

Health Science Matters

Faculty of Health Sciences

MAY 2015

Neurosciences Day



The Neuroscience Research Group, which forms part of the Institute for Cellular and Molecular Medicine (ICMM) hosted their 6th annual Neuroscience Day on Wednesday, 13 May 2015. The objective of this annual event is to bring together researchers from different disciplines to share their research findings and future aspirations. Over the past six years the event has evolved into a regional initiative, with much interest shown by neighbouring institutions and even the private sector. The aim of the event is not only to provide a platform for showcasing neuroscience research at UP, but also to encourage collaboration among different groups in and outside the University.

The success achieved in this regard was evident this year as the event attracted researchers from institutions all over the country and even from as far afield as Namibia.

The wide variety of topics of the presentations that were delivered at the event, ranged from talks about the management of stress in our daily lives and new technology that is being developed to interface directly with the human brain, to the latest discoveries in treatments for neural diseases such as Alzheimer's and the latest advances in genomics. The various topics clearly illustrated that the revolution in the molecular sciences has completely reshaped the way in which life science research is conceptualised and conducted, and how new discoveries are made and integrated with the existing body of knowledge. The vast amount of data that is now available, together with some of the revolutionary 21st-century developments in technology, have resulted in an entirely new approach to this new knowledge and indeed a need for innovative interventions.

'As the neurosciences start moving towards centre stage because of rapid developments in cellular and molecular medicine, researchers at UP – through their involvement in several facets of the neurosciences from both a basic research and a clinical perspective – continue to ensure that work in this exciting and highly relevant area is well represented at UP,' said Prof Michael Pepper, Director of the Institute for Cellular and Molecular Medicine at UP.

Most of the future-scenario analyses that are published in popular media nowadays include topics such as artificially enhanced human intelligence as a new future challenge and risk. The possibilities offered by enhanced brain function, for example, are endless and it has been suggested that developments in the rapidly developing field of neuroscience will in time be able to solve some of the most serious health problems of our time, including conditions like autism, stroke, Alzheimer's disease and Parkinson's disease, which are considered to be incurable.



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However, as new discoveries continue to be made, it is becoming clear that we are facing some serious ethical and moral dilemmas that cannot be ignored.

Department of Nuclear Medicine lauded by the International Atomic Energy Agency

The Department of Nuclear Medicine at the University of Pretoria (UP), which collaborates with Steve Biko Academic Hospital, received accolades from the Director-General of the International Atomic Energy Agency (IAEA), Mr Yukiya Amano, who recognised the Department for its extensive research into improving the lives of cancer patients and the training offered to medical nuclear physicists from the African region.

The IAEA is an international body that regulates and funds all nuclear-related activities, including nuclear medicine, energy and even the manufacture of bombs. The Agency helps countries to use nuclear and isotopic techniques to promote sustainable development objectives in agriculture, human health, water resource management, the marine environment and industrial applications. It also provides a strong, sustainable and

visible global nuclear safety and security framework to protect people and the environment from the harmful effects of ionising radiation.

The Head of the Department of Nuclear Medicine, Prof Mike Sathekge, gave a presentation on his using of isotopes in research on the treatment of HIV/Aids, TB and cancer and said that the Department uses innovation in science to make a contribution to providing the quality health that comes with science. 'As the Department of Nuclear Medicine, we are ensuring that we are taking science to the heart of health through thorough research on the diseases that impact the lives of the many people,' he said.

Prof Sathekge referred to the fact that his Department is used by the IAEA to train researchers from other countries, and expressed his appreciation for the international recognition of their research by their peers.

Sanku Tsunke



Prof Mike Sathekge demonstrates to Mr Yukiya Amano how nuclear medicine scans are used to take readings on cancer patients

UP becomes ICC-accredited as a testing centre for suspected illegal bowling actions

The International Cricket Council (ICC) has accredited five centres around the world – Brisbane, Chennai, Cardiff, Loughborough and Pretoria – as testing facilities for players reported in international cricket under the ICC Regulations for the Review of Bowlers Reported with Suspected Illegal Bowling Actions.

