioid, such as codeine and paracetamol. Even fewer patients were receiving adjuvants - drugs which are not typical pain management drugs, but which are used to treat specific pain issues such as those arising from nerve damage.


Read Peter and Duncan’s review:


*Health-e News covered this story online. The news site is one of the most widely accessed sources of health news by health practitioners, receiving about 300 000 hits a month (access the article here). Peter was also interviewed on SAFM, sharing his perspective on the treatment of HIV-associated pain.
Measles mortality has decreased substantially worldwide, thanks to intensified measles immunisation efforts. Recently, the World Health Organization AFRO region established a measles pre-elimination goal and experts have suggested engaging in a measles eradication campaign at the global level. However, recent large-scale outbreaks in many Sub-Saharan African countries present a challenge to measles control efforts.

In an attempt to understand the reason for such outbreaks, Associate Professors Karen Hofman and Steve Tollman of the MRC/Wits Rural Public Health and Health Transitions Research Unit and Dr Waasila Jassat of the Health Systems Trust teamed up with researchers in the Department of Global Health at the University of Washington (USA), and the Health Information Systems Programme (South Africa). As a start, the collaborators assessed measles immunisation coverage trends in South Africa for the period 2001–2010 at both the province and district levels.

To significantly reduce a child’s risk of contracting measles in South Africa, immunisation efforts have focused on an initial vaccination administered at 9 months and a booster at 18 months. The national coverage for the first vaccination increased from 68% to 95% in the decade 2001 to 2010, and for the second vaccination from 57% to 83%.

However, when the data were more closely inspected, there was substantial heterogeneity in coverage patterns at a provincial and district level. Several districts had coverage as low as 59%, while others enjoyed complete coverage. This is significant because the poor consistency in coverage between districts results in lowered “herd immunity”. The consequences are country-wide outbreaks - such as the one seen in South Africa in 2009/2010 - which present a threat to the goal of measles elimination globally.

The team also observed that supplemental immunisation activities seemed to be associated with a decrease in routine immunisation coverage at the district level. Mass immunisation campaigns often place additional pressure on existing health system infrastructure and may lead to a false sense of adequate coverage in some areas. The researchers suggest that such campaigns may not be as effective as simply improving the coverage of routine vaccinations.


RESEARCH ACHIEVEMENTS, EVENTS & VISITORS

At the 17th biennial congress of the Southern African Hypertension Society held in March, Professor Joe Veriava and Professor John Milne were presented with Lifetime Achievement Awards. The Society wished to honour them for their “outstanding contributions to the field of hypertension over the span of their careers, including their contributions to research”. The award also acknowledges their contribution to mentoring of young members of the Society and researchers within the Society, the roles which they have played in the advancement of education regarding hypertension, and in the furthering of the Society’s aim of creating a greater awareness of hypertension in South Africa. Overall, the award honours these distinguished individuals as role models for generations to come.

At the 22nd meeting of the International Society on Morphological Sciences, Professor Bev Kramer was awarded the Anatomist Excellence Award for her significant contributions to the improvement of morphological sciences across the globe. Bev gave one of the plenary lectures at the meeting, which took place in São Paulo, Brazil, in February.
In February, Associate Professor Sandy van Vuuren (Department of Pharmacy and Pharmacology) won the best oral presentation award for her talk “What untapped ancient systems hold promise in curbing the onslaught of infectious diseases?”, presented at the 12th Congress of the International Society for Ethnopharmacology (ISE). The congress, themed Globalization of Traditional Medicines, was organised by the School of Natural Product Studies, Jadavpur University, Kolkata.

**NOVARTIS NEXT GENERATION SCIENTIST PROGRAMME 2012**

Novartis is an international pharmaceutical company which has launched an innovative programme known as the Novartis Next Generation Scientist Program for talented MSc and PhD students from developing countries. The three-month programme is designed to accelerate the scientific and leadership capabilities of the selected students. Novartis possesses some of the most advanced biomedical technologies in the world, which, along with mentoring by a Novartis scientist, will prepare these students to deliver local solutions to healthcare issues while accessing international expertise. The students will also engage with other highly talented scientists within the international arena, creating a network that may facilitate future relations and maintain a drive for internationally recognised success.

Students who applied for the program underwent a rigorous selection process to determine their potential to be future leaders in their scientific fields and to position them in a Novartis department within which they will be mentored. Novartis received over 50 initial applications from research scientists in developing countries. Only 20 candidates gained successful placement within the programme, three of whom are postgraduate students in our Faculty:

- **Angus Hibbins** (Wits Advanced Drug Delivery Platform) supervised by Professor Viness Pillay
- **Thandiswa Ngcungcu** (Human Genetics) supervised by Professors Angela Woodiwiss and Michéle Ramsay
- **Katlego Sojane** (Molecular Medicine and Haematology) supervised by Associate Professor Maria Papathanasopoulos

We also are proud of Pius Fasinu, a graduate of the Faculty (supervised by Professor Viness Pillay in the Wits Advanced Drug Delivery Platform) who has also been selected to participate in the Program.

