

# Health Sciences Research News

The University of the Witwatersrand  
Faculty of Health Sciences



July 2012

Well done the Faculty, its postgraduates and supervisors!!! At the recent July graduation ceremony at Wits, the Faculty graduated a record 18 Ph.Ds (eight of these from the School of Public Health alone) and 25 M.Meds, besides the many Masters degrees by course work and by dissertation. Congratulations to both the graduands and their supervisors on an excellent outcome. The investment in their training has paid huge dividends!

A follow up visit by the Senior Associate Dean and staff members of the Medical School, Vanderbilt University, Nashville, USA to the Faculty this month, explored strategic opportunities for the future in developing training (undergraduate and graduate) and research collaborations between "Vandy" and Wits. A mutually beneficial partnership between the two Institutions is being planned with some important research projects already underway.

*Beu Kramer*

## LEADING RESEARCH NEWS

### HONORARY DOCTORATE RECOGNISES EXTENSIVE CONTRIBUTION TO WITS



Back row: Dr Robyn Hetem, **Professor Duncan Mitchell**, Ass Prof Peter Kamerman, Ass Prof Andrea Fuller, Dr Andrew Swanepoel (Public Health); Front row: Dr Tanya Swanepoel, Prof Helen Laburn, Dr Lois Harden

On Thursday 5<sup>th</sup> July, the degree of **Doctor of Science, *honoris causa***, was conferred upon **Professor Emeritus Duncan Mitchell** by the University of the Witwatersrand. This was in recognition of his enormous contribution and unfailing dedication to Wits. Professor Mitchell is an Honorary Professorial Research Fellow in the Brain Function Research Group (BFRG), School of Physiology. The following is an excerpt from the citation read at the ceremony "He has selflessly and enthusiastically sought to further the careers of young students, postgraduates and scientists so that they too can become distinguished." It was a very special night for the Brain Function Research Group, not only with Professor Mitchell receiving his DSc and Dr Swanepoel her PhD but, in addition, four of the BFRGs postgraduate students graduated with Master's by dissertation degrees

### PROFESSOR JOHN PETTIFOR WINS A CAREER AWARD



Congratulations to **Professor John Pettifor** who received a Career Award at the 15<sup>th</sup> Vitamin D Workshop held in Houston, USA from 20-22 June 2012 in recognition of his contribution to vitamin D research over many years. The Vitamin D Workshop has been held every three years since the mid-70s; the primary mission of the workshop is to conduct scientific meetings on all topics related to Vitamin D.

## Professor Savvas Andronikou

Division of Radiology

School of Clinical Medicine

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

I graduated with an MBBCh from Wits, and hold FCRad and FRCR specialist qualifications and a PhD from UCT. My studies coupled with experience have assisted me in identifying important research topics and turning what is often perceived as poor work conditions, errors in practice and limited resources into a research advantage. After publishing a number of papers, I also had the opportunity to edit the local journal and soon enough, I was on the editorial board of 'Pediatric Radiology'. This has given me further insights into research.

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

My personal research involves measuring the thickness of the corpus callosum on MRI in children with HIV encephalopathy and trying to predict the white matter volume which should occur, using this simplified method. I already have results, but not everything is as I predicted. I am checking the measurements once again before writing this up as a second PhD.



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

Internationally, I have put TB and HIV imaging in children on the map. My international colleagues in paediatric imaging have taken notice of our publications and they have invited me as a keynote speaker to the Junior ESPR session of our congress in Athens, to talk on imaging TB in children. I have also produced both TB and HIV reviews and minisymposia for the journal of Pediatric Radiology at their request. Locally I have managed to spearhead a movement in publication and doctoral degrees in radiology that is occurring at multiple institutional centers. I supervise over 100 ongoing projects nationwide simultaneously. In addition, I have 4 PhD candidates preparing for theses. Teams of South African radiologists and registrars have also helped me produce some excellent textbooks, both published locally and through Springer Verlag internationally.

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

I am eternally grateful to Prof Steve Beningfield who supervised my PhD thesis back in 2005. He encouraged me and corrected my poor quality drafts patiently. I also want to say a word about Bryan Cremin who passed away recently. The volume of material he produced as a clinical researcher in an analogue age was staggering, and this inspired and motivated me, even though I only met him a few times after his retirement.