Each facility was assessed against a range of criteria, including having an indoor area large enough to allow a player to bowl off his or her normal full run up, a motion analysis system with a minimum of 12 high speed cameras capable of producing three dimensional data, suitably qualified personnel, experienced in using such systems, and implementing the ICC testing protocol.

Testing is conducted in the Cricket South Africa Centre of Excellence on the University's sports grounds and is overseen by Dr Helen Bayne - head biomechanist at

the High Performance Centre, and member of the ICC Panel of Human Movement Specialists. The Institute for Sports Research's state-of-the-art Vicon motion capture system will not only be used to assess illegal bowling actions, but also to conduct a number of biomechanical research projects on sports performance and injury .



Three-dimensional motion capture setup in the Cricket South Africa Centre of Excellence at the University of Pretoria

Professor Herman Bernitz contributes book chapter



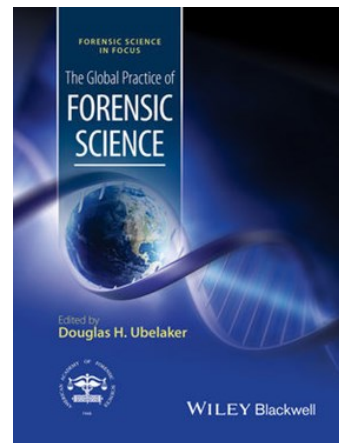
Professor Herman Bernitz BChD, MSc, DipOdont, PhD, is a Senior Stomatologist in the Department of Oral Pathology and Oral Biology within the School of Dentistry. He is responsible for managing Forensic Dental Research at the University of Pretoria. In addition, Professor Bernitz served as the President of the International Organisation for Forensic Odonto-Stomatology (IOFOS) from 2005 to 2011. He has particular interests in bite mark analysis and mass disaster identification. He was Chairman of the "bite mark" working group in Lillehammer, Norway where the international standards in bite mark analysis were set.

We as a Department are extremely proud to announce the recent contribution by Professor Bernitz of a book chapter to *"The Global Practice of Forensic Science"*, edited by Douglas H. Ubelaker (1st ed, 2015, Wiley-Blackwell). Chapter 23 is entitled *"The history and current status of forensic science in South Africa"* which documents the history of Forensic Science in our country. The chapter was co-authored by colleagues in several disciplines of Forensic Science. It details the legal aspects pertaining to Forensic Odontology as well as the education, training and application of the sciences of Forensic Medicine, Forensic

Anthropology, Forensic Toxicology and Forensic Ballistics. It documents the significance of DNA evidence as well the role of the South African Police Services Unit of Offender Profiling in the practice of Forensic Science.

Professor Bernitz strives to achieve a high level of excellence and has made a meaningful contribution to the field of Forensic Science through his work in Forensic Odontology. We would like to congratulate him on the inclusion of this book chapter and acknowledge his role in this field of expertise.

Belinda Bunn



First group of ASELPH students graduate at UP

The Faculty of Health Sciences is proud to announce that the first cohort of students from the Albertina Sisulu Executive Leadership Program in Health (ASELPH) has graduated at the University of Pretoria's recent Autumn Graduation Ceremony. The group of 48 students each received a Postgraduate Diploma in Health Systems Management.

The programme is unique in South Africa and provides a strong executive leadership orientation for executive, as well as other health managers, with a focus on the Harvard Case Study method. The programme emphasises executive leadership skills and competencies, health policy analysis and transformation, strategic health human resources and financing management modalities.

ASELPH focuses on three key components of health transformation in South Africa, namely the targeted training of executive, district and hospital managers who are responsible for services related to National Health Insurance; the growth of the management capability of current and emerging district leaders within the public health system who are responsible for the implementation of National health Insurance in the context of a new Primary Health Care platform; and the advancement of education and training for health executives who are responsible for the management of large public health programmes including the National Strategic Plan for HIV/Aids, sexually transmitted infections (STIs) and Tuberculosis (TB).



