

# Health Sciences Research News

The University of the Witwatersrand  
Faculty of Health Sciences



June 2012

We are deeply saddened by the passing of our doyen of anatomy and palaeoanthropology, **Professor Emeritus Phillip V. Tobias**. A world-renowned scientist and teacher of great repute, Professor Tobias died on June 7<sup>th</sup> at the age of 86. The Faculty and the University mourn his passing. Professor Tobias leaves a legacy of thousands of past students, many of whom hold high office in institutions around the globe. We will miss him.

"One of our own" has just been promoted to an **Associate Professorship**. **Dr Tobias Chirwa** joins the ranks of a group of emergent researchers who are stamping their mark on research. Associate Professor Chirwa is the Faculty Biostatistician and works closely with the Faculty Research Office. He also holds an appointment of Senior Lecturer in the School of Public Health. Congratulations Tobias and well done.

The Faculty Research Office would like to take this opportunity of extending its heartfelt gratitude to **Mrs Philippa McKechnie** who will be leaving us for the UK in July. Philippa has been an integral part of the FRO and has supported research and researchers in the Faculty to the hilt! We will miss her attention to detail, her follow up on issues and her ability to keep smiling even in the most difficult of situations. Good luck Philippa!

*Beverley Kramer*

## LEADING RESEARCH NEWS

### PROFESSOR CHOONARA WINS NSTF-BHP BILLITON AWARD



On 21 June, the gala dinner of the **2011/12 NSTF-BHP Billiton Awards** was hosted by the Honourable Minister of Science and Technology, Ms Naledi Pandor. **Associate Professor Yahya Choonara** won the **TW Kambule Award** for an **Emerging Researcher who has made an outstanding contribution to SETI through research and its outputs**. Professor Choonara is a Research Manager in the **Wits Advanced Drug Delivery Platform**. **Professor Emeritus Duncan Mitchell** was a finalist in the **Contributions made by an Individual over a Lifetime** category. Professor Mitchell is an Honorary Professorial Research Fellow in the **Brain Function Research Group**.

The **National Science and Technology Forum (NSTF) Awards**, hosted in partnership with **BHP Billiton**, is the flagship project of the largest and most prominent multi-stakeholder representative forum for Science, Engineering, Technology and Innovation (SETI) in South Africa. The Awards encourage and reward excellence in Scientific Research, Technological Innovation, Education, Capacity Building, and Communication.

**Dr Robyn Hetem**  
Brain Function Research Group  
School of Physiology



## **Who are you and what is your academic/scientific background?**

I am the Research Officer within the Brain Function Research Group, School of Physiology. I am a pure-bred Witsie, having completed my BSc, Honours and PhD at Wits. Throughout my studies, I integrated the disciplines of physiology, ecology and zoology. My research has been generously supported by grants from Faculty, Carnegie, NRF and a START PhD fellowship.

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

I am interested in the physiological and behavioural mechanisms employed by free-ranging mammals in order to cope with the extreme temperatures and habitat transformation likely to occur with global climate change.

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

By challenging textbook theories on animal physiology and improving our understanding of physiological responses of free-living mammals to hot and dry environments, I hope that my research will ultimately help to improve the accuracy of climate change models so that we may better conserve South Africa's charismatic large mammals through future climate change.

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

I was fortunate enough to be supervised by Professor Duncan Mitchell, an A-rated physiologist. Despite officially retiring a number of years ago, Duncan remains an inspirational mentor through his continued support, valuable insight and approachable demeanour.

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

I love the outdoors and when we are not capturing wild animals to implant an array of physiological monitoring devices at field sites around the country, I enjoy hiking through beautiful landscapes, exploring unique ecosystems (like the Amazon) and taking in all that nature has to offer.

## **Read one of Robyn's papers:**

**Hetem R**, Strauss W, Fick L, Maloney S, Meyer L, Shobrak M, Fuller A and Mitchell D (2010). Daily fluctuation in body temperature of free-living Arabian oryx (*Oryx leucoryx*): does water limitation drive heterothermy? *Journal of Comparative Physiology B Biochemical, Systems, and Environmental Physiology*, **180**: 1111-1119.