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

It is easy to 'do the numbers' with me, when you know that I live in Cape Town but work mainly at Wits. So it's a combination of activity and nature mixed with a rich café society culture. Everything I do socially involves having visual beauty around me.

**Read one of Savvas's papers:** Andronikou S, Govender N, Ramdass A, van Toorn R. MRI appearances of tuberculous meningitis in HIV-infected children: a paradoxically protective mechanism? *Imaging Med.* (2012) 4(3) DOI10.2217/IIM.12.18

### Dr Richard McFarland



Barely off the graduation stage, Dr Richard McFarland joined the **Brain Function Research Group (BFRG)** as the Wildlife Environmental Physiology lab's newest Postdoctoral Fellow. Richard completed a PhD in psychology at the University of Lincoln, UK, spending two years in the Middle-Atlas Mountains of Morocco, studying the socio-ecology of wild Barbary macaques.

Richard was particularly excited about studying at Wits due to the Wildlife Environmental Physiology laboratory in the School of Physiology. He was incredibly interested in the past and present research activities of the staff within this laboratory; he says the research performed within this School is internationally renowned. He also believes the laboratory has established excellent national and international collaborations and has set up a fantastic field site studying vervet monkeys in the Karoo.

His postdoc research will focus mainly on the behavioural thermoregulation of wild vervet monkeys. The project will combine extensive field observations on the socio-ecology and activity patterns of two wild groups of vervets and the utilisation of micro-loggers to record animal activity and body temperature. As a behavioural ecologist by training, he is excited to extend his research profile to the study of mammalian physiology and looks forward to this unique opportunity to study and observe the vast diversity of wildlife here in South Africa.

Although he has spent limited time in Johannesburg and more in the Karoo doing fieldwork, he says he has thus far enjoyed the rich diversity of both wildlife and culture in our country the most.

Richard is to be mentored by **Associate Professor Andrea Fuller** and **Professor Emeritus Duncan Mitchell**. He is collaborating with Professor Peter Henzi and Professor Louise Barrett, of the University of Lethbridge, Canada.

### Dr Celia Hsiao



Dr Celia Hsiao is a very-recently acquired asset in the **Developmental Pathways for Health Research Unit (DPHRU)**, only starting her Postdoc last month. The focus of her Postdoctoral research is early child development and working in the DPHRU with the Birth to Twenty Cohort provides a unique opportunity to understand child and human development within a longitudinal framework. She says that her colleagues and supervisors just add icing to the cake! Celia is under the mentorship of **Associate Professor Shane Norris**.

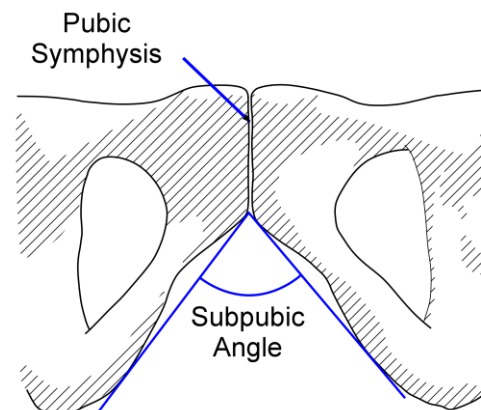
Celia grew up in Cote d'Ivoire, but spent much of her life in Canada. She undertook her undergraduate studies in Taipei, Taiwan and then completed a PhD in Developmental Psychology at the University of Western Ontario (Canada).

One of the brave souls who lives in Pretoria and takes on the traffic in a daily commute to Johannesburg, Celia says that what she has loved most about our city so far is the food: "It is a haven for food lovers!"

Celia's advice to someone considering a Postdoc: "Pick a topic you love, not just like, but one that you are passionate about, one you believe in, and one that inspires you - the rest will fall into place. Always have a mentor - their advice on various decisions is invaluable at this stage of your career!"