**FACULTY OF HEALTH SCIENCES: STATISTICAL SUPPORT**

The Faculty runs statistics short courses for Faculty staff and postgraduate students to help to build capacity to conduct basic statistical analysis. In addition, a basic knowledge of statistics assists the reader in understanding and critically assessing the statistics in publications which he/she needs to consider when reviewing the literature for a research study.

Currently, the Postgraduate Hub statistical consultations and booked appointments are meant to provide guidance and direction for postgraduate students with their research work. These consultations were not set up to provide a statistician to carry out the statistical analysis for the postgraduate student. It is the Faculty’s view that a postgraduate student should understand statistical principles and be able to conduct basic analysis as part of their research experience. Every effort is being made to ensure availability of support within the limited resources.

Information on workshops and short courses, as well as times for statistical consultations, are available on the Faculty Research Office website www.wits.ac.za/health/research.

On behalf to the Faculty we would like to thank Dr Tobias Chiwa, Associate Professor Elena Libhaber and the team of biostatisticians who assist them, for the enormous amount of work they do in supporting our staff and postgraduate students in their research.
Return visit by alumnus Professor Denis Daneman

At the end of February, Professor Denis Daneman (Wits MBBCh 1973) made his second visit to the Faculty as part of the Alumni Diaspora Programme, coordinated by the Faculty Research Office. Denis is currently Paediatrician in Chief at the Hospital for Sick Kids in Toronto, and is Chair of the Department of Paediatrics at the University of Toronto. Denis is past Chair of the Clinical and Scientific Section of the Canadian Diabetes Association, and President of the International Society for Paediatric and Adolescent Diabetes. He has written over 180 publications, co-authored two books on disorders of glucose metabolism in childhood, and served on multiple expert panels in the field of endocrinology.

His research focuses on factors affecting metabolic control and the early onset of complications in children and teens with type-1 diabetes. Other research interests include diabetes mellitus, insulin resistance, eating disorders, microvascular complications, health care delivery to youth with diabetes, and early diabetic nephropathy.

Denis spent time in the Paediatric Departments at Charlotte Maxeke Johannesburg Academic, Chris Hani Baragwanath Academic, and Rahima Moosa Mother and Child Hospitals. In addition to giving talks and joining ward rounds, he met with registrars, clinicians and researchers. The Faculty Research Office would like to thank Professor Peter Cooper and the members of the Departments who co-hosted Denis during his stay.

Alumnus invites young researcher to visit NZ Research Institute as keynote speaker

In 2011, alumnus Professor Jules Kieser, now at the University of Otago, New Zealand, visited the Faculty as part of the Alumni Diaspora Programme. During his visit he gave seminars related to forensic science research. Several young researchers had the opportunity to meet with Jules, including Desiré Brits, a forensic anthropologist at Wits.

Jules invited Desiré to visit the Sir John Walsh Research Institute (Faculty of Dentistry, University of Otago), to meet with him and his students during February 2012. She was also invited to give a presentation at their 2nd Annual Forensic Biology Symposium, as the keynote speaker.

During her visit she met with MSc and PhD students, and had the opportunity to comment on some of the students’ research and provide them with some suggestions and recommendations. These discussions gave birth to new research ideas and Professor Kieser has agreed to supervise a South African PhD student at the University of Otago, with Desiré as co-supervisor.

Desiré commented after her visit, “The Diaspora programme gave me the opportunity to meet with a leading researcher in my field of interest, which provided me with the chance to visit a top forensic science research institute and to establish an avenue for future research collaborations.”

FACULTY OF HEALTH SCIENCES RESEARCH DAY & PG EXPO

Substantial prizes/travel awards will be given for the best poster, best oral presentation and best student oral presentation in each of the five thematic areas:
Infectious Diseases
Diseases of Lifestyle
Education, Policy and Systems
Molecular and Comparative Biosciences
Clinical Sciences and Therapeutics for Health

Further information is available at www.witsresearchday.co.za (website sponsored by E2 Solutions)

Please contact Ms Mandisa Habana (Mandisa.habana@wits.ac.za) if you would like your School/Department/Research Entity to host an exhibit as part of the Postgraduate Expo. We will be working with Wits Marketing and Wits Communications to promote the event both internally and to members of the public. The PG Expo will provide a unique opportunity for you to grab the attention of potential postgraduate students and to share your current activities/areas of interest with others in the Faculty and University community. No fee is charged.