**Hetem R**, Strauss W, Fick L, Maloney S, Meyer L, Shobrak M, Fuller A and Mitchell D (2012). Does size matter? Comparison of body temperature and activity of free-living Arabian oryx (*Oryx leucoryx*) and the smaller Arabian sand gazelle (*Gazella subgutturosa marica*) in the Saudi desert. *Journal of Comparative Physiology B Biochemical, Systems, and Environmental Physiology*, **182**: 437-449.

### Dr Julia de Kadt



Dr Julia de Kadt is a Postdoctoral Fellow in the **Developmental Pathways for Health Research Unit (DPHRU)**. She joined the Unit in October 2011 and is pursuing her research interests under the mentorship of **Associate Professor Shane Norris**. Julia chose to do a Postdoc at Wits because of the opportunity to work with the DPHRU; specifically, the chance to become more deeply involved in the Birth to Twenty Cohort study.

No stranger to our institution, Julia completed her PhD at the Wits School of Education. Her thesis examined children's travel to school and school choice in Soweto, using data from the Birth to Twenty cohort (research featured in the May issue of this newsletter). Now, as a Postdoc, Julia is eager to keep both busy and focused. She is continuing her work on school choice and travel to school, using additional data from the Birth to Twenty Cohort, and using more sophisticated geographical modelling techniques. Julia is also participating in the current wave of data collection for the Cohort, the members of which are now 22 years old. Last but not least, she is involved in the COHORTS collaboration, a collaboration of five birth cohorts from developing countries around the world (Birth to Twenty in Soweto, India, Philippines, Guatemala and Brazil). She is engaged in data management for the project, and in analyses designed to assess socio-economic determinants of child health and well-being.

Julia hails from that wonderfully warm-in-winter spot on the north coast, Durban, but says that she loves the fact that there is never a shortage of interesting things to do in Joburg. The best part, however, is living in the same city as her parents and partner.

### Dr Christopher Ealand



Dr Christopher Ealand is a Postdoctoral Fellow in the **DST/NRF Centre of Excellence for Biomedical Tuberculosis Research (Wits node)**. Since starting in July 2011, he has been under the mentorship of **Dr Bavesh Kana**. He completed a PhD in the Department of Molecular and Cell Biology at the University of Cape Town. His dissertation focused on identifying and characterising the defense response of the red macroalga, *Gracilaria gracilis*, following exposure to disease elicitors.

Christopher's postdoctoral research aims to understand how remodeling of the cell wall in *Mycobacterium tuberculosis* potentially contributes to the observable spectrum of clinical disease ranging from latency with no symptoms of infection to active disease. It is thought that there is a fine balance between these two states of infection which must be linked. He hopes to uncover the molecular mechanisms which govern the transition between these states, by characterising selected cell wall remodeling enzymes.

Wits is not unfamiliar to Christopher – he obtained his BSc and BSc Honours degrees from Wits before heading to UCT. He returned not only to change his field of study but because of the world-class resources available and the excellent level of academic support. He says that the prospect of conducting research at a DST/NRF Centre of Excellence meant that his work would consistently pose new challenges and interesting questions.

Christopher's advice to anyone considering a Postdoc: "Align yourself with a research unit of good reputation. Together with a sharp and knowledgeable mentor who gives you the freedom to tackle your research questions in new ways, the only place to go with respect to your academic career and personal development is forward!"

### HEALTH AWARENESS DAY FOR TEENS AT SOWETO'S IBHONGO SECONDARY SCHOOL

A large team consisting of several professors, physicians, dieticians, nurses and basic science students from the Soweto Cardiovascular Research Unit (Socru – [www.socru.org](http://www.socru.org)), the University of the Witwatersrand and the Hatter Institute for Cardiovascular Research in Africa, University of Cape Town ([www.hatter.uct.ac.za](http://www.hatter.uct.ac.za)) recently visited Ibhongo Secondary School in Soweto as part of a campaign to increase awareness of issues concerning healthy lifestyles among African teenagers.

“We want to create awareness of the chronic diseases of lifestyle,” said Professor Karen Sliwa, Director of Socru and the Hatter Institute for Cardiovascular Research in Africa. “We want teenagers to understand the importance of taking responsibility for their way of living and following basic principles of a healthy lifestyle.” She stressed the importance of talking to teenagers in this regard. “It makes sense to start early. Prevention is always cheaper and more effective than cure.”