### Quantification of the subpubic angle in South Africans

Have you ever wondered how people are identified when all that is left of them is skeletonized remains? Research shows that the number of unidentified individuals has been decreasing gradually over the years due to improvements in identification methods. Thanks to continuing advancements and research, unknown skeletons can be identified and laid to rest. Forensic anthropologists are increasingly being asked to aid in the identification of skeletonized remains by estimating age-at-death, sex, ancestry and individualising factors such as height. For over a century, the pelvis has been known to be one of the most sexually dimorphic bones of the human body and the subpubic angle is one of the most accurate, albeit scarcely quantified features thereof.



**Candice Small, Desiré Brits** and **Jason Hemingway** from the **School of Anatomical Sciences**, recently published a paper entitled “Quantification of the subpubic angle in South Africans”. The subpubic, or pubic, angle is the angle between the inferior rami of the ischium and pubis on either side in the articulated human pelvis. The paper aimed at documenting the variation in subpubic angle between the sexes and populations, and developing specific standards to be used in the South African forensic context.

Using a novel method and custom-built stand, Ms Small and her colleagues measured the subpubic angles of 145 pelvises, consisting of 68 white and 77 black South Africans, from the Raymond A. Dart Collection of Human Skeletons housed in the School of Anatomical Sciences. A bootstrapped binary logistic regression was employed to derive sectioning points for each of the population groups and in a lumped sample.

As expected, the study found that significant differences exist between the sexes, but more notably between the two population groups. For black individuals it was found that males generally possessed a subpubic angle less than  $74.9^\circ$ , with larger values being indicative of the female sex. While for white individuals the sectioning point lay higher, at a subpubic angle of  $81.4^\circ$ . Population-specific sexing afforded an accuracy of 86%, but when the incorrect population specific sectioning point was used to ascertain sex, the accuracy dropped significantly to as little as 64%. A lumped-sample sectioning point of  $78.2^\circ$  was thus developed for these instances, which possessed slightly less accuracy than the population-specific points, at 84%, but with a minimum accuracy of only 77%.

Hence, from the results of the binary logistic regression, population specific parameters ensure a high accuracy in sex estimation. However, should population affinity be unclear it is better to use binary logistic regression to derive sectioning points from lumped data of various populations than to use those derived from potentially the wrong population specific regressions.

**Small C, Brits DM** and **Hemingway J** (2012). Quantification of the subpubic angle in South Africans. *Forensic Science International*. – in press. Available at [http:// dx.doi.org/10.1016/j.forsciint.2012.06.002](http://dx.doi.org/10.1016/j.forsciint.2012.06.002).

### HEALTH SCIENCES POSTGRADUATE AT AN AFRICAN CONFERENCE

**Vaneshveri Naidoo** attended the 9<sup>th</sup> World Confederation for Physical Therapy (WCPT) Africa Congress in Nairobi (6-9 June 2012). She presented a paper entitled "Physiotherapy Modalities used in the Management of Chronic Low Back Pain". Her presentation was well received and cited by the keynote speaker, Professor Maurits van Tubler. Furthermore her paper has been published. Naidoo V, Mudzi W, Ntsiea V and Becker PJ (2012). Physiotherapy Modalities used in the Modalities of Chronic Low Back Pain. *SA Journal of Physiotherapy* 68(1):42-46.

### ANITA MARAIS WINS THE SADA YOUNG ESSAYISTS AWARD



Congratulations to **Anita Marais**, a former postgraduate student in the School of Anatomical Sciences, under Professors Barry Fabian and Beverley Kramer's supervision, who has been awarded the South African Dental Association Young Essayists Award. The Young Essayists Award is presented annually to the author under the age of 35 years who is adjudged by an appointed panel of referees to have published the best paper in the Journal of the South African Dental Association. Anita has been recognized for the paper entitled 'Tooth development from mouse embryonic stem cells and oral ectomesenchyme'. This is the 4<sup>th</sup> time that one of Professor Kramer's postgraduate students has won this award. To read Anita's paper see Marais A, Fabian B and Kramer B (2011). Tooth development from mouse embryonic stem cells and oral ectomesenchyme. *South African Dental Journal* 66:456-461.