The programme is a partnership between the University of Pretoria, the University of Fort Hare, Harvard University represented by Harvard University School of Public Health and other South African Partners.

Prof Mashudu Tshifularo lauded at international conference

Prof Mashudu Tshifularo was recently invited to deliver a presentation at the Second International Conference and Exhibition on Rhinology and Otology that was held from 18–20 March in Dubai, UAE. His presentation centred around an epidemiological review of complicated bacterial sinusitis among patients who were admitted and treated at Steve Biko Academic Hospital over a ten-year period. The presentation was lauded as 'phenomenal and worthy' by the organisers of the conference. Prof Tshifularo also received recognition for co-chairing a variety of sessions at the conference where the latest advances in the field of ENT medicine were discussed.

Since joining the Department, Prof Tshifularo has been the driving force behind many firsts at UP. In November 2008, for example, he performed a bloodless operation known as an endoscope-assisted tonsillectomy using a technique that he had developed himself. At the time it was believed to be the first operation of its kind in the world. At around the same time the Department initiated the Steve Biko Robert Kerr Cochlear Implants Project, a project that does



cochlear implants on patients from poor communities, with Prof Tshifularo as surgical team leader. This project has been a great success and has introduced many financially and socially disadvantaged hearing-impaired people to the world of sound. As an extension of this project, Prof Tshifularo and his team are in the process of initiating an early childhood hearing rehabilitation and deafness foundation that will serve previously disadvantaged children in the country.

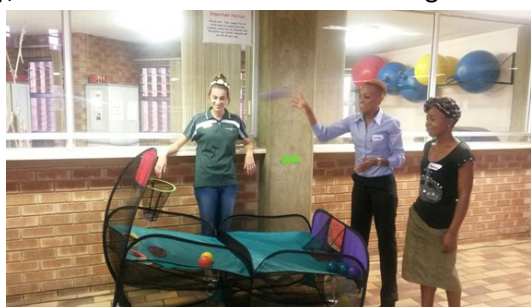
Prof Tshifularo says that he believes that 'innovate or perish' are words to live by when it comes to clinical procedures, teaching, research and medical devices. He feels that academic professors have a responsibility to come up with solutions that benefit the communities around them. His belief in this is evidenced by the fact that he has designed and patented several medical devices and procedures that are widely used in the field of ENT today. 'Our future is in innovation towards excellent, internationally recognised solutions. Our aims are to improve safety and efficiency and to reduce costs in our communities as the field of ENT progresses,' says Prof Tshifularo.

Ansa Heyl

OT host Information session at Siyathemba clinic in Mamelodi

The fourth year occupational therapy students currently doing their community block, hosted an information session for the parents of the children who attend Siyathemba clinic on Mamelodi campus. They identified this as a great need in the community, as many of the parents are unsure of what occupational therapy is as well as what services we offer at the clinic. The parents were then divided into three groups. Each group was then taken to a different room where students shared some insight into what their children do when they come to therapy.

The parents really enjoyed these activities and made comments about how they now understand why their children love coming to therapy, as it is so much fun. Parents were given the opportunity to ask questions. The students enjoyed listening and answering such insightful questions. It was motivating and enlightening to see parents take interest in their children's future.



International Nurses Day

Every year on 12 May, nurses celebrate International Nurses Day. On this day, nurses also celebrate the birth date of Florence Nightingale, to whom nursing owes much of its values and practices. Globally, this commemoration is utilised to raise awareness among nurses, health care workers, governments and the public at large on international trends and policy shifts in health. The international Council of Nursing (ICN) sets the tone for the theme of the year.

The theme for International Nurses Day 2015 is *Nurses: A Force for Change: Care Effective, Cost Effective*. The focus this year is on the rising cost of health care for governments, organisations and individuals, and the need for care effectiveness and cost effectiveness in nursing to curb rising costs and to deliver quality care.

Nurses as a force for change are best positioned and have opportunities to improve efficiency and reduce waste in health care. In collaboration with other health professionals and decision-makers, nurses and other health professionals can increase system efficacy. In nursing, care effectiveness is the extent to which health problems are solved and the degree to which outcomes are achieved. If we add cost effectiveness to this definition, it means nurses achieve the intended health outcomes at less cost, with quality as an underpinning element.