After being welcomed by the principal, Professor Sliwa introduced the teams from Socru, the Hatter Institute and Health Education South Africa (Heduza; [www.heduza.org](http://www.heduza.org)), and thanked those who made the programme possible, including BHP Billiton and the Medtronic Foundation. The students were then taken through various aspects of healthy living. Dietician Sandra Pretorius introduced the concepts of a maximal intake of fruit, vegetables and fibre, and avoiding fatty foods, salt and processed food.

The learners also listened to a talk by PhD student Gerald Maarmann, who spoke about the myth of healthy food being more expensive, the value of exercise and the importance of understanding and monitoring your health. Professor Sandrine Lecour of the Hatter Institute gave a presentation on basic science, which provided learners insight into cellular mechanisms leading to, for example, hypertension or diabetes, and possibly chronic diseases such as heart failure or strokes.

Three short clips were played, each giving a voice to a student who has come to realise the importance of choosing a healthy lifestyle. Dr Friedrich Thienemann, of the University of Cape Town and Heduza, discussed using different media to deliver health messages. He also gauged the students' response to the presentation of health information in different formats, such as on iPads or through various internet browsers.

The learners were then invited to work with internet-based health information made available to them by Professor Lori Blauwet and several students and nurses. The classroom was a hive of activity as the teenagers discovered various aspects of their health, such as blood pressure and body-mass index. They were also encouraged to answer questionnaires about their eating habits and preferences. “We keep all the data we collect,” said Sandra Pretorius. “We use it to structure our programmes and to identify where the issues are.”



**Members of SOCRU and HEDUZA**



#### **Learners of Ibhongo Secondary School learning about healthy living.**

Ibhongo is the second school to host the awareness programme for African teenagers. Two more awareness days to be hosted at secondary school level are scheduled for this year.



On 22 June, the *Mail and Guardian* newspaper announced the 2012 list of “**200 Young South Africans You Must Take to Lunch**”. Congratulations to **Dr Bavesh Kana** (Director: **DST Centre of Excellence for Biomedical Tuberculosis Research**, Wits node) who made this list! The selection is based on outstanding contributions in their respective fields and to society in general. Bavesh is pictured left with the Minister in the Presidency in charge of the National Planning Commission, Trevor Manual, at the function hosted by the M&G. *Bavesh is pictured left with Trevor.*

In February, **Dr Patrick Dessein (Cardiovascular Pathophysiology Genomics Research Unit)** became the only invited South African member of the **International Scientific Committee of Excellence in Rheumatology (EiR)**. The number of delegates is currently capped at 900, hailing from 60 countries worldwide.

**Associate Professor Peter Kamerman (Brain Function Research Group)**, in collaboration with Dr Kate Cherry (Australia), has been awarded a **2012 IASP (International Association for the Study of Pain) Developed-Developing Countries Collaborative Research Grant** for the project, “*Incidence of, and risk factors for, developing HIV-associated sensory neuropathy (HIV-SN) in the post-stavudine era*”.

### NEW ASSOCIATE PROFESSOR IN CHRU



**Dr Cindy Firnhaber** from the **Clinical HIV Research Unit** was recently made an **Associate Professor** in the **Department of Internal Medicine**. Cindy was born in Indiana, USA, and completed her schooling in Kansas City. She attended Valparaiso University in Indiana where she graduated with a BSc in 1982. Thereafter, she obtained an MSc in Human Genetics from the University of Michigan and her medical degree at the University of Colorado in 1990. Her residency in internal medicine was completed at St Joseph's Hospital, Denver.