### PROFESSOR ANNA KRAMVIS AT THE 14<sup>TH</sup> INTERNATIONAL SYMPOSIUM ON VIRAL HEPATITIS



**Professor Anna Kramvis** was invited as a guest speaker at the 14<sup>th</sup> International Symposium on Viral Hepatitis and Liver Disease held in Shanghai, China in June 2012). The theme of the meeting was 'New Progress, New Challenges and New Solutions'. Professor Kramvis' presentation demonstrated how the Hepatitis B virus strains circulating in southern Africa differ from those found in other hyper endemic regions of the world, such as South East Asia.

### ALUMNI DIASPORA PROGRAMME



As part of the **Alumni Diaspora Programme**, alumnus **Professor Roy Zent** and **Professor Ambra Pozzi** from Vanderbilt University, USA spent a week in the Faculty of Health Sciences, between the 2-6 July. Together they facilitated workshops for senior members of the academic staff on scientific paper writing and also on grant writing principles. The latter workshop has providing strong training for large grant applications (particularly RO1s) and also for the continuance of this important skill in the Wits FHS. Many thanks to Roy and Ambra for their intellectual input and enthusiastic partnership with us. Professor Zent graduated from Wits (MBBCh, 1984) and is now based at Vanderbilt University, Nashville, USA. This was Professor Zent's third visit to Wits. He has contributed substantially through his ties with his *alma mater* to forming the Vanderbilt Wits partnership.

## VANDERBILT UNIVERSITY PARTNERSHIP

The Wits Faculty of Health Sciences and Vanderbilt University, Nashville, USA have formed a Wits/ Vanderbilt partnership in training, research and other important educational based imperatives. This was initiated through the setting up of a collaboration by Professor Bonnie Miller, Senior Associate Dean, and Professor Roy Zent (Vanderbilt) and Professor Bev Kramer. **Professors Bonnie Miller, Roy Zent, Ambra Pozzi, David Haas, John Doulis and Dr Robert Miller** from Vanderbilt spent a week in the Faculty in July. The group of teachers and researchers participated in group discussions and individual visits and projects. Should anyone be interested in participating in these training or research endeavours, please contact Professor Bev Kramer. A Wits/Vanderbilt collaboration Website is currently being set up and will be linked to the research page of the Faculty Website.



## SCHOOL OF PUBLIC HEALTH EXCELLED BY GRADUATING EIGHT (8) PHD STUDENTS

At the recent Wits Faculty of Health Sciences graduation ceremony on July 5<sup>th</sup>, the **School of Public Health** excelled by graduating eight PhD students. If one includes December 2011, the School has had a total of ten PhD's graduating in the past year. Out of the 114 Masters degrees awarded by the University on July 5<sup>th</sup>, 26 were from the School of Public Health. "We have ample reason to celebrate," said **Prof. Laetitia Rispel**, Head of the School of Public Health. At a special Ph.D ceremony hosted by the School, each Ph.D graduate was given the opportunity to briefly present a summary of his or her Ph.D research. Congratulations to the eight new Ph.Ds from the School of Public Health, some of whom are pictured here.



## RESEARCH AWARDS DINNER

The annual **Health Sciences Research Awards Dinner**, hosted by the Assistant Dean: Research and Postgraduate Support, was held on the 10 July 2012 at the Hyatt Regency hotel to honour outstanding achievements by researchers within the Faculty over the last year. **Professor Gavin Churchyard**, founder and Chief Executive Officer of Aurum Institute for Health Research was invited to deliver the after-dinner talk. Professor Churchyard spoke on "Going for Gold", drawing a comparison between researchers and Olympic athletes. Gavin said that the trials and challenges are numerous, but the ultimate achievement is worth the hours of dedication. Using the negative (and yet greatly significant) results of the recent Thibela Study as an example, Professor Churchyard also encouraged researchers to find success in what may at first seem like failure.



*Professor Gavin Churchyard (CEO of Aurum Institute for Health Research) with the Dean of the Faculty, Professor Ahmed Wadee*

**The following individuals were congratulated for their achievements and were awarded a certificate by the Dean,**

**Professor Ahmed Wadee:** Professor Emeritus Duncan Mitchell, Adjunct Professor Victor Mngomezulu, Professors Lizette Koekemoer, Gavin Churchyard, Viness Pillay, Helen Rees, Hoosen Coovadia, Helen Laburn, Aimee Stewart, Gavin Norton, Maureen Coetzee, Barry Schoub and Savvas Andronikou; Associate

Professors Glenda Gray, Caroline Tiemessen, Shane Norris, Andrea Fuller, Yahya Choonara and Stephen Tollman; Honorary Professors Linda Richter and Rachel Jewkes; Honorary Associate Professor Karen Hofman; Drs. Bhavna Gordhan, Frederic Michel, Edmore Marinda, Kebashni Thandrayen, Heleen van Aswegen, Lois Harden, Ans Baeyens, Basil Brooke, Robyn Hetem, Bavesh Kana, Penny Moore, Sinead Delany-Moretlwe, Witness Mudzi and Mrs Philippa McKechnie.