*Prof FM Mulaudzi, HOD
Nursing Sciences & Chair of the
School of Health Care Sciences*

Vast evidence shows that nursing is a cost effective yet often undervalued and underutilised healthcare resource. Nurses work within the context of cost-quality constraints of health service delivery. For example, South Africa has 39.3 nurses per 10,000 population, but a high percentage of these work in the private sector and shortages are especially acute in rural areas.

Nurses must clearly articulate and demonstrate the value and cost effectiveness of nursing and nursing outcomes to consumers, other health providers and policy-makers at all levels. They must also be able to negotiate and advocate for the resources needed to provide safe care. In order for nurses to influence and shape decisions, it is essential that they clearly understand how policy is made and implemented, and its wider context.

Nurses have a responsibility to engage in research and develop innovative models of care delivery that will contribute evidence of nursing effectiveness to planning, management and policy development. Dissemination of nursing research on the value and cost effectiveness of nursing is a vital component of advocacy and influencing health policy.

Prof FM Mulaudzi

Research Support in the Faculty

Much progress has been made over the last three years in shifting the research culture and support in the Faculty and there are notable improvements in the pipeline: the increased number of applications for funding support and an almost doubling of third stream income over the past two years, consistent reporting of research outputs, increase in the number of NRF rated scientists with a marked increase in the number of applications submitted in the 2015 round from scientists wanting to be rated.

Do not believe for one moment that Faculty and UP management alike did not take note of this encouraging shift in the research culture that is underway. Research support has been sharpened in both a proactive manner and in response to this upward trend; this year has seen the appointment of all the Research Assistants for whom applications were submitted, bringing the number of Research Assistants to thirty four. In addition to this assistance the NRF Internship Programme allocated twelve interns across the Faculty, with interns taking up duty from April 2015 to March 2016.

Other initiatives include the sabbatical / lecturer replacement programmes which are in aid of staff pursuing their doctoral degrees. This initiative has brought support to more than twenty emerging researchers in the period 2013/2014. The Faculty has also seen an increased request for the appointment of both Postdoctoral Fellows and Research Fellows and have managed to increase these numbers significantly and the resulting increase in outputs and the enrolled postgraduate student cohort are indicative of the success of this research support programme.

There are many exciting support opportunities available to aid both emerging and established researchers, ranging from editing and biostatistical services, funding support, availability of writing rooms and regular information and training sessions/workshops. To stay in the know you are encouraged to visit the research webpages which are updated regularly and is available on the following url <http://www.up.ac.za/faculty-of-health-sciences-research>.

Faculty welcomes new Heads of Departments

The Dean, Prof Eric Buch, is pleased to welcome the new Heads of Departments: Prof Ahmed Bhayat and Dr Solly Selahle. Their appointments will help in strengthening the core of what the Faculty is all about which is academic excellence, high impact research and producing the best healthcare workers in the country, who are able to complete successfully with the rest of the world.



Prof Ahmed Bhayat

Head: Community Dentistry

BDS, MSC (Dent), MPH, M Dent (Community Dentistry)

In February 2015, Prof Bhayat took up the Head of the Community Dentistry position at the University of Pretoria. From 2011 to 2014 he worked at Taibah University in Madinah, Saudi Arabia as an Associate Professor in the department of Community Dentistry. Prof Bhayat worked as a senior specialist in the Department of Community Dentistry at Wits University from 2007 till 2011.



Dr Solly Selahle

Head of Clinical Unit: Plastic Surgery

MBChB, MMed (Plastic Surgery)

Dr Selahle worked as a consultant at the university of Limpopo from 2008 - 2014. During that time he worked as an acting head of the department of Plastic and Reconstructive surgery in 2010, and as head of clinical unit in 2013 (Plastic Paediatric unit). He remained in the position of head of clinical unit until he joined the University of Pretoria in November 2014 as Head of Plastic Surgery Unit.

Faculty at the staff Mini-Olympics