In 1996, Cindy and her husband, Kurt, moved to South Africa and Cindy worked at both the Alexandra and Muldersdrift Clinics and subsequently joined the HIV Clinic at the Johannesburg Hospital. After a return sojourn of four years in the US, where she worked at the Kaiser Permanente and in the Department of Infectious Diseases at the University of Colorado, Cindy returned to South Africa and took up a permanent position with the Clinical HIV Research Unit at Helen Joseph Hospital, where she holds the position of Technical Director. Cindy's research interests include Human Papilloma Virus infection, Hepatitis B and tuberculosis, and she has published over 30 articles in these fields. She has been an invited speaker at several international conferences, including CROI (Conference on Retrovirals and Opportunistic Infections) and AIDS. She is part of the Pink Ribbon Red Ribbon initiative, an innovative partnership set up by the George Bush Institute to leverage public and private investment in global health to combat cervical and breast cancer. She is the current Vice-Chairman of the ACTG Women's Health Inter-network Scientific Committee, a member of the Scientific Committee for the 2<sup>nd</sup> International Workshop on HIV & Women, and a member of the South African HIV Clinicians Society. She was honoured for her research achievements at the Faculty's Annual Research Awards Dinner in 2011. Cindy lives in Irene with her husband and six children. In her limited spare time, she enjoys gardening, running and ice skating.

## WITS CELEBRATES LONG-STANDING COLLABORATION



At the beginning of June, Wits celebrated a ten-year partnership with three other pre-eminent institutions: **Brown University** (Providence, USA), **Colorado University** (Boulder, USA), and the **African Population and Health Research Centre** (Nairobi, Kenya) – with Wits, known as “WBCA”. The WBCA meets annually to advance ongoing research, plan for the future, provide opportunity for new collaborations, strengthen advanced academic training in demography and population studies in sub-Saharan Africa, and extend and strengthen its academic partnerships.

Through the collaboration, partnerships in public and population health research and training have grown and strengthened, creating an international network of scholars based on the principle of “mutuality”. All four institutions have benefited, irrespective of whether they are located in the North or the South. Also unusual to this collaboration has been an inclusive approach, involving students and junior staff, as well as senior academics and institutional heads, and involving administrative as well as academic and teaching staff. The **MRC/Wits Rural Public Health and Health Transitions Research Unit (Agincourt)** team, under the leadership of **Associate Professors Stephen Tollman** and **Kathy Kahn**, has played a key role as the primary Wits partner in the collaboration.

The **10<sup>th</sup> Colloquium**, which coincided with the Wits90 celebrations, consisted of a dynamic programme of networking sessions, scientific and methodological presentations, and roundtable discussions. During the three day colloquium, the delegates took stock of work underway, explored new opportunities for cutting-edge research, and considered novel organisational models and partnerships that take account of a changing environment.

Constantly striving to build for the future, Steve and Kathy have had a wonderful series of successes of late. In October, Steve will take over as **Chair of the Wellcome Trust ‘Public Health and Tropical Medicine Interview Committee’** and will be taking on the role of **Principal Scientist for the INDEPTH Network** ([www.indepth-network.org](http://www.indepth-network.org)). The network has over 40 centres/sites based on health and demographic surveillance in Africa and Asia. Further to this, Steve (scientific PI) and **Professor Sharon Fonn**, together with Kathy, were applicants on a **Wellcome Trust Strategic Award** recently awarded to the INDEPTH Network. The grant is substantial – GBP 2 million; the project it will fund is focused on enhancing the compatibility of data in multi-site research and ensuring effective public access. Following this award, INDEPTH/Wits School of Public Health were awarded **5M kronor** by **Sida** (Sweden), part of which is to Wits to establish an MSc track in research-oriented data management. **Osman Sankoh**, INDEPTH Executive Director and an Honorary Associate Professor in the School, is lead co-PI on these awards.

## WITS PROVIDES BEST SA REPRESENTATION AT INTERNATIONAL RADIOLOGY CONGRESS



The **35th ESPR (European Society of Pediatric Radiology) Postgraduate Course and 49th Annual Meeting** were held from 28 May to 1 June in Athens, Greece. Four members from the **Wits Diagnostic Radiology Department** attended this meeting: **Professor Savvas Andronikou**, **Dr Susan Lucas**, **Dr Nasreen Mahomed** and **Dr Nishantha Govender**. These members delivered a total of three oral papers and four posters, which were widely praised at this international congress. In addition, Savvas delivered a memorable keynote JESPeR (Junior ESPR) lecture entitled “*Tuberculosis from A to Ω*”. *Pictured left: Team Wits Radiology’ enjoying the limelight (Nasreen Mahomed, Susan Lucas, Savvas Andronikou and Nishantha Govender).*