**The following Research Units were also congratulated for their significant achievements over the past year:**

The Cardiovascular Pathophysiology and Genomics Research Unit, the Respiratory and Meningeal Pathogens Research Unit, the Developmental Pathways for Health Research Unit and the Antiviral Gene Therapy Research Unit.

Congratulations to all the researchers and Research Units that were recognized for their outstanding achievements. We are very proud of their continued success.

## **RESTORATION OF THE LIPSCHITZ LABORATORY AT THE CHRIS HANI BARAGWANATH ACADEMIC HOSPITAL**



**The Lipschitz laboratory** at the Chris Hani Baragwanath Academic Hospital (CHBAH) located above ward seven was once a fully functioning research laboratory. With the upsurge of both clinical and basic research mainly as part of the requirement of the M. Med degree, the need for a research laboratory has resurfaced. Over the last six months with seed money from the division of Rheumatology at the CHBAH and the Faculty Research Office, **Professors Mohammed Tikly, Beverley Kramer and Dr Nimmisha Govind** have had the laboratory refurbished and equipped with freezers and a centrifuge. The short term goal with the current equipment is to provide all clinical academic staff with a laboratory for basic processing and storage of biological samples. The ultimate vision is to have a fully equipped and functioning laboratory staffed by a medical technologist. The hope is that this will spur world class clinical research at CHBAH.

## **FACULTY RESEARCH DAY & PG EXPO**

Remember to diarise the Faculty Research Day and PG Expo – **Wednesday 19 September!** Further information can be found online at [www.witsresearchday.co.za](http://www.witsresearchday.co.za). Please **register** – the registration form can be completed and submitted online.

## **Sad partings of a cherished member of the Faculty**



The 7<sup>th</sup> June 2012 will be remembered as a sad day for the School of Anatomical Sciences, the Faculty of Health Sciences and the University of the Witwatersrand, as this day was marred by the death of **Emeritus Professor Phillip Valentine Tobias**. Professor Tobias, doyen of the Faculty of Health Sciences, was born in Durban on the 14<sup>th</sup> October 1925. He completed both his primary and secondary education in Durban, followed by a BSc (1946), BSc Hons (1947), MBBCh (1950), PhD (1953) and DSc (1967), all from Wits.

Following his student days he became in turn a lecturer, senior lecturer, Professor, long-time Head of Department of Anatomy and of Human Biology until 1990 when he retired. Retirement didn't mean leaving the University and Phillip stayed on as Emeritus Professor in the School of Anatomical Sciences until the time of his death. Professor Tobias was also Director of the Sterkfontein Paleoanthropology Research

Unit for many years. A highlight of his career was the years (1980-19082) which he spent as Dean of the Faculty of Medicine.

His published works number well over a thousand. These include anatomical and palaeoanthropological scientific articles, biographies on anthropologists, as well as aspects of the philosophy and history of science. The list of his achievements and awards is extensive and includes being nominated for the Nobel Prize on three occasions.

Professor Tobias will be remembered as an inspirational and dedicated teacher of anatomy by the thousands of medical and allied health sciences students whom he trained. He will be missed for his tremendous knowledge and insight, his dedicated fight for human rights and for his passion for anatomy and palaeoanthropology. Hamba kahle

Do you have any significant research news you would like us to include, or comments you would like to make? Please contact [Nomfundo.Sibiya@wits.ac.za](mailto:Nomfundo.Sibiya@wits.ac.za) (news items to reach us by **15<sup>th</sup> August 2012**)

The newsletter is edited by Professor Bev Kramer, Professor Andrea Fuller, and Nomfundo Sibiya